FINAL

ANNUAL REPORT 2012 – YEAR 5

FOR THE ABANDONED DEACTIVATION FURNACE (SEAD-16)
AND THE ACTIVE DEACTIVATION FURNACE (SEAD-17)
SENECA ARMY DEPOT ACTIVITY, ROMULUS, NY

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1.0 INTRODUCTION

This *2012 Annual Report – Year 5* for the former Abandoned Deactivation Furnace (SEAD-16) and the former Active Deactivation Furnace (SEAD-17) sites at the Seneca Army Depot Activity (SEDA or the Depot) in Romulus, Seneca County, New York provides a review of annual groundwater monitoring data collected in December 2012, comparisons of the 2012 data to other pre- and post-remedial action (RA) groundwater sampling events, recommendations for future long-term monitoring (LTM) at SEAD-16 and SEAD-17, and the annual review of the effectiveness of the remedy implemented at the sites in 2007.

In accordance with the Record of Decision (ROD) for SEAD-16 and SEAD-17 (Parsons, 2006) and the *Remedial Design Work Plan and Design Report* (Parsons, 2007) (Final Work Plan), a RA was completed in August 2007 for SEAD-16 and SEAD-17, or the areas of concern (AOCs). The RA consisted of the excavation, stabilization (as warranted), and disposal of soil contaminated with selected metals (antimony, arsenic, cadmium, copper, lead, mercury, thallium, and zinc) at levels above identified risk-based action levels from both AOCs. In addition, soil at SEAD-16 that was also contaminated with polyaromatic hydrocarbons (PAHs) at concentrations in excess of risk-based action levels was excavated, stabilized (if warranted), and disposed at a licensed landfill. The RA implemented is documented in the *Final Construction Completion Report for the Abandoned Deactivation Furnace (SEAD-16) and Active Deactivation Furnace (SEAD-17)* (Parsons, 2008). The RA at SEAD-16 involved the removal of approximately 1,862 cubic yards (cy) of soil impacted with metals and PAHs. The RA at SEAD-17 involved the removal of approximately 2,565 cy of metals-impacted soil.

The ROD for SEAD-16 and SEAD-17 also requires the implementation, maintenance, inspection, and periodic reporting of land use controls (LUCs) prohibiting use of the land at the AOCs for residential purposes and access to and use of groundwater until applicable cleanup standards are met. Applicable cleanup standards refer to the lowest enforceable standard recorded either on New York State Class GA (NYS Class GA) Ambient Water Quality Standards or United States Environmental Protection Agency (EPA) maximum contaminant levels (EPA MCLs). Once groundwater cleanup standards are achieved, the groundwater use restrictions may be eliminated upon approval of the EPA and the New York State Department of Environmental Conservation (NYSDEC). SEAD-16 and SEAD-17 are located within the Planned Industrial/Office Development and Warehousing (PID) area, which has area-wide LUCs that prohibit the development and use of the property for residential housing, elementary and secondary schools, childcare facilities, and playgrounds; and, prohibits access to and use of groundwater until concentrations have been reduced to levels that allow for unlimited exposure and unrestricted use.

The Land Use Control Remedial Design (LUC RD) Addendum #4 identifies and implements the LUCs required by the SEAD-16 and SEAD-17 ROD at the identified AOCs, as well as other AOCs (SEADs 1, 2, 5, 59, 71, 121C, and 121I) in the PID area. The LUC objectives for SEAD-16 and SEAD-17 are to prevent access to or use of groundwater until New York State GA groundwater standards are achieved, and to prohibit residential housing, elementary and secondary schools, child care facilities and playground activities at the sites. Implementation of the LUCs at SEAD-16 and SEAD-17 may include lease restrictions, an environmental easement, deed restrictions, zoning, periodic certification, and a five-year review as is defined in the *Final Land Use Control Design for SEAD-27, 66, and 64A* (Army, 2006). The

LUC RD for SEAD-27, 66 and 64A is also known as the *LUC RD for the Planned Industrial/Office Development or Warehousing Area* that proposed the establishment of an area-wide set of land use restrictions for the PID/Warehouse Area to simplify institutional control implementation by having a single set of land use restrictions for the PID/Warehouse Area, which are consistent with its anticipated industrial land use. The periodic certification will be submitted to the NYSDEC and EPA to document that the LUCs at SEAD-16 and SEAD-17 are unchanged and that no activities have occurred that impair or violate the ability of the LUCs to protect public health and the environment.

Long-term groundwater monitoring is being performed at SEAD-16 and SEAD-17 as part of the post-closure monitoring and maintenance (PCMM) operations in accordance with the ROD and as outlined in the Final Work Plan. Results for the first year (Year 1) LTM event performed in December 2007 are documented in the *Final Construction Completion Report for the Abandoned Deactivation Furnace (SEAD-16) and Active Deactivation Furnace (SEAD-17)* (Parsons, 2008). The Year 2 LTM event was performed in December 2008, with results documented in the *Final Annual Report – Year 2* (Parsons, 2009). Results for the Year 3 LTM sampling event conducted in November 2009 are documented in the *Final Annual Report – Year 3* (Parsons, 2010). The Year 4 LTM sampling event was conducted in December 2010 for both AOCs, with the results presented in the Draft *Final Annual Report – Year 4* (Parsons, 2011). No LTM sampling event was conducted in 2011 due to budgetary constraints. This report presents and discusses the results for Year 5's LTM event, which was conducted in December 2012.

2.0 SITE BACKGROUND

2.1 Site Description

SEDA, a 10,587-acre former military facility located in Seneca County near Romulus, New York, is located between Seneca Lake and Cayuga Lake in Seneca County, and is bordered by New York State Highway 96 to the east, New York State Highway 96A to the west, and sparsely populated farmland to the north and south. The facility was wholly owned by the United States Government and was operated by the Department of the Army between 1941 and 2000; since 2000, portions of the Depot have been transferred to other parties for reuse. SEDA's primary mission was the receipt, storage, maintenance, and supply of military items. A location map for SEDA is presented as **Figure 1**.

SEAD-16 and SEAD-17 are located in the east-central portion of the SEDA, within SEDA's former ammunition storage area in an area where vehicular and pedestrian access is restricted. SEAD-16 and SEAD-17 are located in the portion of SEDA where land is presently designated for future PID uses. The locations of SEAD-16 and SEAD-17 are shown in **Figure 2**.

Both AOCs were historically used for the demilitarization of various small arms munitions. The munitions deactivation process involved heating the munitions in a rotating steel kiln. The heat would cause the munitions to detonate once the detonation temperature was reached. The byproducts produced during this detonation were then either swept out of the kiln through the stack or expelled from the kiln as bottom ash or debris.

SEAD-16, the former Abandoned Deactivation Furnace, was used from approximately 1945 until the mid 1960s when its use ceased and the site was vacated. The site consisted of 2.6 acres of fenced land with grasslands in the north, east, and west; a storage area for empty boxes and wooden debris located to the west; and an unpaved roadway in the south. Building S-311, which previously housed the deactivation furnace, was located at the approximate center of this area, and was demolished as part of the RA at SEAD-16. Documentation of demolition activities is presented in the *Building Cleaning and Building Demolition Completion Report* (Parsons, 2008). Building S-366, known as the Process Support Building, is located to the northeast of former Building S-311, and is currently unused and vacant. In addition to Building S-366, two sets of SEDA railroad tracks and utilities are presently on-site.

SEAD-17, the former Active Deactivation Furnace, was constructed to replace the Abandoned Deactivation Furnace at SEAD-16. However, SEAD-17 was inactive after 1989 as a result of Resource Conservation and Recovery Act (RCRA) permitting issues. SEAD-17 formerly consisted of the deactivation furnace, associated air pollution control equipment, and a support building (Building S-367), which were demolished or dismantled during the RA. Details and results of the demolition are documented in the *Building Cleaning and Building Demolition Completion Report* (Parsons, 2008). The former SEAD-17 deactivation furnace facility and support building were surrounded by a crushed shale road, beyond which lie grasslands. An unpaved gravel road to the north permits vehicular access to SEAD-17.

2.2 Site Hydrology

The hydrogeologic setting of SEAD-16 and SEAD-17 is described in detail in Sections 3.1.6 and 3.2.6, respectively, of the *Final Remedial Investigation (RI) Report at the Abandoned Deactivation Furnace (SEAD-16) and the Active Deactivation Furnace (SEAD-17)* (Parsons, 1999). A brief summary of hydrogeologic conditions and chemical impacts as described in the RI Report is presented below.

2.2.1 SEAD-16

Three groundwater monitoring wells (MW16-1, MW16-2, and MW16-3) were installed as part of the Expanded Site Investigation (ESI) conducted at SEAD-16 in 1993/1994. Four additional groundwater monitoring wells (MW16-4, MW16-5, MW16-6, and MW16-7) were installed during the RI. As summarized in the *Final Construction Completion Report for the Abandoned Deactivation Furnace (SEAD-16) and Active Deactivation Furnace (SEAD-17)* (Parsons, 2008), MW16-3 was destroyed during the RA construction activities, and was not replaced as groundwater conditions on the southwest side of Building S-311 are adequately characterized by MW16-2 and MW16-5. The locations of the six existing groundwater monitoring wells and the former MW16-3 are shown on **Figure 3**.

Prior to the completion of the RA in August 2007, depth to groundwater was measured at SEAD-16 three times (April 1994, August 1996, and December 1996). Groundwater flow generally trends to the west based on previous subsurface investigations conducted at SEDA. Data from previous investigations suggest that a groundwater divide exists near, and approximately parallel to, Route 96 near Romulus, New York, indicating that the groundwater in the SEAD-16 area flows west. Based on available groundwater elevation data, it appears that there may be a regional groundwater high southwest of former Building S-311, which may contribute to local fluctuations in groundwater flow.

Horizontal hydraulic conductivities were determined for five wells screened in the till/weathered shale zone at SEAD-16. The saturated thickness in the till/weathered shale aquifer measured less than 2 feet when tested in September 1996. Hydraulic conductivity values for the shallow till/weathered shale aquifer ranged from 2.8×10^{-3} cm/sec to 2.5×10^{-2} cm/sec; the geometric mean was 7.3×10^{-3} cm/sec.

2.2.2 SEAD-17

Four groundwater monitoring wells (MW17-1, MW17-2, MW17-3, and MW17-4) were installed as part of the ESI conducted at SEAD-17. One additional groundwater monitoring well, MW17-5, was installed during the RI. The locations of the five groundwater monitoring wells installed at SEAD-17 are shown on **Figure 4**. Prior to the completion of the RA, depth to groundwater was measured at SEAD-17 in April 1994, August 1996, and December 1996 (the same time groundwater levels were measured at SEAD-16). Interpretation of groundwater elevation data indicates that groundwater flows to the southwest.

A horizontal hydraulic gradient of 0.01ft/ft was calculated between monitoring wells MW17-1 and MW17-3. Hydraulic conductivities were found to range from 2.9×10^{-3} cm/sec to 1.4×10^{-2} cm/sec.

2.3 Pre-Remedial Action Soil and Groundwater Conditions for SEAD-16

Pre-Remedial Action Soil Conditions

The primary historic constituents of concern (COCs) at SEAD-16 for soil included arsenic, copper, lead,

and zinc. The highest concentrations of soil contamination resulted from operations that were performed within and in close proximity to the former Abandoned Deactivation Furnace Building (S-311) and the Process Support Building (Bld. 366). Carcinogenic PAHs were detected in soils found at discrete locations within the AOC, with the highest concentrations detected in the surface soil samples collected adjacent to the northwestern corner of the former Abandoned Deactivation Furnace Building. Metals (antimony, copper, lead, mercury, and zinc) were found at concentrations greater than the site-specific cleanup goals in soil located in portions of the surrounding man-made drainage ditches.

Pre-Remedial Action Groundwater Conditions

Prior to completion of the RA, three rounds of low-flow groundwater sampling were conducted at SEAD-16, including one round in April 1994 as part of the ESI investigation activities, and two rounds in August and December 1996 as part of the RI activities. Compounds detected in the groundwater samples are presented in **Appendix A**. Refer to the RI Report for complete groundwater analyses. Metals were detected above either the applicable NYS Class GA standards or EPA MCLs. Concentrations exceeding applicable standards were less than or close to SEDA background concentrations, except for the exceedances of sodium. A summary of SEDA background groundwater data providing summary statistics (including maximum and average concentrations, the standard deviation for the collected data, and the frequency of detection) is provided in **Appendix B**. The Final Work Plan (Parsons, 2007) summarized that although metals had been detected in the groundwater above their respective standards during previous sampling events, the groundwater was not impacted by site activities. This conclusion was based on a comparison of results to the background groundwater data collected from unaffected parts of SEDA.

2.4 Pre-Remedial Action Soil and Groundwater Conditions for SEAD-17

Pre-Remedial Action Soil Conditions

The primary historic COCs in the soil at SEAD-17 were metals including antimony, arsenic, copper, lead, mercury, and zinc. The concentrations of metals were highest in samples collected closest to the location of the former Active Deactivation Furnace and its support building, particularly near the southwestern corner of the building.

Pre-Remedial Action Groundwater Conditions

Prior to the completion of the RA, three rounds of groundwater sampling were conducted at SEAD-17, concurrent with the sampling conducted at SEAD-16 as identified above. Compounds detected in the groundwater samples collected during the low-flow sampling events in 1996 are presented in **Appendix A**. Metals were detected at concentrations above the applicable NYS Class GA standards or EPA MCLs; however, these concentrations were lower than SEDA background concentrations, except for sodium. (See SEDA background groundwater data summary in **Appendix B.**) The Final Work Plan summarized that, although metals had been detected in the groundwater above their respective standards during previous sampling events, the groundwater was not impacted by site activities. This conclusion is based on a comparison of results to groundwater data collected from non-impacted areas of SEDA.

2.5 Remedial Action Summary

The selected remedy for SEAD-16 and SEAD-17 required the following:

- Excavation of soil impacted with metals and PAHs at concentrations greater than the site-specific cleanup standards;
- Stabilization of excavated soil exceeding the toxicity characteristic leaching procedure;
- Disposal of the material in an off-site landfill;
- Backfilling the excavated areas with clean backfill;
- Performing groundwater monitoring for select metals until groundwater concentrations do not exceed the applicable NYS Class GA or EPA MCL standards;
- Establishing and maintaining LUCs to prevent access to or use of groundwater and to prevent residential use of the land until cleanup standards are met; and
- Performing a review of the selected remedy every five years to evaluate if the remedy remains protective of the public health and the environment in accordance with Section 121(c) of the Comprehensive Environmental Remediation and Cleanup Liability Act (CERCLA).

The excavation of the impacted soil at SEAD-16 and SEAD-17 began on July 9, 2007 and was completed on August 2, 2007. Approximately 1,862 cy of impacted soil was removed from SEAD-16 and approximately 2,565 cy of impacted soil was removed from SEAD-17. The limit of the excavations performed at SEAD-16 is shown on **Figure 3** and for SEAD-17 on **Figure 4**.

Soil was excavated from both SEAD-16 and SEAD-17 until confirmatory soil samples collected from the sidewalls (when appropriate), the excavation floor, and the perimeter yielded analytical results below site-specific cleanup standards. The depth of excavation completed at SEAD-16 varied from 1 to 3 feet below ground surface (bgs) and the excavation depth at SEAD-17 varied from 1 to 2 feet bgs. The impacted soil from SEAD-16 and SEAD-17 was transported off-site, and was disposed as non-hazardous material at the Ontario County Landfill in Flint, New York.

Deeper excavations at SEAD-16 and SEAD-17, including excavation areas surrounding the railroad tracks, were backfilled with clean bank-run gravel. SEAD-16 and SEAD-17 were graded to promote positive drainage. The areas at SEAD-17 that were vegetated prior to the RA were seeded to restore the vegetation. SEAD-16 was not seeded since it was not previously vegetated.

3.0 LONG TERM MONITORING RESULTS

3.1 Summary of Year 1 LTM Event

The first post-RA groundwater LTM event (Year 1) was performed at SEAD16 and SEAD-17 between December 19, 2007 and December 21, 2007. The results of the Year 1 event are reported in the *Final Construction Completion Report for the Abandoned Deactivation Furnace (SEAD-16) and Active Deactivation Furnace (SEAD-17)* (Parsons, 2008). Only unfiltered groundwater samples were collected and analyzed during this sampling event. Well MW16-3 was removed during the RA and was not sampled.

In summary, at SEAD-16 five metals (antimony, iron, lead, manganese, and sodium) were detected at concentrations above the respective NYS Class GA or EPA MCL standards in one or more of the wells, including antimony in wells MW16-2, MW16-4, and MW16-7; iron in wells MW16-5 and MW16-6; lead in well MW16-7; manganese in well MW16-7; and sodium in wells MW16-1, MW16-2, MW16-4, and MW16-7). At SEAD-17, two metals (antimony and sodium) were each detected once in different wells (MW17-2 and MW17-4, respectively) at concentrations above the respective NYS Class GA groundwater standards. Concentrations of other metals detected at SEAD-16 and SEAD-17 were below the applicable NYS Class GA groundwater and EPA MCL standards. With the noted exception of sodium concentrations detected at SEAD-16, concentrations detected at both SEAD-16 and SEAD-17 were below SEDA background concentrations. The *Final Construction Completion Report for the Abandoned Deactivation Furnace (SEAD-16) and Active Deactivation Furnace (SEAD-17)* (Parsons, 2008) concluded that the groundwater did not appear to be impacted by historic site activities.

3.2 Summary of Year 2 LTM Event

The second post-RA LTM event (Year 2) was performed at SEAD-16 and SEAD-17 between December 9, 2008 and December 11, 2008. The results of the Year 2 event were reported in *Final Annual Report – Year 2* (Parsons, 2009). Only unfiltered groundwater samples were collected and analyzed during the Year 2 sampling event.

Four metals (antimony, iron, lead, and sodium) were detected in wells at SEAD-16 at concentrations above the respective NYS Class GA or EPA MCL standards, including antimony in wells MW16-2, MW16-5, and MW16-7; iron in wells MW16-5 and MW16-7; lead in well MW16-7; and sodium in wells MW16-1, MW16-2, MW16-4, and MW16-7. At SEAD-17, two metals (iron and manganese) were detected at concentrations above the applicable NYS Class GA standards in wells MW17-3 (iron and manganese) and MW17-4 (iron). Concentrations of other metals detected at SEAD-16 and SEAD-17 were below the applicable NYS Class GA or EPA MCL standards. *The Final Annual Report – Year 2* (Parsons, 2009) concluded that the groundwater does not appear to be impacted by historic site activities and there does not appear to be an indicator of deteriorating conditions at SEAD-16 and SEAD-17.

3.3 Summary of Year 3 LTM Event

The third post-RA LTM event (Year 3) was performed at SEAD-16 and SEAD-17 between November 12, 2009 and November 18, 2009. The results of the Year 3 event were reported in *Draft Final Annual*

Report – Year 3 (Parsons, 2010). Both filtered (i.e., dissolved) and unfiltered (i.e., total) samples were collected and characterized during this sampling event.

Three metals (antimony, iron, and sodium) were detected in unfiltered groundwater samples from SEAD-16 at concentrations above the applicable NYS Class GA standards in wells MW16-2 and MW16-7 (antimony); in wells MW16-4, MW-16-5, and MW16-6 (iron); and in wells MW16-1, MW16-2, MW16-4, and MW16-7 (sodium). At SEAD-17, antimony, iron, manganese, lead, and sodium were detected in the unfiltered sample collected from well MW17-2 at concentrations above the applicable NYS Class GA or EPA MCL standards; iron was detected above its NYS Class GA standard in the filtered and unfiltered samples collected from MW17-3; and sodium was detected above its NYS Class GA standard in the filtered and unfiltered samples at MW17-5.

Filtered and unfiltered sample results for SEAD-16 were similar for antimony and sodium in the wells as indicated above; however, unfiltered results for iron were somewhat higher than the filtered samples in wells MW16-4 and MW-16-5. Filtered and unfiltered sodium concentrations were similar in the SEAD-17 wells, but filtered and unfiltered iron concentrations in wells MW17-2 and MW17-3 were significantly different, with the unfiltered concentrations the highest in both cases.

Concentrations of the other metals detected at SEAD-16 and SEAD-17 were below the applicable NYS Class GA or EPA MCL standards. Similar to the results of the Year 2 LTM event, the *Draft Final Annual Report – Year 3* (Parsons, 2010) concluded that the groundwater does not appear to be impacted by historic site activities and there does not appear to be an indication that conditions are deteriorating at SEAD-16 and SEAD-17.

3.4 Summary of Year 4 LTM Event

The Year 4 LTM groundwater sampling event was conducted at SEAD-16 and SEAD-17 between December 13, 2010 and December 17, 2010. Filtered and unfiltered groundwater samples were collected from the six monitoring wells located at SEAD-16, and from the five monitoring wells located at SEAD-17. Concentrations of metals (including antimony, sodium, and iron) exceeding the applicable NYS Class GA standards were detected in the filtered and unfiltered samples collected from five of the six wells (MW16-1, MW16-2, MW16-4, MW16-5, and MW16-7) sampled at SEAD-16. Antimony and sodium were detected above the applicable NYS Class GA standard in MW16-2 and MW16-7; sodium was detected above the applicable NYS Class GA standard in MW16-1 and MW16-4; and iron was detected above the applicable NYS Class GA standard in MW16-5. Concentrations of antimony and sodium were similar for unfiltered and filtered samples, with the highest concentrations of antimony and sodium detected in MW16-7 and MW16-4, respectively. Iron exceedances were found in the unfiltered and filtered samples collected from MW16-5.

At SEAD-17, inorganic constituents were detected at concentrations below the applicable NYS Class GA and EPA MCL standards in both the filtered and unfiltered samples collected from the five monitoring wells with the exception of MW17-3. Similar to the results of the Year 3 LTM event, iron was the only metal detected above the applicable NYS Class GA standard in both unfiltered and filtered samples collected from MW17-3.

Similar to the results of previous LTM events, the *Draft Final Annual Report 2010 – Year 4* (Parsons, 2011) concluded that although there were exceedances of select metals found at both SEAD-16 and SEAD-17, the groundwater does not appear to be impacted by historic site activities and therefore does not appear to indicate that groundwater conditions are deteriorating at either SEAD-16 and SEAD-17.

3.5 Year 5 LTM Event

The Year 5 post-RA LTM event was conducted at SEAD-16 and SEAD-17 from December 11, 2012 through December 15, 2012. Filtered and unfiltered groundwater samples were collected from six monitoring wells located at SEAD-16 and from five monitoring wells located at SEAD-17. This is the third sampling event that includes the collection of filtered and unfiltered samples.

Field forms completed for the Year 5 sampling event are included in **Appendix C**. Prior to the collection of groundwater samples from each of the monitoring wells, groundwater elevation measurements were collected at each of the wells to be sampled. Groundwater elevation data for the Year 5 LTM event, as well as historic data, are presented in **Table 1** and **Table 2** for SEAD-16 and SEAD-17, respectively.

3.5.1 Year 5 LTM Sample Collection

Samples for the Year 5 LTM event were collected using low flow sampling techniques. A peristaltic pump was used in place of a bladder pump to collect the groundwater samples due to anticipated winter weather conditions, including possible standing air temperatures below 32 degrees Fahrenheit (0 degrees Celsius). A peristaltic pump is recommended for freezing conditions since the bladder pump recharge cycle sequence allows water to freeze in the exposed portion of the sample tubing, which may inhibit sample collection efforts if ice plugs form in the tubing.

Sample collection, handling and custody, holding times, and field parameter collection procedures were conducted in accordance with the *Revised Final Sampling and Analysis Plan for Seneca Army Depot Activity* (SAP) (Parsons, 2006c). Samples collected from the six SEAD-16 wells and the five SEAD-17 wells were submitted to TestAmerica (Savannah, GA) for the following analyses:

- Total Analyte List (TAL) metals, exclusive of mercury, by USEPA SW846 Method 6020; and
- Mercury by USEPA SW846 7470A.

TestAmerica's Savannah, GA laboratory is certified by the Department of Defense's (DoD's) Environmental Laboratory Accreditation Program (ELAP) and the NELAC National Environmental Laboratory Accreditation Program (NELAP) for the above analyses/analytical methods for both potable and non-potable water.

Quality control (QC) samples, including one duplicate and one matrix spike/matrix spike duplicate (MS/MSD) pair, were collected at MW16-7. In the field, pH, oxidation-reduction potential (ORP), dissolved oxygen (DO), conductivity, temperature, and turbidity data were collected from each well during the purging cycle; filtered turbidity data was collected for each location after the filtered sample was collected; and pH, ORP, DO, conductivity, temperature, and turbidity data were also collected from each well after samples had been collected to assess overall sample sequence stability. A summary of the

pre- and post-sampling field parameters is provided in **Table 3** and **Table 4** for SEAD-16 and SEAD-17, respectively.

3.5.2 Year 5 LTM Sample Filtering

As documented in *Final Annual Report – Year 2* (Parsons, 2009), *Draft Final Annual Report – Year 3* (Parsons, 2010), and *Draft Final Annual Report 2010 – Year 4* (Parsons, 2011) some of the metal concentrations that exceed NYS Class GA or EPA MCL standards in SEAD-16 and SEAD-17 wells may be associated with the groundwater turbidity fluctuations encountered in the wells at the time of sampling. For example, several of the samples (e.g., MW16-1, MW16-4, MW16-7, MW17-1, and MW17-4) collected during the Year 3 monitoring event had very low levels of turbidity [i.e., less than 1 Nephelometric Turbidity Unit (NTU)] which resulted in similar metal concentrations reported for both the filtered and unfiltered samples. Conversely, certain metals (most notably aluminum, iron, and manganese in many wells) and specific metals such as lead (as detected in MW16-7, MW17-2 and MW17-3) appear to be affected by filtering, which suggests that the reported metal results may be due to the presence of soil in the samples analyzed. Concentrations measured for several metals (antimony, calcium, magnesium, potassium and sodium) are unaffected either by variations in turbidity level or by sample filtering, suggesting that these metals may be present as dissolved species in the groundwater. With this in mind, both unfiltered and filtered samples were collected for the Year 5 LTM event: samples were collected directly from the well as unfiltered samples, and then another sample was collected and filtered through a 0.45-micron membrane filter was used to collect the filtered sample.

Both the filtered and unfiltered samples from SEAD-16 and SEAD-17 wells were analyzed for TAL metals by the methods listed in **Section 3.5.1.** The unfiltered and filtered concentrations of metals detected in samples collected from SEAD-16 and SEAD-17 wells is shown in **Table 5A** and **Table 5B**, respectively.

Turbidity levels recorded immediately prior to sample collection ranged from 0.48 NTU (MW16-4) to 3.6 NTUs (MW17-1). Turbidity levels recorded after the collection of both unfiltered and filtered samples ranged from 0.87 NTU (MW16-1) to 3.58 NTU (MW17-1). Filtered water turbidity levels ranged from 0 NTU to 0.4 NTU, as would be expected after passing through a 0.45-micron membrane filter.

Review of the Year 5 data supports the conclusions drawn from interpretation of Year 3 and 4 data, and show that in cases where groundwater turbidity level is low, the difference between the metals concentrations for both filtered and unfiltered samples is minimal. Samples collected from MW16-1, MW16-4, and MW16-7 during the Year 5 monitoring event had very low turbidity levels (i.e., less than 1.7 NTU) which resulted in similar metal concentrations reported for both the filtered and unfiltered samples from these wells. Concentrations of some metals, such as iron, detected in six wells (M16-4, MW16-5, MW16-6, MW17-1, MW17-4 and MW17-5) showed decreases in concentration that may be attributed to filtering. Concentrations measured for several metals (i.e., antimony, calcium, magnesium, potassium and sodium) appear to be unaffected by either variation in turbidity levels or by sample filtering, suggesting that these metals are dissolved in the groundwater.

3.6 Year 5 Groundwater Elevations for SEAD-16 and SEAD-17

Groundwater elevations were measured on December 11, 2012 at SEAD-16, and on December 15, 2012 at SEAD-17. Groundwater elevation data, including historic groundwater elevation data, for SEAD-16 and SEAD-17 is presented as **Table 1** and **Table 2**, respectively.

Groundwater elevation data collected during previous investigations indicate that groundwater generally flows to the southwest at SEAD-16; however, historical groundwater elevation data also indicate that localized variation in groundwater flow direction may be due to higher groundwater elevations observed to the northeast and southwest of Building 311. During the most recent (Year 5) LTM event, and similar to the Year 4 LTM groundwater flow observations at SEAD-16, groundwater elevation data suggest that there is a groundwater low in the vicinity of the former Building 311 location. The higher groundwater elevations to the northeast and southwest of the apparent groundwater low in the vicinity of Building 311 result in two apparent local groundwater flow directions (to the southeast and northwest, respectively) as shown on **Figure 5**.

Based on the most recent elevation data (December 2012), groundwater at SEAD-17 appears to flow generally to the west-southwest as shown on **Figure 5**, which is consistent with historical groundwater flow observations at SEAD-17.

3.7 Summary of Year 5 Groundwater Data Analysis for SEAD-16

A summary of metals detected in groundwater during the Year 5 LTM event for SEAD-16 is presented in **Table 5A**. Complete groundwater data results are presented in **Appendix D**. A discussion of data validation results is presented in **Appendix F**; there were no non-compliance issues reported. Data validation utilized the EPA Region 2 Standard Operating Procedures (SOPs). The SOPs were revised in March 2013, immediately prior to the submission of this report. Therefore, previous versions of the SOP were used in order to be consistent with the previous rounds. The revised March 2013 SOPs will be used for the Year 6 Annual Report. Concentrations of metals including antimony, iron, and sodium were detected above applicable NYS Class GA standards in both filtered and unfiltered samples, including metals exceedances for filtered samples from five of the six wells, and unfiltered sample exceedances from the six wells.

Antimony exceeded the NYS Class GA standard of 3 μg/L for both the filtered and unfiltered samples collected from three wells (MW16-2, MW16-4, and MW16-7). The highest concentrations of antimony were found at well MW16-7, where concentrations of 13.5 μg/L and 14.0 μg/L, were found in the unfiltered and filtered samples, respectively. Antimony concentrations measured in the unfiltered versus filtered samples collected from MW16-2 were also comparable, with the unfiltered sample yielding a concentration of 7.1 μg/L, and the filtered sample's concentration was 7.8 μg/L. Unfiltered and filtered samples from MW16-4 yielded the lowest concentrations of 3.9 μg/L and 4 μg/L, respectively.

Iron exceeded the NYS Class GA standard (300 μg/L) in the unfiltered and filtered samples analyzed from well MW16-5, with unfiltered and filtered sample concentrations of 1,300 μg/L and 1,100 μg/L, respectively. Iron additionally exceeded the NYS GA standard at a concentration of 790 μg/L in the unfiltered sample collected from MW16-6.

Concentrations of the sum of iron and manganese compounds detected in unfiltered and filtered samples collected from well MW16-5 also exceeded the combined NYS Class GA standard of 500 µg/L with the primary contributing metal being iron. Although manganese was detected in the unfiltered and filtered groundwater samples collected from the six SEAD-16 wells, it was not detected at concentrations above its NYS Class GA standard (300 µg/L) during the Year 5 LTM event.

Sodium was detected at concentrations above the NYS Class GA standard (20,000 µg/L) in unfiltered and filtered samples collected from SEAD-16 wells MW16-1, MW16-4, and MW16-7. The highest concentrations were detected in the unfiltered and filtered samples collected from well MW16-4 at concentrations of 310,000 µg/L and 340,000 µg/L, respectively. Sodium exceedances were also found in the MW16-1 unfiltered and filtered samples at concentrations of 62,000 µg/L and 63,000 µg/L, respectively; and in the MW16-7 filtered and unfiltered samples at concentrations of 35,000 µg/L and 32,000 µg/L, respectively. The duplicate of MW16-7 had similar sodium concentrations.

In summary, select metals including antimony, iron, and sodium continue to be detected in the groundwater at SEAD-16 at levels that exceed NYS Class GA standards. In general, however, there does not appear to be evidence of an area-wide or expanding plume at SEAD-16, as illustrated by the generally stable occurrence of metals concentrations identified across the groundwater monitoring well network during the LTM sampling events. Access to and use of the groundwater is restricted at the AOC under the terms of the ROD and the groundwater is not being used as a potable water source. A non-groundwater sourced municipal water supply is available for SEDA and currently includes the PID area. The groundwater access/use restriction will remain in effect at SEAD-16 until the select metal concentrations in groundwater have been reduced to levels below applicable NYS Class GA and EPA MCL standards, and until data demonstrating acceptable groundwater quality in the AOC is provided to and approved by the applicable regulatory agencies.

3.8 Summary of Year 5 Groundwater Data Analysis for SEAD-17

A summary of metals detected in the Year 5 groundwater samples event for SEAD-17 is presented in **Table 5B**. Complete groundwater analytical results are presented in **Appendix D**. Concentrations of metals in MW17-1, MW17-3, MW17-4, and MW17-5 were detected below the applicable NYS Class GA and EPA MCL standards in both the filtered and unfiltered samples. Antimony was detected at concentrations exceeding the NYS Class GA standard of 3µg/L in the filtered and unfiltered samples collected from MW17-2 at concentrations of 4 (J) µg/L and 4.4 (J) µg/L, respectively (note that the concentrations reported are followed by the "J" qualifier, which indicates that the reported value is estimated).

The SEAD-17 Year 5 data continues to demonstrate that the groundwater at SEAD-17 has not been impacted by metals released from the former Active Deactivation Furnace site. Although the concentrations of antimony were identified at concentrations above the applicable NYS Class GA standards, the results are similar to what has been observed historically at the site, and indicate that there has not been a significant change in groundwater conditions. Access to and use of the groundwater is restricted at the AOC under the terms of the ROD, and is not being used as a potable water source. A

non-groundwater sourced municipal water supply is available for the Depot, and currently includes the PID area. The groundwater access/use restriction will remain in effect at SEAD-17 until select metal concentrations in groundwater have been reduced to levels below applicable NYS Class GA and EPA MCL standards, and until data demonstrating acceptable groundwater quality in the AOC is provided to and approved by the applicable regulatory agencies.

3.9 Groundwater Data Trends

A comparison of data collected during the Years 1 to 5 LTM events to groundwater conditions noted prior to the RA is provided for SEAD-16 and SEAD-17 in the following discussions. Summaries of metal exceedances detected during the Year 5 groundwater monitoring event for SEAD-16 and SEAD-17 is provided in **Table 5A** and **Table 5B**, respectively. The complete data set for Year 1 through Year 5 LTM events is included as **Appendix D**.

3.9.1 Review of Groundwater Trends for SEAD-16

ESI and RI Data

Review of SEAD-16 data presented in the RI Report indicated that one or more concentrations measured for 14 metals (including arsenic, antimony, barium, beryllium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, sodium, and thallium) in 19 unfiltered groundwater samples collected during the ESI (performed in 1993/1994) and/or the RI (performed in 1999) exceeded NYS Class GA or EPA MCL standards in effect at the time of analysis. Of the 39 total instances where groundwater concentrations exceeded NYS Class GA or EPA MCL standards, 22 exceedances were associated with samples collected with peristaltic pumps (e.g., for the ESI sampling event) while the remaining 17 exceedances were found in samples collected using low-flow bladder pumps. Sample turbidities recorded during the RI sampling events were significantly lower than those recorded during the ESI sampling event, and thus are believed to be more representative of the water quality located at the site prior to the RA. Examination of the RI groundwater data shows that six metals were detected at concentrations in excess of NYS Class GA or EPA MCL standards in effect at the time of analysis:

- antimony (detected 2 times);
- iron (detected 5 times);
- lead (detected 1 time);
- manganese (detected 2 times);
- sodium (detected 3 times); and
- thallium (detected 4 times).EPA MCL

Of these detections, antimony was detected at concentrations above the applicable NYS Class GA standard only in well MW16-3, with a maximum concentration of 12.3 µg/L. Iron was found at elevated concentrations in three wells: MW16-1 (at a maximum concentration of 2,400 J[1] µg/L), MW16-2, and

[1] The "J" data qualifier is used to indicate that the reported concentration is estimated.

MW16-3. Lead was detected only in MW16-3 at a maximum concentration of 24.1 J µg/L; manganese was detected at elevated concentrations only in MW16-6 with a maximum level of 1,380 µg/L; sodium was detected in two wells (MW16-5 and MW16-6) with a maximum concentration of 409,000 µg/L detected at MW16-6; and thallium was detected in three wells including (MW16-2, MW16-5, and MW16-6), with a maximum concentration of 11 µg/L detected at MW16-6.

Post-Remedial Action Data

Over the six years since the completion of the RA at SEAD-16, a total of 56 groundwater samples, including 38 unfiltered and 18 filtered groundwater samples have been collected from the six wells located on SEAD-16. Amongst the 56 characterized groundwater samples, there have been eighty-one exceedances of individual applicable NYS Class GA or EPA MCL standards. These exceedances were primarily distributed across five metals consisting of antimony (28 exceedances), iron (14 exceedances), lead (two exceedances), manganese (one exceedance), and sodium (36 exceedances). Of the 81 exceedances, 22 were detected in the filtered samples and 46 were detected in unfiltered samples.

Antimony concentrations exceeding the NYS Class GA standard of 3 µg/L have been detected 28 times and most frequently have been detected in two wells, MW16-2 and MW16-7. Antimony detections above the NYS Class GA standards have inconsistently been found in well MW16-4 (five times, including two filtered from LTM events 4 and 5 and three unfiltered from LTM events1, 3, and 5); and in MW16-5 (one unfiltered sample). Filtered and unfiltered sample results for antimony from wells MW16-2 and MW16-7 are generally comparable, suggesting that the metal is present as a dissolved species. The highest concentrations are found consistently in well MW16-7 where the overall maximum concentration (16.3µg/L) was detected in the sample/duplicate collected during the Year 3 sampling event in 2009. This maximum concentration is approximately equivalent to what was detected in the groundwater at the former MW16-3 prior to the RA.

Exceedances of the NYS Class GA standard for iron were noted 14 times, distributed across wells MW16-4 through MW 16-7 over the five LTM sampling events. Iron concentrations noted in filtered samples are generally lower than concentrations found in unfiltered samples indicating that the iron concentrations are somewhat dependant of turbidity levels present in the groundwater at the time of sampling. The highest post RA concentration of iron detected in the groundwater at SEAD-16 is 1,300 µg/L (MW16-5, Year 5 LTM sampling event), which is roughly half of what was detected in the groundwater at the site prior to the RA.

Lead has been detected less frequently (22 of 56 LTM samples) and at lower concentrations (two exceedances post RA) in groundwater during the five years of post-RA monitoring. The two noted post-RA exceedances of the lead EPA MCL both occurred in well MW16-7 during the first and second LTM sampling events. Both of these samples were unfiltered, and since the last exceedance at MW16-7, lead levels in both the filtered and the unfiltered samples collected from this well have trended downward.

Sodium is a persistent contaminant identified in SEAD-16 wells, as it has been detected in every sample collected from the site, and at levels in excess of its NYS Class GA standard in 36 of the 54 samples. Sodium concentrations detected in the groundwater are currently higher than what was found prior to the

RA, with concentrations possibly affected by the known county highway salt pile operation that is operated by the Seneca County Highway Department (located approximately 1,000 feet upgradient to the east-northeast of SEAD-16). The location of the county highway department salt piles are indicated on **Figure 5**.

Although enough data points are available to perform a limited statistical analysis [e.g., using the combined SEAD-16 pre-RA (1 to 3 samples per well) and post-RA (5 samples per well) datasets], the overall limited availability of data points and the high percentage of non-detects in the metal constituents results would not be conducive to providing a comprehensive evaluation. A review of the EPA's *Groundwater – Unified Guidance* (EPA 2009) document provides numerous statistical methodologies; however, although the present number of data points could be used to perform a statistical analysis. The guidelines recommend 10 to15 distinct data points for accurate and meaningful results. Based on the limited data available the results would be inconclusive since there are at most five distinct data points for antimony in two of the wells (MW16-2 and MW16-7). Following the additional annual LTM events it is anticipated that a sufficient number of data points will be available to conduct a statistical analysis of the post-RA sampling data.

3.9.2 Review of Groundwater Trends at SEAD-17

ESI and RI Data

Review of SEAD-17 data presented in the RI Report indicated that one or more concentrations measured for five metals (i.e., iron, lead, sodium, and thallium) in 12 unfiltered groundwater samples exceeded NYS Class GA or EPA MCL standards in effect at the time of analysis. Of the 16 instances where groundwater concentrations exceeded the NYS Class GA or EPA MCL standards, 10 were associated with samples collected with a peristaltic pump (ESI sampling event) while the remaining six were found in samples collected using low-flow sampling with a bladder pump. As was indicated above for SEAD-16, sample water turbidities recorded during the RI sampling events were lower than those recorded during the ESI sampling event, and thus the analytical results from the RI samples are believed to be more representative of the water quality present at SEAD-17. Examination of the RI groundwater data indicates that only three metals (iron, sodium, and thallium) were detected at concentrations above NYS Class GA or EPA MCL standards in effect at the time of analysis. Of these detections, iron was detected at an elevated concentration in one well (MW17-1 at a concentration of 572 J µg/L); sodium was detected in two wells (MW17-3, at a maximum concentration of 30,100 µg/L, and at MW17-4); and thallium was detected in two wells (MW17-1 at a maximum concentration of 7.1 µg/L, and at MW17-5).

Post-Remedial Action Data

Since the completion of the RA at SEAD-17, a total of 40 groundwater samples including 25 unfiltered and 15 filtered groundwater samples have been collected from the five wells located on SEAD-17. Eighteen exceedances of NYS Class GA or EPA MCL standards primarily distributed across five metals have been detected, including antimony (four exceedances), iron (seven exceedances), lead (one exceedance), manganese (two exceedances), and sodium (four exceedances). Of the 20 NYS Class GA or EPA MCL standard exceedances, five exceedances were detected in the filtered samples and 15 were

detected in unfiltered samples. No exceedances of NYS Class GA or EPA MCL standards have been detected in well MW17-1 since the start of the post-RA LTM activities. Eight exceedances have been found in MW17-2; five exceedances have been found in well MW17-3 (with each of these exceedances of the NYS Class GA standard for iron); three exceedances in MW17-4; and two sodium exceedances found in MW17-5.

Exceedances of the 3 µg/L NYS Class GA standard for antimony were detected at MW17-2 in the unfiltered samples during the first and third sampling events; and during the most recent (2012) sampling event in both the filtered and unfiltered samples. The unfiltered sample from MW17-2 collected during the Year 3 event (2009) did not contain antimony concentrations in excess of the 3 µg/L EPA MCL standard. The maximum concentration reported for antimony was 3.7 µg/L detected in the MW17-2 Year 3 unfiltered sample. Exceedances of the NYS Class GA standard for iron were noted seven times in samples collected from three wells (MW17-2 with one exceedance; MW17-3 with five exceedances; and one exceedance at MW17-4). The maximum iron concentration was detected in the unfiltered sample collected from MW17-2 during the third sampling event (2009). Iron was not detected in the filtered sample collected during this event. This result therefore is presumed attributable to the elevated turbidity of the sample at the time of collection, which may also have impacted the other metal detections also reported (antimony, lead, and manganese) in this sample. Iron concentrations detected in five samples collected from MW17-3 (including three unfiltered and two filtered samples) were all above the applicable 300 µg/L NYS Class GA standard. Iron results from the filtered and unfiltered samples collected during the third (2009) LTM sampling event suggest that turbidity may have impacted the results for these analyses; however, iron in the filtered samples collected during this LTM event still exceeded the NYS Class GA standard.

Lead has been detected above the EPA MCL standard only once on the site since the completion of the RA in MW17-2 (unfiltered sample collected during the third LTM sampling event in 2009). Lead was not detected in the filtered sample, as the lead concentration in this sample was not above 2.9 µg/L U[2].

Manganese concentrations reported for samples collected from MW17-2 (in the unfiltered sample collected during the Year 3 LTM sampling event in 2009) and MW17-4 (in the unfiltered sample collected during the Year 2 LTM sampling event in 2008) exceeded the NYS Class GA standard of 300 µg/L. The sample collected from MW17-4 yielded the highest manganese concentration of 911 µg/L.

Sodium was detected at levels in excess of the 20,000 µg/L NYS Class GA standard four times in samples collected from MW17-2, MW17-4 and MW17-5. Of these detections, the sample results from MW17-5 are the most notable as the filtered/unfiltered samples collected during the Year 3 LTM sampling event (2009) both were in excess of 360,000 µg/L. Sodium results for the Year 2 (2008) and Year 4 (2010) LTM events for this well were all below 10,000 µg/L, suggesting the Year 3 (2009) results are possibly a seasonal anomaly.

In general, post-RA LTM results indicate that groundwater quality at SEAD-17 is not impacted by historic operations conducted in this area. Many of the identified groundwater quality exceedances

[2] A "U" data qualifier was used to indicate that the analytical results for lead in the unfiltered sample were not detected at a concentration above 2.9 µg/L.

appear to be affected by turbidity issues (e.g., samples collected from MW17-2), while other exceedances of iron, manganese, and sodium appeared either as random occurrences (e.g., sodium at MW17-5) or may be attributable to iron and manganese groundwater concentrations that are identified regionally in Seneca County. Similar to SEAD-16, based on the limited data for SEAD-17 including pre-RA (1 to 3 samples per well) and post-RA (5 samples per well) datasets, the generally limited available data points and the high percentage of non-detects in the metal constituents results would yield inconclusive results. A review of the EPA's Groundwater – Unified Guidance (EPA, 2009) document provides numerous statistical methodologies which recommend more data points than are presently available. Once a sufficient number of data points has been obtained, a statistical analysis of the post-RA sampling data can be conducted.

3.10 Routine Inspections of SEAD-16 and SEAD-17 Monitoring Wells

Observation of the wells at SEAD-16 and SEAD-17 during the Year 5 LTM event indicates that the wells located on the site are in acceptable condition. No root material or other obstructions were observed in the wells at SEAD-16 and SEAD-17 during the Year 5 sampling event.

4.0 REMEDY EVALUATION

As discussed above in **Section 2.5**, approximately 4,427 cy of metal and PAH impacted soil were removed from SEAD-16 and SEAD-17 during the RA conducted in the summer of 2007. The impacted soil was removed to minimize or eliminate the migration of hazardous contaminants from soil to groundwater. Soil that exceeded the site-specific cleanup standards, as based on the confirmatory soil data, was removed from SEAD-16 and SEAD-17.

The long-term groundwater monitoring performed over five years following the completion of the 2007 RA shows that the soil removal remedy has been effective in minimizing the migration of select metals from soil to groundwater. Pre-RA groundwater quality concerns associated with arsenic, barium, beryllium, chromium, copper, iron, lead, mercury, nickel and thallium have been eliminated, as each of these metals, with the exception of lead, have not been detected in the groundwater at SEAD-16 in excess of the applicable NYS Class GA or EPA MCL standards since the RA was completed. Lead was found twice at levels in excess of the applicable EPA MCL, but these exceedances were confined to a single well (MW16-7) during the Year 1 and Year 2 post-RA LTM sampling events; lead exceedances in MW16-7 have not been detected during subsequent sampling events. While iron and manganese concentrations in excess of NYS Class GA groundwater quality standards are still present, these results appear to be partially affected by turbidity issues or are attributable to the regional groundwater quality, and are not attributable to site activities. Noted sodium exceedances found in the groundwater at SEAD-16 appear to originate from the salt storage area located upgradient of SEAD-16 which is operated by the Seneca County Highway Department. Antimony continues to be detected at concentrations above the applicable NYS Class GA standard, but these exceedances appear to be limited to two wells where concentrations have remained generally consistent since the RA was completed.

The groundwater quality at SEAD-17 appears to have improved since the completion of the RA. The few noted groundwater quality exceedances for metals other than iron and manganese appear to be limited to the initial Year 1 or Year 2 post-RA sampling events or to a sample where a turbidity impact is suspected (e.g., the sample collected from MW17-2 during the Year 3 LTM event), and where groundwater quality has improved since the exceedances were reported. The noted iron exceedances reported for SEAD-17 are isolated and are most likely attributable to regional groundwater quality.

The remedy for SEAD-16 and SEAD-17 includes the implementation and maintenance of LUCs consisting of:

- Prevention of residential housing, elementary and secondary schools, childcare facilities and playground activities; and
- Prevention of access to or uses of the groundwater until concentrations are below the NYS Class GA Groundwater or EPA MCL standards.

As part of the LTM program, SEAD-16 and SEAD-17 were inspected to determine if the LUCs are being maintained. During the Year 5 event, it was confirmed that no residential housing, elementary and/or secondary schools, childcare facilities, or playgrounds have been constructed or established in these

AOCs, and no access to or use of groundwater, beyond that which is gained by the existing monitoring well network, was evident at either SEAD-16 or SEAD-17.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

- The soil excavation remedy at SEAD-16 and SEAD-17 has been effective controlling, and in some cases eliminating, the migration of select metals from soil to groundwater based on evaluation of the results of the five post-RA LTM sampling events.
- The results of the Year 5 LTM event continue to demonstrate that field filtering may be an effective tool for identifying and evaluating an association between turbidity impacts and groundwater analytical data.
- Post-remediation groundwater monitoring results indicate that the groundwater has not been impacted by site activities, although concentrations were detected above the NYS Class GA or EPA MCL standards.
- The land use and groundwater use restrictions imposed at SEAD-16 and SEAD-17 are maintained and there are no signs of unauthorized use or access to the AOCs.

5.2 Recommendations

Based on evaluation of the pre-RA groundwater data and the data collected during Years 1 through 5 of the post-RA LTM program at SEAD-16 and SEAD-17, the Army recommends that groundwater monitoring continue on an annual basis at SEAD-16 and SEAD-17.

6.0 REFERENCES

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TABLES

Table 1 Groundwater Table Elevation Summary - SEAD-16

Table 2 Groundwater Table Elevation Summary - SEAD-17

Table 3 SEAD-16 – Comparison of Year 5 Geochemical Parameters

Table 4 SEAD-17 – Comparison of Year 5 Geochemical Parameters

Table 5A Year 5 Filtered and Unfiltered Groundwater Analyses at SEAD-16

Table 5B Year 5 Filtered and Unfiltered Groundwater Analyses at SEAD-17

Table 1
SEAD-16 - Groundwater Table Elevations Summary
SEAD-16 & SEAD-17 Year 5 Annual Groundwater Monitoring Report
Seneca Army Depot Activity

Pre-Remedial Action Groundwater Elevation Data

Monitoring Well	Top of PVC Elevation [1] (feet)	April 4, 1994		August 27, 1996		December 6, 1996	
		Depth to Water (feet)	Water Table Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
MW 16-1	735.54	3.52	732.02	6.45	729.09	3.25	732.29
MW 16-2	734.56	3.65	730.91	4.50	730.06	3.71	730.85
MW 16-3	735.48	4.60	730.88	5.43	730.05	4.64	730.84
MW 16-4	733.93	NA	NA	4.83	729.10	2.93	731.00
MW 16-5	733.40	NA	NA	4.76	728.64	2.20	731.20
MW 16-6	733.56	NA	NA	4.54	729.02	2.90	730.66
MW 16-7	734.42	NA	NA	5.06	729.36	4.23	730.19

Post-Remedial Action Groundwater Elevation Data

Monitoring Well	Top of PVC Elevation [1] (feet)	December 20, 2007		December 9, 2008		November 13, 2009		December 13, 2010		December 10, 2012		
		Depth to Water (feet)	Water Table Elevation (feet)	Depth to Water (feet)	Water Table Elevation [4,5] (feet)	Depth to Water (feet)	Water Table Elevation [5] (feet)	Depth to Water (feet)	Water Table Elevation [5] (feet)	Top of PVC Elevation [6] (feet)	Depth to Water (feet)	Water Table Elevation [6] (feet)
MW 16-1	735.54	4.25	731.29	4.28	731.26	5.76	729.78	3.16	732.38	735.53	3.15	732.38
MW 16-2	734.56	4.20	730.36	4.20	729.28	4.35	729.13	4.08	729.40	734.86	4.08	730.78
MW 16-3	735.48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW 16-4	733.93	3.00	730.93	3.42	730.51	3.91	730.02	2.78	731.15	734.51	2.71	731.80
MW 16-5	733.40	1.90	731.50	3.32	732.50	3.10	732.72	1.68	734.14	735.36	1.63	733.73
MW 16-6	733.56	2.66	730.90	3.47	730.09	3.68	729.88	2.53	731.03	734.25	2.37	731.88
MW 16-7	734.42	4.45	729.97	4.63	729.79	4.75	729.67	4.41	730.01	734.96	4.28	730.68

Notes:
(1) Elevations are relative to the North American Vertical Datum (NAVD) 1988.
(2) April 4, 1994 data were collected as a part of the ESI and August 1996 and December 1996 were collected during the Remedial Investigation phase.
(3) Monitoring well MW16-3 was destroyed during the remedial action conducted at SEAD-16.
(4) PVC riser pipe for wells MW16-2 and MW16-5 was necessary to be cut during December 2008 sampling event due to the PVC preventing the metal casing lid from opening.
(5) MW16-2 and MW16-5 were re-surveyed in Dec 2008 and this data was used for water table elevation calculations. MW16-2 Top of PVC elevation is 733.48 ft, and MW16-5 Top of PVC elevation is 735.82 ft.
(6) Wells were re-surveyed with GPS RTK equipment in November 2012. New ground surface and top of the PVC elevations were used for the December 2012 water table elevation calculation.
NA = Not Available.

Table 2
SEAD-17 - Groundwater Table Elevations Summary
SEAD-16 & SEAD-17 Year 5 Annual Groundwater Monitoring Report
Seneca Army Depot Activity

Pre-Remedial Action Groundwater Elevation Data

Monitoring Well	Top of PVC Elevation [1] (feet)	April 4, 1994		August 29, 1996		December 6, 1996	
		Depth to Water (feet)	Water Table Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
MW 17-1	736.30	2.80	733.50	7.64	728.66	3.01	733.29
MW 17-2	733.75	3.19	730.56	7.24	726.51	3.45	730.30
MW 17-3	732.15	2.38	729.77	7.14	725.01	2.47	729.68
MW 17-4	734.59	3.00	731.59	7.23	727.36	3.13	731.46
MW 17-5	733.58	NA	NA	6.92	726.66	2.65	730.93

Post Remedial Action Groundwater Elevation Data

Monitoring Well	Top of PVC Elevation [1] (feet)	December 19, 2007		December 9, 2008		November 11, 2009		December 13, 2010		December 10, 2012		
		Depth to Water (feet)	Water Table Elevation (feet)	Depth to Water (feet)	Water Table Elevation [3,4] (feet)	Depth to Water (feet)	Water Table Elevation [4] (feet)	Depth to Water (feet)	Water Table Elevation [4] (feet)	Top of PVC Elevation [5] (feet)	Depth to Water (feet)	Water Table Elevation [5] (feet)
MW 17-1	736.30	3.33	732.97	4.25	732.05	5.60	730.70	3.32	732.98	736.39	3.19	733.20
MW 17-2	733.75	3.31	730.44	4.07	729.68	5.27	728.48	2.2	731.55	733.65	2.79	730.86
MW 17-3	732.15	2.67	729.48	3.96	728.67	6.15	726.48	2.51	730.12	732.05	2.4	729.65
MW 17-4	734.59	3.40	731.19	4.05	730.54	5.75	728.84	3.4	731.19	734.62	3.18	731.44
MW 17-5	733.58	2.90	730.68	3.46	730.12	4.65	728.93	2.79	730.79	734.12	2.64	731.48

Notes:
(1) Elevations are relative to the North American Vertical Datum (NAVD) 1988.
(2) April 4, 1994 data were collected as a part of the ESI and August 1996 and December 1996 were collected during the Remedial Investigation Phase.
(3) PVC riser pipe for MW17-3 was necessary to be cut during December 2008 sampling event due to the PVC preventing the metal casing lid from opening.
(4) MW17-3 was re-surveyed in December 2008 and this data was used for water table elevation calculations. MW17-3 Top of PVC elevation is 732.63 ft.
(5) Wells were re-surveyed with GPS RTK equipment in November 2012. New ground surface and top of the PVC elevations were used for December 2012 water table elevation calculation.
NA = Not Available.

Table 3
SEAD-16 - Year 5 Geochemical Parameters Before and After Sample Collection Comparison
SEAD-16 & SEAD-17 Year 5 Annual Groundwater Monitoring Report
Seneca Army Depot Activity

Well ID	Geo param collection Before/After Sampling	Dissolved Oxygen (mg/L)	ORP (mV)	Temperature (°C)	Turbidity (NTU)	pH (Std units)	Conductivity (S/m)
MW16-1	Before	0.47	175	8.7	1.04	6.99	0.805
	After	0.3	154	8.9	0.87	6.9	0.806
MW16-2	Before	4.23	59	7.4	1.2	7.26	0.52
	After	4.13	67	7.4	3.01	7.12	0.526
MW16-4	Before	0.2	-48	6.8	0.48	7.31	2.71
	After	0.21	-46	6.7	1.01	7.33	2.83
MW16-5	Before	0.3	-127	5.8	0.94	7.21	0.373
	After	0.3	-138	6	1.39	7.2	0.383
MW16-6	Before	1.03	-76	8.2	1.67	7.49	0.317
	After	1.27	-70	8.6	3.58	7.49	0.307
MW16-7	Before	0.86	55	8.8	1.14	7.34	0.639
	After	0.86	40	8.9	1.29	7.37	0.651

Table 4
SEAD-17 - Year 5 Geochemical Parameters Before and After Sample Collection Comparison
SEAD-16 & SEAD-17 Year 5 Annual Groundwater Monitoring Report
Seneca Army Depot Activity

Well ID	Geo param collection Before/After Sampling	Dissolved Oxygen (mg/L)	ORP (mV)	Temperature (°C)	Turbidity (NTU)	pH (Std units)	Conductivity (S/m)
MW17-1	Before	1.43	-21	8.8	3.6	7.6	0.265
	After	1.26	-20	8.9	3.28	7.62	0.273
MW17-2	Before	2.3	112	8.6	2.17	7.39	0.501
	After	1.9	109	8.7	2.16	7.39	0.499
MW17-3	Before	2.22	198	8.7	1.9	7.36	0.281
	After	2.25	200	8.8	2.02	7.35	0.291
MW17-4	Before	0.62	4	7.7	1.6	7.35	0.36
	After	0.58	4	7.7	1.85	7.32	0.341
MW17-5	Before	1.67	34	8	1.87	7	0.427
	After	0.94	34	8.2	2.01	7.11	0.429

Table 5A
Year 5 Filtered and Unfiltered Groundwater Results at SEAD-16
SEAD-16 & SEAD-17 Year 5 Annual Groundwater Monitoring Report
Seneca Army Depot Activity

Area								SEAD-16		SEAD-16		SEAD-16		SEAD-16		SEAD-16	
Loc ID								MW16-1		MW16-1		MW16-2		MW16-2		MW16-4	
Matrix								GW		GW		GW		GW		GW	
Sample ID								16LM20028F		16LM20028U		16LM20029F		16LM20029U		16LM20030F	
Sample Date								12/15/2012		12/15/2012		12/15/2012		12/15/2012		12/15/2012	
QC Type								SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM	
Sample Round								5		5		5		5		5	
Filtered Status:								Dissolved		Total		Dissolved		Total		Dissolved	
Parameter	**Units**	**Maximum Value**	**Frequency of Detection**	**Criteria Level**	**Number of Exceedances**	**Number of Times Detected**	**Number of Samples Analyzed**	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Aluminum	UG/L	300	7%			1	14	23	UJ	50	UJ	23	UJ	50	UJ	23	UJ
Antimony	UG/L	14	57%	3	8	8	14	2.3	UJ	2	UJ	**7.8**	**J**	**7.1**	**J**	**4**	**J**
Arsenic	UG/L	2.7	43%	10	0	6	14	1.3	UJ	1.3	UJ	1.3	UJ	1.3	UJ	1.5	J
Barium	UG/L	240	100%	1000	0	14	14	78	J	78	J	65	J	62	J	240	J
Beryllium	UG/L	0	0%	4	0	0	14	0.25	UJ	0.15	UJ	0.25	UJ	0.15	UJ	0.25	UJ
Cadmium	UG/L	0.23	7%	5	0	1	14	0.095	UJ	0.13	UJ	0.095	UJ	0.13	UJ	0.095	UJ
Calcium	UG/L	230000	100%			14	14	120,000	J	120,000	J	110,000	J	100,000	J	230,000	J
Chromium	UG/L	0	0%	50	0	0	14	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ
Cobalt	UG/L	1.9	79%			11	14	0.15	UJ	0.16	J	0.15	UJ	0.12	UJ	1.9	J
Copper	UG/L	11	100%	200	0	11	14	5.2	J	5	UJ	4.5	J	5	J	4.1	J
Iron	UG/L	1300	43%	300	3	6	14	33	UJ	44	UJ	33	UJ	44	UJ	130	J
Iron and Manganese	UG/L	1430	71%	500	3	10	14	34	U	46	U	34	U	46	U	270	
Lead	UG/L	3.4	50%	15	0	7	14	0.2	UJ	0.5	UJ	0.24	J	0.66	J	0.2	UJ
Magnesium	UG/L	34000	100%			14	14	18,000	J	18,000	J	13,000	J	11,000	J	34,000	J
Manganese	UG/L	140	71%	300	0	10	14	1	UJ	2	UJ	1	UJ	2	UJ	140	J
Mercury	UG/L	0.1	8%	0.7	0	1	13	0.091	UJ	0.091	UJ	0.091	UJ	0.091	UJ	0.091	UJ
Nickel	UG/L	3.2	57%	100	0	8	14	2.3	J	2	UJ	2.2	J	2	UJ	2.6	J
Potassium	UG/L	5400	100%			14	14	900	J	870	J	2,200	J	1,900	J	3,200	J
Selenium	UG/L	0	0%	10	0	0	14	1	UJ	1.1	UJ	1	UJ	1.1	UJ	1	UJ
Silver	UG/L	0	0%	50	0	0	14	0.25	UJ	0.18	UJ	0.25	UJ	0.18	UJ	0.25	UJ
Sodium	UG/L	340000	100%	20000	8	14	14	**63,000**	**J**	**62,000**	**J**	20,000	J	17,000	J	**340,000**	**J**
Thallium	UG/L	0	0%	2	0	0	14	0.5	UJ	0.25	UJ	0.5	UJ	0.25	UJ	0.5	UJ
Vanadium	UG/L	0	0%			0	14	3.8	UJ	3.2	UJ	3.8	UJ	3.2	UJ	3.8	UJ
Zinc	UG/L	12	29%			4	14	8.3	UJ	8.4	UJ	9.5	J	8.8	J	12	J
Turbidity (pre)	NTU	3.58	100%			14	14	0.87		0.87		3.01		3.01		1.01	
Turbidity (post)	NTU	1.67	100%			7	7			1.04				1.2			

Area								SEAD-16		SEAD-16	
Loc ID								MW16-4		MW16-4	
Matrix								GW		GW	
Sample ID								16LM20030U		16LM20030U	
Sample Date								12/15/2012		12/15/2012	
QC Type								SA		SA	
Study ID								LTM		LTM	
Sample Round								5		5	
Filtered Status:								Dissolved		Total	
Parameter	**Units**	**Maximum Value**	**Frequency of Detection**	**Criteria Level**	**Number of Exceedances**	**Number of Times Detected**	**Number of Samples Analyzed**	Value	Qual	Value	Qual
Aluminum	UG/L	300	7%			1	14	23	UJ	50	UJ
Antimony	UG/L	14	57%	3	8	8	14	**4**	**J**	**3.9**	**J**
Arsenic	UG/L	2.7	43%	10	0	6	14	1.5	J	1.3	J
Barium	UG/L	240	100%	1000	0	14	14	240	J	230	J
Beryllium	UG/L	0	0%	4	0	0	14	0.25	UJ	0.15	UJ
Cadmium	UG/L	0.23	7%	5	0	1	14	0.095	UJ	0.23	J
Calcium	UG/L	230000	100%			14	14	230,000	J	220,000	J
Chromium	UG/L	0	0%	50	0	0	14	2.5	UJ	2.5	UJ
Cobalt	UG/L	1.9	79%			11	14	1.9	J	1.9	J
Copper	UG/L	11	100%	200	0	11	14	4.1	J	11	J
Iron	UG/L	1300	43%	300	3	6	14	130	J	140	J
Iron and Manganese	UG/L	1430	71%	500	3	10	14	270		280	
Lead	UG/L	3.4	50%	15	0	7	14	0.2	UJ	3.4	J
Magnesium	UG/L	34000	100%			14	14	34,000	J	32,000	J
Manganese	UG/L	140	71%	300	0	10	14	140	J	140	J
Mercury	UG/L	0.1	8%	0.7	0	1	13	0.091	UJ	0.091	UJ
Nickel	UG/L	3.2	57%	100	0	8	14	2.6	J	3.2	J
Potassium	UG/L	5400	100%			14	14	3,200	J	3,100	J
Selenium	UG/L	0	0%	10	0	0	14	1	UJ	1.1	UJ
Silver	UG/L	0	0%	50	0	0	14	0.25	UJ	0.18	UJ
Sodium	UG/L	340000	100%	20000	8	14	14	**340,000**	**J**	**310,000**	**J**
Thallium	UG/L	0	0%	2	0	0	14	0.5	UJ	0.25	UJ
Vanadium	UG/L	0	0%			0	14	3.8	UJ	3.2	UJ
Zinc	UG/L	12	29%			4	14	12	J	11	J
Turbidity (pre)	NTU	3.58	100%			14	14	1.01		1.01	
Turbidity (post)	NTU	1.67	100%			7	7			0.48	

Notes:
1. The criteria values (where available) are NYS Class GA Groundwater Standards (TOGS 1.1.1, June 1998) and EPA Maximum Contamination Limit (MCL), Source http://www.epa.gov/safewater/mcl.html#inorganic.html
2. Shading indicates a concentration above the GA or MCL groundwater standard.
3. Dissolved samples were field filtered using a 0.45 micro filter.
4. A blank in the Criteria Level column indicates no standard established for that compound.

U = compound was not detected
J = the reported value is an estimated cocentration
SA = Sample
DU = Duplicate Sample

Table 5A
Year 5 Filtered and Unfiltered Groundwater Results at SEAD-16
SEAD-16 & SEAD-17 Year 5 Annual Groundwater Monitoring Report
Seneca Army Depot Activity

Area								SEAD-16		SEAD-16		SEAD-16		SEAD-16	
Loc ID								MW16-5		MW16-5		MW16-6		MW16-6	
Matrix								GW		GW		GW		GW	
Sample ID								16LM20031F		16LM20031U		16LM20032F		16LM20032U	
Sample Date								12/15/2012		12/15/2012		12/15/2012		12/15/2012	
QC Type								SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM	
Sample Round								5		5		5		5	
Filtered Status:								Dissolved		Total		Dissolved		Total	
Parameter	**Units**	**Maximum Value**	**Frequency of Detection**	**Criteria Level**	**Number of Exceedances**	**Number of Times Detected**	**Number of Samples Analyzed**	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Aluminum	UG/L	300	7%			1	14	23	UJ	50	UJ	23	UJ	300	J
Antimony	UG/L	14	57%	3	8	8	14	2.3	UJ	2	UJ	2.3	UJ	2	UJ
Arsenic	UG/L	2.7	43%	10	0	6	14	2.6	J	2.7	J	1.3	UJ	1.3	J
Barium	UG/L	240	100%	1000	0	14	14	34	J	39	J	41	J	45	J
Beryllium	UG/L	0	0%	4	0	0	14	0.25	UJ	0.15	UJ	0.25	UJ	0.15	UJ
Cadmium	UG/L	0.23	7%	5	0	1	14	0.095	UJ	0.13	UJ	0.095	UJ	0.13	UJ
Calcium	UG/L	230000	100%			14	14	97,000	J	96,000	J	70,000	J	74,000	J
Chromium	UG/L	0	0%	50	0	0	14	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ
Cobalt	UG/L	1.9	79%			11	14	0.22	J	0.23	J	0.18	J	0.43	J
Copper	UG/L	11	100%	200	0	11	14	1.1	J	5	UJ	4.5	J	5	UJ
Iron	UG/L	1300	43%	300	3	6	14	**1,100**	**J**	**1,300**	**J**	33	J	**790**	**J**
Iron and Manganese	UG/L	1430	71%	500	3	10	14	**1,230**		**1,430**		43	J	**816**	
Lead	UG/L	3.4	50%	15	0	7	14	0.2	UJ	0.5	UJ	0.2	UJ	0.5	UJ
Magnesium	UG/L	34000	100%			14	14	9,900	J	9,800	J	7,200	J	7,600	J
Manganese	UG/L	140	71%	300	0	10	14	130	J	130	J	10	J	26	J
Mercury	UG/L	0.1	8%	0.7	0	1	13	0.1	J	0.091	UJ	0.091	UJ	0.091	UJ
Nickel	UG/L	3.2	57%	100	0	8	14	2.1	J	2	UJ	2	UJ	2	J
Potassium	UG/L	5400	100%			14	14	2,100	J	2,100	J	2,400	J	2,400	J
Selenium	UG/L	0	0%	10	0	0	14	1	UJ	1.1	UJ	1	UJ	1.1	UJ
Silver	UG/L	0	0%	50	0	0	14	0.25	UJ	0.18	UJ	0.25	UJ	0.18	UJ
Sodium	UG/L	340000	100%	20000	8	14	14	1,600	J	1,500	J	8,700	J	8,000	J
Thallium	UG/L	0	0%	2	0	0	14	0.5	UJ	0.25	UJ	0.5	UJ	0.25	UJ
Vanadium	UG/L	0	0%			0	14	3.8	UJ	3.2	UJ	3.8	UJ	3.2	UJ
Zinc	UG/L	12	29%			4	14	8.3	UJ	8.4	UJ	8.3	UJ	8.4	UJ
Turbidity (pre)	NTU	3.58	100%			14	14	1.39		1.39		3.58		3.58	
Turbidity (post)	NTU	1.67	100%			7	7			0.94				1.67	

Notes:
1. The criteria values (where available) are NYS Class GA Groundwater Standards (TOGS 1.1.1, June 1998)
and EPA Maximum Contamination Limit (MCL), Source http://www.epa.gov/safewater/mcl.html#inorganic.html
2. Shading indicates a concentration above the GA or MCL groundwater standard.
3. Dissolved samples were field filtered using a 0.45 micro filter.
4. A blank in the Criteria Level column indicates no standard established for that compound.

U = compound was not detected
J = the reported value is an estimated cocentration
SA = Sample
DU = Duplicate Sample

Table 5A
Year 5 Filtered and Unfiltered Groundwater Results at SEAD-16
SEAD-16 & SEAD-17 Year 5 Annual Groundwater Monitoring Report
Seneca Army Depot Activity

Area								SEAD-16		SEAD-16		SEAD-16		SEAD-16	
Loc ID								MW16-7		MW16-7		MW16-7		MW16-7	
Matrix								GW		GW		GW		GW	
Sample ID								16LM20033F		16LM20034F		16LM20033U		16LM20034U	
Sample Date								12/15/2012		12/15/2012		12/15/2012		12/15/2012	
QC Type								SA		DU		SA		DU	
Study ID								LTM		LTM		LTM		LTM	
Sample Round								5		5		5		5	
Filtered Status:								Dissolved		Dissolved		Total		Total	
Parameter	**Units**	**Maximum Value**	**Frequency of Detection**	**Criteria Level**	**Number of Exceedances**	**Number of Times Detected**	**Number of Samples Analyzed**	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Aluminum	UG/L	300	7%			1	14	23	UJ	23	UJ	50	UJ	50	UJ
Antimony	UG/L	14	57%	3	8	8	14	**13**	**J**	**13**	**J**	**13**	**J**	**14**	**J**
Arsenic	UG/L	2.7	43%	10	0	6	14	1.3	J	1.3	UJ	1.3	UJ	1.3	UJ
Barium	UG/L	240	100%	1000	0	14	14	100	J	99	J	100	J	100	J
Beryllium	UG/L	0	0%	4	0	0	14	0.25	UJ	0.25	UJ	0.15	UJ	0.15	UJ
Cadmium	UG/L	0.23	7%	5	0	1	14	0.095	UJ	0.095	UJ	0.13	UJ	0.13	UJ
Calcium	UG/L	230000	100%			14	14	110,000	J	100,000	J	100,000	J	110,000	J
Chromium	UG/L	0	0%	50	0	0	14	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ
Cobalt	UG/L	1.9	79%			11	14	0.23	J	0.24	J	0.22	J	0.24	J
Copper	UG/L	11	100%	200	0	11	14	4.1	J	1.7	J	8.3	J	5.6	J
Iron	UG/L	1300	43%	300	3	6	14	33	UJ	33	UJ	44	UJ	44	UJ
Iron and Manganese	UG/L	1430	71%	500	3	10	14	92		98		90		91	
Lead	UG/L	3.4	50%	15	0	7	14	1.3	J	2.3	J	2.5	J	2.6	J
Magnesium	UG/L	34000	100%			14	14	21,000	J	20,000	J	21,000	J	22,000	J
Manganese	UG/L	140	71%	300	0	10	14	92	J	98	J	90	J	91	J
Mercury	UG/L	0.1	8%	0.7	0	1	13	0.091	UJ	0.091	UJ	0.091	UJ	0.091	UJ
Nickel	UG/L	3.2	57%	100	0	8	14	2	UJ	2	UJ	2.2	J	2.4	J
Potassium	UG/L	5400	100%			14	14	5,300	J	5,100	J	5,200	J	5,400	J
Selenium	UG/L	0	0%	10	0	0	14	1	UJ	1	UJ	1.1	UJ	1.1	UJ
Silver	UG/L	0	0%	50	0	0	14	0.25	UJ	0.25	UJ	0.18	UJ	0.18	UJ
Sodium	UG/L	340000	100%	20000	8	14	14	**35,000**	**J**	**33,000**	**J**	**32,000**	**J**	**32,000**	**J**
Thallium	UG/L	0	0%	2	0	0	14	0.5	UJ	0.5	UJ	0.25	UJ	0.25	UJ
Vanadium	UG/L	0	0%			0	14	3.8	UJ	3.8	UJ	3.2	UJ	3.2	UJ
Zinc	UG/L	12	29%			4	14	8.3	UJ	8.3	UJ	8.4	UJ	8.4	UJ
Turbidity (pre)	NTU	3.58	100%			14	14	1.29		1.29		1.29		1.29	
Turbidity (post)	NTU	1.67	100%			7	7					1.14		1.14	

Notes:
1. The criteria values (where available) are NYS Class GA Groundwater Standards (TOGS 1.1.1, June 1998)
and EPA Maximum Contamination Limit (MCL), Source http://www.epa.gov/safewater/mcl.html#inorganic.html
2. Shading indicates a concentration above the GA or MCL groundwater standard.
3. Dissolved samples were field filtered using a 0.45 micro filter.
4. A blank in the Criteria Level column indicates no standard established for that compound.

U = compound was not detected
J = the reported value is an estimated cocentration
SA = Sample
DU = Duplicate Sample

Table 5B
Year 5 Filtered and Unfiltered Groundwater Results at SEAD-17
SEAD-16 & SEAD-17 Year 5 Annual Groundwater Monitoring Report
Seneca Army Depot Activity

Area								SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17	
Loc ID								MW17-1		MW17-1		MW17-2		MW17-2		MW17-3	
Matrix								GW		GW		GW		GW		GW	
Sample ID								17LM20020F		17LM20020U		17LM20021F		17LM20021U		17LM20022F	
Sample Date								12/11/2012		12/11/2012		12/11/2012		12/11/2012		12/11/2012	
QC Type								SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM	
Sample Round								5		5		5		5		5	
Filtered Status								Dissolved		Total		Dissolved		Total		Dissolved	
Parameter	**Units**	**Maximum Value**	**Frequency of Detection**	**Criteria Level**	**Number of Exceedances**	**Number of Times Detected**	**Number of Samples Analyzed**	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Aluminum	UG/L	0	0%			0	10	23	UJ	50	UJ	23	UJ	50	UJ	23	UJ
Antimony	UG/L	4.4	30%	3	2	3	10	2.3	UJ	2.7	J	**4**	**J**	**4.4**	**J**	2.3	UJ
Arsenic	UG/L	0	0%	10	0	0	10	1.3	UJ	1.3	UJ	1.3	UJ	1.3	UJ	1.3	UJ
Barium	UG/L	69	100%	1000	0	10	10	28	J	28	J	69	J	68	J	37	J
Beryllium	UG/L	0	0%	4	0	0	10	0.25	UJ	0.15	UJ	0.25	UJ	0.15	UJ	0.25	UJ
Cadmium	UG/L	0.44	10%	5	0	1	10	0.095	UJ	0.44	J	0.095	UJ	0.13	UJ	0.095	UJ
Calcium	UG/L	120000	100%			10	10	53,000	J	55,000	J	120,000	J	120,000	J	74,000	J
Chromium	UG/L	0	0%	50	0	0	10	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ
Cobalt	UG/L	0.42	80%			8	10	0.32	J	0.37	J	0.39	J	0.42	J	0.15	UJ
Copper	UG/L	7.8	100%	200	0	10	10	4.7	J	5.4	J	7.7	J	7.8	J	3.3	J
Iron	UG/L	160	50%	300	0	5	10	47	J	90	J	33	UJ	44	UJ	33	UJ
Iron and Manganese	UG/L	219	80%	500	0	8	10	54.2	J	98.1	J	12		14		34	U
Lead	UG/L	1.1	40%	15	0	4	10	0.2	UJ	1.1	J	0.2	UJ	0.99	J	0.24	J
Magnesium	UG/L	15000	100%			10	10	7,200	J	7,700	J	12,000	J	12,000	J	6,100	J
Manganese	UG/L	59	80%	300	0	8	10	7.2	J	8.1	J	12	J	14	J	1	UJ
Mercury	UG/L	0.14	20%	0.7	0	2	10	0.14	J	0.091	UJ	0.091	UJ	0.091	UJ	0.091	UJ
Nickel	UG/L	2.1	10%	100	0	1	10	2	UJ	2	UJ	2	UJ	2	UJ	2	UJ
Potassium	UG/L	2500	100%			10	10	380	J	410	J	2,500	J	2,500	J	1,800	J
Selenium	UG/L	0	0%	10	0	0	10	1	UJ	1.1	UJ	1	UJ	1.1	UJ	1	UJ
Silver	UG/L	0	0%	50	0	0	10	0.25	UJ	0.18	UJ	0.25	UJ	0.18	UJ	0.25	UJ
Sodium	UG/L	9400	100%	20000	0	10	10	2,400	J	2,500	J	8,400	J	8,400	J	3,300	J
Thallium	UG/L	0	0%	2	0	0	10	0.5	UJ	0.25	UJ	0.5	UJ	0.25	UJ	0.5	UJ
Vanadium	UG/L	0	0%			0	10	3.8	UJ	3.2	UJ	3.8	UJ	3.2	UJ	3.8	UJ
Zinc	UG/L	29	40%			4	10	8.3	UJ	8.4	UJ	24	J	26	J	29	J
Turbidity (pre)	NTU	3.28	100%			10	10	3.28		3.28		2.16		2.16		2.02	
Turbidity (post)	NTU	3.6	100%			5	5			3.6				2.17			

1. The criteria values (where available) are NYS Class GA Groundwater Standards (TOGS 1.1.1, June 1998) and EPA Maximum Contamination Limit (MCL), Source http://www.epa.gov/safewater/mcl.html#inorganic.html
2. Shading indicates a concentration above the GA or MCL groundwater standard.
3. Dissolved samples were field filtered using a 0.45 micro filter.
4. A blank in the Criteria Level column indicates no standard established for that compound.

U = compound was not detected
J = the reported value is an estimated cocentration
SA = Sample
DU = Duplicate Sample

Table 5B
Year 5 Filtered and Unfiltered Groundwater Results at SEAD-17
SEAD-16 & SEAD-17 Year 5 Annual Groundwater Monitoring Report
Seneca Army Depot Activity

Area								SEAD-17		SEAD-17		SEAD-17		SEAD-17	
Loc ID								MW17-4		MW17-4		MW17-5		MW17-5	
Matrix								GW		GW		GW		GW	
Sample ID								17LM20023F		17LM20023U		17LM20024F		17LM20024U	
Sample Date								12/11/2012		12/11/2012		12/11/2012		12/11/2012	
QC Type								SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM	
Sample Round								5		5		5		5	
Filtered Status								Dissolved		Total		Dissolved		Total	
Parameter	**Units**	**Maximum Value**	**Frequency of Detection**	**Criteria Level**	**Number of Exceedances**	**Number of Times Detected**	**Number of Samples Analyzed**	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Aluminum	UG/L	0	0%			0	10	23	UJ	50	UJ	23	UJ	50	UJ
Antimony	UG/L	4.4	30%	3	2	3	10	2.3	UJ	2	UJ	2.3	UJ	2	UJ
Arsenic	UG/L	0	0%	10	0	0	10	1.3	UJ	1.3	UJ	1.3	UJ	1.3	UJ
Barium	UG/L	69	100%	1000	0	10	10	65	J	67	J	24	J	26	J
Beryllium	UG/L	0	0%	4	0	0	10	0.25	UJ	0.15	UJ	0.25	UJ	0.15	UJ
Cadmium	UG/L	0.44	10%	5	0	1	10	0.095	UJ	0.13	UJ	0.095	UJ	0.13	UJ
Calcium	UG/L	120000	100%			10	10	83,000	J	87,000	J	68,000	J	75,000	J
Chromium	UG/L	0	0%	50	0	0	10	2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ
Cobalt	UG/L	0.42	80%			8	10	0.21	J	0.25	J	0.31	J	0.31	J
Copper	UG/L	7.8	100%	200	0	10	10	1.1	J	5	UJ	3.7	J	5	UJ
Iron	UG/L	160	50%	300	0	5	10	33	UJ	72	J	44	J	160	J
Iron and Manganese	UG/L	219	80%	500	0	8	10	9.5		83		82	J	219	
Lead	UG/L	1.1	40%	15	0	4	10	0.2	UJ	0.5	UJ	0.2	UJ	0.5	UJ
Magnesium	UG/L	15000	100%			10	10	15,000	J	15,000	J	9,900	J	11,000	J
Manganese	UG/L	59	80%	300	0	8	10	9.5	J	11	J	38	J	59	J
Mercury	UG/L	0.14	20%	0.7	0	2	10	0.091	UJ	0.091	UJ	0.12	J	0.091	UJ
Nickel	UG/L	2.1	10%	100	0	1	10	2	UJ	2.1	J	2	UJ	2	UJ
Potassium	UG/L	2500	100%			10	10	750	J	780	J	460	J	460	J
Selenium	UG/L	0	0%	10	0	0	10	1	UJ	1.1	UJ	1	UJ	1.1	UJ
Silver	UG/L	0	0%	50	0	0	10	0.25	UJ	0.18	UJ	0.25	UJ	0.18	UJ
Sodium	UG/L	9400	100%	20000	0	10	10	8,900	J	8,600	J	9,400	J	9,100	J
Thallium	UG/L	0	0%	2	0	0	10	0.5	UJ	0.25	UJ	0.5	UJ	0.25	UJ
Vanadium	UG/L	0	0%			0	10	3.8	UJ	3.2	UJ	3.8	UJ	3.2	UJ
Zinc	UG/L	29	40%			4	10	8.3	UJ	8.4	UJ	8.3	UJ	8.4	UJ
Turbidity (pre)	NTU	3.28	100%			10	10	1.85		1.85		2.01		2.01	
Turbidity (post)	NTU	3.6	100%			5	5			1.6				1.87	

1. The criteria values (where available) are NYS Class GA Groundwater Standards (TOGS 1.1.1, June 1998)
and EPA Maximum Contamination Limit (MCL), Source http://www.epa.gov/safewater/mcl.html#inorganic.html
2. Shading indicates a concentration above the GA or MCL groundwater standard.
3. Dissolved samples were field filtered using a 0.45 micro filter.
4. A blank in the Criteria Level column indicates no standard established for that compound.

U = compound was not detected
J = the reported value is an estimated cocentration
SA = Sample
DU = Duplicate Sample

FIGURES

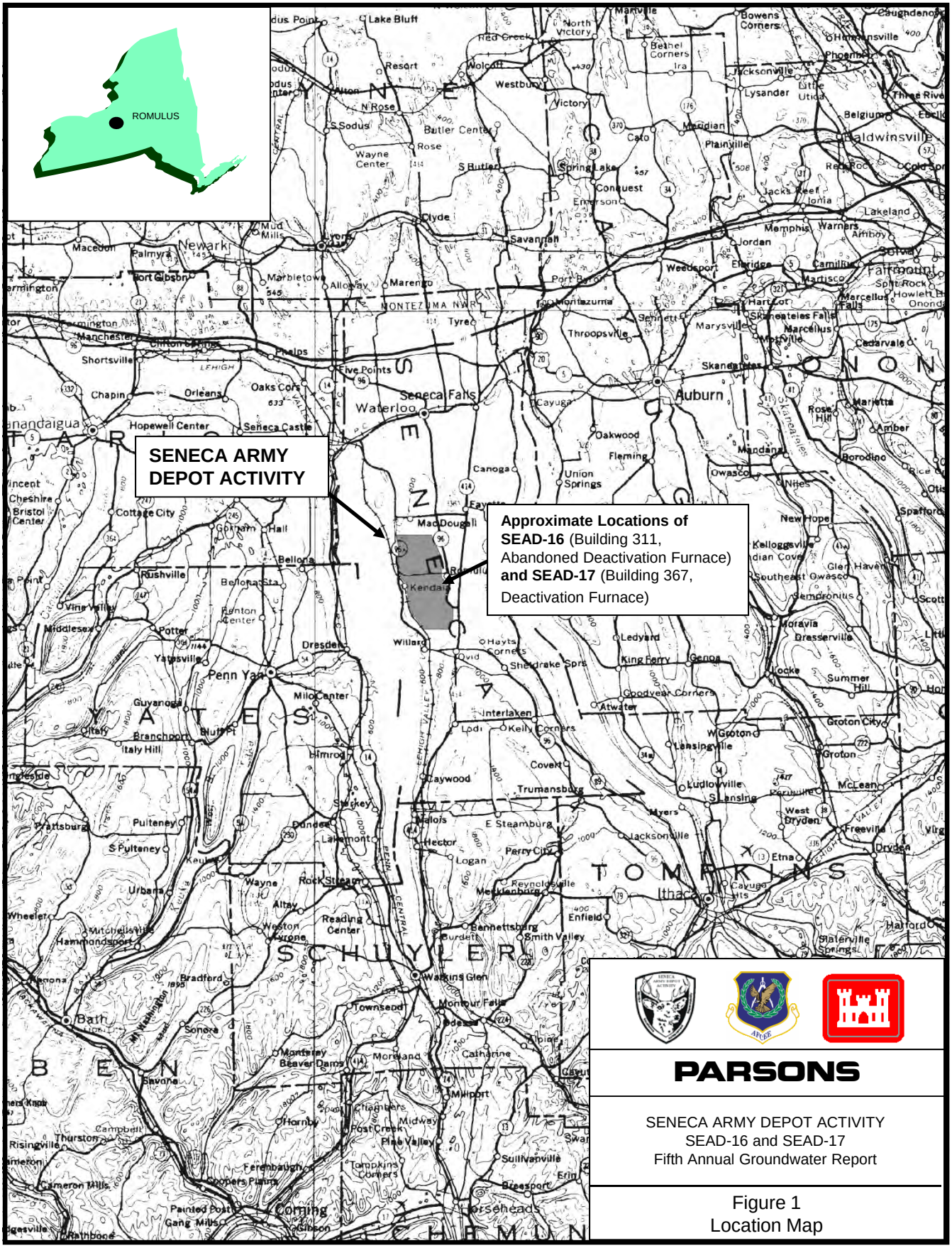
Figure 1 Seneca Army Depot Activity Location Map

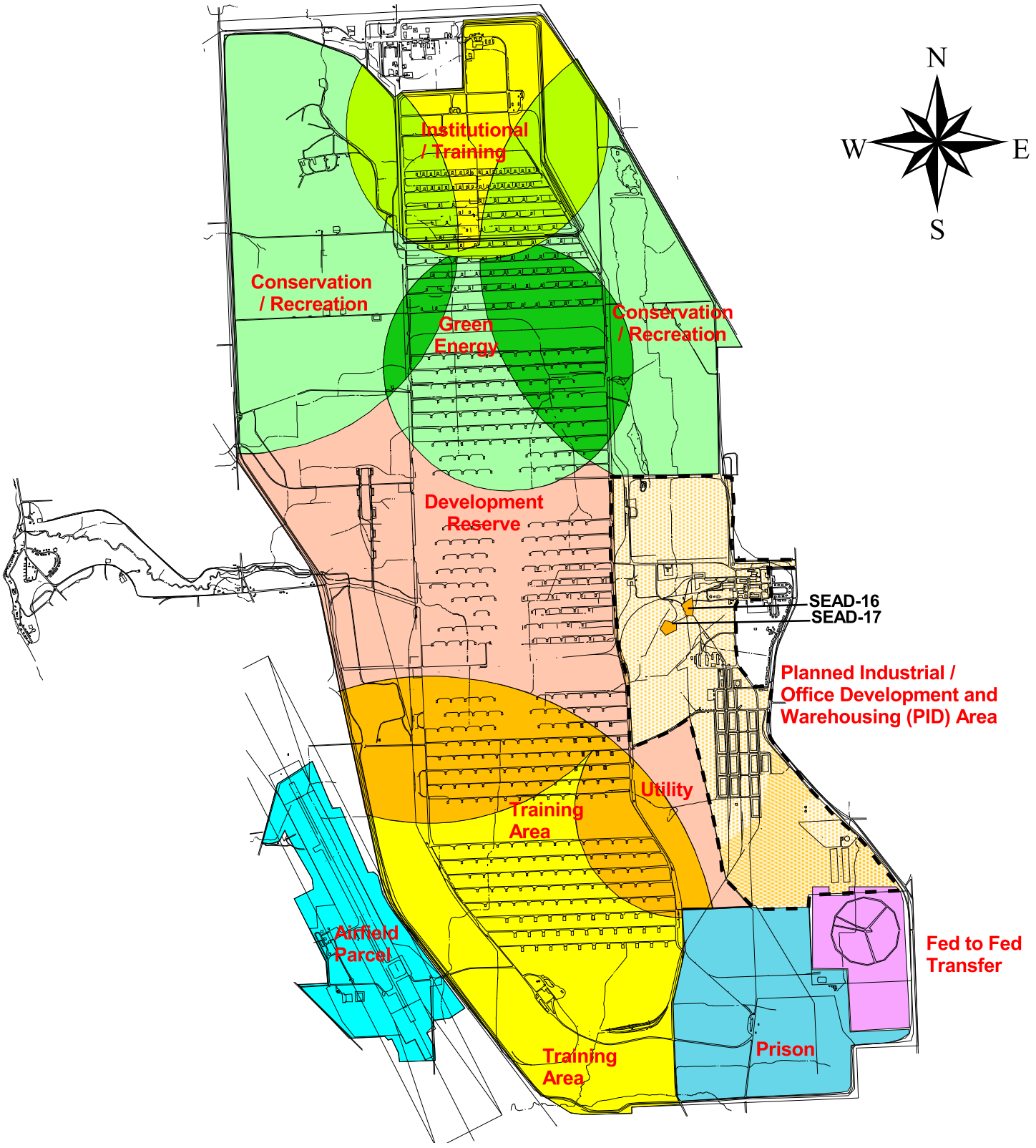
Figure 2 Location of SEAD-16 and SEAD-17 at Seneca Army Depot Activity

Figure 3 Site Plan - SEAD-16

Figure 4 Site Plan - SEAD-17

Figure 5 SEAD-16 and SEAD-17 Groundwater Flow Trend


ROMULUS
SENECA ARMY DEPOT ACTIVITY
Approximate Locations of SEAD-16 (Building 311, Abandoned Deactivation Furnace) and SEAD-17 (Building 367, Deactivation Furnace)
PARSONS
SENECA ARMY DEPOT ACTIVITY
SEAD-16 and SEAD-17
Fifth Annual Groundwater Report
Figure 1
Location Map



1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 Feet

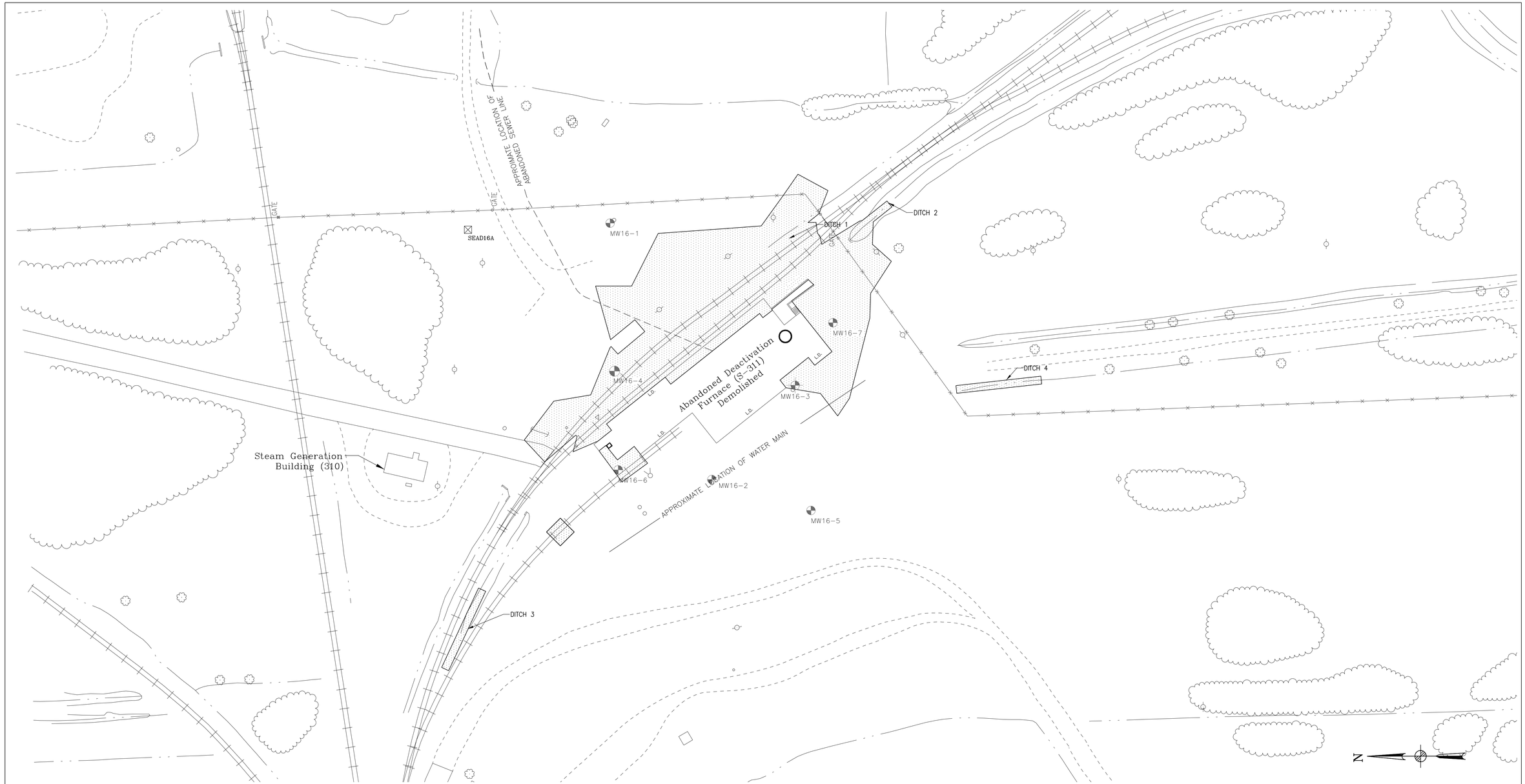
Area Covered by PID-wide Land Use Restrictions
- Prohibit the development and use of property for residential housing, elementary and secondary schools, childcare facilities and playgrounds.
- Prevent access to or use of the groundwater until the Class GA Groundwater Standards are met.

PARSONS

SENECA ARMY DEPOT ACTIVITY
Fifth Annual Groundwater Report
SEAD-16 and SEAD-17

FIGURE 2
Location of SEAD-16 and SEAD-17
at Seneca Army Depot Activity

o:\seneca\pid luc\sead-16&17 annual report.apr\sead-16&17 Annual Report Figure 2



LEGEND:

- MINOR WATERWAY
- MAJOR WATERWAY
- FENCE
- BRUSH LINE
- RAILROAD
- UNPAVED ROAD
- SURVEY MONUMENT
- ROAD SIGN
- DECIDUOUS TREE
- L.D. LOADING DOCK
- FIRE HYDRANT
- MANHOLE
- GUIDE POST
- POLE
- UTILITY BOX
- OVERHEAD UTILITY POLE
- MAILBOX/RR SIGNAL
- MW16-5 MONITORING WELL LOCATION
- LIMITS OF EXCAVATION
- MW16-3 DESTROYED MONITORING WELL LOCATION

NOTE:

MONITORING WELL MW16-3 WAS DESTROYED DURING THE REMEDIAL ACTION.

50 0 50 100

SCALE IN FEET

PARSONS

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT ACTIVITY
SEAD-16 AND SEAD-17
FIFTH ANNUAL GROUNDWATER REPORT

DEPT.	Dwg. No.
ENVIRONMENTAL ENGINEERING	745172-01200

FIGURE 3
SEAD-16
SITE PLAN

SCALE	DATE	REV
1" = 100'	MARCH 2013	-

FILE: P:\PIT\PROJECTS\HUNTSVILLE CONT W912DY-08-D-0003\TO#15 - LTM AND LUC\SEAD 16 AND 17 LTM\ANNUAL REPORT - YR 5\DRAFT\FIGURES\FIGURE 3, DATE: 03/25/2013 08:59:39AM, p006529A

N

Unnamed Road

Unnamed Road

Gravel Access Road

MW17-2

MW17-1

Deactivation Furnace Building 367 (DEMOLISHED)

MW17-3

Building 307T (DEMOLISHED)

SEAD17A

MW17-4

MW17-5

Liquid Propane Gas Tank (DEMOLISHED)

Number 2 Fuel Oil Tank (DEMOLISHED)

Approximate Location Of Discharge Pipe

50 0 50 100

SCALE IN FEET

LEGEND:

- MINOR WATERWAY
- MAJOR WATERWAY
- FENCE
- UNPAVED ROAD
- BRUSH LINE
- RAILROAD
- SURVEY MONUMENT
- ROAD SIGN
- DECIDOUS TREE
- GUIDE POST
- FIRE HYDRANT
- MANHOLE
- MAILBOX/RR SIGNAL
- POLE
- UTILITY BOX
- OVERHEAD UTILITY POLE
- MW17-5 MONITORING WELL LOCATION
- LIMITS OF EXCAVATION

PARSONS

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT ACTIVITY
SEAD-16 AND SEAD-17
FIFTH ANNUAL GROUNDWATER REPORT

DEPT.	Dwg. No.
ENVIRONMENTAL ENGINEERING	745172-01200

FIGURE 4
SEAD-17
SITE PLAN

SCALE	DATE	REV
1" = 100'	MARCH 2013	-

FILE: P:\PIT\PROJECTS\HUNTSVILLE CONT W912DY-08-D-0003\TO#15 - LTM AND LUC\SEAD 16 AND 17 LTM\ANNUAL REPORT - YR 5\DRAFT\FIGURES\FIGURE 4, DATE: 03/25/2013 09:02:16AM, p006529A

LEGEND:

- 734 — ELEVATION CONTOUR
- MINOR WATERWAY
- MAJOR WATERWAY
- FENCE
- BRUSH LINE
- RAILROAD
- UNPAVED ROAD
- ☒ SURVEY MONUMENT
- ROAD SIGN
- DECIDUOUS TREE
- L.D. LOADING DOCK
- FIRE HYDRANT
- MANHOLE
- GUIDE POST
- POLE
- UTILITY BOX
- OVERHEAD UTILITY POLE
- MAILBOX/RR SIGNAL
- 729 — GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- MW17-3 — MONITORING WELL LOCATION
- LIMITS OF EXCAVATION
- MW17-3 (726.00) — APPROXIMATE GROUNDWATER ELEVATION
- INDICATES APPROXIMATE DIRECTION OF GROUNDWATER FLOW

NOTES:

1. MONITORING WELL MW16-3 WAS DESTROYED DURING THE REMEDIAL ACTION.
2. GROUNDWATER FLOW DIRECTION BASED ON DECEMBER 2012 GROUNDWATER DATA ELEVATION.

100 0 100 200
SCALE IN FEET

PARSONS

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT ACTIVITY
SEAD-16 AND SEAD-17
FIFTH ANNUAL GROUNDWATER REPORT

DEPT. ENVIRONMENTAL ENGINEERING | Dwg. No. 745172-01400

FIGURE 5
SEAD-16 AND SEAD-17
GROUNDWATER FLOW TREND

SCALE 1" = 200' | DATE FEBRUARY 2014 | REV -

P:\PIT\PROJECTS\HUNTSVILLE CONT W912DY-08-D-0003\TO#15 - LTM AND LUC\SEAD 16 AND 17 LTM\ANNUAL REPORT - YR 5 DEC 2012\DRAFT\OLD\FIG, DATE: 02/04/2014 12:17:27PM, p0018397

APPENDICES

Appendix A Historic Groundwater Data

Appendix B SEDA Background Groundwater Data Summary

Appendix C Field Forms - Year 5 LTM Groundwater Sampling Activities

Appendix D Complete Groundwater Data Results (Years 1 through 5)

Appendix E Laboratory Analytical Report

Appendix F Data Validation

APPENDIX A

HISTORIC GROUNDWATER DATA

Appendix A Table
SEAD-16 Pre Remedial Groundwater Monitoring Results
SEAD-16 & SEAD-17 Fifth Annual Groundwater Monitoring Report
Seneca Army Depot Activity

			LOC_ID:	MW16-1		MW16-1		MW16-2		MW16-2		MW16-3		MW16-3		MW16-4		MW16-4		MW16-5		MW16-6		MW16-6		MW16-7		MW16-7		MW16-7	
			SAMP ID:	16101		16152		16102		16150		16110		16165		16105		16156		16162		16111		16155		16104		16158		16159	
			QC CODE:	SA		SA		SA		SA		SA		SA		SA		SA		SA		SA		SA		SA		SA		DU	
			STUDY ID:	RI ROUND1		RI ROUND2		RI ROUND1		RI ROUND2		RI ROUND1		RI ROUND2		RI ROUND1		RI ROUND2		RI ROUND2		RI ROUND1		RI ROUND2		RI ROUND1		RI ROUND2		RI ROUND2	
			MATRIX:	WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			SAMPLE DATE:	8/27/1996		12/7/1996		8/27/1996		12/6/1996		8/30/1996		12/10/1996		8/28/1996		12/7/1996		12/9/1996		9/3/1996		12/8/1996		8/28/1996		12/8/1996		12/8/1996	
PARAMETER	ACTION LEVEL	SOURCE [1]	UNIT	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q
SEMIVOLATILE ORGANICS																															
3-Nitroaniline	5	GA	UG/L	26	UJ	25	U	25	U	25	U	25	U	25	U	26	U	25	U	25	U	25	U	25	U	25	J	25	U	25	U
4-Chloroaniline	5	GA	UG/L	10	UJ	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	J	10	U	10	U
Benzo[ghi]perylene			UG/L	10	UJ	10	U	10	U	10	U	1	J	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dibenz[a,h]anthracene			UG/L	10	UJ	10	U	10	U	10	U	0.7	J	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Diethyl phthalate			UG/L	10	UJ	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Indeno[1,2,3-cd]pyrene			UG/L	10	UJ	10	U	10	U	10	U	0.6	J	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
OTHER ANALYSES																															
Nitrate/Nitrite Nitrogen	10	GA	MG/L	0.02		0.01	U	0.67		2		0.04		0.64		0.29		0.26		1.4		0.01	U	0.01	U	0.83		0.24		0.23	
Percent Solids (Metals)				0		0		0		0		0		0		0		0		0		0		0		0		0		0	
Total Petroleum Hydrocarbons			MG/L	0.44	U	0.4	U	0.4	U	0.36	U	0.41	U	1		0.41	U	0.42	U	0.91		0.89		0.73		0.41	U	0.46	U	1.3	
NITROAROMATICS																															
1,3-Dinitrobenzene	5	GA	UG/L	0.26	U	0.26	U	1.8	J	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26		0.26	U	0.26	U
2,4-Dinitrotoluene	5	GA	UG/L	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.68	J	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U
METALS																															
Aluminum			UG/L	1850		143	U	1010		490		336		36.1	U	24.9		36.1	U	148	U	208		170	U	12.4		67.4	U	52.9	U
Antimony	3	GA	UG/L	2	U	3	U	2	U	3	U	7.5		5.3	U	2	U	3	U	3	U	2	U	3	U	15.7	U	8.9	U	10	U
Arsenic	10	MCL	UG/L	2.7	U	4.4	U	2.7	U	4.4	U	2.7	U	4.4	U	2.7	U	4.4	U	4.4	U	2.7	U	4.4	U	4	U	4.4	U	4.4	U
Barium	1,000	GA	UG/L	74.2		48.2	U	48.1		31.4	U	64.4		57.4	U	97.4		55.2	U	67.6	U	86.4		80.2	U	89.2		59.1	U	60.2	U
Beryllium	4	MCL	UG/L	0.23		0.2	U	0.22		0.2	U	0.21		0.2	U	0.21		0.2	U	0.2	U	0.2	U	0.1	U	0.2	U	0.21		0.2	U	0.2	U
Cadmium	5	GA	UG/L	0.3	U	0.6	U	0.3	U	0.6	U	0.3	U	0.6	U	0.3	U	0.6	U	0.6	U	0.3	U	0.6	U	0.3	U	0.6	U	0.6	U
Calcium			UG/L	157,000		116,000		193,000		164,000		99,800		85,500		130,000		158,000		90,000		44600		84,900		109,000		114,000		117,000	
Chromium	50	GA	UG/L	2.7		1	U	2.3		1.1	U	1	U	1	U	1	U	1	U	1	U	1.5		1	U	1		1	U	1	U
Cobalt			UG/L	2.1		1.3	U	1.5		1.3	U	1.2	U	1.3	U	1.2	U	1.3	U	1.3	U	1.2		1.3	U	1.2		1.3	U	1.3	U
Copper	200	GA	UG/L	4.9		1.9	U	7.9		2.9	U	19.2		11.4	U	3.6		1.1	U	1.1	U	4.4		1.1	U	5.1		1.4	U	2.1	U
Iron	300	GA	UG/L	**2,400**	**J**	296		**1,720**	**J**	**923**	**J**	**432**	**J**	77.8	U	38.2		126		211		273	J	290		23.4		174		160	
Lead	15	MCL	UG/L	1.7	U	1.5	U	5.9		6.8		6.1		1.5	U	1.7	U	1.5	U	3	U	1.7	U	1.5	U	8.4		9.9		9.2	
Magnesium			UG/L	23,300		17,600		23,700		20,900		11,600		10,000		17,700		22,900		11,800		6370		12,800		16,900		22,600		23,200	
Manganese	300	GA	UG/L	210		64.2		129		65.2		130		5.9	U	132		66.9		51		**545**		**1,380**		85.7		43.2		44.3	
Mercury	0.7	GA	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nickel	100	GA	UG/L	4.7		2.5	U	11		3.1	U	3		2.5	U	2.2		2.5	U	2.5	U	4.1		2.5	U	2.2		2.5	U	2.5	U
Potassium			UG/L	1670		998	U	4760		3410	U	2740		1900	U	4040		1660	U	18800		3530		2230	U	3220		2090	U	2160	U
Selenium	10	GA	UG/L	2.4	U	4.7	UJ	2.4	U	4.7	UJ	2.4	U	4.7	UJ	2.4	U	4.7	UJ	4.7	UJ	2.4	U	4.7	UJ	2.4	U	4.7	UJ	4.7	UJ
Sodium	20,000	GA	UG/L	8,750		3,870	U	19,100		17,000		9,480		7,660		17,200		12,300		**49,500**		**396000**		**409,000**		12,000		9,940		10,200	
Thallium	2	MCL	UG/L	4.2	U	5.9	U	**9.2**		9.6	U	4.2	U	4.1	U	4.2	U	4.1	U	6.9	U	**6.2**		4.1	U	**4.2**		**11**		4.1	U
Vanadium			UG/L	3.3		1.6	U	2.9		1.6	U	1.2	U	1.6	U	1.2	U	1.6	U	1.6	U	2.9		1.6	U	1.2		1.6	U	1.6	U
Zinc			UG/L	15.6	R	5.8	U	37.4	R	13.5	U	32.4	R	42		4.5	R	5.1	U	6.3	U	13.2	R	10.5	U	2.9	R	2.2	U	7.3	U

Notes:
1. The criteria values are NYSDEC Class GA Groundwater Standards (TOGS 1.1.1, June 1998) and EPA Maximum Contamination Limit (MCL), Source http://www.epa.gov/safewater/mcl.html#inorganic.html
2. Shading indicates a concentration above groundwater standard.
3. A blank in the action level column indicates no Class GA and/or MCL standand or standard is a secondary value.

U = compound was not detected
J = the reported value is and estimated concentration
R = the compound was rejected

Appendix A Table
SEAD-17 Pre Remedial Groundwater Monitoring Results
SEAD-16 & SEAD-17 Fifth Annual Groundwater Monitoing Report
Seneca Army Depot Activity

			LOC_ID:	MW17-1		MW17-1		MW17-1		MW17-2		MW17-3		MW17-4		MW17-5		MW17-5	
			SAMP ID:	16108		16109		16171		16163		16166		16169		16106		16170	
			QC CODE:	SA		DU		SA		SA		SA		SA		SA		SA	
			STUDY ID:	RI ROUND1		RI ROUND1		RI ROUND2		RI ROUND2		RI ROUND2		RI ROUND2		RI ROUND1		RI ROUND2	
			MATRIX:	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
			SAMPLE DATE:	8/29/1996		8/29/1996		12/11/1996		12/9/1996		12/10/1996		12/11/1996		8/29/1996		12/11/1996	
PARAMETER	ACTION LEVEL	SOURCE [1]	UNIT	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q
SEMIVOLATILE ORGANICS																			
Benzo[a]pyrene			UG/L	0.7	J	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo[ghi]perylene			UG/L	2	J	1	J	10	U	10	U	10	U	10	U	10	U	10	U
Dibenz[a,h]anthracene			UG/L	1	J	0.9	J	10	U	10	U	10	U	10	U	10	U	10	U
Indeno[1,2,3-cd]pyrene			UG/L	2	J	1	J	10	U	10	U	10	U	10	U	10	U	10	U
OTHER ANALYSES																			
Nitrate/Nitrite Nitrogen	10	GA	MG/L	0.24		0.23		0.2		0.04		0.05		0.02		0.04		0.02	
Percent Solids (Metals)				0		0		0		0		0		0		0		0	
NITROAROMATICS																			
Tetryl			UG/L	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U
METALS																			
Aluminum			UG/L	90.4		54.6		386		85.3	U	36.1	U	41.9	U	39.9		59	U
Antimony	3	GA	UG/L	2	U	2	U	3	U	3	U	3	U	3	U	2	U	3	U
Arsenic	10	MCL	UG/L	2.7	U	2.7	U	4.4	U	4.4	U	4.4	U	4.4	U	2.7	U	4.4	U
Barium	1,000	GA	UG/L	85		87		90.4	U	66.1	U	27.4	U	27.4	U	92.5		62.6	U
Beryllium	4	MCL	UG/L	0.26		0.21		0.2	U	0.2	U	0.2	U	0.2	U	0.23		0.2	U
Cadmium	5	GA	UG/L	0.3	U	0.31		0.6	U	0.6	U	0.6	U	0.6	U	0.3	U	0.6	U
Calcium			UG/L	108000		110000		104000		118000		108000		92000		108000		81100	
Chromium	50	GA	UG/L	1	U	1.5		1	U	1	U	1	U	1	U	1	U	1	U
Cobalt			UG/L	1.2	U	1.4		2	U	1.3	U	1.3	U	1.3	U	1.2	U	1.3	U
Copper	200	GA	UG/L	3.1		4.3		1.1	U	2.6	U	1.1	U	1.1	U	3.3		1.3	U
Iron	300	GA	UG/L	119		90.6		**572**	**J**	214		53.1	U	96.4	U	56.8		134	
Lead	15	MCL	UG/L	1.7	U	1.7	U	1.5	U	1.9	U	1.5	U	3	U	1.7	U	1.5	U
Magnesium			UG/L	22600		23000		22900		14600		15200		14200		17700		13600	
Manganese	300	GA	UG/L	21.3		20		9.7	U	73.8		0.7	U	22.5		73.2		62	
Mercury	0.7	GA	UG/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nickel	100	GA	UG/L	1.8		2.2		2.5	U	2.5	U	2.5	U	2.5	U	2.4		2.5	U
Potassium			UG/L	472		574		843	U	5320		772	U	1330	U	853		1070	U
Selenium	10	GA	UG/L	2.4	U	2.4	U	4.7	UJ	4.7	UJ	4.7	UJ	4.7	UJ	2.4	U	4.7	UJ
Silver	50	GA	UG/L	1.3	U	2.3		1.5	U	1.5	U	1.5	U	1.5	U	1.3	U	1.5	U
Sodium	20,000	GA	UG/L	9,290		9,620		8,190		18,700		**30,100**		**22,300**		11,700		8,970	
Thallium	2	MCL	UG/L	**4.40**		**7.1**		4.1	U	4.7	U	4.4	U	6.2	U	**4.7**		8.6	U
Vanadium			UG/L	1.2	U	1.4		1.6	U	1.6	U	1.6	U	1.6	U	1.2	U	1.6	U
Zinc			UG/L	2.5	R	3.2	R	14.4	U	63.9		7.7	U	8.3	U	6.2	R	4.4	U

Notes:
1. The criteria values are NYSDEC Class GA Groundwater Standards (TOGS 1.1.1, June 1998) and EPA Maximum Contamination Limit (MCL), Source http://www.epa.gov/safewater/mcl.html#inorganic.html
2. Shading indicates a concentration above groundwater standard.
3. A blank in the action level column indicates no Class GA and/or MCL standand or standard is a secondary value.
4. Wells MW17-2, MW17-3, and MW17-4 were not sampled in August 1996 since they were dry.

U = compound was not detected
J = the reported value is and estimated concentration
R = the compound was rejected

APPENDIX B

SEDA BACKGROUND GROUNDWATER DATA SUMMARY

Appendix B
SEDA Background Groundwater Concentrations
SEAD-16 & SEAD-17 Fifth Annual Groundwater Monitoring Report
Seneca Army Depot Activity

PARAMETER	UNIT	MAXIMUM	AVERAGE CONCENTRATION	STANDARD DEVIATION	FREQUENCY OF DETECTION	CRITERIA VALUE	TYPE OF CRITERIA	NUMBER OF EXCEEDENCES	NUMBER OF DETECTS	NUMBER OF ANALYSES
Aluminum	UG/L	42,400	2,732	8,207	87%	50	MCL	25	27	31
Antimony	UG/L	52.7	8.2	13.9	13%	3	GA	3	4	31
Arsenic	UG/L	10	1.7	2.2	13%	5	MCL	2	4	31
Barium	UG/L	337	78.2	62.6	94%	1000	GA	0	29	31
Beryllium	UG/L	2.2	0.2	0.4	13%	4	MCL	0	4	31
Cadmium	UG/L	0	0.5	0.5	0%	5	GA	0	0	31
Calcium	UG/L	181,000	115,619	25,274	100%			0	31	31
Chromium	UG/L	69.4	4.7	13.4	48%	50	GA	1	15	31
Cobalt	UG/L	34.6	3.7	7.4	45%			0	14	31
Copper	UG/L	32.5	3.3	6.9	48%	200	GA	0	15	31
Cyanide	UG/L	2.8	NA	NA	3%	200	GA	0	1	31
Iron	UG/L	69,400	4,476	13,429	100%	300	GA	22	31	31
Lead	UG/L	34.8	2.5	6.3	32%	15	MCL	1	10	31
Magnesium	UG/L	58,200	28,568	13,848	100%			0	31	31
Manganese	UG/L	1120	224	254	97%	50	SEC	22	30	31
Mercury	UG/L	0.06	0.04	0.02	23%	0.7	GA	0	7	31
Nickel	UG/L	99.8	7.3	18.7	61%	100	GA	0	19	31
Potassium	UG/L	10,200	3,833	3,010	94%			0	29	31
Selenium	UG/L	3.6	1.5	0.7	19%	10	GA	0	6	31
Silver	UG/L	0.98	1.0	1.0	6%	50	GA	0	2	31
Sodium	UG/L	59,400	14,601	13,877	97%	20000	GA	7	30	31
Thallium	UG/L	4.7	1.5	1.2	13%	2	MCL	4	4	31
Vanadium	UG/L	70.8	5.2	13.5	52%			0	16	31
Zinc	UG/L	143	23.1	34.5	84%	5000	MCL	0	26	31

GA = NYSDEC Ambient Water Quality Standards for a source of Drinking Water from Groundwater (TOGS 1.1.1)
MCL = Maximum Contaminant Level - Drinking Water Standards and Health Advisory (EPA 822-B-00-001)
SEC = Secondary Drinking Water Regulations - Drinking Water Standards and Health Advisory (EPA 822-B-00-001)

APPENDIX C

FIELD FORMS - YEAR 5 LTM GROUNDWATER SAMPLING ACTIVITIES

GROUNDWATER ELEVATION REPORT

PARSONS | CLIENT: | DATE: 12/10/12

PROJECT: SEAD-16/17 LTM Round 5
LOCATION:

PROJECT NO:
INSPECTOR: BBO/SD

MONITORING EQUIPMENT:

INSTRUMENT	DECTECTOR	BGD	TIME	REMARKS

WATER LEVEL INDICATOR:

INSTRUMENT	CORRECTION FACTOR

COMMENTS: Temps 40's, winds 5-15 mph W→E scattered rain showers, wet ground surface, overnight rain

WELL	TIME	DEPTH TO Bell WATER	DEPTH TO ~~PRODUCT~~	CORRECTED WATER LEVEL	MEASURED POW	INSTALLED POW	PRODUCT SPEC. GRAV.	WELL STATUS / COMMENTS (Lock?, Well #?, Surface Disturbance?, Riser marked?, Condition of: riser, concrete, protective casing, etc.)
16-2	924	4.08	5.85					Locked w/ cap
16-6	926	2.37	6.83					Locked w/ cap
16-4	928	2.71	7.00					Locked, cap off, stuck inside metal case
16-1	931	3.15	7.98					Locked w/ cap
16-7	934	4.28	6.76					Locked w/ cap
16-5	937	1.63	5.05					Locked w/ cap
17-2	943	2.79	6.85					Locked w/ cap
17-3	945	2.40	7.47					Locked w/ cap
17-4	947	3.18	8.44					Locked, need replacement well cap
17-5	950	2.64	10.13					Locked w/ cap
17-1	953	3.19	10.20					Locked needs well cap

(ALL DEPTH MEASUREMENTS FROM MARKED LOCATION ON RISER)

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW16-1

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/15/12
INSPECTORS: BBO
PUMP #: Peristaltic Pump
SAMPLE ID #: 16LM20028 U/F

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
805	38	overcast		0-5	S→N	

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
7.98 - 3.61 = 4.37 × .163 = 0.71 × 3 = 2.14 gals

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	7.98'					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		3.61'			

RADIATION SCREENING DATA	~~PUMP PRIOR TO SAMPLING (cps)~~	TOR 10" below Metal Case Rim	~~PUMP AFTER SAMPLING (cps)~~	3' 3" 4" Metal Box Height above pad -5" for top steel

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
823	3.60	YSI &	tubing in well, replaced water line						
823		Pump	Started	YSI	YSI	Horiba	Horiba	Horiba	Hach
832	3.73	140		0.18	8.5	0.820	7.18	227	13.1
837	3.75	150		0.40	8.5	0.812	7.08	223	8.27
842	3.73			0.26	8.5	0.810	6.99	222	4.99
847	3.76	142	~0.75 gal	0.81	8.5	0.807	7.04	218	4.85
852	3.77	142	~1 gal	0.38	8.6	0.804	7.03	216	3.08
857	3.77	150		0.40	8.7	0.804	7.02	212	2.66
902	3.76	124	~1.6 gals	0.70	8.7	0.804	6.95	208	2.14
~~907~~									
913	3.75	158	~1.9 gals	0.59	8.8	0.804	7.03	202	1.67
918	3.77	150	~2.1 gals	0.49	8.8	0.801	7.02	198	1.21
923	3.76	146		0.49	8.8	0.803	7.04	193	1.34
928	3.76	140	~2.6 gal	0.56	8.9	0.804	7.02	190	0.82
933	3.76	148		0.33	8.9	0.804	7.01	185	1.03
938	3.76	140	~3.0 gals	0.30	8.8	0.804	7.04	181	0.94
943	3.76	142		0.45	8.8	0.804	7.03	177	0.71
948	3.77	134	~3.25 gals	0.50	8.7	0.804	7.01	177	1.21
953	3.77	140	~3.5 gals	0.47	8.7	0.805	6.99	175	1.04
1000		Sample	Collected	16LM20028 U			1000	unfiltered	
				16LM20028 F			1003	filtered	
1004		Pump restored, Post-Collection Geoparms, flow cell reconnected							
1009	3.77		~3.9 gals	0.30	8.9	0.806	6.90	154	0.87

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW16-2

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/15/12
INSPECTORS:
PUMP #:
SAMPLE ID #: 16LM20029 U/F

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1352	37	overcast		5-10	(E→W)	

MONITORING	
INSTRUMENT	DETECTOR
OVM-580	PID

2.12' height

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
5.85-4.34 = 1.51 × .163 = 0.25 × 3 = 0.75 gals

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	5.85'					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		4.34'			

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
1401	4.35	YSI & tubing in	well						
1401		Pump	started	YSI	YSI	Horiba	Horiba	Horiba	Hach
1411	4.38	162		6.31	7.0	0.255	7.66	43	540
1416	4.40	160		5.76	7.1	0.290	7.40	53	202
1421	4.39	156	~0.9 gal	5.48	7.1	0.323	7.41	52	83.7
1426	4.40	154		5.25	7.1	0.344	7.38	53	18.9
1431	4.39	144	~1.1 gal	5.12	7.1	0.383	7.28	58	8.11
1436	4.38	148		5.04	7.2	0.425	7.34	54	3.72
1441	4.38	150		4.93	7.2	0.447	7.29	58	3.61
1446	4.38	150	~2.0 gals	4.85	7.2	0.460	7.27	61	3.34
1451	4.38	154		4.77	7.3	0.468	7.28	57	1.87
1456	4.37	148		4.71	7.3	0.478	7.29	57	1.24
1501	4.38	156	~2.5 gals	4.66	7.3	0.489	7.30	56	1.26
1506	4.37	148		4.59	7.3	0.499	7.27	58	1.36
1511	4.37			4.38	7.4	0.507	7.26	60	0.97
1516	4.37	148	~3.0 gals	4.32	7.4	0.512	7.23	62	1.42
1521	4.37			4.17	7.4	0.516	7.27	59	1.06
1526	4.37			4.18	7.4	0.518	7.27	59	1.47
1531	4.37		~3.75	4.23	7.4	0.520	7.26	59	1.20
1533	Samples	Collected		16LM20029U		1533		16LM20029F	1535
1539	Post-Sample Collection Geo params, flow cell re-connected								
1544	4.37	~4.0 gals		4.13	7.4	0.526	7.12	67	3.01

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW16-4

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/15/12
INSPECTORS: SD
PUMP #: Peristaltic #
SAMPLE ID #: 16LM20030 U/F

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS

MONITORING	
INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	7.00'					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
	1.32' stickup	2.86			

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
1132	2.86	START PUMP FOR PURGE							
1140	2.98	200		~~0.13~~ 0.13	7.6	1.17	7.33	-82	
1145	2.93	110		0.15	7.1	1.26	7.32	-85	5.42
1150	2.93	116		0.24	7.2	1.29	7.33	-81	3.36
1155	2.93	118		0.33	7.2	1.36	7.30	-70	2.41
1200	2.93	116		0.33	7.1	1.46	7.29	-62	1.69
1205	2.93	118		0.30	7.1	2.05	7.27	-55	1.38
1210	2.93	120		0.28	7.0	2.19	7.27	-52	1.14
1215	2.93	118		0.24	7.0	2.40	7.29	-48	0.86
1220	2.94	120		0.15	6.9	2.50	7.29	-47	1.21
1225	2.94	124		0.18	6.9	2.54	7.30	-47	1.74
1230	2.94	125		0.20	6.9	2.62	7.30	-47	0.59
1235	2.94	128		0.20	6.8	2.67	7.30	-47	0.77
1240	2.94	128		0.19	6.8	2.69	7.32	-48	0.58
1245	2.94	128	2.5 gal	0.20	6.8	2.71	7.31	-48	0.48
1250		COLLECT SAMPLE FOR TOTAL & Dissolved Metals							
1300	2.94	128	POST SAMPLE	0.21	6.7	2.83	7.33	-46	1.01

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW16-5

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/15/12
INSPECTORS:
PUMP #:
SAMPLE ID #: 16LM20031U/F

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS

MONITORING	
INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	5.05'					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
	1.43 feet stickup	1.86'			

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
8:30	1.89	START PUMP FOR PURGE							
8:35	2.14	N2		2.5	6.2	0.344	6.94	-25	
8:40	2.14	100		2.5	6.2	0.339	6.94	-38	
8:45	2.18	102		4.3	5.6	0.302	7.01	-62	5.79
8:50	2.23	102		4.9	5.6	0.298	7.08	-64	3.78
8:55	2.29	105		4.5	5.6	0.299	7.11	-66	3.15
9:00	2.35	110		3.4	5.6	0.302	7.16	-69	2.52
9:05	2.46	108		2.8	5.5	0.303	7.17	-71	1.62
9:10	2.55	100		2.6	5.4	0.303	7.18	-71	1.70
9:15	2.68	100		2.6	5.4	0.304	7.19	-72	1.85
9:20	2.80	100		3.2	5.4	0.304	7.19	-73	2.41
9:25	2.98	104	1.50 gal	4.1	5.3	0.306	7.21	-75	1.57
9:30	3.08	102		3.4	5.4	0.308	7.22	-77	1.50
9:35	3.16	102		2.6	5.3	0.313	7.21	-80	1.65
9:40	3.21	104		2.0	5.3	0.321	7.21	-85	1.06
9:45	3.23	104	2.1 gal	1.4	5.3	0.328	7.22	-88	1.49
9:50	3.29	108		0.9	5.3	0.331	7.22	-87	0.95
9:55	3.33	108		0.7	5.4	0.334	7.22	-88	0.74
10:00	3.36	108		0.7	5.4	0.339	7.21	-92	1.62
10:05	3.42	108		0.6	5.5	0.345	7.21	-97	1.07
10:10	3.45	108		0.6	5.5	0.349	7.21	-100	1.12

SAMPLING RECORD - GROUNDWATER pg. 2

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW16-5

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/5/12
INSPECTORS: S. Dillman
PUMP #:
SAMPLE ID #: 16GM 20331 4/F

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS

MONITORING

INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
1015	3.50	112	3 gal	~~0.06~~ 0.6	5.5	0.355	7.21	-105	1.12
1020	3.56	112		~~0.05~~ 0.5	5.5	0.357	7.21	-109	1.03
1025	3.63	112		~~0.05~~ 0.5	5.6	0.362	7.21	-115	1.13
1030	3.70	112		0.5	5.6	0.367	7.21	-120	1.26
1035	3.75	116	3.5 gal	0.4	5.7	0.369	7.21	-123	1.92
1040	3.82	116		0.3	5.8	0.373	7.21	-127	0.94
1045	3.90	COLLECT SAMPLE FOR Dissolved & Total Metals							
1055	4.05	118	POST SAMPLE	0.3	6.0	0.383	7.20	-138	1.39

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW16-6

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/15/12
INSPECTORS: S Dillman
PUMP #:
SAMPLE ID #: 16LM20032 U/F

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]

	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
HISTORIC DATA	6.83'					
	PID READING (OPENING WELL)	**DEPTH TO STATIC WATER LEVEL (TOC)**		**DEPTH TO STABILIZED WATER LEVEL (TOC)**	**DEPTH TO PUMP INTAKE (TOC)**	**PUMPING START TIME**
DATA COLLECTED AT WELL SITE	1.51' stickup PVC	2.88'				
	PUMP PRIOR TO SAMPLING (cps)			**PUMP AFTER SAMPLING (cps)**		
RADIATION SCREENING DATA						

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
1410	2.88	START PUMP FOR PURGE							
1415	3.23	124							
1420	3.72	92		2.20	7.6	0.319	7.94	11	
1425	3.90	100		1.63	7.6	0.312	7.79	20	
1430	4.06	100		1.62	7.6	0.307	7.71	19	66.7
1435	4.14	100		1.55	7.8	0.305	7.68	11	31.9
1440	4.33	98		1.44	7.8	0.306	7.62	-19	11.2
1445	4.43	88		1.38	7.8	0.306	7.60	-31	6.37
1450	4.50	96		1.12	7.8	0.305	7.60	-37	6.24
1455	4.58	96		1.14	7.8	0.306	7.58	-40	4.83
1500	4.65	96		0.94	7.8	0.307	7.57	-46	3.42
1505	4.76	98	1.25 gal	0.78	7.8	0.307	7.57	-42	2.02
1510	4.86	100		0.80	7.8	0.309	7.57	-44	2.05
1515	4.98	100		0.85	7.9	0.312	7.56	-48	1.95
1520	5.07	106		0.85	7.9	0.315	7.56	-56	2.11
1525	5.19	108		0.84	8.0	0.318	7.53	-67	2.32
1530	5.29	106		0.87	8.1	0.317	7.52	-72	1.78
1535	5.40	108	2 gal	0.94	8.2	0.317	7.50	-76	1.92
1540	5.50	108		1.03	8.2	0.317	7.49	-76	1.67
1545		Collect Sample for TOTAL & Dissolved metals							
1598	6.06	108	POST SAMPLE	1.27	8.6	0.307	7.49	-70	3.58

END VOL. 2.75 gal

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW16-7

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/15/12
INSPECTORS: BBO
PUMP #: Peristaltic Parsons
SAMPLE ID #: 16LM20033 U / E Dup #34

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1038	37	Partly Sunny		~~E~~ E-W	0-5	~~D~~ E

MONITORING	
INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
6.76 - 4.56 = 2.2 x .163 = 0.36 x 3 = 1.08 gals

1.47' weight

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	6.76'					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
- old Groundspace New Grundfos		4.56'		~6.7'	1052

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
1051	4.54	YSI &	tubing in well, replaced waterline						
1052		Pump started		YSI	YSI	Horiba	Horiba	Horiba	Hach
1058	4.71	86		3.20	8.0	0.515	7.54	193	43.6
1103	4.75	100		3.04	8.0	0.516	7.38	190	37.7
1108	4.81	107		2.91	8.1	0.516	7.29	181	17.7
1113	4.84			2.81	8.1	0.516	7.31	171	9.64
1118	4.86	105	~0.5 gal	2.69	8.2	0.518	7.24	164	7.02
1123	4.88			2.63	8.2	0.522	7.34	151	5.74
1128	4.89	112	~0.9 gal	2.50	8.3	0.538	7.32	141	5.31
1133	4.90	103		2.50	8.4	0.545	7.32	131	4.99
1138	4.91	103		2.51	8.5	0.562	7.32	122	5.76
1143	4.91	110	~1.3 gals	1.99	8.5	0.577	7.30	119	5.44
1148	4.92	105		1.60	8.6	0.589	7.33	108	4.04
1153	4.92	110		1.39	8.6	0.595	7.31	101	3.06
1158	4.93	110	~1.9 gals	1.26	8.7	0.602	7.35	90	2.87
1203	4.93	110		1.36	8.7	0.608	7.36	90	2.45
1208	4.93		~2.1 gals	1.40	8.7	0.614	7.35	84	2.06
1213	4.93			1.29	8.7	0.618	7.32	82	1.53
1218	4.94			1.18	8.8	0.622	7.34	77	0.99
1223	4.94		2.6 gals	1.04	8.8	0.624	7.37	71	0.54
1228	4.94			0.97	8.8	0.627	7.33	71	0.93

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW16-7

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/15/12
INSPECTORS: TBO
PUMP #: Peristaltic
SAMPLE ID #: 16LM20033/34

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1229	37	Partly sunny		0-5	E-W	

MONITORING

INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
1233	4.93	107	~2.9 gals	0.94	8.8	0.628	7.32	68	1.15
1238	4.94			0.96	8.8	0.631	7.34	64	0.56
1243	4.93			1.08	8.8	0.634	7.36	61	0.75
1248	4.94		~3.3 gals	1.01	8.8	0.636	7.36	58	0.55
1253	4.93			0.90	8.8	0.637	7.36	56	0.94
1258	4.93		~3.5 gals	0.86	8.8	0.639	7.34	55	1.14
1303		Samples	Collected						
			16LM20033U		1305				
			16LM20033F		1305	1313			
			16LM20033UMS		1305				
			16LM20033FMS		1305	1313			
			16LM20033UMSD		1305				
			16LM20033FMSD		1305	1313			
			16LM20034U		1311				
			16LM20034F		1314	1316			
1331		Post-Sample Collection Geo Param, flow cell reconnected							
1336	4.90		~4.0 gals	0.86	8.9	0.651	7.37	40	1.29

→ Small clump of wet roots came up w/ DO probe when removed from the well.

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW17-1

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/11/12
INSPECTORS: BBO/SD
PUMP #: Peristaltic Pump Parsons
SAMPLE ID #: 17LM20020

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1437	33	overcast		5-10	NW→SE	

MONITORING	
INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
10.2 - 3.3 = 6.9 x .163 = 1.12 gals x 3 = 3.37 gals

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	10.20'					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		3.30'			

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
1500	3.28	YSI 85	& Tubing in well						
1500		Pump Started							
1507	3.49	~120		1.15	8.8	0.259	7.46	-58	23.5
1512	3.52			1.03	8.7	0.258	7.50	-64	18.6
1517	3.57	~104		1.05	8.7	0.258	7.52	-62	13.4
1522	3.55			1.44	8.7	0.258	7.53	-57	10.6
1527	3.55		~1 gal	1.68	8.7	0.257	7.54	-54	8.85
1532	3.56	~110		1.78	8.7	0.257	7.55	-51	7.47
1537	3.58			1.78	8.8	0.257	7.52	-46	6.86
1542	3.60			1.71	8.8	0.258	7.54	-43	6.43
1547	3.60		~1.5 gals	1.82	8.8	0.258	7.54	-40	5.51
1552	3.61			1.76	8.8	0.259	7.58	-37	4.40
1557	3.61			1.66	8.8	0.259	7.58	-34	6.40
1602	3.61		~2.0 gals	1.59	8.8	0.260	7.59	-31	7.13
1607	3.61			1.43	8.8	0.261	7.59	-28	3.51
1612	3.62			1.48	8.8	0.262	7.60	-26	4.70
1617	3.63			1.46	8.8	0.263	7.60	-24	3.51
1623	3.63		~2.5 gals	1.49	8.8	0.263	7.60	-23	3.83
1627	3.63			1.26	8.9	0.264	7.60	-22	3.77
1632	3.63		~2.8 gals	1.43	8.8	0.265	7.60	-21	3.60
1640	Collected	Samples		17LM20020	U	1640 ~~1440~~		17LM20020 F	~~1440~~ 1640
1646	Post-Sample Collection Geo Parsons, Pump re-started								JBO 12/16/12
1651	3.65		~3.0 gal	1.26	8.9	0.273	7.62	-20	3.28

BBO 12/12/12

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW17-2

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/11/12
INSPECTORS: BBO
PUMP #: Peristaltic Pump Person
SAMPLE ID #: Peristaltic Pump # 17LM20021

BBO 12/11/12
019002

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
840	34	overcast light snow slow		0-5	NE-SW	

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
Horiba U52 # YSI 85 # Water Level # 018951	6.85'					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		2.86'			

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	YSI DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND mS/cm ~~(umhos)~~	pH	ORP (mV)	TURBIDITY (NTU)
913	2.82	YSI & tubing in well							
1025	3.95	Pump Started		YSI	YSI	Horiba	Horiba	Horiba	Hach
~~1025~~	1030	220 → 110		7.5	8.5	0.559	7.46	223	
1035	4.01	160		7.8	8.2	0.556	7.43	221	5.25
1040	4.06	100		6.8	8.3	0.553	7.39	201	
1045	4.13	100		6.8	8.4	0.552	7.36	138	3.63
1050	4.22	100	.75 gal	6.5	8.4	0.551	7.36	98	3.31
1055	4.28	100		5.9	8.4	0.549	7.35	99	2.84
1100	4.30	100		6.0	8.4	0.549	7.28	82	2.80
1105	4.36	100		6.2	8.4	0.547	7.35	41	2.76
1109	4.40	100		5.5	8.1	0.546	7.34	35	2.71
1114	4.44	100	1.7 gal	5.2	7.8	0.546	7.35	64	2.80
1119	4.45	100		4.8	8.0	0.531	7.35	34	2.56
1124	4.45	100		3.5	8.2	0.527	7.36	60	2.85
1130	4.54	100		3.6	8.3	0.517	7.36	95	2.63
1135	4.59	102		3.4	8.4	0.514	7.37	106	2.50
1140	4.63	100		3.3	8.5	0.510	7.37	107	2.36
1145	4.69	100		2.1	8.5	0.507	7.38	106	2.59
1150	4.75	102		1.1	8.5	0.504	7.39	118	1.88
1155	4.80	102		1.9	8.5	~~0.505~~ 0.502	7.40	114	2.08
1200	4.83	100	3.5 gal	2.3	8.6	0.501	7.39	112	2.17
1205	collect sample for Total & Dissolved metals								
~~1230~~ 1230	4.86	100		1.9	8.7	0.499	7.39	109	2.16

← POST SAMPLE Readings

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW17-3

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/4/12
INSPECTORS: S. Dillman
PUMP #: 019002 Peristaltic
SAMPLE ID #: 17LM20022

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS

MONITORING

INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	7.47'					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		2.43			

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
1300	2.43	START PUMP FOR PURGE							
1306	3.20	104		~~37~~ 4.31	8.1	0.261	7.64	160	
1311	3.37	130		4.36	8.1	0.257	7.59	166	~~4.06~~
1315	3.49	120		6.11	8.2	0.256	7.50	171	4.06
1320	3.60	120		4.29	8.3	0.257	7.49	172	
1325	3.66	110		4.43	8.3	0.258	7.46	175	5.34
1330	3.73	106		4.09	8.2	0.257	7.44	177	3.98
1335	3.80	106	1 gal	3.71	8.1	0.258	7.42	180	3.32
1340	3.89	106		3.76	8.2	0.260	7.41	185	2.61
1345	3.94	106		3.29	8.3	0.262	7.38	187	2.79
1350	3.99	106		2.89	8.4	0.263	7.39	188	1.68
1355	4.05	106		3.01	8.4	0.265	7.39	189	1.77
1400	4.11	106		3.49	8.3	0.265	7.38	189	1.61
1405	4.13	106		2.86	8.4	0.269	7.38	191	1.87
1410	4.15	106		2.59	8.5	0.271	7.38	191	1.92
1415	4.18	106	2 gal	2.39	8.5	0.274	7.36	193	1.96
1420	4.20	106		2.25	8.6	0.276	7.36	195	1.76
1425	4.23	106		2.15	8.6	0.280	7.36	197	1.66
1430	4.33	106		2.22	8.7	0.281	7.36	198	1.90
1435		COLLECT SAMPLE FOR		Metals (Filtered & Unfiltered)					
1447	4.50	106	2.7 gal	2.25	8.8	0.291	7.35	200	2.02

POST SAMPLE READINGS

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW 17-4

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/11/12
INSPECTORS: BBO
PUMP #: Peristaltic Pump Rusty
SAMPLE ID #: 17LM20023

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1220	33	Light Snow Showers		5-10	NW-SE	

MONITORING	
INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
8.44-3.23 = 5.21 x .163 = 0.85 x 3 = 2.55 gals

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	8.44					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		3.23			

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND mS/cm (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
1227	3.19	YSI &	tubing in well						
1227		Pump	Started	YSI	YSI	Horiba	Horiba	Horiba	Hach
1232	3.44	~110		0.95	7.7	0.481	7.17	48	11.8
1242	3.43			0.92	7.9	0.470	7.19	32	6.94
1247	3.43	~110		0.95	8.0	0.470	7.16	30	8.13
1252	3.43			0.99	8.0	0.463	7.18	22	4.18
1257	3.44		~0.5 gals	0.84	8.0	0.445	7.18	18	3.27
1302	3.44	~110		0.75	8.0	0.443	7.17	17	2.01
1307	3.43			0.94	7.9	0.435	7.23	14	1.51
1312	3.45		~1.1 gals	0.72	7.9	0.429	7.25	11	1.40
1317	3.45	~110	~1.5 gals	0.80	7.8	0.424	7.26	10	1.07
1322	3.46			0.78	7.8	0.414	7.29	9	1.98
1327	3.46			0.64	7.7	0.407	7.30	8	1.92
1332	3.47			0.61	7.7	0.400	7.30	8	1.36
1337	3.46	~104	~2.0 gals	0.62	7.7	0.392	7.31	8	1.50
1342	3.46			0.64	7.8	0.384	7.33	7	1.19
1347	3.46		~2.5 gals	0.63	7.8	0.376	7.34	6	3.18
1352	3.46			0.57	7.7	0.369	7.34	5	1.19
1357	3.47		~2.75 gals	0.62	7.7	0.360	7.35	4	1.60
1405	Samples	Collected		17LM20023A 1405			17LM20023F		1409
1411	Post-Sample Collection Geo Parameters Pump Re-Started								
1416	3.48		~3 gals	0.58	7.7	0.341	7.32	4	1.85

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW17-5

PROJECT: SEAD-16/17 LTM Groundwater Sampling - Round 5
LOCATION: ROMULUS, NY

DATE: 12/11/12
INSPECTORS: TBO
PUMP #: Peristaltic Pump Parts
SAMPLE ID #: 17LM20024

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
922	33	light snow sheet overcast		5-10	NW→SE	

MONITORING

INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.163	0.367	0.654	1.47
LITERS/FOOT	0.010	0.151	0.617	1.389	2.475	5.564

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) WELL DIAMETER FACTOR (GAL/FT)]
10.13 - 2.58 = 7.55 x .163 = 1.23 x3 = 3.69 gals

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	10.13					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		2.58'			

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)		PUMP AFTER SAMPLING (cps)	

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND ~~(umhos)~~ mS/cm	pH	ORP (mV)	TURBIDITY (NTU)
1021	2.59	YSI & tubing in well							
1022		Pump	Started	YSI	YSI	Horiba	Horiba	Horiba	Hach
1029	2.65	100 ml/min		0.88	8.2	0.423	6.97	207	41.2
1035	2.65			0.87	8.2	0.419	6.78	199	30.0
1040	2.66	114		0.86	8.1	0.421	6.62	189	18.5
1045	2.65			0.82	8.1	0.422	6.93	155	13.0
1050	2.66	109		0.85	8.2	0.422	7.22	120	10.5
1055	2.66			0.89	8.2	0.423	7.20	108	8.92
1100	2.66			1.14	8.0	0.425	7.23	85	8.54
1105	2.67	120	~1.25 gal	2.05	8.0	0.427	7.27	65	6.64
1110	2.67			0.71	8.1	0.426	7.22	50	5.42
1115	2.67		~1.5 gals	1.55	8.2	0.425	7.11	46	4.47
1120	2.67	116	~2.0 gals	0.97	8.1	0.426	7.00	47	4.90
1125	2.67			0.50	8.1	0.429	7.02	42	3.21
1135	2.68		~2.5 gals	1.64	8.0	0.427	7.07	32	2.25
1140	2.68			1.56	8.0	0.427	7.03	33	2.07
1150	2.68		~3.0 gals	1.67	8.0	0.427	7.00	34	1.87
1200	Collected Samples			17LM20024U		1200			
				17LM20024F		1205			
1206	2.64	Post-Sample Collection Geo Probe Pump Started							
1211	2.68		~3.1 gals	0.94	8.2	0.429	7.11	34	2.01

TBO 12/12/12

APPENDIX D

COMPLETE GROUNDWATER DATA RESULTS FOR YEARS 1 THROUGH 5

Appendix D Table 1
SEAD-16 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Area				SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16
Loc ID				MW16-1	MW16-1	MW16-1	MW16-1	MW16-1	MW16-1	MW16-1	MW16-1
Matrix				GW	GW	GW	GW	GW	GW	GW	GW
Sample ID				16LM20000	16LM20001	16LM20013	16LM20014FIL	16LM20014UNFIL	16LM20021FIL	16LM20021UNF	16LM20028F
Sample Depth Interval (FT)				0-0	0-0	0-0.1	0-0	0-0	0-0.1	0-0.1	0-0.1
Sample Date				12/20/2007	12/20/2007	12/9/2008	11/13/2009	11/13/2009	12/16/2010	12/16/2010	12/15/2012
QC Type				SA	DU	SA	SA	SA	SA	SA	SA
Study ID				LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round				1	1	2	3	3	4	4	5
Filtered				Total	Total	Total	Dissolved	Total	Dissolved	Total	Dissolved
Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]
Inorganics											
Aluminum	UG/L			61.4 J	91.6 J	148 J	24 U	45 J	23 U	50 U	23 UJ
Antimony	UG/L	GA	3	1 U	1.02	0.95 J	1 U	1 U	2.3 U	2 U	2.3 UJ
Arsenic	UG/L	MCL	10	4.2 U	4.2 U	3.7 U	3.7 U	3.7 U	1.3 U	1.3 U	1.3 UJ
Barium	UG/L	GA	1,000	60.4	59	125	105	104	110	97 J	78 J
Beryllium	UG/L	MCL	4	0.27 U	0.27 U	0.33 U	0.3 U	0.3 U	0.25 U	0.15 U	0.25 UJ
Cadmium	UG/L	GA	5	0.36 U	0.36 U	0.33 U	0.3 U	0.3 U	0.095 U	0.13 U	0.095 UJ
Calcium	UG/L			107,000 J	105,000 J	176,000	111,000 J	110,000 J	140,000	130,000	120,000 J
Chromium	UG/L	GA	50	0.84 U	0.84 U	0.88 U	0.9 U	0.9 U	2.5 U	2.5 U	2.5 UJ
Cobalt	UG/L			0.89 U	0.89 U	1.1 U	1.1 U	1.1 U	1.1	1.1	0.15 UJ
Copper	UG/L	GA	200	1.3 U	1.3 U	1.3 U	1.6 J	1.6 J	1.1 U	1.1 U	5.2 J
Iron	UG/L	GA	300	35.8 J	68.3	93.3	19 UJ	19 UJ	77 J	100 J	33 UJ
Iron+Manganese	UG/L	GA	500	39 J	73	105	1 J	2.4 J	**21,077 J**	**20,100 J**	**18,000 J**
Lead	UG/L	MCL	15	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	0.2 U	0.5 U	0.2 UJ
Magnesium	UG/L			16,100 J	15,900 J	25,800	18,000	17,900	21,000	20,000 J	18,000 J
Manganese	UG/L	GA	300	3.3	5	11.8	1 J	2.4 J	54	52	1 UJ
Mercury	UG/L	GA	0.7	0.12 U	0.12 U	0.12 U	0.1 U	0.1 U	0.091 U	0.091 U	0.091 UJ
Nickel	UG/L	GA	100	1.2 U	1.2 U	1 U	1.8 J	1.2 J	2.8 J	2.7 J	2.3 J
Potassium	UG/L			886 R	907 R	1,340 J	1,110	1,100	1,200	1,100	900 J
Selenium	UG/L	GA	10	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	1 U	1.1 U	1 UJ
Silver	UG/L	GA	50	1 U	1 U	1.3 U	1.3 U	1.3 U	0.25 U	0.18 U	0.25 UJ
Sodium	UG/L	GA	20,000	**24,200 J**	**25,300 J**	**182,000**	8,000 J	8,000 J	**170,000 J**	**160,000 J**	**63,000 J**
Thallium	UG/L	MCL	2	0.03 U	0.03 U	0.09 U	0.2 U	0.2 U	0.5 U	0.25 U	0.5 UJ
Vanadium	UG/L			0.78 U	0.78 U	0.98 U	1 U	1 U	3.8 U	3.2 U	3.8 UJ
Zinc	UG/L			4.4 J	7.8 J	5.8 J	3.6 U	3.6 U	8.3 U	8.8 J	8.3 UJ
Turbidity (post)	NTU			0.4	0.4	5		0.4	0		0.87
Turbidity (pre)	NTU									0.7	

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.

2.Data validation qualifier.

[empty cell] = data is not qualified
U = compound not detected at concentration listed
J = the reported value is an estimated concentration
R = the result was rejected due to QA/QC considerations
UJ = detection limit is estimated.

3. Shading indicates a concentration above the identified criteria value.

Appendix D Table 1
SEAD-16 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Area				SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16
Loc ID				MW16-1	MW16-2	MW16-2	MW16-2	MW16-2	MW16-2	MW16-2	MW16-2	MW16-2
Matrix				GW	GW	GW	GW	GW	GW	GW	GW	GW
Sample ID				16LM20028U	16LM20002	16LM20007	16LM20015FIL	16LM20015UNFIL	16LM20022FIL	16LM20022UNF	16LM20023FIL	
Sample Depth Interval (FT)				0-0.1	0-0	0-0.1	0-0	0-0	0-0.1	0-0.1	0-0.1	
Sample Date				12/15/2012	12/20/2007	12/9/2008	11/11/2009	11/11/2009	12/15/2010	12/15/2010	12/15/2010	
QC Type				SA	SA	SA	SA	SA	SA	SA	DU	
Study ID				LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM	
Sample Round				5	1	2	3	3	4	4	4	
Filtered				Total	Total	Total	Dissolved	Total	Dissolved	Total	Dissolved	
Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	
Inorganics												
Aluminum	UG/L			50 UJ	98.8 J	97.1 J	24 U	205	23 U	50 U	23 U	
Antimony	UG/L	GA	3	2 UJ	**3.36**	**5.53**	**3.6**	**3.6**	**6.1**	**6.6**	**6.1**	
Arsenic	UG/L	MCL	10	1.3 UJ	4.2 U	3.7 U	3.7 U	3.7 U	1.3 U	1.3 U	1.3 U	
Barium	UG/L	GA	1,000	78 J	64.6	69.7	71.9	72.7	68	77 J	67	
Beryllium	UG/L	MCL	4	0.15 UJ	0.27 U	0.33 U	0.3 U	0.3 U	0.25 U	0.15 U	0.25 U	
Cadmium	UG/L	GA	5	0.13 UJ	0.36 U	0.33 U	0.3 U	0.3 U	0.095 U	0.13 U	0.095 U	
Calcium	UG/L			120,000 J	143,000 J	138,000	118,000 J	117,000 J	100,000 J	110,000 J	96,000	
Chromium	UG/L	GA	50	2.5 UJ	0.84 U	0.88 U	0.9 U	0.9 U	2.5 U	2.5 U	2.5 U	
Cobalt	UG/L			0.16 J	0.89 U	1.1 U	1.1 U	1.1 U	0.15 U	0.12 U	0.15 U	
Copper	UG/L	GA	200	5 UJ	4.5 J	4 J	3.4 J	5.1 J	4.4 J	5.9	4.5 J	
Iron	UG/L	GA	300	44 UJ	49.5 J	26.1 J	19 UJ	197 J	33 U	89 J	33 U	
Iron+Manganese	UG/L	GA	500	**18,000 J**	53 J	27	39.5	260.7 J	**12,000**	**14,089 J**	**11,000**	
Lead	UG/L	MCL	15	0.5 UJ	2.9 U	2.9 U	2.9 U	2.9 U	0.21 J	1.3 J	0.2 U	
Magnesium	UG/L			18,000 J	15,600 J	15,700	12,600	12,300	12,000	14,000 J	11,000	
Manganese	UG/L	GA	300	2 UJ	3.4	0.84 J	39.5	63.7	12	16	12	
Mercury	UG/L	GA	0.7	0.091 UJ	0.12 U	0.148 J	0.1 U	0.1 U	0.091 U	0.091 U	0.091 U	
Nickel	UG/L	GA	100	2 UJ	1.2 U	1.6 J	2.2 J	2.6 J	2 U	2 J	2.2 J	
Potassium	UG/L			870 J	2,050 R	2,410 J	3,170	3,140	2,300 J	2,500 J	2,200 J	
Selenium	UG/L	GA	10	1.1 UJ	6.1 U	6.1 U	6.1 U	6.1 U	1 U	1.1 U	1 U	
Silver	UG/L	GA	50	0.18 UJ	1 U	1.3 U	1.3 U	1.3 U	0.25 U	0.18 U	0.25 U	
Sodium	UG/L	GA	20,000	**62,000 J**	**49,600 J**	**63,500**	19,500 J	18,800 J	**33,000 J**	**34,000 J**	**31,000 J**	
Thallium	UG/L	MCL	2	0.25 UJ	0.03 U	0.09 U	0.2 U	0.2 U	0.5 U	0.25 U	0.5 U	
Vanadium	UG/L			3.2 UJ	0.78 U	0.98 U	1 U	1 U	3.8 U	3.2 U	3.8 U	
Zinc	UG/L			8.4 UJ	8.2 J	10.2	11.1	11.3	11 J	14 J	12 J	
Turbidity (post)	NTU			0.87	7.3	1.4		17.9	0.25	4.9	0.25	
Turbidity (pre)	NTU			1.04						2.1		

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.

2.Data validation qualifier.

[empty cell] = data is not qualified
U = compound not detected at concentration listed
J = the reported value is an estimated concentration
R = the result was rejected due to QA/QC considerations
UJ = detection limit is estimated.

3. Shading indicates a concentration above the identified criteria value.

Appendix D Table 1
SEAD-16 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Area	Loc ID	Matrix	Sample ID	Sample Depth Interval (FT)	Sample Date	QC Type	Study ID	Sample Round	Filtered	Value	(Q)[2]
				SEAD-16	MW16-2	GW	16LM20023UNF	0-0.1	12/15/2010	DU	LTM	4	Total		
				SEAD-16	MW16-2	GW	16LM20029F	0-0.1	12/15/2012	SA	LTM	5	Dissolved		
				SEAD-16	MW16-2	GW	16LM20029U	0-0.1	12/15/2012	SA	LTM	5	Total		
				SEAD-16	MW16-4	GW	16LM20003	0-0	12/20/2007	SA	LTM	1	Total		
				SEAD-16	MW16-4	GW	16LM20008	0-0.1	12/9/2008	SA	LTM	2	Total		
				SEAD-16	MW16-4	GW	16LM20009	0-0.1	12/9/2008	DU	LTM	2	Total		
				SEAD-16	MW16-4	GW	16LM20016FIL	0-0	11/17/2009	SA	LTM	3	Dissolved		
				SEAD-16	MW16-4	GW	16LM20016UNFIL	0-0	11/17/2009	SA	LTM	3	Total		
Inorganics															
Aluminum	UG/L													50	U
														23	UJ
														50	UJ
														167	J
														104	J
														101	J
														24	U
														68	J
Antimony	UG/L	GA	3											**6**	
														7.8	**J**
														7.1	**J**
														5.11	
														2.89	
														2.94	
														6	
														6.3	
Arsenic	UG/L	MCL	10											1.3	U
														1.3	UJ
														1.3	UJ
														4.2	U
														3.7	U
														3.7	U
														3.7	U
														3.7	U
Barium	UG/L	GA	1,000											69	J
														65	J
														62	J
														44.5	
														290	
														279	
														129	
														123	
Beryllium	UG/L	MCL	4											0.15	U
														0.25	UJ
														0.15	UJ
														0.27	U
														0.33	U
														0.33	U
														0.3	U
														0.3	U
Cadmium	UG/L	GA	5											0.13	U
														0.095	UJ
														0.13	UJ
														0.36	U
														0.33	U
														0.33	U
														0.3	U
														0.3	U
Calcium	UG/L													100,000	
														110,000	J
														100,000	J
														87,100	J
														275,000	
														267,000	
														130,000	J
														125,000	J
Chromium	UG/L	GA	50											2.5	U
														2.5	UJ
														2.5	UJ
														1	J
														0.88	U
														0.88	U
														0.9	U
														0.9	U
Cobalt	UG/L													0.12	U
														0.15	UJ
														0.12	UJ
														0.89	U
														1.1	U
														1.1	U
														1.8	J
														2	J
Copper	UG/L	GA	200											5.1	
														4.5	J
														5	J
														5.4	J
														4.4	J
														4.2	J
														2.4	J
														6.2	J
Iron	UG/L	GA	300											63	J
														33	UJ
														44	UJ
														95.4	
														57	J
														38.4	J
														329	**J**
														419	**J**
Iron+Manganese	UG/L	GA	500											**12,063**	**J**
														13,000	**J**
														11,000	**J**
														127	
														65	
														46	J
														417.7	J
														513.5	**J**
Lead	UG/L	MCL	15											0.97	J
														0.24	J
														0.66	J
														2.9	U
														2.9	U
														2.9	U
														2.9	U
Magnesium	UG/L													12,000	J
														13,000	J
														11,000	J
														9,440	R
														35,200	
														34,500	
														16,800	
														16,000	
Manganese	UG/L	GA	300											13	
														1	UJ
														2	UJ
														31.2	
														7.7	
														8	
														88.7	
														94.5	
Mercury	UG/L	GA	0.7											0.091	U
														0.091	UJ
														0.091	UJ
														0.12	U
														0.12	U
														0.12	U
														0.1	U
														0.1	U
Nickel	UG/L	GA	100											2.2	J
														2.2	J
														2	UJ
														1.2	U
														2.2	J
														1.9	J
														1.7	J
														1.4	J
Potassium	UG/L													2,200	J
														2,200	J
														1,900	J
														1,300	R
														3,830	J
														3,690	J
														3,270	
														3,270	
Selenium	UG/L	GA	10											1.1	U
														1	UJ
														1.1	UJ
														6.1	U
														6.1	U
														6.1	U
														6.1	U
														6.1	U
Silver	UG/L	GA	50											0.18	U
														0.25	UJ
														0.18	UJ
														1	U
														1.3	U
														1.3	U
														1.3	U
														1.3	U
Sodium	UG/L	GA	20,000											**32,000**	**J**
														20,000	J
														17,000	J
														40,800	**J**
														434,000	
														419,000	
														380,000	**J**
														363,000	**J**
Thallium	UG/L	MCL	2											0.25	U
														0.5	UJ
														0.25	UJ
														0.03	U
														0.09	U
														0.09	U
														0.2	U
														0.2	U
Vanadium	UG/L													3.2	U
														3.8	UJ
														3.2	UJ
														0.78	U
														0.98	U
														0.98	U
														1.1	J
														1.1	J
Zinc	UG/L													12	J
														9.5	J
														8.8	J
														5.3	J
														14.6	J
														9.8	J
														3.6	U
														3.6	U
Turbidity (post)	NTU													4.9	
														3.01	
														3.01	
														4.5	
														0.4	
														0.4	
														0.03	
Turbidity (pre)	NTU													2.1	
														1.2	

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.

2.Data validation qualifier.
[empty cell] = data is not qualified
U = compound not detected at concentration listed
J = the reported value is an estimated concentration
R = the result was rejected due to QA/QC considerations
UJ = detection limit is estimated.

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Appendix D Table 1
SEAD-16 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Area	Loc ID	Matrix	Sample ID	Sample Depth Interval (FT)	Sample Date	QC Type	Study ID	Sample Round	Filtered	Value	(Q)[2]
				SEAD-16	MW16-4	GW	16LM20024FIL	0-0.1	12/16/2010	SA	LTM	4	Dissolved		
				SEAD-16	MW16-4	GW	16LM20024UNF	0-0.1	12/16/2010	SA	LTM	4	Total		
				SEAD-16	MW16-4	GW	16LM20030F	0-0.1	12/15/2012	SA	LTM	5	Dissolved		
				SEAD-16	MW16-4	GW	16LM20030U	0-0.1	12/15/2012	SA	LTM	5	Total		
				SEAD-16	MW16-5	GW	16LM20004	0-0	12/20/2007	SA	LTM	1	Total		
				SEAD-16	MW16-5	GW	16LM20010	0-0.1	12/10/2008	SA	LTM	2	Total		
				SEAD-16	MW16-5	GW	16LM20017FIL	0-0	11/16/2009	SA	LTM	3	Dissolved		
				SEAD-16	MW16-5	GW	16LM20017UNFIL	0-0	11/16/2009	SA	LTM	3	Total		
Inorganics															
Aluminum	UG/L													23	U
														50	U
														23	UJ
														50	UJ
														160	J
														563	
														24	U
														164	J
Antimony	UG/L	GA	3											2.3	U
														2	U
														4	**J**
														3.9	**J**
														1.82	
														4.23	
														1	U
														1	U
Arsenic	UG/L	MCL	10											1.3	U
														1.3	U
														1.5	J
														1.3	J
														4.2	U
														3.7	U
														3.7	U
														3.7	U
Barium	UG/L	GA	1,000											220	
														240	J
														240	J
														230	J
														38.9	
														22	
														42.8	
														42	
Beryllium	UG/L	MCL	4											0.25	U
														0.15	U
														0.25	UJ
														0.15	UJ
														0.27	U
														0.33	U
														0.3	U
														0.3	U
Cadmium	UG/L	GA	5											0.095	U
														0.13	U
														0.095	UJ
														0.23	J
														0.36	U
														0.33	U
														0.3	U
														0.3	U
Calcium	UG/L													210,000	
														210,000	
														230,000	J
														220,000	J
														89,000	J
														53,100	
														115,000	J
														110,000	J
Chromium	UG/L	GA	50											2.5	U
														2.5	U
														2.5	UJ
														2.5	UJ
														1.1	J
														1.2	J
														0.9	U
														0.9	U
Cobalt	UG/L													0.7	
														0.71	
														1.9	J
														1.9	J
														0.89	U
														1.1	U
														1.1	U
														1.1	U
Copper	UG/L	GA	200											1.4	J
														2.8	J
														4.1	J
														11	J
														3.1	J
														10.6	
														1.3	U
														1.3	U
Iron	UG/L	GA	300											130	J
														150	J
														130	J
														140	J
														1,200	
														699	
														800	**J**
														1,150	**J**
Iron+Manganese	UG/L	GA	500											**31,130**	**J**
														32,150	**J**
														34,130	**J**
														32,140	**J**
														1,238	
														731	
														970	**J**
														1,323	**J**
Lead	UG/L	MCL	15											0.7	J
														3	
														0.2	UJ
														3.4	J
														2.9	U
														10.1	
														2.9	U
														2.9	U
Magnesium	UG/L													31,000	
														32,000	J
														34,000	J
														32,000	J
														9,380	R
														6,050	
														12,200	
														11,800	
Manganese	UG/L	GA	300											130	
														140	
														140	J
														140	J
														37.6	
														32.4	
														170	
														173	
Mercury	UG/L	GA	0.7											0.091	U
														0.091	U
														0.091	UJ
														0.091	UJ
														0.12	U
														0.12	U
														0.1	U
														0.1	U
Nickel	UG/L	GA	100											2.2	J
														2.3	J
														2.6	J
														3.2	J
														1.2	U
														2.6	J
														1.8	J
														2	J
Potassium	UG/L													2,600	J
														2,600	J
														3,200	J
														3,100	J
														4,420	R
														2,610	J
														2,370	
														2,380	
Selenium	UG/L	GA	10											1	U
														1.1	U
														1	UJ
														1.1	UJ
														6.1	U
														6.1	U
														6.1	U
														6.1	U
Silver	UG/L	GA	50											0.25	U
														0.18	U
														0.25	UJ
														0.18	UJ
														1	U
														1.3	U
														1.3	U
														1.3	U
Sodium	UG/L	GA	20,000											**540,000**	**J**
														550,000	**J**
														340,000	**J**
														310,000	**J**
														8,410	R
														2,180	
														2,700	J
														2,800	J
Thallium	UG/L	MCL	2											0.5	U
														0.25	U
														0.5	UJ
														0.25	UJ
														0.03	U
														0.09	U
														0.2	U
														0.2	U
Vanadium	UG/L													3.8	U
														3.2	U
														3.8	UJ
														3.2	UJ
														1.2	J
														2.3	J
														1	U
														1.1	J
Zinc	UG/L													9.2	J
														13	J
														12	J
														11	J
														34.4	
														10.3	
														3.6	U
														3.6	U
Turbidity (post)	NTU													0	
														1.01	
														1.01	
														4.9	
														29	
Turbidity (pre)	NTU														
														0.7	
														0.48	

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.

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[empty cell] = data is not qualified
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J = the reported value is an estimated concentration
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Appendix D Table 1
SEAD-16 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Area				SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16
Loc ID				MW16-5	MW16-5	MW16-5	MW16-5	MW16-6	MW16-6	MW16-6	MW16-6
Matrix				GW	GW	GW	GW	GW	GW	GW	GW
Sample ID				16LM20025FIL	16LM20025UNF	16LM20031F	16LM20031U	16LM20005	16LM20011	16LM20018FIL	16LM20018UNFIL
Sample Depth Interval (FT)				0-0.1	0-0.1	0-0.1	0-0.1	0-0	0-0.1	0-0	0-0
Sample Date				12/15/2010	12/15/2010	12/15/2012	12/15/2012	12/20/2007	12/9/2008	11/17/2009	11/17/2009
QC Type				SA	SA	SA	SA	SA	SA	SA	SA
Study ID				LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round				4	4	5	5	1	2	3	3
Filtered				Dissolved	Total	Dissolved	Total	Total	Total	Dissolved	Total
Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]
Inorganics											
Aluminum	UG/L			23 U	160	23 UJ	50 UJ	168 J	189 J	107 J	442
Antimony	UG/L	GA	3	2.3 U	2 U	2.3 UJ	2 UJ	1 U	0.92 J	0.9 J	1 U
Arsenic	UG/L	MCL	10	1.3 U	1.3 U	2.6 J	2.7 J	4.2 U	3.7 U	3.7 U	3.7 U
Barium	UG/L	GA	1,000	34	33 J	34 J	39 J	31.8	39.1	78.5	80.2
Beryllium	UG/L	MCL	4	0.25 U	0.15 U	0.25 UJ	0.15 UJ	0.27 U	0.33 U	0.3 U	0.3 U
Cadmium	UG/L	GA	5	0.095 U	0.13 U	0.095 UJ	0.13 UJ	0.36 U	0.33 U	0.3 U	0.3 U
Calcium	UG/L			90,000	86,000	97,000 J	96,000 J	80,400 J	84,300	112,000 J	112,000 J
Chromium	UG/L	GA	50	2.5 U	2.5 U	2.5 UJ	2.5 UJ	0.84 U	0.88 U	0.9 U	0.9 U
Cobalt	UG/L			0.15 U	0.12 U	0.22 J	0.23 J	0.89 U	1.1 U	1.1 U	1.1 U
Copper	UG/L	GA	200	1.1 U	1.1 U	1.1 J	5 UJ	3.4 J	2.1 J	1.9 J	2.5 J
Iron	UG/L	GA	300	**480 J**	**660 J**	**1,100 J**	**1,300 J**	**418**	153	55 J	**440 J**
Iron+Manganese	UG/L	GA	500	**10,480 J**	**10,360 J**	**11,000 J**	**11,100 J**	441	158	153.4 J	**515 J**
Lead	UG/L	MCL	15	0.2 U	0.77 J	0.2 UJ	0.5 UJ	2.9 U	2.9 U	2.9 U	2.9 U
Magnesium	UG/L			10,000	9,700 J	9,900 J	9,800 J	7,100 R	7,380	9,970	9,950
Manganese	UG/L	GA	300	200	160	130 J	130 J	23.3	4.8	98.4	75
Mercury	UG/L	GA	0.7	0.091 U	0.091 U	0.1 J	0.091 UJ	0.12 U	0.12 U	0.1 U	0.1 U
Nickel	UG/L	GA	100	2 U	2 U	2.1 J	2 UJ	1.2 U	1 U	1.2 J	2.6 J
Potassium	UG/L			2,200 J	2,100 J	2,100 J	2,100 J	2,690 R	2,310 J	2,380	2,580
Selenium	UG/L	GA	10	1 U	1.1 U	1 UJ	1.1 UJ	6.1 U	6.1 U	6.1 U	6.1 U
Silver	UG/L	GA	50	0.25 U	0.18 U	0.25 UJ	0.18 UJ	1 U	1.3 U	1.3 U	1.3 U
Sodium	UG/L	GA	20,000	1,800 J	1,800 J	1,600 J	1,500 J	6,110 R	9,200	**22,000 J**	**20,600 J**
Thallium	UG/L	MCL	2	0.5 U	0.25 U	0.5 UJ	0.25 UJ	0.03 U	0.09 U	0.008 U	0.008 U
Vanadium	UG/L			3.8 U	3.2 U	3.8 UJ	3.2 UJ	0.86 J	0.98 U	1 U	1.3 J
Zinc	UG/L			8.3 U	8.4 U	8.3 UJ	8.4 UJ	5.5 J	3.7 J	3.6 U	3.6 U
Turbidity (post)	NTU			0	6.5	1.39	1.39	7	1.5		7.3
Turbidity (pre)	NTU				1.4		0.94				

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.

2.Data validation qualifier.
[empty cell] = data is not qualified
U = compound not detected at concentration listed
J = the reported value is an estimated concentration
R = the result was rejected due to QA/QC considerations
UJ = detection limit is estimated.

3. Shading indicates a concentration above the identified criteria value.

Appendix D Table 1
SEAD-16 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Area	Loc ID	Matrix	Sample ID	Sample Depth Interval (FT)	Sample Date	QC Type	Study ID	Sample Round	Filtered	Value	(Q)[2]
				SEAD-16	MW16-6	GW	16LM20026FIL	0-0.1	12/15/2010	SA	LTM	4	Dissolved		
				SEAD-16	MW16-6	GW	16LM20026UNF	0-0.1	12/15/2010	SA	LTM	4	Total		
				SEAD-16	MW16-6	GW	16LM20032F	0-0.1	12/15/2012	SA	LTM	5	Dissolved		
				SEAD-16	MW16-6	GW	16LM20032U	0-0.1	12/15/2012	SA	LTM	5	Total		
				SEAD-16	MW16-7	GW	16LM20006	0-0	12/20/2007	SA	LTM	1	Total		
				SEAD-16	MW16-7	GW	16LM20012	0-0.1	12/10/2008	SA	LTM	2	Total		
				SEAD-16	MW16-7	GW	16LM20019FIL	0-0	11/12/2009	SA	LTM	3	Dissolved		
				SEAD-16	MW16-7	GW	16LM20019UNFIL	0-0	11/12/2009	SA	LTM	3	Total		
Inorganics															
Aluminum	UG/L													23	U
Aluminum	UG/L													61	J
Aluminum	UG/L													23	UJ
Aluminum	UG/L													300	J
Aluminum	UG/L													45.9	J
Aluminum	UG/L													577	
Aluminum	UG/L													32	J
Aluminum	UG/L													182	J
Antimony	UG/L	GA	3											2.3	U
Antimony	UG/L	GA	3											2	U
Antimony	UG/L	GA	3											2.3	UJ
Antimony	UG/L	GA	3											2	UJ
Antimony	UG/L	GA	3											**9.58**	
Antimony	UG/L	GA	3											**13.6**	
Antimony	UG/L	GA	3											**15.2**	
Antimony	UG/L	GA	3											**15.7**	
Arsenic	UG/L	MCL	10											1.3	U
Arsenic	UG/L	MCL	10											1.3	U
Arsenic	UG/L	MCL	10											1.3	UJ
Arsenic	UG/L	MCL	10											1.3	J
Arsenic	UG/L	MCL	10											4.2	U
Arsenic	UG/L	MCL	10											3.7	U
Arsenic	UG/L	MCL	10											3.7	U
Arsenic	UG/L	MCL	10											3.7	U
Barium	UG/L	GA	1,000											44	
Barium	UG/L	GA	1,000											50	J
Barium	UG/L	GA	1,000											41	J
Barium	UG/L	GA	1,000											45	J
Barium	UG/L	GA	1,000											170	
Barium	UG/L	GA	1,000											122	
Barium	UG/L	GA	1,000											83.6	
Barium	UG/L	GA	1,000											81.6	
Beryllium	UG/L	MCL	4											0.25	U
Beryllium	UG/L	MCL	4											0.15	U
Beryllium	UG/L	MCL	4											0.25	UJ
Beryllium	UG/L	MCL	4											0.15	UJ
Beryllium	UG/L	MCL	4											0.27	U
Beryllium	UG/L	MCL	4											0.33	U
Beryllium	UG/L	MCL	4											0.3	U
Beryllium	UG/L	MCL	4											0.3	U
Cadmium	UG/L	GA	5											0.095	U
Cadmium	UG/L	GA	5											0.13	U
Cadmium	UG/L	GA	5											0.095	UJ
Cadmium	UG/L	GA	5											0.13	UJ
Cadmium	UG/L	GA	5											0.46	J
Cadmium	UG/L	GA	5											0.33	U
Cadmium	UG/L	GA	5											0.3	U
Cadmium	UG/L	GA	5											0.3	U
Calcium	UG/L													68,000	
Calcium	UG/L													78,000	
Calcium	UG/L													70,000	J
Calcium	UG/L													74,000	J
Calcium	UG/L													194,000	
Calcium	UG/L													133,000	
Calcium	UG/L													85,000	J
Calcium	UG/L													84,600	J
Chromium	UG/L	GA	50											2.5	U
Chromium	UG/L	GA	50											2.5	U
Chromium	UG/L	GA	50											2.5	UJ
Chromium	UG/L	GA	50											2.5	UJ
Chromium	UG/L	GA	50											0.84	U
Chromium	UG/L	GA	50											1.6	J
Chromium	UG/L	GA	50											0.9	U
Chromium	UG/L	GA	50											0.9	U
Cobalt	UG/L													0.15	U
Cobalt	UG/L													0.12	U
Cobalt	UG/L													0.18	J
Cobalt	UG/L													0.43	J
Cobalt	UG/L													1.6	J
Cobalt	UG/L													1.1	J
Cobalt	UG/L													1.1	U
Cobalt	UG/L													1.1	U
Copper	UG/L	GA	200											1.5	J
Copper	UG/L	GA	200											2	J
Copper	UG/L	GA	200											4.5	J
Copper	UG/L	GA	200											5	UJ
Copper	UG/L	GA	200											34.7	
Copper	UG/L	GA	200											20.2	
Copper	UG/L	GA	200											3.1	J
Copper	UG/L	GA	200											5	J
Iron	UG/L	GA	300											33	U
Iron	UG/L	GA	300											110	J
Iron	UG/L	GA	300											33	J
Iron	UG/L	GA	300											**790**	**J**
Iron	UG/L	GA	300											29.2	J
Iron	UG/L	GA	300											**770**	
Iron	UG/L	GA	300											19	UJ
Iron	UG/L	GA	300											135	J
Iron+Manganese	UG/L	GA	500											**6,600**	
Iron+Manganese	UG/L	GA	500											**7,710**	**J**
Iron+Manganese	UG/L	GA	500											**7,233**	**J**
Iron+Manganese	UG/L	GA	500											**8,390**	**J**
Iron+Manganese	UG/L	GA	500											**660**	**J**
Iron+Manganese	UG/L	GA	500											**990**	
Iron+Manganese	UG/L	GA	500											136	
Iron+Manganese	UG/L	GA	500											244	J
Lead	UG/L	MCL	15											0.2	U
Lead	UG/L	MCL	15											0.5	U
Lead	UG/L	MCL	15											0.2	UJ
Lead	UG/L	MCL	15											0.5	UJ
Lead	UG/L	MCL	15											**26.5**	
Lead	UG/L	MCL	15											**88.6**	
Lead	UG/L	MCL	15											4.4	J
Lead	UG/L	MCL	15											12.1	
Magnesium	UG/L													6,600	
Magnesium	UG/L													7,600	J
Magnesium	UG/L													7,200	J
Magnesium	UG/L													7,600	J
Magnesium	UG/L													32,000	J
Magnesium	UG/L													25,100	
Magnesium	UG/L													15,900	
Magnesium	UG/L													16,500	
Manganese	UG/L	GA	300											2.1	J
Manganese	UG/L	GA	300											3.5	J
Manganese	UG/L	GA	300											10	J
Manganese	UG/L	GA	300											26	J
Manganese	UG/L	GA	300											**631**	
Manganese	UG/L	GA	300											220	
Manganese	UG/L	GA	300											136	
Manganese	UG/L	GA	300											109	
Mercury	UG/L	GA	0.7											0.091	U
Mercury	UG/L	GA	0.7											0.091	U
Mercury	UG/L	GA	0.7											0.091	UJ
Mercury	UG/L	GA	0.7											0.091	UJ
Mercury	UG/L	GA	0.7											0.507	
Mercury	UG/L	GA	0.7											0.12	U
Mercury	UG/L	GA	0.7											0.1	U
Mercury	UG/L	GA	0.7											0.1	U
Nickel	UG/L	GA	100											2	U
Nickel	UG/L	GA	100											2	U
Nickel	UG/L	GA	100											2	UJ
Nickel	UG/L	GA	100											2	J
Nickel	UG/L	GA	100											5.5	J
Nickel	UG/L	GA	100											2.6	J
Nickel	UG/L	GA	100											1.9	J
Nickel	UG/L	GA	100											1.7	J
Potassium	UG/L													1,500	
Potassium	UG/L													1,800	
Potassium	UG/L													2,400	J
Potassium	UG/L													2,400	J
Potassium	UG/L													5,480	J
Potassium	UG/L													5,670	J
Potassium	UG/L													6,520	
Potassium	UG/L													5,780	
Selenium	UG/L	GA	10											1	U
Selenium	UG/L	GA	10											1.1	U
Selenium	UG/L	GA	10											1	UJ
Selenium	UG/L	GA	10											1.1	UJ
Selenium	UG/L	GA	10											6.1	U
Selenium	UG/L	GA	10											6.1	U
Selenium	UG/L	GA	10											6.1	U
Selenium	UG/L	GA	10											6.1	U
Silver	UG/L	GA	50											0.25	U
Silver	UG/L	GA	50											0.18	U
Silver	UG/L	GA	50											0.25	UJ
Silver	UG/L	GA	50											0.18	UJ
Silver	UG/L	GA	50											1	U
Silver	UG/L	GA	50											1.3	U
Silver	UG/L	GA	50											1.3	U
Silver	UG/L	GA	50											1.3	U
Sodium	UG/L	GA	20,000											7,600	J
Sodium	UG/L	GA	20,000											8,400	J
Sodium	UG/L	GA	20,000											8,700	J
Sodium	UG/L	GA	20,000											8,000	J
Sodium	UG/L	GA	20,000											**68,400**	**J**
Sodium	UG/L	GA	20,000											**74,900**	
Sodium	UG/L	GA	20,000											**52,100**	**J**
Sodium	UG/L	GA	20,000											**47,100**	**J**
Thallium	UG/L	MCL	2											0.5	U
Thallium	UG/L	MCL	2											0.25	U
Thallium	UG/L	MCL	2											0.5	UJ
Thallium	UG/L	MCL	2											0.25	UJ
Thallium	UG/L	MCL	2											0.03	J
Thallium	UG/L	MCL	2											0.09	U
Thallium	UG/L	MCL	2											0.2	U
Thallium	UG/L	MCL	2											0.2	U
Vanadium	UG/L													3.8	U
Vanadium	UG/L													3.2	U
Vanadium	UG/L													3.8	UJ
Vanadium	UG/L													3.2	UJ
Vanadium	UG/L													0.78	U
Vanadium	UG/L													0.98	U
Vanadium	UG/L													1	U
Vanadium	UG/L													1	U
Zinc	UG/L													8.3	U
Zinc	UG/L													8.4	U
Zinc	UG/L													8.3	UJ
Zinc	UG/L													8.4	UJ
Zinc	UG/L													3.6	U
Zinc	UG/L													8.6	J
Zinc	UG/L													3.6	U
Zinc	UG/L													3.6	U
Turbidity (post)	NTU													0.25	
Turbidity (post)	NTU													3.3	
Turbidity (post)	NTU													3.58	
Turbidity (post)	NTU													3.58	
Turbidity (post)	NTU													0.3	
Turbidity (post)	NTU													3.1	
Turbidity (post)	NTU														
Turbidity (post)	NTU													0.8	
Turbidity (pre)	NTU														
Turbidity (pre)	NTU													3.1	
Turbidity (pre)	NTU													1.67	

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.

2.Data validation qualifier.
[empty cell] = data is not qualified
U = compound not detected at concentration listed
J = the reported value is an estimated concentration
R = the result was rejected due to QA/QC considerations
UJ = detection limit is estimated.

3. Shading indicates a concentration above the identified criteria value.

Appendix D Table 1
SEAD-16 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Area				SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16
Loc ID				MW16-7	MW16-7	MW16-7	MW16-7	MW16-7	MW16-7	MW16-7	MW16-7
Matrix				GW	GW	GW	GW	GW	GW	GW	GW
Sample ID				16LM20020FIL	16LM20020UNFIL	16LM20027FIL	16LM20027UNF	16LM20033F	16LM20033U	16LM20034F	16LM20034U
Sample Depth Interval (FT)				0-0	0-0	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Sample Date				11/12/2009	11/12/2009	12/15/2010	12/15/2010	12/15/2012	12/15/2012	12/15/2012	12/15/2012
QC Type				DU	DU	SA	SA	SA	SA	DU	DU
Study ID				LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round				3	3	4	4	5	5	5	5
Filtered				Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]	Value (Q)[2]
Inorganics											
Aluminum	UG/L			25 J	116 J	23 U	50 U	23 UJ	50 UJ	23 UJ	50 UJ
Antimony	UG/L	GA	3	**13.9**	**16.3**	**15**	**16**	**13 J**	**13 J**	**13 J**	**14 J**
Arsenic	UG/L	MCL	10	3.7 U	3.7 U	1.3 U	1.3 U	1.3 J	1.3 UJ	1.3 UJ	1.3 UJ
Barium	UG/L	GA	1,000	83.9	80.3	69	71 J	100 J	100 J	99 J	100 J
Beryllium	UG/L	MCL	4	0.3 U	0.3 U	0.25 U	0.15 U	0.25 UJ	0.15 UJ	0.25 UJ	0.15 UJ
Cadmium	UG/L	GA	5	0.3 U	0.3 U	0.095 U	0.13 U	0.095 UJ	0.13 UJ	0.095 UJ	0.13 UJ
Calcium	UG/L			81,900 J	82,800 J	82,000	86,000	110,000 J	100,000 J	100,000 J	110,000 J
Chromium	UG/L	GA	50	0.9 U	0.9 U	2.5 U	2.5 U	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ
Cobalt	UG/L			1.1 U	1.1 U	0.15 U	0.12 U	0.23 J	0.22 J	0.24 J	0.24 J
Copper	UG/L	GA	200	3.5 J	4.1 J	1.8 J	2.7 J	4.1 J	8.3 J	1.7 J	5.6 J
Iron	UG/L	GA	300	19 UJ	61 J	33 U	45 J	33 UJ	44 UJ	33 UJ	44 UJ
Iron+Manganese	UG/L	GA	500	152	168 J	**18,000**	**19,045 J**	**21,000 J**	**21,000 J**	**20,000 J**	**22,000 J**
Lead	UG/L	MCL	15	4.9 J	9.4	1 J	6.3	1.3 J	2.5 J	2.3 J	2.6 J
Magnesium	UG/L			14,800	16,200	18,000	19,000 J	21,000 J	21,000 J	20,000 J	22,000 J
Manganese	UG/L	GA	300	152	107	35	34	92 J	90 J	98 J	91 J
Mercury	UG/L	GA	0.7	0.1 U	0.1 U	0.091 U	0.091 U	0.091 UJ	0.091 UJ	0.091 UJ	0.091 UJ
Nickel	UG/L	GA	100	2 J	1.1 J	2 U	2 U	2 UJ	2.2 J	2 UJ	2.4 J
Potassium	UG/L			7,010	5,630	2,800 J	2,700 J	5,300 J	5,200 J	5,100 J	5,400 J
Selenium	UG/L	GA	10	6.1 U	6.1 U	1 U	1.1 U	1 UJ	1.1 UJ	1 UJ	1.1 UJ
Silver	UG/L	GA	50	1.3 U	1.3 U	0.25 U	0.18 U	0.25 UJ	0.18 UJ	0.25 UJ	0.18 UJ
Sodium	UG/L	GA	20,000	**55,900 J**	**46,100 J**	**29,000 J**	**28,000 J**	**35,000 J**	**32,000 J**	**33,000 J**	**32,000 J**
Thallium	UG/L	MCL	2	0.2 U	0.2 U	0.5 U	0.25 U	0.5 UJ	0.25 UJ	0.5 UJ	0.25 UJ
Vanadium	UG/L			1 U	1 U	3.8 U	3.2 U	3.8 UJ	3.2 UJ	3.8 UJ	3.2 UJ
Zinc	UG/L			3.6 U	3.6 U	8.3 U	8.4 U	8.3 UJ	8.4 UJ	8.3 UJ	8.4 UJ
Turbidity (post)	NTU				0.8	0	1	1.29	1.29	1.29	1.29
Turbidity (pre)	NTU						0.15		1.14		1.14

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.

2.Data validation qualifier.

[empty cell] = data is not qualified
U = compound not detected at concentration listed
J = the reported value is an estimated concentration
R = the result was rejected due to QA/QC considerations
UJ = detection limit is estimated.

3. Shading indicates a concentration above the identified criteria value.

Appendix D Table 2
SEAD-17 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Area				SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17	
Loc ID				MW17-1		MW17-1		MW17-1		MW17-1		MW17-1		MW17-1		MW17-1	
Matrix				GW		GW		GW		GW		GW		GW		GW	
Sample ID				17LM20000		17LM20005		17LM20010FIL		17LM20010UNFIL		17LM20016FIL		17LM20016UNF		17LM20020F		17LM20020U	
Sample Depth Interval (FT)				0-0		0-0.1		0-0		0-0		0-0.1		0-0.1		0-0.1		0-0.1	
Sample Date				12/20/2007		12/11/2008		11/18/2009		11/18/2009		12/17/2010		12/17/2010		12/11/2012		12/11/2012	
QC Type				SA		SA		SA		SA		SA		SA		SA		SA	
Study ID				LTM		LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round				1		2		3		3		4		4		5		5	
Filtered				Total		Total		Dissolved		Total		Dissolved		Total		Dissolved		Total	
Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Inorganics																			
Aluminum	UG/L			204		219		37	J	59	J	23	U	50	U	23	UJ	50	UJ
Antimony	UG/L	GA	3	1	U	1	U	1	U	1	U	2.3	U	2	U	2.3	UJ	2.7	J
Arsenic	UG/L	MCL	10	4.2	U	3.7	U	3.7	U	3.7	U	1.3	U	1.3	U	1.3	UJ	1.3	UJ
Barium	UG/L	GA	1,000	70		79		99.1		99		61		63	J	28	J	28	J
Beryllium	UG/L	MCL	4	0.27	U	0.33	U	0.3	U	0.3	U	0.25	U	0.15	U	0.25	UJ	0.15	UJ
Cadmium	UG/L	GA	5	0.36	U	0.33	U	0.3	U	0.3	U	0.095	U	0.13	U	0.095	UJ	0.44	J
Calcium	UG/L			98,300	J	95,600		109,000	J	108,000	J	96,000		100,000		53,000	J	55,000	J
Chromium	UG/L	GA	50	0.84	U	0.88	U	0.9	U	0.9	U	2.5	U	2.5	U	2.5	UJ	2.5	UJ
Cobalt	UG/L			0.89	U	1.1	U	1.1	U	1.1	U	0.15	U	0.3	J	0.32	J	0.37	J
Copper	UG/L	GA	200	1.3	U	1.3	U	1.3	U	1.3	U	1.1	U	1.1	J	4.7	J	5.4	J
Iron	UG/L	GA	300	106		126		19	UJ	42	J	33	U	270	J	47	J	90	J
Iron+Manganese	UG/L	GA	500	119		141		38.9		67.6	J	**19,000**		**20,270**	**J**	**7,247**	**J**	**7,790**	**J**
Lead	UG/L	MCL	15	2.9	U	2.9	U	2.9	U	2.9	U	0.2	U	0.5	U	0.2	UJ	1.1	J
Magnesium	UG/L			21,800	J	20,600		24,300		24,000		19,000		20,000	J	7,200	J	7,700	J
Manganese	UG/L	GA	300	13.2		14.9		38.9		25.6		4.2	J	42		7.2	J	8.1	J
Mercury	UG/L	GA	0.7	0.12	U	0.12	U	0.1	U	0.1	U	0.091	U	0.091	U	0.14	J	0.091	UJ
Nickel	UG/L	GA	100	1.2	U	1.3	J	1	U	1	U	2	U	2	U	2	UJ	2	UJ
Potassium	UG/L			614	R	462	J	260	J	254	J	690		690	J	380	J	410	J
Selenium	UG/L	GA	10	6.1	U	6.1	U	6.1	U	6.1	U	1	U	1.1	U	1	UJ	1.1	UJ
Silver	UG/L	GA	50	1	U	1.3	U	1.3	U	1.3	U	0.25	U	0.18	U	0.25	UJ	0.18	UJ
Sodium	UG/L	GA	20,000	7,790	R	8,380		7,300	J	7,400	J	6,000	J	6,200	J	2,400	J	2,500	J
Thallium	UG/L	MCL	2	0.03	U	0.09	U	0.008	U	0.008	U	0.5	U	0.25	U	0.5	UJ	0.25	UJ
Vanadium	UG/L			0.78	U	0.98	U	1	U	1	U	3.8	U	3.2	U	3.8	UJ	3.2	UJ
Zinc	UG/L			4.7	J	4	J	3.6	U	3.6	U	8.3	U	8.4	U	8.3	UJ	8.4	UJ
Turbidity (post)	NTU			4		3				0.4		0		1.2		3.28		3.28	
Turbidity (pre)	NTU													1.6				3.6	

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.
2. Data validation qualifier.
   [empty cell] = data is not qualified
   U = compound not detected at concentration listed
   J = the reported value is an estimated concentration
   R = the result was rejected due to QA/QC considerations
   UJ = detection limit is estimated.
3. Shading indicates a concentration above the identified criteria value.

Appendix D Table 2
SEAD-17 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Area				SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17	
Loc ID				MW17-2		MW17-2		MW17-2		MW17-2		MW17-2		MW17-2		MW17-2	
Matrix				GW		GW		GW		GW		GW		GW		GW	
Sample ID				17LM20001		17LM20006		17LM20011FIL		17LM20011UNFIL		17LM20015FIL		17LM20015UNF		17LM20021F		17LM20021U	
Sample Depth Interval (FT)				0-0		0-0.1		0-0		0-0		0-0.1		0-0.1		0-0.1		0-0.1	
Sample Date				12/20/2007		12/10/2008		11/17/2009		11/17/2009		12/16/2010		12/16/2010		12/11/2012		12/11/2012	
QC Type				SA		SA		SA		SA		SA		SA		SA		SA	
Study ID				LTM		LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round				1		2		3		3		4		4		5		5	
Filtered				Total		Total		Dissolved		Total		Dissolved		Total		Dissolved		Total	
Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Inorganics																			
Aluminum	UG/L			110	J	142	J	88	J	19,600		23	U	51	J	23	UJ	50	UJ
Antimony	UG/L	GA	3	**3.44**		2.76		2.2		**3.7**		2.3	U	2	U	**4**	**J**	**4.4**	**J**
Arsenic	UG/L	MCL	10	4.2	U	3.7	U	3.7	U	7.8	J	1.3	U	1.3	U	1.3	UJ	1.3	UJ
Barium	UG/L	GA	1,000	58.8		51.8		82.3		251		54		58	J	69	J	68	J
Beryllium	UG/L	MCL	4	0.27	U	0.33	U	0.3	U	1.2	J	0.25	U	0.15	U	0.25	UJ	0.15	UJ
Cadmium	UG/L	GA	5	0.36	U	0.33	U	0.3	U	1.7		0.095	U	0.13	U	0.095	UJ	0.13	UJ
Calcium	UG/L			110,000	J	112,000		154,000	J	195,000	J	140,000		150,000		120,000	J	120,000	J
Chromium	UG/L	GA	50	0.84	U	2.9	J	0.9	U	37.2		2.5	U	2.5	U	2.5	UJ	2.5	UJ
Cobalt	UG/L			0.89	U	1.1	U	1.1	U	10.5		0.32	J	0.46	J	0.39	J	0.42	J
Copper	UG/L	GA	200	6.2	J	4.4	J	2.9	J	46.7		1.5	J	1.9	J	7.7	J	7.8	J
Iron	UG/L	GA	300	140		115		19	UJ	**25,500**	**J**	33	U	130	J	33	UJ	44	UJ
Iron+Manganese	UG/L	GA	500	160		121		1.5	J	**25,929**	**J**	**18,000**		**19,130**	**J**	**12,000**	**J**	**12,000**	**J**
Lead	UG/L	MCL	15	2.9	U	2.9	U	2.9	U	**103**		0.2	U	0.6	J	0.2	UJ	0.99	J
Magnesium	UG/L			11,000	R	11,200		18,200		23,300		18,000		19,000	J	12,000	J	12,000	J
Manganese	UG/L	GA	300	20.5		6.1		1.5	J	**429**		23		43		12	J	14	J
Mercury	UG/L	GA	0.7	0.12	U	0.12	U	0.1	U	0.1	U	0.091	U	0.091	U	0.091	UJ	0.091	UJ
Nickel	UG/L	GA	100	1.2	U	2.8	J	1.2	J	34		2	U	2	U	2	UJ	2	UJ
Potassium	UG/L			1,690	R	1,260	J	2,390		7,810		1,300	J	1,300		2,500	J	2,500	J
Selenium	UG/L	GA	10	6.1	U	6.1	U	6.1	U	6.1	U	1	U	1.1	U	1	UJ	1.1	UJ
Silver	UG/L	GA	50	1	U	1.3	U	1.3	U	1.3	U	0.25	U	0.18	U	0.25	UJ	0.18	UJ
Sodium	UG/L	GA	20,000	6,620	R	7,860		19,800	J	**20,300**	**J**	14,000	J	14,000	J	8,400	J	8,400	J
Thallium	UG/L	MCL	2	0.03	U	0.09	U	0.008	U	0.2	U	0.5	U	0.25	U	0.5	UJ	0.25	UJ
Vanadium	UG/L			0.78	U	0.98	U	1	U	32.8		3.8	U	3.2	U	3.8	UJ	3.2	UJ
Zinc	UG/L			72	J	27.6		28.6		935		17	J	21		24	J	26	J
Turbidity (post)	NTU			3.3		6.6				24.4		0.4		1.4		2.16		2.16	
Turbidity (pre)	NTU													0.96				2.17	

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.
2. Data validation qualifier.
   [empty cell] = data is not qualified
   U = compound not detected at concentration listed
   J = the reported value is an estimated concentration
   R = the result was rejected due to QA/QC considerations
   UJ = detection limit is estimated.
3. Shading indicates a concentration above the identified criteria value.

Appendix D Table 2
SEAD-17 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Area				SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17	
Loc ID				MW17-3		MW17-3		MW17-3		MW17-3		MW17-3		MW17-3		MW17-3	
Matrix				GW		GW		GW		GW		GW		GW		GW	
Sample ID				17LM20002		17LM20007		17LM20012FIL		17LM20012UNFIL		17LM20017FIL		17LM20017UNF		17LM20022F		17LM20022U	
Sample Depth Interval (FT)				0-0		0-0.1		0-0		0-0		0-0.1		0-0.1		0-0.1		0-0.1	
Sample Date				12/20/2007		12/10/2008		11/18/2009		11/18/2009		12/16/2010		12/16/2010		12/11/2012		12/11/2012	
QC Type				SA		SA		SA		SA		SA		SA		SA		SA	
Study ID				LTM		LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round				1		2		3		3		4		4		5		5	
Filtered				Total		Total		Dissolved		Total		Dissolved		Total		Dissolved		Total	
Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Inorganics																			
Aluminum	UG/L			106	J	386		141	J	1,550	J	23	U	50	U	23	UJ	50	UJ
Antimony	UG/L	GA	3	1	U	1	U	1	U	1.5		2.3	U	2	U	2.3	UJ	2	UJ
Arsenic	UG/L	MCL	10	4.2	U	3.7	U	3.7	U	3.7	U	1.3	U	1.3	U	1.3	UJ	1.3	UJ
Barium	UG/L	GA	1,000	39		29.3		49.4		54.5		37		38	J	37	J	36	J
Beryllium	UG/L	MCL	4	0.27	U	0.33	U	0.3	U	0.3	U	0.25	U	0.15	U	0.25	UJ	0.15	UJ
Cadmium	UG/L	GA	5	0.36	U	0.33	U	0.3	U	0.3	U	0.095	U	0.13	U	0.095	UJ	0.13	UJ
Calcium	UG/L			69,000	J	67,200		99,400	J	95,900	J	90,000		93,000		74,000	J	67,000	J
Chromium	UG/L	GA	50	0.84	U	0.88	U	0.9	U	5.2		2.5	U	2.5	U	2.5	UJ	2.5	UJ
Cobalt	UG/L			0.89	U	1.1	U	1.5	J	1.7	J	0.63		0.7		0.15	UJ	0.12	UJ
Copper	UG/L	GA	200	2.6	J	2.8	J	2.5	J	7.9	J	1.1	U	1.1	U	3.3	J	5	UJ
Iron	UG/L	GA	300	133		**1,300**		**827**	**J**	**2,690**	**J**	**730**	**J**	**770**	**J**	33	UJ	44	UJ
Iron+Manganese	UG/L	GA	500	170		**1,573**		**968**	**J**	**2,858**	**J**	**10,630**	**J**	**10,770**	**J**	**6,100**	**J**	**5,800**	**J**
Lead	UG/L	MCL	15	2.9	U	2.9	U	2.9	U	8.6		0.2	U	0.5	U	0.24	J	0.78	J
Magnesium	UG/L			7,560	R	7,400		9,850		9,170		9,900		10,000	J	6,100	J	5,800	J
Manganese	UG/L	GA	300	36.7		273		141		168		160		170		1	UJ	2	UJ
Mercury	UG/L	GA	0.7	0.12	U	0.12	U	0.1	U	0.1	U	0.091	U	0.091	U	0.091	UJ	0.091	UJ
Nickel	UG/L	GA	100	1.2	U	1.8	J	3.1	J	4.5	J	2	U	2	U	2	UJ	2	UJ
Potassium	UG/L			2,620	R	1,840	J	1,290		1,590		1,200	J	1,200		1,800	J	1,700	J
Selenium	UG/L	GA	10	6.1	U	6.1	U	6.1	U	6.1	U	1	U	1.1	U	1	UJ	1.1	UJ
Silver	UG/L	GA	50	1	U	1.3	U	1.3	U	1.3	U	0.25	U	0.18	U	0.25	UJ	0.18	UJ
Sodium	UG/L	GA	20,000	4,550	R	5,500		7,500	J	6,200	J	6,000	J	6,100	J	3,300	J	3,100	J
Thallium	UG/L	MCL	2	0.03	U	0.09	U	0.008	U	0.008	U	0.5	U	0.25	U	0.5	UJ	0.25	UJ
Vanadium	UG/L			0.78	U	0.98	U	1	U	1.7	J	3.8	U	3.2	U	3.8	UJ	3.2	UJ
Zinc	UG/L			27	J	14.2		21.1		45.7		8.3	U	12	J	29	J	26	J
Turbidity (post)	NTU			1.2		20.8						0		1.2		2.02		2.02	
Turbidity (pre)	NTU													1.3				1.9	

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.
2. Data validation qualifier.
   [empty cell] = data is not qualified
   U = compound not detected at concentration listed
   J = the reported value is an estimated concentration
   R = the result was rejected due to QA/QC considerations
   UJ = detection limit is estimated.
3. Shading indicates a concentration above the identified criteria value.

Appendix D Table 2
SEAD-17 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Area				SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17	
Loc ID				MW17-4		MW17-4		MW17-4		MW17-4		MW17-4		MW17-4		MW17-4	
Matrix				GW		GW		GW		GW		GW		GW		GW	
Sample ID				17LM20003		17LM20008		17LM20013FIL		17LM20013UNFIL		17LM20018FIL		17LM20018UNF		17LM20023F		17LM20023U	
Sample Depth Interval (FT)				0-0		0-0.1		0-0		0-0		0-0.1		0-0.1		0-0.1		0-0.1	
Sample Date				12/20/2007		12/10/2008		11/17/2009		11/17/2009		12/16/2010		12/16/2010		12/11/2012		12/11/2012	
QC Type				SA		SA		SA		SA		SA		SA		SA		SA	
Study ID				LTM		LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round				1		2		3		3		4		4		5		5	
Filtered				Total		Total		Dissolved		Total		Dissolved		Total		Dissolved		Total	
Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Inorganics																			
Aluminum	UG/L			50.2	J	125	J	28	J	70	J	23	U	50	U	23	UJ	50	UJ
Antimony	UG/L	GA	3	1	U	0.62	J	1	U	1	U	2.3	U	2	U	2.3	UJ	2	UJ
Arsenic	UG/L	MCL	10	4.2	U	3.7	U	3.7	U	3.7	U	1.3	U	1.3	U	1.3	UJ	1.3	UJ
Barium	UG/L	GA	1,000	32.5		35.9		36.3		36.6		27		28	J	65	J	67	J
Beryllium	UG/L	MCL	4	0.27	U	0.33	U	0.3	U	0.3	U	0.25	U	0.15	U	0.25	UJ	0.15	UJ
Cadmium	UG/L	GA	5	0.36	U	0.33	U	0.3	U	0.3	U	0.095	U	0.13	U	0.095	UJ	0.13	UJ
Calcium	UG/L			74,900	J	74,700		96,600	J	97,600	J	90,000		88,000		83,000	J	87,000	J
Chromium	UG/L	GA	50	1	J	0.88	U	0.9	U	0.9	U	2.5	U	2.5	U	2.5	UJ	2.5	UJ
Cobalt	UG/L			0.89	U	2.4	J	1.5	J	1.3	J	0.96		1.1		0.21	J	0.25	J
Copper	UG/L	GA	200	1.8	J	1.8	J	1.3	U	1.3	U	1.1	U	1.1	U	1.1	J	5	UJ
Iron	UG/L	GA	300	45.4	J	**1,760**		60	J	142	J	240	J	260	J	33	UJ	72	J
Iron+Manganese	UG/L	GA	500	59	J	**2,671**		258	J	355	J	**13,240**	**J**	**13,260**	**J**	**15,000**	**J**	**15,072**	**J**
Lead	UG/L	MCL	15	2.9	U	2.9	U	2.9	U	2.9	U	0.2	U	0.5	U	0.2	UJ	0.5	UJ
Magnesium	UG/L			10,400	R	10,200		12,900		13,000		13,000		13,000	J	15,000	J	15,000	J
Manganese	UG/L	GA	300	13.7		**911**		198		213		130		140		9.5	J	11	J
Mercury	UG/L	GA	0.7	0.12	U	0.12	U	0.1	U	0.1	U	0.091	U	0.091	U	0.091	UJ	0.091	UJ
Nickel	UG/L	GA	100	1.2	U	2.6	J	2.2	J	2.4	J	2	U	2	U	2	UJ	2.1	J
Potassium	UG/L			838	R	1,190	J	844		866		540		530	J	750	J	780	J
Selenium	UG/L	GA	10	6.1	U	6.1	U	6.1	U	6.1	U	1	U	1.1	U	1	UJ	1.1	UJ
Silver	UG/L	GA	50	1	U	1.3	U	1.3	U	1.3	U	0.25	U	0.18	U	0.25	UJ	0.18	UJ
Sodium	UG/L	GA	20,000	**28,500**	**J**	15,500		10,400	J	10,500	J	12,000	J	12,000	J	8,900	J	8,600	J
Thallium	UG/L	MCL	2	0.03	U	0.09	U	0.008	U	0.008	U	0.5	U	0.25	U	0.5	UJ	0.25	UJ
Vanadium	UG/L			0.78	U	0.98	U	1	U	1	U	3.8	U	3.2	U	3.8	UJ	3.2	UJ
Zinc	UG/L			5.1	J	6.7	J	3.6	U	3.6	U	8.7	J	8.4	U	8.3	UJ	8.4	UJ
Turbidity (post)	NTU			9.5		4.6				6.2		0		0.85		1.85		1.85	
Turbidity (pre)	NTU													0.67				1.6	

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.
2. Data validation qualifier.
   [empty cell] = data is not qualified
   U = compound not detected at concentration listed
   J = the reported value is an estimated concentration
   R = the result was rejected due to QA/QC considerations
   UJ = detection limit is estimated.
3. Shading indicates a concentration above the identified criteria value.

Appendix D Table 2
SEAD-17 Post Remedial Action Groundwater Monitoring Results
SEAD-16 SEAD-17 Long-term Monitoring Report
Seneca Army Depot Activity

Area				SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17	
Loc ID				MW17-5		MW17-5		MW17-5		MW17-5		MW17-5		MW17-5		MW17-5	
Matrix				GW		GW		GW		GW		GW		GW		GW	
Sample ID				17LM20004		17LM20009		17LM20014FIL		17LM20014UNFIL		17LM20019FIL		17LM20019UNF		17LM20024F		17LM20024U	
Sample Depth Interval (FT)				0-0		0-0.1		0-0		0-0		0-0.1		0-0.1		0-0.1		0-0.1	
Sample Date				12/20/2007		12/11/2008		11/17/2009		11/17/2009		12/16/2010		12/16/2010		12/11/2012		12/11/2012	
QC Type				SA		SA		SA		SA		SA		SA		SA		SA	
Study ID				LTM		LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round				1		2		3		3		4		4		5		5	
Filtered				Total		Total		Dissolved		Total		Dissolved		Total		Dissolved		Total	
Parameter	Unit	Criteria [1] Source	Criteria [1] Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Inorganics																			
Aluminum	UG/L			98.5	J	125	J	29	J	98	J	23	U	50	U	23	UJ	50	UJ
Antimony	UG/L	GA	3	1	U	0.56	J	1		1		2.3	U	2	U	2.3	UJ	2	UJ
Arsenic	UG/L	MCL	10	4.2	U	3.7	U	3.7	U	3.7	U	1.3	U	1.3	U	1.3	UJ	1.3	UJ
Barium	UG/L	GA	1,000	86.7		82.9		166		168		81		82	J	24	J	26	J
Beryllium	UG/L	MCL	4	0.27	U	0.33	U	2	U	2	U	0.25	U	0.15	U	0.25	UJ	0.15	UJ
Cadmium	UG/L	GA	5	0.36	U	0.33	U	0.3	U	0.3	U	0.095	U	0.13	U	0.095	UJ	0.13	UJ
Calcium	UG/L			97,100	J	97,300		184,000	J	185,000	J	100,000		110,000		68,000	J	75,000	J
Chromium	UG/L	GA	50	0.84	U	0.88	U	0.9	U	0.9	U	2.5	U	2.5	U	2.5	UJ	2.5	UJ
Cobalt	UG/L			0.89	U	1.1	U	1.1	U	1.1	U	0.17	J	0.19	J	0.31	J	0.31	J
Copper	UG/L	GA	200	1.3	U	1.5	J	1.3	U	1.3	U	1.1	U	1.1	U	3.7	J	5	UJ
Iron	UG/L	GA	300	91.7		76		19	UJ	34	J	83	J	110	J	44	J	160	J
Iron+Manganese	UG/L	GA	500	128		85		24.3		61.4	J	**17,083**	**J**	**18,110**	**J**	**9,944**	**J**	**11,160**	**J**
Lead	UG/L	MCL	15	2.9	U	2.9	U	2.9	U	2.9	U	0.2	U	0.5	U	0.2	UJ	0.5	UJ
Magnesium	UG/L			15,800	J	15,600		27,100		27,300		17,000		18,000	J	9,900	J	11,000	J
Manganese	UG/L	GA	300	36.5		8.9		24.3		27.4		35		35		38	J	59	J
Mercury	UG/L	GA	0.7	0.12	U	0.12	U	0.1	U	0.1	U	0.091	U	0.091	U	0.12	J	0.091	UJ
Nickel	UG/L	GA	100	1.2	U	1.2	J	1.7	J	1.8	J	2	U	2	U	2	UJ	2	UJ
Potassium	UG/L			972	R	824	J	1,920		1,960		1,600	J	1,600		460	J	460	J
Selenium	UG/L	GA	10	6.1	U	6.1	U	6.1	U	6.1	U	1	U	1.1	U	1	UJ	1.1	UJ
Silver	UG/L	GA	50	1	U	1.3	U	1.3	U	1.3	U	0.25	U	0.18	U	0.25	UJ	0.18	UJ
Sodium	UG/L	GA	20,000	7,950	R	7,360		**364,000**	**J**	**366,000**	**J**	8,200	J	8,300	J	9,400	J	9,100	J
Thallium	UG/L	MCL	2	0.03	U	0.09	U	0.08	J	0.08	J	0.5	U	0.25	U	0.5	UJ	0.25	UJ
Vanadium	UG/L			0.78	U	0.98	U	1	U	1	U	3.8	U	3.2	U	3.8	UJ	3.2	UJ
Zinc	UG/L			4.7	J	41.6		3.6	U	3.6	U	20		8.4	U	8.3	UJ	8.4	UJ
Turbidity (post)	NTU			2.4		0.8				0.04		0		0		2.01		2.01	
Turbidity (pre)	NTU													0				1.87	

Notes:

1. The lowest value for either the New York Class GA Groundwater Standards (TOGS 1.1.1, June 1998, et al.) or the EPA Maximum Contaminant Limit (MCL), source http://www.epa.gov/safewater/mcl.html#inorganic.html is used. A blank cell indicates no criteria value available.
2. Data validation qualifier.
   [empty cell] = data is not qualified
   U = compound not detected at concentration listed
   J = the reported value is an estimated concentration
   R = the result was rejected due to QA/QC considerations
   UJ = detection limit is estimated.
3. Shading indicates a concentration above the identified criteria value.

APPENDIX E

LABORATORY REPORTS

Laboratory Reports have been provided on the CD version of this report.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-85871-1
Client Project/Site: SEAD-16/17 Long Term Monitoring

For:
Parsons Corporation
100 High Street
4th Floor
Boston, Massachusetts 02110-1713

Attn: Mr. Brendan Baranek-Olmstead

Linda A. Wolfe

Authorized for release by:
1/2/2013 5:03:45 PM

Linda Wolfe
Project Manager I
linda.wolfe@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Job ID: 680-85871-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Parsons Corporation

Project: SEAD-16/17 Long Term Monitoring

Report Number: 680-85871-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 12/18/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.4 C.

DISSOLVED METALS (ICPMS)

Samples 16LM20028F (680-85871-13), 16LM20029F (680-85871-14), 16LM20030F (680-85871-15), 16LM20031F (680-85871-16), 16LM20032F (680-85871-17), 16LM20033F (680-85871-18), 16LM20034F (680-85871-19), 17LM20020F (680-85871-20), 17LM20021F (680-85871-21), 17LM20022F (680-85871-22), 17LM20023F (680-85871-23) and 17LM20024F (680-85871-24) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 12/21/2012 and analyzed on 12/22/2012, 12/25/2012 and 12/27/2012.

Sodium failed the recovery criteria high for the MSD of sample 680-85852-1 in batch 680-260984.

Calcium failed the recovery criteria low for the MS of sample 16LM20033FMS (680-85871-18) in batch 680-261296.

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

TOTAL METALS (ICPMS)

Samples 16LM20028U (680-85871-1), 16LM20029U (680-85871-2), 16LM20030U (680-85871-3), 16LM20031U (680-85871-4), 16LM20032U (680-85871-5), 16LM20033U (680-85871-6), 16LM20034U (680-85871-7), 17LM20020U (680-85871-8), 17LM20021U (680-85871-9), 17LM20022U (680-85871-10), 17LM20023U (680-85871-11) and 17LM20024U (680-85871-12) were analyzed for total metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 12/22/2012 and analyzed on 12/25/2012 and 12/26/2012.

Copper was detected in method blank MB 680-260764/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged “J”. If the associated sample reported a result above the MDL

Job ID: 680-85871-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

and/or RL, the result has been “B” flagged. Refer to the QC report for details.

Calcium and Magnesium failed the recovery criteria high for the MS of sample 16LM20033UMS (680-85871-6) in batch 680-261166.

Calcium failed the recovery criteria high for the MSD of sample 16LM20033UMSD (680-85871-6) in batch 680-261166.

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

DISSOLVED MERCURY (CVAA)

Samples 16LM20028F (680-85871-13), 16LM20029F (680-85871-14), 16LM20030F (680-85871-15), 16LM20031F (680-85871-16), 16LM20032F (680-85871-17), 16LM20033F (680-85871-18), 16LM20034F (680-85871-19), 17LM20020F (680-85871-20), 17LM20021F (680-85871-21), 17LM20022F (680-85871-22), 17LM20023F (680-85871-23) and 17LM20024F (680-85871-24) were analyzed for dissolved mercury (CVAA) in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 12/24/2012 and 12/28/2012 and analyzed on 12/24/2012 and 12/30/2012.

No difficulties were encountered during the mercury analyses.

All quality control parameters were within the acceptance limits.

TOTAL MERCURY

Samples 16LM20028U (680-85871-1), 16LM20029U (680-85871-2), 16LM20030U (680-85871-3), 16LM20031U (680-85871-4), 16LM20032U (680-85871-5), 16LM20033U (680-85871-6), 16LM20034U (680-85871-7), 17LM20020U (680-85871-8), 17LM20021U (680-85871-9), 17LM20022U (680-85871-10), 17LM20023U (680-85871-11) and 17LM20024U (680-85871-12) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 12/28/2012 and analyzed on 12/30/2012.

No difficulties were encountered during the mercury analyses.

All quality control parameters were within the acceptance limits.

Qualifiers

Metals

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Sample Summary

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-85871-1	16LM20028U	Water	12/15/12 10:00	12/18/12 08:10
680-85871-2	16LM20029U	Water	12/15/12 15:33	12/18/12 08:10
680-85871-3	16LM20030U	Water	12/15/12 12:50	12/18/12 08:10
680-85871-4	16LM20031U	Water	12/15/12 10:45	12/18/12 08:10
680-85871-5	16LM20032U	Water	12/15/12 15:45	12/18/12 08:10
680-85871-6	16LM20033U	Water	12/15/12 13:05	12/18/12 08:10
680-85871-7	16LM20034U	Water	12/15/12 13:11	12/18/12 08:10
680-85871-8	17LM20020U	Water	12/11/12 16:40	12/18/12 08:10
680-85871-9	17LM20021U	Water	12/11/12 12:05	12/18/12 08:10
680-85871-10	17LM20022U	Water	12/11/12 14:35	12/18/12 08:10
680-85871-11	17LM20023U	Water	12/11/12 14:05	12/18/12 08:10
680-85871-12	17LM20024U	Water	12/11/12 12:00	12/18/12 08:10
680-85871-13	16LM20028F	Water	12/15/12 10:03	12/18/12 08:10
680-85871-14	16LM20029F	Water	12/15/12 15:35	12/18/12 08:10
680-85871-15	16LM20030F	Water	12/15/12 12:50	12/18/12 08:10
680-85871-16	16LM20031F	Water	12/15/12 10:45	12/18/12 08:10
680-85871-17	16LM20032F	Water	12/15/12 15:45	12/18/12 08:10
680-85871-18	16LM20033F	Water	12/15/12 13:13	12/18/12 08:10
680-85871-19	16LM20034F	Water	12/15/12 13:16	12/18/12 08:10
680-85871-20	17LM20020F	Water	12/11/12 16:40	12/18/12 08:10
680-85871-21	17LM20021F	Water	12/11/12 12:05	12/18/12 08:10
680-85871-22	17LM20022F	Water	12/11/12 14:35	12/18/12 08:10
680-85871-23	17LM20023F	Water	12/11/12 14:09	12/18/12 08:10
680-85871-24	17LM20024F	Water	12/11/12 12:05	12/18/12 08:10

Method Summary

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL SAV
7470A	Mercury (CVAA)	SW846	TAL SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Detection Summary

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20028U — Lab Sample ID: 680-85871-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium	78		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	120000		500	170	ug/L	1		6020	Total/NA
Cobalt	0.16	J	0.50	0.12	ug/L	1		6020	Total/NA
Copper	3.3	J	5.0	1.1	ug/L	1		6020	Total/NA
Potassium	870	J	1000	330	ug/L	1		6020	Total/NA
Magnesium	18000		250	100	ug/L	1		6020	Total/NA
Sodium	62000		500	170	ug/L	1		6020	Total/NA

Client Sample ID: 16LM20029U — Lab Sample ID: 680-85871-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium	62		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	100000		500	170	ug/L	1		6020	Total/NA
Copper	5.0		5.0	1.1	ug/L	1		6020	Total/NA
Potassium	1900		1000	330	ug/L	1		6020	Total/NA
Magnesium	11000		250	100	ug/L	1		6020	Total/NA
Sodium	17000		500	170	ug/L	1		6020	Total/NA
Lead	0.66	J	1.5	0.50	ug/L	1		6020	Total/NA
Antimony	7.1		5.0	2.0	ug/L	1		6020	Total/NA
Zinc	8.8	J	20	8.4	ug/L	1		6020	Total/NA

Client Sample ID: 16LM20030U — Lab Sample ID: 680-85871-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.3	J	2.5	1.3	ug/L	1		6020	Total/NA
Barium	230		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	220000		500	170	ug/L	1		6020	Total/NA
Cadmium	0.23	J	0.50	0.13	ug/L	1		6020	Total/NA
Cobalt	1.9		0.50	0.12	ug/L	1		6020	Total/NA
Copper	11		5.0	1.1	ug/L	1		6020	Total/NA
Iron	140		100	44	ug/L	1		6020	Total/NA
Potassium	3100		1000	330	ug/L	1		6020	Total/NA
Magnesium	32000		250	100	ug/L	1		6020	Total/NA
Manganese	140		5.0	2.0	ug/L	1		6020	Total/NA
Sodium	310000		500	170	ug/L	1		6020	Total/NA
Nickel	3.2	J	5.0	2.0	ug/L	1		6020	Total/NA
Lead	3.4		1.5	0.50	ug/L	1		6020	Total/NA
Antimony	3.9	J	5.0	2.0	ug/L	1		6020	Total/NA
Zinc	11	J	20	8.4	ug/L	1		6020	Total/NA

Client Sample ID: 16LM20031U — Lab Sample ID: 680-85871-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.7		2.5	1.3	ug/L	1		6020	Total/NA
Barium	39		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	96000		500	170	ug/L	1		6020	Total/NA
Cobalt	0.23	J	0.50	0.12	ug/L	1		6020	Total/NA
Copper	3.0	J	5.0	1.1	ug/L	1		6020	Total/NA
Iron	1300		100	44	ug/L	1		6020	Total/NA
Potassium	2100		1000	330	ug/L	1		6020	Total/NA
Magnesium	9800		250	100	ug/L	1		6020	Total/NA
Manganese	130		5.0	2.0	ug/L	1		6020	Total/NA

Client Sample ID: 16LM20031U (Continued) — Lab Sample ID: 680-85871-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Sodium	1500		500	170	ug/L	1		6020	Total/NA

Client Sample ID: 16LM20032U — Lab Sample ID: 680-85871-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	300		100	50	ug/L	1		6020	Total/NA
Arsenic	1.3	J	2.5	1.3	ug/L	1		6020	Total/NA
Barium	45		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	74000		500	170	ug/L	1		6020	Total/NA
Cobalt	0.43	J	0.50	0.12	ug/L	1		6020	Total/NA
Copper	4.1	J	5.0	1.1	ug/L	1		6020	Total/NA
Iron	790		100	44	ug/L	1		6020	Total/NA
Potassium	2400		1000	330	ug/L	1		6020	Total/NA
Magnesium	7600		250	100	ug/L	1		6020	Total/NA
Manganese	26		5.0	2.0	ug/L	1		6020	Total/NA
Sodium	8000		500	170	ug/L	1		6020	Total/NA
Nickel	2.0	J	5.0	2.0	ug/L	1		6020	Total/NA

Client Sample ID: 16LM20033U — Lab Sample ID: 680-85871-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium	100		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	100000	J	500	170	ug/L	1		6020	Total/NA
Cobalt	0.22	J	0.50	0.12	ug/L	1		6020	Total/NA
Copper	8.3		5.0	1.1	ug/L	1		6020	Total/NA
Potassium	5200		1000	330	ug/L	1		6020	Total/NA
Magnesium	21000	J	250	100	ug/L	1		6020	Total/NA
Manganese	90		5.0	2.0	ug/L	1		6020	Total/NA
Sodium	32000		500	170	ug/L	1		6020	Total/NA
Nickel	2.2	J	5.0	2.0	ug/L	1		6020	Total/NA
Lead	2.5		1.5	0.50	ug/L	1		6020	Total/NA
Antimony	13		5.0	2.0	ug/L	1		6020	Total/NA

Client Sample ID: 16LM20034U — Lab Sample ID: 680-85871-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium	100		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	110000		500	170	ug/L	1		6020	Total/NA
Cobalt	0.24	J	0.50	0.12	ug/L	1		6020	Total/NA
Copper	5.6		5.0	1.1	ug/L	1		6020	Total/NA
Potassium	5400		1000	330	ug/L	1		6020	Total/NA
Magnesium	22000		250	100	ug/L	1		6020	Total/NA
Manganese	91		5.0	2.0	ug/L	1		6020	Total/NA
Sodium	32000		500	170	ug/L	1		6020	Total/NA
Nickel	2.4	J	5.0	2.0	ug/L	1		6020	Total/NA
Lead	2.6		1.5	0.50	ug/L	1		6020	Total/NA
Antimony	14		5.0	2.0	ug/L	1		6020	Total/NA

Client Sample ID: 17LM20020U — Lab Sample ID: 680-85871-8

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium	28		5.0	1.4	ug/L	1		6020	Total/NA

Client Sample ID: 17LM20020U (Continued) — Lab Sample ID: 680-85871-8

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Calcium	55000		500	170	ug/L	1		6020	Total/NA
Cadmium	0.44	J	0.50	0.13	ug/L	1		6020	Total/NA
Cobalt	0.37	J	0.50	0.12	ug/L	1		6020	Total/NA
Copper	5.4		5.0	1.1	ug/L	1		6020	Total/NA
Iron	90	J	100	44	ug/L	1		6020	Total/NA
Potassium	410	J	1000	330	ug/L	1		6020	Total/NA
Magnesium	7700		250	100	ug/L	1		6020	Total/NA
Manganese	8.1		5.0	2.0	ug/L	1		6020	Total/NA
Sodium	2500		500	170	ug/L	1		6020	Total/NA
Lead	1.1	J	1.5	0.50	ug/L	1		6020	Total/NA
Antimony	2.7	J	5.0	2.0	ug/L	1		6020	Total/NA

Client Sample ID: 17LM20021U — Lab Sample ID: 680-85871-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium	68		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	120000		500	170	ug/L	1		6020	Total/NA
Cobalt	0.42	J	0.50	0.12	ug/L	1		6020	Total/NA
Copper	7.8		5.0	1.1	ug/L	1		6020	Total/NA
Potassium	2500		1000	330	ug/L	1		6020	Total/NA
Magnesium	12000		250	100	ug/L	1		6020	Total/NA
Manganese	14		5.0	2.0	ug/L	1		6020	Total/NA
Sodium	8400		500	170	ug/L	1		6020	Total/NA
Lead	0.99	J	1.5	0.50	ug/L	1		6020	Total/NA
Antimony	4.4	J	5.0	2.0	ug/L	1		6020	Total/NA
Zinc	26		20	8.4	ug/L	1		6020	Total/NA

Client Sample ID: 17LM20022U — Lab Sample ID: 680-85871-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium	36		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	67000		500	170	ug/L	1		6020	Total/NA
Copper	3.2	J	5.0	1.1	ug/L	1		6020	Total/NA
Potassium	1700		1000	330	ug/L	1		6020	Total/NA
Magnesium	5800		250	100	ug/L	1		6020	Total/NA
Sodium	3100		500	170	ug/L	1		6020	Total/NA
Lead	0.78	J	1.5	0.50	ug/L	1		6020	Total/NA
Zinc	26		20	8.4	ug/L	1		6020	Total/NA

Client Sample ID: 17LM20023U — Lab Sample ID: 680-85871-11

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium	67		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	87000		500	170	ug/L	1		6020	Total/NA
Cobalt	0.25	J	0.50	0.12	ug/L	1		6020	Total/NA
Copper	4.7	J	5.0	1.1	ug/L	1		6020	Total/NA
Iron	72	J	100	44	ug/L	1		6020	Total/NA
Potassium	780	J	1000	330	ug/L	1		6020	Total/NA
Magnesium	15000		250	100	ug/L	1		6020	Total/NA
Manganese	11		5.0	2.0	ug/L	1		6020	Total/NA
Sodium	8600		500	170	ug/L	1		6020	Total/NA
Nickel	2.1	J	5.0	2.0	ug/L	1		6020	Total/NA

Detection Summary

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20024U — Lab Sample ID: 680-85871-12

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium	26		5.0	1.4	ug/L	1		6020	Total/NA
Calcium	75000		500	170	ug/L	1		6020	Total/NA
Cobalt	0.31	J	0.50	0.12	ug/L	1		6020	Total/NA
Copper	2.1	J	5.0	1.1	ug/L	1		6020	Total/NA
Iron	160		100	44	ug/L	1		6020	Total/NA
Potassium	460	J	1000	330	ug/L	1		6020	Total/NA
Magnesium	11000		250	100	ug/L	1		6020	Total/NA
Manganese	59		5.0	2.0	ug/L	1		6020	Total/NA
Sodium	9100		500	170	ug/L	1		6020	Total/NA

Client Sample ID: 16LM20028F — Lab Sample ID: 680-85871-13

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	78		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	120000		250	130	ug/L	1		6020	Dissolved
Copper, Dissolved	5.2		5.0	1.1	ug/L	1		6020	Dissolved
Potassium, Dissolved	900		500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	18000		250	43	ug/L	1		6020	Dissolved
Sodium, Dissolved	63000		500	250	ug/L	1		6020	Dissolved
Nickel, Dissolved	2.3	J	5.0	2.0	ug/L	1		6020	Dissolved

Client Sample ID: 16LM20029F — Lab Sample ID: 680-85871-14

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	65		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	110000		250	130	ug/L	1		6020	Dissolved
Copper, Dissolved	4.5	J	5.0	1.1	ug/L	1		6020	Dissolved
Potassium, Dissolved	2200		500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	13000		250	43	ug/L	1		6020	Dissolved
Sodium, Dissolved	20000		500	250	ug/L	1		6020	Dissolved
Nickel, Dissolved	2.2	J	5.0	2.0	ug/L	1		6020	Dissolved
Lead, Dissolved	0.24	J	1.5	0.20	ug/L	1		6020	Dissolved
Antimony, Dissolved	7.8		5.0	2.3	ug/L	1		6020	Dissolved
Zinc, Dissolved	9.5	J	20	8.3	ug/L	1		6020	Dissolved

Client Sample ID: 16LM20030F — Lab Sample ID: 680-85871-15

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Arsenic, Dissolved	1.5	J	2.5	1.3	ug/L	1		6020	Dissolved
Barium, Dissolved	240		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	230000		250	130	ug/L	1		6020	Dissolved
Cobalt, Dissolved	1.9		0.50	0.15	ug/L	1		6020	Dissolved
Copper, Dissolved	4.1	J	5.0	1.1	ug/L	1		6020	Dissolved
Iron, Dissolved	130		100	33	ug/L	1		6020	Dissolved
Potassium, Dissolved	3200		500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	34000		250	43	ug/L	1		6020	Dissolved
Manganese, Dissolved	140		5.0	1.0	ug/L	1		6020	Dissolved
Sodium, Dissolved	340000		500	250	ug/L	1		6020	Dissolved
Nickel, Dissolved	2.6	J	5.0	2.0	ug/L	1		6020	Dissolved
Antimony, Dissolved	4.0	J	5.0	2.3	ug/L	1		6020	Dissolved
Zinc, Dissolved	12	J	20	8.3	ug/L	1		6020	Dissolved

Detection Summary

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20031F — Lab Sample ID: 680-85871-16

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Arsenic, Dissolved	2.6		2.5	1.3	ug/L	1		6020	Dissolved
Barium, Dissolved	34		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	97000		250	130	ug/L	1		6020	Dissolved
Cobalt, Dissolved	0.22	J	0.50	0.15	ug/L	1		6020	Dissolved
Copper, Dissolved	1.1	J	5.0	1.1	ug/L	1		6020	Dissolved
Iron, Dissolved	1100		100	33	ug/L	1		6020	Dissolved
Potassium, Dissolved	2100		500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	9900		250	43	ug/L	1		6020	Dissolved
Manganese, Dissolved	130		5.0	1.0	ug/L	1		6020	Dissolved
Sodium, Dissolved	1600		500	250	ug/L	1		6020	Dissolved
Nickel, Dissolved	2.1	J	5.0	2.0	ug/L	1		6020	Dissolved
Mercury, Dissolved	0.10	J	0.20	0.091	ug/L	1		7470A	Dissolved

Client Sample ID: 16LM20032F — Lab Sample ID: 680-85871-17

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	41		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	70000		250	130	ug/L	1		6020	Dissolved
Cobalt, Dissolved	0.18	J	0.50	0.15	ug/L	1		6020	Dissolved
Copper, Dissolved	4.5	J	5.0	1.1	ug/L	1		6020	Dissolved
Iron, Dissolved	33	J	100	33	ug/L	1		6020	Dissolved
Potassium, Dissolved	2400		500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	7200		250	43	ug/L	1		6020	Dissolved
Manganese, Dissolved	10		5.0	1.0	ug/L	1		6020	Dissolved
Sodium, Dissolved	8700		500	250	ug/L	1		6020	Dissolved

Client Sample ID: 16LM20033F — Lab Sample ID: 680-85871-18

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Arsenic, Dissolved	1.3	J	2.5	1.3	ug/L	1		6020	Dissolved
Barium, Dissolved	100		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	110000	J	250	130	ug/L	1		6020	Dissolved
Cobalt, Dissolved	0.23	J	0.50	0.15	ug/L	1		6020	Dissolved
Copper, Dissolved	4.1	J	5.0	1.1	ug/L	1		6020	Dissolved
Potassium, Dissolved	5300		500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	21000		250	43	ug/L	1		6020	Dissolved
Manganese, Dissolved	92		5.0	1.0	ug/L	1		6020	Dissolved
Sodium, Dissolved	35000		500	250	ug/L	1		6020	Dissolved
Lead, Dissolved	1.3	J	1.5	0.20	ug/L	1		6020	Dissolved
Antimony, Dissolved	13		5.0	2.3	ug/L	1		6020	Dissolved

Client Sample ID: 16LM20034F — Lab Sample ID: 680-85871-19

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	99		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	100000		250	130	ug/L	1		6020	Dissolved
Cobalt, Dissolved	0.24	J	0.50	0.15	ug/L	1		6020	Dissolved
Copper, Dissolved	1.7	J	5.0	1.1	ug/L	1		6020	Dissolved
Potassium, Dissolved	5100		500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	20000		250	43	ug/L	1		6020	Dissolved
Manganese, Dissolved	98		5.0	1.0	ug/L	1		6020	Dissolved
Sodium, Dissolved	33000		500	250	ug/L	1		6020	Dissolved

Client Sample ID: 16LM20034F (Continued) — Lab Sample ID: 680-85871-19

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Lead, Dissolved	2.3		1.5	0.20	ug/L	1		6020	Dissolved
Antimony, Dissolved	13		5.0	2.3	ug/L	1		6020	Dissolved

Client Sample ID: 17LM20020F — Lab Sample ID: 680-85871-20

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	28		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	53000		250	130	ug/L	1		6020	Dissolved
Cobalt, Dissolved	0.32	J	0.50	0.15	ug/L	1		6020	Dissolved
Copper, Dissolved	4.7	J	5.0	1.1	ug/L	1		6020	Dissolved
Iron, Dissolved	47	J	100	33	ug/L	1		6020	Dissolved
Potassium, Dissolved	380	J	500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	7200		250	43	ug/L	1		6020	Dissolved
Manganese, Dissolved	7.2		5.0	1.0	ug/L	1		6020	Dissolved
Sodium, Dissolved	2400		500	250	ug/L	1		6020	Dissolved
Mercury, Dissolved	0.14	J	0.20	0.091	ug/L	1		7470A	Dissolved

Client Sample ID: 17LM20021F — Lab Sample ID: 680-85871-21

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	69		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	120000		250	130	ug/L	1		6020	Dissolved
Cobalt, Dissolved	0.39	J	0.50	0.15	ug/L	1		6020	Dissolved
Copper, Dissolved	7.7		5.0	1.1	ug/L	1		6020	Dissolved
Potassium, Dissolved	2500		500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	12000		250	43	ug/L	1		6020	Dissolved
Manganese, Dissolved	12		5.0	1.0	ug/L	1		6020	Dissolved
Sodium, Dissolved	8400		500	250	ug/L	1		6020	Dissolved
Antimony, Dissolved	4.0	J	5.0	2.3	ug/L	1		6020	Dissolved
Zinc, Dissolved	24		20	8.3	ug/L	1		6020	Dissolved

Client Sample ID: 17LM20022F — Lab Sample ID: 680-85871-22

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	37		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	74000		250	130	ug/L	1		6020	Dissolved
Copper, Dissolved	3.3	J	5.0	1.1	ug/L	1		6020	Dissolved
Potassium, Dissolved	1800		500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	6100		250	43	ug/L	1		6020	Dissolved
Sodium, Dissolved	3300		500	250	ug/L	1		6020	Dissolved
Lead, Dissolved	0.24	J	1.5	0.20	ug/L	1		6020	Dissolved
Zinc, Dissolved	29		20	8.3	ug/L	1		6020	Dissolved

Client Sample ID: 17LM20023F — Lab Sample ID: 680-85871-23

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	65		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	83000		250	130	ug/L	1		6020	Dissolved
Cobalt, Dissolved	0.21	J	0.50	0.15	ug/L	1		6020	Dissolved
Copper, Dissolved	1.1	J	5.0	1.1	ug/L	1		6020	Dissolved
Potassium, Dissolved	750		500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	15000		250	43	ug/L	1		6020	Dissolved

Client Sample ID: 17LM20023F (Continued)

Lab Sample ID: 680-85871-23

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Manganese, Dissolved	9.5		5.0	1.0	ug/L	1		6020	Dissolved
Sodium, Dissolved	8900		500	250	ug/L	1		6020	Dissolved

Client Sample ID: 17LM20024F

Lab Sample ID: 680-85871-24

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	24		5.0	1.3	ug/L	1		6020	Dissolved
Calcium, Dissolved	68000		250	130	ug/L	1		6020	Dissolved
Cobalt, Dissolved	0.31	J	0.50	0.15	ug/L	1		6020	Dissolved
Copper, Dissolved	3.7	J	5.0	1.1	ug/L	1		6020	Dissolved
Iron, Dissolved	44	J	100	33	ug/L	1		6020	Dissolved
Potassium, Dissolved	460	J	500	170	ug/L	1		6020	Dissolved
Magnesium, Dissolved	9900		250	43	ug/L	1		6020	Dissolved
Manganese, Dissolved	38		5.0	1.0	ug/L	1		6020	Dissolved
Sodium, Dissolved	9400		500	250	ug/L	1		6020	Dissolved
Mercury, Dissolved	0.12	J	0.20	0.091	ug/L	1		7470A	Dissolved

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20028U
Date Collected: 12/15/12 10:00
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-1
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 12:22	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 12:22	1
Arsenic	1.3	U	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 12:22	1
Barium	**78**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 12:22	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 13:23	1
Calcium	**120000**		500	170	ug/L		12/22/12 08:18	12/25/12 12:22	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 12:22	1
Cobalt	**0.16**	**J**	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 12:22	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 12:22	1
Copper	**3.3**	**J**	5.0	1.1	ug/L		12/22/12 08:18	12/25/12 12:22	1
Iron	44	U	100	44	ug/L		12/22/12 08:18	12/25/12 12:22	1
Potassium	**870**	**J**	1000	330	ug/L		12/22/12 08:18	12/25/12 12:22	1
Magnesium	**18000**		250	100	ug/L		12/22/12 08:18	12/25/12 12:22	1
Manganese	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:22	1
Sodium	**62000**		500	170	ug/L		12/22/12 08:18	12/26/12 13:23	1
Nickel	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:22	1
Lead	0.50	U	1.5	0.50	ug/L		12/22/12 08:18	12/25/12 12:22	1
Antimony	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:22	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 12:22	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 12:22	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 12:22	1
Zinc	8.4	U	20	8.4	ug/L		12/22/12 08:18	12/25/12 12:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 13:59	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20029U
Date Collected: 12/15/12 15:33
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-2
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 12:29	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 12:29	1
Arsenic	1.3	U	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 12:29	1
Barium	**62**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 12:29	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 13:30	1
Calcium	**100000**		500	170	ug/L		12/22/12 08:18	12/25/12 12:29	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 12:29	1
Cobalt	0.30	U	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 12:29	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 12:29	1
Copper	**5.0**		5.0	1.1	ug/L		12/22/12 08:18	12/25/12 12:29	1
Iron	44	U	100	44	ug/L		12/22/12 08:18	12/25/12 12:29	1
Potassium	**1900**		1000	330	ug/L		12/22/12 08:18	12/25/12 12:29	1
Magnesium	**11000**		250	100	ug/L		12/22/12 08:18	12/25/12 12:29	1
Manganese	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:29	1
Sodium	**17000**		500	170	ug/L		12/22/12 08:18	12/26/12 13:30	1
Nickel	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:29	1
Lead	**0.66**	**J**	1.5	0.50	ug/L		12/22/12 08:18	12/25/12 12:29	1
Antimony	**7.1**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:29	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 12:29	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 12:29	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 12:29	1
Zinc	**8.8**	**J**	20	8.4	ug/L		12/22/12 08:18	12/25/12 12:29	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:02	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20030U
Date Collected: 12/15/12 12:50
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-3
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 12:37	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 12:37	1
Arsenic	**1.3**	**J**	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 12:37	1
Barium	**230**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 12:37	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 13:38	1
Calcium	**220000**		500	170	ug/L		12/22/12 08:18	12/25/12 12:37	1
Cadmium	**0.23**	**J**	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 12:37	1
Cobalt	**1.9**		0.50	0.12	ug/L		12/22/12 08:18	12/25/12 12:37	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 12:37	1
Copper	**11**		5.0	1.1	ug/L		12/22/12 08:18	12/25/12 12:37	1
Iron	**140**		100	44	ug/L		12/22/12 08:18	12/25/12 12:37	1
Potassium	**3100**		1000	330	ug/L		12/22/12 08:18	12/25/12 12:37	1
Magnesium	**32000**		250	100	ug/L		12/22/12 08:18	12/25/12 12:37	1
Manganese	**140**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:37	1
Sodium	**310000**		500	170	ug/L		12/22/12 08:18	12/26/12 13:38	1
Nickel	**3.2**	**J**	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:37	1
Lead	**3.4**		1.5	0.50	ug/L		12/22/12 08:18	12/25/12 12:37	1
Antimony	**3.9**	**J**	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:37	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 12:37	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 12:37	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 12:37	1
Zinc	**11**	**J**	20	8.4	ug/L		12/22/12 08:18	12/25/12 12:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:04	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20031U
Date Collected: 12/15/12 10:45
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-4
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 12:44	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 12:44	1
Arsenic	**2.7**		2.5	1.3	ug/L		12/22/12 08:18	12/25/12 12:44	1
Barium	**39**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 12:44	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 13:45	1
Calcium	**96000**		500	170	ug/L		12/22/12 08:18	12/25/12 12:44	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 12:44	1
Cobalt	**0.23**	**J**	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 12:44	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 12:44	1
Copper	**3.0**	**J**	5.0	1.1	ug/L		12/22/12 08:18	12/25/12 12:44	1
Iron	**1300**		100	44	ug/L		12/22/12 08:18	12/25/12 12:44	1
Potassium	**2100**		1000	330	ug/L		12/22/12 08:18	12/25/12 12:44	1
Magnesium	**9800**		250	100	ug/L		12/22/12 08:18	12/25/12 12:44	1
Manganese	**130**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:44	1
Sodium	**1500**		500	170	ug/L		12/22/12 08:18	12/26/12 13:45	1
Nickel	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:44	1
Lead	0.50	U	1.5	0.50	ug/L		12/22/12 08:18	12/25/12 12:44	1
Antimony	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:44	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 12:44	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 12:44	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 12:44	1
Zinc	8.4	U	20	8.4	ug/L		12/22/12 08:18	12/25/12 12:44	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:06	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20032U
Date Collected: 12/15/12 15:45
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-5
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 12:52	1
Aluminum	**300**		100	50	ug/L		12/22/12 08:18	12/25/12 12:52	1
Arsenic	**1.3**	**J**	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 12:52	1
Barium	**45**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 12:52	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 13:52	1
Calcium	**74000**		500	170	ug/L		12/22/12 08:18	12/25/12 12:52	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 12:52	1
Cobalt	**0.43**	**J**	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 12:52	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 12:52	1
Copper	**4.1**	**J**	5.0	1.1	ug/L		12/22/12 08:18	12/25/12 12:52	1
Iron	**790**		100	44	ug/L		12/22/12 08:18	12/25/12 12:52	1
Potassium	**2400**		1000	330	ug/L		12/22/12 08:18	12/25/12 12:52	1
Magnesium	**7600**		250	100	ug/L		12/22/12 08:18	12/25/12 12:52	1
Manganese	**26**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:52	1
Sodium	**8000**		500	170	ug/L		12/22/12 08:18	12/26/12 13:52	1
Nickel	**2.0**	**J**	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:52	1
Lead	0.50	U	1.5	0.50	ug/L		12/22/12 08:18	12/25/12 12:52	1
Antimony	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:52	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 12:52	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 12:52	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 12:52	1
Zinc	8.4	U	20	8.4	ug/L		12/22/12 08:18	12/25/12 12:52	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:09	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20033U
Date Collected: 12/15/12 13:05
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-6
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 12:59	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 12:59	1
Arsenic	1.3	U	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 12:59	1
Barium	**100**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 12:59	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 14:00	1
Calcium	**100000**	**J**	500	170	ug/L		12/22/12 08:18	12/25/12 12:59	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 12:59	1
Cobalt	**0.22**	**J**	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 12:59	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 12:59	1
Copper	**8.3**		5.0	1.1	ug/L		12/22/12 08:18	12/25/12 12:59	1
Iron	44	U	100	44	ug/L		12/22/12 08:18	12/25/12 12:59	1
Potassium	**5200**		1000	330	ug/L		12/22/12 08:18	12/25/12 12:59	1
Magnesium	**21000**	**J**	250	100	ug/L		12/22/12 08:18	12/25/12 12:59	1
Manganese	**90**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:59	1
Sodium	**32000**		500	170	ug/L		12/22/12 08:18	12/26/12 14:00	1
Nickel	**2.2**	**J**	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:59	1
Lead	**2.5**		1.5	0.50	ug/L		12/22/12 08:18	12/25/12 12:59	1
Antimony	**13**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:59	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 12:59	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 12:59	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 12:59	1
Zinc	8.4	U	20	8.4	ug/L		12/22/12 08:18	12/25/12 12:59	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:11	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20034U
Date Collected: 12/15/12 13:11
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-7
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 13:51	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 13:51	1
Arsenic	1.3	U	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 13:51	1
Barium	**100**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 13:51	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 14:52	1
Calcium	**110000**		500	170	ug/L		12/22/12 08:18	12/25/12 13:51	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 13:51	1
Cobalt	**0.24**	**J**	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 13:51	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 13:51	1
Copper	**5.6**		5.0	1.1	ug/L		12/22/12 08:18	12/25/12 13:51	1
Iron	44	U	100	44	ug/L		12/22/12 08:18	12/25/12 13:51	1
Potassium	**5400**		1000	330	ug/L		12/22/12 08:18	12/25/12 13:51	1
Magnesium	**22000**		250	100	ug/L		12/22/12 08:18	12/25/12 13:51	1
Manganese	**91**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 13:51	1
Sodium	**32000**		500	170	ug/L		12/22/12 08:18	12/26/12 14:52	1
Nickel	**2.4**	**J**	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 13:51	1
Lead	**2.6**		1.5	0.50	ug/L		12/22/12 08:18	12/25/12 13:51	1
Antimony	**14**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 13:51	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 13:51	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 13:51	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 13:51	1
Zinc	8.4	U	20	8.4	ug/L		12/22/12 08:18	12/25/12 13:51	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:23	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20020U
Date Collected: 12/11/12 16:40
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-8
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 13:58	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 13:58	1
Arsenic	1.3	U	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 13:58	1
Barium	**28**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 13:58	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 14:59	1
Calcium	**55000**		500	170	ug/L		12/22/12 08:18	12/25/12 13:58	1
Cadmium	**0.44**	**J**	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 13:58	1
Cobalt	**0.37**	**J**	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 13:58	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 13:58	1
Copper	**5.4**		5.0	1.1	ug/L		12/22/12 08:18	12/25/12 13:58	1
Iron	**90**	**J**	100	44	ug/L		12/22/12 08:18	12/25/12 13:58	1
Potassium	**410**	**J**	1000	330	ug/L		12/22/12 08:18	12/25/12 13:58	1
Magnesium	**7700**		250	100	ug/L		12/22/12 08:18	12/25/12 13:58	1
Manganese	**8.1**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 13:58	1
Sodium	**2500**		500	170	ug/L		12/22/12 08:18	12/26/12 14:59	1
Nickel	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 13:58	1
Lead	**1.1**	**J**	1.5	0.50	ug/L		12/22/12 08:18	12/25/12 13:58	1
Antimony	**2.7**	**J**	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 13:58	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 13:58	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 13:58	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 13:58	1
Zinc	8.4	U	20	8.4	ug/L		12/22/12 08:18	12/25/12 13:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:26	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20021U
Date Collected: 12/11/12 12:05
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-9
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 14:06	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 14:06	1
Arsenic	1.3	U	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 14:06	1
Barium	**68**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 14:06	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 15:07	1
Calcium	**120000**		500	170	ug/L		12/22/12 08:18	12/25/12 14:06	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 14:06	1
Cobalt	**0.42**	**J**	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 14:06	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 14:06	1
Copper	**7.8**		5.0	1.1	ug/L		12/22/12 08:18	12/25/12 14:06	1
Iron	44	U	100	44	ug/L		12/22/12 08:18	12/25/12 14:06	1
Potassium	**2500**		1000	330	ug/L		12/22/12 08:18	12/25/12 14:06	1
Magnesium	**12000**		250	100	ug/L		12/22/12 08:18	12/25/12 14:06	1
Manganese	**14**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:06	1
Sodium	**8400**		500	170	ug/L		12/22/12 08:18	12/26/12 15:07	1
Nickel	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:06	1
Lead	**0.99**	**J**	1.5	0.50	ug/L		12/22/12 08:18	12/25/12 14:06	1
Antimony	**4.4**	**J**	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:06	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 14:06	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 14:06	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 14:06	1
Zinc	**26**		20	8.4	ug/L		12/22/12 08:18	12/25/12 14:06	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:28	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20022U
Date Collected: 12/11/12 14:35
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-10
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 14:13	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 14:13	1
Arsenic	1.3	U	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 14:13	1
Barium	**36**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 14:13	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 15:14	1
Calcium	**67000**		500	170	ug/L		12/22/12 08:18	12/25/12 14:13	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 14:13	1
Cobalt	0.30	U	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 14:13	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 14:13	1
Copper	**3.2**	**J**	5.0	1.1	ug/L		12/22/12 08:18	12/25/12 14:13	1
Iron	44	U	100	44	ug/L		12/22/12 08:18	12/25/12 14:13	1
Potassium	**1700**		1000	330	ug/L		12/22/12 08:18	12/25/12 14:13	1
Magnesium	**5800**		250	100	ug/L		12/22/12 08:18	12/25/12 14:13	1
Manganese	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:13	1
Sodium	**3100**		500	170	ug/L		12/22/12 08:18	12/26/12 15:14	1
Nickel	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:13	1
Lead	**0.78**	**J**	1.5	0.50	ug/L		12/22/12 08:18	12/25/12 14:13	1
Antimony	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:13	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 14:13	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 14:13	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 14:13	1
Zinc	**26**		20	8.4	ug/L		12/22/12 08:18	12/25/12 14:13	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:31	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20023U
Date Collected: 12/11/12 14:05
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-11
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 14:21	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 14:21	1
Arsenic	1.3	U	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 14:21	1
Barium	**67**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 14:21	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 15:21	1
Calcium	**87000**		500	170	ug/L		12/22/12 08:18	12/25/12 14:21	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 14:21	1
Cobalt	**0.25**	**J**	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 14:21	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 14:21	1
Copper	**4.7**	**J**	5.0	1.1	ug/L		12/22/12 08:18	12/25/12 14:21	1
Iron	**72**	**J**	100	44	ug/L		12/22/12 08:18	12/25/12 14:21	1
Potassium	**780**	**J**	1000	330	ug/L		12/22/12 08:18	12/25/12 14:21	1
Magnesium	**15000**		250	100	ug/L		12/22/12 08:18	12/25/12 14:21	1
Manganese	**11**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:21	1
Sodium	**8600**		500	170	ug/L		12/22/12 08:18	12/26/12 15:21	1
Nickel	**2.1**	**J**	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:21	1
Lead	0.50	U	1.5	0.50	ug/L		12/22/12 08:18	12/25/12 14:21	1
Antimony	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:21	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 14:21	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 14:21	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 14:21	1
Zinc	8.4	U	20	8.4	ug/L		12/22/12 08:18	12/25/12 14:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:33	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20024U
Date Collected: 12/11/12 12:00
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-12
Matrix: Water

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 14:28	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 14:28	1
Arsenic	1.3	U	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 14:28	1
Barium	**26**		5.0	1.4	ug/L		12/22/12 08:18	12/25/12 14:28	1
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 15:29	1
Calcium	**75000**		500	170	ug/L		12/22/12 08:18	12/25/12 14:28	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 14:28	1
Cobalt	**0.31**	**J**	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 14:28	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 14:28	1
Copper	**2.1**	**J**	5.0	1.1	ug/L		12/22/12 08:18	12/25/12 14:28	1
Iron	**160**		100	44	ug/L		12/22/12 08:18	12/25/12 14:28	1
Potassium	**460**	**J**	1000	330	ug/L		12/22/12 08:18	12/25/12 14:28	1
Magnesium	**11000**		250	100	ug/L		12/22/12 08:18	12/25/12 14:28	1
Manganese	**59**		5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:28	1
Sodium	**9100**		500	170	ug/L		12/22/12 08:18	12/26/12 15:29	1
Nickel	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:28	1
Lead	0.50	U	1.5	0.50	ug/L		12/22/12 08:18	12/25/12 14:28	1
Antimony	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 14:28	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 14:28	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 14:28	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 14:28	1
Zinc	8.4	U	20	8.4	ug/L		12/22/12 08:18	12/25/12 14:28	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:36	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20028F
Date Collected: 12/15/12 10:03
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-13
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 15:36	12/25/12 00:44	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 15:36	12/25/12 00:44	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 15:36	12/25/12 00:44	1
Barium, Dissolved	**78**		5.0	1.3	ug/L		12/21/12 15:36	12/25/12 00:44	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 15:36	12/25/12 00:44	1
Calcium, Dissolved	**120000**		250	130	ug/L		12/21/12 15:36	12/25/12 00:44	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 15:36	12/25/12 00:44	1
Cobalt, Dissolved	0.15	U	0.50	0.15	ug/L		12/21/12 15:36	12/25/12 00:44	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 15:36	12/25/12 00:44	1
Copper, Dissolved	**5.2**		5.0	1.1	ug/L		12/21/12 15:36	12/25/12 00:44	1
Iron, Dissolved	33	U	100	33	ug/L		12/21/12 15:36	12/25/12 00:44	1
Potassium, Dissolved	**900**		500	170	ug/L		12/21/12 15:36	12/25/12 00:44	1
Magnesium, Dissolved	**18000**		250	43	ug/L		12/21/12 15:36	12/25/12 00:44	1
Manganese, Dissolved	1.0	U	5.0	1.0	ug/L		12/21/12 15:36	12/25/12 00:44	1
Sodium, Dissolved	**63000**		500	250	ug/L		12/21/12 15:36	12/25/12 00:44	1
Nickel, Dissolved	**2.3**	**J**	5.0	2.0	ug/L		12/21/12 15:36	12/25/12 00:44	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 15:36	12/25/12 00:44	1
Antimony, Dissolved	2.9	U	5.0	2.3	ug/L		12/21/12 15:36	12/25/12 00:44	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 15:36	12/25/12 00:44	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 15:36	12/25/12 00:44	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 15:36	12/25/12 00:44	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 15:36	12/25/12 00:44	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:38	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20029F
Date Collected: 12/15/12 15:35
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-14
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 15:36	12/25/12 00:51	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 15:36	12/25/12 00:51	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 15:36	12/25/12 00:51	1
Barium, Dissolved	**65**		5.0	1.3	ug/L		12/21/12 15:36	12/25/12 00:51	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 15:36	12/25/12 00:51	1
Calcium, Dissolved	**110000**		250	130	ug/L		12/21/12 15:36	12/25/12 00:51	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 15:36	12/25/12 00:51	1
Cobalt, Dissolved	0.15	U	0.50	0.15	ug/L		12/21/12 15:36	12/25/12 00:51	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 15:36	12/25/12 00:51	1
Copper, Dissolved	**4.5**	**J**	5.0	1.1	ug/L		12/21/12 15:36	12/25/12 00:51	1
Iron, Dissolved	33	U	100	33	ug/L		12/21/12 15:36	12/25/12 00:51	1
Potassium, Dissolved	**2200**		500	170	ug/L		12/21/12 15:36	12/25/12 00:51	1
Magnesium, Dissolved	**13000**		250	43	ug/L		12/21/12 15:36	12/25/12 00:51	1
Manganese, Dissolved	1.0	U	5.0	1.0	ug/L		12/21/12 15:36	12/25/12 00:51	1
Sodium, Dissolved	**20000**		500	250	ug/L		12/21/12 15:36	12/25/12 00:51	1
Nickel, Dissolved	**2.2**	**J**	5.0	2.0	ug/L		12/21/12 15:36	12/25/12 00:51	1
Lead, Dissolved	**0.24**	**J**	1.5	0.20	ug/L		12/21/12 15:36	12/25/12 00:51	1
Antimony, Dissolved	**7.8**		5.0	2.3	ug/L		12/21/12 15:36	12/25/12 00:51	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 15:36	12/25/12 00:51	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 15:36	12/25/12 00:51	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 15:36	12/25/12 00:51	1
Zinc, Dissolved	**9.5**	**J**	20	8.3	ug/L		12/21/12 15:36	12/25/12 00:51	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:40	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20030F
Date Collected: 12/15/12 12:50
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-15
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 15:36	12/25/12 00:59	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 15:36	12/25/12 00:59	1
Arsenic, Dissolved	**1.5**	**J**	2.5	1.3	ug/L		12/21/12 15:36	12/25/12 00:59	1
Barium, Dissolved	**240**		5.0	1.3	ug/L		12/21/12 15:36	12/25/12 00:59	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 15:36	12/25/12 00:59	1
Calcium, Dissolved	**230000**		250	130	ug/L		12/21/12 15:36	12/25/12 00:59	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 15:36	12/25/12 00:59	1
Cobalt, Dissolved	**1.9**		0.50	0.15	ug/L		12/21/12 15:36	12/25/12 00:59	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 15:36	12/25/12 00:59	1
Copper, Dissolved	**4.1**	**J**	5.0	1.1	ug/L		12/21/12 15:36	12/25/12 00:59	1
Iron, Dissolved	**130**		100	33	ug/L		12/21/12 15:36	12/25/12 00:59	1
Potassium, Dissolved	**3200**		500	170	ug/L		12/21/12 15:36	12/25/12 00:59	1
Magnesium, Dissolved	**34000**		250	43	ug/L		12/21/12 15:36	12/25/12 00:59	1
Manganese, Dissolved	**140**		5.0	1.0	ug/L		12/21/12 15:36	12/25/12 00:59	1
Sodium, Dissolved	**340000**		500	250	ug/L		12/21/12 15:36	12/25/12 00:59	1
Nickel, Dissolved	**2.6**	**J**	5.0	2.0	ug/L		12/21/12 15:36	12/25/12 00:59	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 15:36	12/25/12 00:59	1
Antimony, Dissolved	**4.0**	**J**	5.0	2.3	ug/L		12/21/12 15:36	12/25/12 00:59	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 15:36	12/25/12 00:59	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 15:36	12/25/12 00:59	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 15:36	12/25/12 00:59	1
Zinc, Dissolved	**12**	**J**	20	8.3	ug/L		12/21/12 15:36	12/25/12 00:59	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:43	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20031F
Date Collected: 12/15/12 10:45
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-16
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 15:36	12/25/12 01:06	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 15:36	12/25/12 01:06	1
Arsenic, Dissolved	**2.6**		2.5	1.3	ug/L		12/21/12 15:36	12/25/12 01:06	1
Barium, Dissolved	**34**		5.0	1.3	ug/L		12/21/12 15:36	12/25/12 01:06	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 15:36	12/25/12 01:06	1
Calcium, Dissolved	**97000**		250	130	ug/L		12/21/12 15:36	12/25/12 01:06	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 15:36	12/25/12 01:06	1
Cobalt, Dissolved	**0.22**	**J**	0.50	0.15	ug/L		12/21/12 15:36	12/25/12 01:06	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 15:36	12/25/12 01:06	1
Copper, Dissolved	**1.1**	**J**	5.0	1.1	ug/L		12/21/12 15:36	12/25/12 01:06	1
Iron, Dissolved	**1100**		100	33	ug/L		12/21/12 15:36	12/25/12 01:06	1
Potassium, Dissolved	**2100**		500	170	ug/L		12/21/12 15:36	12/25/12 01:06	1
Magnesium, Dissolved	**9900**		250	43	ug/L		12/21/12 15:36	12/25/12 01:06	1
Manganese, Dissolved	**130**		5.0	1.0	ug/L		12/21/12 15:36	12/25/12 01:06	1
Sodium, Dissolved	**1600**		500	250	ug/L		12/21/12 15:36	12/25/12 01:06	1
Nickel, Dissolved	**2.1**	**J**	5.0	2.0	ug/L		12/21/12 15:36	12/25/12 01:06	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 15:36	12/25/12 01:06	1
Antimony, Dissolved	2.9	U	5.0	2.3	ug/L		12/21/12 15:36	12/25/12 01:06	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 15:36	12/25/12 01:06	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 15:36	12/25/12 01:06	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 15:36	12/25/12 01:06	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 15:36	12/25/12 01:06	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	**0.10**	**J**	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:45	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20032F
Date Collected: 12/15/12 15:45
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-17
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 15:36	12/25/12 01:13	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 15:36	12/25/12 01:13	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 15:36	12/25/12 01:13	1
Barium, Dissolved	**41**		5.0	1.3	ug/L		12/21/12 15:36	12/25/12 01:13	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 15:36	12/25/12 01:13	1
Calcium, Dissolved	**70000**		250	130	ug/L		12/21/12 15:36	12/25/12 01:13	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 15:36	12/25/12 01:13	1
Cobalt, Dissolved	**0.18**	**J**	0.50	0.15	ug/L		12/21/12 15:36	12/25/12 01:13	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 15:36	12/25/12 01:13	1
Copper, Dissolved	**4.5**	**J**	5.0	1.1	ug/L		12/21/12 15:36	12/25/12 01:13	1
Iron, Dissolved	**33**	**J**	100	33	ug/L		12/21/12 15:36	12/25/12 01:13	1
Potassium, Dissolved	**2400**		500	170	ug/L		12/21/12 15:36	12/25/12 01:13	1
Magnesium, Dissolved	**7200**		250	43	ug/L		12/21/12 15:36	12/25/12 01:13	1
Manganese, Dissolved	**10**		5.0	1.0	ug/L		12/21/12 15:36	12/25/12 01:13	1
Sodium, Dissolved	**8700**		500	250	ug/L		12/21/12 15:36	12/25/12 01:13	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 15:36	12/25/12 01:13	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 15:36	12/25/12 01:13	1
Antimony, Dissolved	2.9	U	5.0	2.3	ug/L		12/21/12 15:36	12/25/12 01:13	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 15:36	12/25/12 01:13	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 15:36	12/25/12 01:13	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 15:36	12/25/12 01:13	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 15:36	12/25/12 01:13	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 14:53	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20033F
Date Collected: 12/15/12 13:13
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-18
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 17:23	12/27/12 20:46	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 17:23	12/27/12 20:46	1
Arsenic, Dissolved	**1.3**	**J**	2.5	1.3	ug/L		12/21/12 17:23	12/27/12 20:46	1
Barium, Dissolved	**100**		5.0	1.3	ug/L		12/21/12 17:23	12/27/12 20:46	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 17:23	12/27/12 20:46	1
Calcium, Dissolved	**110000**	**J**	250	130	ug/L		12/21/12 17:23	12/27/12 20:46	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 17:23	12/27/12 20:46	1
Cobalt, Dissolved	**0.23**	**J**	0.50	0.15	ug/L		12/21/12 17:23	12/27/12 20:46	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 17:23	12/27/12 20:46	1
Copper, Dissolved	**4.1**	**J**	5.0	1.1	ug/L		12/21/12 17:23	12/27/12 20:46	1
Iron, Dissolved	33	U	100	33	ug/L		12/21/12 17:23	12/27/12 20:46	1
Potassium, Dissolved	**5300**		500	170	ug/L		12/21/12 17:23	12/27/12 20:46	1
Magnesium, Dissolved	**21000**		250	43	ug/L		12/21/12 17:23	12/27/12 20:46	1
Manganese, Dissolved	**92**		5.0	1.0	ug/L		12/21/12 17:23	12/27/12 20:46	1
Sodium, Dissolved	**35000**		500	250	ug/L		12/21/12 17:23	12/27/12 20:46	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 17:23	12/27/12 20:46	1
Lead, Dissolved	**1.3**	**J**	1.5	0.20	ug/L		12/21/12 17:23	12/27/12 20:46	1
Antimony, Dissolved	**13**		5.0	2.3	ug/L		12/21/12 17:23	12/27/12 20:46	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 17:23	12/27/12 20:46	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 17:23	12/27/12 20:46	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 17:23	12/27/12 20:46	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 17:23	12/27/12 20:46	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.10	U J	0.20	0.091	ug/L		12/24/12 10:33	12/24/12 16:27	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20034F
Date Collected: 12/15/12 13:16
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-19
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 17:23	12/27/12 21:23	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 17:23	12/27/12 21:23	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 17:23	12/27/12 21:23	1
Barium, Dissolved	**99**		5.0	1.3	ug/L		12/21/12 17:23	12/27/12 21:23	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 17:23	12/27/12 21:23	1
Calcium, Dissolved	**100000**		250	130	ug/L		12/21/12 17:23	12/27/12 21:23	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 17:23	12/27/12 21:23	1
Cobalt, Dissolved	**0.24**	**J**	0.50	0.15	ug/L		12/21/12 17:23	12/27/12 21:23	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 17:23	12/27/12 21:23	1
Copper, Dissolved	**1.7**	**J**	5.0	1.1	ug/L		12/21/12 17:23	12/27/12 21:23	1
Iron, Dissolved	33	U	100	33	ug/L		12/21/12 17:23	12/27/12 21:23	1
Potassium, Dissolved	**5100**		500	170	ug/L		12/21/12 17:23	12/27/12 21:23	1
Magnesium, Dissolved	**20000**		250	43	ug/L		12/21/12 17:23	12/27/12 21:23	1
Manganese, Dissolved	**98**		5.0	1.0	ug/L		12/21/12 17:23	12/27/12 21:23	1
Sodium, Dissolved	**33000**		500	250	ug/L		12/21/12 17:23	12/27/12 21:23	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 17:23	12/27/12 21:23	1
Lead, Dissolved	**2.3**		1.5	0.20	ug/L		12/21/12 17:23	12/27/12 21:23	1
Antimony, Dissolved	**13**		5.0	2.3	ug/L		12/21/12 17:23	12/27/12 21:23	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 17:23	12/27/12 21:23	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 17:23	12/27/12 21:23	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 17:23	12/27/12 21:23	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 17:23	12/27/12 21:23	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.10	U	0.20	0.091	ug/L		12/24/12 10:33	12/24/12 16:34	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20020F
Date Collected: 12/11/12 16:40
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-20
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 07:55	12/22/12 01:00	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 07:55	12/22/12 01:00	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 07:55	12/22/12 01:00	1
Barium, Dissolved	**28**		5.0	1.3	ug/L		12/21/12 07:55	12/22/12 01:00	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 07:55	12/22/12 01:00	1
Calcium, Dissolved	**53000**		250	130	ug/L		12/21/12 07:55	12/22/12 01:00	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 07:55	12/22/12 01:00	1
Cobalt, Dissolved	**0.32**	**J**	0.50	0.15	ug/L		12/21/12 07:55	12/22/12 01:00	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 07:55	12/22/12 01:00	1
Copper, Dissolved	**4.7**	**J**	5.0	1.1	ug/L		12/21/12 07:55	12/22/12 01:00	1
Iron, Dissolved	**47**	**J**	100	33	ug/L		12/21/12 07:55	12/22/12 01:00	1
Potassium, Dissolved	**380**	**J**	500	170	ug/L		12/21/12 07:55	12/22/12 01:00	1
Magnesium, Dissolved	**7200**		250	43	ug/L		12/21/12 07:55	12/22/12 01:00	1
Manganese, Dissolved	**7.2**		5.0	1.0	ug/L		12/21/12 07:55	12/22/12 01:00	1
Sodium, Dissolved	**2400**		500	250	ug/L		12/21/12 07:55	12/22/12 01:00	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 07:55	12/22/12 01:00	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 07:55	12/22/12 01:00	1
Antimony, Dissolved	2.9	U	5.0	2.3	ug/L		12/21/12 07:55	12/22/12 01:00	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 07:55	12/22/12 01:00	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 07:55	12/22/12 01:00	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 07:55	12/22/12 01:00	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 07:55	12/22/12 01:00	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	**0.14**	**J**	0.20	0.091	ug/L		12/24/12 10:33	12/24/12 16:41	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20021F
Date Collected: 12/11/12 12:05
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-21
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 07:55	12/22/12 01:07	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 07:55	12/22/12 01:07	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 07:55	12/22/12 01:07	1
Barium, Dissolved	**69**		5.0	1.3	ug/L		12/21/12 07:55	12/22/12 01:07	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 07:55	12/22/12 01:07	1
Calcium, Dissolved	**120000**		250	130	ug/L		12/21/12 07:55	12/22/12 01:07	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 07:55	12/22/12 01:07	1
Cobalt, Dissolved	**0.39**	**J**	0.50	0.15	ug/L		12/21/12 07:55	12/22/12 01:07	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 07:55	12/22/12 01:07	1
Copper, Dissolved	**7.7**		5.0	1.1	ug/L		12/21/12 07:55	12/22/12 01:07	1
Iron, Dissolved	33	U	100	33	ug/L		12/21/12 07:55	12/22/12 01:07	1
Potassium, Dissolved	**2500**		500	170	ug/L		12/21/12 07:55	12/22/12 01:07	1
Magnesium, Dissolved	**12000**		250	43	ug/L		12/21/12 07:55	12/22/12 01:07	1
Manganese, Dissolved	**12**		5.0	1.0	ug/L		12/21/12 07:55	12/22/12 01:07	1
Sodium, Dissolved	**8400**		500	250	ug/L		12/21/12 07:55	12/22/12 01:07	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 07:55	12/22/12 01:07	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 07:55	12/22/12 01:07	1
Antimony, Dissolved	**4.0**	**J**	5.0	2.3	ug/L		12/21/12 07:55	12/22/12 01:07	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 07:55	12/22/12 01:07	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 07:55	12/22/12 01:07	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 07:55	12/22/12 01:07	1
Zinc, Dissolved	**24**		20	8.3	ug/L		12/21/12 07:55	12/22/12 01:07	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.10	U	0.20	0.091	ug/L		12/24/12 10:33	12/24/12 16:43	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20022F
Date Collected: 12/11/12 14:35
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-22
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 07:55	12/22/12 01:13	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 07:55	12/22/12 01:13	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 07:55	12/22/12 01:13	1
Barium, Dissolved	**37**		5.0	1.3	ug/L		12/21/12 07:55	12/22/12 01:13	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 07:55	12/22/12 01:13	1
Calcium, Dissolved	**74000**		250	130	ug/L		12/21/12 07:55	12/22/12 01:13	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 07:55	12/22/12 01:13	1
Cobalt, Dissolved	0.15	U	0.50	0.15	ug/L		12/21/12 07:55	12/22/12 01:13	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 07:55	12/22/12 01:13	1
Copper, Dissolved	**3.3**	**J**	5.0	1.1	ug/L		12/21/12 07:55	12/22/12 01:13	1
Iron, Dissolved	33	U	100	33	ug/L		12/21/12 07:55	12/22/12 01:13	1
Potassium, Dissolved	**1800**		500	170	ug/L		12/21/12 07:55	12/22/12 01:13	1
Magnesium, Dissolved	**6100**		250	43	ug/L		12/21/12 07:55	12/22/12 01:13	1
Manganese, Dissolved	1.0	U	5.0	1.0	ug/L		12/21/12 07:55	12/22/12 01:13	1
Sodium, Dissolved	**3300**		500	250	ug/L		12/21/12 07:55	12/22/12 01:13	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 07:55	12/22/12 01:13	1
Lead, Dissolved	**0.24**	**J**	1.5	0.20	ug/L		12/21/12 07:55	12/22/12 01:13	1
Antimony, Dissolved	2.9	U	5.0	2.3	ug/L		12/21/12 07:55	12/22/12 01:13	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 07:55	12/22/12 01:13	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 07:55	12/22/12 01:13	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 07:55	12/22/12 01:13	1
Zinc, Dissolved	**29**		20	8.3	ug/L		12/21/12 07:55	12/22/12 01:13	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.10	U	0.20	0.091	ug/L		12/24/12 10:33	12/24/12 16:46	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20023F
Date Collected: 12/11/12 14:09
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-23
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 17:23	12/27/12 21:30	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 17:23	12/27/12 21:30	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 17:23	12/27/12 21:30	1
Barium, Dissolved	**65**		5.0	1.3	ug/L		12/21/12 17:23	12/27/12 21:30	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 17:23	12/27/12 21:30	1
Calcium, Dissolved	**83000**		250	130	ug/L		12/21/12 17:23	12/27/12 21:30	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 17:23	12/27/12 21:30	1
Cobalt, Dissolved	**0.21**	**J**	0.50	0.15	ug/L		12/21/12 17:23	12/27/12 21:30	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 17:23	12/27/12 21:30	1
Copper, Dissolved	**1.1**	**J**	5.0	1.1	ug/L		12/21/12 17:23	12/27/12 21:30	1
Iron, Dissolved	33	U	100	33	ug/L		12/21/12 17:23	12/27/12 21:30	1
Potassium, Dissolved	**750**		500	170	ug/L		12/21/12 17:23	12/27/12 21:30	1
Magnesium, Dissolved	**15000**		250	43	ug/L		12/21/12 17:23	12/27/12 21:30	1
Manganese, Dissolved	**9.5**		5.0	1.0	ug/L		12/21/12 17:23	12/27/12 21:30	1
Sodium, Dissolved	**8900**		500	250	ug/L		12/21/12 17:23	12/27/12 21:30	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 17:23	12/27/12 21:30	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 17:23	12/27/12 21:30	1
Antimony, Dissolved	2.9	U	5.0	2.3	ug/L		12/21/12 17:23	12/27/12 21:30	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 17:23	12/27/12 21:30	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 17:23	12/27/12 21:30	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 17:23	12/27/12 21:30	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 17:23	12/27/12 21:30	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.10	U	0.20	0.091	ug/L		12/24/12 10:33	12/24/12 16:48	1

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20024F
Date Collected: 12/11/12 12:05
Date Received: 12/18/12 08:10

Lab Sample ID: 680-85871-24
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 17:23	12/27/12 21:38	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 17:23	12/27/12 21:38	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 17:23	12/27/12 21:38	1
Barium, Dissolved	**24**		5.0	1.3	ug/L		12/21/12 17:23	12/27/12 21:38	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 17:23	12/27/12 21:38	1
Calcium, Dissolved	**68000**		250	130	ug/L		12/21/12 17:23	12/27/12 21:38	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 17:23	12/27/12 21:38	1
Cobalt, Dissolved	**0.31**	**J**	0.50	0.15	ug/L		12/21/12 17:23	12/27/12 21:38	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 17:23	12/27/12 21:38	1
Copper, Dissolved	**3.7**	**J**	5.0	1.1	ug/L		12/21/12 17:23	12/27/12 21:38	1
Iron, Dissolved	**44**	**J**	100	33	ug/L		12/21/12 17:23	12/27/12 21:38	1
Potassium, Dissolved	**460**	**J**	500	170	ug/L		12/21/12 17:23	12/27/12 21:38	1
Magnesium, Dissolved	**9900**		250	43	ug/L		12/21/12 17:23	12/27/12 21:38	1
Manganese, Dissolved	**38**		5.0	1.0	ug/L		12/21/12 17:23	12/27/12 21:38	1
Sodium, Dissolved	**9400**		500	250	ug/L		12/21/12 17:23	12/27/12 21:38	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 17:23	12/27/12 21:38	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 17:23	12/27/12 21:38	1
Antimony, Dissolved	2.9	U	5.0	2.3	ug/L		12/21/12 17:23	12/27/12 21:38	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 17:23	12/27/12 21:38	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 17:23	12/27/12 21:38	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 17:23	12/27/12 21:38	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 17:23	12/27/12 21:38	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	**0.12**	**J**	0.20	0.091	ug/L		12/24/12 10:33	12/24/12 16:51	1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 680-260764/1-A
Matrix: Water
Analysis Batch: 260984

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 260764

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U	1.0	0.18	ug/L		12/22/12 08:18	12/25/12 12:07	1
Aluminum	50	U	100	50	ug/L		12/22/12 08:18	12/25/12 12:07	1
Arsenic	1.3	U	2.5	1.3	ug/L		12/22/12 08:18	12/25/12 12:07	1
Barium	1.4	U	5.0	1.4	ug/L		12/22/12 08:18	12/25/12 12:07	1
Calcium	200	U	500	170	ug/L		12/22/12 08:18	12/25/12 12:07	1
Cadmium	0.20	U	0.50	0.13	ug/L		12/22/12 08:18	12/25/12 12:07	1
Cobalt	0.30	U	0.50	0.12	ug/L		12/22/12 08:18	12/25/12 12:07	1
Chromium	2.5	U	5.0	2.5	ug/L		12/22/12 08:18	12/25/12 12:07	1
Copper	2.06	J	5.0	1.1	ug/L		12/22/12 08:18	12/25/12 12:07	1
Iron	44	U	100	44	ug/L		12/22/12 08:18	12/25/12 12:07	1
Potassium	330	U	1000	330	ug/L		12/22/12 08:18	12/25/12 12:07	1
Magnesium	100	U	250	100	ug/L		12/22/12 08:18	12/25/12 12:07	1
Manganese	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:07	1
Nickel	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:07	1
Lead	0.50	U	1.5	0.50	ug/L		12/22/12 08:18	12/25/12 12:07	1
Antimony	2.0	U	5.0	2.0	ug/L		12/22/12 08:18	12/25/12 12:07	1
Selenium	1.1	U	2.5	1.1	ug/L		12/22/12 08:18	12/25/12 12:07	1
Thallium	0.25	U	1.0	0.25	ug/L		12/22/12 08:18	12/25/12 12:07	1
Vanadium	3.2	U	10	3.2	ug/L		12/22/12 08:18	12/25/12 12:07	1
Zinc	8.4	U	20	8.4	ug/L		12/22/12 08:18	12/25/12 12:07	1

Lab Sample ID: MB 680-260764/1-A
Matrix: Water
Analysis Batch: 261166

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 260764

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.25	U	0.50	0.15	ug/L		12/22/12 08:18	12/26/12 13:08	1
Sodium	170	U	500	170	ug/L		12/22/12 08:18	12/26/12 13:08	1

Lab Sample ID: LCS 680-260764/2-A
Matrix: Water
Analysis Batch: 260984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 260764

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	50.0	51.2		ug/L		102	75 - 125
Aluminum	5000	4830		ug/L		97	75 - 125
Arsenic	100	100		ug/L		100	75 - 125
Barium	100	105		ug/L		105	75 - 125
Calcium	5000	5000		ug/L		100	75 - 125
Cadmium	50.0	49.5		ug/L		99	75 - 125
Cobalt	50.0	47.6		ug/L		95	75 - 125
Chromium	100	101		ug/L		101	75 - 125
Copper	100	109		ug/L		109	75 - 125
Iron	5000	4930		ug/L		99	75 - 125
Potassium	5000	4880		ug/L		98	75 - 125
Magnesium	5000	5010		ug/L		100	75 - 125
Manganese	500	517		ug/L		103	75 - 125
Nickel	100	106		ug/L		106	75 - 125

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 680-260764/2-A
Matrix: Water
Analysis Batch: 260984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 260764

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	50.0	50.7		ug/L		101	75 - 125
Antimony	50.0	55.8		ug/L		112	75 - 125
Selenium	100	95.3		ug/L		95	75 - 125
Thallium	40.0	39.8		ug/L		99	75 - 125
Vanadium	100	99.1		ug/L		99	75 - 125
Zinc	100	102		ug/L		102	75 - 125

Lab Sample ID: LCS 680-260764/2-A
Matrix: Water
Analysis Batch: 261166

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 260764

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	50.0	53.6		ug/L		107	75 - 125
Sodium	5000	4990		ug/L		100	75 - 125

Lab Sample ID: 680-85871-6 MS
Matrix: Water
Analysis Batch: 260984

Client Sample ID: 16LM20033U
Prep Type: Total/NA
Prep Batch: 260764

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	0.25	U	50.0	50.2		ug/L		100	75 - 125
Aluminum	50	U	5000	5170		ug/L		103	75 - 125
Arsenic	1.3	U	100	106		ug/L		106	75 - 125
Barium	100		100	209		ug/L		108	75 - 125
Calcium	100000	J	5000	117000	4	ug/L		245	75 - 125
Cadmium	0.20	U	50.0	48.7		ug/L		97	75 - 125
Cobalt	0.22	J	50.0	47.4		ug/L		94	75 - 125
Chromium	2.5	U	100	106		ug/L		106	75 - 125
Copper	8.3		100	111		ug/L		102	75 - 125
Iron	44	U	5000	5300		ug/L		106	75 - 125
Potassium	5200		5000	10700		ug/L		109	75 - 125
Magnesium	21000	J	5000	27200	4	ug/L		130	75 - 125
Manganese	90		500	617		ug/L		105	75 - 125
Nickel	2.2	J	100	108		ug/L		106	75 - 125
Lead	2.5		50.0	52.6		ug/L		100	75 - 125
Antimony	13		50.0	68.5		ug/L		112	75 - 125
Selenium	1.1	U	100	101		ug/L		101	75 - 125
Thallium	0.25	U	40.0	39.7		ug/L		99	75 - 125
Vanadium	3.2	U	100	106		ug/L		106	75 - 125
Zinc	8.4	U	100	103		ug/L		103	75 - 125

Lab Sample ID: 680-85871-6 MS
Matrix: Water
Analysis Batch: 261166

Client Sample ID: 16LM20033U
Prep Type: Total/NA
Prep Batch: 260764

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.25	U	50.0	51.8		ug/L		104	75 - 125
Sodium	32000		5000	38000	4	ug/L		110	75 - 125

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 680-85871-6 MSD
Matrix: Water
Analysis Batch: 260984

Client Sample ID: 16LM20033U
Prep Type: Total/NA
Prep Batch: 260764

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	0.25	U	50.0	52.1		ug/L		104	75 - 125	4	20
Aluminum	50	U	5000	5110		ug/L		102	75 - 125	1	20
Arsenic	1.3	U	100	107		ug/L		107	75 - 125	0	20
Barium	100		100	212		ug/L		111	75 - 125	1	20
Calcium	100000	J	5000	113000	4	ug/L		166	75 - 125	3	20
Cadmium	0.20	U	50.0	50.6		ug/L		101	75 - 125	4	20
Cobalt	0.22	J	50.0	48.6		ug/L		97	75 - 125	2	20
Chromium	2.5	U	100	107		ug/L		107	75 - 125	1	20
Copper	8.3		100	114		ug/L		106	75 - 125	3	20
Iron	44	U	5000	5200		ug/L		104	75 - 125	2	20
Potassium	5200		5000	10600		ug/L		107	75 - 125	1	20
Magnesium	21000	J	5000	26400	4	ug/L		112	75 - 125	3	20
Manganese	90		500	624		ug/L		107	75 - 125	1	20
Nickel	2.2	J	100	109		ug/L		107	75 - 125	1	20
Lead	2.5		50.0	53.9		ug/L		103	75 - 125	3	20
Antimony	13		50.0	70.2		ug/L		115	75 - 125	2	20
Selenium	1.1	U	100	99.2		ug/L		99	75 - 125	1	20
Thallium	0.25	U	40.0	40.9		ug/L		102	75 - 125	3	20
Vanadium	3.2	U	100	106		ug/L		106	75 - 125	0	20
Zinc	8.4	U	100	104		ug/L		104	75 - 125	1	20

Lab Sample ID: 680-85871-6 MSD
Matrix: Water
Analysis Batch: 261166

Client Sample ID: 16LM20033U
Prep Type: Total/NA
Prep Batch: 260764

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.25	U	50.0	52.6		ug/L		105	75 - 125	1	20
Sodium	32000		5000	37400	4	ug/L		98	75 - 125	2	20

Lab Sample ID: MB 680-260618/1-A
Matrix: Water
Analysis Batch: 260788

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 260618

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 07:55	12/21/12 22:00	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 07:55	12/21/12 22:00	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 07:55	12/21/12 22:00	1
Barium, Dissolved	1.3	U	5.0	1.3	ug/L		12/21/12 07:55	12/21/12 22:00	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 07:55	12/21/12 22:00	1
Calcium, Dissolved	200	U	250	130	ug/L		12/21/12 07:55	12/21/12 22:00	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 07:55	12/21/12 22:00	1
Cobalt, Dissolved	0.15	U	0.50	0.15	ug/L		12/21/12 07:55	12/21/12 22:00	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 07:55	12/21/12 22:00	1
Copper, Dissolved	1.1	U	5.0	1.1	ug/L		12/21/12 07:55	12/21/12 22:00	1
Iron, Dissolved	33	U	100	33	ug/L		12/21/12 07:55	12/21/12 22:00	1
Potassium, Dissolved	170	U	500	170	ug/L		12/21/12 07:55	12/21/12 22:00	1
Magnesium, Dissolved	43	U	250	43	ug/L		12/21/12 07:55	12/21/12 22:00	1
Manganese, Dissolved	1.0	U	5.0	1.0	ug/L		12/21/12 07:55	12/21/12 22:00	1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 680-260618/1-A
Matrix: Water
Analysis Batch: 260788

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 260618

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium, Dissolved	250	U	500	250	ug/L		12/21/12 07:55	12/21/12 22:00	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 07:55	12/21/12 22:00	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 07:55	12/21/12 22:00	1
Antimony, Dissolved	2.9	U	5.0	2.3	ug/L		12/21/12 07:55	12/21/12 22:00	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 07:55	12/21/12 22:00	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 07:55	12/21/12 22:00	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 07:55	12/21/12 22:00	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 07:55	12/21/12 22:00	1

Lab Sample ID: LCS 680-260618/2-A
Matrix: Water
Analysis Batch: 260788

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 260618

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver, Dissolved	50.0	49.1		ug/L		98	75 - 125
Aluminum, Dissolved	5000	4660		ug/L		93	75 - 125
Arsenic, Dissolved	100	106		ug/L		106	75 - 125
Barium, Dissolved	100	98.8		ug/L		99	75 - 125
Beryllium, Dissolved	50.0	51.7		ug/L		103	75 - 125
Calcium, Dissolved	5000	4810		ug/L		96	75 - 125
Cadmium, Dissolved	50.0	50.1		ug/L		100	75 - 125
Cobalt, Dissolved	50.0	46.6		ug/L		93	75 - 125
Chromium, Dissolved	100	97.8		ug/L		98	75 - 125
Copper, Dissolved	100	102		ug/L		102	75 - 125
Iron, Dissolved	5000	4800		ug/L		96	75 - 125
Potassium, Dissolved	5000	4610		ug/L		92	75 - 125
Magnesium, Dissolved	5000	4680		ug/L		94	75 - 125
Manganese, Dissolved	500	498		ug/L		100	75 - 125
Sodium, Dissolved	5000	4550		ug/L		91	75 - 125
Nickel, Dissolved	100	101		ug/L		101	75 - 125
Lead, Dissolved	50.0	46.4		ug/L		93	75 - 125
Antimony, Dissolved	50.0	53.9		ug/L		108	75 - 125
Selenium, Dissolved	100	99.9		ug/L		100	75 - 125
Thallium, Dissolved	40.0	38.4		ug/L		96	75 - 125
Vanadium, Dissolved	100	97.2		ug/L		97	75 - 125
Zinc, Dissolved	100	106		ug/L		106	75 - 125

Lab Sample ID: MB 680-260719/1-A
Matrix: Water
Analysis Batch: 260984

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 260719

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 15:36	12/24/12 21:38	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 15:36	12/24/12 21:38	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 15:36	12/24/12 21:38	1
Barium, Dissolved	1.3	U	5.0	1.3	ug/L		12/21/12 15:36	12/24/12 21:38	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 15:36	12/24/12 21:38	1
Calcium, Dissolved	200	U	250	130	ug/L		12/21/12 15:36	12/24/12 21:38	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 15:36	12/24/12 21:38	1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 680-260719/1-A
Matrix: Water
Analysis Batch: 260984

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 260719

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt, Dissolved	0.15	U	0.50	0.15	ug/L		12/21/12 15:36	12/24/12 21:38	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 15:36	12/24/12 21:38	1
Copper, Dissolved	1.1	U	5.0	1.1	ug/L		12/21/12 15:36	12/24/12 21:38	1
Iron, Dissolved	33	U	100	33	ug/L		12/21/12 15:36	12/24/12 21:38	1
Potassium, Dissolved	170	U	500	170	ug/L		12/21/12 15:36	12/24/12 21:38	1
Magnesium, Dissolved	43	U	250	43	ug/L		12/21/12 15:36	12/24/12 21:38	1
Manganese, Dissolved	1.0	U	5.0	1.0	ug/L		12/21/12 15:36	12/24/12 21:38	1
Sodium, Dissolved	250	U	500	250	ug/L		12/21/12 15:36	12/24/12 21:38	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 15:36	12/24/12 21:38	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 15:36	12/24/12 21:38	1
Antimony, Dissolved	2.9	U	5.0	2.3	ug/L		12/21/12 15:36	12/24/12 21:38	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 15:36	12/24/12 21:38	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 15:36	12/24/12 21:38	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 15:36	12/24/12 21:38	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 15:36	12/24/12 21:38	1

Lab Sample ID: LCS 680-260719/2-A
Matrix: Water
Analysis Batch: 260984

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 260719

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver, Dissolved	50.0	51.7		ug/L		103	75 - 125
Aluminum, Dissolved	5000	4790		ug/L		96	75 - 125
Arsenic, Dissolved	100	105		ug/L		105	75 - 125
Barium, Dissolved	100	104		ug/L		104	75 - 125
Beryllium, Dissolved	50.0	52.0		ug/L		104	75 - 125
Calcium, Dissolved	5000	4880		ug/L		98	75 - 125
Cadmium, Dissolved	50.0	52.0		ug/L		104	75 - 125
Cobalt, Dissolved	50.0	48.9		ug/L		98	75 - 125
Chromium, Dissolved	100	99.4		ug/L		99	75 - 125
Copper, Dissolved	100	104		ug/L		104	75 - 125
Iron, Dissolved	5000	4770		ug/L		95	75 - 125
Potassium, Dissolved	5000	4910		ug/L		98	75 - 125
Magnesium, Dissolved	5000	4950		ug/L		99	75 - 125
Manganese, Dissolved	500	524		ug/L		105	75 - 125
Sodium, Dissolved	5000	4890		ug/L		98	75 - 125
Nickel, Dissolved	100	104		ug/L		104	75 - 125
Lead, Dissolved	50.0	52.2		ug/L		104	75 - 125
Antimony, Dissolved	50.0	56.9		ug/L		114	75 - 125
Selenium, Dissolved	100	101		ug/L		101	75 - 125
Thallium, Dissolved	40.0	40.8		ug/L		102	75 - 125
Vanadium, Dissolved	100	97.3		ug/L		97	75 - 125
Zinc, Dissolved	100	112		ug/L		112	75 - 125

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 680-260740/1-A
Matrix: Water
Analysis Batch: 261296

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 260740

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver, Dissolved	0.25	U	1.0	0.25	ug/L		12/21/12 17:23	12/27/12 20:31	1
Aluminum, Dissolved	23	U	50	23	ug/L		12/21/12 17:23	12/27/12 20:31	1
Arsenic, Dissolved	1.3	U	2.5	1.3	ug/L		12/21/12 17:23	12/27/12 20:31	1
Barium, Dissolved	1.3	U	5.0	1.3	ug/L		12/21/12 17:23	12/27/12 20:31	1
Beryllium, Dissolved	0.25	U	0.50	0.25	ug/L		12/21/12 17:23	12/27/12 20:31	1
Calcium, Dissolved	200	U	250	130	ug/L		12/21/12 17:23	12/27/12 20:31	1
Cadmium, Dissolved	0.20	U	0.50	0.095	ug/L		12/21/12 17:23	12/27/12 20:31	1
Cobalt, Dissolved	0.15	U	0.50	0.15	ug/L		12/21/12 17:23	12/27/12 20:31	1
Chromium, Dissolved	2.5	U	5.0	2.5	ug/L		12/21/12 17:23	12/27/12 20:31	1
Copper, Dissolved	1.1	U	5.0	1.1	ug/L		12/21/12 17:23	12/27/12 20:31	1
Iron, Dissolved	33	U	100	33	ug/L		12/21/12 17:23	12/27/12 20:31	1
Potassium, Dissolved	170	U	500	170	ug/L		12/21/12 17:23	12/27/12 20:31	1
Magnesium, Dissolved	43	U	250	43	ug/L		12/21/12 17:23	12/27/12 20:31	1
Manganese, Dissolved	1.0	U	5.0	1.0	ug/L		12/21/12 17:23	12/27/12 20:31	1
Sodium, Dissolved	250	U	500	250	ug/L		12/21/12 17:23	12/27/12 20:31	1
Nickel, Dissolved	2.0	U	5.0	2.0	ug/L		12/21/12 17:23	12/27/12 20:31	1
Lead, Dissolved	0.20	U	1.5	0.20	ug/L		12/21/12 17:23	12/27/12 20:31	1
Antimony, Dissolved	2.9	U	5.0	2.3	ug/L		12/21/12 17:23	12/27/12 20:31	1
Selenium, Dissolved	1.0	U	2.5	1.0	ug/L		12/21/12 17:23	12/27/12 20:31	1
Thallium, Dissolved	0.50	U	1.0	0.50	ug/L		12/21/12 17:23	12/27/12 20:31	1
Vanadium, Dissolved	3.8	U	10	3.8	ug/L		12/21/12 17:23	12/27/12 20:31	1
Zinc, Dissolved	8.3	U	20	8.3	ug/L		12/21/12 17:23	12/27/12 20:31	1

Lab Sample ID: LCS 680-260740/2-A
Matrix: Water
Analysis Batch: 261296

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 260740

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver, Dissolved	50.0	53.3		ug/L		107	75 - 125
Aluminum, Dissolved	5000	5070		ug/L		101	75 - 125
Arsenic, Dissolved	100	105		ug/L		105	75 - 125
Barium, Dissolved	100	104		ug/L		104	75 - 125
Beryllium, Dissolved	50.0	54.5		ug/L		109	75 - 125
Calcium, Dissolved	5000	5130		ug/L		103	75 - 125
Cadmium, Dissolved	50.0	53.2		ug/L		106	75 - 125
Cobalt, Dissolved	50.0	50.6		ug/L		101	75 - 125
Chromium, Dissolved	100	101		ug/L		101	75 - 125
Copper, Dissolved	100	104		ug/L		104	75 - 125
Iron, Dissolved	5000	4990		ug/L		100	75 - 125
Potassium, Dissolved	5000	4890		ug/L		98	75 - 125
Magnesium, Dissolved	5000	5200		ug/L		104	75 - 125
Manganese, Dissolved	500	536		ug/L		107	75 - 125
Sodium, Dissolved	5000	5040		ug/L		101	75 - 125
Nickel, Dissolved	100	104		ug/L		104	75 - 125
Lead, Dissolved	50.0	52.3		ug/L		105	75 - 125
Antimony, Dissolved	50.0	57.8		ug/L		116	75 - 125
Selenium, Dissolved	100	103		ug/L		103	75 - 125
Thallium, Dissolved	40.0	41.2		ug/L		103	75 - 125

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 680-260740/2-A
Matrix: Water
Analysis Batch: 261296

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 260740

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vanadium, Dissolved	100	98.6		ug/L		99	75 - 125
Zinc, Dissolved	100	122		ug/L		122	75 - 125

Lab Sample ID: 680-85871-18 MS
Matrix: Water
Analysis Batch: 261296

Client Sample ID: 16LM20033F
Prep Type: Dissolved
Prep Batch: 260740

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver, Dissolved	0.25	U	50.0	51.2		ug/L		102	75 - 125
Aluminum, Dissolved	23	U	5000	4950		ug/L		99	75 - 125
Arsenic, Dissolved	1.3	J	100	108		ug/L		106	75 - 125
Barium, Dissolved	100		100	202		ug/L		101	75 - 125
Beryllium, Dissolved	0.25	U	50.0	54.0		ug/L		108	75 - 125
Calcium, Dissolved	110000	J	5000	108000	4	ug/L		57	75 - 125
Cadmium, Dissolved	0.20	U	50.0	51.7		ug/L		103	75 - 125
Cobalt, Dissolved	0.23	J	50.0	49.3		ug/L		98	75 - 125
Chromium, Dissolved	2.5	U	100	101		ug/L		101	75 - 125
Copper, Dissolved	4.1	J	100	104		ug/L		100	75 - 125
Iron, Dissolved	33	U	5000	4880		ug/L		98	75 - 125
Potassium, Dissolved	5300		5000	10200		ug/L		97	75 - 125
Magnesium, Dissolved	21000		5000	25600	4	ug/L		95	75 - 125
Manganese, Dissolved	92		500	617		ug/L		105	75 - 125
Sodium, Dissolved	35000		5000	39600	4	ug/L		99	75 - 125
Nickel, Dissolved	2.0	U	100	103		ug/L		103	75 - 125
Lead, Dissolved	1.3	J	50.0	52.3		ug/L		102	75 - 125
Antimony, Dissolved	13		50.0	70.0		ug/L		113	75 - 125
Selenium, Dissolved	1.0	U	100	103		ug/L		103	75 - 125
Thallium, Dissolved	0.50	U	40.0	39.9		ug/L		100	75 - 125
Vanadium, Dissolved	3.8	U	100	102		ug/L		102	75 - 125
Zinc, Dissolved	8.3	U	100	109		ug/L		109	75 - 125

Lab Sample ID: 680-85871-18 MSD
Matrix: Water
Analysis Batch: 261296

Client Sample ID: 16LM20033F
Prep Type: Dissolved
Prep Batch: 260740

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver, Dissolved	0.25	U	50.0	52.9		ug/L		106	75 - 125	3	20
Aluminum, Dissolved	23	U	5000	5080		ug/L		102	75 - 125	3	20
Arsenic, Dissolved	1.3	J	100	109		ug/L		107	75 - 125	1	20
Barium, Dissolved	100		100	210		ug/L		109	75 - 125	4	20
Beryllium, Dissolved	0.25	U	50.0	55.7		ug/L		111	75 - 125	3	20
Calcium, Dissolved	110000	J	5000	110000	4	ug/L		80	75 - 125	1	20
Cadmium, Dissolved	0.20	U	50.0	53.3		ug/L		107	75 - 125	3	20
Cobalt, Dissolved	0.23	J	50.0	50.5		ug/L		100	75 - 125	2	20
Chromium, Dissolved	2.5	U	100	103		ug/L		103	75 - 125	1	20
Copper, Dissolved	4.1	J	100	106		ug/L		102	75 - 125	2	20
Iron, Dissolved	33	U	5000	5040		ug/L		101	75 - 125	3	20
Potassium, Dissolved	5300		5000	10300		ug/L		100	75 - 125	1	20
Magnesium, Dissolved	21000		5000	25900	4	ug/L		99	75 - 125	1	20

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 680-85871-18 MSD — **Client Sample ID: 16LM20033F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 261296 — **Prep Batch: 260740**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese, Dissolved	92		500	640		ug/L		109	75 - 125	4	20
Sodium, Dissolved	35000		5000	40100	4	ug/L		110	75 - 125	1	20
Nickel, Dissolved	2.0	U	100	105		ug/L		105	75 - 125	1	20
Lead, Dissolved	1.3	J	50.0	53.8		ug/L		105	75 - 125	3	20
Antimony, Dissolved	13		50.0	71.5		ug/L		116	75 - 125	2	20
Selenium, Dissolved	1.0	U	100	104		ug/L		104	75 - 125	1	20
Thallium, Dissolved	0.50	U	40.0	41.1		ug/L		103	75 - 125	3	20
Vanadium, Dissolved	3.8	U	100	103		ug/L		103	75 - 125	1	20
Zinc, Dissolved	8.3	U	100	111		ug/L		111	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 680-260873/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 261149 — **Prep Batch: 260873**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.10	U	0.20	0.091	ug/L		12/24/12 10:33	12/24/12 16:22	1

Lab Sample ID: LCS 680-260873/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 261149 — **Prep Batch: 260873**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury, Dissolved	2.50	2.83		ug/L		113	80 - 120

Lab Sample ID: MB 680-261369/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 261470 — **Prep Batch: 261369**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 13:54	1
Mercury, Dissolved	0.10	U	0.20	0.091	ug/L		12/28/12 16:33	12/30/12 13:54	1

Lab Sample ID: LCS 680-261369/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 261470 — **Prep Batch: 261369**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.03		ug/L		81	80 - 120
Mercury, Dissolved	2.50	2.03		ug/L		81	80 - 120

Lab Sample ID: 680-85871-6 MS — **Client Sample ID: 16LM20033U**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 261470 — **Prep Batch: 261369**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.10	U	1.00	0.975		ug/L		97	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 680-85871-6 MSD — **Client Sample ID: 16LM20033U**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 261470 — **Prep Batch: 261369**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.10	U	1.00	0.855		ug/L		86	80 - 120	13	20

Lab Sample ID: 680-85871-18 MS — **Client Sample ID: 16LM20033F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 261149 — **Prep Batch: 260873**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury, Dissolved	0.10	U J	1.00	1.01		ug/L		101	80 - 120		

Lab Sample ID: 680-85871-18 MSD — **Client Sample ID: 16LM20033F**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 261149 — **Prep Batch: 260873**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury, Dissolved	0.10	U J	1.00	1.32	J	ug/L		132	80 - 120	27	20

Metals

Prep Batch: 260618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-20	17LM20020F	Dissolved	Water	3005A	
680-85871-21	17LM20021F	Dissolved	Water	3005A	
680-85871-22	17LM20022F	Dissolved	Water	3005A	
LCS 680-260618/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-260618/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 260719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-13	16LM20028F	Dissolved	Water	3005A	
680-85871-14	16LM20029F	Dissolved	Water	3005A	
680-85871-15	16LM20030F	Dissolved	Water	3005A	
680-85871-16	16LM20031F	Dissolved	Water	3005A	
680-85871-17	16LM20032F	Dissolved	Water	3005A	
LCS 680-260719/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-260719/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 260740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-18	16LM20033F	Dissolved	Water	3005A	
680-85871-18 MS	16LM20033F	Dissolved	Water	3005A	
680-85871-18 MSD	16LM20033F	Dissolved	Water	3005A	
680-85871-19	16LM20034F	Dissolved	Water	3005A	
680-85871-23	17LM20023F	Dissolved	Water	3005A	
680-85871-24	17LM20024F	Dissolved	Water	3005A	
LCS 680-260740/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-260740/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 260764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-1	16LM20028U	Total/NA	Water	3010A	
680-85871-2	16LM20029U	Total/NA	Water	3010A	
680-85871-3	16LM20030U	Total/NA	Water	3010A	
680-85871-4	16LM20031U	Total/NA	Water	3010A	
680-85871-5	16LM20032U	Total/NA	Water	3010A	
680-85871-6	16LM20033U	Total/NA	Water	3010A	
680-85871-6 MS	16LM20033U	Total/NA	Water	3010A	
680-85871-6 MSD	16LM20033U	Total/NA	Water	3010A	
680-85871-7	16LM20034U	Total/NA	Water	3010A	
680-85871-8	17LM20020U	Total/NA	Water	3010A	
680-85871-9	17LM20021U	Total/NA	Water	3010A	
680-85871-10	17LM20022U	Total/NA	Water	3010A	
680-85871-11	17LM20023U	Total/NA	Water	3010A	
680-85871-12	17LM20024U	Total/NA	Water	3010A	
LCS 680-260764/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 680-260764/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 260788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-20	17LM20020F	Dissolved	Water	6020	260618
680-85871-21	17LM20021F	Dissolved	Water	6020	260618
680-85871-22	17LM20022F	Dissolved	Water	6020	260618

Metals (Continued)

Analysis Batch: 260788 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-260618/2-A	Lab Control Sample	Total Recoverable	Water	6020	260618
MB 680-260618/1-A	Method Blank	Total Recoverable	Water	6020	260618

Prep Batch: 260873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-18	16LM20033F	Dissolved	Water	7470A	
680-85871-18 MS	16LM20033F	Dissolved	Water	7470A	
680-85871-18 MSD	16LM20033F	Dissolved	Water	7470A	
680-85871-19	16LM20034F	Dissolved	Water	7470A	
680-85871-20	17LM20020F	Dissolved	Water	7470A	
680-85871-21	17LM20021F	Dissolved	Water	7470A	
680-85871-22	17LM20022F	Dissolved	Water	7470A	
680-85871-23	17LM20023F	Dissolved	Water	7470A	
680-85871-24	17LM20024F	Dissolved	Water	7470A	
LCS 680-260873/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 680-260873/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 260984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-1	16LM20028U	Total/NA	Water	6020	260764
680-85871-2	16LM20029U	Total/NA	Water	6020	260764
680-85871-3	16LM20030U	Total/NA	Water	6020	260764
680-85871-4	16LM20031U	Total/NA	Water	6020	260764
680-85871-5	16LM20032U	Total/NA	Water	6020	260764
680-85871-6	16LM20033U	Total/NA	Water	6020	260764
680-85871-6 MS	16LM20033U	Total/NA	Water	6020	260764
680-85871-6 MSD	16LM20033U	Total/NA	Water	6020	260764
680-85871-7	16LM20034U	Total/NA	Water	6020	260764
680-85871-8	17LM20020U	Total/NA	Water	6020	260764
680-85871-9	17LM20021U	Total/NA	Water	6020	260764
680-85871-10	17LM20022U	Total/NA	Water	6020	260764
680-85871-11	17LM20023U	Total/NA	Water	6020	260764
680-85871-12	17LM20024U	Total/NA	Water	6020	260764
680-85871-13	16LM20028F	Dissolved	Water	6020	260719
680-85871-14	16LM20029F	Dissolved	Water	6020	260719
680-85871-15	16LM20030F	Dissolved	Water	6020	260719
680-85871-16	16LM20031F	Dissolved	Water	6020	260719
680-85871-17	16LM20032F	Dissolved	Water	6020	260719
LCS 680-260719/2-A	Lab Control Sample	Total Recoverable	Water	6020	260719
LCS 680-260764/2-A	Lab Control Sample	Total/NA	Water	6020	260764
MB 680-260719/1-A	Method Blank	Total Recoverable	Water	6020	260719
MB 680-260764/1-A	Method Blank	Total/NA	Water	6020	260764

Analysis Batch: 261149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-18	16LM20033F	Dissolved	Water	7470A	260873
680-85871-18 MS	16LM20033F	Dissolved	Water	7470A	260873
680-85871-18 MSD	16LM20033F	Dissolved	Water	7470A	260873
680-85871-19	16LM20034F	Dissolved	Water	7470A	260873
680-85871-20	17LM20020F	Dissolved	Water	7470A	260873
680-85871-21	17LM20021F	Dissolved	Water	7470A	260873

Metals (Continued)

Analysis Batch: 261149 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-22	17LM20022F	Dissolved	Water	7470A	260873
680-85871-23	17LM20023F	Dissolved	Water	7470A	260873
680-85871-24	17LM20024F	Dissolved	Water	7470A	260873
LCS 680-260873/2-A	Lab Control Sample	Total/NA	Water	7470A	260873
MB 680-260873/1-A	Method Blank	Total/NA	Water	7470A	260873

Analysis Batch: 261166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-1	16LM20028U	Total/NA	Water	6020	260764
680-85871-2	16LM20029U	Total/NA	Water	6020	260764
680-85871-3	16LM20030U	Total/NA	Water	6020	260764
680-85871-4	16LM20031U	Total/NA	Water	6020	260764
680-85871-5	16LM20032U	Total/NA	Water	6020	260764
680-85871-6	16LM20033U	Total/NA	Water	6020	260764
680-85871-6 MS	16LM20033U	Total/NA	Water	6020	260764
680-85871-6 MSD	16LM20033U	Total/NA	Water	6020	260764
680-85871-7	16LM20034U	Total/NA	Water	6020	260764
680-85871-8	17LM20020U	Total/NA	Water	6020	260764
680-85871-9	17LM20021U	Total/NA	Water	6020	260764
680-85871-10	17LM20022U	Total/NA	Water	6020	260764
680-85871-11	17LM20023U	Total/NA	Water	6020	260764
680-85871-12	17LM20024U	Total/NA	Water	6020	260764
LCS 680-260764/2-A	Lab Control Sample	Total/NA	Water	6020	260764
MB 680-260764/1-A	Method Blank	Total/NA	Water	6020	260764

Analysis Batch: 261296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-18	16LM20033F	Dissolved	Water	6020	260740
680-85871-18 MS	16LM20033F	Dissolved	Water	6020	260740
680-85871-18 MSD	16LM20033F	Dissolved	Water	6020	260740
680-85871-19	16LM20034F	Dissolved	Water	6020	260740
680-85871-23	17LM20023F	Dissolved	Water	6020	260740
680-85871-24	17LM20024F	Dissolved	Water	6020	260740
LCS 680-260740/2-A	Lab Control Sample	Total Recoverable	Water	6020	260740
MB 680-260740/1-A	Method Blank	Total Recoverable	Water	6020	260740

Prep Batch: 261369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-1	16LM20028U	Total/NA	Water	7470A	
680-85871-2	16LM20029U	Total/NA	Water	7470A	
680-85871-3	16LM20030U	Total/NA	Water	7470A	
680-85871-4	16LM20031U	Total/NA	Water	7470A	
680-85871-5	16LM20032U	Total/NA	Water	7470A	
680-85871-6	16LM20033U	Total/NA	Water	7470A	
680-85871-6 MS	16LM20033U	Total/NA	Water	7470A	
680-85871-6 MSD	16LM20033U	Total/NA	Water	7470A	
680-85871-7	16LM20034U	Total/NA	Water	7470A	
680-85871-8	17LM20020U	Total/NA	Water	7470A	
680-85871-9	17LM20021U	Total/NA	Water	7470A	
680-85871-10	17LM20022U	Total/NA	Water	7470A	
680-85871-11	17LM20023U	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 261369 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-12	17LM20024U	Total/NA	Water	7470A	
680-85871-13	16LM20028F	Dissolved	Water	7470A	
680-85871-14	16LM20029F	Dissolved	Water	7470A	
680-85871-15	16LM20030F	Dissolved	Water	7470A	
680-85871-16	16LM20031F	Dissolved	Water	7470A	
680-85871-17	16LM20032F	Dissolved	Water	7470A	
LCS 680-261369/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 680-261369/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 261470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-85871-1	16LM20028U	Total/NA	Water	7470A	261369
680-85871-2	16LM20029U	Total/NA	Water	7470A	261369
680-85871-3	16LM20030U	Total/NA	Water	7470A	261369
680-85871-4	16LM20031U	Total/NA	Water	7470A	261369
680-85871-5	16LM20032U	Total/NA	Water	7470A	261369
680-85871-6	16LM20033U	Total/NA	Water	7470A	261369
680-85871-6 MS	16LM20033U	Total/NA	Water	7470A	261369
680-85871-6 MSD	16LM20033U	Total/NA	Water	7470A	261369
680-85871-7	16LM20034U	Total/NA	Water	7470A	261369
680-85871-8	17LM20020U	Total/NA	Water	7470A	261369
680-85871-9	17LM20021U	Total/NA	Water	7470A	261369
680-85871-10	17LM20022U	Total/NA	Water	7470A	261369
680-85871-11	17LM20023U	Total/NA	Water	7470A	261369
680-85871-12	17LM20024U	Total/NA	Water	7470A	261369
680-85871-13	16LM20028F	Dissolved	Water	7470A	261369
680-85871-14	16LM20029F	Dissolved	Water	7470A	261369
680-85871-15	16LM20030F	Dissolved	Water	7470A	261369
680-85871-16	16LM20031F	Dissolved	Water	7470A	261369
680-85871-17	16LM20032F	Dissolved	Water	7470A	261369
LCS 680-261369/2-A	Lab Control Sample	Total/NA	Water	7470A	261369
MB 680-261369/1-A	Method Blank	Total/NA	Water	7470A	261369

Lab Chronicle

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20028U

Lab Sample ID: 680-85871-1

Date Collected: 12/15/12 10:00

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 12:22	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 13:23	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 13:59	BCB	TAL SAV

Client Sample ID: 16LM20029U

Lab Sample ID: 680-85871-2

Date Collected: 12/15/12 15:33

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 12:29	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 13:30	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:02	BCB	TAL SAV

Client Sample ID: 16LM20030U

Lab Sample ID: 680-85871-3

Date Collected: 12/15/12 12:50

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 12:37	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 13:38	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:04	BCB	TAL SAV

Client Sample ID: 16LM20031U

Lab Sample ID: 680-85871-4

Date Collected: 12/15/12 10:45

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 12:44	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 13:45	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:06	BCB	TAL SAV

Client Sample ID: 16LM20032U

Lab Sample ID: 680-85871-5

Date Collected: 12/15/12 15:45

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 12:52	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 13:52	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:09	BCB	TAL SAV

Client Sample ID: 16LM20033U

Lab Sample ID: 680-85871-6

Date Collected: 12/15/12 13:05

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 12:59	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 14:00	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:11	BCB	TAL SAV

Client Sample ID: 16LM20034U

Lab Sample ID: 680-85871-7

Date Collected: 12/15/12 13:11

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 13:51	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 14:52	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:23	BCB	TAL SAV

Client Sample ID: 17LM20020U

Lab Sample ID: 680-85871-8

Date Collected: 12/11/12 16:40

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 13:58	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 14:59	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:26	BCB	TAL SAV

Client Sample ID: 17LM20021U

Lab Sample ID: 680-85871-9

Date Collected: 12/11/12 12:05

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 14:06	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 15:07	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:28	BCB	TAL SAV

Client Sample ID: 17LM20022U

Lab Sample ID: 680-85871-10

Date Collected: 12/11/12 14:35

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 14:13	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 15:14	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:31	BCB	TAL SAV

Client Sample ID: 17LM20023U

Lab Sample ID: 680-85871-11

Date Collected: 12/11/12 14:05

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 14:21	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 15:21	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:33	BCB	TAL SAV

Client Sample ID: 17LM20024U

Lab Sample ID: 680-85871-12

Date Collected: 12/11/12 12:00

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	250 mL	260764	12/22/12 08:18	JKL	TAL SAV
Total/NA	Analysis	6020		1			260984	12/25/12 14:28	BR	TAL SAV
Total/NA	Analysis	6020		1			261166	12/26/12 15:29	BR	TAL SAV
Total/NA	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Total/NA	Analysis	7470A		1			261470	12/30/12 14:36	BCB	TAL SAV

Lab Chronicle

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 16LM20028F

Lab Sample ID: 680-85871-13

Date Collected: 12/15/12 10:03
Matrix: Water
Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	260719	12/21/12 15:36	JKL	TAL SAV
Dissolved	Analysis	6020		1			260984	12/25/12 00:44	BR	TAL SAV
Dissolved	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261470	12/30/12 14:38	BCB	TAL SAV

Client Sample ID: 16LM20029F

Lab Sample ID: 680-85871-14

Date Collected: 12/15/12 15:35
Matrix: Water
Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	260719	12/21/12 15:36	JKL	TAL SAV
Dissolved	Analysis	6020		1			260984	12/25/12 00:51	BR	TAL SAV
Dissolved	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261470	12/30/12 14:40	BCB	TAL SAV

Client Sample ID: 16LM20030F

Lab Sample ID: 680-85871-15

Date Collected: 12/15/12 12:50
Matrix: Water
Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	260719	12/21/12 15:36	JKL	TAL SAV
Dissolved	Analysis	6020		1			260984	12/25/12 00:59	BR	TAL SAV
Dissolved	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261470	12/30/12 14:43	BCB	TAL SAV

Client Sample ID: 16LM20031F

Lab Sample ID: 680-85871-16

Date Collected: 12/15/12 10:45
Matrix: Water
Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	260719	12/21/12 15:36	JKL	TAL SAV
Dissolved	Analysis	6020		1			260984	12/25/12 01:06	BR	TAL SAV
Dissolved	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261470	12/30/12 14:45	BCB	TAL SAV

Client Sample ID: 16LM20032F

Lab Sample ID: 680-85871-17

Date Collected: 12/15/12 15:45
Matrix: Water
Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	260719	12/21/12 15:36	JKL	TAL SAV
Dissolved	Analysis	6020		1			260984	12/25/12 01:13	BR	TAL SAV
Dissolved	Prep	7470A			50 mL	50 mL	261369	12/28/12 16:33	UU	TAL SAV

Client Sample ID: 16LM20032F — Lab Sample ID: 680-85871-17

Date Collected: 12/15/12 15:45 — **Matrix: Water**
Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	7470A		1			261470	12/30/12 14:53	BCB	TAL SAV

Client Sample ID: 16LM20033F — Lab Sample ID: 680-85871-18

Date Collected: 12/15/12 13:13 — **Matrix: Water**
Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	7470A			50 mL	50 mL	260873	12/24/12 10:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261149	12/24/12 16:27	CE	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	260740	12/21/12 17:23	JKL	TAL SAV
Dissolved	Analysis	6020		1			261296	12/27/12 20:46	BR	TAL SAV

Client Sample ID: 16LM20034F — Lab Sample ID: 680-85871-19

Date Collected: 12/15/12 13:16 — **Matrix: Water**
Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	7470A			50 mL	50 mL	260873	12/24/12 10:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261149	12/24/12 16:34	CE	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	260740	12/21/12 17:23	JKL	TAL SAV
Dissolved	Analysis	6020		1			261296	12/27/12 21:23	BR	TAL SAV

Client Sample ID: 17LM20020F — Lab Sample ID: 680-85871-20

Date Collected: 12/11/12 16:40 — **Matrix: Water**
Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	260618	12/21/12 07:55	JKL	TAL SAV
Dissolved	Analysis	6020		1			260788	12/22/12 01:00	BR	TAL SAV
Dissolved	Prep	7470A			50 mL	50 mL	260873	12/24/12 10:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261149	12/24/12 16:41	CE	TAL SAV

Client Sample ID: 17LM20021F — Lab Sample ID: 680-85871-21

Date Collected: 12/11/12 12:05 — **Matrix: Water**
Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	260618	12/21/12 07:55	JKL	TAL SAV
Dissolved	Analysis	6020		1			260788	12/22/12 01:07	BR	TAL SAV
Dissolved	Prep	7470A			50 mL	50 mL	260873	12/24/12 10:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261149	12/24/12 16:43	CE	TAL SAV

Lab Chronicle

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Client Sample ID: 17LM20022F

Lab Sample ID: 680-85871-22

Date Collected: 12/11/12 14:35

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	260618	12/21/12 07:55	JKL	TAL SAV
Dissolved	Analysis	6020		1			260788	12/22/12 01:13	BR	TAL SAV
Dissolved	Prep	7470A			50 mL	50 mL	260873	12/24/12 10:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261149	12/24/12 16:46	CE	TAL SAV

Client Sample ID: 17LM20023F

Lab Sample ID: 680-85871-23

Date Collected: 12/11/12 14:09

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	7470A			50 mL	50 mL	260873	12/24/12 10:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261149	12/24/12 16:48	CE	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	260740	12/21/12 17:23	JKL	TAL SAV
Dissolved	Analysis	6020		1			261296	12/27/12 21:30	BR	TAL SAV

Client Sample ID: 17LM20024F

Lab Sample ID: 680-85871-24

Date Collected: 12/11/12 12:05

Matrix: Water

Date Received: 12/18/12 08:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	7470A			50 mL	50 mL	260873	12/24/12 10:33	UU	TAL SAV
Dissolved	Analysis	7470A		1			261149	12/24/12 16:51	CE	TAL SAV
Dissolved	Prep	3005A			50 mL	250 mL	260740	12/21/12 17:23	JKL	TAL SAV
Dissolved	Analysis	6020		1			261296	12/27/12 21:38	BR	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

TestAmerica
5102 LaRoche Avenue
Savannah, GA 31404
Ph: 912-354-7858
Fax:
Website: www.stl-inc.com

STL JOB/LOG #: 680-85871

Possible Hazards: Unknown

Sample Disposal: Lab Disposal

PAGE 1 OF 4

PROJECT & CLIENT INFORMATION

PROJECT REFERENCE/NAME: SEAD-16/17 Long-Term Monitoring	PROJECT NO.: 748662-04000	Project State: NY
LAB PROJECT MANAGER: Linda Wolfe	P.O. NUMBER: 748662-04000	CONTRACT/Quote NO.: 748662-04000
CLIENT (SITE) PM: Cris Grill/Brendan Baranek-Olmstead	CLIENT PHONE: 617-285-6821 (BBO cell)	CLIENT FAX: 617-946-9777
CLIENT NAME: Parsons	CLIENT EMAIL: Brendan.Baranek-Olmstead@parsons.com	
CLIENT ADDRESS: 100 High Street, 4th Floor, Boston, MA 02110		
Samplers Signature & Initials:		

Final Report Type: ASP2000 Category B
EDD 30 calendar days

TAT/ DATE DUE 30 calendar days

EXPEDITED REPORT (circle one)
EMAIL or FAX
TAT/ DATE DUE 14 calendar days for preliminary results

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

SAMPLED ON DATE	SAMPLED ON TIME	SAMPLE IDENTIFICATION	LABORATORY SAMPLE ID	SAMPLE TYPE	FIELD FILTERED	MATRIX	Total Method 6020A - TAL Metals Method 7470A - Hg	HOLD ON ANALYSIS: NOTE #2 Dissolved Method 6020A - TAL Metals								REMARKS
							2	2								
							NUMBER OF CONTAINERS SUBMITTED									
12/15/2012	1000	16LM20028U			N	GW	1									1. Please run a straight sample analysis (without dilution) for every sample. 2. Hold on analysis of Dissolved samples until Client approval. Analyze Total metals first and report preliminary results with 14 business days.
12/15/2012	1533	16LM20029U			N	GW	1									
12/15/2012	1250	16LM20030U			N	GW	1									
12/15/2012	1045	16LM20031U			N	GW	1									
12/15/2012	1545	16LM20032U			N	GW	1									
12/15/2012	1305	16LM20033U			N	GW	1									
12/15/2012	1305	16LM20033UMS		MS	N	GW	1									Preservative
12/15/2012	1305	16LM20033UMSD		MSD	N	GW	1									1 HCl 2 HNO3
		Please use this sample (16LM20033U) and its associated MS/MSD for QA/QC analyses for Total.														8 Ice

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	12/17/12	800						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LABORATORY REMARKS:
	12/17/12	0810	NO		2.4°C

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1/2/2013

Serial or COC #: 16-12-12-1

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

TestAmerica
5102 LaRoche Avenue
Savannah, GA 31404
Ph: 912-354-7858
Fax:
Website: www.stl-inc.com

STL JOB/LOG #: 680-85871

Possible Hazards: Unknown

Sample Disposal: Lab Disposal

PAGE 2 OF 4

PROJECT & CLIENT INFORMATION

Project State: NY

PROJECT REFERENCE/NAME: SEAD-16/17 Long-Term Monitoring	PROJECT NO.: 748662-04000	CONTRACT/Quote NO.: 748662-04000
LAB PROJECT MANAGER: Linda Wolfe	P.O. NUMBER: 748662-04000	
CLIENT (SITE) PM: Cris Grill/Brendan Baranek-Olmstead	CLIENT PHONE: 617-285-6821 (BBO cell)	CLIENT FAX: 617-946-9777
CLIENT NAME: Parsons	CLIENT EMAIL: Brendan.Baranek-Olmstead@parsons.com	
CLIENT ADDRESS: 100 High Street, 4th Floor, Boston, MA 02110		
Samplers Signature & Initials:		

Sample Information / REQUIRED ANALYSES

SAMPLED ON DATE	SAMPLED ON TIME	SAMPLE IDENTIFICATION	LABORATORY SAMPLE ID	SAMPLE TYPE	FIELD FILTERED	MATRIX	Total Method 6020A - TAL Metals Method 7470A - Hg	HOLD ON ANALYSIS: NOTE #2 Dissolved Method 6020A - TAL Metals	REMARKS
		NUMBER OF CONTAINERS SUBMITTED					2	2	
12/15/2012	1311	16LM20034U			N	GW	1		1. Please run a straight sample analysis (without dilution) for every sample. 2. Hold on analysis of Dissolved samples until Client approval. Analyze Total metals first and report preliminary results with 14 business days.
12/11/2012	1640	17LM20020U			N	GW	1		
12/11/2012	1205	17LM20021U			N	GW	1		
12/11/2012	1435	17LM20022U			N	GW	1		
12/11/2012	1405	17LM20023U			N	GW	1		
12/11/2012	1200	17LM20024U			N	GW	1		
									Preservative
									1 HCl 2 HNO3
									8 Ice

Final Report Type (Circle at least one): ASP2000 Category B
EDD 30 calendar days
TAT/ DATE DUE 30 calendar days Per QAP/Quote
EXPEDITED REPORT (circle one) EMAIL or FAX
TAT/ DATE DUE 14 calendar days for preliminary results
NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	12/17/12	800						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LABORATORY REMARKS:
	12/18/12	0810	NO		2.4 °C

1/2/2013

FCU036:12.20.00:2

Original - Return to Laboratory with Sample(s)

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

TestAmerica
5102 LaRoche Avenue
Savannah, GA 31404
Ph: 912-354-7858
Fax:
Website: www.stl-inc.com

STL JOB/LOG #: 680-85871

Possible Hazards: Unknown

Sample Disposal: Lab Disposal

PAGE 3 OF 4

PROJECT & CLIENT INFORMATION		Project State
PROJECT REFERENCE/NAME: SEAD-16/17 Long-Term Monitoring	PROJECT NO.: 748662-04000	NY
LAB PROJECT MANAGER: Linda Wolfe	P.O. NUMBER: 748662-04000	CONTRACT/Quote NO.: 748662-04000
CLIENT (SITE) PM: Cris Grill/Brendan Baranek-Olmstead	CLIENT PHONE: 617-285-6821 (BBO cell)	CLIENT FAX: 617-946-9777
CLIENT NAME: Parsons	CLIENT EMAIL: Brendan.Baranek-Olmstead@parsons.com	
CLIENT ADDRESS: 100 High Street, 4th Floor, Boston, MA 02110		
Samplers Signature & Initials:		

Final Report Type: ASP2000 Category B
EDD 30 calendar days

TAT/ DATE DUE 30 calendar days

EXPEDITED REPORT (circle one)
EMAIL or FAX
TAT/ DATE DUE 14 calendar days for preliminary results

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

SAMPLED ON DATE	SAMPLED ON TIME	SAMPLE IDENTIFICATION	LABORATORY SAMPLE ID	SAMPLE TYPE	FIELD FILTERED	MATRIX	Total Method 6020A - TAL Metals Method 7470A - Hg	HOLD ON ANALYSIS: NOTE #2 Dissolved Method 6020A - TAL Metals								REMARKS
							2	2								
							NUMBER OF CONTAINERS SUBMITTED									
12/15/2012	1003	16LM20028F			N	GW		1								1. Please run a straight sample analysis (without dilution) for every sample. 2. Hold on analysis of Dissolved samples until Client approval. Analyze Total metals first and report preliminary results with 14 business days.
12/15/2012	1535	16LM20029F			N	GW		1								
12/15/2012	1250	16LM20030F			N	GW		1								
12/15/2012	1045	16LM20031F			N	GW		1								
12/15/2012	1545	16LM20032F			N	GW		1								
12/15/2012	1313	16LM20033F			N	GW		1								
12/15/2012	1313	16LM20033FMS		MS	N	GW		1								Preservative
12/15/2012	1313	16LM20033FMSD		MSD	N	GW		1								1 HCl 2 HNO3
		Please use this sample (16LM20033F) and its associated MS/MSD for QA/QC analyses for Dissolved.														8 Ice

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	12/17/12	800						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LABORATORY REMARKS:
	12/18/12	0810	NO		2.4°C

Original - Return to Laboratory with Sample(s)

Serial or COC #: 16-12-12-1

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

TestAmerica
5102 LaRoche Avenue
Savannah, GA 31404
Ph: 912-354-7858
Fax:
Website: www.stl-inc.com

STL JOB/LOG #: 680-85871

Possible Hazards: Unknown

Sample Disposal: Lab Disposal

PAGE 4 OF 4

PROJECT & CLIENT INFORMATION

Project State: NY

PROJECT REFERENCE/NAME: SEAD-16/17 Long-Term Monitoring	PROJECT NO.: 748662-04000	CONTRACT/Quote NO.: 748662-04000
LAB PROJECT MANAGER: Linda Wolfe	P.O. NUMBER: 748662-04000	
CLIENT (SITE) PM: Cris Grill/Brendan Baranek-Olmstead	CLIENT PHONE: 617-285-6821 (BBO cell)	CLIENT FAX: 617-946-9777
CLIENT NAME: Parsons	CLIENT EMAIL: Brendan.Baranek-Olmstead@parsons.com	
CLIENT ADDRESS: 100 High Street, 4th Floor, Boston, MA 02110		
Samplers Signature & Initials:		

Sample Information

REQUIRED ANALYSES

SAMPLED ON DATE	SAMPLED ON TIME	SAMPLE IDENTIFICATION	LABORATORY SAMPLE ID	SAMPLE TYPE	FIELD FILTERED	MATRIX	Total Method 6020A - TAL Metals Method 7470A - Hg	HOLD ON ANALYSIS: NOTE #2 Dissolved Method 6020A - TAL Metals
		NUMBER OF CONTAINERS SUBMITTED					2	2
12/15/2012	1316	16LM20034F			N	GW		1
12/11/2012	1640	17LM20020F			N	GW		1
12/11/2012	1205	17LM20021F			N	GW		1
12/11/2012	1435	17LM20022F			N	GW		1
12/11/2012	1409	17LM20023F			N	GW		1
12/11/2012	1205	17LM20024F			N	GW		1

Final Report Type (Circle at least one):
ASP2000 Category B
EDD 30 calendar days
TAT/ DATE DUE 30 calendar days Per QAP/Quote
EXPEDITED REPORT (circle one)
EMAIL or FAX
TAT/ DATE DUE 14 calendar days for preliminary results

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

REMARKS

1. Please run a straight sample analysis (without dilution) for every sample.
2. Hold on analysis of Dissolved samples until Client approval. Analyze Total metals first and report preliminary results with 14 business days.

Preservative

1 HCl 2 HNO3

8 Ice

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	12/17/12	800						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LABORATORY REMARKS:
	12/18/12	0810	NO		2 °C

1/2/2013

FCU036:12.20.00:2

Original - Return to Laboratory with Sample(s)

Login Sample Receipt Checklist

Client: Parsons Corporation

Job Number: 680-85871-1

Login Number: 85871

List Source: TestAmerica Savannah

List Number: 1

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Parsons Corporation
Project/Site: SEAD-16/17 Long Term Monitoring

TestAmerica Job ID: 680-85871-1

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		0399-01	02-28-13
A2LA	ISO/IEC 17025		399.01	02-28-13
Alabama	State Program	4	41450	06-30-13
Alaska (UST)	State Program	10	UST-104	06-19-13
Arkansas DEQ	State Program	6	88-0692	02-01-13
California	NELAP	9	3217CA	07-31-13
Colorado	State Program	8	N/A	12-31-12
Connecticut	State Program	1	PH-0161	03-31-13
Florida	NELAP	4	E87052	06-30-13
Georgia	State Program	4	N/A	06-30-13
Georgia	State Program	4	803	06-30-13
Guam	State Program	9	09-005r	04-17-13
Hawaii	State Program	9	N/A	06-30-13
Illinois	NELAP	5	200022	11-30-12
Indiana	State Program	5	N/A	06-30-13
Iowa	State Program	7	353	07-01-13
Kentucky	State Program	4	90084	12-31-12
Kentucky (UST)	State Program	4	18	02-28-13
Louisiana	NELAP	6	30690	06-30-13
Louisiana	NELAP	6	LA100015	12-31-12
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-12
Massachusetts	State Program	1	M-GA006	06-30-13
Michigan	State Program	5	9925	06-30-13
Mississippi	State Program	4	N/A	06-30-13
Montana	State Program	8	CERT0081	12-31-12
Nebraska	State Program	7	TestAmerica-Savannah	06-30-13
New Jersey	NELAP	2	GA769	06-30-13
New Mexico	State Program	6	N/A	06-30-13
New York	NELAP	2	10842	04-01-13
North Carolina DENR	State Program	4	269	12-31-13
North Carolina DHHS	State Program	4	13701	07-31-13
Oklahoma	State Program	6	9984	08-31-13
Pennsylvania	NELAP	3	68-00474	06-30-13
Puerto Rico	State Program	2	GA00006	01-01-13
South Carolina	State Program	4	98001	06-30-13
Tennessee	State Program	4	TN02961	06-30-13
Texas	NELAP	6	T104704185-08-TX	11-30-13
USDA	Federal		SAV 3-04	04-07-14
Virginia	NELAP	3	460161	06-14-13
Washington	State Program	10	C1794	06-10-13
West Virginia	State Program	3	9950C	12-31-12
West Virginia DEP	State Program	3	94	06-30-13
Wisconsin	State Program	5	999819810	08-31-13
Wyoming	State Program	8	8TMS-Q	06-30-13

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 680-85871-1

Job Description: SEAD-16/17 Long Term Monitoring

For:
Parsons Corporation
100 High Street
4th Floor
Boston, MA 02110-1713

Attention: Mr. Brendan Baranek-Olmstead

Approved for release.
Linda Wolfe
Project Manager I
1/2/2013 5:05 PM

Linda Wolfe
Project Manager I
linda.wolfe@testamericainc.com
01/02/2013

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; AZ: AZ0741; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN: C-GA-02; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q

TestAmerica Laboratories, Inc.
TestAmerica Savannah 5102 LaRoche Avenue, Savannah, GA 31404
Tel (912) 354-7858 Fax (912) 352-0165 www.testamericainc.com

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CASE NARRATIVE

Client: Parsons Corporation

Project: SEAD-16/17 Long Term Monitoring

Report Number: 680-85871-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 12/18/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.4 C.

DISSOLVED METALS (ICPMS)

Samples 16LM20028F (680-85871-13), 16LM20029F (680-85871-14), 16LM20030F (680-85871-15), 16LM20031F (680-85871-16), 16LM20032F (680-85871-17), 16LM20033F (680-85871-18), 16LM20034F (680-85871-19), 17LM20020F (680-85871-20), 17LM20021F (680-85871-21), 17LM20022F (680-85871-22), 17LM20023F (680-85871-23) and 17LM20024F (680-85871-24) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 12/21/2012 and analyzed on 12/22/2012, 12/25/2012 and 12/27/2012.

Sodium failed the recovery criteria high for the MSD of sample 680-85852-1 in batch 680-260984.

Calcium failed the recovery criteria low for the MS of sample 16LM20033FMS (680-85871-18) in batch 680-261296.

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

TOTAL METALS (ICPMS)

Samples 16LM20028U (680-85871-1), 16LM20029U (680-85871-2), 16LM20030U (680-85871-3), 16LM20031U (680-85871-4), 16LM20032U (680-85871-5), 16LM20033U (680-85871-6), 16LM20034U (680-85871-7), 17LM20020U (680-85871-8), 17LM20021U (680-85871-9), 17LM20022U (680-85871-10), 17LM20023U (680-85871-11) and 17LM20024U (680-85871-12) were analyzed for total metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 12/22/2012 and analyzed on 12/25/2012 and 12/26/2012.

Copper was detected in method blank MB 680-260764/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged “J”. If the associated sample reported a result above the MDL and/or RL, the result has been “B” flagged. Refer to the QC report for details.

Calcium and Magnesium failed the recovery criteria high for the MS of sample 16LM20033UMS (680-85871-6) in batch 680-261166.

Calcium failed the recovery criteria high for the MSD of sample 16LM20033UMSD (680-85871-6) in batch 680-261166.

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

DISSOLVED MERCURY (CVAA)

Samples 16LM20028F (680-85871-13), 16LM20029F (680-85871-14), 16LM20030F (680-85871-15), 16LM20031F (680-85871-16), 16LM20032F (680-85871-17), 16LM20033F (680-85871-18), 16LM20034F (680-85871-19), 17LM20020F (680-85871-20), 17LM20021F (680-85871-21), 17LM20022F (680-85871-22), 17LM20023F (680-85871-23) and 17LM20024F (680-85871-24) were analyzed for dissolved mercury (CVAA) in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 12/24/2012 and 12/28/2012 and analyzed on 12/24/2012 and 12/30/2012.

No difficulties were encountered during the mercury analyses.

All quality control parameters were within the acceptance limits.

TOTAL MERCURY

Samples 16LM20028U (680-85871-1), 16LM20029U (680-85871-2), 16LM20030U (680-85871-3), 16LM20031U (680-85871-4), 16LM20032U (680-85871-5), 16LM20033U (680-85871-6), 16LM20034U (680-85871-7), 17LM20020U (680-85871-8), 17LM20021U (680-85871-9), 17LM20022U (680-85871-10), 17LM20023U (680-85871-11) and 17LM20024U (680-85871-12) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 12/28/2012 and analyzed on 12/30/2012.

No difficulties were encountered during the mercury analyses.

All quality control parameters were within the acceptance limits.

SAMPLE SUMMARY

Client: Parsons Corporation

Job Number: 680-85871-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-85871-1	16LM20028U	Water	12/15/2012 1000	12/18/2012 0810
680-85871-2	16LM20029U	Water	12/15/2012 1533	12/18/2012 0810
680-85871-3	16LM20030U	Water	12/15/2012 1250	12/18/2012 0810
680-85871-4	16LM20031U	Water	12/15/2012 1045	12/18/2012 0810
680-85871-5	16LM20032U	Water	12/15/2012 1545	12/18/2012 0810
680-85871-6	16LM20033U	Water	12/15/2012 1305	12/18/2012 0810
680-85871-6MS	16LM20033U	Water	12/15/2012 1305	12/18/2012 0810
680-85871-6MSD	16LM20033U	Water	12/15/2012 1305	12/18/2012 0810
680-85871-7	16LM20034U	Water	12/15/2012 1311	12/18/2012 0810
680-85871-8	17LM20020U	Water	12/11/2012 1640	12/18/2012 0810
680-85871-9	17LM20021U	Water	12/11/2012 1205	12/18/2012 0810
680-85871-10	17LM20022U	Water	12/11/2012 1435	12/18/2012 0810
680-85871-11	17LM20023U	Water	12/11/2012 1405	12/18/2012 0810
680-85871-12	17LM20024U	Water	12/11/2012 1200	12/18/2012 0810
680-85871-13	16LM20028F	Water	12/15/2012 1003	12/18/2012 0810
680-85871-14	16LM20029F	Water	12/15/2012 1535	12/18/2012 0810
680-85871-15	16LM20030F	Water	12/15/2012 1250	12/18/2012 0810
680-85871-16	16LM20031F	Water	12/15/2012 1045	12/18/2012 0810
680-85871-17	16LM20032F	Water	12/15/2012 1545	12/18/2012 0810
680-85871-18	16LM20033F	Water	12/15/2012 1313	12/18/2012 0810
680-85871-18MS	16LM20033F	Water	12/15/2012 1313	12/18/2012 0810
680-85871-18MSD	16LM20033F	Water	12/15/2012 1313	12/18/2012 0810
680-85871-19	16LM20034F	Water	12/15/2012 1316	12/18/2012 0810
680-85871-20	17LM20020F	Water	12/11/2012 1640	12/18/2012 0810
680-85871-21	17LM20021F	Water	12/11/2012 1205	12/18/2012 0810
680-85871-22	17LM20022F	Water	12/11/2012 1435	12/18/2012 0810
680-85871-23	17LM20023F	Water	12/11/2012 1409	12/18/2012 0810
680-85871-24	17LM20024F	Water	12/11/2012 1205	12/18/2012 0810

EXECUTIVE SUMMARY - Detections

Client: Parsons Corporation Job Number: 680-85871-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
680-85871-1	**16LM20028U**					
Barium		78		5.0	ug/L	6020
Calcium		120000		500	ug/L	6020
Cobalt		0.16	J	0.50	ug/L	6020
Copper		3.3	J	5.0	ug/L	6020
Potassium		870	J	1000	ug/L	6020
Magnesium		18000		250	ug/L	6020
Sodium		62000		500	ug/L	6020
680-85871-2	**16LM20029U**					
Barium		62		5.0	ug/L	6020
Calcium		100000		500	ug/L	6020
Copper		5.0		5.0	ug/L	6020
Potassium		1900		1000	ug/L	6020
Magnesium		11000		250	ug/L	6020
Sodium		17000		500	ug/L	6020
Lead		0.66	J	1.5	ug/L	6020
Antimony		7.1		5.0	ug/L	6020
Zinc		8.8	J	20	ug/L	6020
680-85871-3	**16LM20030U**					
Arsenic		1.3	J	2.5	ug/L	6020
Barium		230		5.0	ug/L	6020
Calcium		220000		500	ug/L	6020
Cadmium		0.23	J	0.50	ug/L	6020
Cobalt		1.9		0.50	ug/L	6020
Copper		11		5.0	ug/L	6020
Iron		140		100	ug/L	6020
Potassium		3100		1000	ug/L	6020
Magnesium		32000		250	ug/L	6020
Manganese		140		5.0	ug/L	6020
Sodium		310000		500	ug/L	6020
Nickel		3.2	J	5.0	ug/L	6020
Lead		3.4		1.5	ug/L	6020
Antimony		3.9	J	5.0	ug/L	6020
Zinc		11	J	20	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: Parsons Corporation Job Number: 680-85871-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
680-85871-4	**16LM20031U**					
Arsenic		2.7		2.5	ug/L	6020
Barium		39		5.0	ug/L	6020
Calcium		96000		500	ug/L	6020
Cobalt		0.23	J	0.50	ug/L	6020
Copper		3.0	J	5.0	ug/L	6020
Iron		1300		100	ug/L	6020
Potassium		2100		1000	ug/L	6020
Magnesium		9800		250	ug/L	6020
Manganese		130		5.0	ug/L	6020
Sodium		1500		500	ug/L	6020
680-85871-5	**16LM20032U**					
Aluminum		300		100	ug/L	6020
Arsenic		1.3	J	2.5	ug/L	6020
Barium		45		5.0	ug/L	6020
Calcium		74000		500	ug/L	6020
Cobalt		0.43	J	0.50	ug/L	6020
Copper		4.1	J	5.0	ug/L	6020
Iron		790		100	ug/L	6020
Potassium		2400		1000	ug/L	6020
Magnesium		7600		250	ug/L	6020
Manganese		26		5.0	ug/L	6020
Sodium		8000		500	ug/L	6020
Nickel		2.0	J	5.0	ug/L	6020
680-85871-6	**16LM20033U**					
Barium		100		5.0	ug/L	6020
Calcium		100000	J	500	ug/L	6020
Cobalt		0.22	J	0.50	ug/L	6020
Copper		8.3		5.0	ug/L	6020
Potassium		5200		1000	ug/L	6020
Magnesium		21000	J	250	ug/L	6020
Manganese		90		5.0	ug/L	6020
Sodium		32000		500	ug/L	6020
Nickel		2.2	J	5.0	ug/L	6020
Lead		2.5		1.5	ug/L	6020
Antimony		13		5.0	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: Parsons Corporation Job Number: 680-85871-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
680-85871-7	**16LM20034U**					
Barium		100		5.0	ug/L	6020
Calcium		110000		500	ug/L	6020
Cobalt		0.24	J	0.50	ug/L	6020
Copper		5.6		5.0	ug/L	6020
Potassium		5400		1000	ug/L	6020
Magnesium		22000		250	ug/L	6020
Manganese		91		5.0	ug/L	6020
Sodium		32000		500	ug/L	6020
Nickel		2.4	J	5.0	ug/L	6020
Lead		2.6		1.5	ug/L	6020
Antimony		14		5.0	ug/L	6020
680-85871-8	**17LM20020U**					
Barium		28		5.0	ug/L	6020
Calcium		55000		500	ug/L	6020
Cadmium		0.44	J	0.50	ug/L	6020
Cobalt		0.37	J	0.50	ug/L	6020
Copper		5.4		5.0	ug/L	6020
Iron		90	J	100	ug/L	6020
Potassium		410	J	1000	ug/L	6020
Magnesium		7700		250	ug/L	6020
Manganese		8.1		5.0	ug/L	6020
Sodium		2500		500	ug/L	6020
Lead		1.1	J	1.5	ug/L	6020
Antimony		2.7	J	5.0	ug/L	6020
680-85871-9	**17LM20021U**					
Barium		68		5.0	ug/L	6020
Calcium		120000		500	ug/L	6020
Cobalt		0.42	J	0.50	ug/L	6020
Copper		7.8		5.0	ug/L	6020
Potassium		2500		1000	ug/L	6020
Magnesium		12000		250	ug/L	6020
Manganese		14		5.0	ug/L	6020
Sodium		8400		500	ug/L	6020
Lead		0.99	J	1.5	ug/L	6020
Antimony		4.4	J	5.0	ug/L	6020
Zinc		26		20	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: Parsons Corporation Job Number: 680-85871-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
680-85871-10	**17LM20022U**					
Barium		36		5.0	ug/L	6020
Calcium		67000		500	ug/L	6020
Copper		3.2	J	5.0	ug/L	6020
Potassium		1700		1000	ug/L	6020
Magnesium		5800		250	ug/L	6020
Sodium		3100		500	ug/L	6020
Lead		0.78	J	1.5	ug/L	6020
Zinc		26		20	ug/L	6020
680-85871-11	**17LM20023U**					
Barium		67		5.0	ug/L	6020
Calcium		87000		500	ug/L	6020
Cobalt		0.25	J	0.50	ug/L	6020
Copper		4.7	J	5.0	ug/L	6020
Iron		72	J	100	ug/L	6020
Potassium		780	J	1000	ug/L	6020
Magnesium		15000		250	ug/L	6020
Manganese		11		5.0	ug/L	6020
Sodium		8600		500	ug/L	6020
Nickel		2.1	J	5.0	ug/L	6020
680-85871-12	**17LM20024U**					
Barium		26		5.0	ug/L	6020
Calcium		75000		500	ug/L	6020
Cobalt		0.31	J	0.50	ug/L	6020
Copper		2.1	J	5.0	ug/L	6020
Iron		160		100	ug/L	6020
Potassium		460	J	1000	ug/L	6020
Magnesium		11000		250	ug/L	6020
Manganese		59		5.0	ug/L	6020
Sodium		9100		500	ug/L	6020
680-85871-13	**16LM20028F**					
Dissolved						
Barium, Dissolved		78		5.0	ug/L	6020
Calcium, Dissolved		120000		250	ug/L	6020
Copper, Dissolved		5.2		5.0	ug/L	6020
Potassium, Dissolved		900		500	ug/L	6020
Magnesium, Dissolved		18000		250	ug/L	6020
Sodium, Dissolved		63000		500	ug/L	6020
Nickel, Dissolved		2.3	J	5.0	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: Parsons Corporation Job Number: 680-85871-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
680-85871-14	**16LM20029F**					
Dissolved						
Barium, Dissolved		65		5.0	ug/L	6020
Calcium, Dissolved		110000		250	ug/L	6020
Copper, Dissolved		4.5	J	5.0	ug/L	6020
Potassium, Dissolved		2200		500	ug/L	6020
Magnesium, Dissolved		13000		250	ug/L	6020
Sodium, Dissolved		20000		500	ug/L	6020
Nickel, Dissolved		2.2	J	5.0	ug/L	6020
Lead, Dissolved		0.24	J	1.5	ug/L	6020
Antimony, Dissolved		7.8		5.0	ug/L	6020
Zinc, Dissolved		9.5	J	20	ug/L	6020
680-85871-15	**16LM20030F**					
Dissolved						
Arsenic, Dissolved		1.5	J	2.5	ug/L	6020
Barium, Dissolved		240		5.0	ug/L	6020
Calcium, Dissolved		230000		250	ug/L	6020
Cobalt, Dissolved		1.9		0.50	ug/L	6020
Copper, Dissolved		4.1	J	5.0	ug/L	6020
Iron, Dissolved		130		100	ug/L	6020
Potassium, Dissolved		3200		500	ug/L	6020
Magnesium, Dissolved		34000		250	ug/L	6020
Manganese, Dissolved		140		5.0	ug/L	6020
Sodium, Dissolved		340000		500	ug/L	6020
Nickel, Dissolved		2.6	J	5.0	ug/L	6020
Antimony, Dissolved		4.0	J	5.0	ug/L	6020
Zinc, Dissolved		12	J	20	ug/L	6020
680-85871-16	**16LM20031F**					
Dissolved						
Arsenic, Dissolved		2.6		2.5	ug/L	6020
Barium, Dissolved		34		5.0	ug/L	6020
Calcium, Dissolved		97000		250	ug/L	6020
Cobalt, Dissolved		0.22	J	0.50	ug/L	6020
Copper, Dissolved		1.1	J	5.0	ug/L	6020
Iron, Dissolved		1100		100	ug/L	6020
Potassium, Dissolved		2100		500	ug/L	6020
Magnesium, Dissolved		9900		250	ug/L	6020
Manganese, Dissolved		130		5.0	ug/L	6020
Sodium, Dissolved		1600		500	ug/L	6020
Nickel, Dissolved		2.1	J	5.0	ug/L	6020
Mercury, Dissolved		0.10	J	0.20	ug/L	7470A

EXECUTIVE SUMMARY - Detections

Client: Parsons Corporation Job Number: 680-85871-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
680-85871-17	**16LM20032F**					
Dissolved						
Barium, Dissolved		41		5.0	ug/L	6020
Calcium, Dissolved		70000		250	ug/L	6020
Cobalt, Dissolved		0.18	J	0.50	ug/L	6020
Copper, Dissolved		4.5	J	5.0	ug/L	6020
Iron, Dissolved		33	J	100	ug/L	6020
Potassium, Dissolved		2400		500	ug/L	6020
Magnesium, Dissolved		7200		250	ug/L	6020
Manganese, Dissolved		10		5.0	ug/L	6020
Sodium, Dissolved		8700		500	ug/L	6020
680-85871-18	**16LM20033F**					
Dissolved						
Arsenic, Dissolved		1.3	J	2.5	ug/L	6020
Barium, Dissolved		100		5.0	ug/L	6020
Calcium, Dissolved		110000	J	250	ug/L	6020
Cobalt, Dissolved		0.23	J	0.50	ug/L	6020
Copper, Dissolved		4.1	J	5.0	ug/L	6020
Potassium, Dissolved		5300		500	ug/L	6020
Magnesium, Dissolved		21000		250	ug/L	6020
Manganese, Dissolved		92		5.0	ug/L	6020
Sodium, Dissolved		35000		500	ug/L	6020
Lead, Dissolved		1.3	J	1.5	ug/L	6020
Antimony, Dissolved		13		5.0	ug/L	6020
680-85871-19	**16LM20034F**					
Dissolved						
Barium, Dissolved		99		5.0	ug/L	6020
Calcium, Dissolved		100000		250	ug/L	6020
Cobalt, Dissolved		0.24	J	0.50	ug/L	6020
Copper, Dissolved		1.7	J	5.0	ug/L	6020
Potassium, Dissolved		5100		500	ug/L	6020
Magnesium, Dissolved		20000		250	ug/L	6020
Manganese, Dissolved		98		5.0	ug/L	6020
Sodium, Dissolved		33000		500	ug/L	6020
Lead, Dissolved		2.3		1.5	ug/L	6020
Antimony, Dissolved		13		5.0	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: Parsons Corporation

Job Number: 680-85871-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
680-85871-20	**17LM20020F**					
Dissolved						
Barium, Dissolved		28		5.0	ug/L	6020
Calcium, Dissolved		53000		250	ug/L	6020
Cobalt, Dissolved		0.32	J	0.50	ug/L	6020
Copper, Dissolved		4.7	J	5.0	ug/L	6020
Iron, Dissolved		47	J	100	ug/L	6020
Potassium, Dissolved		380	J	500	ug/L	6020
Magnesium, Dissolved		7200		250	ug/L	6020
Manganese, Dissolved		7.2		5.0	ug/L	6020
Sodium, Dissolved		2400		500	ug/L	6020
Mercury, Dissolved		0.14	J	0.20	ug/L	7470A
680-85871-21	**17LM20021F**					
Dissolved						
Barium, Dissolved		69		5.0	ug/L	6020
Calcium, Dissolved		120000		250	ug/L	6020
Cobalt, Dissolved		0.39	J	0.50	ug/L	6020
Copper, Dissolved		7.7		5.0	ug/L	6020
Potassium, Dissolved		2500		500	ug/L	6020
Magnesium, Dissolved		12000		250	ug/L	6020
Manganese, Dissolved		12		5.0	ug/L	6020
Sodium, Dissolved		8400		500	ug/L	6020
Antimony, Dissolved		4.0	J	5.0	ug/L	6020
Zinc, Dissolved		24		20	ug/L	6020
680-85871-22	**17LM20022F**					
Dissolved						
Barium, Dissolved		37		5.0	ug/L	6020
Calcium, Dissolved		74000		250	ug/L	6020
Copper, Dissolved		3.3	J	5.0	ug/L	6020
Potassium, Dissolved		1800		500	ug/L	6020
Magnesium, Dissolved		6100		250	ug/L	6020
Sodium, Dissolved		3300		500	ug/L	6020
Lead, Dissolved		0.24	J	1.5	ug/L	6020
Zinc, Dissolved		29		20	ug/L	6020

EXECUTIVE SUMMARY - Detections

Client: Parsons Corporation

Job Number: 680-85871-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
680-85871-23	**17LM20023F**					
Dissolved						
Barium, Dissolved		65		5.0	ug/L	6020
Calcium, Dissolved		83000		250	ug/L	6020
Cobalt, Dissolved		0.21	J	0.50	ug/L	6020
Copper, Dissolved		1.1	J	5.0	ug/L	6020
Potassium, Dissolved		750		500	ug/L	6020
Magnesium, Dissolved		15000		250	ug/L	6020
Manganese, Dissolved		9.5		5.0	ug/L	6020
Sodium, Dissolved		8900		500	ug/L	6020
680-85871-24	**17LM20024F**					
Dissolved						
Barium, Dissolved		24		5.0	ug/L	6020
Calcium, Dissolved		68000		250	ug/L	6020
Cobalt, Dissolved		0.31	J	0.50	ug/L	6020
Copper, Dissolved		3.7	J	5.0	ug/L	6020
Iron, Dissolved		44	J	100	ug/L	6020
Potassium, Dissolved		460	J	500	ug/L	6020
Magnesium, Dissolved		9900		250	ug/L	6020
Manganese, Dissolved		38		5.0	ug/L	6020
Sodium, Dissolved		9400		500	ug/L	6020
Mercury, Dissolved		0.12	J	0.20	ug/L	7470A

Client: Parsons Corporation | Job Number: 680-85871-1

Client Sample ID: **16LM20028U**

Lab Sample ID: 680-85871-1 | Date Sampled: 12/15/2012 1000
Client Matrix: Water | Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	148SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1222			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	U	1.3	2.5
Barium	78		1.4	5.0
Calcium	120000		170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.16	J	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	3.3	J	1.1	5.0
Iron	44	U	44	100
Potassium	870	J	330	1000
Magnesium	18000		100	250
Manganese	2.0	U	2.0	5.0
Nickel	2.0	U	2.0	5.0
Lead	0.50	U	0.50	1.5
Antimony	2.0	U	2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	8.4	U	8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	229SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1323			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	62000		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1359			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation | Job Number: 680-85871-1

Client Sample ID: **16LM20029U**

Lab Sample ID: 680-85871-2 | Date Sampled: 12/15/2012 1533
Client Matrix: Water | Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	149SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1229			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	U	1.3	2.5
Barium	62		1.4	5.0
Calcium	100000		170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.30	U	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	5.0		1.1	5.0
Iron	44	U	44	100
Potassium	1900		330	1000
Magnesium	11000		100	250
Manganese	2.0	U	2.0	5.0
Nickel	2.0	U	2.0	5.0
Lead	0.66	J	0.50	1.5
Antimony	7.1		2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	8.8	J	8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	230SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1330			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	17000		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1402			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation | Job Number: 680-85871-1

Client Sample ID: **16LM20030U**

Lab Sample ID: 680-85871-3 | Date Sampled: 12/15/2012 1250
Client Matrix: Water | Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	150SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1237			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	J	1.3	2.5
Barium	230		1.4	5.0
Calcium	220000		170	500
Cadmium	0.23	J	0.13	0.50
Cobalt	1.9		0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	11		1.1	5.0
Iron	140		44	100
Potassium	3100		330	1000
Magnesium	32000		100	250
Manganese	140		2.0	5.0
Nickel	3.2	J	2.0	5.0
Lead	3.4		0.50	1.5
Antimony	3.9	J	2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	11	J	8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	231SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1338			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	310000		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1404			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation | Job Number: 680-85871-1

Client Sample ID: **16LM20031U**

Lab Sample ID: 680-85871-4 | Date Sampled: 12/15/2012 1045
Client Matrix: Water | Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	151SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1244			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	2.7		1.3	2.5
Barium	39		1.4	5.0
Calcium	96000		170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.23	J	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	3.0	J	1.1	5.0
Iron	1300		44	100
Potassium	2100		330	1000
Magnesium	9800		100	250
Manganese	130		2.0	5.0
Nickel	2.0	U	2.0	5.0
Lead	0.50	U	0.50	1.5
Antimony	2.0	U	2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	8.4	U	8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	232SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1345			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	1500		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1406			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **16LM20032U**

Lab Sample ID: 680-85871-5
Client Matrix: Water

Date Sampled: 12/15/2012 1545
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	152SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1252			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	300		50	100
Arsenic	1.3	J	1.3	2.5
Barium	45		1.4	5.0
Calcium	74000		170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.43	J	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	4.1	J	1.1	5.0
Iron	790		44	100
Potassium	2400		330	1000
Magnesium	7600		100	250
Manganese	26		2.0	5.0
Nickel	2.0	J	2.0	5.0
Lead	0.50	U	0.50	1.5
Antimony	2.0	U	2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	8.4	U	8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	233SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1352			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	8000		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1409			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **16LM20033U**

Lab Sample ID: 680-85871-6
Client Matrix: Water

Date Sampled: 12/15/2012 1305
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	153SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1259			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	U	1.3	2.5
Barium	100		1.4	5.0
Calcium	100000	J	170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.22	J	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	8.3		1.1	5.0
Iron	44	U	44	100
Potassium	5200		330	1000
Magnesium	21000	J	100	250
Manganese	90		2.0	5.0
Nickel	2.2	J	2.0	5.0
Lead	2.5		0.50	1.5
Antimony	13		2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	8.4	U	8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	234SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1400			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	32000		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1411			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **16LM20034U**

Lab Sample ID: 680-85871-7
Client Matrix: Water

Date Sampled: 12/15/2012 1311
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	160SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1351			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	U	1.3	2.5
Barium	100		1.4	5.0
Calcium	110000		170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.24	J	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	5.6		1.1	5.0
Iron	44	U	44	100
Potassium	5400		330	1000
Magnesium	22000		100	250
Manganese	91		2.0	5.0
Nickel	2.4	J	2.0	5.0
Lead	2.6		0.50	1.5
Antimony	14		2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	8.4	U	8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	241SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1452			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	32000		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1423			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **17LM20020U**

Lab Sample ID: 680-85871-8
Client Matrix: Water

Date Sampled: 12/11/2012 1640
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	161SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1358			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	U	1.3	2.5
Barium	28		1.4	5.0
Calcium	55000		170	500
Cadmium	0.44	J	0.13	0.50
Cobalt	0.37	J	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	5.4		1.1	5.0
Iron	90	J	44	100
Potassium	410	J	330	1000
Magnesium	7700		100	250
Manganese	8.1		2.0	5.0
Nickel	2.0	U	2.0	5.0
Lead	1.1	J	0.50	1.5
Antimony	2.7	J	2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	8.4	U	8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	242SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1459			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	2500		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1426			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **17LM20021U**

Lab Sample ID: 680-85871-9
Client Matrix: Water

Date Sampled: 12/11/2012 1205
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	162SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1406			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	U	1.3	2.5
Barium	68		1.4	5.0
Calcium	120000		170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.42	J	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	7.8		1.1	5.0
Iron	44	U	44	100
Potassium	2500		330	1000
Magnesium	12000		100	250
Manganese	14		2.0	5.0
Nickel	2.0	U	2.0	5.0
Lead	0.99	J	0.50	1.5
Antimony	4.4	J	2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	26		8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	243SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1507			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	8400		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1428			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation | Job Number: 680-85871-1

Client Sample ID: **17LM20022U**

Lab Sample ID: 680-85871-10 | Date Sampled: 12/11/2012 1435
Client Matrix: Water | Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	163SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1413			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	U	1.3	2.5
Barium	36		1.4	5.0
Calcium	67000		170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.30	U	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	3.2	J	1.1	5.0
Iron	44	U	44	100
Potassium	1700		330	1000
Magnesium	5800		100	250
Manganese	2.0	U	2.0	5.0
Nickel	2.0	U	2.0	5.0
Lead	0.78	J	0.50	1.5
Antimony	2.0	U	2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	26		8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	244SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1514			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	3100		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1431			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **17LM20023U**

Lab Sample ID: 680-85871-11
Client Matrix: Water

Date Sampled: 12/11/2012 1405
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	164SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1421			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	U	1.3	2.5
Barium	67		1.4	5.0
Calcium	87000		170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.25	J	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	4.7	J	1.1	5.0
Iron	72	J	44	100
Potassium	780	J	330	1000
Magnesium	15000		100	250
Manganese	11		2.0	5.0
Nickel	2.1	J	2.0	5.0
Lead	0.50	U	0.50	1.5
Antimony	2.0	U	2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	8.4	U	8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	245SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1521			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	8600		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1433			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **17LM20024U**

Lab Sample ID: 680-85871-12
Client Matrix: Water

Date Sampled: 12/11/2012 1200
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	165SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1428			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	U	1.3	2.5
Barium	26		1.4	5.0
Calcium	75000		170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.31	J	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	2.1	J	1.1	5.0
Iron	160		44	100
Potassium	460	J	330	1000
Magnesium	11000		100	250
Manganese	59		2.0	5.0
Nickel	2.0	U	2.0	5.0
Lead	0.50	U	0.50	1.5
Antimony	2.0	U	2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	8.4	U	8.4	20

Analysis Method:	6020	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Prep Method:	3010A	Prep Batch:	680-260764	Lab File ID:	246SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1529			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	9100		170	500

7470A Mercury (CVAA)

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1436			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **16LM20028F**

Lab Sample ID: 680-85871-13
Client Matrix: Water

Date Sampled: 12/15/2012 1003
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3005A	Prep Batch:	680-260719	Lab File ID:	054SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 0044			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	78		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	120000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.15	U	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	5.2		1.1	5.0
Iron, Dissolved	33	U	33	100
Potassium, Dissolved	900		170	500
Magnesium, Dissolved	18000		43	250
Manganese, Dissolved	1.0	U	1.0	5.0
Sodium, Dissolved	63000		250	500
Nickel, Dissolved	2.3	J	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	2.9	U	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1438			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **16LM20029F**

Lab Sample ID: 680-85871-14
Client Matrix: Water

Date Sampled: 12/15/2012 1535
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3005A	Prep Batch:	680-260719	Lab File ID:	055SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 0051			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	65		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	110000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.15	U	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	4.5	J	1.1	5.0
Iron, Dissolved	33	U	33	100
Potassium, Dissolved	2200		170	500
Magnesium, Dissolved	13000		43	250
Manganese, Dissolved	1.0	U	1.0	5.0
Sodium, Dissolved	20000		250	500
Nickel, Dissolved	2.2	J	2.0	5.0
Lead, Dissolved	0.24	J	0.20	1.5
Antimony, Dissolved	7.8		2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	9.5	J	8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1440			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.10	U	0.091	0.20

Client Sample ID: **16LM20030F**

Lab Sample ID: 680-85871-15 Date Sampled: 12/15/2012 1250
Client Matrix: Water Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3005A	Prep Batch:	680-260719	Lab File ID:	056SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 0059			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.5	J	1.3	2.5
Barium, Dissolved	240		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	230000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	1.9		0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	4.1	J	1.1	5.0
Iron, Dissolved	130		33	100
Potassium, Dissolved	3200		170	500
Magnesium, Dissolved	34000		43	250
Manganese, Dissolved	140		1.0	5.0
Sodium, Dissolved	340000		250	500
Nickel, Dissolved	2.6	J	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	4.0	J	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	12	J	8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1443			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **16LM20031F**

Lab Sample ID: 680-85871-16
Client Matrix: Water

Date Sampled: 12/15/2012 1045
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3005A	Prep Batch:	680-260719	Lab File ID:	057SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 0106			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	2.6		1.3	2.5
Barium, Dissolved	34		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	97000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.22	J	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	1.1	J	1.1	5.0
Iron, Dissolved	1100		33	100
Potassium, Dissolved	2100		170	500
Magnesium, Dissolved	9900		43	250
Manganese, Dissolved	130		1.0	5.0
Sodium, Dissolved	1600		250	500
Nickel, Dissolved	2.1	J	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	2.9	U	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1445			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.10	J	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **16LM20032F**

Lab Sample ID: 680-85871-17
Client Matrix: Water

Date Sampled: 12/15/2012 1545
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Prep Method:	3005A	Prep Batch:	680-260719	Lab File ID:	058SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 0113			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	41		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	70000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.18	J	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	4.5	J	1.1	5.0
Iron, Dissolved	33	J	33	100
Potassium, Dissolved	2400		170	500
Magnesium, Dissolved	7200		43	250
Manganese, Dissolved	10		1.0	5.0
Sodium, Dissolved	8700		250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	2.9	U	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1453			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **16LM20033F**

Lab Sample ID: 680-85871-18
Client Matrix: Water

Date Sampled: 12/15/2012 1313
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-261296	Instrument ID:	ICPMSA
Prep Method:	3005A	Prep Batch:	680-260740	Lab File ID:	031SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2012 2046			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1723				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	J	1.3	2.5
Barium, Dissolved	100		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	110000	J	130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.23	J	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	4.1	J	1.1	5.0
Iron, Dissolved	33	U	33	100
Potassium, Dissolved	5300		170	500
Magnesium, Dissolved	21000		43	250
Manganese, Dissolved	92		1.0	5.0
Sodium, Dissolved	35000		250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	1.3	J	0.20	1.5
Antimony, Dissolved	13		2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1627			Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.10	U J	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **16LM20034F**

Lab Sample ID: 680-85871-19
Client Matrix: Water

Date Sampled: 12/15/2012 1316
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-261296	Instrument ID:	ICPMSA
Prep Method:	3005A	Prep Batch:	680-260740	Lab File ID:	036SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2012 2123			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1723				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	99		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	100000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.24	J	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	1.7	J	1.1	5.0
Iron, Dissolved	33	U	33	100
Potassium, Dissolved	5100		170	500
Magnesium, Dissolved	20000		43	250
Manganese, Dissolved	98		1.0	5.0
Sodium, Dissolved	33000		250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	2.3		0.20	1.5
Antimony, Dissolved	13		2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1634			Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **17LM20020F**

Lab Sample ID: 680-85871-20
Client Matrix: Water

Date Sampled: 12/11/2012 1640
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-260788	Instrument ID:	ICPMSB
Prep Method:	3005A	Prep Batch:	680-260618	Lab File ID:	086SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/22/2012 0100			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 0755				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	28		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	53000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.32	J	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	4.7	J	1.1	5.0
Iron, Dissolved	47	J	33	100
Potassium, Dissolved	380	J	170	500
Magnesium, Dissolved	7200		43	250
Manganese, Dissolved	7.2		1.0	5.0
Sodium, Dissolved	2400		250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	2.9	U	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1641			Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.14	J	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **17LM20021F**

Lab Sample ID: 680-85871-21
Client Matrix: Water

Date Sampled: 12/11/2012 1205
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-260788	Instrument ID:	ICPMSB
Prep Method:	3005A	Prep Batch:	680-260618	Lab File ID:	087SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/22/2012 0107			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 0755				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	69		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	120000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.39	J	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	7.7		1.1	5.0
Iron, Dissolved	33	U	33	100
Potassium, Dissolved	2500		170	500
Magnesium, Dissolved	12000		43	250
Manganese, Dissolved	12		1.0	5.0
Sodium, Dissolved	8400		250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	4.0	J	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	24		8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1643			Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **17LM20022F**

Lab Sample ID: 680-85871-22
Client Matrix: Water

Date Sampled: 12/11/2012 1435
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-260788	Instrument ID:	ICPMSB
Prep Method:	3005A	Prep Batch:	680-260618	Lab File ID:	088SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/22/2012 0113			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 0755				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	37		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	74000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.15	U	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	3.3	J	1.1	5.0
Iron, Dissolved	33	U	33	100
Potassium, Dissolved	1800		170	500
Magnesium, Dissolved	6100		43	250
Manganese, Dissolved	1.0	U	1.0	5.0
Sodium, Dissolved	3300		250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	0.24	J	0.20	1.5
Antimony, Dissolved	2.9	U	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	29		8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1646			Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **17LM20023F**

Lab Sample ID: 680-85871-23
Client Matrix: Water

Date Sampled: 12/11/2012 1409
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-261296	Instrument ID:	ICPMSA
Prep Method:	3005A	Prep Batch:	680-260740	Lab File ID:	037SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2012 2130			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1723				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	65		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	83000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.21	J	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	1.1	J	1.1	5.0
Iron, Dissolved	33	U	33	100
Potassium, Dissolved	750		170	500
Magnesium, Dissolved	15000		43	250
Manganese, Dissolved	9.5		1.0	5.0
Sodium, Dissolved	8900		250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	2.9	U	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1648			Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.10	U	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Client Sample ID: **17LM20024F**

Lab Sample ID: 680-85871-24
Client Matrix: Water

Date Sampled: 12/11/2012 1205
Date Received: 12/18/2012 0810

6020 Metals (ICP/MS)-Dissolved

Analysis Method:	6020	Analysis Batch:	680-261296	Instrument ID:	ICPMSA
Prep Method:	3005A	Prep Batch:	680-260740	Lab File ID:	038SMPL.D
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2012 2138			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1723				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	24		1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	68000		130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.31	J	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	3.7	J	1.1	5.0
Iron, Dissolved	44	J	33	100
Potassium, Dissolved	460	J	170	500
Magnesium, Dissolved	9900		43	250
Manganese, Dissolved	38		1.0	5.0
Sodium, Dissolved	9400		250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	2.9	U	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

7470A Mercury (CVAA)-Dissolved

Analysis Method:	7470A	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Prep Method:	7470A	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0			Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1651			Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				

Analyte	Result (ug/L)	Qualifier	DL	LOQ
Mercury, Dissolved	0.12	J	0.091	0.20

Client: Parsons Corporation

Job Number: 680-85871-1

Method Blank - Batch: 680-260618

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 680-260618/1-A	Analysis Batch:	680-260788	Instrument ID:	ICPMSB
Client Matrix:	Water	Prep Batch:	680-260618	Lab File ID:	059SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/21/2012 2200	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 0755				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	1.3	U	1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	200	U	130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.15	U	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	1.1	U	1.1	5.0
Iron, Dissolved	33	U	33	100
Potassium, Dissolved	170	U	170	500
Magnesium, Dissolved	43	U	43	250
Manganese, Dissolved	1.0	U	1.0	5.0
Sodium, Dissolved	250	U	250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	2.9	U	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

Client: Parsons Corporation

Job Number: 680-85871-1

Lab Control Sample - Batch: 680-260618

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 680-260618/2-A	Analysis Batch:	680-260788	Instrument ID:	ICPMSB
Client Matrix:	Water	Prep Batch:	680-260618	Lab File ID:	060SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/21/2012 2207	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 0755				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Silver, Dissolved	50.0	49.1	98	75 - 125	
Aluminum, Dissolved	5000	4660	93	75 - 125	
Arsenic, Dissolved	100	106	106	75 - 125	
Barium, Dissolved	100	98.8	99	75 - 125	
Beryllium, Dissolved	50.0	51.7	103	75 - 125	
Calcium, Dissolved	5000	4810	96	75 - 125	
Cadmium, Dissolved	50.0	50.1	100	75 - 125	
Cobalt, Dissolved	50.0	46.6	93	75 - 125	
Chromium, Dissolved	100	97.8	98	75 - 125	
Copper, Dissolved	100	102	102	75 - 125	
Iron, Dissolved	5000	4800	96	75 - 125	
Potassium, Dissolved	5000	4610	92	75 - 125	
Magnesium, Dissolved	5000	4680	94	75 - 125	
Manganese, Dissolved	500	498	100	75 - 125	
Sodium, Dissolved	5000	4550	91	75 - 125	
Nickel, Dissolved	100	101	101	75 - 125	
Lead, Dissolved	50.0	46.4	93	75 - 125	
Antimony, Dissolved	50.0	53.9	108	75 - 125	
Selenium, Dissolved	100	99.9	100	75 - 125	
Thallium, Dissolved	40.0	38.4	96	75 - 125	
Vanadium, Dissolved	100	97.2	97	75 - 125	
Zinc, Dissolved	100	106	106	75 - 125	

Client: Parsons Corporation

Job Number: 680-85871-1

Post Digestion Spike - Batch: 680-260618

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	640-41590-L-2-A PDS	Analysis Batch:	680-260788	Instrument ID:	ICPMSB
Client Matrix:	Water	Prep Batch:	680-260618	Lab File ID:	063SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/21/2012 2227	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 0755				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Silver, Dissolved	0.25	U	100	90.2	90	75 - 125	
Aluminum, Dissolved	170		1000	1200	103	75 - 125	
Arsenic, Dissolved	1.3	U	100	113	113	75 - 125	
Barium, Dissolved	12		100	120	108	75 - 125	
Beryllium, Dissolved	0.25	U	100	110	110	75 - 125	
Calcium, Dissolved	78000		10000	89500	113	75 - 125	
Cadmium, Dissolved	0.20	U	100	107	107	75 - 125	
Cobalt, Dissolved	0.18	J	100	98.2	98	75 - 125	
Chromium, Dissolved	2.5	U	100	106	106	75 - 125	
Copper, Dissolved	1.1	U	100	107	107	75 - 125	
Iron, Dissolved	84	J	10000	10700	106	75 - 125	
Potassium, Dissolved	780		10000	11300	105	75 - 125	
Magnesium, Dissolved	22000		10000	32100	104	75 - 125	
Manganese, Dissolved	24		1000	1060	103	75 - 125	
Sodium, Dissolved	10000		10000	20200	102	75 - 125	
Nickel, Dissolved	3.3	J	100	110	107	75 - 125	
Lead, Dissolved	0.20	U	100	100	100	75 - 125	
Antimony, Dissolved	2.9	U	100	114	114	75 - 125	
Selenium, Dissolved	1.0	U	100	107	107	75 - 125	
Thallium, Dissolved	0.50	U	20.0	21.2	106	75 - 125	
Vanadium, Dissolved	5.5	J	100	110	104	75 - 125	
Zinc, Dissolved	8.3	U	100	108	108	75 - 125	

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260618

Method: 6020
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	640-41590-L-2-B MS	Analysis Batch:	680-260788	Instrument ID:	ICPMSB
Client Matrix:	Water	Prep Batch:	680-260618	Lab File ID:	064SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/21/2012 2233			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 0755				
Leach Date:	N/A				

MSD Lab Sample ID:	640-41590-L-2-C MSD	Analysis Batch:	680-260788	Instrument ID:	ICPMSB
Client Matrix:	Water	Prep Batch:	680-260618	Lab File ID:	065SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/21/2012 2240			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 0755				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Silver, Dissolved	101	97	75 - 125	5	20		
Aluminum, Dissolved	93	89	75 - 125	4	20		
Arsenic, Dissolved	109	105	75 - 125	4	20		
Barium, Dissolved	105	99	75 - 125	5	20		
Beryllium, Dissolved	105	101	75 - 125	4	20		
Calcium, Dissolved	96	39	75 - 125	3	20	4	4
Cadmium, Dissolved	103	99	75 - 125	3	20		
Cobalt, Dissolved	95	91	75 - 125	4	20		
Chromium, Dissolved	102	98	75 - 125	3	20		
Copper, Dissolved	106	102	75 - 125	4	20		
Iron, Dissolved	97	92	75 - 125	5	20		
Potassium, Dissolved	99	93	75 - 125	6	20		
Magnesium, Dissolved	94	81	75 - 125	3	20	4	4
Manganese, Dissolved	102	98	75 - 125	4	20		
Sodium, Dissolved	97	85	75 - 125	4	20		
Nickel, Dissolved	102	99	75 - 125	3	20		
Lead, Dissolved	97	92	75 - 125	5	20		
Antimony, Dissolved	112	107	75 - 125	5	20		
Selenium, Dissolved	102	99	75 - 125	3	20		
Thallium, Dissolved	101	97	75 - 125	5	20		
Vanadium, Dissolved	100	96	75 - 125	3	20		
Zinc, Dissolved	111	107	75 - 125	4	20		

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260618

Method: 6020
Preparation: 3005A
Total Recoverable

MS Lab Sample ID:	640-41590-L-2-B MS	Units:	ug/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/21/2012 2233		
Prep Date:	12/21/2012 0755		
Leach Date:	N/A		

MSD Lab Sample ID:	640-41590-L-2-C MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/21/2012 2240
Prep Date:	12/21/2012 0755
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Silver, Dissolved	0.25	U	50.0	50.0	50.7		48.3	
Aluminum, Dissolved	170		5000	5000	4800		4630	
Arsenic, Dissolved	1.3	U	100	100	109		105	
Barium, Dissolved	12		100	100	117		111	
Beryllium, Dissolved	0.25	U	50.0	50.0	52.6		50.7	
Calcium, Dissolved	78000		5000	5000	83000	4	80200	4
Cadmium, Dissolved	0.20	U	50.0	50.0	51.3		49.6	
Cobalt, Dissolved	0.18	J	50.0	50.0	47.5		45.7	
Chromium, Dissolved	2.5	U	100	100	102		98.4	
Copper, Dissolved	1.1	U	100	100	106		102	
Iron, Dissolved	84	J	5000	5000	4940		4710	
Potassium, Dissolved	780		5000	5000	5740		5410	
Magnesium, Dissolved	22000		5000	5000	26400	4	25800	4
Manganese, Dissolved	24		500	500	535		514	
Sodium, Dissolved	10000		5000	5000	14900		14300	
Nickel, Dissolved	3.3	J	100	100	105		102	
Lead, Dissolved	0.20	U	50.0	50.0	48.5		46.1	
Antimony, Dissolved	2.9	U	50.0	50.0	56.2		53.4	
Selenium, Dissolved	1.0	U	100	100	102		98.6	
Thallium, Dissolved	0.50	U	40.0	40.0	40.6		38.8	
Vanadium, Dissolved	5.5	J	100	100	105		102	
Zinc, Dissolved	8.3	U	100	100	111		107	

Client: Parsons Corporation

Job Number: 680-85871-1

Serial Dilution - Batch: 680-260618

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	640-41590-L-2-A SD	Analysis Batch:	680-260788	Instrument ID:	ICPMSB
Client Matrix:	Water	Prep Batch:	680-260618	Lab File ID:	062SMPL.D
Dilution:	25	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/21/2012 2220	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 0755				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	%Diff	Limit	Qual
Silver, Dissolved	0.25	U	6.3	NC	10	U
Aluminum, Dissolved	170		580	NC	10	U
Arsenic, Dissolved	1.3	U	33	NC	10	U
Barium, Dissolved	12		33	NC	10	U
Beryllium, Dissolved	0.25	U	6.3	NC	10	U
Calcium, Dissolved	78000		78400	0.26	10	D
Cadmium, Dissolved	0.20	U	5.0	NC	10	U
Cobalt, Dissolved	0.18	J	3.8	NC	10	U
Chromium, Dissolved	2.5	U	63	NC	10	U
Copper, Dissolved	1.1	U	28	NC	10	U
Iron, Dissolved	84	J	830	NC	10	U
Potassium, Dissolved	780		4300	NC	10	U
Magnesium, Dissolved	22000		22400	3.1	10	D
Manganese, Dissolved	24		25	NC	10	U
Sodium, Dissolved	10000		10200	NC	10	J D
Nickel, Dissolved	3.3	J	50	NC	10	U
Lead, Dissolved	0.20	U	5.0	NC	10	U
Antimony, Dissolved	2.9	U	73	NC	10	U
Selenium, Dissolved	1.0	U	25	NC	10	U
Thallium, Dissolved	0.50	U	13	NC	10	U
Vanadium, Dissolved	5.5	J	95	NC	10	U
Zinc, Dissolved	8.3	U	210	NC	10	U

Client: Parsons Corporation

Job Number: 680-85871-1

Method Blank - Batch: 680-260719

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 680-260719/1-A	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260719	Lab File ID:	029SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 2138	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	1.3	U	1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	200	U	130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.15	U	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	1.1	U	1.1	5.0
Iron, Dissolved	33	U	33	100
Potassium, Dissolved	170	U	170	500
Magnesium, Dissolved	43	U	43	250
Manganese, Dissolved	1.0	U	1.0	5.0
Sodium, Dissolved	250	U	250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	2.9	U	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

Client: Parsons Corporation

Job Number: 680-85871-1

Lab Control Sample - Batch: 680-260719

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 680-260719/2-A	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260719	Lab File ID:	030SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 2146	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Silver, Dissolved	50.0	51.7	103	75 - 125	
Aluminum, Dissolved	5000	4790	96	75 - 125	
Arsenic, Dissolved	100	105	105	75 - 125	
Barium, Dissolved	100	104	104	75 - 125	
Beryllium, Dissolved	50.0	52.0	104	75 - 125	
Calcium, Dissolved	5000	4880	98	75 - 125	
Cadmium, Dissolved	50.0	52.0	104	75 - 125	
Cobalt, Dissolved	50.0	48.9	98	75 - 125	
Chromium, Dissolved	100	99.4	99	75 - 125	
Copper, Dissolved	100	104	104	75 - 125	
Iron, Dissolved	5000	4770	95	75 - 125	
Potassium, Dissolved	5000	4910	98	75 - 125	
Magnesium, Dissolved	5000	4950	99	75 - 125	
Manganese, Dissolved	500	524	105	75 - 125	
Sodium, Dissolved	5000	4890	98	75 - 125	
Nickel, Dissolved	100	104	104	75 - 125	
Lead, Dissolved	50.0	52.2	104	75 - 125	
Antimony, Dissolved	50.0	56.9	114	75 - 125	
Selenium, Dissolved	100	101	101	75 - 125	
Thallium, Dissolved	40.0	40.8	102	75 - 125	
Vanadium, Dissolved	100	97.3	97	75 - 125	
Zinc, Dissolved	100	112	112	75 - 125	

Client: Parsons Corporation

Job Number: 680-85871-1

Post Digestion Spike - Batch: 680-260719

Method: 6020
Preparation: 3005A
Dissolved

Lab Sample ID:	680-85852-A-1-A PDS	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260719	Lab File ID:	033SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 2208	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Silver, Dissolved	0.25	U	100	86.4	86	75 - 125	
Aluminum, Dissolved	150		1000	1200	105	75 - 125	
Arsenic, Dissolved	1.7	J	100	106	105	75 - 125	
Barium, Dissolved	58		100	163	105	75 - 125	
Beryllium, Dissolved	0.43	J	100	110	110	75 - 125	
Calcium, Dissolved	7200		10000	16900	97	75 - 125	
Cadmium, Dissolved	0.14	J	100	105	105	75 - 125	
Cobalt, Dissolved	8.6		100	108	100	75 - 125	
Chromium, Dissolved	2.5	U	100	103	103	75 - 125	
Copper, Dissolved	1.1	J	100	106	105	75 - 125	
Iron, Dissolved	11000		10000	20300	96	75 - 125	
Potassium, Dissolved	2200		10000	12300	101	75 - 125	
Magnesium, Dissolved	3100		10000	13300	102	75 - 125	
Manganese, Dissolved	210		1000	1250	104	75 - 125	
Sodium, Dissolved	27000		10000	34900	83	75 - 125	
Nickel, Dissolved	4.4	J	100	108	104	75 - 125	
Lead, Dissolved	0.20	U	100	106	106	75 - 125	
Antimony, Dissolved	2.9	U	100	112	112	75 - 125	
Selenium, Dissolved	1.0	U	100	105	105	75 - 125	
Thallium, Dissolved	0.50	U	20.0	20.9	105	75 - 125	
Vanadium, Dissolved	3.8	U	100	101	101	75 - 125	
Zinc, Dissolved	28		100	132	104	75 - 125	

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260719

Method: 6020
Preparation: 3005A
Dissolved

MS Lab Sample ID:	680-85852-A-1-B MS	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260719	Lab File ID:	034SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 2215			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				
Leach Date:	N/A				

MSD Lab Sample ID:	680-85852-A-1-C MSD	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260719	Lab File ID:	035SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 2223			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Silver, Dissolved	108	111	75 - 125	3	20		
Aluminum, Dissolved	105	113	75 - 125	7	20		
Arsenic, Dissolved	111	115	75 - 125	3	20		
Barium, Dissolved	111	114	75 - 125	2	20		
Beryllium, Dissolved	114	115	75 - 125	1	20		
Calcium, Dissolved	104	121	75 - 125	7	20		
Cadmium, Dissolved	108	111	75 - 125	3	20		
Cobalt, Dissolved	102	104	75 - 125	2	20		
Chromium, Dissolved	105	110	75 - 125	4	20		
Copper, Dissolved	109	114	75 - 125	5	20		
Iron, Dissolved	102	124	75 - 125	7	20		
Potassium, Dissolved	104	112	75 - 125	6	20		
Magnesium, Dissolved	106	117	75 - 125	6	20		
Manganese, Dissolved	111	113	75 - 125	1	20		
Sodium, Dissolved	93	137	75 - 125	7	20	4	4
Nickel, Dissolved	107	113	75 - 125	5	20		
Lead, Dissolved	109	111	75 - 125	2	20		
Antimony, Dissolved	120	123	75 - 125	2	20		
Selenium, Dissolved	110	116	75 - 125	6	20		
Thallium, Dissolved	100	101	75 - 125	1	20		
Vanadium, Dissolved	103	109	75 - 125	5	20		
Zinc, Dissolved	114	116	75 - 125	1	20		

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260719

Method: 6020
Preparation: 3005A
Dissolved

MS Lab Sample ID:	680-85852-A-1-B MS	Units:	ug/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/24/2012 2215		
Prep Date:	12/21/2012 1536		
Leach Date:	N/A		

MSD Lab Sample ID:	680-85852-A-1-C MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/24/2012 2223
Prep Date:	12/21/2012 1536
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Silver, Dissolved	0.25	U	50.0	50.0	53.8		55.3	
Aluminum, Dissolved	150		5000	5000	5400		5790	
Arsenic, Dissolved	1.7	J	100	100	113		116	
Barium, Dissolved	58		100	100	169		172	
Beryllium, Dissolved	0.43	J	50.0	50.0	57.4		57.7	
Calcium, Dissolved	7200		5000	5000	12300		13200	
Cadmium, Dissolved	0.14	J	50.0	50.0	54.1		55.5	
Cobalt, Dissolved	8.6		50.0	50.0	59.4		60.6	
Chromium, Dissolved	2.5	U	100	100	105		110	
Copper, Dissolved	1.1	J	100	100	110		116	
Iron, Dissolved	11000		5000	5000	15800		16900	
Potassium, Dissolved	2200		5000	5000	7360		7780	
Magnesium, Dissolved	3100		5000	5000	8380		8920	
Manganese, Dissolved	210		500	500	765		776	
Sodium, Dissolved	27000		5000	5000	31200	4	33400	4
Nickel, Dissolved	4.4	J	100	100	112		118	
Lead, Dissolved	0.20	U	50.0	50.0	54.4		55.3	
Antimony, Dissolved	2.9	U	50.0	50.0	60.1		61.5	
Selenium, Dissolved	1.0	U	100	100	110		116	
Thallium, Dissolved	0.50	U	40.0	40.0	40.2		40.6	
Vanadium, Dissolved	3.8	U	100	100	103		109	
Zinc, Dissolved	28		100	100	142		144	

Client: Parsons Corporation

Job Number: 680-85871-1

Serial Dilution - Batch: 680-260719

Method: 6020
Preparation: 3005A
Dissolved

Lab Sample ID:	680-85852-A-1-A SD	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260719	Lab File ID:	032SMPL.D
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 2200	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1536				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	%Diff	Limit	Qual
Silver, Dissolved	0.25	U	1.3	NC	10	U
Aluminum, Dissolved	150		151	NC	10	J D
Arsenic, Dissolved	1.7	J	6.5	NC	10	U
Barium, Dissolved	58		56.5	NC	10	D
Beryllium, Dissolved	0.43	J	1.3	NC	10	U
Calcium, Dissolved	7200		6830	4.6	10	D
Cadmium, Dissolved	0.14	J	1.0	NC	10	U
Cobalt, Dissolved	8.6		8.54	0.87	10	D
Chromium, Dissolved	2.5	U	13	NC	10	U
Copper, Dissolved	1.1	J	5.5	NC	10	U
Iron, Dissolved	11000		10300	3.8	10	D
Potassium, Dissolved	2200		2020	NC	10	J D
Magnesium, Dissolved	3100		2950	4.1	10	D
Manganese, Dissolved	210		212	0.22	10	D
Sodium, Dissolved	27000		24700	7.2	10	D
Nickel, Dissolved	4.4	J	10	NC	10	U
Lead, Dissolved	0.20	U	1.0	NC	10	U
Antimony, Dissolved	2.9	U	15	NC	10	U
Selenium, Dissolved	1.0	U	5.0	NC	10	U
Thallium, Dissolved	0.50	U	2.5	NC	10	U
Vanadium, Dissolved	3.8	U	19	NC	10	U
Zinc, Dissolved	28		42	NC	10	U

Client: Parsons Corporation

Job Number: 680-85871-1

Method Blank - Batch: 680-260740

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	MB 680-260740/1-A	Analysis Batch:	680-261296	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260740	Lab File ID:	029SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2012 2031	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1723				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Silver, Dissolved	0.25	U	0.25	1.0
Aluminum, Dissolved	23	U	23	50
Arsenic, Dissolved	1.3	U	1.3	2.5
Barium, Dissolved	1.3	U	1.3	5.0
Beryllium, Dissolved	0.25	U	0.25	0.50
Calcium, Dissolved	200	U	130	250
Cadmium, Dissolved	0.20	U	0.095	0.50
Cobalt, Dissolved	0.15	U	0.15	0.50
Chromium, Dissolved	2.5	U	2.5	5.0
Copper, Dissolved	1.1	U	1.1	5.0
Iron, Dissolved	33	U	33	100
Potassium, Dissolved	170	U	170	500
Magnesium, Dissolved	43	U	43	250
Manganese, Dissolved	1.0	U	1.0	5.0
Sodium, Dissolved	250	U	250	500
Nickel, Dissolved	2.0	U	2.0	5.0
Lead, Dissolved	0.20	U	0.20	1.5
Antimony, Dissolved	2.9	U	2.3	5.0
Selenium, Dissolved	1.0	U	1.0	2.5
Thallium, Dissolved	0.50	U	0.50	1.0
Vanadium, Dissolved	3.8	U	3.8	10
Zinc, Dissolved	8.3	U	8.3	20

Client: Parsons Corporation

Job Number: 680-85871-1

Lab Control Sample - Batch: 680-260740

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID:	LCS 680-260740/2-A	Analysis Batch:	680-261296	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260740	Lab File ID:	030SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2012 2038	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1723				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Silver, Dissolved	50.0	53.3	107	75 - 125	
Aluminum, Dissolved	5000	5070	101	75 - 125	
Arsenic, Dissolved	100	105	105	75 - 125	
Barium, Dissolved	100	104	104	75 - 125	
Beryllium, Dissolved	50.0	54.5	109	75 - 125	
Calcium, Dissolved	5000	5130	103	75 - 125	
Cadmium, Dissolved	50.0	53.2	106	75 - 125	
Cobalt, Dissolved	50.0	50.6	101	75 - 125	
Chromium, Dissolved	100	101	101	75 - 125	
Copper, Dissolved	100	104	104	75 - 125	
Iron, Dissolved	5000	4990	100	75 - 125	
Potassium, Dissolved	5000	4890	98	75 - 125	
Magnesium, Dissolved	5000	5200	104	75 - 125	
Manganese, Dissolved	500	536	107	75 - 125	
Sodium, Dissolved	5000	5040	101	75 - 125	
Nickel, Dissolved	100	104	104	75 - 125	
Lead, Dissolved	50.0	52.3	105	75 - 125	
Antimony, Dissolved	50.0	57.8	116	75 - 125	
Selenium, Dissolved	100	103	103	75 - 125	
Thallium, Dissolved	40.0	41.2	103	75 - 125	
Vanadium, Dissolved	100	98.6	99	75 - 125	
Zinc, Dissolved	100	122	122	75 - 125	

Client: Parsons Corporation

Job Number: 680-85871-1

Post Digestion Spike - Batch: 680-260740

Method: 6020
Preparation: 3005A
Dissolved

Lab Sample ID:	680-85871-18	Analysis Batch:	680-261296	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260740	Lab File ID:	033SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2012 2101	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1723				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Silver, Dissolved	0.25	U	100	91.4	91	75 - 125	
Aluminum, Dissolved	23	U	1000	1070	107	75 - 125	
Arsenic, Dissolved	1.3	J	100	104	103	75 - 125	
Barium, Dissolved	100		100	207	106	75 - 125	
Beryllium, Dissolved	0.25	U	100	107	107	75 - 125	
Calcium, Dissolved	110000		10000	119000	134	75 - 125	J
Cadmium, Dissolved	0.20	U	100	103	103	75 - 125	
Cobalt, Dissolved	0.23	J	100	99.3	99	75 - 125	
Chromium, Dissolved	2.5	U	100	102	102	75 - 125	
Copper, Dissolved	4.1	J	100	106	102	75 - 125	
Iron, Dissolved	33	U	10000	10600	106	75 - 125	
Potassium, Dissolved	5300		10000	15300	100	75 - 125	
Magnesium, Dissolved	21000		10000	31900	110	75 - 125	
Manganese, Dissolved	92		1000	1130	104	75 - 125	
Sodium, Dissolved	35000		10000	46500	119	75 - 125	
Nickel, Dissolved	2.0	U	100	104	104	75 - 125	
Lead, Dissolved	1.3	J	100	103	102	75 - 125	
Antimony, Dissolved	13		100	124	110	75 - 125	
Selenium, Dissolved	1.0	U	100	106	106	75 - 125	
Thallium, Dissolved	0.50	U	20.0	20.0	100	75 - 125	
Vanadium, Dissolved	3.8	U	100	103	103	75 - 125	
Zinc, Dissolved	8.3	U	100	104	104	75 - 125	

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260740

Method: 6020
Preparation: 3005A
Dissolved

MS Lab Sample ID:	680-85871-18	Analysis Batch:	680-261296	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260740	Lab File ID:	034SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2012 2108			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1723				
Leach Date:	N/A				

MSD Lab Sample ID:	680-85871-18	Analysis Batch:	680-261296	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260740	Lab File ID:	035SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2012 2115			Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1723				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Silver, Dissolved	102	106	75 - 125	3	20		
Aluminum, Dissolved	99	102	75 - 125	3	20		
Arsenic, Dissolved	106	107	75 - 125	1	20		
Barium, Dissolved	101	109	75 - 125	4	20		
Beryllium, Dissolved	108	111	75 - 125	3	20		
Calcium, Dissolved	57	80	75 - 125	1	20	4	4
Cadmium, Dissolved	103	107	75 - 125	3	20		
Cobalt, Dissolved	98	100	75 - 125	2	20		
Chromium, Dissolved	101	103	75 - 125	1	20		
Copper, Dissolved	100	102	75 - 125	2	20		
Iron, Dissolved	98	101	75 - 125	3	20		
Potassium, Dissolved	97	100	75 - 125	1	20		
Magnesium, Dissolved	95	99	75 - 125	1	20	4	4
Manganese, Dissolved	105	109	75 - 125	4	20		
Sodium, Dissolved	99	110	75 - 125	1	20	4	4
Nickel, Dissolved	103	105	75 - 125	1	20		
Lead, Dissolved	102	105	75 - 125	3	20		
Antimony, Dissolved	113	116	75 - 125	2	20		
Selenium, Dissolved	103	104	75 - 125	1	20		
Thallium, Dissolved	100	103	75 - 125	3	20		
Vanadium, Dissolved	102	103	75 - 125	1	20		
Zinc, Dissolved	109	111	75 - 125	2	20		

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260740

Method: 6020
Preparation: 3005A
Dissolved

MS Lab Sample ID:	680-85871-18	Units:	ug/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/27/2012 2108		
Prep Date:	12/21/2012 1723		
Leach Date:	N/A		

MSD Lab Sample ID:	680-85871-18
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/27/2012 2115
Prep Date:	12/21/2012 1723
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Silver, Dissolved	0.25	U	50.0	50.0	51.2		52.9	
Aluminum, Dissolved	23	U	5000	5000	4950		5080	
Arsenic, Dissolved	1.3	J	100	100	108		109	
Barium, Dissolved	100		100	100	202		210	
Beryllium, Dissolved	0.25	U	50.0	50.0	54.0		55.7	
Calcium, Dissolved	110000		5000	5000	108000	4	110000	4
Cadmium, Dissolved	0.20	U	50.0	50.0	51.7		53.3	
Cobalt, Dissolved	0.23	J	50.0	50.0	49.3		50.5	
Chromium, Dissolved	2.5	U	100	100	101		103	
Copper, Dissolved	4.1	J	100	100	104		106	
Iron, Dissolved	33	U	5000	5000	4880		5040	
Potassium, Dissolved	5300		5000	5000	10200		10300	
Magnesium, Dissolved	21000		5000	5000	25600	4	25900	4
Manganese, Dissolved	92		500	500	617		640	
Sodium, Dissolved	35000		5000	5000	39600	4	40100	4
Nickel, Dissolved	2.0	U	100	100	103		105	
Lead, Dissolved	1.3	J	50.0	50.0	52.3		53.8	
Antimony, Dissolved	13		50.0	50.0	70.0		71.5	
Selenium, Dissolved	1.0	U	100	100	103		104	
Thallium, Dissolved	0.50	U	40.0	40.0	39.9		41.1	
Vanadium, Dissolved	3.8	U	100	100	102		103	
Zinc, Dissolved	8.3	U	100	100	109		111	

Client: Parsons Corporation

Job Number: 680-85871-1

Serial Dilution - Batch: 680-260740

Method: 6020
Preparation: 3005A
Dissolved

Lab Sample ID:	680-85871-18	Analysis Batch:	680-261296	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260740	Lab File ID:	032SMPL.D
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2012 2053	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/21/2012 1723				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	%Diff	Limit	Qual
Silver, Dissolved	0.25	U	1.3	NC	10	U
Aluminum, Dissolved	23	U	120	NC	10	U
Arsenic, Dissolved	1.3	J	6.5	NC	10	U
Barium, Dissolved	100		100	0.79	10	D
Beryllium, Dissolved	0.25	U	1.3	NC	10	U
Calcium, Dissolved	110000		109000	3.1	10	D
Cadmium, Dissolved	0.20	U	1.0	NC	10	U
Cobalt, Dissolved	0.23	J	0.75	NC	10	U
Chromium, Dissolved	2.5	U	13	NC	10	U
Copper, Dissolved	4.1	J	5.5	NC	10	U
Iron, Dissolved	33	U	170	NC	10	U
Potassium, Dissolved	5300		5270	NC	10	D
Magnesium, Dissolved	21000		22200	6.4	10	D
Manganese, Dissolved	92		94.7	2.5	10	D
Sodium, Dissolved	35000		35700	3.1	10	D
Nickel, Dissolved	2.0	U	10	NC	10	U
Lead, Dissolved	1.3	J	1.33	NC	10	J D
Antimony, Dissolved	13		14.6	NC	10	J D
Selenium, Dissolved	1.0	U	5.0	NC	10	U
Thallium, Dissolved	0.50	U	2.5	NC	10	U
Vanadium, Dissolved	3.8	U	19	NC	10	U
Zinc, Dissolved	8.3	U	42	NC	10	U

Method Blank - Batch: 680-260764 **Method: 6020**
Preparation: 3010A

Lab Sample ID:	MB 680-260764/1-A	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	146SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1207	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Silver	0.25	U	0.18	1.0
Aluminum	50	U	50	100
Arsenic	1.3	U	1.3	2.5
Barium	1.4	U	1.4	5.0
Calcium	200	U	170	500
Cadmium	0.20	U	0.13	0.50
Cobalt	0.30	U	0.12	0.50
Chromium	2.5	U	2.5	5.0
Copper	2.06	J	1.1	5.0
Iron	44	U	44	100
Potassium	330	U	330	1000
Magnesium	100	U	100	250
Manganese	2.0	U	2.0	5.0
Nickel	2.0	U	2.0	5.0
Lead	0.50	U	0.50	1.5
Antimony	2.0	U	2.0	5.0
Selenium	1.1	U	1.1	2.5
Thallium	0.25	U	0.25	1.0
Vanadium	3.2	U	3.2	10
Zinc	8.4	U	8.4	20

Method Blank - Batch: 680-260764 **Method: 6020**
Preparation: 3010A

Lab Sample ID:	MB 680-260764/1-A	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	227SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1308	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Beryllium	0.25	U	0.15	0.50
Sodium	170	U	170	500

Lab Control Sample - Batch: 680-260764 **Method: 6020**
Preparation: 3010A

Lab Sample ID:	LCS 680-260764/2-A	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	147SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1215	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Silver	50.0	51.2	102	75 - 125	
Aluminum	5000	4830	97	75 - 125	
Arsenic	100	100	100	75 - 125	
Barium	100	105	105	75 - 125	
Calcium	5000	5000	100	75 - 125	
Cadmium	50.0	49.5	99	75 - 125	
Cobalt	50.0	47.6	95	75 - 125	
Chromium	100	101	101	75 - 125	
Copper	100	109	109	75 - 125	
Iron	5000	4930	99	75 - 125	
Potassium	5000	4880	98	75 - 125	
Magnesium	5000	5010	100	75 - 125	
Manganese	500	517	103	75 - 125	
Nickel	100	106	106	75 - 125	
Lead	50.0	50.7	101	75 - 125	
Antimony	50.0	55.8	112	75 - 125	
Selenium	100	95.3	95	75 - 125	
Thallium	40.0	39.8	99	75 - 125	
Vanadium	100	99.1	99	75 - 125	
Zinc	100	102	102	75 - 125	

Lab Control Sample - Batch: 680-260764 **Method: 6020**
Preparation: 3010A

Lab Sample ID:	LCS 680-260764/2-A	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	228SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1315	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Beryllium	50.0	53.6	107	75 - 125	
Sodium	5000	4990	100	75 - 125	

Client: Parsons Corporation Job Number: 680-85871-1

Post Digestion Spike - Batch: 680-260764

Method: 6020
Preparation: 3010A

Lab Sample ID:	680-85871-6	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	155SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1314	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Silver	0.25	U	100	91.7	92	75 - 125	
Aluminum	50	U	1000	1130	113	75 - 125	
Arsenic	1.3	U	100	104	104	75 - 125	
Barium	100		100	219	118	75 - 125	
Calcium	100000		10000	120000	151	75 - 125	J
Cadmium	0.20	U	100	108	108	75 - 125	
Cobalt	0.22	J	100	103	103	75 - 125	
Chromium	2.5	U	100	111	111	75 - 125	
Copper	8.3		100	120	112	75 - 125	
Iron	44	U	10000	11500	115	75 - 125	
Potassium	5200		10000	16200	110	75 - 125	
Magnesium	21000		10000	32000	113	75 - 125	
Manganese	90		1000	1190	110	75 - 125	
Nickel	2.2	J	100	113	111	75 - 125	
Lead	2.5		100	110	108	75 - 125	
Antimony	13		100	130	117	75 - 125	
Selenium	1.1	U	100	106	106	75 - 125	
Thallium	0.25	U	20.0	21.4	107	75 - 125	
Vanadium	3.2	U	100	111	111	75 - 125	
Zinc	8.4	U	100	105	105	75 - 125	

Post Digestion Spike - Batch: 680-260764

Method: 6020
Preparation: 3010A

Lab Sample ID:	680-85871-6	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	238SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1430	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Beryllium	0.25	U	100	109	109	75 - 125	
Sodium	32000		10000	42600	101	75 - 125	

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260764

Method: 6020
Preparation: 3010A

MS Lab Sample ID:	680-85871-6	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	158SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1336			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

MSD Lab Sample ID:	680-85871-6	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	159SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1344			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Silver	100	104	75 - 125	4	20		
Aluminum	103	102	75 - 125	1	20		
Arsenic	106	107	75 - 125	0	20		
Barium	108	111	75 - 125	1	20		
Calcium	245	166	75 - 125	3	20	4	4
Cadmium	97	101	75 - 125	4	20		
Cobalt	94	97	75 - 125	2	20		
Chromium	106	107	75 - 125	1	20		
Copper	102	106	75 - 125	3	20		
Iron	106	104	75 - 125	2	20		
Potassium	109	107	75 - 125	1	20		
Magnesium	130	112	75 - 125	3	20	4	4
Manganese	105	107	75 - 125	1	20		
Nickel	106	107	75 - 125	1	20		
Lead	100	103	75 - 125	3	20		
Antimony	112	115	75 - 125	2	20		
Selenium	101	99	75 - 125	1	20		
Thallium	99	102	75 - 125	3	20		
Vanadium	106	106	75 - 125	0	20		
Zinc	103	104	75 - 125	1	20		

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260764

Method: 6020
Preparation: 3010A

MS Lab Sample ID:	680-85871-6	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	239SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1437			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

MSD Lab Sample ID:	680-85871-6	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	240SMPL.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1444			Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Beryllium	104	105	75 - 125	1	20		
Sodium	110	98	75 - 125	2	20	4	4

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260764

Method: 6020
Preparation: 3010A

MS Lab Sample ID:	680-85871-6	Units:	ug/L	MSD Lab Sample ID:	680-85871-6
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/25/2012 1336			Analysis Date:	12/25/2012 1344
Prep Date:	12/22/2012 0818			Prep Date:	12/22/2012 0818
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Silver	0.25	U	50.0	50.0	50.2		52.1	
Aluminum	50	U	5000	5000	5170		5110	
Arsenic	1.3	U	100	100	106		107	
Barium	100		100	100	209		212	
Calcium	100000		5000	5000	117000	4	113000	4
Cadmium	0.20	U	50.0	50.0	48.7		50.6	
Cobalt	0.22	J	50.0	50.0	47.4		48.6	
Chromium	2.5	U	100	100	106		107	
Copper	8.3		100	100	111		114	
Iron	44	U	5000	5000	5300		5200	
Potassium	5200		5000	5000	10700		10600	
Magnesium	21000		5000	5000	27200	4	26400	4
Manganese	90		500	500	617		624	
Nickel	2.2	J	100	100	108		109	
Lead	2.5		50.0	50.0	52.6		53.9	
Antimony	13		50.0	50.0	68.5		70.2	
Selenium	1.1	U	100	100	101		99.2	
Thallium	0.25	U	40.0	40.0	39.7		40.9	
Vanadium	3.2	U	100	100	106		106	
Zinc	8.4	U	100	100	103		104	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260764

Method: 6020
Preparation: 3010A

MS Lab Sample ID:	680-85871-6	Units:	ug/L	MSD Lab Sample ID:	680-85871-6
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/26/2012 1437			Analysis Date:	12/26/2012 1444
Prep Date:	12/22/2012 0818			Prep Date:	12/22/2012 0818
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Beryllium	0.25	U	50.0	50.0	51.8		52.6	
Sodium	32000		5000	5000	38000	4	37400	4

Serial Dilution - Batch: 680-260764 **Method: 6020**
Preparation: 3010A

Lab Sample ID:	680-85871-6	Analysis Batch:	680-260984	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	154SMPL.D
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/25/2012 1307	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	%Diff	Limit	Qual
Silver	0.25	U	1.3	NC	10	U
Aluminum	50	U	250	NC	10	U
Arsenic	1.3	U	6.5	NC	10	U
Barium	100		97.0	3.9	10	D
Calcium	100000		97100	7.2	10	D
Cadmium	0.20	U	1.0	NC	10	U
Cobalt	0.22	J	1.5	NC	10	U
Chromium	2.5	U	13	NC	10	U
Copper	8.3		8.91	NC	10	J D
Iron	44	U	220	NC	10	U
Potassium	5200		5010	NC	10	D
Magnesium	21000		19800	4.8	10	D
Manganese	90		89.0	NC	10	D
Nickel	2.2	J	10	NC	10	U
Lead	2.5		2.5	NC	10	U
Antimony	13		12.8	NC	10	J D
Selenium	1.1	U	5.5	NC	10	U
Thallium	0.25	U	1.3	NC	10	U
Vanadium	3.2	U	16	NC	10	U
Zinc	8.4	U	42	NC	10	U

Serial Dilution - Batch: 680-260764 **Method: 6020**
Preparation: 3010A

Lab Sample ID:	680-85871-6	Analysis Batch:	680-261166	Instrument ID:	ICPMSA
Client Matrix:	Water	Prep Batch:	680-260764	Lab File ID:	235SMPL.D
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/26/2012 1407	Units:	ug/L	Final Weight/Volume:	250 mL
Prep Date:	12/22/2012 0818				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	%Diff	Limit	Qual
Beryllium	0.25	U	1.3	NC	10	U
Sodium	32000		33700	3.6	10	D

Client: Parsons Corporation

Job Number: 680-85871-1

Method Blank - Batch: 680-260873

Method: 7470A
Preparation: 7470A

Lab Sample ID:	MB 680-260873/1-A	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1622	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Mercury, Dissolved	0.10	U	0.091	0.20

Lab Control Sample - Batch: 680-260873

Method: 7470A
Preparation: 7470A

Lab Sample ID:	LCS 680-260873/2-A	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1625	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury, Dissolved	2.50	2.83	113	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260873

Method: 7470A
Preparation: 7470A
Dissolved

MS Lab Sample ID:	680-85871-18	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1629			Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				
Leach Date:	N/A				

MSD Lab Sample ID:	680-85871-18	Analysis Batch:	680-261149	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	680-260873	Lab File ID:	C122412B.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/24/2012 1632			Final Weight/Volume:	50 mL
Prep Date:	12/24/2012 1033				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury, Dissolved	101	132	80 - 120	27	20		J

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-260873

Method: 7470A
Preparation: 7470A
Dissolved

MS Lab Sample ID:	680-85871-18	Units:	ug/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/24/2012 1629		
Prep Date:	12/24/2012 1033		
Leach Date:	N/A		

MSD Lab Sample ID:	680-85871-18
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/24/2012 1632
Prep Date:	12/24/2012 1033
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual	
Mercury, Dissolved	0.10	U	1.00	1.00	1.01	1.32	J

Client: Parsons Corporation

Job Number: 680-85871-1

Method Blank - Batch: 680-261369

Method: 7470A
Preparation: 7470A

Lab Sample ID:	MB 680-261369/1-A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1354	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Mercury	0.10	U	0.091	0.20
Mercury, Dissolved	0.10	U	0.091	0.20

Lab Control Sample - Batch: 680-261369

Method: 7470A
Preparation: 7470A

Lab Sample ID:	LCS 680-261369/2-A	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1357	Units:	ug/L	Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	2.50	2.03	81	80 - 120	
Mercury, Dissolved	2.50	2.03	81	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-261369

Method: 7470A
Preparation: 7470A

MS Lab Sample ID:	680-85871-6	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1414			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				
Leach Date:	N/A				

MSD Lab Sample ID:	680-85871-6	Analysis Batch:	680-261470	Instrument ID:	LEEMAN2
Client Matrix:	Water	Prep Batch:	680-261369	Lab File ID:	C12302012A.CSV
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/30/2012 1416			Final Weight/Volume:	50 mL
Prep Date:	12/28/2012 1633				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	97	86	80 - 120	13	20		

Client: Parsons Corporation

Job Number: 680-85871-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-261369

Method: 7470A
Preparation: 7470A

MS Lab Sample ID:	680-85871-6	Units:	ug/L	MSD Lab Sample ID:	680-85871-6
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/30/2012 1414			Analysis Date:	12/30/2012 1416
Prep Date:	12/28/2012 1633			Prep Date:	12/28/2012 1633
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Mercury	0.10	U	1.00	1.00	0.975	0.855

DATA REPORTING QUALIFIERS

Client: Parsons Corporation Job Number: 680-85871-1

Lab Section	Qualifier	Description
Metals		
	J	Estimated: The analyte was positively identified; the quantitation is an estimation
	J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	D	The reported value is from a dilution.
	U	Undetected at the Limit of Detection.

Client: Parsons Corporation Job Number: 680-85871-1

Laboratory Chronicle

Lab ID: 680-85871-1 **Client ID:** 16LM20028U

Sample Date/Time: 12/15/2012 10:00 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-1-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-1-A		680-260984	680-260764	12/25/2012 12:22	1	TAL SAV	BR
P:3010A	680-85871-A-1-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-1-A		680-261166	680-260764	12/26/2012 13:23	1	TAL SAV	BR
P:7470A	680-85871-A-1-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-1-C		680-261470	680-261369	12/30/2012 13:59	1	TAL SAV	BCB

Lab ID: 680-85871-2 **Client ID:** 16LM20029U

Sample Date/Time: 12/15/2012 15:33 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-2-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-2-A		680-260984	680-260764	12/25/2012 12:29	1	TAL SAV	BR
P:3010A	680-85871-A-2-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-2-A		680-261166	680-260764	12/26/2012 13:30	1	TAL SAV	BR
P:7470A	680-85871-A-2-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-2-C		680-261470	680-261369	12/30/2012 14:02	1	TAL SAV	BCB

Lab ID: 680-85871-3 **Client ID:** 16LM20030U

Sample Date/Time: 12/15/2012 12:50 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-3-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-3-A		680-260984	680-260764	12/25/2012 12:37	1	TAL SAV	BR
P:3010A	680-85871-A-3-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-3-A		680-261166	680-260764	12/26/2012 13:38	1	TAL SAV	BR
P:7470A	680-85871-A-3-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-3-C		680-261470	680-261369	12/30/2012 14:04	1	TAL SAV	BCB

Lab ID: 680-85871-4 **Client ID:** 16LM20031U

Sample Date/Time: 12/15/2012 10:45 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-4-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-4-A		680-260984	680-260764	12/25/2012 12:44	1	TAL SAV	BR
P:3010A	680-85871-A-4-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-4-A		680-261166	680-260764	12/26/2012 13:45	1	TAL SAV	BR
P:7470A	680-85871-A-4-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-4-C		680-261470	680-261369	12/30/2012 14:06	1	TAL SAV	BCB

Client: Parsons Corporation

Job Number: 680-85871-1

Laboratory Chronicle

Lab ID: 680-85871-5 **Client ID:** 16LM20032U

Sample Date/Time: 12/15/2012 15:45 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-5-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-5-A		680-260984	680-260764	12/25/2012 12:52	1	TAL SAV	BR
P:3010A	680-85871-A-5-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-5-A		680-261166	680-260764	12/26/2012 13:52	1	TAL SAV	BR
P:7470A	680-85871-A-5-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-5-C		680-261470	680-261369	12/30/2012 14:09	1	TAL SAV	BCB

Lab ID: 680-85871-6 **Client ID:** 16LM20033U

Sample Date/Time: 12/15/2012 13:05 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-6-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-6-A		680-260984	680-260764	12/25/2012 12:59	1	TAL SAV	BR
P:3010A	680-85871-A-6-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-6-A		680-261166	680-260764	12/26/2012 14:00	1	TAL SAV	BR
P:7470A	680-85871-A-6-G		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-6-G		680-261470	680-261369	12/30/2012 14:11	1	TAL SAV	BCB

Lab ID: 680-85871-6 **Client ID:** 16LM20033U

Sample Date/Time: 12/15/2012 13:05 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-6-B MS		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-6-B MS		680-260984	680-260764	12/25/2012 13:36	1	TAL SAV	BR
P:3010A	680-85871-A-6-B MS		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-6-B MS		680-261166	680-260764	12/26/2012 14:37	1	TAL SAV	BR
P:7470A	680-85871-A-6-H MS		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-6-H MS		680-261470	680-261369	12/30/2012 14:14	1	TAL SAV	BCB

Client: Parsons Corporation Job Number: 680-85871-1

Laboratory Chronicle

Lab ID: 680-85871-6 **Client ID:** 16LM20033U

Sample Date/Time: 12/15/2012 13:05 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-6-C MSD		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-6-C MSD		680-260984	680-260764	12/25/2012 13:44	1	TAL SAV	BR
P:3010A	680-85871-A-6-C MSD		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-6-C MSD		680-261166	680-260764	12/26/2012 14:44	1	TAL SAV	BR
P:7470A	680-85871-A-6-I MSD		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-6-I MSD		680-261470	680-261369	12/30/2012 14:16	1	TAL SAV	BCB

Lab ID: 680-85871-6 SD **Client ID:** 16LM20033U

Sample Date/Time: 12/15/2012 13:05 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-6-A SD		680-260984	680-260764	12/22/2012 08:18	5	TAL SAV	JKL
A:6020	680-85871-A-6-A SD		680-260984	680-260764	12/25/2012 13:07	5	TAL SAV	BR
P:3010A	680-85871-A-6-A PDS		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-6-A PDS		680-260984	680-260764	12/25/2012 13:14	1	TAL SAV	BR
P:3010A	680-85871-A-6-A SD		680-261166	680-260764	12/22/2012 08:18	5	TAL SAV	JKL
A:6020	680-85871-A-6-A SD		680-261166	680-260764	12/26/2012 14:07	5	TAL SAV	BR
P:3010A	680-85871-A-6-A PDS		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-6-A PDS		680-261166	680-260764	12/26/2012 14:30	1	TAL SAV	BR

Lab ID: 680-85871-7 **Client ID:** 16LM20034U

Sample Date/Time: 12/15/2012 13:11 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-7-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-7-A		680-260984	680-260764	12/25/2012 13:51	1	TAL SAV	BR
P:3010A	680-85871-A-7-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-7-A		680-261166	680-260764	12/26/2012 14:52	1	TAL SAV	BR
P:7470A	680-85871-A-7-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-7-C		680-261470	680-261369	12/30/2012 14:23	1	TAL SAV	BCB

Client: Parsons Corporation Job Number: 680-85871-1

Laboratory Chronicle

Lab ID: 680-85871-8 **Client ID:** 17LM20020U

Sample Date/Time: 12/11/2012 16:40 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-8-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-8-A		680-260984	680-260764	12/25/2012 13:58	1	TAL SAV	BR
P:3010A	680-85871-A-8-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-8-A		680-261166	680-260764	12/26/2012 14:59	1	TAL SAV	BR
P:7470A	680-85871-A-8-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-8-C		680-261470	680-261369	12/30/2012 14:26	1	TAL SAV	BCB

Lab ID: 680-85871-9 **Client ID:** 17LM20021U

Sample Date/Time: 12/11/2012 12:05 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-9-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-9-A		680-260984	680-260764	12/25/2012 14:06	1	TAL SAV	BR
P:3010A	680-85871-A-9-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-9-A		680-261166	680-260764	12/26/2012 15:07	1	TAL SAV	BR
P:7470A	680-85871-A-9-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-9-C		680-261470	680-261369	12/30/2012 14:28	1	TAL SAV	BCB

Lab ID: 680-85871-10 **Client ID:** 17LM20022U

Sample Date/Time: 12/11/2012 14:35 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-10-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-10-A		680-260984	680-260764	12/25/2012 14:13	1	TAL SAV	BR
P:3010A	680-85871-A-10-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-10-A		680-261166	680-260764	12/26/2012 15:14	1	TAL SAV	BR
P:7470A	680-85871-A-10-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-10-C		680-261470	680-261369	12/30/2012 14:31	1	TAL SAV	BCB

Lab ID: 680-85871-11 **Client ID:** 17LM20023U

Sample Date/Time: 12/11/2012 14:05 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-11-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-11-A		680-260984	680-260764	12/25/2012 14:21	1	TAL SAV	BR
P:3010A	680-85871-A-11-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-11-A		680-261166	680-260764	12/26/2012 15:21	1	TAL SAV	BR
P:7470A	680-85871-A-11-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-11-C		680-261470	680-261369	12/30/2012 14:33	1	TAL SAV	BCB

Client: Parsons Corporation

Job Number: 680-85871-1

Laboratory Chronicle

Lab ID: 680-85871-12 **Client ID:** 17LM20024U

Sample Date/Time: 12/11/2012 12:00 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3010A	680-85871-A-12-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-12-A		680-260984	680-260764	12/25/2012 14:28	1	TAL SAV	BR
P:3010A	680-85871-A-12-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	680-85871-A-12-A		680-261166	680-260764	12/26/2012 15:29	1	TAL SAV	BR
P:7470A	680-85871-A-12-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-12-C		680-261470	680-261369	12/30/2012 14:36	1	TAL SAV	BCB

Lab ID: 680-85871-13 **Client ID:** 16LM20028F

Sample Date/Time: 12/15/2012 10:03 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-13-A		680-260984	680-260719	12/21/2012 15:36	1	TAL SAV	JKL
A:6020	680-85871-A-13-A		680-260984	680-260719	12/25/2012 00:44	1	TAL SAV	BR
P:7470A	680-85871-A-13-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-13-C		680-261470	680-261369	12/30/2012 14:38	1	TAL SAV	BCB

Lab ID: 680-85871-14 **Client ID:** 16LM20029F

Sample Date/Time: 12/15/2012 15:35 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-14-A		680-260984	680-260719	12/21/2012 15:36	1	TAL SAV	JKL
A:6020	680-85871-A-14-A		680-260984	680-260719	12/25/2012 00:51	1	TAL SAV	BR
P:7470A	680-85871-A-14-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-14-C		680-261470	680-261369	12/30/2012 14:40	1	TAL SAV	BCB

Lab ID: 680-85871-15 **Client ID:** 16LM20030F

Sample Date/Time: 12/15/2012 12:50 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-15-A		680-260984	680-260719	12/21/2012 15:36	1	TAL SAV	JKL
A:6020	680-85871-A-15-A		680-260984	680-260719	12/25/2012 00:59	1	TAL SAV	BR
P:7470A	680-85871-A-15-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-15-C		680-261470	680-261369	12/30/2012 14:43	1	TAL SAV	BCB

Client: Parsons Corporation Job Number: 680-85871-1

Laboratory Chronicle

Lab ID: 680-85871-16 **Client ID:** 16LM20031F

Sample Date/Time: 12/15/2012 10:45 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-16-A		680-260984	680-260719	12/21/2012 15:36	1	TAL SAV	JKL
A:6020	680-85871-A-16-A		680-260984	680-260719	12/25/2012 01:06	1	TAL SAV	BR
P:7470A	680-85871-A-16-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-16-C		680-261470	680-261369	12/30/2012 14:45	1	TAL SAV	BCB

Lab ID: 680-85871-17 **Client ID:** 16LM20032F

Sample Date/Time: 12/15/2012 15:45 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-17-A		680-260984	680-260719	12/21/2012 15:36	1	TAL SAV	JKL
A:6020	680-85871-A-17-A		680-260984	680-260719	12/25/2012 01:13	1	TAL SAV	BR
P:7470A	680-85871-A-17-C		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	680-85871-A-17-C		680-261470	680-261369	12/30/2012 14:53	1	TAL SAV	BCB

Lab ID: 680-85871-18 **Client ID:** 16LM20033F

Sample Date/Time: 12/15/2012 13:13 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-18-A		680-261296	680-260740	12/21/2012 17:23	1	TAL SAV	JKL
A:6020	680-85871-A-18-A		680-261296	680-260740	12/27/2012 20:46	1	TAL SAV	BR
P:7470A	680-85871-A-18-D		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	680-85871-A-18-D		680-261149	680-260873	12/24/2012 16:27	1	TAL SAV	CE

Lab ID: 680-85871-18 **Client ID:** 16LM20033F

Sample Date/Time: 12/15/2012 13:13 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-18-B MS		680-261296	680-260740	12/21/2012 17:23	1	TAL SAV	JKL
A:6020	680-85871-A-18-B MS		680-261296	680-260740	12/27/2012 21:08	1	TAL SAV	BR
P:7470A	680-85871-A-18-E MS		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	680-85871-A-18-E MS		680-261149	680-260873	12/24/2012 16:29	1	TAL SAV	CE

Client: Parsons Corporation Job Number: 680-85871-1

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Lab ID: 680-85871-18 **Client ID:** 16LM20033F

Sample Date/Time: 12/15/2012 13:13 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-18-C MSD		680-261296	680-260740	12/21/2012 17:23	1	TAL SAV	JKL
A:6020	680-85871-A-18-C MSD		680-261296	680-260740	12/27/2012 21:15	1	TAL SAV	BR
P:7470A	680-85871-A-18-F MSD		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	680-85871-A-18-F MSD		680-261149	680-260873	12/24/2012 16:32	1	TAL SAV	CE

Lab ID: 680-85871-18 SD **Client ID:** 16LM20033F

Sample Date/Time: 12/15/2012 13:13 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-18-A SD		680-261296	680-260740	12/21/2012 17:23	5	TAL SAV	JKL
A:6020	680-85871-A-18-A SD		680-261296	680-260740	12/27/2012 20:53	5	TAL SAV	BR
P:3005A	680-85871-A-18-A PDS		680-261296	680-260740	12/21/2012 17:23	1	TAL SAV	JKL
A:6020	680-85871-A-18-A PDS		680-261296	680-260740	12/27/2012 21:01	1	TAL SAV	BR

Lab ID: 680-85871-19 **Client ID:** 16LM20034F

Sample Date/Time: 12/15/2012 13:16 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-19-A		680-261296	680-260740	12/21/2012 17:23	1	TAL SAV	JKL
A:6020	680-85871-A-19-A		680-261296	680-260740	12/27/2012 21:23	1	TAL SAV	BR
P:7470A	680-85871-A-19-B		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	680-85871-A-19-B		680-261149	680-260873	12/24/2012 16:34	1	TAL SAV	CE

Lab ID: 680-85871-20 **Client ID:** 17LM20020F

Sample Date/Time: 12/11/2012 16:40 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-20-A		680-260788	680-260618	12/21/2012 07:55	1	TAL SAV	JKL
A:6020	680-85871-A-20-A		680-260788	680-260618	12/22/2012 01:00	1	TAL SAV	BR
P:7470A	680-85871-A-20-B		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	680-85871-A-20-B		680-261149	680-260873	12/24/2012 16:41	1	TAL SAV	CE

Client: Parsons Corporation

Job Number: 680-85871-1

Laboratory Chronicle

Lab ID: 680-85871-21 **Client ID:** 17LM20021F

Sample Date/Time: 12/11/2012 12:05 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-21-A		680-260788	680-260618	12/21/2012 07:55	1	TAL SAV	JKL
A:6020	680-85871-A-21-A		680-260788	680-260618	12/22/2012 01:07	1	TAL SAV	BR
P:7470A	680-85871-A-21-B		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	680-85871-A-21-B		680-261149	680-260873	12/24/2012 16:43	1	TAL SAV	CE

Lab ID: 680-85871-22 **Client ID:** 17LM20022F

Sample Date/Time: 12/11/2012 14:35 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-22-A		680-260788	680-260618	12/21/2012 07:55	1	TAL SAV	JKL
A:6020	680-85871-A-22-A		680-260788	680-260618	12/22/2012 01:13	1	TAL SAV	BR
P:7470A	680-85871-A-22-B		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	680-85871-A-22-B		680-261149	680-260873	12/24/2012 16:46	1	TAL SAV	CE

Lab ID: 680-85871-23 **Client ID:** 17LM20023F

Sample Date/Time: 12/11/2012 14:09 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-23-A		680-261296	680-260740	12/21/2012 17:23	1	TAL SAV	JKL
A:6020	680-85871-A-23-A		680-261296	680-260740	12/27/2012 21:30	1	TAL SAV	BR
P:7470A	680-85871-A-23-B		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	680-85871-A-23-B		680-261149	680-260873	12/24/2012 16:48	1	TAL SAV	CE

Lab ID: 680-85871-24 **Client ID:** 17LM20024F

Sample Date/Time: 12/11/2012 12:05 Received Date/Time: 12/18/2012 08:10

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	680-85871-A-24-A		680-261296	680-260740	12/21/2012 17:23	1	TAL SAV	JKL
A:6020	680-85871-A-24-A		680-261296	680-260740	12/27/2012 21:38	1	TAL SAV	BR
P:7470A	680-85871-A-24-B		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	680-85871-A-24-B		680-261149	680-260873	12/24/2012 16:51	1	TAL SAV	CE

Client: Parsons Corporation

Job Number: 680-85871-1

Laboratory Chronicle

Lab ID: MB **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	MB 680-260618/1-A		680-260788	680-260618	12/21/2012 07:55	1	TAL SAV	JKL
A:6020	MB 680-260618/1-A		680-260788	680-260618	12/21/2012 22:00	1	TAL SAV	BR
P:3005A	MB 680-260719/1-A		680-260984	680-260719	12/21/2012 15:36	1	TAL SAV	JKL
A:6020	MB 680-260719/1-A		680-260984	680-260719	12/24/2012 21:38	1	TAL SAV	BR
P:3010A	MB 680-260764/1-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	MB 680-260764/1-A		680-260984	680-260764	12/25/2012 12:07	1	TAL SAV	BR
P:3010A	MB 680-260764/1-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	MB 680-260764/1-A		680-261166	680-260764	12/26/2012 13:08	1	TAL SAV	BR
P:3005A	MB 680-260740/1-A		680-261296	680-260740	12/21/2012 17:23	1	TAL SAV	JKL
A:6020	MB 680-260740/1-A		680-261296	680-260740	12/27/2012 20:31	1	TAL SAV	BR
P:7470A	MB 680-260873/1-A		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	MB 680-260873/1-A		680-261149	680-260873	12/24/2012 16:22	1	TAL SAV	CE
P:7470A	MB 680-261369/1-A		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	MB 680-261369/1-A		680-261470	680-261369	12/30/2012 13:54	1	TAL SAV	BCB

Lab ID: LCS **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	LCS 680-260618/2-A		680-260788	680-260618	12/21/2012 07:55	1	TAL SAV	JKL
A:6020	LCS 680-260618/2-A		680-260788	680-260618	12/21/2012 22:07	1	TAL SAV	BR
P:3005A	LCS 680-260719/2-A		680-260984	680-260719	12/21/2012 15:36	1	TAL SAV	JKL
A:6020	LCS 680-260719/2-A		680-260984	680-260719	12/24/2012 21:46	1	TAL SAV	BR
P:3010A	LCS 680-260764/2-A		680-260984	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	LCS 680-260764/2-A		680-260984	680-260764	12/25/2012 12:15	1	TAL SAV	BR
P:3010A	LCS 680-260764/2-A		680-261166	680-260764	12/22/2012 08:18	1	TAL SAV	JKL
A:6020	LCS 680-260764/2-A		680-261166	680-260764	12/26/2012 13:15	1	TAL SAV	BR
P:3005A	LCS 680-260740/2-A		680-261296	680-260740	12/21/2012 17:23	1	TAL SAV	JKL
A:6020	LCS 680-260740/2-A		680-261296	680-260740	12/27/2012 20:38	1	TAL SAV	BR
P:7470A	LCS 680-260873/2-A		680-261149	680-260873	12/24/2012 10:33	1	TAL SAV	UU
A:7470A	LCS 680-260873/2-A		680-261149	680-260873	12/24/2012 16:25	1	TAL SAV	CE
P:7470A	LCS 680-261369/2-A		680-261470	680-261369	12/28/2012 16:33	1	TAL SAV	UU
A:7470A	LCS 680-261369/2-A		680-261470	680-261369	12/30/2012 13:57	1	TAL SAV	BCB

Lab ID: MS **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	640-41590-L-2-B MS		680-260788	680-260618	12/21/2012 07:55	1	TAL SAV	JKL
A:6020	640-41590-L-2-B MS		680-260788	680-260618	12/21/2012 22:33	1	TAL SAV	BR
P:3005A	680-85852-A-1-B MS		680-260984	680-260719	12/21/2012 15:36	1	TAL SAV	JKL
A:6020	680-85852-A-1-B MS		680-260984	680-260719	12/24/2012 22:15	1	TAL SAV	BR

Client: Parsons Corporation

Job Number: 680-85871-1

Laboratory Chronicle

Lab ID: MSD **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	640-41590-L-2-C MSD		680-260788	680-260618	12/21/2012 07:55	1	TAL SAV	JKL
A:6020	640-41590-L-2-C MSD		680-260788	680-260618	12/21/2012 22:40	1	TAL SAV	BR
P:3005A	680-85852-A-1-C MSD		680-260984	680-260719	12/21/2012 15:36	1	TAL SAV	JKL
A:6020	680-85852-A-1-C MSD		680-260984	680-260719	12/24/2012 22:23	1	TAL SAV	BR

Lab ID: SD **Client ID:** N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3005A	640-41590-L-2-A SD		680-260788	680-260618	12/21/2012 07:55	25	TAL SAV	JKL
A:6020	640-41590-L-2-A SD		680-260788	680-260618	12/21/2012 22:20	25	TAL SAV	BR
P:3005A	640-41590-L-2-A PDS		680-260788	680-260618	12/21/2012 07:55	1	TAL SAV	JKL
A:6020	640-41590-L-2-A PDS		680-260788	680-260618	12/21/2012 22:27	1	TAL SAV	BR
P:3005A	680-85852-A-1-A SD		680-260984	680-260719	12/21/2012 15:36	5	TAL SAV	JKL
A:6020	680-85852-A-1-A SD		680-260984	680-260719	12/24/2012 22:00	5	TAL SAV	BR
P:3005A	680-85852-A-1-A PDS		680-260984	680-260719	12/21/2012 15:36	1	TAL SAV	JKL
A:6020	680-85852-A-1-A PDS		680-260984	680-260719	12/24/2012 22:08	1	TAL SAV	BR

Lab References:

TAL SAV = TestAmerica Savannah

METALS

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METALS

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG No.:

Project: SEAD-16/17 Long Term Monitoring

Client Sample ID	Lab Sample ID
16LM20028U	680-85871-1
16LM20029U	680-85871-2
16LM20030U	680-85871-3
16LM20031U	680-85871-4
16LM20032U	680-85871-5
16LM20033U	680-85871-6
16LM20034U	680-85871-7
17LM20020U	680-85871-8
17LM20021U	680-85871-9
17LM20022U	680-85871-10
17LM20023U	680-85871-11
17LM20024U	680-85871-12
16LM20028F	680-85871-13
16LM20029F	680-85871-14
16LM20030F	680-85871-15
16LM20031F	680-85871-16
16LM20032F	680-85871-17
16LM20033F	680-85871-18
16LM20034F	680-85871-19
17LM20020F	680-85871-20
17LM20021F	680-85871-21
17LM20022F	680-85871-22
17LM20023F	680-85871-23
17LM20024F	680-85871-24

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 16LM20028U
Lab Sample ID: 680-85871-1
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 10:00
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium	78	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	120000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.20	0.50	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.16	0.50	0.12	ug/L	J		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	3.3	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron	44	100	44	ug/L	U		1	6020
7440-09-7	Potassium	870	1000	330	ug/L	J		1	6020
7439-95-4	Magnesium	18000	250	100	ug/L			1	6020
7439-96-5	Manganese	2.0	5.0	2.0	ug/L	U		1	6020
7440-23-5	Sodium	62000	500	170	ug/L			1	6020
7440-02-0	Nickel	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead	0.50	1.5	0.50	ug/L	U		1	6020
7440-36-0	Antimony	2.0	5.0	2.0	ug/L	U		1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	8.4	20	8.4	ug/L	U		1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 16LM20029U
Lab Sample ID: 680-85871-2
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 15:33
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium	62	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	100000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.20	0.50	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.30	0.50	0.12	ug/L	U		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	5.0	5.0	1.1	ug/L			1	6020
7439-89-6	Iron	44	100	44	ug/L	U		1	6020
7440-09-7	Potassium	1900	1000	330	ug/L			1	6020
7439-95-4	Magnesium	11000	250	100	ug/L			1	6020
7439-96-5	Manganese	2.0	5.0	2.0	ug/L	U		1	6020
7440-23-5	Sodium	17000	500	170	ug/L			1	6020
7440-02-0	Nickel	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead	0.66	1.5	0.50	ug/L	J		1	6020
7440-36-0	Antimony	7.1	5.0	2.0	ug/L			1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	8.8	20	8.4	ug/L	J		1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 16LM20030U
Lab Sample ID: 680-85871-3
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 12:50
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	J		1	6020
7440-39-3	Barium	230	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	220000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.23	0.50	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	1.9	0.50	0.12	ug/L			1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	11	5.0	1.1	ug/L			1	6020
7439-89-6	Iron	140	100	44	ug/L			1	6020
7440-09-7	Potassium	3100	1000	330	ug/L			1	6020
7439-95-4	Magnesium	32000	250	100	ug/L			1	6020
7439-96-5	Manganese	140	5.0	2.0	ug/L			1	6020
7440-23-5	Sodium	310000	500	170	ug/L			1	6020
7440-02-0	Nickel	3.2	5.0	2.0	ug/L	J		1	6020
7439-92-1	Lead	3.4	1.5	0.50	ug/L			1	6020
7440-36-0	Antimony	3.9	5.0	2.0	ug/L	J		1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	11	20	8.4	ug/L	J		1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 16LM20031U
Lab Sample ID: 680-85871-4
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 10:45
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	2.7	2.5	1.3	ug/L			1	6020
7440-39-3	Barium	39	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	96000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.20	0.50	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.23	0.50	0.12	ug/L	J		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	3.0	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron	1300	100	44	ug/L			1	6020
7440-09-7	Potassium	2100	1000	330	ug/L			1	6020
7439-95-4	Magnesium	9800	250	100	ug/L			1	6020
7439-96-5	Manganese	130	5.0	2.0	ug/L			1	6020
7440-23-5	Sodium	1500	500	170	ug/L			1	6020
7440-02-0	Nickel	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead	0.50	1.5	0.50	ug/L	U		1	6020
7440-36-0	Antimony	2.0	5.0	2.0	ug/L	U		1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	8.4	20	8.4	ug/L	U		1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 16LM20032U
Lab Sample ID: 680-85871-5
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 15:45
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	300	100	50	ug/L			1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	J		1	6020
7440-39-3	Barium	45	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	74000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.20	0.50	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.43	0.50	0.12	ug/L	J		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	4.1	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron	790	100	44	ug/L			1	6020
7440-09-7	Potassium	2400	1000	330	ug/L			1	6020
7439-95-4	Magnesium	7600	250	100	ug/L			1	6020
7439-96-5	Manganese	26	5.0	2.0	ug/L			1	6020
7440-23-5	Sodium	8000	500	170	ug/L			1	6020
7440-02-0	Nickel	2.0	5.0	2.0	ug/L	J		1	6020
7439-92-1	Lead	0.50	1.5	0.50	ug/L	U		1	6020
7440-36-0	Antimony	2.0	5.0	2.0	ug/L	U		1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	8.4	20	8.4	ug/L	U		1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 16LM20033U
Lab Sample ID: 680-85871-6
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 13:05
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium	100	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	100000	500	170	ug/L		J	1	6020
7440-43-9	Cadmium	0.20	0.50	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.22	0.50	0.12	ug/L	J		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	8.3	5.0	1.1	ug/L			1	6020
7439-89-6	Iron	44	100	44	ug/L	U		1	6020
7440-09-7	Potassium	5200	1000	330	ug/L			1	6020
7439-95-4	Magnesium	21000	250	100	ug/L		J	1	6020
7439-96-5	Manganese	90	5.0	2.0	ug/L			1	6020
7440-23-5	Sodium	32000	500	170	ug/L			1	6020
7440-02-0	Nickel	2.2	5.0	2.0	ug/L	J		1	6020
7439-92-1	Lead	2.5	1.5	0.50	ug/L			1	6020
7440-36-0	Antimony	13	5.0	2.0	ug/L			1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	8.4	20	8.4	ug/L	U		1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 16LM20034U
Lab Sample ID: 680-85871-7
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 13:11
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium	100	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	110000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.20	0.50	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.24	0.50	0.12	ug/L	J		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	5.6	5.0	1.1	ug/L			1	6020
7439-89-6	Iron	44	100	44	ug/L	U		1	6020
7440-09-7	Potassium	5400	1000	330	ug/L			1	6020
7439-95-4	Magnesium	22000	250	100	ug/L			1	6020
7439-96-5	Manganese	91	5.0	2.0	ug/L			1	6020
7440-23-5	Sodium	32000	500	170	ug/L			1	6020
7440-02-0	Nickel	2.4	5.0	2.0	ug/L	J		1	6020
7439-92-1	Lead	2.6	1.5	0.50	ug/L			1	6020
7440-36-0	Antimony	14	5.0	2.0	ug/L			1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	8.4	20	8.4	ug/L	U		1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 17LM20020U
Lab Sample ID: 680-85871-8
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/11/2012 16:40
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium	28	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	55000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.44	0.50	0.13	ug/L	J		1	6020
7440-48-4	Cobalt	0.37	0.50	0.12	ug/L	J		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	5.4	5.0	1.1	ug/L			1	6020
7439-89-6	Iron	90	100	44	ug/L	J		1	6020
7440-09-7	Potassium	410	1000	330	ug/L	J		1	6020
7439-95-4	Magnesium	7700	250	100	ug/L			1	6020
7439-96-5	Manganese	8.1	5.0	2.0	ug/L			1	6020
7440-23-5	Sodium	2500	500	170	ug/L			1	6020
7440-02-0	Nickel	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead	1.1	1.5	0.50	ug/L	J		1	6020
7440-36-0	Antimony	2.7	5.0	2.0	ug/L	J		1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	8.4	20	8.4	ug/L	U		1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 17LM20021U
Lab Sample ID: 680-85871-9
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/11/2012 12:05
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium	68	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	120000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.20	0.50	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.42	0.50	0.12	ug/L	J		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	7.8	5.0	1.1	ug/L			1	6020
7439-89-6	Iron	44	100	44	ug/L	U		1	6020
7440-09-7	Potassium	2500	1000	330	ug/L			1	6020
7439-95-4	Magnesium	12000	250	100	ug/L			1	6020
7439-96-5	Manganese	14	5.0	2.0	ug/L			1	6020
7440-23-5	Sodium	8400	500	170	ug/L			1	6020
7440-02-0	Nickel	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead	0.99	1.5	0.50	ug/L	J		1	6020
7440-36-0	Antimony	4.4	5.0	2.0	ug/L	J		1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	26	20	8.4	ug/L			1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 17LM20022U
Lab Sample ID: 680-85871-10
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/11/2012 14:35
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium	36	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	67000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.20	0.50	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.30	0.50	0.12	ug/L	U		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	3.2	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron	44	100	44	ug/L	U		1	6020
7440-09-7	Potassium	1700	1000	330	ug/L			1	6020
7439-95-4	Magnesium	5800	250	100	ug/L			1	6020
7439-96-5	Manganese	2.0	5.0	2.0	ug/L	U		1	6020
7440-23-5	Sodium	3100	500	170	ug/L			1	6020
7440-02-0	Nickel	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead	0.78	1.5	0.50	ug/L	J		1	6020
7440-36-0	Antimony	2.0	5.0	2.0	ug/L	U		1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	26	20	8.4	ug/L			1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 17LM20023U
Lab Sample ID: 680-85871-11
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/11/2012 14:05
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium	67	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	87000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.20	0.50	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.25	0.50	0.12	ug/L	J		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	4.7	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron	72	100	44	ug/L	J		1	6020
7440-09-7	Potassium	780	1000	330	ug/L	J		1	6020
7439-95-4	Magnesium	15000	250	100	ug/L			1	6020
7439-96-5	Manganese	11	5.0	2.0	ug/L			1	6020
7440-23-5	Sodium	8600	500	170	ug/L			1	6020
7440-02-0	Nickel	2.1	5.0	2.0	ug/L	J		1	6020
7439-92-1	Lead	0.50	1.5	0.50	ug/L	U		1	6020
7440-36-0	Antimony	2.0	5.0	2.0	ug/L	U		1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	8.4	20	8.4	ug/L	U		1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

Client Sample ID: 17LM20024U
Lab Sample ID: 680-85871-12
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/11/2012 12:00
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver	0.25	1.0	0.18	ug/L	U		1	6020
7429-90-5	Aluminum	50	100	50	ug/L	U		1	6020
7440-38-2	Arsenic	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium	26	5.0	1.4	ug/L			1	6020
7440-41-7	Beryllium	0.25	0.50	0.15	ug/L	U		1	6020
7440-70-2	Calcium	75000	500	170	ug/L			1	6020
7440-43-9	Cadmium	0.20	0.50	0.13	ug/L	U		1	6020
7440-48-4	Cobalt	0.31	0.50	0.12	ug/L	J		1	6020
7440-47-3	Chromium	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper	2.1	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron	160	100	44	ug/L			1	6020
7440-09-7	Potassium	460	1000	330	ug/L	J		1	6020
7439-95-4	Magnesium	11000	250	100	ug/L			1	6020
7439-96-5	Manganese	59	5.0	2.0	ug/L			1	6020
7440-23-5	Sodium	9100	500	170	ug/L			1	6020
7440-02-0	Nickel	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead	0.50	1.5	0.50	ug/L	U		1	6020
7440-36-0	Antimony	2.0	5.0	2.0	ug/L	U		1	6020
7782-49-2	Selenium	1.1	2.5	1.1	ug/L	U		1	6020
7440-28-0	Thallium	0.25	1.0	0.25	ug/L	U		1	6020
7440-62-2	Vanadium	3.2	10	3.2	ug/L	U		1	6020
7440-66-6	Zinc	8.4	20	8.4	ug/L	U		1	6020
7439-97-6	Mercury	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 16LM20028F
Lab Sample ID: 680-85871-13
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 10:03
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium, Dissolved	78	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	120000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.15	0.50	0.15	ug/L	U		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	5.2	5.0	1.1	ug/L			1	6020
7439-89-6	Iron, Dissolved	33	100	33	ug/L	U		1	6020
7440-09-7	Potassium, Dissolved	900	500	170	ug/L			1	6020
7439-95-4	Magnesium, Dissolved	18000	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	1.0	5.0	1.0	ug/L	U		1	6020
7440-23-5	Sodium, Dissolved	63000	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.3	5.0	2.0	ug/L	J		1	6020
7439-92-1	Lead, Dissolved	0.20	1.5	0.20	ug/L	U		1	6020
7440-36-0	Antimony, Dissolved	2.9	5.0	2.3	ug/L	U		1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	8.3	20	8.3	ug/L	U		1	6020
7439-97-6	Mercury, Dissolved	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 16LM20029F
Lab Sample ID: 680-85871-14
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 15:35
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium, Dissolved	65	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	110000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.15	0.50	0.15	ug/L	U		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	4.5	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron, Dissolved	33	100	33	ug/L	U		1	6020
7440-09-7	Potassium, Dissolved	2200	500	170	ug/L			1	6020
7439-95-4	Magnesium, Dissolved	13000	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	1.0	5.0	1.0	ug/L	U		1	6020
7440-23-5	Sodium, Dissolved	20000	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.2	5.0	2.0	ug/L	J		1	6020
7439-92-1	Lead, Dissolved	0.24	1.5	0.20	ug/L	J		1	6020
7440-36-0	Antimony, Dissolved	7.8	5.0	2.3	ug/L			1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	9.5	20	8.3	ug/L	J		1	6020
7439-97-6	Mercury, Dissolved	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 16LM20030F
Lab Sample ID: 680-85871-15
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 12:50
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.5	2.5	1.3	ug/L	J		1	6020
7440-39-3	Barium, Dissolved	240	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	230000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	1.9	0.50	0.15	ug/L			1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	4.1	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron, Dissolved	130	100	33	ug/L			1	6020
7440-09-7	Potassium, Dissolved	3200	500	170	ug/L			1	6020
7439-95-4	Magnesium, Dissolved	34000	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	140	5.0	1.0	ug/L			1	6020
7440-23-5	Sodium, Dissolved	340000	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.6	5.0	2.0	ug/L	J		1	6020
7439-92-1	Lead, Dissolved	0.20	1.5	0.20	ug/L	U		1	6020
7440-36-0	Antimony, Dissolved	4.0	5.0	2.3	ug/L	J		1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	12	20	8.3	ug/L	J		1	6020
7439-97-6	Mercury, Dissolved	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 16LM20031F
Lab Sample ID: 680-85871-16
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 10:45
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	2.6	2.5	1.3	ug/L			1	6020
7440-39-3	Barium, Dissolved	34	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	97000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.22	0.50	0.15	ug/L	J		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	1.1	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron, Dissolved	1100	100	33	ug/L			1	6020
7440-09-7	Potassium, Dissolved	2100	500	170	ug/L			1	6020
7439-95-4	Magnesium, Dissolved	9900	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	130	5.0	1.0	ug/L			1	6020
7440-23-5	Sodium, Dissolved	1600	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.1	5.0	2.0	ug/L	J		1	6020
7439-92-1	Lead, Dissolved	0.20	1.5	0.20	ug/L	U		1	6020
7440-36-0	Antimony, Dissolved	2.9	5.0	2.3	ug/L	U		1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	8.3	20	8.3	ug/L	U		1	6020
7439-97-6	Mercury, Dissolved	0.10	0.20	0.091	ug/L	J		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 16LM20032F
Lab Sample ID: 680-85871-17
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 15:45
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium, Dissolved	41	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	70000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.18	0.50	0.15	ug/L	J		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	4.5	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron, Dissolved	33	100	33	ug/L	J		1	6020
7440-09-7	Potassium, Dissolved	2400	500	170	ug/L			1	6020
7439-95-4	Magnesium, Dissolved	7200	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	10	5.0	1.0	ug/L			1	6020
7440-23-5	Sodium, Dissolved	8700	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead, Dissolved	0.20	1.5	0.20	ug/L	U		1	6020
7440-36-0	Antimony, Dissolved	2.9	5.0	2.3	ug/L	U		1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	8.3	20	8.3	ug/L	U		1	6020
7439-97-6	Mercury, Dissolved	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 16LM20033F
Lab Sample ID: 680-85871-18
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 13:13
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.3	2.5	1.3	ug/L	J		1	6020
7440-39-3	Barium, Dissolved	100	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	110000	250	130	ug/L		J	1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.23	0.50	0.15	ug/L	J		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	4.1	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron, Dissolved	33	100	33	ug/L	U		1	6020
7440-09-7	Potassium, Dissolved	5300	500	170	ug/L			1	6020
7439-95-4	Magnesium, Dissolved	21000	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	92	5.0	1.0	ug/L			1	6020
7440-23-5	Sodium, Dissolved	35000	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead, Dissolved	1.3	1.5	0.20	ug/L	J		1	6020
7440-36-0	Antimony, Dissolved	13	5.0	2.3	ug/L			1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	8.3	20	8.3	ug/L	U		1	6020
7439-97-6	Mercury, Dissolved	0.10	0.20	0.091	ug/L	U	J	1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 16LM20034F
Lab Sample ID: 680-85871-19
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/15/2012 13:16
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium, Dissolved	99	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	100000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.24	0.50	0.15	ug/L	J		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	1.7	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron, Dissolved	33	100	33	ug/L	U		1	6020
7440-09-7	Potassium, Dissolved	5100	500	170	ug/L			1	6020
7439-95-4	Magnesium, Dissolved	20000	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	98	5.0	1.0	ug/L			1	6020
7440-23-5	Sodium, Dissolved	33000	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead, Dissolved	2.3	1.5	0.20	ug/L			1	6020
7440-36-0	Antimony, Dissolved	13	5.0	2.3	ug/L			1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	8.3	20	8.3	ug/L	U		1	6020
7439-97-6	Mercury, Dissolved	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 17LM20020F
Lab Sample ID: 680-85871-20
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/11/2012 16:40
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium, Dissolved	28	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	53000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.32	0.50	0.15	ug/L	J		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	4.7	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron, Dissolved	47	100	33	ug/L	J		1	6020
7440-09-7	Potassium, Dissolved	380	500	170	ug/L	J		1	6020
7439-95-4	Magnesium, Dissolved	7200	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	7.2	5.0	1.0	ug/L			1	6020
7440-23-5	Sodium, Dissolved	2400	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead, Dissolved	0.20	1.5	0.20	ug/L	U		1	6020
7440-36-0	Antimony, Dissolved	2.9	5.0	2.3	ug/L	U		1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	8.3	20	8.3	ug/L	U		1	6020
7439-97-6	Mercury, Dissolved	0.14	0.20	0.091	ug/L	J		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 17LM20021F
Lab Sample ID: 680-85871-21
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/11/2012 12:05
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium, Dissolved	69	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	120000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.39	0.50	0.15	ug/L	J		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	7.7	5.0	1.1	ug/L			1	6020
7439-89-6	Iron, Dissolved	33	100	33	ug/L	U		1	6020
7440-09-7	Potassium, Dissolved	2500	500	170	ug/L			1	6020
7439-95-4	Magnesium, Dissolved	12000	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	12	5.0	1.0	ug/L			1	6020
7440-23-5	Sodium, Dissolved	8400	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead, Dissolved	0.20	1.5	0.20	ug/L	U		1	6020
7440-36-0	Antimony, Dissolved	4.0	5.0	2.3	ug/L	J		1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	24	20	8.3	ug/L			1	6020
7439-97-6	Mercury, Dissolved	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 17LM20022F
Lab Sample ID: 680-85871-22
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/11/2012 14:35
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium, Dissolved	37	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	74000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.15	0.50	0.15	ug/L	U		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	3.3	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron, Dissolved	33	100	33	ug/L	U		1	6020
7440-09-7	Potassium, Dissolved	1800	500	170	ug/L			1	6020
7439-95-4	Magnesium, Dissolved	6100	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	1.0	5.0	1.0	ug/L	U		1	6020
7440-23-5	Sodium, Dissolved	3300	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead, Dissolved	0.24	1.5	0.20	ug/L	J		1	6020
7440-36-0	Antimony, Dissolved	2.9	5.0	2.3	ug/L	U		1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	29	20	8.3	ug/L			1	6020
7439-97-6	Mercury, Dissolved	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 17LM20023F
Lab Sample ID: 680-85871-23
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/11/2012 14:09
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium, Dissolved	65	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	83000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.21	0.50	0.15	ug/L	J		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	1.1	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron, Dissolved	33	100	33	ug/L	U		1	6020
7440-09-7	Potassium, Dissolved	750	500	170	ug/L			1	6020
7439-95-4	Magnesium, Dissolved	15000	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	9.5	5.0	1.0	ug/L			1	6020
7440-23-5	Sodium, Dissolved	8900	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead, Dissolved	0.20	1.5	0.20	ug/L	U		1	6020
7440-36-0	Antimony, Dissolved	2.9	5.0	2.3	ug/L	U		1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	8.3	20	8.3	ug/L	U		1	6020
7439-97-6	Mercury, Dissolved	0.10	0.20	0.091	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 17LM20024F
Lab Sample ID: 680-85871-24
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG ID.:
Matrix: Water
Date Sampled: 12/11/2012 12:05
Reporting Basis: WET
Date Received: 12/18/2012 08:10

CAS No.	Analyte	Result	LOQ	DL	Units	C	Q	DIL	Method
7440-22-4	Silver, Dissolved	0.25	1.0	0.25	ug/L	U		1	6020
7429-90-5	Aluminum, Dissolved	23	50	23	ug/L	U		1	6020
7440-38-2	Arsenic, Dissolved	1.3	2.5	1.3	ug/L	U		1	6020
7440-39-3	Barium, Dissolved	24	5.0	1.3	ug/L			1	6020
7440-41-7	Beryllium, Dissolved	0.25	0.50	0.25	ug/L	U		1	6020
7440-70-2	Calcium, Dissolved	68000	250	130	ug/L			1	6020
7440-43-9	Cadmium, Dissolved	0.20	0.50	0.095	ug/L	U		1	6020
7440-48-4	Cobalt, Dissolved	0.31	0.50	0.15	ug/L	J		1	6020
7440-47-3	Chromium, Dissolved	2.5	5.0	2.5	ug/L	U		1	6020
7440-50-8	Copper, Dissolved	3.7	5.0	1.1	ug/L	J		1	6020
7439-89-6	Iron, Dissolved	44	100	33	ug/L	J		1	6020
7440-09-7	Potassium, Dissolved	460	500	170	ug/L	J		1	6020
7439-95-4	Magnesium, Dissolved	9900	250	43	ug/L			1	6020
7439-96-5	Manganese, Dissolved	38	5.0	1.0	ug/L			1	6020
7440-23-5	Sodium, Dissolved	9400	500	250	ug/L			1	6020
7440-02-0	Nickel, Dissolved	2.0	5.0	2.0	ug/L	U		1	6020
7439-92-1	Lead, Dissolved	0.20	1.5	0.20	ug/L	U		1	6020
7440-36-0	Antimony, Dissolved	2.9	5.0	2.3	ug/L	U		1	6020
7782-49-2	Selenium, Dissolved	1.0	2.5	1.0	ug/L	U		1	6020
7440-28-0	Thallium, Dissolved	0.50	1.0	0.50	ug/L	U		1	6020
7440-62-2	Vanadium, Dissolved	3.8	10	3.8	ug/L	U		1	6020
7440-66-6	Zinc, Dissolved	8.3	20	8.3	ug/L	U		1	6020
7439-97-6	Mercury, Dissolved	0.12	0.20	0.091	ug/L	J		1	7470A

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	ICV 680-260984/9 12/24/2012 19:54				CCV 680-260984/12 12/24/2012 20:17				CCV 680-260984/21 12/24/2012 21:24			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	422		400	106	512		500	102	502		500	100
Antimony	42.8		40.0	107	50.9		50.0	102	52.1		50.0	104
Arsenic	41.7		40.0	104	49.7		50.0	99	49.8		50.0	100
Barium	39.9		40.0	100	50.6		50.0	101	52.1		50.0	104
Beryllium	39.7		40.0	99	48.9		50.0	98	53.4		50.0	107
Cadmium	40.5		40.0	101	51.3		50.0	103	51.7		50.0	103
Calcium	3910		4000	98	5080		5000	102	5040		5000	101
Chromium	38.8		40.0	97	50.0		50.0	100	49.6		50.0	99
Cobalt	39.4		40.0	99	49.7		50.0	99	48.8		50.0	98
Copper	41.3		40.0	103	50.7		50.0	101	50.6		50.0	101
Iron	3880		4000	97	5050		5000	101	5030		5000	101
Lead	40.9		40.0	102	50.3		50.0	101	51.7		50.0	103
Magnesium	4080		4000	102	5090		5000	102	5010		5000	100
Manganese	404		400	101	514		500	103	505		500	101
Nickel	40.8		40.0	102	50.5		50.0	101	50.2		50.0	100
Potassium	4090		4000	102	5040		5000	101	4930		5000	99
Selenium	40.3		40.0	101	50.9		50.0	102	50.8		50.0	102
Silver	42.3		40.0	106	51.5		50.0	103	51.2		50.0	102
Sodium	4090		4000	102	5070		5000	101	5010		5000	100
Thallium	8.03		8.00	100	10.0		10.0	100	10.4		10.0	104
Vanadium	39.8		40.0	99	49.7		50.0	99	48.9		50.0	98
Zinc	43.5		40.0	109	51.7		50.0	103	51.1		50.0	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	CCV 680-260984/33 12/24/2012 22:52				CCV 680-260984/45 12/25/2012 00:22				CCV 680-260984/53 12/25/2012 01:21			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	495		500	99	496		500	99	504		500	101
Antimony	51.8		50.0	104	51.7		50.0	103	50.3		50.0	101
Arsenic	49.4		50.0	99	49.4		50.0	99	49.5		50.0	99
Barium	51.7		50.0	103	51.0		50.0	102	49.9		50.0	100
Beryllium	51.6		50.0	103	52.3		50.0	105	49.9		50.0	100
Cadmium	51.6		50.0	103	50.9		50.0	102	49.9		50.0	100
Calcium	5010		5000	100	5030		5000	101	5000		5000	100
Chromium	49.1		50.0	98	49.4		50.0	99	49.9		50.0	100
Cobalt	48.9		50.0	98	48.5		50.0	97	48.8		50.0	98
Copper	49.9		50.0	100	50.2		50.0	100	50.7		50.0	101
Iron	4970		5000	99	4990		5000	100	4980		5000	100
Lead	50.8		50.0	102	50.7		50.0	101	50.2		50.0	100
Magnesium	4920		5000	98	4910		5000	98	5010		5000	100
Manganese	504		500	101	500		500	100	503		500	101
Nickel	49.3		50.0	99	49.4		50.0	99	50.2		50.0	100
Potassium	4810		5000	96	4900		5000	98	5030		5000	101
Selenium	50.5		50.0	101	50.2		50.0	100	50.3		50.0	101
Silver	51.4		50.0	103	51.3		50.0	103	50.0		50.0	100
Sodium	4900		5000	98	4880		5000	98	5010		5000	100
Thallium	10.2		10.0	102	10.2		10.0	102	10.0		10.0	100
Vanadium	48.3		50.0	97	48.8		50.0	98	49.3		50.0	99
Zinc	51.3		50.0	103	50.7		50.0	101	51.0		50.0	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	CCV 680-260984/130 12/25/2012 10:52				CCV 680-260984/138 12/25/2012 11:52				CCV 680-260984/150 12/25/2012 13:21			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	492		500	98	479		500	96	487		500	97
Antimony	51.7		50.0	103	51.9		50.0	104	52.8		50.0	106
Arsenic	49.2		50.0	98	48.3		50.0	97	50.5		50.0	101
Barium	50.7		50.0	101	51.0		50.0	102	51.7		50.0	103
Beryllium	54.3		50.0	109					54.7		50.0	109
Cadmium	49.9		50.0	100	49.9		50.0	100	50.9		50.0	102
Calcium	4950		5000	99	4850		5000	97	4930		5000	99
Chromium	49.9		50.0	100	49.0		50.0	98	51.1		50.0	102
Cobalt	47.6		50.0	95	46.8		50.0	94	47.8		50.0	96
Copper	51.9		50.0	104	50.8		50.0	102	53.0		50.0	106
Iron	4980		5000	100	4970		5000	99	5050		5000	101
Lead	49.8		50.0	100	50.0		50.0	100	50.5		50.0	101
Magnesium	4940		5000	99	4840		5000	97	4830		5000	97
Manganese	491		500	98	493		500	99	504		500	101
Nickel	51.3		50.0	103	50.0		50.0	100	52.1		50.0	104
Potassium	4900		5000	98	4720		5000	94	5000		5000	100
Selenium	50.0		50.0	100	49.8		50.0	100	50.5		50.0	101
Silver	50.2		50.0	100	49.2		50.0	98	50.8		50.0	102
Sodium	5080		5000	102	4930		5000	99				
Thallium	10.0		10.0	100	9.99		10.0	100	10.1		10.0	101
Vanadium	49.7		50.0	99	48.2		50.0	96	50.8		50.0	102
Zinc	49.9		50.0	100	50.1		50.0	100	50.6		50.0	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	CCV 680-260984/162 12/25/2012 14:50											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	493		500	99								
Antimony	52.0		50.0	104								
Arsenic	50.5		50.0	101								
Barium	51.0		50.0	102								
Beryllium												
Cadmium	50.5		50.0	101								
Calcium	4940		5000	99								
Chromium	51.6		50.0	103								
Cobalt	48.1		50.0	96								
Copper	53.9		50.0	108								
Iron	4910		5000	98								
Lead	49.6		50.0	99								
Magnesium	5050		5000	101								
Manganese	507		500	101								
Nickel	53.3		50.0	107								
Potassium	5100		5000	102								
Selenium	50.0		50.0	100								
Silver	50.7		50.0	101								
Sodium												
Thallium	9.93		10.0	99								
Vanadium	51.2		50.0	102								
Zinc	49.9		50.0	100								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	ICV 680-261166/9 12/24/2012 19:54				CCV 680-261166/12 12/24/2012 20:17				CCV 680-261166/21 12/24/2012 21:24			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Beryllium	39.7		40.0	99	48.9		50.0	98	53.4		50.0	107
Sodium	4090		4000	102	5070		5000	101	5010		5000	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	CCV 680-261166/23 12/26/2012 09:31				CCV 680-261166/31 12/26/2012 10:31				CCV 680-261166/49 12/26/2012 12:45			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Beryllium	52.5		50.0	105	52.2		50.0	104	54.1		50.0	108
Sodium	5200		5000	104	5180		5000	104	5210		5000	104

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	CCV 680-261166/61 12/26/2012 14:15				CCV 680-261166/73 12/26/2012 15:44							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Beryllium	52.8		50.0	106	52.5		50.0	105				
Sodium	5230		5000	105	5210		5000	104				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	ICV 680-261296/9 12/27/2012 18:47				CCV 680-261296/12 12/27/2012 19:09				CCV 680-261296/21 12/27/2012 20:16			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	422		400	105	507		500	101	497		500	99
Antimony, Dissolved	44.1		40.0	110	49.3		50.0	99	49.4		50.0	99
Arsenic, Dissolved	40.9		40.0	102	49.5		50.0	99	49.0		50.0	98
Barium, Dissolved	40.9		40.0	102	49.4		50.0	99	49.3		50.0	99
Beryllium	40.9		40.0	102	49.7		50.0	99	50.5		50.0	101
Cadmium, Dissolved	41.5		40.0	104	49.9		50.0	100	49.5		50.0	99
Calcium, Dissolved	3910		4000	98	4940		5000	99	4910		5000	98
Chromium	38.2		40.0	96	49.2		50.0	98	48.4		50.0	97
Cobalt, Dissolved	39.4		40.0	99	47.8		50.0	96	47.8		50.0	96
Copper, Dissolved	40.5		40.0	101	49.8		50.0	100	49.1		50.0	98
Iron	3870		4000	97	4960		5000	99	4940		5000	99
Lead, Dissolved	41.1		40.0	103	49.5		50.0	99	49.3		50.0	99
Magnesium, Dissolved	4060		4000	102	4990		5000	100	4900		5000	98
Manganese	406		400	102	491		500	98	491		500	98
Nickel	40.1		40.0	100	49.7		50.0	99	49.0		50.0	98
Potassium	4000		4000	100	5000		5000	100	4790		5000	96
Selenium	40.3		40.0	101	49.8		50.0	100	49.4		50.0	99
Silver	43.0		40.0	107	49.8		50.0	100	49.6		50.0	99
Sodium	4030		4000	101	5000		5000	100	4900		5000	98
Thallium	8.01		8.00	100	9.93		10.0	99	9.94		10.0	99
Vanadium, Dissolved	39.0		40.0	97	49.5		50.0	99	48.4		50.0	97
Zinc	43.5		40.0	109	49.5		50.0	99	49.2		50.0	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	CCV 680-261296/33 12/27/2012 21:45											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	497		500	99								
Antimony, Dissolved	49.5		50.0	99								
Arsenic, Dissolved	48.5		50.0	97								
Barium, Dissolved	49.8		50.0	100								
Beryllium	50.7		50.0	101								
Cadmium, Dissolved	50.0		50.0	100								
Calcium, Dissolved	4920		5000	98								
Chromium	48.5		50.0	97								
Cobalt, Dissolved	47.9		50.0	96								
Copper, Dissolved	49.1		50.0	98								
Iron	4900		5000	98								
Lead, Dissolved	50.0		50.0	100								
Magnesium, Dissolved	4920		5000	98								
Manganese	492		500	98								
Nickel	49.2		50.0	98								
Potassium	4880		5000	98								
Selenium	49.2		50.0	98								
Silver	50.5		50.0	101								
Sodium	4880		5000	98								
Thallium	9.99		10.0	100								
Vanadium, Dissolved	48.4		50.0	97								
Zinc	49.4		50.0	99								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	ICV 680-260788/9 12/21/2012 17:00				CCV 680-260788/12 12/21/2012 17:20				CCV 680-260788/21 12/21/2012 18:21			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum, Dissolved	422		400	105	496		500	99	482		500	96
Antimony, Dissolved	44.1		40.0	110	49.3		50.0	99	49.6		50.0	99
Arsenic, Dissolved	42.3		40.0	106	49.8		50.0	100	50.0		50.0	100
Barium, Dissolved	41.7		40.0	104	50.4		50.0	101	49.9		50.0	100
Beryllium, Dissolved	40.4		40.0	101	49.8		50.0	100	49.7		50.0	99
Cadmium, Dissolved	41.8		40.0	105	50.2		50.0	100	49.9		50.0	100
Calcium, Dissolved	4000		4000	100	4970		5000	99	4920		5000	98
Chromium, Dissolved	38.7		40.0	97	50.2		50.0	100	49.8		50.0	100
Cobalt, Dissolved	41.5		40.0	104	50.3		50.0	101	50.1		50.0	100
Copper, Dissolved	40.7		40.0	102	50.3		50.0	101	50.4		50.0	101
Iron, Dissolved	3970		4000	99	4910		5000	98	4960		5000	99
Lead, Dissolved	37.8		40.0	95	49.4		50.0	99	48.3		50.0	97
Magnesium, Dissolved	4110		4000	103	4970		5000	99	4820		5000	96
Manganese, Dissolved	410		400	102	499		500	100	502		500	100
Nickel, Dissolved	40.6		40.0	101	50.3		50.0	101	50.3		50.0	101
Potassium, Dissolved	4010		4000	100	5060		5000	101	4950		5000	99
Selenium, Dissolved	40.3		40.0	101	49.1		50.0	98	49.2		50.0	98
Silver, Dissolved	42.5		40.0	106	50.0		50.0	100	49.4		50.0	99
Sodium, Dissolved	4080		4000	102	4930		5000	99	4770		5000	95
Thallium, Dissolved	8.05		8.00	101	10.1		10.0	101	9.85		10.0	99
Vanadium, Dissolved	39.6		40.0	99	49.8		50.0	100	49.5		50.0	99
Zinc, Dissolved	43.4		40.0	108	50.0		50.0	100	49.4		50.0	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	CCV 680-260788/52 12/21/2012 21:47				CCV 680-260788/64 12/21/2012 23:07				CCV 680-260788/76 12/22/2012 00:27			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum, Dissolved	464		500	93	479		500	96	463		500	93
Antimony, Dissolved	48.5		50.0	97	48.8		50.0	98	48.2		50.0	96
Arsenic, Dissolved	46.1		50.0	92	45.5		50.0	91	47.2		50.0	94
Barium, Dissolved	49.8		50.0	100	49.2		50.0	98	49.2		50.0	98
Beryllium, Dissolved	50.1		50.0	100	49.8		50.0	100	49.0		50.0	98
Cadmium, Dissolved	49.4		50.0	99	49.2		50.0	98	49.2		50.0	98
Calcium, Dissolved	4780		5000	96	4850		5000	97	4780		5000	96
Chromium, Dissolved	49.2		50.0	98	48.7		50.0	97	49.8		50.0	100
Cobalt, Dissolved	49.5		50.0	99	49.5		50.0	99	49.7		50.0	99
Copper, Dissolved	50.4		50.0	101	49.3		50.0	99	50.7		50.0	101
Iron, Dissolved	4880		5000	98	4930		5000	99	4830		5000	97
Lead, Dissolved	49.9		50.0	100	49.8		50.0	100	48.1		50.0	96
Magnesium, Dissolved	4620		5000	92	4770		5000	95	4620		5000	92
Manganese, Dissolved	489		500	98	491		500	98	496		500	99
Nickel, Dissolved	50.6		50.0	101	49.3		50.0	99	50.7		50.0	101
Potassium, Dissolved	4810		5000	96	4820		5000	96	4860		5000	97
Selenium, Dissolved	48.8		50.0	98	48.9		50.0	98	48.5		50.0	97
Silver, Dissolved	49.1		50.0	98	48.6		50.0	97	48.7		50.0	97
Sodium, Dissolved	4570		5000	91	4740		5000	95	4550		5000	91
Thallium, Dissolved	9.64		10.0	96	9.72		10.0	97	9.45		10.0	95
Vanadium, Dissolved	49.3		50.0	99	48.5		50.0	97	49.6		50.0	99
Zinc, Dissolved	48.7		50.0	97	48.7		50.0	97	48.6		50.0	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: MS ICVwk_00159 Concentration Units: ug/L

CCV Source: MS CCV cpi_00103

Analyte	CCV 680-260788/84 12/22/2012 01:20											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum, Dissolved	467		500	93								
Antimony, Dissolved	48.0		50.0	96								
Arsenic, Dissolved	46.3		50.0	93								
Barium, Dissolved	48.5		50.0	97								
Beryllium, Dissolved	48.8		50.0	98								
Cadmium, Dissolved	48.3		50.0	97								
Calcium, Dissolved	4840		5000	97								
Chromium, Dissolved	48.7		50.0	97								
Cobalt, Dissolved	49.5		50.0	99								
Copper, Dissolved	49.8		50.0	100								
Iron, Dissolved	4940		5000	99								
Lead, Dissolved	49.2		50.0	98								
Magnesium, Dissolved	4720		5000	94								
Manganese, Dissolved	492		500	98								
Nickel, Dissolved	49.9		50.0	100								
Potassium, Dissolved	4820		5000	96								
Selenium, Dissolved	48.2		50.0	96								
Silver, Dissolved	47.8		50.0	96								
Sodium, Dissolved	4620		5000	92								
Thallium, Dissolved	9.52		10.0	95								
Vanadium, Dissolved	48.6		50.0	97								
Zinc, Dissolved	48.4		50.0	97								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: Hg_CLPICVstk_00006 Concentration Units: ug/L

CCV Source: Hg_Int_Cal_00086

Analyte	ICV 680-261149/9 12/24/2012 10:18				CCV 680-261149/85 12/24/2012 16:08				CCV 680-261149/97 12/24/2012 16:36			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury, Dissolved	3.62		4.00	91	2.71		2.50	109	2.67		2.50	107

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: Hg_CLPICVstk_00006 Concentration Units: ug/L

CCV Source: Hg_Int_Cal_00086

Analyte	CCV 680-261149/109 12/24/2012 17:05											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury, Dissolved	2.73		2.50	109								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: Hg_CLPICVstk_00006 Concentration Units: ug/L

CCV Source: Hg_Int_Cal_00086

Analyte	ICV 680-261470/9 12/30/2012 13:42				CCV 680-261470/12 12/30/2012 13:49				CCV 680-261470/24 12/30/2012 14:19			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	3.59		4.00	90	2.19		2.50	87	2.23		2.50	89

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICV Source: Hg_CLPICVstk_00006 Concentration Units: ug/L

CCV Source: Hg_Int_Cal_00086

Analyte	CCV 680-261470/36 12/30/2012 14:48				CCV 680-261470/48 12/30/2012 15:17							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	2.20		2.50	88	2.18		2.50	87				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Method: 6020 Instrument ID: ICPMSA

Lab Sample ID: CRI 680-260984/11 Concentration Units: ug/L

CRQL Check Standard Source: MS_STD1_RL_00029

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Silver	0.200	0.215		108	50-150
Silver	0.200	0.215		108	50-150
Aluminum	10.0	12.0		120	50-150
Aluminum	10.0	12.0		120	50-150
Arsenic	0.500	0.546		109	50-150
Arsenic	0.500	0.546		109	50-150
Barium	1.00	1.06		106	50-150
Barium	1.00	1.06		106	50-150
Beryllium	0.100	0.111		111	50-150
Beryllium	0.100	0.111		111	50-150
Calcium	50.0	58.2		116	50-150
Calcium	50.0	58.2		116	50-150
Cadmium	0.100	0.0970	J	97	50-150
Cadmium	0.100	0.0970	J	97	50-150
Cobalt	0.100	0.107		107	50-150
Cobalt	0.100	0.107		107	50-150
Chromium	1.00	1.05		105	50-150
Chromium	1.00	1.05		105	50-150
Copper	1.00	1.15		115	50-150
Copper	1.00	1.15		115	50-150
Iron	20.0	22.1		110	50-150
Iron	20.0	22.1		110	50-150
Potassium	50.0	54.2	J	108	50-150
Potassium	50.0	54.2	J	108	50-150
Magnesium	50.0	59.4		119	50-150
Magnesium	50.0	59.4		119	50-150
Manganese	1.00	1.15		115	50-150
Manganese	1.00	1.15		115	50-150
Sodium	50.0	57.9	J	116	50-150
Sodium	50.0	57.9	J	116	50-150
Nickel	1.00	1.50		150	50-150
Nickel	1.00	1.50		150	50-150
Lead	0.300	0.343		114	50-150
Lead	0.300	0.343		114	50-150
Antimony	1.00	1.21		121	50-150
Antimony	1.00	1.21		121	50-150
Selenium	0.500	0.575		115	50-150
Selenium	0.500	0.575		115	50-150
Thallium	0.200	0.229		114	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Method: 6020 Instrument ID: ICPMSA

Lab Sample ID: CRI 680-260984/11 Concentration Units: ug/L

CRQL Check Standard Source: MS_STD1_RL_00029

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Thallium	0.200	0.229		114	50-150
Vanadium	1.00	0.996	J	100	50-150
Vanadium	1.00	0.996	J	100	50-150
Zinc	4.00	4.95	J	124	50-150
Zinc	4.00	4.95	J	124	50-150

Lab Sample ID: CRI 680-261166/11 Concentration Units: ug/L

CRQL Check Standard Source: MS_STD1_RL_00029

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Beryllium	0.100	0.111		111	50-150
Sodium	50.0	57.9	J	116	50-150

Lab Sample ID: CRI 680-261296/11 Concentration Units: ug/L

CRQL Check Standard Source: MS_STD1_RL_00029

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Silver	0.200	0.213		106	50-150
Aluminum	10.0	11.0		110	50-150
Arsenic, Dissolved	0.500	0.520		104	50-150
Barium, Dissolved	1.00	1.04		104	50-150
Beryllium	0.100	0.113		113	50-150
Calcium, Dissolved	50.0	54.5		109	50-150
Cadmium, Dissolved	0.100	0.115		115	50-150
Cobalt, Dissolved	0.100	0.106		106	50-150
Chromium	1.00	1.02		102	50-150
Copper, Dissolved	1.00	1.00		100	50-150
Iron	20.0	21.2		106	50-150
Potassium	50.0	52.8	J	106	50-150
Magnesium, Dissolved	50.0	56.4		113	50-150
Manganese	1.00	1.09		109	50-150
Sodium	50.0	55.3	J	111	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Method: 6020 Instrument ID: ICPMSA

Lab Sample ID: CRI 680-261296/11 Concentration Units: ug/L

CRQL Check Standard Source: MS_STD1_RL_00029

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Nickel	1.00	1.13		113	50-150
Lead, Dissolved	0.300	0.335		112	50-150
Antimony, Dissolved	1.00	1.22		122	50-150
Selenium	0.500	0.527		105	50-150
Thallium	0.200	0.214		107	50-150
Vanadium, Dissolved	1.00	1.04	J	104	50-150
Zinc	4.00	4.73	J	118	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Method: 6020 Instrument ID: ICPMSB

Lab Sample ID: CRI 680-260788/11 Concentration Units: ug/L

CRQL Check Standard Source: MS_STD1_RL_00029

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Silver, Dissolved	0.200	0.185	J	93	50-150
Aluminum, Dissolved	10.0	10.9		109	50-150
Arsenic, Dissolved	0.500	0.576		115	50-150
Barium, Dissolved	1.00	1.06		106	50-150
Beryllium, Dissolved	0.100	0.0528	J	53	50-150
Calcium, Dissolved	50.0	57.1		114	50-150
Cadmium, Dissolved	0.100	0.0716	J	72	50-150
Cobalt, Dissolved	0.100	0.0956	J	96	50-150
Chromium, Dissolved	1.00	1.08		108	50-150
Copper, Dissolved	1.00	1.11		111	50-150
Iron, Dissolved	20.0	20.5		102	50-150
Potassium, Dissolved	50.0	56.5	J	113	50-150
Magnesium, Dissolved	50.0	54.6		109	50-150
Manganese, Dissolved	1.00	0.837	J	84	50-150
Sodium, Dissolved	50.0	54.6	J	109	50-150
Nickel, Dissolved	1.00	1.14		114	50-150
Lead, Dissolved	0.300	0.274	J	91	50-150
Antimony, Dissolved	1.00	1.24		124	50-150
Selenium, Dissolved	0.500	0.551		110	50-150
Thallium, Dissolved	0.200	0.195	J	98	50-150
Vanadium, Dissolved	1.00	1.04	J	104	50-150
Zinc, Dissolved	4.00	4.35	J	109	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Method: 7470A Instrument ID: LEEMAN2

Lab Sample ID: CRA 680-261149/11 Concentration Units: ug/L

CRQL Check Standard Source: Hg_Int_Cal_00086

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury, Dissolved	0.200	0.154	J	77	50-150

Lab Sample ID: CRA 680-261470/11 Concentration Units: ug/L

CRQL Check Standard Source: Hg_Int_Cal_00086

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.232		116	50-150
Mercury	0.200	0.232		116	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 680-260984/10 12/24/2012 20:02		CCB 680-260984/13 12/24/2012 20:24		CCB 680-260984/22 12/24/2012 21:31		CCB 680-260984/34 12/24/2012 23:00	
		Found	C	Found	C	Found	C	Found	C
Aluminum	10	4.6	U	4.6	U	4.6	U	4.6	U
Antimony	1.0	0.58	U	0.58	U	0.58	U	0.58	U
Arsenic	0.50	0.26	U	0.26	U	0.26	U	0.26	U
Barium	1.0	0.26	U	0.26	U	0.26	U	0.26	U
Beryllium	0.10	0.050	U	0.050	U	0.050	U	0.050	U
Cadmium	0.10	0.040	U	0.040	U	0.040	U	0.040	U
Calcium	50	40	U	40	U	40	U	40	U
Chromium	1.0	0.50	U	0.50	U	0.50	U	0.50	U
Cobalt	0.10	0.030	U	0.030	U	0.030	U	0.030	U
Copper	1.0	0.22	U	0.22	U	0.22	U	0.22	U
Iron	20	6.6	U	6.6	U	6.6	U	6.6	U
Lead	0.30	0.040	U	0.040	U	0.040	U	0.040	U
Magnesium	50	8.6	U	8.6	U	8.6	U	8.6	U
Manganese	1.0	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	1.0	0.40	U	0.40	U	0.40	U	0.40	U
Potassium	100	34	U	34	U	34	U	34	U
Selenium	0.50	0.20	U	0.20	U	0.20	U	0.20	U
Silver	0.20	0.050	U	0.050	U	0.050	U	0.050	U
Sodium	100	50	U	50	U	50	U	50	U
Thallium	0.20	0.10	U	0.10	U	0.10	U	0.10	U
Vanadium	2.0	0.76	U	0.76	U	0.76	U	0.76	U
Zinc	5.0	1.7	U	1.7	U	1.7	U	1.7	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 680-260984/46 12/25/2012 00:29		CCB 680-260984/54 12/25/2012 01:28		CCB 680-260984/131 12/25/2012 11:00		CCB 680-260984/139 12/25/2012 12:00	
		Found	C	Found	C	Found	C	Found	C
Aluminum	10	4.6	U	4.6	U	10	U	10	U
Antimony	1.0	0.58	U	0.58	U	0.40	U	0.40	U
Arsenic	0.50	0.26	U	0.26	U	0.26	U	0.26	U
Barium	1.0	0.26	U	0.26	U	0.28	U	0.28	U
Beryllium	0.10	0.050	U	0.050	U	0.050	U	0.050	U
Cadmium	0.10	0.040	U	0.040	U	0.040	U	0.040	U
Calcium	50	40	U	40	U	40	U	40	U
Chromium	1.0	0.50	U	0.50	U	0.50	U	0.50	U
Cobalt	0.10	0.030	U	0.030	U	0.060	U	0.060	U
Copper	1.0	0.22	U	0.22	U	0.22	U	0.22	U
Iron	20	6.6	U	6.6	U	8.8	U	8.8	U
Lead	0.30	0.040	U	0.040	U	0.10	U	0.10	U
Magnesium	50	8.6	U	8.6	U	20	U	20	U
Manganese	1.0	0.20	U	0.20	U	0.40	U	0.40	U
Nickel	1.0	0.40	U	0.40	U	0.40	U	0.40	U
Potassium	100	34	U	34	U	66	U	66	U
Selenium	0.50	0.20	U	0.20	U	0.22	U	0.22	U
Silver	0.20	0.050	U	0.050	U	0.050	U	0.050	U
Sodium	100	50	U	50	U	34.6	J	34	U
Thallium	0.20	0.10	U	0.10	U	0.050	U	0.050	U
Vanadium	2.0	0.76	U	0.76	U	0.64	U	0.64	U
Zinc	5.0	1.7	U	1.7	U	1.7	U	1.7	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 680-260984/151 12/25/2012 13:29		CCB 680-260984/163 12/25/2012 14:58					
		Found	C	Found	C	Found	C	Found	C
Aluminum	10	10	U	10	U				
Antimony	1.0	0.40	U	0.40	U				
Arsenic	0.50	0.26	U	0.26	U				
Barium	1.0	0.28	U	0.28	U				
Beryllium	0.10	0.050	U	0.050	U				
Cadmium	0.10	0.040	U	0.040	U				
Calcium	50	40	U	40	U				
Chromium	1.0	0.50	U	0.50	U				
Cobalt	0.10	0.060	U	0.060	U				
Copper	1.0	0.22	U	0.22	U				
Iron	20	8.8	U	8.8	U				
Lead	0.30	0.10	U	0.10	U				
Magnesium	50	20	U	20	U				
Manganese	1.0	0.40	U	0.40	U				
Nickel	1.0	0.40	U	0.40	U				
Potassium	100	66	U	66	U				
Selenium	0.50	0.22	U	0.22	U				
Silver	0.20	0.050	U	0.050	U				
Sodium	100								
Thallium	0.20	0.050	U	0.050	U				
Vanadium	2.0	0.64	U	0.64	U				
Zinc	5.0	1.7	U	1.7	U				

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 680-261166/10 12/24/2012 20:02		CCB 680-261166/13 12/24/2012 20:24		CCB 680-261166/22 12/24/2012 21:31		CCB 680-261166/24 12/26/2012 09:38	
		Found	C	Found	C	Found	C	Found	C
Beryllium	0.10	0.050	U	0.050	U	0.050	U	0.050	U
Sodium	100	34	U	34	U	34	U	34	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 680-261166/32 12/26/2012 10:38		CCB 680-261166/50 12/26/2012 12:52		CCB 680-261166/62 12/26/2012 14:22		CCB 680-261166/74 12/26/2012 15:51	
		Found	C	Found	C	Found	C	Found	C
Beryllium	0.10	0.050	U	0.050	U	0.050	U	0.050	U
Sodium	100	34	U	34	U	34	U	34	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 680-261296/10 12/27/2012 18:54		CCB 680-261296/13 12/27/2012 19:17		CCB 680-261296/22 12/27/2012 20:23		CCB 680-261296/34 12/27/2012 21:52	
		Found	C	Found	C	Found	C	Found	C
Aluminum	10	4.6	U	4.6	U	4.6	U	4.6	U
Antimony, Dissolved	1.0	0.58	U	0.58	U	0.58	U	0.58	U
Arsenic, Dissolved	0.50	0.26	U	0.26	U	0.26	U	0.26	U
Barium, Dissolved	1.0	0.26	U	0.26	U	0.26	U	0.26	U
Beryllium	0.10	0.050	U	0.050	U	0.050	U	0.050	U
Cadmium, Dissolved	0.10	0.040	U	0.0222	J	0.040	U	0.040	U
Calcium, Dissolved	50	40	U	40	U	40	U	40	U
Chromium	1.0	0.50	U	0.50	U	0.50	U	0.50	U
Cobalt, Dissolved	0.10	0.030	U	0.030	U	0.030	U	0.030	U
Copper, Dissolved	1.0	0.22	U	0.22	U	0.22	U	0.22	U
Iron	20	6.6	U	6.6	U	6.6	U	6.6	U
Lead, Dissolved	0.30	0.040	U	0.040	U	0.040	U	0.040	U
Magnesium, Dissolved	50	8.6	U	8.6	U	8.6	U	8.6	U
Manganese	1.0	0.20	U	0.208	J	0.20	U	0.20	U
Nickel	1.0	0.40	U	0.40	U	0.40	U	0.40	U
Potassium	100	34	U	34	U	34	U	34	U
Selenium	0.50	0.20	U	0.20	U	0.20	U	0.20	U
Silver	0.20	0.050	U	0.050	U	0.050	U	0.050	U
Sodium	100	50	U	50	U	50	U	50	U
Thallium	0.20	0.10	U	0.10	U	0.10	U	0.10	U
Vanadium, Dissolved	2.0	0.76	U	0.76	U	0.76	U	0.76	U
Zinc	5.0	1.7	U	1.7	U	1.7	U	1.7	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 680-260788/10 12/21/2012 17:06		CCB 680-260788/13 12/21/2012 17:26		CCB 680-260788/22 12/21/2012 18:28		CCB 680-260788/53 12/21/2012 21:53	
		Found	C	Found	C	Found	C	Found	C
Aluminum, Dissolved	10	4.6	U	4.6	U	4.6	U	4.6	U
Antimony, Dissolved	1.0	0.58	U	0.58	U	0.58	U	0.58	U
Arsenic, Dissolved	0.50	0.26	U	0.26	U	0.26	U	0.26	U
Barium, Dissolved	1.0	0.26	U	0.26	U	0.26	U	0.26	U
Beryllium, Dissolved	0.10	0.050	U	0.050	U	0.050	U	0.050	U
Cadmium, Dissolved	0.10	0.040	U	0.040	U	0.040	U	0.040	U
Calcium, Dissolved	50	40	U	40	U	40	U	40	U
Chromium, Dissolved	1.0	0.50	U	0.50	U	0.50	U	0.50	U
Cobalt, Dissolved	0.10	0.030	U	0.030	U	0.030	U	0.030	U
Copper, Dissolved	1.0	0.22	U	0.22	U	0.22	U	0.22	U
Iron, Dissolved	20	6.6	U	6.6	U	6.6	U	6.6	U
Lead, Dissolved	0.30	0.040	U	0.040	U	0.040	U	0.040	U
Magnesium, Dissolved	50	8.6	U	8.6	U	8.6	U	8.6	U
Manganese, Dissolved	1.0	0.20	U	0.20	U	0.20	U	0.20	U
Nickel, Dissolved	1.0	0.40	U	0.40	U	0.40	U	0.40	U
Potassium, Dissolved	100	34	U	34	U	34	U	34	U
Selenium, Dissolved	0.50	0.20	U	0.20	U	0.20	U	0.20	U
Silver, Dissolved	0.20	0.050	U	0.050	U	0.050	U	0.050	U
Sodium, Dissolved	100	50	U	50	U	50	U	50	U
Thallium, Dissolved	0.20	0.10	U	0.10	U	0.10	U	0.10	U
Vanadium, Dissolved	2.0	0.76	U	0.76	U	0.76	U	0.76	U
Zinc, Dissolved	5.0	1.7	U	1.7	U	1.7	U	1.7	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 680-260788/65 12/21/2012 23:13		CCB 680-260788/77 12/22/2012 00:33		CCB 680-260788/85 12/22/2012 01:27			
		Found	C	Found	C	Found	C	Found	C
Aluminum, Dissolved	10	4.6	U	4.6	U	4.6	U		
Antimony, Dissolved	1.0	0.58	U	0.58	U	0.58	U		
Arsenic, Dissolved	0.50	0.26	U	0.26	U	0.26	U		
Barium, Dissolved	1.0	0.26	U	0.26	U	0.26	U		
Beryllium, Dissolved	0.10	0.050	U	0.050	U	0.050	U		
Cadmium, Dissolved	0.10	0.040	U	0.040	U	0.040	U		
Calcium, Dissolved	50	40	U	40	U	40	U		
Chromium, Dissolved	1.0	0.50	U	0.50	U	0.50	U		
Cobalt, Dissolved	0.10	0.030	U	0.030	U	0.030	U		
Copper, Dissolved	1.0	0.22	U	0.22	U	0.22	U		
Iron, Dissolved	20	6.6	U	6.6	U	6.6	U		
Lead, Dissolved	0.30	0.040	U	0.040	U	0.040	U		
Magnesium, Dissolved	50	8.6	U	8.6	U	8.6	U		
Manganese, Dissolved	1.0	0.20	U	0.20	U	0.20	U		
Nickel, Dissolved	1.0	0.40	U	0.40	U	0.40	U		
Potassium, Dissolved	100	34	U	34	U	34	U		
Selenium, Dissolved	0.50	0.20	U	0.20	U	0.20	U		
Silver, Dissolved	0.20	0.050	U	0.050	U	0.050	U		
Sodium, Dissolved	100	50	U	50	U	50	U		
Thallium, Dissolved	0.20	0.10	U	0.10	U	0.10	U		
Vanadium, Dissolved	2.0	0.76	U	0.76	U	0.76	U		
Zinc, Dissolved	5.0	1.7	U	1.7	U	1.7	U		

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 680-261149/10 12/24/2012 10:20		CCB 680-261149/86 12/24/2012 16:11		CCB 680-261149/98 12/24/2012 16:39		CCB 680-261149/110 12/24/2012 17:07	
		Found	C	Found	C	Found	C	Found	C
Mercury, Dissolved	0.20	0.10	U	0.10	U	0.10	U	0.10	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 680-261470/10 12/30/2012 13:45		CCB 680-261470/13 12/30/2012 13:52		CCB 680-261470/25 12/30/2012 14:21		CCB 680-261470/37 12/30/2012 14:50	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.10	U	0.10	U	0.10	U	0.10	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 680-261470/49 12/30/2012 15:19							
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	0.10	U						

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 680-260618/1-A

Instrument Code: ICPMSB Batch No.: 260788

CAS No.	Analyte	Concentration	C	Q	Method
7440-22-4	Silver, Dissolved	0.25	U		6020
7429-90-5	Aluminum, Dissolved	23	U		6020
7440-38-2	Arsenic, Dissolved	1.3	U		6020
7440-39-3	Barium, Dissolved	1.3	U		6020
7440-41-7	Beryllium, Dissolved	0.25	U		6020
7440-70-2	Calcium, Dissolved	200	U		6020
7440-43-9	Cadmium, Dissolved	0.20	U		6020
7440-48-4	Cobalt, Dissolved	0.15	U		6020
7440-47-3	Chromium, Dissolved	2.5	U		6020
7440-50-8	Copper, Dissolved	1.1	U		6020
7439-89-6	Iron, Dissolved	33	U		6020
7440-09-7	Potassium, Dissolved	170	U		6020
7439-95-4	Magnesium, Dissolved	43	U		6020
7439-96-5	Manganese, Dissolved	1.0	U		6020
7440-23-5	Sodium, Dissolved	250	U		6020
7440-02-0	Nickel, Dissolved	2.0	U		6020
7439-92-1	Lead, Dissolved	0.20	U		6020
7440-36-0	Antimony, Dissolved	2.9	U		6020
7782-49-2	Selenium, Dissolved	1.0	U		6020
7440-28-0	Thallium, Dissolved	0.50	U		6020
7440-62-2	Vanadium, Dissolved	3.8	U		6020
7440-66-6	Zinc, Dissolved	8.3	U		6020

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 680-260719/1-A

Instrument Code: ICPMSA Batch No.: 260984

CAS No.	Analyte	Concentration	C	Q	Method
7440-22-4	Silver, Dissolved	0.25	U		6020
7429-90-5	Aluminum, Dissolved	23	U		6020
7440-38-2	Arsenic, Dissolved	1.3	U		6020
7440-39-3	Barium, Dissolved	1.3	U		6020
7440-41-7	Beryllium, Dissolved	0.25	U		6020
7440-70-2	Calcium, Dissolved	200	U		6020
7440-43-9	Cadmium, Dissolved	0.20	U		6020
7440-48-4	Cobalt, Dissolved	0.15	U		6020
7440-47-3	Chromium, Dissolved	2.5	U		6020
7440-50-8	Copper, Dissolved	1.1	U		6020
7439-89-6	Iron, Dissolved	33	U		6020
7440-09-7	Potassium, Dissolved	170	U		6020
7439-95-4	Magnesium, Dissolved	43	U		6020
7439-96-5	Manganese, Dissolved	1.0	U		6020
7440-23-5	Sodium, Dissolved	250	U		6020
7440-02-0	Nickel, Dissolved	2.0	U		6020
7439-92-1	Lead, Dissolved	0.20	U		6020
7440-36-0	Antimony, Dissolved	2.9	U		6020
7782-49-2	Selenium, Dissolved	1.0	U		6020
7440-28-0	Thallium, Dissolved	0.50	U		6020
7440-62-2	Vanadium, Dissolved	3.8	U		6020
7440-66-6	Zinc, Dissolved	8.3	U		6020

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 680-260764/1-A

Instrument Code: ICPMSA Batch No.: 260984

CAS No.	Analyte	Concentration	C	Q	Method
7440-22-4	Silver	0.25	U		6020
7429-90-5	Aluminum	50	U		6020
7440-38-2	Arsenic	1.3	U		6020
7440-39-3	Barium	1.4	U		6020
7440-70-2	Calcium	200	U		6020
7440-43-9	Cadmium	0.20	U		6020
7440-48-4	Cobalt	0.30	U		6020
7440-47-3	Chromium	2.5	U		6020
7440-50-8	Copper	2.06	J		6020
7439-89-6	Iron	44	U		6020
7440-09-7	Potassium	330	U		6020
7439-95-4	Magnesium	100	U		6020
7439-96-5	Manganese	2.0	U		6020
7440-02-0	Nickel	2.0	U		6020
7439-92-1	Lead	0.50	U		6020
7440-36-0	Antimony	2.0	U		6020
7782-49-2	Selenium	1.1	U		6020
7440-28-0	Thallium	0.25	U		6020
7440-62-2	Vanadium	3.2	U		6020
7440-66-6	Zinc	8.4	U		6020

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 680-260764/1-A

Instrument Code: ICPMSA Batch No.: 261166

CAS No.	Analyte	Concentration	C	Q	Method
7440-41-7	Beryllium	0.25	U		6020
7440-23-5	Sodium	170	U		6020

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 680-260740/1-A

Instrument Code: ICPMSA Batch No.: 261296

CAS No.	Analyte	Concentration	C	Q	Method
7440-22-4	Silver, Dissolved	0.25	U		6020
7429-90-5	Aluminum, Dissolved	23	U		6020
7440-38-2	Arsenic, Dissolved	1.3	U		6020
7440-39-3	Barium, Dissolved	1.3	U		6020
7440-41-7	Beryllium, Dissolved	0.25	U		6020
7440-70-2	Calcium, Dissolved	200	U		6020
7440-43-9	Cadmium, Dissolved	0.20	U		6020
7440-48-4	Cobalt, Dissolved	0.15	U		6020
7440-47-3	Chromium, Dissolved	2.5	U		6020
7440-50-8	Copper, Dissolved	1.1	U		6020
7439-89-6	Iron, Dissolved	33	U		6020
7440-09-7	Potassium, Dissolved	170	U		6020
7439-95-4	Magnesium, Dissolved	43	U		6020
7439-96-5	Manganese, Dissolved	1.0	U		6020
7440-23-5	Sodium, Dissolved	250	U		6020
7440-02-0	Nickel, Dissolved	2.0	U		6020
7439-92-1	Lead, Dissolved	0.20	U		6020
7440-36-0	Antimony, Dissolved	2.9	U		6020
7782-49-2	Selenium, Dissolved	1.0	U		6020
7440-28-0	Thallium, Dissolved	0.50	U		6020
7440-62-2	Vanadium, Dissolved	3.8	U		6020
7440-66-6	Zinc, Dissolved	8.3	U		6020

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 680-260873/1-A

Instrument Code: LEEMAN2 Batch No.: 261149

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury, Dissolved	0.10	U		7470A

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 680-261369/1-A

Instrument Code: LEEMAN2 Batch No.: 261470

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	0.10	U		7470A
7439-97-6	Mercury, Dissolved	0.10	U		7470A

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSA 680-260984/14 Instrument ID: ICPMSA

Lab File ID: 020_ICV.D ICS Source: MS_ICSA_wk_00055

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**100000**	**93530**	**94**
Antimony		**0.477**	
Arsenic		**0.430**	
Barium		**0.189**	
Beryllium		**-0.0001**	
Cadmium		**0.227**	
Calcium	**100000**	**97560**	**98**
Chromium		**1.28**	
Cobalt		**0.103**	
Copper		**0.215**	
Iron	**100000**	**101000**	**101**
Lead		**0.124**	
Magnesium	**100000**	**95770**	**96**
Manganese		**0.193**	
Nickel		**0.866**	
Potassium	**100000**	**108600**	**109**
Selenium		**0.0566**	
Silver		**0.0542**	
Sodium	**100000**	**98780**	**99**
Thallium		**0.0117**	
Vanadium		**0.211**	
Zinc		**3.10**	
Mercury		*0.0235*	
Molybdenum	*2000*	*2163*	*108*
Strontium		*0.314*	
Tin		*0.106*	
Titanium	*2000*	*2137*	*107*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSA 680-261166/14 Instrument ID: ICPMSA

Lab File ID: 020_ICV.D ICS Source: MS_ICSA_wk_00055

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Beryllium		**-0.0001**	
Sodium	**100000**	**98780**	**99**
Aluminum	*100000*	*93530*	*94*
Antimony, Dissolved		*0.477*	
Arsenic, Dissolved		*0.430*	
Barium, Dissolved		*0.189*	
Boron		*0.449*	
Cadmium, Dissolved		*0.227*	
Calcium, Dissolved	*100000*	*97560*	*98*
Chromium		*1.28*	
Cobalt, Dissolved		*0.103*	
Copper, Dissolved		*0.215*	
Iron	*100000*	*101000*	*101*
Lead, Dissolved		*0.124*	
Magnesium, Dissolved	*100000*	*95770*	*96*
Manganese		*0.193*	
Mercury		*0.0235*	
Molybdenum	*2000*	*2163*	*108*
Nickel		*0.866*	
Potassium	*100000*	*108600*	*109*
Selenium		*0.0566*	
Silver		*0.0542*	
Strontium		*0.314*	
Thallium		*0.0117*	
Tin		*0.106*	
Titanium	*2000*	*2137*	*107*
Vanadium, Dissolved		*0.211*	
Zinc		*3.10*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSAB 680-260984/15 Instrument ID: ICPMSA

Lab File ID: 021_ICB.D ICS Source: MS_ICSABwk_00053

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**100000**	**91590**	**92**
Antimony		**0.448**	
Arsenic	**20.0**	**21.2**	**106**
Barium		**0.199**	
Beryllium		**0.0020**	
Cadmium	**20.0**	**17.9**	**90**
Calcium	**100000**	**96920**	**97**
Chromium	**20.0**	**22.5**	**113**
Cobalt	**20.0**	**20.0**	**100**
Copper	**20.0**	**18.8**	**94**
Iron	**100000**	**100200**	**100**
Lead		**0.122**	
Magnesium	**100000**	**93270**	**93**
Manganese	**20.0**	**21.5**	**107**
Nickel	**20.0**	**20.8**	**104**
Potassium	**100000**	**106600**	**107**
Selenium		**0.0448**	
Silver	**20.0**	**17.5**	**87**
Sodium	**100000**	**95600**	**96**
Thallium		**0.0114**	
Vanadium		**0.193**	
Zinc	**20.0**	**21.3**	**107**
Mercury		*0.0207*	
Molybdenum	*2000*	*2119*	*106*
Strontium		*0.320*	
Tin		*0.0954*	
Titanium	*2000*	*2109*	*105*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSAB 680-261166/15 Instrument ID: ICPMSA

Lab File ID: 021_ICB.D ICS Source: MS_ICSABwk_00053

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Beryllium		**0.0020**	
Sodium	**100000**	**95600**	**96**
Aluminum	*100000*	*91590*	*92*
Antimony, Dissolved		*0.448*	
Arsenic, Dissolved	*20.0*	*21.2*	*106*
Barium, Dissolved		*0.199*	
Boron		*0.182*	
Cadmium, Dissolved	*20.0*	*17.9*	*90*
Calcium, Dissolved	*100000*	*96920*	*97*
Chromium	*20.0*	*22.5*	*113*
Cobalt, Dissolved	*20.0*	*20.0*	*100*
Copper, Dissolved	*20.0*	*18.8*	*94*
Iron	*100000*	*100200*	*100*
Lead, Dissolved		*0.122*	
Magnesium, Dissolved	*100000*	*93270*	*93*
Manganese	*20.0*	*21.5*	*107*
Mercury		*0.0207*	
Molybdenum	*2000*	*2119*	*106*
Nickel	*20.0*	*20.8*	*104*
Potassium	*100000*	*106600*	*107*
Selenium		*0.0448*	
Silver	*20.0*	*17.5*	*87*
Strontium		*0.320*	
Thallium		*0.0114*	
Tin		*0.0954*	
Titanium	*2000*	*2109*	*105*
Vanadium, Dissolved		*0.193*	
Zinc	*20.0*	*21.3*	*107*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSA 680-260984/132 Instrument ID: ICPMSA

Lab File ID: 138_ICV.D ICS Source: MS_ICSA_wk_00055

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**100000**	**90630**	**91**
Antimony		**0.465**	
Arsenic		**0.407**	
Barium		**0.173**	
Beryllium		**0.0008**	
Cadmium		**0.504**	
Calcium	**100000**	**94780**	**95**
Chromium		**1.25**	
Cobalt		**0.107**	
Copper		**0.228**	
Iron	**100000**	**98550**	**99**
Lead		**0.127**	
Magnesium	**100000**	**93090**	**93**
Manganese		**0.214**	
Nickel		**0.851**	
Potassium	**100000**	**105100**	**105**
Selenium		**0.0519**	
Silver		**0.0535**	
Sodium	**100000**	**95260**	**95**
Thallium		**0.0109**	
Vanadium		**0.215**	
Zinc		**3.21**	
Mercury		*0.0261*	
Molybdenum	*2000*	*2167*	*108*
Strontium		*0.332*	
Tin		*0.121*	
Titanium	*2000*	*2160*	*108*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSAB 680-260984/133 Instrument ID: ICPMSA

Lab File ID: 139SMPL.D ICS Source: MS_ICSABwk_00053

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**100000**	**88580**	**89**
Antimony		**0.427**	
Arsenic	**20.0**	**20.8**	**104**
Barium		**0.190**	
Beryllium		**0.0027**	
Cadmium	**20.0**	**17.9**	**90**
Calcium	**100000**	**93680**	**94**
Chromium	**20.0**	**22.0**	**110**
Cobalt	**20.0**	**19.4**	**97**
Copper	**20.0**	**19.1**	**96**
Iron	**100000**	**98060**	**98**
Lead		**0.125**	
Magnesium	**100000**	**90690**	**91**
Manganese	**20.0**	**20.9**	**105**
Nickel	**20.0**	**21.0**	**105**
Potassium	**100000**	**101900**	**102**
Selenium		**0.0550**	
Silver	**20.0**	**17.1**	**86**
Sodium	**100000**	**94010**	**94**
Thallium		**0.0118**	
Vanadium		**0.224**	
Zinc	**20.0**	**21.0**	**105**
Mercury		*0.0202*	
Molybdenum	*2000*	*2105*	*105*
Strontium		*0.320*	
Tin		*0.115*	
Titanium	*2000*	*2134*	*107*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSA 680-261166/25 Instrument ID: ICPMSA

Lab File ID: 200_ICV.D ICS Source: MS_ICSA_wk_00055

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Beryllium		**0.0020**	
Sodium	**100000**	**94000**	**94**
Aluminum	*100000*	*91110*	*91*
Antimony, Dissolved		*0.429*	
Arsenic, Dissolved		*0.451*	
Barium, Dissolved		*0.199*	
Boron		*0.360*	
Cadmium, Dissolved		*0.574*	
Calcium, Dissolved	*100000*	*95630*	*96*
Chromium		*1.22*	
Cobalt, Dissolved		*0.113*	
Copper, Dissolved		*0.187*	
Iron	*100000*	*95970*	*96*
Lead, Dissolved		*0.124*	
Magnesium, Dissolved	*100000*	*91820*	*92*
Manganese		*0.211*	
Mercury		*0.0143*	
Molybdenum	*2000*	*2166*	*108*
Nickel		*0.821*	
Potassium	*100000*	*105200*	*105*
Selenium		*0.0515*	
Silver		*0.0559*	
Strontium		*0.318*	
Thallium		*0.0116*	
Tin		*0.124*	
Titanium	*2000*	*2129*	*106*
Vanadium, Dissolved		*0.237*	
Zinc		*3.31*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSAB 680-261166/26 Instrument ID: ICPMSA

Lab File ID: 201SMPL.D ICS Source: MS_ICSABwk_00053

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Beryllium		**0.0008**	
Sodium	**100000**	**92260**	**92**
Aluminum	*100000*	*89920*	*90*
Antimony, Dissolved		*0.412*	
Arsenic, Dissolved	*20.0*	*21.3*	*106*
Barium, Dissolved		*0.191*	
Boron		*0.0977*	
Cadmium, Dissolved	*20.0*	*17.9*	*89*
Calcium, Dissolved	*100000*	*94910*	*95*
Chromium	*20.0*	*22.2*	*111*
Cobalt, Dissolved	*20.0*	*20.1*	*100*
Copper, Dissolved	*20.0*	*18.8*	*94*
Iron	*100000*	*96470*	*96*
Lead, Dissolved		*0.125*	
Magnesium, Dissolved	*100000*	*90330*	*90*
Manganese	*20.0*	*21.4*	*107*
Mercury		*0.0130*	
Molybdenum	*2000*	*2163*	*108*
Nickel	*20.0*	*20.9*	*105*
Potassium	*100000*	*107200*	*107*
Selenium		*0.0612*	
Silver	*20.0*	*17.6*	*88*
Strontium		*0.323*	
Thallium		*0.0107*	
Tin		*0.126*	
Titanium	*2000*	*2104*	*105*
Vanadium, Dissolved		*0.235*	
Zinc	*20.0*	*20.9*	*104*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSA 680-261166/155 Instrument ID: ICPMSA

Lab File ID: 330_ICV.D ICS Source: MS_ICSA_wk_00055

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Beryllium		**-0.0003**	
Sodium	**100000**	**91280**	**91**
Aluminum	*100000*	*87050*	*87*
Antimony, Dissolved		*0.361*	
Arsenic, Dissolved		*0.374*	
Barium, Dissolved		*0.173*	
Boron		*0.590*	
Cadmium, Dissolved		*0.444*	
Calcium, Dissolved	*100000*	*92670*	*93*
Chromium		*1.21*	
Cobalt, Dissolved		*0.113*	
Copper, Dissolved		*0.0909*	
Iron	*100000*	*92650*	*93*
Lead, Dissolved		*0.111*	
Magnesium, Dissolved	*100000*	*88120*	*88*
Manganese		*0.199*	
Mercury		*0.0141*	
Molybdenum	*2000*	*2136*	*107*
Nickel		*0.658*	
Potassium	*100000*	*101200*	*101*
Selenium		*0.0639*	
Silver		*0.0550*	
Strontium		*0.314*	
Thallium		*0.0111*	
Tin		*0.0917*	
Titanium	*2000*	*2074*	*104*
Vanadium, Dissolved		*0.201*	
Zinc		*3.00*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSAB 680-261166/156 Instrument ID: ICPMSA

Lab File ID: 331SMPL.D ICS Source: MS_ICSABwk_00053

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Beryllium		**0.0010**	
Sodium	**100000**	**89260**	**89**
Aluminum	*100000*	*85010*	*85*
Antimony, Dissolved		*0.330*	
Arsenic, Dissolved	*20.0*	*20.8*	*104*
Barium, Dissolved		*0.179*	
Boron		*0.425*	
Cadmium, Dissolved	*20.0*	*17.4*	*87*
Calcium, Dissolved	*100000*	*91190*	*91*
Chromium	*20.0*	*21.3*	*106*
Cobalt, Dissolved	*20.0*	*19.2*	*96*
Copper, Dissolved	*20.0*	*18.5*	*93*
Iron	*100000*	*92120*	*92*
Lead, Dissolved		*0.112*	
Magnesium, Dissolved	*100000*	*86260*	*86*
Manganese	*20.0*	*20.6*	*103*
Mercury		*0.0106*	
Molybdenum	*2000*	*2107*	*105*
Nickel	*20.0*	*20.3*	*101*
Potassium	*100000*	*99450*	*99*
Selenium		*0.0536*	
Silver	*20.0*	*17.0*	*85*
Strontium		*0.314*	
Thallium		*0.0098*	
Tin		*0.0943*	
Titanium	*2000*	*2087*	*104*
Vanadium, Dissolved		*0.206*	
Zinc	*20.0*	*20.4*	*102*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSA 680-261296/14 Instrument ID: ICPMSA

Lab File ID: 020_ICV.D ICS Source: MS_ICSA_wk_00055

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**100000**	**92530**	**93**
Antimony, Dissolved		**0.506**	
Arsenic, Dissolved		**0.455**	
Barium, Dissolved		**0.188**	
Beryllium		**0.0018**	
Cadmium, Dissolved		**0.440**	
Calcium, Dissolved	**100000**	**95890**	**96**
Chromium		**1.23**	
Cobalt, Dissolved		**0.123**	
Copper, Dissolved		**0.141**	
Iron	**100000**	**97940**	**98**
Lead, Dissolved		**0.121**	
Magnesium, Dissolved	**100000**	**93480**	**93**
Manganese		**0.194**	
Nickel		**0.787**	
Potassium	**100000**	**105200**	**105**
Selenium		**0.0540**	
Silver		**0.0530**	
Sodium	**100000**	**96620**	**97**
Thallium		**0.0125**	
Vanadium, Dissolved		**0.231**	
Zinc		**3.32**	
Boron		*0.453*	
Mercury		*0.0317*	
Molybdenum	*2000*	*2231*	*112*
Strontium		*0.315*	
Tin		*0.118*	
Titanium	*2000*	*2136*	*107*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSAB 680-261296/15 Instrument ID: ICPMSA

Lab File ID: 021_ICB.D ICS Source: MS_ICSABwk_00053

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**100000**	**91920**	**92**
Antimony, Dissolved		**0.461**	
Arsenic, Dissolved	**20.0**	**20.9**	**105**
Barium, Dissolved		**0.209**	
Beryllium		**0.0018**	
Cadmium, Dissolved	**20.0**	**18.1**	**91**
Calcium, Dissolved	**100000**	**96300**	**96**
Chromium	**20.0**	**21.9**	**110**
Cobalt, Dissolved	**20.0**	**20.8**	**104**
Copper, Dissolved	**20.0**	**18.8**	**94**
Iron	**100000**	**97460**	**97**
Lead, Dissolved		**0.126**	
Magnesium, Dissolved	**100000**	**93870**	**94**
Manganese	**20.0**	**21.4**	**107**
Nickel	**20.0**	**20.8**	**104**
Potassium	**100000**	**104000**	**104**
Selenium		**0.0530**	
Silver	**20.0**	**17.9**	**89**
Sodium	**100000**	**95520**	**96**
Thallium		**0.0111**	
Vanadium, Dissolved		**0.221**	
Zinc	**20.0**	**21.6**	**108**
Boron		*0.148*	
Mercury		*0.0238*	
Molybdenum	*2000*	*2233*	*112*
Strontium		*0.321*	
Tin		*0.124*	
Titanium	*2000*	*2143*	*107*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSA 680-260788/14 Instrument ID: ICPMSB

Lab File ID: 019_ICB.D ICS Source: MS_ICSA_wk_00055

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum, Dissolved	**100000**	**101200**	**101**
Antimony, Dissolved		**0.476**	
Arsenic, Dissolved		**0.503**	
Barium, Dissolved		**0.154**	
Beryllium, Dissolved		**-0.0422**	
Cadmium, Dissolved		**-0.0690**	
Calcium, Dissolved	**100000**	**103400**	**103**
Chromium, Dissolved		**1.24**	
Cobalt, Dissolved		**0.0978**	
Copper, Dissolved		**0.257**	
Iron, Dissolved	**100000**	**97130**	**97**
Lead, Dissolved		**0.0963**	
Magnesium, Dissolved	**100000**	**101900**	**102**
Manganese, Dissolved		**0.271**	
Nickel, Dissolved		**1.06**	
Potassium, Dissolved	**100000**	**104400**	**104**
Selenium, Dissolved		**0.129**	
Silver, Dissolved		**0.0341**	
Sodium, Dissolved	**100000**	**103100**	**103**
Thallium, Dissolved		**-0.0163**	
Vanadium, Dissolved		**0.110**	
Zinc, Dissolved		**2.52**	
Boron		*0.406*	
Mercury		*0.0350*	
Molybdenum	*2000*	*2321*	*116*
Strontium		*0.243*	
Tin		*0.102*	
Titanium	*2000*	*2211*	*111*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSAB 680-260788/15 Instrument ID: ICPMSB

Lab File ID: 020ICSA.D ICS Source: MS_ICSABwk_00053

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum, Dissolved	**100000**	**100100**	**100**
Antimony, Dissolved		**0.376**	
Arsenic, Dissolved	**20.0**	**22.1**	**110**
Barium, Dissolved		**0.148**	
Beryllium, Dissolved		**-0.0524**	
Cadmium, Dissolved	**20.0**	**19.1**	**96**
Calcium, Dissolved	**100000**	**104400**	**104**
Chromium, Dissolved	**20.0**	**22.2**	**111**
Cobalt, Dissolved	**20.0**	**19.2**	**96**
Copper, Dissolved	**20.0**	**20.0**	**100**
Iron, Dissolved	**100000**	**102900**	**103**
Lead, Dissolved		**0.0814**	
Magnesium, Dissolved	**100000**	**101200**	**101**
Manganese, Dissolved	**20.0**	**19.4**	**97**
Nickel, Dissolved	**20.0**	**21.8**	**109**
Potassium, Dissolved	**100000**	**101600**	**102**
Selenium, Dissolved		**0.0962**	
Silver, Dissolved	**20.0**	**17.9**	**90**
Sodium, Dissolved	**100000**	**104000**	**104**
Thallium, Dissolved		**-0.0205**	
Vanadium, Dissolved		**0.0733**	
Zinc, Dissolved	**20.0**	**22.8**	**114**
Boron		*-0.0665*	
Mercury		*0.0319*	
Molybdenum	*2000*	*2297*	*115*
Strontium		*0.239*	
Tin		*0.0877*	
Titanium	*2000*	*2196*	*110*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSA 680-260788/120 Instrument ID: ICPMSB

Lab File ID: 125_ICV.D ICS Source: MS_ICSA_wk_00055

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum, Dissolved	**100000**	**95700**	**96**
Antimony, Dissolved		**0.399**	
Arsenic, Dissolved		**0.494**	
Barium, Dissolved		**0.137**	
Beryllium, Dissolved		**-0.0479**	
Cadmium, Dissolved		**0.265**	
Calcium, Dissolved	**100000**	**102000**	**102**
Chromium, Dissolved		**1.22**	
Cobalt, Dissolved		**0.106**	
Copper, Dissolved		**0.245**	
Iron, Dissolved	**100000**	**99150**	**99**
Lead, Dissolved		**0.0962**	
Magnesium, Dissolved	**100000**	**97950**	**98**
Manganese, Dissolved		**0.338**	
Nickel, Dissolved		**1.09**	
Potassium, Dissolved	**100000**	**101200**	**101**
Selenium, Dissolved		**0.0970**	
Silver, Dissolved		**0.0251**	
Sodium, Dissolved	**100000**	**98090**	**98**
Thallium, Dissolved		**-0.0208**	
Vanadium, Dissolved		**0.153**	
Zinc, Dissolved		**2.70**	
Boron		*-0.199*	
Mercury		*0.0290*	
Molybdenum	*2000*	*2297*	*115*
Strontium		*0.234*	
Tin		*0.0827*	
Titanium	*2000*	*2141*	*107*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Lab Sample ID: ICSAB 680-260788/121 Instrument ID: ICPMSB

Lab File ID: 126_ICB.D ICS Source: MS_ICSABwk_00053

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum, Dissolved	**100000**	**93290**	**93**
Antimony, Dissolved		**0.322**	
Arsenic, Dissolved	**20.0**	**21.9**	**110**
Barium, Dissolved		**0.115**	
Beryllium, Dissolved		**-0.0539**	
Cadmium, Dissolved	**20.0**	**18.4**	**92**
Calcium, Dissolved	**100000**	**101200**	**101**
Chromium, Dissolved	**20.0**	**22.1**	**110**
Cobalt, Dissolved	**20.0**	**18.7**	**94**
Copper, Dissolved	**20.0**	**20.3**	**102**
Iron, Dissolved	**100000**	**100700**	**101**
Lead, Dissolved		**0.0897**	
Magnesium, Dissolved	**100000**	**96570**	**97**
Manganese, Dissolved	**20.0**	**19.0**	**95**
Nickel, Dissolved	**20.0**	**21.9**	**110**
Potassium, Dissolved	**100000**	**96930**	**97**
Selenium, Dissolved		**0.0874**	
Silver, Dissolved	**20.0**	**17.4**	**87**
Sodium, Dissolved	**100000**	**97740**	**98**
Thallium, Dissolved		**-0.0204**	
Vanadium, Dissolved		**0.112**	
Zinc, Dissolved	**20.0**	**22.1**	**110**
Boron		*-0.411*	
Mercury		*0.0246*	
Molybdenum	*2000*	*2284*	*114*
Strontium		*0.229*	
Tin		*0.0776*	
Titanium	*2000*	*2178*	*109*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: 16LM20033U MS Lab ID: 680-85871-6 MS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Matrix: Water Concentration Units: ug/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver	50.2		0.25	U	50.0	100	75-125		6020
Aluminum	5170		50	U	5000	103	75-125		6020
Arsenic	106		1.3	U	100	106	75-125		6020
Barium	209		100		100	108	75-125		6020
Beryllium	51.8		0.25	U	50.0	104	75-125		6020
Calcium	117000		100000		5000	245	75-125	4	6020
Cadmium	48.7		0.20	U	50.0	97	75-125		6020
Cobalt	47.4		0.22	J	50.0	94	75-125		6020
Chromium	106		2.5	U	100	106	75-125		6020
Copper	111		8.3		100	102	75-125		6020
Iron	5300		44	U	5000	106	75-125		6020
Potassium	10700		5200		5000	109	75-125		6020
Magnesium	27200		21000		5000	130	75-125	4	6020
Manganese	617		90		500	105	75-125		6020
Sodium	38000		32000		5000	110	75-125	4	6020
Nickel	108		2.2	J	100	106	75-125		6020
Lead	52.6		2.5		50.0	100	75-125		6020
Antimony	68.5		13		50.0	112	75-125		6020
Selenium	101		1.1	U	100	101	75-125		6020
Thallium	39.7		0.25	U	40.0	99	75-125		6020
Vanadium	106		3.2	U	100	106	75-125		6020
Zinc	103		8.4	U	100	103	75-125		6020
Mercury	0.975		0.10	U	1.00	97	80-120		7470A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: 16LM20033F MS | Lab ID: 680-85871-18 MS

Lab Name: TestAmerica Savannah | Job No.: 680-85871-1

SDG No.:

Matrix: Water | Concentration Units: ug/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver, Dissolved	51.2		0.25	U	50.0	102	75-125		6020
Aluminum, Dissolved	4950		23	U	5000	99	75-125		6020
Arsenic, Dissolved	108		1.3	J	100	106	75-125		6020
Barium, Dissolved	202		100		100	101	75-125		6020
Beryllium, Dissolved	54.0		0.25	U	50.0	108	75-125		6020
Calcium, Dissolved	108000		110000		5000	57	75-125	4	6020
Cadmium, Dissolved	51.7		0.20	U	50.0	103	75-125		6020
Cobalt, Dissolved	49.3		0.23	J	50.0	98	75-125		6020
Chromium, Dissolved	101		2.5	U	100	101	75-125		6020
Copper, Dissolved	104		4.1	J	100	100	75-125		6020
Iron, Dissolved	4880		33	U	5000	98	75-125		6020
Potassium, Dissolved	10200		5300		5000	97	75-125		6020
Magnesium, Dissolved	25600		21000		5000	95	75-125	4	6020
Manganese, Dissolved	617		92		500	105	75-125		6020
Sodium, Dissolved	39600		35000		5000	99	75-125	4	6020
Nickel, Dissolved	103		2.0	U	100	103	75-125		6020
Lead, Dissolved	52.3		1.3	J	50.0	102	75-125		6020
Antimony, Dissolved	70.0		13		50.0	113	75-125		6020
Selenium, Dissolved	103		1.0	U	100	103	75-125		6020
Thallium, Dissolved	39.9		0.50	U	40.0	100	75-125		6020
Vanadium, Dissolved	102		3.8	U	100	102	75-125		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: 16LM20033F MS
Lab ID: 680-85871-18 MS
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Zinc, Dissolved	109		8.3	U	100	109	75-125		6020
Mercury, Dissolved	1.01		0.10	U	1.00	101	80-120		7470A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: Lab ID: 640-41590-L-2-B MS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Matrix: Water Concentration Units: ug/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver, Dissolved	50.7		0.25	U	50.0	101	75-125		6020
Aluminum, Dissolved	4800		170		5000	93	75-125		6020
Arsenic, Dissolved	109		1.3	U	100	109	75-125		6020
Barium, Dissolved	117		12		100	105	75-125		6020
Beryllium, Dissolved	52.6		0.25	U	50.0	105	75-125		6020
Calcium, Dissolved	83000		78000		5000	96	75-125	4	6020
Cadmium, Dissolved	51.3		0.20	U	50.0	103	75-125		6020
Cobalt, Dissolved	47.5		0.18	J	50.0	95	75-125		6020
Chromium, Dissolved	102		2.5	U	100	102	75-125		6020
Copper, Dissolved	106		1.1	U	100	106	75-125		6020
Iron, Dissolved	4940		84	J	5000	97	75-125		6020
Potassium, Dissolved	5740		780		5000	99	75-125		6020
Magnesium, Dissolved	26400		22000		5000	94	75-125	4	6020
Manganese, Dissolved	535		24		500	102	75-125		6020
Sodium, Dissolved	14900		10000		5000	97	75-125		6020
Nickel, Dissolved	105		3.3	J	100	102	75-125		6020
Lead, Dissolved	48.5		0.20	U	50.0	97	75-125		6020
Antimony, Dissolved	56.2		2.9	U	50.0	112	75-125		6020
Selenium, Dissolved	102		1.0	U	100	102	75-125		6020
Thallium, Dissolved	40.6		0.50	U	40.0	101	75-125		6020
Vanadium, Dissolved	105		5.5	J	100	100	75-125		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 640-41590-L-2-B MS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Zinc, Dissolved	111		8.3	U	100	111	75-125		6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: Lab ID: 680-85852-A-1-B MS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Matrix: Water Concentration Units: ug/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver, Dissolved	53.8		0.25	U	50.0	108	75-125		6020
Aluminum, Dissolved	5400		150		5000	105	75-125		6020
Arsenic, Dissolved	113		1.7	J	100	111	75-125		6020
Barium, Dissolved	169		58		100	111	75-125		6020
Beryllium, Dissolved	57.4		0.43	J	50.0	114	75-125		6020
Calcium, Dissolved	12300		7200		5000	104	75-125		6020
Cadmium, Dissolved	54.1		0.14	J	50.0	108	75-125		6020
Cobalt, Dissolved	59.4		8.6		50.0	102	75-125		6020
Chromium, Dissolved	105		2.5	U	100	105	75-125		6020
Copper, Dissolved	110		1.1	J	100	109	75-125		6020
Iron, Dissolved	15800		11000		5000	102	75-125		6020
Potassium, Dissolved	7360		2200		5000	104	75-125		6020
Magnesium, Dissolved	8380		3100		5000	106	75-125		6020
Manganese, Dissolved	765		210		500	111	75-125		6020
Sodium, Dissolved	31200		27000		5000	93	75-125	4	6020
Nickel, Dissolved	112		4.4	J	100	107	75-125		6020
Lead, Dissolved	54.4		0.20	U	50.0	109	75-125		6020
Antimony, Dissolved	60.1		2.9	U	50.0	120	75-125		6020
Selenium, Dissolved	110		1.0	U	100	110	75-125		6020
Thallium, Dissolved	40.2		0.50	U	40.0	100	75-125		6020
Vanadium, Dissolved	103		3.8	U	100	103	75-125		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: _____ Lab ID: 680-85852-A-1-B MS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Zinc, Dissolved	142		28		100	114	75-125		6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: 16LM20033U MSD
Lab ID: 680-85871-6 MSD
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Silver	52.1		50.0	104	75-125	4	20		6020
Aluminum	5110		5000	102	75-125	1	20		6020
Arsenic	107		100	107	75-125	0	20		6020
Barium	212		100	111	75-125	1	20		6020
Beryllium	52.6		50.0	105	75-125	1	20		6020
Calcium	113000		5000	166	75-125	3	20	4	6020
Cadmium	50.6		50.0	101	75-125	4	20		6020
Cobalt	48.6		50.0	97	75-125	2	20		6020
Chromium	107		100	107	75-125	1	20		6020
Copper	114		100	106	75-125	3	20		6020
Iron	5200		5000	104	75-125	2	20		6020
Potassium	10600		5000	107	75-125	1	20		6020
Magnesium	26400		5000	112	75-125	3	20	4	6020
Manganese	624		500	107	75-125	1	20		6020
Sodium	37400		5000	98	75-125	2	20	4	6020
Nickel	109		100	107	75-125	1	20		6020
Lead	53.9		50.0	103	75-125	3	20		6020
Antimony	70.2		50.0	115	75-125	2	20		6020
Selenium	99.2		100	99	75-125	1	20		6020
Thallium	40.9		40.0	102	75-125	3	20		6020
Vanadium	106		100	106	75-125	0	20		6020
Zinc	104		100	104	75-125	1	20		6020
Mercury	0.855		1.00	86	80-120	13	20		7470A

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: 16LM20033F MSD
Lab ID: 680-85871-18 MSD
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Silver, Dissolved	52.9		50.0	106	75-125	3	20		6020
Aluminum, Dissolved	5080		5000	102	75-125	3	20		6020
Arsenic, Dissolved	109		100	107	75-125	1	20		6020
Barium, Dissolved	210		100	109	75-125	4	20		6020
Beryllium, Dissolved	55.7		50.0	111	75-125	3	20		6020
Calcium, Dissolved	110000		5000	80	75-125	1	20	4	6020
Cadmium, Dissolved	53.3		50.0	107	75-125	3	20		6020
Cobalt, Dissolved	50.5		50.0	100	75-125	2	20		6020
Chromium, Dissolved	103		100	103	75-125	1	20		6020
Copper, Dissolved	106		100	102	75-125	2	20		6020
Iron, Dissolved	5040		5000	101	75-125	3	20		6020
Potassium, Dissolved	10300		5000	100	75-125	1	20		6020
Magnesium, Dissolved	25900		5000	99	75-125	1	20	4	6020
Manganese, Dissolved	640		500	109	75-125	4	20		6020
Sodium, Dissolved	40100		5000	110	75-125	1	20	4	6020
Nickel, Dissolved	105		100	105	75-125	1	20		6020
Lead, Dissolved	53.8		50.0	105	75-125	3	20		6020
Antimony, Dissolved	71.5		50.0	116	75-125	2	20		6020
Selenium, Dissolved	104		100	104	75-125	1	20		6020
Thallium, Dissolved	41.1		40.0	103	75-125	3	20		6020
Vanadium, Dissolved	103		100	103	75-125	1	20		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: 16LM20033F MSD
Lab ID: 680-85871-18 MSD
Lab Name: TestAmerica Savannah
Job No.: 680-85871-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Zinc, Dissolved	111		100	111	75-125	2	20		6020
Mercury, Dissolved	1.32		1.00	132	80-120	27	20	J	7470A

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 640-41590-L-2-C MSD

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Silver, Dissolved	48.3		50.0	97	75-125	5	20		6020
Aluminum, Dissolved	4630		5000	89	75-125	4	20		6020
Arsenic, Dissolved	105		100	105	75-125	4	20		6020
Barium, Dissolved	111		100	99	75-125	5	20		6020
Beryllium, Dissolved	50.7		50.0	101	75-125	4	20		6020
Calcium, Dissolved	80200		5000	39	75-125	3	20	4	6020
Cadmium, Dissolved	49.6		50.0	99	75-125	3	20		6020
Cobalt, Dissolved	45.7		50.0	91	75-125	4	20		6020
Chromium, Dissolved	98.4		100	98	75-125	3	20		6020
Copper, Dissolved	102		100	102	75-125	4	20		6020
Iron, Dissolved	4710		5000	92	75-125	5	20		6020
Potassium, Dissolved	5410		5000	93	75-125	6	20		6020
Magnesium, Dissolved	25800		5000	81	75-125	3	20	4	6020
Manganese, Dissolved	514		500	98	75-125	4	20		6020
Sodium, Dissolved	14300		5000	85	75-125	4	20		6020
Nickel, Dissolved	102		100	99	75-125	3	20		6020
Lead, Dissolved	46.1		50.0	92	75-125	5	20		6020
Antimony, Dissolved	53.4		50.0	107	75-125	5	20		6020
Selenium, Dissolved	98.6		100	99	75-125	3	20		6020
Thallium, Dissolved	38.8		40.0	97	75-125	5	20		6020
Vanadium, Dissolved	102		100	96	75-125	3	20		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: _____ Lab ID: 640-41590-L-2-C MSD

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Zinc, Dissolved	107		100	107	75-125	4	20		6020

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: Lab ID: 680-85852-A-1-C MSD

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Matrix: Water Concentration Units: ug/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Silver, Dissolved	55.3		50.0	111	75-125	3	20		6020
Aluminum, Dissolved	5790		5000	113	75-125	7	20		6020
Arsenic, Dissolved	116		100	115	75-125	3	20		6020
Barium, Dissolved	172		100	114	75-125	2	20		6020
Beryllium, Dissolved	57.7		50.0	115	75-125	1	20		6020
Calcium, Dissolved	13200		5000	121	75-125	7	20		6020
Cadmium, Dissolved	55.5		50.0	111	75-125	3	20		6020
Cobalt, Dissolved	60.6		50.0	104	75-125	2	20		6020
Chromium, Dissolved	110		100	110	75-125	4	20		6020
Copper, Dissolved	116		100	114	75-125	5	20		6020
Iron, Dissolved	16900		5000	124	75-125	7	20		6020
Potassium, Dissolved	7780		5000	112	75-125	6	20		6020
Magnesium, Dissolved	8920		5000	117	75-125	6	20		6020
Manganese, Dissolved	776		500	113	75-125	1	20		6020
Sodium, Dissolved	33400		5000	137	75-125	7	20	4	6020
Nickel, Dissolved	118		100	113	75-125	5	20		6020
Lead, Dissolved	55.3		50.0	111	75-125	2	20		6020
Antimony, Dissolved	61.5		50.0	123	75-125	2	20		6020
Selenium, Dissolved	116		100	116	75-125	6	20		6020
Thallium, Dissolved	40.6		40.0	101	75-125	1	20		6020
Vanadium, Dissolved	109		100	109	75-125	5	20		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: _____ Lab ID: 680-85852-A-1-C MSD

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.: _____

Matrix: Water Concentration Units: ug/L

% Solids: _____

Analyte	(SDR) C		Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Zinc, Dissolved	144		100	116	75-125	1	20		6020

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS

Client ID: 16LM20033U PDS | Lab ID: 680-85871-6 PDS

Lab Name: TestAmerica Savannah | Job No.: 680-85871-1

SDG No.:

Matrix: Water | Concentration Units: ug/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver	91.7		0.25	U	100	92	75-125		6020
Aluminum	1130		50	U	1000	113	75-125		6020
Arsenic	104		1.3	U	100	104	75-125		6020
Barium	219		100		100	118	75-125		6020
Beryllium	109		0.25	U	100	109	75-125		6020
Calcium	120000		100000		10000	151	75-125	J	6020
Cadmium	108		0.20	U	100	108	75-125		6020
Cobalt	103		0.22	J	100	103	75-125		6020
Chromium	111		2.5	U	100	111	75-125		6020
Copper	120		8.3		100	112	75-125		6020
Iron	11500		44	U	10000	115	75-125		6020
Potassium	16200		5200		10000	110	75-125		6020
Magnesium	32000		21000		10000	113	75-125		6020
Manganese	1190		90		1000	110	75-125		6020
Sodium	42600		32000		10000	101	75-125		6020
Nickel	113		2.2	J	100	111	75-125		6020
Lead	110		2.5		100	108	75-125		6020
Antimony	130		13		100	117	75-125		6020
Selenium	106		1.1	U	100	106	75-125		6020
Thallium	21.4		0.25	U	20.0	107	75-125		6020
Vanadium	111		3.2	U	100	111	75-125		6020
Zinc	105		8.4	U	100	105	75-125		6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: 16LM20033F PDS | Lab ID: 680-85871-18 PDS

Lab Name: TestAmerica Savannah | Job No.: 680-85871-1

SDG No.:

Matrix: Water | Concentration Units: ug/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver	91.4		0.25	U	100	91	75-125		6020
Aluminum	1070		23	U	1000	107	75-125		6020
Arsenic, Dissolved	104		1.3	J	100	103	75-125		6020
Barium, Dissolved	207		100		100	106	75-125		6020
Beryllium	107		0.25	U	100	107	75-125		6020
Calcium, Dissolved	119000		110000		10000	134	75-125	J	6020
Cadmium, Dissolved	103		0.20	U	100	103	75-125		6020
Cobalt, Dissolved	99.3		0.23	J	100	99	75-125		6020
Chromium	102		2.5	U	100	102	75-125		6020
Copper, Dissolved	106		4.1	J	100	102	75-125		6020
Iron	10600		33	U	10000	106	75-125		6020
Potassium	15300		5300		10000	100	75-125		6020
Magnesium, Dissolved	31900		21000		10000	110	75-125		6020
Manganese	1130		92		1000	104	75-125		6020
Sodium	46500		35000		10000	119	75-125		6020
Nickel	104		2.0	U	100	104	75-125		6020
Lead, Dissolved	103		1.3	J	100	102	75-125		6020
Antimony, Dissolved	124		13		100	110	75-125		6020
Selenium	106		1.0	U	100	106	75-125		6020
Thallium	20.0		0.50	U	20.0	100	75-125		6020
Vanadium, Dissolved	103		3.8	U	100	103	75-125		6020
Zinc	104		8.3	U	100	104	75-125		6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: Lab ID: 640-41590-L-2-A PDS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Matrix: Water Concentration Units: ug/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver, Dissolved	90.2		0.25	U	100	90	75-125		6020
Aluminum, Dissolved	1200		170		1000	103	75-125		6020
Arsenic, Dissolved	113		1.3	U	100	113	75-125		6020
Barium, Dissolved	120		12		100	108	75-125		6020
Beryllium, Dissolved	110		0.25	U	100	110	75-125		6020
Calcium, Dissolved	89500		78000		10000	113	75-125		6020
Cadmium, Dissolved	107		0.20	U	100	107	75-125		6020
Cobalt, Dissolved	98.2		0.18	J	100	98	75-125		6020
Chromium, Dissolved	106		2.5	U	100	106	75-125		6020
Copper, Dissolved	107		1.1	U	100	107	75-125		6020
Iron, Dissolved	10700		84	J	10000	106	75-125		6020
Potassium, Dissolved	11300		780		10000	105	75-125		6020
Magnesium, Dissolved	32100		22000		10000	104	75-125		6020
Manganese, Dissolved	1060		24		1000	103	75-125		6020
Sodium, Dissolved	20200		10000		10000	102	75-125		6020
Nickel, Dissolved	110		3.3	J	100	107	75-125		6020
Lead, Dissolved	100		0.20	U	100	100	75-125		6020
Antimony, Dissolved	114		2.9	U	100	114	75-125		6020
Selenium, Dissolved	107		1.0	U	100	107	75-125		6020
Thallium, Dissolved	21.2		0.50	U	20.0	106	75-125		6020
Vanadium, Dissolved	110		5.5	J	100	104	75-125		6020
Zinc, Dissolved	108		8.3	U	100	108	75-125		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS - TOTAL RECOVERABLE

Client ID: Lab ID: 640-41590-L-2-A PDS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Matrix: Water Concentration Units: ug/L

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: Lab ID: 680-85852-A-1-A PDS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Matrix: Water Concentration Units: ug/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver	86.4		0.25	U	100	86	75-125		6020
Aluminum	1200		150		1000	105	75-125		6020
Arsenic	106		1.7	J	100	105	75-125		6020
Barium	163		58		100	105	75-125		6020
Beryllium	110		0.43	J	100	110	75-125		6020
Calcium	16900		7200		10000	97	75-125		6020
Cadmium	105		0.14	J	100	105	75-125		6020
Cobalt	108		8.6		100	100	75-125		6020
Chromium	103		2.5	U	100	103	75-125		6020
Copper	106		1.1	J	100	105	75-125		6020
Iron	20300		11000		10000	96	75-125		6020
Potassium	12300		2200		10000	101	75-125		6020
Magnesium	13300		3100		10000	102	75-125		6020
Manganese	1250		210		1000	104	75-125		6020
Sodium	34900		27000		10000	83	75-125		6020
Nickel	108		4.4	J	100	104	75-125		6020
Lead	106		0.20	U	100	106	75-125		6020
Antimony	112		2.9	U	100	112	75-125		6020
Selenium	105		1.0	U	100	105	75-125		6020
Thallium	20.9		0.50	U	20.0	105	75-125		6020
Vanadium	101		3.8	U	100	101	75-125		6020
Zinc	132		28		100	104	75-125		6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 680-260618/2-A

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

Sample Matrix: Water LCS Source: MS lcs1cpi_00031

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Silver, Dissolved	50.0	49.1		98	75	125		6020
Aluminum, Dissolved	5000	4660		93	75	125		6020
Arsenic, Dissolved	100	106		106	75	125		6020
Barium, Dissolved	100	98.8		99	75	125		6020
Beryllium, Dissolved	50.0	51.7		103	75	125		6020
Calcium, Dissolved	5000	4810		96	75	125		6020
Cadmium, Dissolved	50.0	50.1		100	75	125		6020
Cobalt, Dissolved	50.0	46.6		93	75	125		6020
Chromium, Dissolved	100	97.8		98	75	125		6020
Copper, Dissolved	100	102		102	75	125		6020
Iron, Dissolved	5000	4800		96	75	125		6020
Potassium, Dissolved	5000	4610		92	75	125		6020
Magnesium, Dissolved	5000	4680		94	75	125		6020
Manganese, Dissolved	500	498		100	75	125		6020
Sodium, Dissolved	5000	4550		91	75	125		6020
Nickel, Dissolved	100	101		101	75	125		6020
Lead, Dissolved	50.0	46.4		93	75	125		6020
Antimony, Dissolved	50.0	53.9		108	75	125		6020
Selenium, Dissolved	100	99.9		100	75	125		6020
Thallium, Dissolved	40.0	38.4		96	75	125		6020
Vanadium, Dissolved	100	97.2		97	75	125		6020
Zinc, Dissolved	100	106		106	75	125		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 680-260719/2-A

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

Sample Matrix: Water LCS Source: MS lcs1cpi_00031

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Silver, Dissolved	50.0	51.7		103	75	125		6020
Aluminum, Dissolved	5000	4790		96	75	125		6020
Arsenic, Dissolved	100	105		105	75	125		6020
Barium, Dissolved	100	104		104	75	125		6020
Beryllium, Dissolved	50.0	52.0		104	75	125		6020
Calcium, Dissolved	5000	4880		98	75	125		6020
Cadmium, Dissolved	50.0	52.0		104	75	125		6020
Cobalt, Dissolved	50.0	48.9		98	75	125		6020
Chromium, Dissolved	100	99.4		99	75	125		6020
Copper, Dissolved	100	104		104	75	125		6020
Iron, Dissolved	5000	4770		95	75	125		6020
Potassium, Dissolved	5000	4910		98	75	125		6020
Magnesium, Dissolved	5000	4950		99	75	125		6020
Manganese, Dissolved	500	524		105	75	125		6020
Sodium, Dissolved	5000	4890		98	75	125		6020
Nickel, Dissolved	100	104		104	75	125		6020
Lead, Dissolved	50.0	52.2		104	75	125		6020
Antimony, Dissolved	50.0	56.9		114	75	125		6020
Selenium, Dissolved	100	101		101	75	125		6020
Thallium, Dissolved	40.0	40.8		102	75	125		6020
Vanadium, Dissolved	100	97.3		97	75	125		6020
Zinc, Dissolved	100	112		112	75	125		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 680-260764/2-A

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

Sample Matrix: Water LCS Source: MS lcs1cpi_00031

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Silver	50.0	51.2		102	75	125		6020
Aluminum	5000	4830		97	75	125		6020
Arsenic	100	100		100	75	125		6020
Barium	100	105		105	75	125		6020
Calcium	5000	5000		100	75	125		6020
Cadmium	50.0	49.5		99	75	125		6020
Cobalt	50.0	47.6		95	75	125		6020
Chromium	100	101		101	75	125		6020
Copper	100	109		109	75	125		6020
Iron	5000	4930		99	75	125		6020
Potassium	5000	4880		98	75	125		6020
Magnesium	5000	5010		100	75	125		6020
Manganese	500	517		103	75	125		6020
Nickel	100	106		106	75	125		6020
Lead	50.0	50.7		101	75	125		6020
Antimony	50.0	55.8		112	75	125		6020
Selenium	100	95.3		95	75	125		6020
Thallium	40.0	39.8		99	75	125		6020
Vanadium	100	99.1		99	75	125		6020
Zinc	100	102		102	75	125		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 680-260764/2-A

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

Sample Matrix: Water LCS Source: MS lcs1cpi_00031

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Beryllium	50.0	53.6		107	75	125		6020
Sodium	5000	4990		100	75	125		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 680-260740/2-A

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

Sample Matrix: Water LCS Source: MS lcs1cpi_00031

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Silver, Dissolved	50.0	53.3		107	75	125		6020
Aluminum, Dissolved	5000	5070		101	75	125		6020
Arsenic, Dissolved	100	105		105	75	125		6020
Barium, Dissolved	100	104		104	75	125		6020
Beryllium, Dissolved	50.0	54.5		109	75	125		6020
Calcium, Dissolved	5000	5130		103	75	125		6020
Cadmium, Dissolved	50.0	53.2		106	75	125		6020
Cobalt, Dissolved	50.0	50.6		101	75	125		6020
Chromium, Dissolved	100	101		101	75	125		6020
Copper, Dissolved	100	104		104	75	125		6020
Iron, Dissolved	5000	4990		100	75	125		6020
Potassium, Dissolved	5000	4890		98	75	125		6020
Magnesium, Dissolved	5000	5200		104	75	125		6020
Manganese, Dissolved	500	536		107	75	125		6020
Sodium, Dissolved	5000	5040		101	75	125		6020
Nickel, Dissolved	100	104		104	75	125		6020
Lead, Dissolved	50.0	52.3		105	75	125		6020
Antimony, Dissolved	50.0	57.8		116	75	125		6020
Selenium, Dissolved	100	103		103	75	125		6020
Thallium, Dissolved	40.0	41.2		103	75	125		6020
Vanadium, Dissolved	100	98.6		99	75	125		6020
Zinc, Dissolved	100	122		122	75	125		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 680-260873/2-A

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

Sample Matrix: Water LCS Source: Hg_Int_Cal_00085

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury, Dissolved	2.50	2.83		113	80	120		7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 680-261369/2-A

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

Sample Matrix: Water LCS Source: Hg_Int_Cal_00086

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	2.50	2.03		81	80	120		7470A
Mercury, Dissolved	2.50	2.03		81	80	120		7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS

Lab ID: 680-85871-6

SDG No:

Lab Name: TestAmerica Savannah Job No: 680-85871-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Silver	0.25	U	1.3	U	NC		6020
Aluminum	50	U	250	U	NC		6020
Arsenic	1.3	U	6.5	U	NC		6020
Barium	100		97.0		3.9	D	6020
Beryllium	0.25	U	1.3	U	NC		6020
Calcium	100000		97100		7.2	D	6020
Cadmium	0.20	U	1.0	U	NC		6020
Cobalt	0.22	J	1.5	U	NC		6020
Chromium	2.5	U	13	U	NC		6020
Copper	8.3		8.91	J	NC	D	6020
Iron	44	U	220	U	NC		6020
Potassium	5200		5010		NC	D	6020
Magnesium	21000		19800		4.8	D	6020
Manganese	90		89.0		NC	D	6020
Sodium	32000		33700		3.6	D	6020
Nickel	2.2	J	10	U	NC		6020
Lead	2.5		2.5	U	NC		6020
Antimony	13		12.8	J	NC	D	6020
Selenium	1.1	U	5.5	U	NC		6020
Thallium	0.25	U	1.3	U	NC		6020
Vanadium	3.2	U	16	U	NC		6020
Zinc	8.4	U	42	U	NC		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - DISSOLVED

Lab ID: 680-85871-18

SDG No:

Lab Name: TestAmerica Savannah Job No: 680-85871-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Silver	0.25	U	1.3	U	NC		6020
Aluminum	23	U	120	U	NC		6020
Arsenic, Dissolved	1.3	J	6.5	U	NC		6020
Barium, Dissolved	100		100		0.79	D	6020
Beryllium	0.25	U	1.3	U	NC		6020
Calcium, Dissolved	110000		109000		3.1	D	6020
Cadmium, Dissolved	0.20	U	1.0	U	NC		6020
Cobalt, Dissolved	0.23	J	0.75	U	NC		6020
Chromium	2.5	U	13	U	NC		6020
Copper, Dissolved	4.1	J	5.5	U	NC		6020
Iron	33	U	170	U	NC		6020
Potassium	5300		5270		NC	D	6020
Magnesium, Dissolved	21000		22200		6.4	D	6020
Manganese	92		94.7		2.5	D	6020
Sodium	35000		35700		3.1	D	6020
Nickel	2.0	U	10	U	NC		6020
Lead, Dissolved	1.3	J	1.33	J	NC	D	6020
Antimony, Dissolved	13		14.6	J	NC	D	6020
Selenium	1.0	U	5.0	U	NC		6020
Thallium	0.50	U	2.5	U	NC		6020
Vanadium, Dissolved	3.8	U	19	U	NC		6020
Zinc	8.3	U	42	U	NC		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - TOTAL RECOVERABLE

Lab ID: 640-41590-L-2-A SD

SDG No:

Lab Name: TestAmerica Savannah Job No: 680-85871-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Silver, Dissolved	0.25	U	6.3	U	NC		6020
Aluminum, Dissolved	170		580	U	NC		6020
Arsenic, Dissolved	1.3	U	33	U	NC		6020
Barium, Dissolved	12		33	U	NC		6020
Beryllium, Dissolved	0.25	U	6.3	U	NC		6020
Calcium, Dissolved	78000		78400		0.26	D	6020
Cadmium, Dissolved	0.20	U	5.0	U	NC		6020
Cobalt, Dissolved	0.18	J	3.8	U	NC		6020
Chromium, Dissolved	2.5	U	63	U	NC		6020
Copper, Dissolved	1.1	U	28	U	NC		6020
Iron, Dissolved	84	J	830	U	NC		6020
Potassium, Dissolved	780		4300	U	NC		6020
Magnesium, Dissolved	22000		22400		3.1	D	6020
Manganese, Dissolved	24		25	U	NC		6020
Sodium, Dissolved	10000		10200	J	NC	D	6020
Nickel, Dissolved	3.3	J	50	U	NC		6020
Lead, Dissolved	0.20	U	5.0	U	NC		6020
Antimony, Dissolved	2.9	U	73	U	NC		6020
Selenium, Dissolved	1.0	U	25	U	NC		6020
Thallium, Dissolved	0.50	U	13	U	NC		6020
Vanadium, Dissolved	5.5	J	95	U	NC		6020
Zinc, Dissolved	8.3	U	210	U	NC		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - DISSOLVED

Lab ID: 680-85852-A-1-A SD

SDG No:

Lab Name: TestAmerica Savannah Job No: 680-85871-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Silver	0.25	U	1.3	U	NC		6020
Aluminum	150		151	J	NC	D	6020
Arsenic	1.7	J	6.5	U	NC		6020
Barium	58		56.5		NC	D	6020
Beryllium	0.43	J	1.3	U	NC		6020
Calcium	7200		6830		4.6	D	6020
Cadmium	0.14	J	1.0	U	NC		6020
Cobalt	8.6		8.54		0.87	D	6020
Chromium	2.5	U	13	U	NC		6020
Copper	1.1	J	5.5	U	NC		6020
Iron	11000		10300		3.8	D	6020
Potassium	2200		2020	J	NC	D	6020
Magnesium	3100		2950		4.1	D	6020
Manganese	210		212		0.22	D	6020
Sodium	27000		24700		7.2	D	6020
Nickel	4.4	J	10	U	NC		6020
Lead	0.20	U	1.0	U	NC		6020
Antimony	2.9	U	15	U	NC		6020
Selenium	1.0	U	5.0	U	NC		6020
Thallium	0.50	U	2.5	U	NC		6020
Vanadium	3.8	U	19	U	NC		6020
Zinc	28		42	U	NC		6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG Number:

Matrix: Water Instrument ID: ICPMSA

Method: 6020 DL Date: 01/19/2010 00:00

Prep Method: 3010A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Aluminum		100	50
Antimony		5	2
Arsenic		2.5	1.3
Barium		5	1.4
Beryllium		0.5	0.15
Cadmium		0.5	0.13
Calcium		500	170
Chromium		5	2.5
Cobalt		0.5	0.12
Copper		5	1.1
Iron		100	44
Lead		1.5	0.5
Magnesium		250	100
Manganese		5	2
Nickel		5	2
Potassium		1000	330
Selenium		2.5	1.1
Silver		1	0.18
Sodium		500	170
Thallium		1	0.25
Vanadium		10	3.2
Zinc		20	8.4

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG Number:

Matrix: Water Instrument ID: ICPMSA

Method: 6020 XMDL Date: 01/19/2010 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum		20	10
Antimony		1	0.4
Arsenic		0.5	0.26
Barium		1	0.28
Beryllium		0.1	0.03
Cadmium		0.1	0.026
Calcium		100	34
Chromium		1	0.5
Cobalt		0.1	0.024
Copper		1	0.22
Iron		20	8.8
Lead		0.3	0.1
Magnesium		40	20
Manganese		1	0.4
Nickel		1	0.4
Potassium		200	66
Selenium		0.5	0.22
Silver		0.2	0.036
Sodium		100	34
Thallium		0.2	0.05
Vanadium		2	0.64
Zinc		4	1.7

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG Number:

Matrix: Water Instrument ID: ICPMSA

Method: 6020 DL Date: 01/19/2010 00:00

Prep Method: 3005A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Aluminum, Dissolved		50	23
Antimony, Dissolved		5	2.3
Arsenic, Dissolved		2.5	1.3
Barium, Dissolved		5	1.3
Beryllium, Dissolved		0.5	0.25
Cadmium, Dissolved		0.5	0.095
Calcium, Dissolved		250	130
Chromium, Dissolved		5	2.5
Cobalt, Dissolved		0.5	0.15
Copper, Dissolved		5	1.1
Iron, Dissolved		100	33
Lead, Dissolved		1.5	0.2
Magnesium, Dissolved		250	43
Manganese, Dissolved		5	1
Nickel, Dissolved		5	2
Potassium, Dissolved		500	170
Selenium, Dissolved		2.5	1
Silver, Dissolved		1	0.25
Sodium, Dissolved		500	250
Thallium, Dissolved		1	0.5
Vanadium, Dissolved		10	3.8
Zinc, Dissolved		20	8.3

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG Number:

Matrix: Water Instrument ID: ICPMSA

Method: 6020 XMDL Date: 01/19/2010 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum, Dissolved		10	0.4
Antimony, Dissolved		1	0.46
Arsenic, Dissolved		0.5	0.26
Barium, Dissolved		1	0.26
Beryllium, Dissolved		0.1	0.05
Cadmium, Dissolved		0.1	0.019
Calcium, Dissolved		50	26
Chromium, Dissolved		1	0.5
Cobalt, Dissolved		0.1	0.03
Copper, Dissolved		1	0.22
Iron, Dissolved		20	6.6
Lead, Dissolved		0.3	0.04
Magnesium, Dissolved		50	8.6
Manganese, Dissolved		1	0.2
Nickel, Dissolved		1	0.4
Potassium, Dissolved		100	34
Selenium, Dissolved		0.5	0.2
Silver, Dissolved		0.2	0.05
Sodium, Dissolved		100	50
Thallium, Dissolved		0.2	0.1
Vanadium, Dissolved		2	0.76
Zinc, Dissolved		5	1.7

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG Number:

Matrix: Water Instrument ID: ICPMSB

Method: 6020 DL Date: 01/19/2010 00:00

Prep Method: 3005A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Aluminum, Dissolved		50	23
Antimony, Dissolved		5	2.3
Arsenic, Dissolved		2.5	1.3
Barium, Dissolved		5	1.3
Beryllium, Dissolved		0.5	0.25
Cadmium, Dissolved		0.5	0.095
Calcium, Dissolved		250	130
Chromium, Dissolved		5	2.5
Cobalt, Dissolved		0.5	0.15
Copper, Dissolved		5	1.1
Iron, Dissolved		100	33
Lead, Dissolved		1.5	0.2
Magnesium, Dissolved		250	43
Manganese, Dissolved		5	1
Nickel, Dissolved		5	2
Potassium, Dissolved		500	170
Selenium, Dissolved		2.5	1
Silver, Dissolved		1	0.25
Sodium, Dissolved		500	250
Thallium, Dissolved		1	0.5
Vanadium, Dissolved		10	3.8
Zinc, Dissolved		20	8.3

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG Number:

Matrix: Water Instrument ID: ICPMSB

Method: 6020 XMDL Date: 01/19/2010 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum, Dissolved		10	0.4
Antimony, Dissolved		1	0.46
Arsenic, Dissolved		0.5	0.26
Barium, Dissolved		1	0.26
Beryllium, Dissolved		0.1	0.05
Cadmium, Dissolved		0.1	0.019
Calcium, Dissolved		50	26
Chromium, Dissolved		1	0.5
Cobalt, Dissolved		0.1	0.03
Copper, Dissolved		1	0.22
Iron, Dissolved		20	6.6
Lead, Dissolved		0.3	0.04
Magnesium, Dissolved		50	8.6
Manganese, Dissolved		1	0.2
Nickel, Dissolved		1	0.4
Potassium, Dissolved		100	34
Selenium, Dissolved		0.5	0.2
Silver, Dissolved		0.2	0.05
Sodium, Dissolved		100	50
Thallium, Dissolved		0.2	0.1
Vanadium, Dissolved		2	0.76
Zinc, Dissolved		5	1.7

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG Number:

Matrix: Water Instrument ID: LEEMAN2

Method: 7470A DL Date: 06/02/2009 00:00

Prep Method: 7470A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Mercury		0.2	0.091

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG Number:

Matrix: Water Instrument ID: LEEMAN2

Method: 7470A XMDL Date: 06/02/2009 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.2	0.091

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG Number:

Matrix: Water Instrument ID: LEEMAN2

Method: 7470A DL Date: 06/02/2009 00:00

Prep Method: 7470A

Analyte	Wavelength/ Mass	LOQ (ug/L)	DL (ug/L)
Mercury, Dissolved		0.2	0.091

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Savannah Job Number: 680-85871-1

SDG Number:

Matrix: Water Instrument ID: LEEMAN2

Method: 7470A XMDL Date: 06/02/2009 00:00

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury, Dissolved		0.2	0.091

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Savannah Job No: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Date: 01/25/2010 13:45

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Silver		100	6020
Silver, Dissolved		100	6020
Aluminum		90000	6020
Aluminum, Dissolved		90000	6020
Arsenic		1800	6020
Arsenic, Dissolved		1800	6020
Barium		1800	6020
Barium, Dissolved		1800	6020
Beryllium		100	6020
Beryllium, Dissolved		100	6020
Calcium		90000	6020
Calcium, Dissolved		90000	6020
Cadmium		100	6020
Cadmium, Dissolved		100	6020
Cobalt		100	6020
Cobalt, Dissolved		100	6020
Chromium		1800	6020
Chromium, Dissolved		1800	6020
Copper		1800	6020
Copper, Dissolved		1800	6020
Iron		90000	6020
Iron, Dissolved		90000	6020
Potassium		90000	6020
Potassium, Dissolved		90000	6020
Magnesium		90000	6020
Magnesium, Dissolved		90000	6020
Manganese		1800	6020
Manganese, Dissolved		1800	6020
Sodium		90000	6020
Sodium, Dissolved		90000	6020
Nickel		1800	6020
Nickel, Dissolved		1800	6020
Lead		1800	6020
Lead, Dissolved		1800	6020
Antimony		100	6020
Antimony, Dissolved		100	6020
Selenium		100	6020
Selenium, Dissolved		100	6020
Thallium		20	6020
Thallium, Dissolved		20	6020
Vanadium		100	6020
Vanadium, Dissolved		100	6020
Zinc		1800	6020

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Savannah Job No: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Date: 01/25/2010 13:45

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Zinc, Dissolved		1800	6020

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 680-260618/1-A	12/21/2012 07:55	260618		50	250
LCS 680-260618/2-A	12/21/2012 07:55	260618		50	250
640-41590-L-2-B MS	12/21/2012 07:55	260618		50	250
640-41590-L-2-C MSD	12/21/2012 07:55	260618		50	250
680-85871-20	12/21/2012 07:55	260618		50	250
680-85871-21	12/21/2012 07:55	260618		50	250
680-85871-22	12/21/2012 07:55	260618		50	250

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 680-260719/1-A	12/21/2012 15:36	260719		50	250
LCS 680-260719/2-A	12/21/2012 15:36	260719		50	250
680-85852-A-1-B MS	12/21/2012 15:36	260719		50	250
680-85852-A-1-C MSD	12/21/2012 15:36	260719		50	250
680-85871-13	12/21/2012 15:36	260719		50	250
680-85871-14	12/21/2012 15:36	260719		50	250
680-85871-15	12/21/2012 15:36	260719		50	250
680-85871-16	12/21/2012 15:36	260719		50	250
680-85871-17	12/21/2012 15:36	260719		50	250

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 680-260740/1-A	12/21/2012 17:23	260740		50	250
LCS 680-260740/2-A	12/21/2012 17:23	260740		50	250
680-85871-18	12/21/2012 17:23	260740		50	250
680-85871-18 MS	12/21/2012 17:23	260740		50	250
680-85871-18 MSD	12/21/2012 17:23	260740		50	250
680-85871-19	12/21/2012 17:23	260740		50	250
680-85871-23	12/21/2012 17:23	260740		50	250
680-85871-24	12/21/2012 17:23	260740		50	250

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 680-260764/1-A	12/22/2012 08:18	260764		50	250
LCS 680-260764/2-A	12/22/2012 08:18	260764		50	250
680-85871-1	12/22/2012 08:18	260764		50	250
680-85871-2	12/22/2012 08:18	260764		50	250
680-85871-3	12/22/2012 08:18	260764		50	250
680-85871-4	12/22/2012 08:18	260764		50	250
680-85871-5	12/22/2012 08:18	260764		50	250
680-85871-6	12/22/2012 08:18	260764		50	250
680-85871-6 MS	12/22/2012 08:18	260764		50	250
680-85871-6 MSD	12/22/2012 08:18	260764		50	250
680-85871-7	12/22/2012 08:18	260764		50	250
680-85871-8	12/22/2012 08:18	260764		50	250
680-85871-9	12/22/2012 08:18	260764		50	250
680-85871-10	12/22/2012 08:18	260764		50	250
680-85871-11	12/22/2012 08:18	260764		50	250
680-85871-12	12/22/2012 08:18	260764		50	250

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 680-260873/1-A	12/24/2012 10:33	260873		50	50
LCS 680-260873/2-A	12/24/2012 10:33	260873		50	50
680-85871-18	12/24/2012 10:33	260873		50	50
680-85871-18 MS	12/24/2012 10:33	260873		50	50
680-85871-18 MSD	12/24/2012 10:33	260873		50	50
680-85871-19	12/24/2012 10:33	260873		50	50
680-85871-20	12/24/2012 10:33	260873		50	50
680-85871-21	12/24/2012 10:33	260873		50	50
680-85871-22	12/24/2012 10:33	260873		50	50
680-85871-23	12/24/2012 10:33	260873		50	50
680-85871-24	12/24/2012 10:33	260873		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 680-261369/1-A	12/28/2012 16:33	261369		50	50
LCS 680-261369/2-A	12/28/2012 16:33	261369		50	50
680-85871-1	12/28/2012 16:33	261369		50	50
680-85871-2	12/28/2012 16:33	261369		50	50
680-85871-3	12/28/2012 16:33	261369		50	50
680-85871-4	12/28/2012 16:33	261369		50	50
680-85871-5	12/28/2012 16:33	261369		50	50
680-85871-6	12/28/2012 16:33	261369		50	50
680-85871-6 MS	12/28/2012 16:33	261369		50	50
680-85871-6 MSD	12/28/2012 16:33	261369		50	50
680-85871-7	12/28/2012 16:33	261369		50	50
680-85871-8	12/28/2012 16:33	261369		50	50
680-85871-9	12/28/2012 16:33	261369		50	50
680-85871-10	12/28/2012 16:33	261369		50	50
680-85871-11	12/28/2012 16:33	261369		50	50
680-85871-12	12/28/2012 16:33	261369		50	50
680-85871-13	12/28/2012 16:33	261369		50	50
680-85871-14	12/28/2012 16:33	261369		50	50
680-85871-15	12/28/2012 16:33	261369		50	50
680-85871-16	12/28/2012 16:33	261369		50	50
680-85871-17	12/28/2012 16:33	261369		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/25/2012 18:11

Lab Sample ID	D/F	Type	Time	Analytes																			
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
ITUNE 680-260984/1			15:46																				
CALIBSTD 680-260984/2 IC	1		19:02	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-260984/3	1		19:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-260984/4	1		19:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-260984/5	1		19:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-260984/6	1		19:32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-260984/7	1		19:39	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			19:47																				
ICV 680-260984/9	1		19:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICB 680-260984/10	1		20:02	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CRI 680-260984/11	1		20:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCV 680-260984/12	1		20:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260984/13	1		20:24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSA 680-260984/14	1		20:31	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSAB 680-260984/15	1		20:39	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			20:46																				
RINSE 680-260984/17			20:54																				
RINSE 680-260984/18			21:01																				
RINSE 680-260984/19			21:09																				
RINSE 680-260984/20			21:16																				
CCV 680-260984/21	1		21:24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260984/22	1		21:31	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MB 680-260719/1-A	1	R	21:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LCS 680-260719/2-A	1	R	21:46	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			21:53																				
680-85852-A-1-A SD	5	D	22:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85852-A-1-A PDS	1	D	22:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85852-A-1-B MS	1	D	22:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85852-A-1-C MSD	1	D	22:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			22:30																				
ZZZZZZ			22:37																				
ZZZZZZ			22:45																				
CCV 680-260984/33	1		22:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260984/34	1		23:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			23:07																				
ZZZZZZ			23:15																				
ZZZZZZ			23:22																				
ZZZZZZ			23:29																				
ZZZZZZ			23:37																				
ZZZZZZ			23:44																				
ZZZZZZ			23:52																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/25/2012 18:11

Lab Sample ID	D/F	Type	Time	Analytes																			
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
ZZZZZZ			23:59																				
ZZZZZZ			00:07																				
ZZZZZZ			00:14																				
CCV 680-260984/45	1		00:22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260984/46	1		00:29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			00:36																				
680-85871-13	1	D	00:44	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-14	1	D	00:51	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-15	1	D	00:59	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-16	1	D	01:06	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-17	1	D	01:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCV 680-260984/53	1		01:21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260984/54	1		01:28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			01:35																				
ZZZZZZ			01:43																				
ZZZZZZ			01:50																				
ZZZZZZ			01:58																				
ZZZZZZ			02:05																				
ZZZZZZ			02:13																				
ZZZZZZ			02:20																				
ZZZZZZ			02:28																				
ZZZZZZ			02:35																				
ZZZZZZ			02:42																				
CCV 680-260984/65			02:50																				
CCB 680-260984/66			02:57																				
ZZZZZZ			03:05																				
ZZZZZZ			03:12																				
ZZZZZZ			03:19																				
CCV 680-260984/70			03:27																				
CCB 680-260984/71			03:34																				
ZZZZZZ			03:42																				
ZZZZZZ			03:49																				
ZZZZZZ			03:57																				
ZZZZZZ			04:04																				
ZZZZZZ			04:11																				
ZZZZZZ			04:19																				
ZZZZZZ			04:26																				
ZZZZZZ			04:33																				
ZZZZZZ			04:41																				
ZZZZZZ			04:48																				
CCV 680-260984/82			04:56																				
CCB 680-260984/83			05:03																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/25/2012 18:11

Lab Sample ID	D/F	Type	Time	Analytes																				
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
ZZZZZZ			05:11																					
CCV 680-260984/85			05:18																					
CCB 680-260984/86			05:26																					
ZZZZZZ			05:33																					
ZZZZZZ			05:40																					
ZZZZZZ			05:48																					
ZZZZZZ			05:55																					
ZZZZZZ			06:03																					
ZZZZZZ			06:10																					
ZZZZZZ			06:17																					
ZZZZZZ			06:25																					
ZZZZZZ			06:32																					
CCV 680-260984/96			06:39																					
CCB 680-260984/97			06:47																					
ZZZZZZ			06:54																					
ZZZZZZ			07:02																					
ZZZZZZ			07:09																					
ZZZZZZ			07:17																					
ZZZZZZ			07:24																					
ZZZZZZ			07:31																					
ZZZZZZ			07:39																					
ZZZZZZ			07:46																					
ZZZZZZ			07:54																					
ZZZZZZ			08:01																					
CCV 680-260984/108			08:08																					
CCB 680-260984/109			08:16																					
ZZZZZZ			08:23																					
ZZZZZZ			08:31																					
ZZZZZZ			08:38																					
ZZZZZZ			08:46																					
CCV 680-260984/114			08:53																					
CCB 680-260984/115			09:00																					
RINSE 680-260984/116			09:08																					
RINSE 680-260984/117			09:15																					
RINSE 680-260984/118			09:23																					
RINSE 680-260984/119			09:30																					
RINSE 680-260984/120			09:38																					
RINSE 680-260984/121			09:45																					
RINSE 680-260984/122			09:53																					
RINSE 680-260984/123			10:00																					
RINSE 680-260984/124			10:08																					
RINSE 680-260984/125			10:15																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/25/2012 18:11

Lab Sample ID	D/F	Type	Time	Analytes																			
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
CCV 680-260984/126			10:23																				
CCB 680-260984/127			10:30																				
CCV 680-260984/128			10:38																				
CCB 680-260984/129			10:45																				
CCV 680-260984/130	1		10:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260984/131	1		11:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSA 680-260984/132	1		11:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSAB 680-260984/133	1		11:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RINSE 680-260984/134			11:23																				
RINSE 680-260984/135			11:30																				
RINSE 680-260984/136			11:37																				
RINSE 680-260984/137			11:45																				
CCV 680-260984/138	1		11:52	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260984/139	1		12:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MB 680-260764/1-A	1	T	12:07	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
LCS 680-260764/2-A	1	T	12:15	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-1	1	T	12:22	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-2	1	T	12:29	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-3	1	T	12:37	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-4	1	T	12:44	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-5	1	T	12:52	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-6	1	T	12:59	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-6 SD	5	T	13:07	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-6 PDS	1	T	13:14	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
CCV 680-260984/150	1		13:21	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
CCB 680-260984/151	1		13:29	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-6 MS	1	T	13:36	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-6 MSD	1	T	13:44	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-7	1	T	13:51	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-8	1	T	13:58	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-9	1	T	14:06	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-10	1	T	14:13	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-11	1	T	14:21	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
680-85871-12	1	T	14:28	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
ZZZZZZ			14:36																				
ZZZZZZ			14:43																				
CCV 680-260984/162	1		14:50	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
CCB 680-260984/163	1		14:58	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
ZZZZZZ			15:05																				
ZZZZZZ			15:13																				
ZZZZZZ			15:20																				
ZZZZZZ			15:28																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/25/2012 18:11

Lab Sample ID	D / F	Type	Time	Analytes																				
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
ZZZZZZ			15:35																					
ZZZZZZ			15:42																					
CCV 680-260984/170			15:50																					
CCB 680-260984/171			15:57																					
ZZZZZZ			16:05																					
ZZZZZZ			16:12																					
ZZZZZZ			16:20																					
ZZZZZZ			16:27																					
ZZZZZZ			16:34																					
ZZZZZZ			16:42																					
ZZZZZZ			16:49																					
CCV 680-260984/179			16:57																					
CCB 680-260984/180			17:04																					
ZZZZZZ			17:12																					
ZZZZZZ			17:19																					
ZZZZZZ			17:26																					
ZZZZZZ			17:34																					
ZZZZZZ			17:41																					
ZZZZZZ			17:49																					
ZZZZZZ			17:56																					
CCV 680-260984/188			18:04																					
CCB 680-260984/189			18:11																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/25/2012 18:11

Lab Sample ID	D / F	Type	Time	Analytes																				
				V	Zn																			
ITUNE 680-260984/1			15:46																					
CALIBSTD 680-260984/2 IC	1		19:02	X	X																			
IC 680-260984/3	1		19:10	X	X																			
IC 680-260984/4	1		19:17	X	X																			
IC 680-260984/5	1		19:25	X	X																			
IC 680-260984/6	1		19:32	X	X																			
IC 680-260984/7	1		19:39	X	X																			
ZZZZZZ			19:47																					
ICV 680-260984/9	1		19:54	X	X																			
ICB 680-260984/10	1		20:02	X	X																			
CRI 680-260984/11	1		20:09	X	X																			
CCV 680-260984/12	1		20:17	X	X																			
CCB 680-260984/13	1		20:24	X	X																			
ICSA 680-260984/14	1		20:31	X	X																			
ICSAB 680-260984/15	1		20:39	X	X																			
ZZZZZZ			20:46																					
RINSE 680-260984/17			20:54																					
RINSE 680-260984/18			21:01																					
RINSE 680-260984/19			21:09																					
RINSE 680-260984/20			21:16																					
CCV 680-260984/21	1		21:24	X	X																			
CCB 680-260984/22	1		21:31	X	X																			
MB 680-260719/1-A	1	R	21:38	X	X																			
LCS 680-260719/2-A	1	R	21:46	X	X																			
ZZZZZZ			21:53																					
680-85852-A-1-A SD	5	D	22:00	X	X																			
680-85852-A-1-A PDS	1	D	22:08	X	X																			
680-85852-A-1-B MS	1	D	22:15	X	X																			
680-85852-A-1-C MSD	1	D	22:23	X	X																			
ZZZZZZ			22:30																					
ZZZZZZ			22:37																					
ZZZZZZ			22:45																					
CCV 680-260984/33	1		22:52	X	X																			
CCB 680-260984/34	1		23:00	X	X																			
ZZZZZZ			23:07																					
ZZZZZZ			23:15																					
ZZZZZZ			23:22																					
ZZZZZZ			23:29																					
ZZZZZZ			23:37																					
ZZZZZZ			23:44																					
ZZZZZZ			23:52																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/25/2012 18:11

Lab Sample ID	D / F	Type	Time	Analytes																				
				V	Zn																			
ZZZZZZ			23:59																					
ZZZZZZ			00:07																					
ZZZZZZ			00:14																					
CCV 680-260984/45	1		00:22	X	X																			
CCB 680-260984/46	1		00:29	X	X																			
ZZZZZZ			00:36																					
680-85871-13	1	D	00:44	X	X																			
680-85871-14	1	D	00:51	X	X																			
680-85871-15	1	D	00:59	X	X																			
680-85871-16	1	D	01:06	X	X																			
680-85871-17	1	D	01:13	X	X																			
CCV 680-260984/53	1		01:21	X	X																			
CCB 680-260984/54	1		01:28	X	X																			
ZZZZZZ			01:35																					
ZZZZZZ			01:43																					
ZZZZZZ			01:50																					
ZZZZZZ			01:58																					
ZZZZZZ			02:05																					
ZZZZZZ			02:13																					
ZZZZZZ			02:20																					
ZZZZZZ			02:28																					
ZZZZZZ			02:35																					
ZZZZZZ			02:42																					
CCV 680-260984/65			02:50																					
CCB 680-260984/66			02:57																					
ZZZZZZ			03:05																					
ZZZZZZ			03:12																					
ZZZZZZ			03:19																					
CCV 680-260984/70			03:27																					
CCB 680-260984/71			03:34																					
ZZZZZZ			03:42																					
ZZZZZZ			03:49																					
ZZZZZZ			03:57																					
ZZZZZZ			04:04																					
ZZZZZZ			04:11																					
ZZZZZZ			04:19																					
ZZZZZZ			04:26																					
ZZZZZZ			04:33																					
ZZZZZZ			04:41																					
ZZZZZZ			04:48																					
CCV 680-260984/82			04:56																					
CCB 680-260984/83			05:03																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/25/2012 18:11

Lab Sample ID	D / F	Type	Time	Analytes																			
				V	Zn																		
ZZZZZZ			05:11																				
CCV 680-260984/85			05:18																				
CCB 680-260984/86			05:26																				
ZZZZZZ			05:33																				
ZZZZZZ			05:40																				
ZZZZZZ			05:48																				
ZZZZZZ			05:55																				
ZZZZZZ			06:03																				
ZZZZZZ			06:10																				
ZZZZZZ			06:17																				
ZZZZZZ			06:25																				
ZZZZZZ			06:32																				
CCV 680-260984/96			06:39																				
CCB 680-260984/97			06:47																				
ZZZZZZ			06:54																				
ZZZZZZ			07:02																				
ZZZZZZ			07:09																				
ZZZZZZ			07:17																				
ZZZZZZ			07:24																				
ZZZZZZ			07:31																				
ZZZZZZ			07:39																				
ZZZZZZ			07:46																				
ZZZZZZ			07:54																				
ZZZZZZ			08:01																				
CCV 680-260984/108			08:08																				
CCB 680-260984/109			08:16																				
ZZZZZZ			08:23																				
ZZZZZZ			08:31																				
ZZZZZZ			08:38																				
ZZZZZZ			08:46																				
CCV 680-260984/114			08:53																				
CCB 680-260984/115			09:00																				
RINSE 680-260984/116			09:08																				
RINSE 680-260984/117			09:15																				
RINSE 680-260984/118			09:23																				
RINSE 680-260984/119			09:30																				
RINSE 680-260984/120			09:38																				
RINSE 680-260984/121			09:45																				
RINSE 680-260984/122			09:53																				
RINSE 680-260984/123			10:00																				
RINSE 680-260984/124			10:08																				
RINSE 680-260984/125			10:15																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/25/2012 18:11

Lab Sample ID	D / F	Type	Time	Analytes																			
				V	Zn																		
CCV 680-260984/126			10:23																				
CCB 680-260984/127			10:30																				
CCV 680-260984/128			10:38																				
CCB 680-260984/129			10:45																				
CCV 680-260984/130	1		10:52	X	X																		
CCB 680-260984/131	1		11:00	X	X																		
ICSA 680-260984/132	1		11:07	X	X																		
ICSAB 680-260984/133	1		11:15	X	X																		
RINSE 680-260984/134			11:23																				
RINSE 680-260984/135			11:30																				
RINSE 680-260984/136			11:37																				
RINSE 680-260984/137			11:45																				
CCV 680-260984/138	1		11:52	X	X																		
CCB 680-260984/139	1		12:00	X	X																		
MB 680-260764/1-A	1	T	12:07	X	X																		
LCS 680-260764/2-A	1	T	12:15	X	X																		
680-85871-1	1	T	12:22	X	X																		
680-85871-2	1	T	12:29	X	X																		
680-85871-3	1	T	12:37	X	X																		
680-85871-4	1	T	12:44	X	X																		
680-85871-5	1	T	12:52	X	X																		
680-85871-6	1	T	12:59	X	X																		
680-85871-6 SD	5	T	13:07	X	X																		
680-85871-6 PDS	1	T	13:14	X	X																		
CCV 680-260984/150	1		13:21	X	X																		
CCB 680-260984/151	1		13:29	X	X																		
680-85871-6 MS	1	T	13:36	X	X																		
680-85871-6 MSD	1	T	13:44	X	X																		
680-85871-7	1	T	13:51	X	X																		
680-85871-8	1	T	13:58	X	X																		
680-85871-9	1	T	14:06	X	X																		
680-85871-10	1	T	14:13	X	X																		
680-85871-11	1	T	14:21	X	X																		
680-85871-12	1	T	14:28	X	X																		
ZZZZZZ			14:36																				
ZZZZZZ			14:43																				
CCV 680-260984/162	1		14:50	X	X																		
CCB 680-260984/163	1		14:58	X	X																		
ZZZZZZ			15:05																				
ZZZZZZ			15:13																				
ZZZZZZ			15:20																				
ZZZZZZ			15:28																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/25/2012 18:11

Lab Sample ID	D / F	Type	Time	Analytes																			
				V	Zn																		
ZZZZZZ			15:35																				
ZZZZZZ			15:42																				
CCV 680-260984/170			15:50																				
CCB 680-260984/171			15:57																				
ZZZZZZ			16:05																				
ZZZZZZ			16:12																				
ZZZZZZ			16:20																				
ZZZZZZ			16:27																				
ZZZZZZ			16:34																				
ZZZZZZ			16:42																				
ZZZZZZ			16:49																				
CCV 680-260984/179			16:57																				
CCB 680-260984/180			17:04																				
ZZZZZZ			17:12																				
ZZZZZZ			17:19																				
ZZZZZZ			17:26																				
ZZZZZZ			17:34																				
ZZZZZZ			17:41																				
ZZZZZZ			17:49																				
ZZZZZZ			17:56																				
CCV 680-260984/188			18:04																				
CCB 680-260984/189			18:11																				

Prep Types

D = Dissolved

R = Total Recoverable

T = Total/NA

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/27/2012 10:58

Lab Sample ID	D/F	Type	Time	Analytes																				
				Be	Na																			
ITUNE 680-261166/1			15:46																					
CALIBSTD 680-261166/2 IC	1		19:02	X	X																			
IC 680-261166/3	1		19:10	X	X																			
IC 680-261166/4	1		19:17	X	X																			
IC 680-261166/5	1		19:25	X	X																			
IC 680-261166/6	1		19:32	X	X																			
IC 680-261166/7	1		19:39	X	X																			
ZZZZZZ			19:47																					
ICV 680-261166/9	1		19:54	X	X																			
ICB 680-261166/10	1		20:02	X	X																			
CRI 680-261166/11	1		20:09	X	X																			
CCV 680-261166/12	1		20:17	X	X																			
CCB 680-261166/13	1		20:24	X	X																			
ICSA 680-261166/14	1		20:31	X	X																			
ICSAB 680-261166/15	1		20:39	X	X																			
ZZZZZZ			20:46																					
RINSE 680-261166/17			20:54																					
RINSE 680-261166/18			21:01																					
RINSE 680-261166/19			21:09																					
RINSE 680-261166/20			21:16																					
CCV 680-261166/21	1		21:24	X	X																			
CCB 680-261166/22	1		21:31	X	X																			
CCV 680-261166/23	1		09:31	X	X																			
CCB 680-261166/24	1		09:38	X	X																			
ICSA 680-261166/25	1		09:46	X	X																			
ICSAB 680-261166/26	1		09:53	X	X																			
RINSE 680-261166/27			10:01																					
RINSE 680-261166/28			10:08																					
RINSE 680-261166/29			10:16																					
RINSE 680-261166/30			10:23																					
CCV 680-261166/31	1		10:31	X	X																			
CCB 680-261166/32	1		10:38	X	X																			
ZZZZZZ			10:46																					
ZZZZZZ			10:53																					
ZZZZZZ			11:01																					
ZZZZZZ			11:08																					
ZZZZZZ			11:15																					
ZZZZZZ			11:23																					
ZZZZZZ			11:30																					
CCV 680-261166/40			11:38																					
CCB 680-261166/41			11:45																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/27/2012 10:58

Lab Sample ID	D/F	Type	Time	Analytes																				
				Be	Na																			
ZZZZZZ			11:53																					
ZZZZZZ			12:00																					
ZZZZZZ			12:07																					
ZZZZZZ			12:15																					
ZZZZZZ			12:22																					
ZZZZZZ			12:30																					
ZZZZZZ			12:37																					
CCV 680-261166/49	1		12:45	X	X																			
CCB 680-261166/50	1		12:52	X	X																			
ZZZZZZ			13:01																					
MB 680-260764/1-A	1	T	13:08	X	X																			
LCS 680-260764/2-A	1	T	13:15	X	X																			
680-85871-1	1	T	13:23	X	X																			
680-85871-2	1	T	13:30	X	X																			
680-85871-3	1	T	13:38	X	X																			
680-85871-4	1	T	13:45	X	X																			
680-85871-5	1	T	13:52	X	X																			
680-85871-6	1	T	14:00	X	X																			
680-85871-6 SD	5	T	14:07	X	X																			
CCV 680-261166/61	1		14:15	X	X																			
CCB 680-261166/62	1		14:22	X	X																			
680-85871-6 PDS	1	T	14:30	X	X																			
680-85871-6 MS	1	T	14:37	X	X																			
680-85871-6 MSD	1	T	14:44	X	X																			
680-85871-7	1	T	14:52	X	X																			
680-85871-8	1	T	14:59	X	X																			
680-85871-9	1	T	15:07	X	X																			
680-85871-10	1	T	15:14	X	X																			
680-85871-11	1	T	15:21	X	X																			
680-85871-12	1	T	15:29	X	X																			
ZZZZZZ			15:36																					
CCV 680-261166/73	1		15:44	X	X																			
CCB 680-261166/74	1		15:51	X	X																			
ZZZZZZ			15:59																					
ZZZZZZ			16:06																					
ZZZZZZ			16:13																					
ZZZZZZ			16:21																					
CCV 680-261166/79			16:28																					
CCB 680-261166/80			16:36																					
ZZZZZZ			16:43																					
ZZZZZZ			16:51																					
ZZZZZZ			16:58																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/27/2012 10:58

Lab Sample ID	D / F	Type	Time	Analytes																			
				Be	Na																		
CCV 680-261166/84			17:06																				
CCB 680-261166/85			17:13																				
ZZZZZZ			17:21																				
ZZZZZZ			17:28																				
ZZZZZZ			17:36																				
ZZZZZZ			17:43																				
ZZZZZZ			17:50																				
ZZZZZZ			17:58																				
ZZZZZZ			18:05																				
ZZZZZZ			18:13																				
ZZZZZZ			18:20																				
CCV 680-261166/95			18:27																				
CCB 680-261166/96			18:35																				
ZZZZZZ			18:42																				
ZZZZZZ			18:50																				
ZZZZZZ			18:57																				
ZZZZZZ			19:05																				
ZZZZZZ			19:12																				
ZZZZZZ			19:19																				
ZZZZZZ			19:27																				
ZZZZZZ			19:34																				
ZZZZZZ			19:42																				
ZZZZZZ			19:49																				
CCV 680-261166/107			19:56																				
CCB 680-261166/108			20:04																				
ZZZZZZ			20:11																				
ZZZZZZ			20:19																				
ZZZZZZ			20:26																				
ZZZZZZ			20:34																				
CCV 680-261166/113			20:41																				
CCB 680-261166/114			20:49																				
ZZZZZZ			20:56																				
ZZZZZZ			21:03																				
ZZZZZZ			21:11																				
ZZZZZZ			21:18																				
ZZZZZZ			21:26																				
ZZZZZZ			21:33																				
ZZZZZZ			21:41																				
ZZZZZZ			21:48																				
ZZZZZZ			21:55																				
ZZZZZZ			22:03																				
CCV 680-261166/125			22:10																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/27/2012 10:58

Lab Sample ID	D / F	Type	Time	Analytes																				
				Be	Na																			
CCB 680-261166/126			22:18																					
ZZZZZZ			22:25																					
ZZZZZZ			22:32																					
ZZZZZZ			22:40																					
ZZZZZZ			22:47																					
CCV 680-261166/131			22:55																					
CCB 680-261166/132			23:02																					
ZZZZZZ			23:10																					
ZZZZZZ			23:17																					
ZZZZZZ			23:24																					
ZZZZZZ			23:32																					
ZZZZZZ			23:39																					
ZZZZZZ			23:47																					
ZZZZZZ			23:54																					
ZZZZZZ			00:01																					
ZZZZZZ			00:09																					
ZZZZZZ			00:16																					
CCV 680-261166/143			00:24																					
CCB 680-261166/144			00:31																					
ZZZZZZ			00:39																					
ZZZZZZ			00:46																					
ZZZZZZ			00:53																					
ZZZZZZ			01:01																					
CCV 680-261166/149			01:08																					
CCB 680-261166/150			01:16																					
ZZZZZZ			08:51																					
ZZZZZZ			08:59																					
CCV 680-261166/153			09:06																					
CCB 680-261166/154			09:14																					
ICSA 680-261166/155	1		09:21	X	X																			
ICSAB 680-261166/156	1		09:29	X	X																			
RINSE 680-261166/157			09:36																					
RINSE 680-261166/158			09:44																					
RINSE 680-261166/159			09:51																					
RINSE 680-261166/160			09:58																					
CCV 680-261166/161			10:06																					
CCB 680-261166/162			10:13																					
ZZZZZZ			10:21																					
ZZZZZZ			10:28																					
ZZZZZZ			10:36																					
ZZZZZZ			10:43																					
CCV 680-261166/167			10:51																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/24/2012 15:46 End Date: 12/27/2012 10:58

Lab Sample ID	D / F	Type	Time	Analytes																			
				Be	Na																		
CCB 680-261166/168			10:58																				

Prep Types

T = Total/NA

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/27/2012 14:04 End Date: 12/28/2012 09:39

Lab Sample ID	D/F	Type	Time	Analytes																			
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
ITUNE 680-261296/1			14:04																				
CALIBSTD 680-261296/2 IC			17:55	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-261296/3			18:02	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-261296/4			18:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-261296/5			18:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-261296/6			18:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-261296/7	1		18:32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			18:39																				
ICV 680-261296/9	1		18:47	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICB 680-261296/10	1		18:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CRI 680-261296/11	1		19:02	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCV 680-261296/12	1		19:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-261296/13	1		19:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSA 680-261296/14	1		19:24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSAB 680-261296/15	1		19:32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			19:39																				
RINSE 680-261296/17			19:46																				
RINSE 680-261296/18			19:54																				
RINSE 680-261296/19			20:01																				
RINSE 680-261296/20			20:09																				
CCV 680-261296/21	1		20:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-261296/22	1		20:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MB 680-260740/1-A	1	R	20:31	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LCS 680-260740/2-A	1	R	20:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-18	1	D	20:46	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-18 SD	5	D	20:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-18 PDS	1	D	21:01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-18 MS	1	D	21:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-18 MSD	1	D	21:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-19	1	D	21:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-23	1	D	21:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-24	1	D	21:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCV 680-261296/33	1		21:45	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-261296/34	1		21:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			22:00																				
ZZZZZZ			22:07																				
ZZZZZZ			22:15																				
ZZZZZZ			22:22																				
ZZZZZZ			22:30																				
ZZZZZZ			22:37																				
ZZZZZZ			22:44																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/27/2012 14:04 End Date: 12/28/2012 09:39

Lab Sample ID	D/F	Type	Time	Analytes																				
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
ZZZZZZ			22:52																					
ZZZZZZ			22:59																					
ZZZZZZ			23:07																					
CCV 680-261296/45			23:14																					
CCB 680-261296/46			23:22																					
ZZZZZZ			23:29																					
ZZZZZZ			23:37																					
ZZZZZZ			23:44																					
CCV 680-261296/50			23:51																					
CCB 680-261296/51			23:59																					
ZZZZZZ			00:06																					
ZZZZZZ			00:14																					
ZZZZZZ			00:21																					
ZZZZZZ			00:29																					
ZZZZZZ			00:36																					
ZZZZZZ			00:43																					
ZZZZZZ			00:51																					
ZZZZZZ			00:58																					
ZZZZZZ			01:06																					
ZZZZZZ			01:13																					
CCV 680-261296/62			01:20																					
CCB 680-261296/63			01:28																					
ZZZZZZ			01:35																					
ZZZZZZ			01:43																					
ZZZZZZ			01:50																					
ZZZZZZ			01:58																					
ZZZZZZ			02:05																					
ZZZZZZ			02:13																					
CCV 680-261296/70			02:20																					
CCB 680-261296/71			02:27																					
ZZZZZZ			02:35																					
ZZZZZZ			02:42																					
ZZZZZZ			02:50																					
ZZZZZZ			02:57																					
ZZZZZZ			03:05																					
ZZZZZZ			03:12																					
CCV 680-261296/78			03:19																					
CCB 680-261296/79			03:27																					
ZZZZZZ			03:34																					
ZZZZZZ			03:42																					
ZZZZZZ			03:49																					
ZZZZZZ			03:56																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/27/2012 14:04 End Date: 12/28/2012 09:39

Lab Sample ID	D / F	Type	Time	Analytes																				
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
ZZZZZZ			04:04																				
ZZZZZZ			04:11																				
CCV 680-261296/86			04:19																				
CCB 680-261296/87			04:26																				
ZZZZZZ			04:34																				
ZZZZZZ			04:41																				
ZZZZZZ			04:48																				
ZZZZZZ			04:56																				
ZZZZZZ			05:03																				
ZZZZZZ			05:11																				
ZZZZZZ			05:18																				
ZZZZZZ			05:26																				
ZZZZZZ			05:33																				
ZZZZZZ			05:40																				
CCV 680-261296/98			05:48																				
CCB 680-261296/99			05:55																				
ZZZZZZ			06:03																				
ZZZZZZ			06:10																				
ZZZZZZ			06:17																				
ZZZZZZ			06:25																				
ZZZZZZ			06:32																				
ZZZZZZ			06:40																				
ZZZZZZ			06:47																				
ZZZZZZ			06:55																				
ZZZZZZ			07:02																				
ZZZZZZ			07:09																				
CCV 680-261296/110			07:17																				
CCB 680-261296/111			07:24																				
ZZZZZZ			07:32																				
ZZZZZZ			07:39																				
ZZZZZZ			07:47																				
ZZZZZZ			07:54																				
ZZZZZZ			08:02																				
ZZZZZZ			08:09																				
CCV 680-261296/118			08:17																				
CCB 680-261296/119			08:24																				
ZZZZZZ			08:31																				
ZZZZZZ			08:39																				
ZZZZZZ			08:46																				
ZZZZZZ			08:54																				
RINSE 680-261296/124			09:01																				
RINSE 680-261296/125			09:09																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/27/2012 14:04 End Date: 12/28/2012 09:39

Lab Sample ID	D / F	Type	Time	Analytes																			
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
RINSE 680-261296/126			09:16																				
RINSE 680-261296/127			09:24																				
ZZZZZZ			09:31																				
ZZZZZZ			09:39																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/27/2012 14:04 End Date: 12/28/2012 09:39

Lab Sample ID	D / F	Type	Time	Analytes																				
				V	Zn																			
ITUNE 680-261296/1			14:04																					
CALIBSTD 680-261296/2 IC			17:55	X	X																			
IC 680-261296/3			18:02	X	X																			
IC 680-261296/4			18:10	X	X																			
IC 680-261296/5			18:17	X	X																			
IC 680-261296/6			18:25	X	X																			
IC 680-261296/7	1		18:32	X	X																			
ZZZZZZ			18:39																					
ICV 680-261296/9	1		18:47	X	X																			
ICB 680-261296/10	1		18:54	X	X																			
CRI 680-261296/11	1		19:02	X	X																			
CCV 680-261296/12	1		19:09	X	X																			
CCB 680-261296/13	1		19:17	X	X																			
ICSA 680-261296/14	1		19:24	X	X																			
ICSAB 680-261296/15	1		19:32	X	X																			
ZZZZZZ			19:39																					
RINSE 680-261296/17			19:46																					
RINSE 680-261296/18			19:54																					
RINSE 680-261296/19			20:01																					
RINSE 680-261296/20			20:09																					
CCV 680-261296/21	1		20:16	X	X																			
CCB 680-261296/22	1		20:23	X	X																			
MB 680-260740/1-A	1	R	20:31	X	X																			
LCS 680-260740/2-A	1	R	20:38	X	X																			
680-85871-18	1	D	20:46	X	X																			
680-85871-18 SD	5	D	20:53	X	X																			
680-85871-18 PDS	1	D	21:01	X	X																			
680-85871-18 MS	1	D	21:08	X	X																			
680-85871-18 MSD	1	D	21:15	X	X																			
680-85871-19	1	D	21:23	X	X																			
680-85871-23	1	D	21:30	X	X																			
680-85871-24	1	D	21:38	X	X																			
CCV 680-261296/33	1		21:45	X	X																			
CCB 680-261296/34	1		21:52	X	X																			
ZZZZZZ			22:00																					
ZZZZZZ			22:07																					
ZZZZZZ			22:15																					
ZZZZZZ			22:22																					
ZZZZZZ			22:30																					
ZZZZZZ			22:37																					
ZZZZZZ			22:44																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/27/2012 14:04 End Date: 12/28/2012 09:39

Lab Sample ID	D / F	Type	Time	Analytes																			
				V	Zn																		
ZZZZZZ			22:52																				
ZZZZZZ			22:59																				
ZZZZZZ			23:07																				
CCV 680-261296/45			23:14																				
CCB 680-261296/46			23:22																				
ZZZZZZ			23:29																				
ZZZZZZ			23:37																				
ZZZZZZ			23:44																				
CCV 680-261296/50			23:51																				
CCB 680-261296/51			23:59																				
ZZZZZZ			00:06																				
ZZZZZZ			00:14																				
ZZZZZZ			00:21																				
ZZZZZZ			00:29																				
ZZZZZZ			00:36																				
ZZZZZZ			00:43																				
ZZZZZZ			00:51																				
ZZZZZZ			00:58																				
ZZZZZZ			01:06																				
ZZZZZZ			01:13																				
CCV 680-261296/62			01:20																				
CCB 680-261296/63			01:28																				
ZZZZZZ			01:35																				
ZZZZZZ			01:43																				
ZZZZZZ			01:50																				
ZZZZZZ			01:58																				
ZZZZZZ			02:05																				
ZZZZZZ			02:13																				
CCV 680-261296/70			02:20																				
CCB 680-261296/71			02:27																				
ZZZZZZ			02:35																				
ZZZZZZ			02:42																				
ZZZZZZ			02:50																				
ZZZZZZ			02:57																				
ZZZZZZ			03:05																				
ZZZZZZ			03:12																				
CCV 680-261296/78			03:19																				
CCB 680-261296/79			03:27																				
ZZZZZZ			03:34																				
ZZZZZZ			03:42																				
ZZZZZZ			03:49																				
ZZZZZZ			03:56																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/27/2012 14:04 End Date: 12/28/2012 09:39

Lab Sample ID	D / F	Type	Time	Analytes																			
				V	Zn																		
ZZZZZZ			04:04																				
ZZZZZZ			04:11																				
CCV 680-261296/86			04:19																				
CCB 680-261296/87			04:26																				
ZZZZZZ			04:34																				
ZZZZZZ			04:41																				
ZZZZZZ			04:48																				
ZZZZZZ			04:56																				
ZZZZZZ			05:03																				
ZZZZZZ			05:11																				
ZZZZZZ			05:18																				
ZZZZZZ			05:26																				
ZZZZZZ			05:33																				
ZZZZZZ			05:40																				
CCV 680-261296/98			05:48																				
CCB 680-261296/99			05:55																				
ZZZZZZ			06:03																				
ZZZZZZ			06:10																				
ZZZZZZ			06:17																				
ZZZZZZ			06:25																				
ZZZZZZ			06:32																				
ZZZZZZ			06:40																				
ZZZZZZ			06:47																				
ZZZZZZ			06:55																				
ZZZZZZ			07:02																				
ZZZZZZ			07:09																				
CCV 680-261296/110			07:17																				
CCB 680-261296/111			07:24																				
ZZZZZZ			07:32																				
ZZZZZZ			07:39																				
ZZZZZZ			07:47																				
ZZZZZZ			07:54																				
ZZZZZZ			08:02																				
ZZZZZZ			08:09																				
CCV 680-261296/118			08:17																				
CCB 680-261296/119			08:24																				
ZZZZZZ			08:31																				
ZZZZZZ			08:39																				
ZZZZZZ			08:46																				
ZZZZZZ			08:54																				
RINSE 680-261296/124			09:01																				
RINSE 680-261296/125			09:09																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSA Method: 6020

Start Date: 12/27/2012 14:04 End Date: 12/28/2012 09:39

Lab Sample ID	D / F	Type	Time	Analytes																			
				V	Zn																		
RINSE 680-261296/126			09:16																				
RINSE 680-261296/127			09:24																				
ZZZZZZ			09:31																				
ZZZZZZ			09:39																				

Prep Types

D = Dissolved

R = Total Recoverable

T = Total/NA

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSB Method: 6020

Start Date: 12/21/2012 15:12 End Date: 12/22/2012 11:24

Lab Sample ID	D/F	Type	Time	Analytes																			
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
ITUNE 680-260788/1			15:12																				
CALIBSTD 680-260788/2 IC	1		16:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-260788/3	1		16:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-260788/4	1		16:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-260788/5	1		16:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-260788/6	1		16:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IC 680-260788/7	1		16:46	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RINSE 680-260788/8			16:53																				
ICV 680-260788/9	1		17:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICB 680-260788/10	1		17:06	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CRI 680-260788/11	1		17:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCV 680-260788/12	1		17:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260788/13	1		17:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSA 680-260788/14	1		17:34	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSAB 680-260788/15	1		17:41	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			17:48																				
RINSE 680-260788/17			17:54																				
RINSE 680-260788/18			18:01																				
RINSE 680-260788/19			18:08																				
RINSE 680-260788/20			18:14																				
CCV 680-260788/21	1		18:21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260788/22	1		18:28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			18:34																				
ZZZZZZ			18:41																				
ZZZZZZ			18:48																				
ZZZZZZ			18:54																				
ZZZZZZ			19:01																				
ZZZZZZ			19:07																				
ZZZZZZ			19:14																				
CCV 680-260788/30			19:20																				
CCB 680-260788/31			19:27																				
ZZZZZZ			19:34																				
ZZZZZZ			19:40																				
ZZZZZZ			19:47																				
ZZZZZZ			19:54																				
ZZZZZZ			20:00																				
ZZZZZZ			20:07																				
ZZZZZZ			20:14																				
ZZZZZZ			20:20																				
ZZZZZZ			20:27																				
ZZZZZZ			20:34																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSB Method: 6020

Start Date: 12/21/2012 15:12 End Date: 12/22/2012 11:24

Lab Sample ID	D / F	Type	Time	Analytes																			
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
CCV 680-260788/42			20:40																				
CCB 680-260788/43			20:47																				
ZZZZZZ			20:54																				
ZZZZZZ			21:00																				
ZZZZZZ			21:07																				
ZZZZZZ			21:14																				
ZZZZZZ			21:20																				
ZZZZZZ			21:27																				
ZZZZZZ			21:33																				
ZZZZZZ			21:40																				
CCV 680-260788/52	1		21:47	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260788/53	1		21:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MB 680-260618/1-A	1	R	22:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LCS 680-260618/2-A	1	R	22:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			22:14																				
640-41590-L-2-A SD	25	R	22:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
640-41590-L-2-A PDS	1	R	22:27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
640-41590-L-2-B MS	1	R	22:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
640-41590-L-2-C MSD	1	R	22:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			22:47																				
ZZZZZZ			22:53																				
ZZZZZZ			23:00																				
CCV 680-260788/64	1		23:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260788/65	1		23:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			23:20																				
ZZZZZZ			23:27																				
ZZZZZZ			23:34																				
ZZZZZZ			23:40																				
ZZZZZZ			23:47																				
ZZZZZZ			23:53																				
ZZZZZZ			00:00																				
ZZZZZZ			00:07																				
ZZZZZZ			00:13																				
ZZZZZZ			00:20																				
CCV 680-260788/76	1		00:27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260788/77	1		00:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			00:40																				
ZZZZZZ			00:47																				
ZZZZZZ			00:53																				
680-85871-20	1	D	01:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-21	1	D	01:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
680-85871-22	1	D	01:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSB Method: 6020

Start Date: 12/21/2012 15:12 End Date: 12/22/2012 11:24

Lab Sample ID	D / F	Type	Time	Analytes																			
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
CCV 680-260788/84	1		01:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 680-260788/85	1		01:27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			01:33																				
ZZZZZZ			01:40																				
ZZZZZZ			01:47																				
ZZZZZZ			01:53																				
ZZZZZZ			02:00																				
ZZZZZZ			02:07																				
ZZZZZZ			02:13																				
ZZZZZZ			02:20																				
ZZZZZZ			02:27																				
ZZZZZZ			02:33																				
CCV 680-260788/96			02:40																				
CCB 680-260788/97			02:47																				
ZZZZZZ			02:53																				
ZZZZZZ			03:00																				
ZZZZZZ			03:07																				
ZZZZZZ			03:13																				
ZZZZZZ			03:20																				
ZZZZZZ			03:27																				
ZZZZZZ			03:33																				
ZZZZZZ			03:40																				
ZZZZZZ			03:47																				
ZZZZZZ			03:53																				
CCV 680-260788/108			04:00																				
CCB 680-260788/109			04:07																				
ZZZZZZ			04:13																				
ZZZZZZ			04:20																				
ZZZZZZ			04:27																				
ZZZZZZ			04:34																				
ZZZZZZ			04:40																				
ZZZZZZ			04:47																				
CCV 680-260788/116			04:54																				
CCB 680-260788/117			05:00																				
CCV 680-260788/118			05:07																				
CCB 680-260788/119			05:14																				
ICSA 680-260788/120	1		05:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSAB 680-260788/121	1		05:27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			05:34																				
ZZZZZZ			05:41																				
ZZZZZZ			05:47																				
ZZZZZZ			05:54																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSB Method: 6020

Start Date: 12/21/2012 15:12 End Date: 12/22/2012 11:24

Lab Sample ID	D / F	Type	Time	Analytes																				
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
CCV 680-260788/126			06:01																				
CCB 680-260788/127			06:08																				
ZZZZZZ			06:14																				
ZZZZZZ			06:21																				
ZZZZZZ			06:28																				
ZZZZZZ			06:34																				
ZZZZZZ			06:41																				
ZZZZZZ			06:48																				
ZZZZZZ			06:55																				
ZZZZZZ			07:01																				
CCV 680-260788/136			07:08																				
CCB 680-260788/137			07:15																				
ZZZZZZ			07:21																				
ZZZZZZ			07:28																				
ZZZZZZ			07:35																				
ZZZZZZ			07:42																				
ZZZZZZ			07:48																				
ZZZZZZ			07:55																				
ZZZZZZ			08:02																				
ZZZZZZ			08:08																				
CCV 680-260788/146			08:15																				
CCB 680-260788/147			08:22																				
ZZZZZZ			08:28																				
ZZZZZZ			08:35																				
ZZZZZZ			08:42																				
ZZZZZZ			08:48																				
ZZZZZZ			08:55																				
ZZZZZZ			09:02																				
ZZZZZZ			09:08																				
ZZZZZZ			09:15																				
ZZZZZZ			09:22																				
ZZZZZZ			09:29																				
CCV 680-260788/158			09:35																				
CCB 680-260788/159			09:42																				
ZZZZZZ			09:49																				
ZZZZZZ			09:55																				
ZZZZZZ			10:02																				
CCV 680-260788/163			10:09																				
CCB 680-260788/164			10:15																				
CCV 680-260788/165			10:57																				
CCB 680-260788/166			11:03																				
ZZZZZZ			11:10																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSB Method: 6020

Start Date: 12/21/2012 15:12 End Date: 12/22/2012 11:24

Lab Sample ID	D / F	Type	Time	Analytes																			
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl
CCV 680-260788/168			11:17																				
CCB 680-260788/169			11:24																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSB Method: 6020

Start Date: 12/21/2012 15:12 End Date: 12/22/2012 11:24

Lab Sample ID	D / F	Type	Time	Analytes																				
				V	Zn																			
ITUNE 680-260788/1			15:12																					
CALIBSTD 680-260788/2 IC	1		16:13	X	X																			
IC 680-260788/3	1		16:20	X	X																			
IC 680-260788/4	1		16:26	X	X																			
IC 680-260788/5	1		16:33	X	X																			
IC 680-260788/6	1		16:40	X	X																			
IC 680-260788/7	1		16:46	X	X																			
RINSE 680-260788/8			16:53																					
ICV 680-260788/9	1		17:00	X	X																			
ICB 680-260788/10	1		17:06	X	X																			
CRI 680-260788/11	1		17:13	X	X																			
CCV 680-260788/12	1		17:20	X	X																			
CCB 680-260788/13	1		17:26	X	X																			
ICSA 680-260788/14	1		17:34	X	X																			
ICSAB 680-260788/15	1		17:41	X	X																			
ZZZZZZ			17:48																					
RINSE 680-260788/17			17:54																					
RINSE 680-260788/18			18:01																					
RINSE 680-260788/19			18:08																					
RINSE 680-260788/20			18:14																					
CCV 680-260788/21	1		18:21	X	X																			
CCB 680-260788/22	1		18:28	X	X																			
ZZZZZZ			18:34																					
ZZZZZZ			18:41																					
ZZZZZZ			18:48																					
ZZZZZZ			18:54																					
ZZZZZZ			19:01																					
ZZZZZZ			19:07																					
ZZZZZZ			19:14																					
CCV 680-260788/30			19:20																					
CCB 680-260788/31			19:27																					
ZZZZZZ			19:34																					
ZZZZZZ			19:40																					
ZZZZZZ			19:47																					
ZZZZZZ			19:54																					
ZZZZZZ			20:00																					
ZZZZZZ			20:07																					
ZZZZZZ			20:14																					
ZZZZZZ			20:20																					
ZZZZZZ			20:27																					
ZZZZZZ			20:34																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSB Method: 6020

Start Date: 12/21/2012 15:12 End Date: 12/22/2012 11:24

Lab Sample ID	D / F	Type	Time	Analytes																				
				V	Zn																			
CCV 680-260788/42			20:40																					
CCB 680-260788/43			20:47																					
ZZZZZZ			20:54																					
ZZZZZZ			21:00																					
ZZZZZZ			21:07																					
ZZZZZZ			21:14																					
ZZZZZZ			21:20																					
ZZZZZZ			21:27																					
ZZZZZZ			21:33																					
ZZZZZZ			21:40																					
CCV 680-260788/52	1		21:47	X	X																			
CCB 680-260788/53	1		21:53	X	X																			
MB 680-260618/1-A	1	R	22:00	X	X																			
LCS 680-260618/2-A	1	R	22:07	X	X																			
ZZZZZZ			22:14																					
640-41590-L-2-A SD	25	R	22:20	X	X																			
640-41590-L-2-A PDS	1	R	22:27	X	X																			
640-41590-L-2-B MS	1	R	22:33	X	X																			
640-41590-L-2-C MSD	1	R	22:40	X	X																			
ZZZZZZ			22:47																					
ZZZZZZ			22:53																					
ZZZZZZ			23:00																					
CCV 680-260788/64	1		23:07	X	X																			
CCB 680-260788/65	1		23:13	X	X																			
ZZZZZZ			23:20																					
ZZZZZZ			23:27																					
ZZZZZZ			23:34																					
ZZZZZZ			23:40																					
ZZZZZZ			23:47																					
ZZZZZZ			23:53																					
ZZZZZZ			00:00																					
ZZZZZZ			00:07																					
ZZZZZZ			00:13																					
ZZZZZZ			00:20																					
CCV 680-260788/76	1		00:27	X	X																			
CCB 680-260788/77	1		00:33	X	X																			
ZZZZZZ			00:40																					
ZZZZZZ			00:47																					
ZZZZZZ			00:53																					
680-85871-20	1	D	01:00	X	X																			
680-85871-21	1	D	01:07	X	X																			
680-85871-22	1	D	01:13	X	X																			

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSB Method: 6020

Start Date: 12/21/2012 15:12 End Date: 12/22/2012 11:24

Lab Sample ID	D / F	Type	Time	Analytes																			
				V	Zn																		
CCV 680-260788/84	1		01:20	X	X																		
CCB 680-260788/85	1		01:27	X	X																		
ZZZZZZ			01:33																				
ZZZZZZ			01:40																				
ZZZZZZ			01:47																				
ZZZZZZ			01:53																				
ZZZZZZ			02:00																				
ZZZZZZ			02:07																				
ZZZZZZ			02:13																				
ZZZZZZ			02:20																				
ZZZZZZ			02:27																				
ZZZZZZ			02:33																				
CCV 680-260788/96			02:40																				
CCB 680-260788/97			02:47																				
ZZZZZZ			02:53																				
ZZZZZZ			03:00																				
ZZZZZZ			03:07																				
ZZZZZZ			03:13																				
ZZZZZZ			03:20																				
ZZZZZZ			03:27																				
ZZZZZZ			03:33																				
ZZZZZZ			03:40																				
ZZZZZZ			03:47																				
ZZZZZZ			03:53																				
CCV 680-260788/108			04:00																				
CCB 680-260788/109			04:07																				
ZZZZZZ			04:13																				
ZZZZZZ			04:20																				
ZZZZZZ			04:27																				
ZZZZZZ			04:34																				
ZZZZZZ			04:40																				
ZZZZZZ			04:47																				
CCV 680-260788/116			04:54																				
CCB 680-260788/117			05:00																				
CCV 680-260788/118			05:07																				
CCB 680-260788/119			05:14																				
ICSA 680-260788/120	1		05:20	X	X																		
ICSAB 680-260788/121	1		05:27	X	X																		
ZZZZZZ			05:34																				
ZZZZZZ			05:41																				
ZZZZZZ			05:47																				
ZZZZZZ			05:54																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSB Method: 6020

Start Date: 12/21/2012 15:12 End Date: 12/22/2012 11:24

Lab Sample ID	D / F	Type	Time	Analytes																			
				V	Zn																		
CCV 680-260788/126			06:01																				
CCB 680-260788/127			06:08																				
ZZZZZZ			06:14																				
ZZZZZZ			06:21																				
ZZZZZZ			06:28																				
ZZZZZZ			06:34																				
ZZZZZZ			06:41																				
ZZZZZZ			06:48																				
ZZZZZZ			06:55																				
ZZZZZZ			07:01																				
CCV 680-260788/136			07:08																				
CCB 680-260788/137			07:15																				
ZZZZZZ			07:21																				
ZZZZZZ			07:28																				
ZZZZZZ			07:35																				
ZZZZZZ			07:42																				
ZZZZZZ			07:48																				
ZZZZZZ			07:55																				
ZZZZZZ			08:02																				
ZZZZZZ			08:08																				
CCV 680-260788/146			08:15																				
CCB 680-260788/147			08:22																				
ZZZZZZ			08:28																				
ZZZZZZ			08:35																				
ZZZZZZ			08:42																				
ZZZZZZ			08:48																				
ZZZZZZ			08:55																				
ZZZZZZ			09:02																				
ZZZZZZ			09:08																				
ZZZZZZ			09:15																				
ZZZZZZ			09:22																				
ZZZZZZ			09:29																				
CCV 680-260788/158			09:35																				
CCB 680-260788/159			09:42																				
ZZZZZZ			09:49																				
ZZZZZZ			09:55																				
ZZZZZZ			10:02																				
CCV 680-260788/163			10:09																				
CCB 680-260788/164			10:15																				
CCV 680-260788/165			10:57																				
CCB 680-260788/166			11:03																				
ZZZZZZ			11:10																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: ICPMSB Method: 6020

Start Date: 12/21/2012 15:12 End Date: 12/22/2012 11:24

Lab Sample ID	D / F	Type	Time	Analytes																			
				V	Zn																		
CCV 680-260788/168			11:17																				
CCB 680-260788/169			11:24																				

Prep Types

D = Dissolved

R = Total Recoverable

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: LEEMAN2 Method: 7470A

Start Date: 12/24/2012 09:59 End Date: 12/24/2012 18:37

Lab Sample ID	D / F	Type	Time	Analytes																				
				Hg																				
ZZZZZZ			09:59																					
ZZZZZZ			10:01																					
ZZZZZZ			10:03																					
ZZZZZZ			10:06																					
ZZZZZZ			10:08																					
ZZZZZZ			10:11																					
ZZZZZZ			10:13																					
ZZZZZZ			10:15																					
ICV 680-261149/9	1		10:18	X																				
ICB 680-261149/10	1		10:20	X																				
CRA 680-261149/11	1		10:23	X																				
CCV 680-261149/12			10:25																					
CCB 680-261149/13			10:27																					
ZZZZZZ			10:30																					
ZZZZZZ			10:32																					
ZZZZZZ			10:34																					
ZZZZZZ			10:37																					
CCV 680-261149/18			10:41																					
CCB 680-261149/19			10:43																					
ZZZZZZ			10:45																					
ZZZZZZ			10:48																					
ZZZZZZ			10:50																					
ZZZZZZ			10:52																					
ZZZZZZ			10:55																					
ZZZZZZ			10:57																					
ZZZZZZ			10:59																					
CCV 680-261149/27			11:38																					
CCB 680-261149/28			11:40																					
ZZZZZZ			11:42																					
ZZZZZZ			11:45																					
ZZZZZZ			11:47																					
ZZZZZZ			11:49																					
ZZZZZZ			11:52																					
ZZZZZZ			11:54																					
ZZZZZZ			11:57																					
ZZZZZZ			11:59																					
ZZZZZZ			12:01																					
ZZZZZZ			12:04																					
CCV 680-261149/39			12:06																					
CCB 680-261149/40			12:08																					
ZZZZZZ			12:11																					
ZZZZZZ			12:13																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: LEEMAN2 Method: 7470A

Start Date: 12/24/2012 09:59 End Date: 12/24/2012 18:37

Lab Sample ID	D / F	Type	Time	Analytes																			
				Hg																			
ZZZZZZ			12:15																				
ZZZZZZ			12:18																				
ZZZZZZ			12:20																				
ZZZZZZ			12:22																				
ZZZZZZ			12:25																				
ZZZZZZ			12:27																				
ZZZZZZ			12:29																				
ZZZZZZ			12:32																				
CCV 680-261149/51			12:34																				
CCB 680-261149/52			12:37																				
CCV 680-261149/53			12:39																				
CCB 680-261149/54			12:41																				
CCV 680-261149/55			13:09																				
CCB 680-261149/56			13:11																				
ZZZZZZ			13:14																				
ZZZZZZ			13:16																				
CCV 680-261149/59			13:18																				
CCB 680-261149/60			13:21																				
CCV 680-261149/61			15:12																				
CCB 680-261149/62			15:14																				
ZZZZZZ			15:16																				
ZZZZZZ			15:19																				
ZZZZZZ			15:21																				
ZZZZZZ			15:23																				
ZZZZZZ			15:26																				
ZZZZZZ			15:28																				
ZZZZZZ			15:30																				
ZZZZZZ			15:33																				
ZZZZZZ			15:35																				
ZZZZZZ			15:38																				
CCV 680-261149/73			15:40																				
CCB 680-261149/74			15:42																				
ZZZZZZ			15:45																				
ZZZZZZ			15:47																				
ZZZZZZ			15:49																				
ZZZZZZ			15:52																				
ZZZZZZ			15:54																				
ZZZZZZ			15:56																				
ZZZZZZ			15:59																				
ZZZZZZ			16:01																				
ZZZZZZ			16:03																				
ZZZZZZ			16:06																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: LEEMAN2 Method: 7470A

Start Date: 12/24/2012 09:59 End Date: 12/24/2012 18:37

Lab Sample ID	D / F	Type	Time	Analytes																				
				Hg																				
CCV 680-261149/85	1		16:08	X																				
CCB 680-261149/86	1		16:11	X																				
ZZZZZZ			16:13																					
ZZZZZZ			16:15																					
ZZZZZZ			16:18																					
ZZZZZZ			16:20																					
MB 680-260873/1-A	1	T	16:22	X																				
LCS 680-260873/2-A	1	T	16:25	X																				
680-85871-18	1	D	16:27	X																				
680-85871-18 MS	1	D	16:29	X																				
680-85871-18 MSD	1	D	16:32	X																				
680-85871-19	1	D	16:34	X																				
CCV 680-261149/97	1		16:36	X																				
CCB 680-261149/98	1		16:39	X																				
680-85871-20	1	D	16:41	X																				
680-85871-21	1	D	16:43	X																				
680-85871-22	1	D	16:46	X																				
680-85871-23	1	D	16:48	X																				
680-85871-24	1	D	16:51	X																				
ZZZZZZ			16:53																					
ZZZZZZ			16:55																					
ZZZZZZ			16:58																					
ZZZZZZ			17:00																					
ZZZZZZ			17:02																					
CCV 680-261149/109	1		17:05	X																				
CCB 680-261149/110	1		17:07	X																				
ZZZZZZ			17:09																					
ZZZZZZ			17:12																					
ZZZZZZ			17:14																					
ZZZZZZ			17:16																					
ZZZZZZ			17:19																					
ZZZZZZ			17:21																					
ZZZZZZ			17:24																					
ZZZZZZ			17:26																					
ZZZZZZ			17:28																					
ZZZZZZ			17:31																					
CCV 680-261149/121			17:33																					
CCB 680-261149/122			17:35																					
ZZZZZZ			17:38																					
ZZZZZZ			17:40																					
ZZZZZZ			17:42																					
ZZZZZZ			17:45																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: LEEMAN2 Method: 7470A

Start Date: 12/24/2012 09:59 End Date: 12/24/2012 18:37

Lab Sample ID	D / F	Type	Time	Analytes																			
				Hg																			
ZZZZZZ			17:47																				
ZZZZZZ			17:50																				
ZZZZZZ			17:52																				
ZZZZZZ			17:54																				
ZZZZZZ			17:57																				
ZZZZZZ			17:59																				
CCV 680-261149/133			18:01																				
CCB 680-261149/134			18:04																				
ZZZZZZ			18:06																				
CCV 680-261149/136			18:09																				
CCV 680-261149/137			18:11																				
CCV 680-261149/138			18:13																				
ZZZZZZ			18:16																				
CCB 680-261149/140			18:18																				
CCB 680-261149/141			18:20																				
CCB 680-261149/142			18:23																				
ZZZZZZ			18:25																				
ZZZZZZ			18:27																				
CCV 680-261149/145			18:30																				
CCB 680-261149/146			18:32																				
CCV 680-261149/147			18:35																				
CCB 680-261149/148			18:37																				

Prep Types

D = Dissolved

T = Total/NA

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: LEEMAN2 Method: 7470A

Start Date: 12/30/2012 13:23 End Date: 12/31/2012 08:51

Lab Sample ID	D / F	Type	Time	Analytes																			
				Hg																			
ZZZZZZ			13:23																				
ZZZZZZ			13:26																				
ZZZZZZ			13:28																				
ZZZZZZ			13:31																				
ZZZZZZ			13:33																				
ZZZZZZ			13:35																				
ZZZZZZ			13:38																				
ZZZZZZ			13:40																				
ICV 680-261470/9	1		13:42	X																			
ICB 680-261470/10	1		13:45	X																			
CRA 680-261470/11	1		13:47	X																			
CCV 680-261470/12	1		13:49	X																			
CCB 680-261470/13	1		13:52	X																			
MB 680-261369/1-A	1	T	13:54	X																			
LCS 680-261369/2-A	1	T	13:57	X																			
680-85871-1	1	T	13:59	X																			
680-85871-2	1	T	14:02	X																			
680-85871-3	1	T	14:04	X																			
680-85871-4	1	T	14:06	X																			
680-85871-5	1	T	14:09	X																			
680-85871-6	1	T	14:11	X																			
680-85871-6 MS	1	T	14:14	X																			
680-85871-6 MSD	1	T	14:16	X																			
CCV 680-261470/24	1		14:19	X																			
CCB 680-261470/25	1		14:21	X																			
680-85871-7	1	T	14:23	X																			
680-85871-8	1	T	14:26	X																			
680-85871-9	1	T	14:28	X																			
680-85871-10	1	T	14:31	X																			
680-85871-11	1	T	14:33	X																			
680-85871-12	1	T	14:36	X																			
680-85871-13	1	D	14:38	X																			
680-85871-14	1	D	14:40	X																			
680-85871-15	1	D	14:43	X																			
680-85871-16	1	D	14:45	X																			
CCV 680-261470/36	1		14:48	X																			
CCB 680-261470/37	1		14:50	X																			
680-85871-17	1	D	14:53	X																			
ZZZZZZ			14:55																				
ZZZZZZ			14:57																				
ZZZZZZ			15:00																				
ZZZZZZ			15:02																				

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: LEEMAN2 Method: 7470A

Start Date: 12/30/2012 13:23 End Date: 12/31/2012 08:51

Lab Sample ID	D / F	Type	Time	Analytes																				
				Hg																				
ZZZZZZ			15:05																					
ZZZZZZ			15:07																					
ZZZZZZ			15:10																					
ZZZZZZ			15:12																					
ZZZZZZ			15:14																					
CCV 680-261470/48	1		15:17	X																				
CCB 680-261470/49	1		15:19	X																				
ZZZZZZ			15:22																					
ZZZZZZ			15:24																					
ZZZZZZ			15:27																					
ZZZZZZ			15:29																					
ZZZZZZ			15:32																					
ZZZZZZ			15:34																					
ZZZZZZ			15:36																					
ZZZZZZ			15:39																					
ZZZZZZ			15:41																					
ZZZZZZ			15:44																					
CCV 680-261470/60			15:46																					
CCB 680-261470/61			15:49																					
ZZZZZZ			15:51																					
ZZZZZZ			15:53																					
ZZZZZZ			15:56																					
ZZZZZZ			15:58																					
ZZZZZZ			16:01																					
ZZZZZZ			16:03																					
ZZZZZZ			16:06																					
ZZZZZZ			16:08																					
ZZZZZZ			16:10																					
ZZZZZZ			16:13																					
CCV 680-261470/72			16:15																					
CCB 680-261470/73			16:18																					
ZZZZZZ			16:20																					
ZZZZZZ			16:23																					
ZZZZZZ			16:25																					
ZZZZZZ			16:27																					
ZZZZZZ			16:30																					
ZZZZZZ			16:32																					
ZZZZZZ			16:35																					
ZZZZZZ			16:37																					
ZZZZZZ			16:40																					
ZZZZZZ			16:42																					
CCV 680-261470/84			16:44																					

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Instrument ID: LEEMAN2 Method: 7470A

Start Date: 12/30/2012 13:23 End Date: 12/31/2012 08:51

Lab Sample ID	D / F	Type	Time	Analytes																			
				Hg																			
CCB 680-261470/85			16:47																				
ZZZZZZ			16:49																				
CCV 680-261470/87			16:52																				
CCB 680-261470/88			16:54																				
CCV 680-261470/89			08:41																				
CCB 680-261470/90			08:44																				
ZZZZZZ			08:46																				
CCV 680-261470/92			08:48																				
CCB 680-261470/93			08:51																				

Prep Types

D = Dissolved

T = Total/NA

14-IN
ICP-MS TUNE
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Analysis Date: 12/24/12

Lab ID: ITUNE 680-260984/1

Element - Mass	Avg. Measured Mass (amu)	Avg. Peak Width at Peak Height (amu)	% RSD	Q
Be-9	9.05	0.60	2.75	
Mg-24	24.05	0.60	2.77	
Mg-25	25.05	0.60	2.92	
Mg-26	26.05	0.60	2.78	
Co-59	59.10	0.55	2.44	
In-113	113.05	0.60	1.12	
In-115	115.05	0.60	1.34	
Pb-206	206.00	0.60	1.22	
Pb-207	206.95	0.60	0.94	
Pb-208	207.95	0.60	1.18	

14-IN
ICP-MS TUNE
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Analysis Date: 12/24/12

Lab ID: ITUNE 680-261166/1

Element - Mass	Avg. Measured Mass (amu)	Avg. Peak Width at Peak Height (amu)	% RSD	Q
Be-9	9.05	0.60	2.75	
Mg-24	24.05	0.60	2.77	
Mg-25	25.05	0.60	2.92	
Mg-26	26.05	0.60	2.78	
Co-59	59.10	0.55	2.44	
In-113	113.05	0.60	1.12	
In-115	115.05	0.60	1.34	
Pb-206	206.00	0.60	1.22	
Pb-207	206.95	0.60	0.94	
Pb-208	207.95	0.60	1.18	

14-IN
ICP-MS TUNE
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Analysis Date: 12/27/12

Lab ID: ITUNE 680-261296/1

Element - Mass	Avg. Measured Mass (amu)	Avg. Peak Width at Peak Height (amu)	% RSD	Q
Be-9	9.05	0.65	1.25	
Mg-24	24.10	0.65	1.75	
Mg-25	25.00	0.65	1.14	
Mg-26	26.05	0.65	0.87	
Co-59	59.05	0.60	0.89	
In-113	113.00	0.60	0.76	
In-115	115.00	0.65	0.78	
Pb-206	205.95	0.60	0.56	
Pb-207	206.95	0.60	0.29	
Pb-208	207.95	0.60	0.76	

14-IN
ICP-MS TUNE
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSB Analysis Date: 12/21/12

Lab ID: ITUNE 680-260788/1

Element - Mass	Avg. Measured Mass (amu)	Avg. Peak Width at Peak Height (amu)	% RSD	Q
Be-9	8.95	0.60	0.57	
Mg-24	23.95	0.65	0.70	
Mg-25	24.95	0.60	0.98	
Mg-26	25.95	0.60	0.33	
Co-59	59.00	0.60	0.36	
In-113	113.05	0.60		
In-115	115.05	0.60	0.74	
Pb-206	206.10	0.60	0.49	
Pb-207	207.10	0.55	0.30	
Pb-208	208.10	0.55	0.43	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Start Date: 12/24/2012 End Date: 12/25/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Sc-45	Q	Element Ge/1	Q	Element Ge/2	Q
CALIBSTD	19:02	100		100		100		100		100	
IC 680-260984/3	19:10	100		102		101		102		105	
IC 680-260984/4	19:17	103		104		104		104		103	
IC 680-260984/5	19:25	104		105		105		105		104	
IC 680-260984/6	19:32	103		105		106		103		104	
IC 680-260984/7	19:39	99		105		105		103		101	
ICV 680-260984/9	19:54	101		104		104		103		100	
ICB 680-260984/10	20:02	101		105		101		105		101	
CRI 680-260984/11	20:09	101		102		101		103		104	
CCV 680-260984/12	20:17	104		105		104		103		103	
CCB 680-260984/13	20:24	100		103		101		103		101	
ICSA 680-260984/14	20:31	79		98		89		83		82	
ICSAB 680-260984/15	20:39	70		96		86		84		81	
CCV 680-260984/21	21:24	83		100		96		101		98	
CCB 680-260984/22	21:31	85		98		95		100		97	
MB 680-260719/1-A	21:38	80		97		93		100		97	
LCS 680-260719/2-A	21:46	87		104		98		105		100	
680-85852-A-1-A SD	22:00	88		100		96		102		99	
680-85852-A-1-A PDS	22:08	83		99		94		101		98	
680-85852-A-1-B MS	22:15	82		99		94		101		98	
680-85852-A-1-C MSD	22:23	82		97		93		100		96	
CCV 680-260984/33	22:52	86		104		98		105		102	
CCB 680-260984/34	23:00	88		102		98		103		102	
CCV 680-260984/45	00:22	86		105		98		105		103	
CCB 680-260984/46	00:29	89		102		99		104		103	
680-85871-13	00:44	88		105		100		105		104	
680-85871-14	00:51	90		109		101		108		106	
680-85871-15	00:59	90		107		100		102		102	
680-85871-16	01:06	89		108		100		108		102	
680-85871-17	01:13	88		107		98		107		104	
CCV 680-260984/53	01:21	93		108		101		107		104	
CCB 680-260984/54	01:28	94		110		102		110		105	
CCV 680-260984/130	10:52	70		110		93		113		102	
CCB 680-260984/131	11:00	70		111		95		114		104	
ICSA 680-260984/132	11:07	52		95		74		85		76	
ICSAB	11:15	49		90		70		81		72	
CCV 680-260984/138	11:52	60		102		85		105		96	
CCB 680-260984/139	12:00	61		102		86		106		95	
MB 680-260764/1-A	12:07	58		100		84		104		94	
LCS 680-260764/2-A	12:15	58		101		85		105		94	
680-85871-1	12:22	59		101		87		103		94	
680-85871-2	12:29	62		107		89		109		98	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Start Date: 12/24/2012 End Date: 12/25/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Sc-45	Q	Element Ge/1	Q	Element Ge/2	Q
680-85871-3	12:37	60		103		88		100		91	
680-85871-4	12:44	60		103		85		106		93	
680-85871-5	12:52	58		100		83		102		93	
680-85871-6	12:59	60		102		87		103		94	
680-85871-6 SD	13:07	65		108		88		110		97	
680-85871-6 PDS	13:14	59		99		86		100		93	
CCV 680-260984/150	13:21	64		101		88		103		92	
CCB 680-260984/151	13:29	67		101		89		105		96	
680-85871-6 MS	13:36	59		96		85		98		91	
680-85871-6 MSD	13:44	60		100		85		101		92	
680-85871-7	13:51	61		99		87		101		93	
680-85871-8	13:58	62		104		86		106		94	
680-85871-9	14:06	62		99		86		101		94	
680-85871-10	14:13	62		100		86		102		93	
680-85871-11	14:21	62		99		86		100		91	
680-85871-12	14:28	63		100		85		102		93	
CCV 680-260984/162	14:50	67		104		90		106		92	
CCB 680-260984/163	14:58	71		102		92		106		95	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Start Date: 12/24/2012 End Date: 12/25/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element Y-89	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
CALIBSTD	19:02	100		100		100		100		100	
IC 680-260984/3	19:10	101		103		102		101		102	
IC 680-260984/4	19:17	103		104		104		104		102	
IC 680-260984/5	19:25	103		104		102		103		100	
IC 680-260984/6	19:32	103		106		103		104		99	
IC 680-260984/7	19:39	101		101		99		100		94	
ICV 680-260984/9	19:54	101		104		102		102		99	
ICB 680-260984/10	20:02	101		102		101		100		100	
CRI 680-260984/11	20:09	101		103		103		100		101	
CCV 680-260984/12	20:17	102		102		101		103		97	
CCB 680-260984/13	20:24	101		102		101		100		101	
ICSA 680-260984/14	20:31	79		88		80		87		72	
ICSAB 680-260984/15	20:39	77		86		80		87		72	
CCV 680-260984/21	21:24	97		101		100		101		97	
CCB 680-260984/22	21:31	98		101		101		102		101	
MB 680-260719/1-A	21:38	97		100		101		102		100	
LCS 680-260719/2-A	21:46	100		103		103		104		103	
680-85852-A-1-A SD	22:00	99		102		103		104		103	
680-85852-A-1-A PDS	22:08	97		102		100		102		97	
680-85852-A-1-B MS	22:15	97		101		100		102		99	
680-85852-A-1-C MSD	22:23	96		101		99		102		98	
CCV 680-260984/33	22:52	99		100		100		102		97	
CCB 680-260984/34	23:00	101		103		103		103		101	
CCV 680-260984/45	00:22	100		103		101		102		97	
CCB 680-260984/46	00:29	101		104		104		103		101	
680-85871-13	00:44	101		103		102		103		97	
680-85871-14	00:51	102		108		106		105		99	
680-85871-15	00:59	97		100		96		100		88	
680-85871-16	01:06	101		103		102		104		100	
680-85871-17	01:13	100		103		102		104		100	
CCV 680-260984/53	01:21	100		103		103		103		98	
CCB 680-260984/54	01:28	104		106		105		104		102	
CCV 680-260984/130	10:52	93		96		94		92		86	
CCB 680-260984/131	11:00	96		98		97		94		91	
ICSA 680-260984/132	11:07	67		75		70		72		61	
ICSAB	11:15	65		74		68		72		60	
CCV 680-260984/138	11:52	89		92		92		92		86	
CCB 680-260984/139	12:00	90		93		95		92		91	
MB 680-260764/1-A	12:07	89		92		94		94		90	
LCS 680-260764/2-A	12:15	89		93		94		95		90	
680-85871-1	12:22	89		93		93		95		86	
680-85871-2	12:29	92		96		96		95		88	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Start Date: 12/24/2012 End Date: 12/25/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element Y-89	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
680-85871-3	12:37	85		91		89		90		78	
680-85871-4	12:44	88		91		92		93		87	
680-85871-5	12:52	86		90		91		90		86	
680-85871-6	12:59	89		92		92		92		85	
680-85871-6 SD	13:07	92		94		95		93		90	
680-85871-6 PDS	13:14	87		91		90		92		83	
CCV 680-260984/150	13:21	88		92		90		89		84	
CCB 680-260984/151	13:29	91		94		94		92		89	
680-85871-6 MS	13:36	86		89		89		91		84	
680-85871-6 MSD	13:44	87		91		90		91		84	
680-85871-7	13:51	89		93		91		92		85	
680-85871-8	13:58	90		94		93		91		86	
680-85871-9	14:06	88		92		92		91		86	
680-85871-10	14:13	88		91		91		92		87	
680-85871-11	14:21	88		92		91		92		86	
680-85871-12	14:28	89		90		91		91		86	
CCV 680-260984/162	14:50	90		91		88		86		80	
CCB 680-260984/163	14:58	93		95		93		89		86	

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ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Start Date: 12/24/2012 End Date: 12/27/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Sc-45	Q	Element Ge/1	Q	Element Ge/2	Q
CALIBSTD	19:02	100		100		100		100		100	
IC 680-261166/3	19:10	100		102		101		102		105	
IC 680-261166/4	19:17	103		104		104		104		103	
IC 680-261166/5	19:25	104		105		105		105		104	
IC 680-261166/6	19:32	103		105		106		103		104	
IC 680-261166/7	19:39	99		105		105		103		101	
ICV 680-261166/9	19:54	101		104		104		103		100	
ICB 680-261166/10	20:02	101		105		101		105		101	
CRI 680-261166/11	20:09	101		102		101		103		104	
CCV 680-261166/12	20:17	104		105		104		103		103	
CCB 680-261166/13	20:24	100		103		101		103		101	
ICSA 680-261166/14	20:31	79		98		89		83		82	
ICSAB 680-261166/15	20:39	70	Q	96		86		84		81	
CCV 680-261166/21	21:24	83		100		96		101		98	
CCB 680-261166/22	21:31	85		98		95		100		97	
CCV 680-261166/23	09:31	86		96		100		98		98	
CCB 680-261166/24	09:38	89		101		101		103		98	
ICSA 680-261166/25	09:46	70	Q	87		87		77		76	
ICSAB 680-261166/26	09:53	68	Q	84		84		75		71	
CCV 680-261166/31	10:31	81		96		97		98		93	
CCB 680-261166/32	10:38	82		95		98		98		94	
CCV 680-261166/49	12:45	72		89		90		91		85	
CCB 680-261166/50	12:52	75		91		92		93		88	
MB 680-260764/1-A	13:08	70		93		91		95		89	
LCS 680-260764/2-A	13:15	69	Q	94		91		96		88	
680-85871-1	13:23	69	Q	93		91		93		86	
680-85871-2	13:30	74		94		95		95		89	
680-85871-3	13:38	71		93		92		90		85	
680-85871-4	13:45	70		92		91		94		87	
680-85871-5	13:52	70		91		90		93		86	
680-85871-6	14:00	71		91		91		91		85	
680-85871-6 SD	14:07	76		92		94		94		89	
CCV 680-261166/61	14:15	76		88		91		90		86	
CCB 680-261166/62	14:22	75		91		93		93		89	
680-85871-6 PDS	14:30	68	Q	87		90		89		86	
680-85871-6 MS	14:37	68	Q	88		88		89		84	
680-85871-6 MSD	14:44	67	Q	87		87		88		83	
680-85871-7	14:52	69	Q	86		88		87		83	
680-85871-8	14:59	70		88		89		90		84	
680-85871-9	15:07	71		88		91		89		85	
680-85871-10	15:14	72		89		90		91		86	
680-85871-11	15:21	71		88		90		89		85	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Start Date: 12/24/2012 End Date: 12/27/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Sc-45	Q	Element Ge/1	Q	Element Ge/2	Q
680-85871-12	15:29	72		89		90		91		86	
CCV 680-261166/73	15:44	74		87		89		88		85	
CCB 680-261166/74	15:51	75		89		90		91		87	
ICSA 680-261166/155	09:21	48	Q	82		74		75		67	Q
ICSAB	09:29	46	Q	78		71		72		64	Q

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ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Start Date: 12/24/2012 End Date: 12/27/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element Y-89	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
CALIBSTD	19:02	100		100		100		100		100	
IC 680-261166/3	19:10	101		103		102		101		102	
IC 680-261166/4	19:17	103		104		104		104		102	
IC 680-261166/5	19:25	103		104		102		103		100	
IC 680-261166/6	19:32	103		106		103		104		99	
IC 680-261166/7	19:39	101		101		99		100		94	
ICV 680-261166/9	19:54	101		104		102		102		99	
ICB 680-261166/10	20:02	101		102		101		100		100	
CRI 680-261166/11	20:09	101		103		103		100		101	
CCV 680-261166/12	20:17	102		102		101		103		97	
CCB 680-261166/13	20:24	101		102		101		100		101	
ICSA 680-261166/14	20:31	79		88		80		87		72	
ICSAB 680-261166/15	20:39	77		86		80		87		72	
CCV 680-261166/21	21:24	97		101		100		101		97	
CCB 680-261166/22	21:31	98		101		101		102		101	
CCV 680-261166/23	09:31	99		99		94		89		84	
CCB 680-261166/24	09:38	102		100		96		89		87	
ICSA 680-261166/25	09:46	76		83		74		72		60	Q
ICSAB 680-261166/26	09:53	74		81		72		71		59	Q
CCV 680-261166/31	10:31	97		96		94		88		82	
CCB 680-261166/32	10:38	99		99		96		89		87	
CCV 680-261166/49	12:45	89		90		86		82		76	
CCB 680-261166/50	12:52	93		94		91		84		81	
MB 680-260764/1-A	13:08	93		94		92		85		80	
LCS 680-260764/2-A	13:15	91		93		91		86		81	
680-85871-1	13:23	91		93		90		84		76	
680-85871-2	13:30	94		96		92		86		79	
680-85871-3	13:38	88		92		85		81		69	Q
680-85871-4	13:45	91		93		89		83		78	
680-85871-5	13:52	90		91		89		84		78	
680-85871-6	14:00	90		92		88		84		76	
680-85871-6 SD	14:07	94		94		91		83		80	
CCV 680-261166/61	14:15	90		90		87		81		76	
CCB 680-261166/62	14:22	93		93		90		82		79	
680-85871-6 PDS	14:30	90		91		87		82		74	
680-85871-6 MS	14:37	88		90		86		82		75	
680-85871-6 MSD	14:44	86		88		85		81		75	
680-85871-7	14:52	87		89		87		82		75	
680-85871-8	14:59	89		90		88		83		78	
680-85871-9	15:07	90		92		88		82		77	
680-85871-10	15:14	90		91		89		83		78	
680-85871-11	15:21	89		90		88		83		77	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Start Date: 12/24/2012 End Date: 12/27/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element Y-89	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
680-85871-12	15:29	91		91		89		83		78	
CCV 680-261166/73	15:44	89		90		87		82		76	
CCB 680-261166/74	15:51	91		91		89		81		80	
ICSA 680-261166/155	09:21	67	Q	73		64	Q	60	Q	50	Q
ICSAB	09:29	64	Q	71		63	Q	59	Q	49	Q

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Start Date: 12/27/2012 End Date: 12/27/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Sc-45	Q	Element Ge/1	Q	Element Ge/2	Q
IC 680-261296/7	18:32	96		94		99		94		93	
ICV 680-261296/9	18:47	93		92		96		93		93	
ICB 680-261296/10	18:54	95		91		96		93		93	
CRI 680-261296/11	19:02	95		92		95		93		94	
CCV 680-261296/12	19:09	94		91		97		92		92	
CCB 680-261296/13	19:17	95		91		96		93		93	
ICSA 680-261296/14	19:24	86		84		91		75		78	
ICSAB 680-261296/15	19:32	83		83		89		74		77	
CCV 680-261296/21	20:16	89		90		97		92		92	
CCB 680-261296/22	20:23	90		90		96		92		92	
MB 680-260740/1-A	20:31	87		90		95		92		92	
LCS 680-260740/2-A	20:38	89		92		97		93		94	
680-85871-18	20:46	88		92		98		93		93	
680-85871-18 SD	20:53	91		92		97		95		95	
680-85871-18 PDS	21:01	86		89		97		90		92	
680-85871-18 MS	21:08	85		92		95		93		92	
680-85871-18 MSD	21:15	84		91		94		92		91	
680-85871-19	21:23	85		92		93		93		93	
680-85871-23	21:30	87		93		95		93		92	
680-85871-24	21:38	88		92		96		93		93	
CCV 680-261296/33	21:45	89		93		97		94		93	
CCB 680-261296/34	21:52	93		93		97		95		94	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSA Start Date: 12/27/2012 End Date: 12/27/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element Y-89	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
IC 680-261296/7	18:32	96		98		95		97		92	
ICV 680-261296/9	18:47	95		96		96		97		94	
ICB 680-261296/10	18:54	96		97		97		97		99	
CRI 680-261296/11	19:02	96		96		96		96		97	
CCV 680-261296/12	19:09	96		97		95		98		94	
CCB 680-261296/13	19:17	97		97		97		97		97	
ICSA 680-261296/14	19:24	80		88		79		81		71	
ICSAB 680-261296/15	19:32	79		87		78		81		70	
CCV 680-261296/21	20:16	98		98		96		97		93	
CCB 680-261296/22	20:23	98		97		97		96		96	
MB 680-260740/1-A	20:31	97		98		98		97		97	
LCS 680-260740/2-A	20:38	98		100		98		99		97	
680-85871-18	20:46	98		100		97		99		94	
680-85871-18 SD	20:53	100		100		99		98		96	
680-85871-18 PDS	21:01	97		99		96		98		92	
680-85871-18 MS	21:08	96		97		96		97		92	
680-85871-18 MSD	21:15	95		97		94		96		92	
680-85871-19	21:23	94		95		94		95		92	
680-85871-23	21:30	96		97		97		98		94	
680-85871-24	21:38	97		99		97		98		95	
CCV 680-261296/33	21:45	97		97		95		95		92	
CCB 680-261296/34	21:52	99		99		98		97		97	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSB Start Date: 12/21/2012 End Date: 12/22/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Li-6	Q	Element Sc-45	Q	Element Sc-45	Q	Element Ge/1	Q
CALIBSTD	16:13	100				100		100		100	
IC 680-260788/3	16:20	100				101		101		101	
IC 680-260788/4	16:26	101				100		102		100	
IC 680-260788/5	16:33	98				100		99		99	
IC 680-260788/6	16:40	97				99		98		97	
IC 680-260788/7	16:46	93				97		95		96	
ICV 680-260788/9	17:00	98				97		96		96	
ICB 680-260788/10	17:06	102				99		99		99	
CRI 680-260788/11	17:13	102				100		100		100	
CCV 680-260788/12	17:20	99				100		98		98	
CCB 680-260788/13	17:26	102				98		100		98	
ICSA 680-260788/14	17:34	76				85		76		82	
ICSAB 680-260788/15	17:41	69	Q			78		73		80	
CCV 680-260788/21	18:21	94				98		97		97	
CCB 680-260788/22	18:28	95				97		99		98	
CCV 680-260788/52	21:47	94				106		103		105	
CCB 680-260788/53	21:53	98				105		107		106	
MB 680-260618/1-A	22:00	95				105		105		107	
LCS 680-260618/2-A	22:07	92				103		101		103	
640-41590-L-2-A SD	22:20	99				104		104		105	
640-41590-L-2-A PDS	22:27	89				104		98		103	
640-41590-L-2-B MS	22:33	88				102		94		101	
640-41590-L-2-C MSD	22:40	90				101		97		101	
CCV 680-260788/64	23:07	95				100		101		100	
CCB 680-260788/65	23:13	100				101		104		101	
CCV 680-260788/76	00:27	98				103		105		102	
CCB 680-260788/77	00:33	102				104		108		104	
680-85871-20	01:00	92				101		97		103	
680-85871-21	01:07	94				103		101		103	
680-85871-22	01:13	95				108		101		108	
CCV 680-260788/84	01:20	99				101		104		101	
CCB 680-260788/85	01:27	104				102		107		103	
ICSA 680-260788/120	05:20	76				81		81		82	
ICSAB	05:27	68	Q			75		75		78	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSB Start Date: 12/21/2012 End Date: 12/22/2012

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/2	Q	Element Ge/3	Q	Element Y-89	Q	Element In-115	Q	Element Tb-159	Q
CALIBSTD	16:13	100		100		100		100		100	
IC 680-260788/3	16:20	100		100		99		100		99	
IC 680-260788/4	16:26	99		100		101		101		100	
IC 680-260788/5	16:33	98		97		98		98		98	
IC 680-260788/6	16:40	95		95		97		97		98	
IC 680-260788/7	16:46	94		93		94		94		95	
ICV 680-260788/9	17:00	95		94		95		95		96	
ICB 680-260788/10	17:06	96		97		96		98		98	
CRI 680-260788/11	17:13	98		98		99		99		97	
CCV 680-260788/12	17:20	96		95		96		95		96	
CCB 680-260788/13	17:26	98		97		97		97		97	
ICSA 680-260788/14	17:34	76		76		81		79		82	
ICSAB 680-260788/15	17:41	72		74		78		79		83	
CCV 680-260788/21	18:21	95		96		97		97		97	
CCB 680-260788/22	18:28	97		98		99		99		97	
CCV 680-260788/52	21:47	99		103		105		103		100	
CCB 680-260788/53	21:53	101		106		108		107		102	
MB 680-260618/1-A	22:00	103		106		107		107		102	
LCS 680-260618/2-A	22:07	99		102		104		104		100	
640-41590-L-2-A SD	22:20	99		104		105		104		102	
640-41590-L-2-A PDS	22:27	96		99		101		100		99	
640-41590-L-2-B MS	22:33	95		97		98		98		96	
640-41590-L-2-C MSD	22:40	95		100		101		101		99	
CCV 680-260788/64	23:07	96		99		101		100		98	
CCB 680-260788/65	23:13	97		102		103		103		100	
CCV 680-260788/76	00:27	96		101		103		101		98	
CCB 680-260788/77	00:33	100		105		104		104		100	
680-85871-20	01:00	97		100		99		99		95	
680-85871-21	01:07	98		103		103		102		99	
680-85871-22	01:13	96		102		102		102		99	
CCV 680-260788/84	01:20	97		101		103		102		99	
CCB 680-260788/85	01:27	98		104		106		103		100	
ICSA 680-260788/120	05:20	72		77		83		79		81	
ICSAB	05:27	67	Q	74		80		77		79	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

ICP-MS Instrument ID: ICPMSB Start Date: 12/21/2012 End Date: 12/22/2012

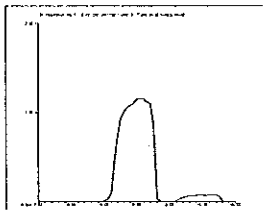
Lab Sample ID	Time	Internal Standards %RI For:									
		Element Bi-209	Q	Element	Q	Element	Q	Element	Q	Element	Q
CALIBSTD	16:13	100									
IC 680-260788/3	16:20	101									
IC 680-260788/4	16:26	102									
IC 680-260788/5	16:33	99									
IC 680-260788/6	16:40	98									
IC 680-260788/7	16:46	94									
ICV 680-260788/9	17:00	100									
ICB 680-260788/10	17:06	97									
CRI 680-260788/11	17:13	99									
CCV 680-260788/12	17:20	98									
CCB 680-260788/13	17:26	98									
ICSA 680-260788/14	17:34	79									
ICSAB 680-260788/15	17:41	78									
CCV 680-260788/21	18:21	97									
CCB 680-260788/22	18:28	98									
CCV 680-260788/52	21:47	96									
CCB 680-260788/53	21:53	100									
MB 680-260618/1-A	22:00	105									
LCS 680-260618/2-A	22:07	102									
640-41590-L-2-A SD	22:20	100									
640-41590-L-2-A PDS	22:27	99									
640-41590-L-2-B MS	22:33	97									
640-41590-L-2-C MSD	22:40	100									
CCV 680-260788/64	23:07	95									
CCB 680-260788/65	23:13	98									
CCV 680-260788/76	00:27	95									
CCB 680-260788/77	00:33	98									
680-85871-20	01:00	98									
680-85871-21	01:07	99									
680-85871-22	01:13	99									
CCV 680-260788/84	01:20	95									
CCB 680-260788/85	01:27	97									
ICSA 680-260788/120	05:20	68	Q								
ICSAB	05:27	65	Q								

200.8 QC Tune Report ICPMSA

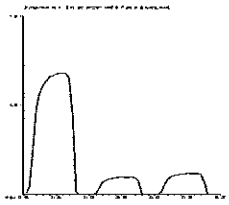
Data File: C:\ICPCHEM\1\DATA\12L24p00.B\001TUNE.D
Date Acquired: Dec 24 2012 03:46 pm
Acq. Method: CLPTUNE.M
Operator: BR
Sample Name: 100 ppb tune check
Misc Info:
Vial Number: 1305
Current Method: C:\ICPCHEM\1\METHODS\CLPTUNE.M

RSD (%)

Element	Actual	Required	Flag	Rep1	Rep2	Rep3	Rep4	Rep5
9 Be	2.75	5.00		62458.59	65160.29	66184.52	66776.76	66725.81
24 Mg	2.77	5.00		369522.97	384428.63	392729.19	395343.56	393765.63
25 Mg	2.92	5.00		52450.18	54724.46	55923.97	56081.41	56335.31
26 Mg	2.78	5.00		64040.05	66612.41	67871.20	68618.71	68283.14
59 Co	2.44	5.00		670934.63	690006.50	704124.19	706819.44	713711.19
113 In	1.12	5.00		143363.11	144937.69	146049.05	147085.72	147307.03
115 In	1.34	5.00		3083632.30	3120153.80	3151906.80	3187608.80	3175117.50
206 Pb	1.22	5.00		725099.69	744326.44	743419.25	746481.50	746455.13
207 Pb	0.94	5.00		693082.81	703690.56	708070.69	708506.31	709647.13
208 Pb	1.18	5.00		1574554.40	1594985.40	1615503.90	1618397.90	1616150.50



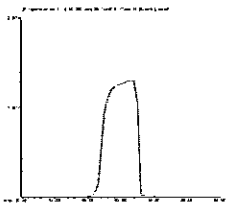
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90 - 9.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:



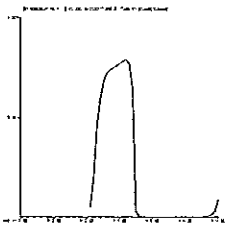
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90 - 24.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

25 Mg
Mass Calib.
Actual: 25.05
Required: 24.90 - 25.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

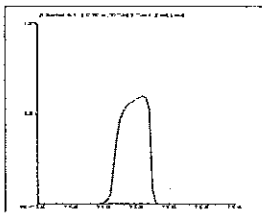
26 Mg
Mass Calib.
Actual: 26.05
Required: 25.90 - 26.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:



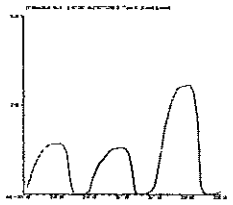
59 Co
Mass Calib.
Actual: 59.10
Required: 58.90 - 59.10
Flag:
Peak Width at 10% height
Actual: 0.55
Required: 1.00
Flag:



113 In
Mass Calib.
Actual: 113.05
Required: 112.90 - 113.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90 - 115.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:



206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90 - 206.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

207 Pb
Mass Calib.
Actual: 206.95
Required: 206.90 - 207.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

208 Pb
Mass Calib.
Actual: 207.95
Required: 207.90 - 208.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

Tune Result: Pass

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\001CALB.D\001CALB.D#
Date Acquired: Dec 24 2012 06:10 pm
Operator: BR
Sample Name: CalBlk
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 19 2012 08:42 am
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	839475.31	A	9052.00	1.08	832088.94	849573.19	836763.81
9	Be	15.56	P	10.18	65.44	13.33	6.67	26.67
11	B	11451.45	P	359.90	3.14	11723.84	11043.44	11587.08
23	Na	98388.61	P	966.80	0.98	97414.49	98403.41	99347.93
24	Mg	3330.37	P	5.77	0.17	3333.70	3333.71	3323.71
27	Al	3491.54	P	92.65	2.65	3387.07	3563.76	3523.78
39	K	9741.65	P	223.80	2.30	9492.65	9926.19	9806.12
40	Ca	84876.73	P	937.70	1.10	84562.41	85931.19	84136.60
45	Sc	580774.63	P	57570.00	9.91	566757.06	644060.88	531505.69
45	Sc		P			47910.02	41776.27	45342.16
45	Sc	662571.19	P	11840.00	1.79	655768.25	676246.88	655698.44
47	Ti	40.00	P	6.67	16.67	33.33	40.00	46.67
51	V	208.15	P	18.90	9.08	222.23	215.56	186.67
52	Cr	127.78	P	26.74	20.93	100.00	130.00	153.34
55	Mn	1427.87	P	8.39	0.59	1420.10	1426.77	1436.76
56	Fe	25639.41	P	232.10	0.91	25651.71	25865.18	25401.35
59	Co	81.11	P	33.72	41.57	60.00	63.34	120.00
60	Ni	46.67	P	1.11	2.38	45.56	46.67	47.78
63	Cu	726.32	P	128.00	17.62	870.03	684.46	624.46
66	Zn	235.56	P	38.64	16.40	210.01	280.01	216.67
74	Ge	184442.41	P	13540.00	7.34	181752.03	199128.42	172446.84
74	Ge	28058.74	P	1455.00	5.19	29303.71	26459.25	28413.27
74	Ge	169239.30	P	2080.00	1.23	169994.41	170836.05	166887.30
75	As	19.67	P	2.00	10.17	21.67	19.67	17.67
78	Se	30.44	P	2.55	8.36	31.00	27.67	32.67
88	Sr	142.23	P	23.65	16.63	116.67	163.34	146.67
89	Y	1122378.00	A	8381.00	0.75	1117947.00	1132043.80	1117142.30
95	Mo	228.90	P	30.79	13.45	246.68	246.68	193.34
107	Ag	72.22	P	13.47	18.65	70.00	86.67	60.00
111	Cd	52.15	P	16.43	31.51	59.92	63.26	33.27
115	In	1120833.00	M	12930.00	1.15	1106835.90	1123326.60	1132336.80
118	Sn	403.35	P	17.64	4.37	416.68	383.35	410.02
121	Sb	544.47	P	71.83	13.19	600.03	570.03	463.35
137	Ba	35.56	P	16.44	46.24	46.67	43.33	16.67
159	Tb	1689242.00	A	23760.00	1.41	1679265.00	1716366.00	1672095.10
202	Hg	96.78	P	3.36	3.47	93.67	100.33	96.33
205	Tl	271.12	P	13.47	4.97	263.34	263.34	286.68
208	Pb	392.24	P	51.03	13.01	420.01	423.35	333.35
209	Bi	1072594.00	P	21540.00	2.01	1077048.60	1091555.90	1049178.30
232	Th	465.58	P	24.57	5.28	493.36	446.69	456.69
238	U	178.90	P	19.25	10.76	156.67	190.01	190.01

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\002CALB.D\002CALB.D#
Date Acquired: Dec 24 2012 06:17 pm
Operator: BR
Sample Name: CalBlk
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 06:15 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	853517.63	A	38450.00	4.50	812335.00	859733.81	888484.13
9	Be	21.11	P	13.88	65.75	36.67	16.67	10.00
11	B	10532.03	P	197.50	1.88	10313.03	10586.52	10696.54
23	Na	98863.57	P	1203.00	1.22	97475.67	99502.29	99612.73
24	Mg	3111.45	P	159.10	5.11	3160.35	2933.65	3240.35
27	Al	2986.99	P	73.73	2.47	2930.30	2960.32	3070.35
39	K	9704.95	P	303.10	3.12	9672.70	9419.24	10022.90
40	Ca	77023.43	P	851.40	1.11	76330.63	76765.80	77973.86
45	Sc	573980.31	P	12030.00	2.10	561956.63	573970.06	586014.19
45	Sc		P			43498.93	45329.97	43810.69
45	Sc	676644.88	P	16440.00	2.43	667948.88	666380.75	695605.13
47	Ti	46.67	P	8.82	18.90	36.67	50.00	53.34
51	V	215.56	P	15.44	7.16	207.78	233.34	205.56
52	Cr	144.45	P	11.60	8.03	157.78	138.89	136.67
55	Mn	1573.45	P	62.28	3.96	1630.12	1506.78	1583.45
56	Fe	23341.88	P	260.20	1.11	23061.45	23575.59	23388.60
59	Co	98.89	P	12.62	12.76	93.34	113.34	90.00
60	Ni	49.63	P	5.13	10.34	46.67	46.67	55.56
63	Cu	601.13	P	34.93	5.81	561.12	616.68	625.57
66	Zn	298.90	P	10.18	3.41	290.01	310.01	296.68
74	Ge	182045.41	P	2399.00	1.32	179438.44	182537.36	184160.44
74	Ge	27432.26	P	415.00	1.51	27092.38	27894.77	27309.64
74	Ge	171170.91	P	4219.00	2.46	170981.00	167050.27	175481.34
75	As	21.56	P	2.71	12.60	20.33	19.67	24.67
78	Se	24.89	P	1.02	4.09	24.00	26.00	24.67
88	Sr	167.78	P	5.09	3.03	173.34	163.34	166.67
89	Y	1118429.00	M	29380.00	2.63	1124138.40	1086614.90	1144532.80
95	Mo	156.67	P	15.28	9.75	143.34	153.34	173.34
107	Ag	72.22	P	9.62	13.32	66.67	83.34	66.67
111	Cd	55.51	P	22.20	40.00	79.96	36.62	49.95
115	In	1132116.00	M	24180.00	2.14	1139373.00	1105136.90	1151837.50
118	Sn	431.13	P	12.62	2.93	436.69	416.68	440.02
121	Sb	481.13	P	53.89	11.20	450.02	450.02	543.36
137	Ba	45.56	P	19.53	42.87	60.00	23.33	53.34
159	Tb	1701568.00	A	54930.00	3.23	1687276.60	1655197.60	1762230.00
202	Hg	75.11	P	5.00	6.66	78.00	78.00	69.33
205	Tl	177.78	P	13.88	7.81	193.34	166.67	173.34
208	Pb	355.57	P	47.88	13.47	336.68	320.01	410.02
209	Bi	1088953.00	P	12130.00	1.11	1082157.80	1081742.80	1102958.80
232	Th	354.46	P	37.47	10.57	363.35	313.35	386.68
238	U	150.01	P	14.53	9.69	156.67	133.34	160.01

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\003CALB.D\003CALB.D#
Date Acquired: Dec 24 2012 06:25 pm
Operator: BR
Sample Name: CalBlk
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 06:22 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	856942.00	A	14320.00	1.67	851086.75	846482.06	873257.06
9	Be	13.33	P	0.00	0.00	13.33	13.33	13.33
11	B	9956.15	P	35.29	0.35	9996.16	9942.81	9929.48
23	Na	102055.50	P	1910.00	1.87	104002.51	101978.76	100185.36
24	Mg	5716.62	P	1714.00	29.98	7605.05	5284.22	4260.59
27	Al	4702.96	P	1238.00	26.32	6114.48	4190.57	3803.82
39	K	9663.86	P	108.50	1.12	9669.39	9552.69	9769.49
40	Ca	81495.41	P	2753.00	3.38	84662.70	80149.51	79674.02
45	Sc	559817.00	P	23800.00	4.25	581652.19	534450.63	563348.06
45	Sc		P			48050.88	41252.96	44739.52
45	Sc	666763.81	P	22480.00	3.37	653470.38	654106.25	692714.69
47	Ti	32.22	P	8.39	26.03	23.33	33.33	40.00
51	V	232.97	P	15.88	6.82	246.67	215.56	236.67
52	Cr	149.26	P	13.98	9.37	151.11	162.22	134.45
55	Mn	1629.01	P	243.90	14.97	1910.15	1503.44	1473.42
56	Fe	31027.22	P	5305.00	17.10	36660.52	30295.35	26125.80
59	Co	96.67	P	26.03	26.93	126.67	80.00	83.34
60	Ni	40.37	P	7.23	17.91	40.00	47.78	33.33
63	Cu	560.38	P	36.99	6.60	584.46	578.90	517.79
66	Zn	306.68	P	52.39	17.08	246.67	343.35	330.01
74	Ge	178053.50	P	5322.00	2.99	182474.33	172146.83	179539.28
74	Ge	27817.31	P	1139.00	4.09	28939.98	26661.77	27850.16
74	Ge	169175.80	P	4031.00	2.38	164803.39	169979.77	172744.38
75	As	18.56	P	1.84	9.89	20.33	18.67	16.67
78	Se	26.44	P	6.75	25.53	34.00	24.33	21.00
88	Sr	176.67	P	29.63	16.77	200.01	186.67	143.34
89	Y	1115289.00	M	32440.00	2.91	1079489.00	1123644.10	1142735.10
95	Mo	153.34	P	11.55	7.53	166.67	146.67	146.67
107	Ag	105.56	P	64.67	61.26	180.01	73.34	63.34
111	Cd	45.51	P	6.93	15.24	53.28	43.29	39.95
115	In	1128839.00	M	35220.00	3.12	1100037.80	1118370.50	1168110.30
118	Sn	376.68	P	60.28	16.00	383.35	313.35	433.35
121	Sb	487.80	P	97.89	20.07	593.36	470.02	400.02
137	Ba	44.45	P	16.44	36.99	63.34	33.33	36.67
159	Tb	1688094.00	A	38220.00	2.26	1657168.90	1676280.60	1730831.30
202	Hg	69.11	P	4.54	6.57	72.67	64.00	70.67
205	Tl	178.90	P	33.56	18.76	210.01	143.34	183.34
208	Pb	433.35	P	76.89	17.74	460.02	493.35	346.68
209	Bi	1075383.00	P	25640.00	2.38	1057214.60	1064221.00	1104712.60
232	Th	445.58	P	27.76	6.23	423.35	476.69	436.69
238	U	168.90	P	11.71	6.93	180.01	156.67	170.01

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\004CALB.D\004CALB.D#
Date Acquired: Dec 24 2012 06:32 pm
Operator: BR
Sample Name: CalBlk
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 06:30 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	843447.50	A	28370.00	3.36	822885.06	831641.88	875815.63
9	Be	12.22	P	3.85	31.49	10.00	16.67	10.00
11	B	9485.88	P	105.40	1.11	9385.86	9595.92	9475.87
23	Na	98233.60	P	1757.00	1.79	96657.70	97914.56	100128.55
24	Mg	3149.23	P	132.40	4.20	3033.66	3293.71	3120.34
27	Al	2792.51	P	206.10	7.38	2560.25	2863.65	2953.65
39	K	9600.47	P	229.90	2.39	9345.87	9662.78	9792.77
40	Ca	74882.77	P	403.00	0.54	74556.93	75333.41	74757.98
45	Sc	566442.50	P	36080.00	6.37	553809.81	607139.44	538378.19
45	Sc		P			45290.63	42528.98	44613.70
45	Sc	659943.19	P	18850.00	2.86	642070.19	658117.81	679641.50
47	Ti	45.56	P	7.70	16.90	50.00	36.67	50.00
51	V	223.34	P	26.13	11.70	196.67	224.45	248.89
52	Cr	138.15	P	9.32	6.75	148.89	133.34	132.22
55	Mn	1367.87	P	30.07	2.20	1370.10	1336.75	1396.76
56	Fe	21929.03	P	488.60	2.23	22460.76	21826.67	21499.66
59	Co	66.67	P	13.33	19.99	66.67	80.00	53.33
60	Ni	39.26	P	6.51	16.58	46.67	36.67	34.44
63	Cu	602.61	P	40.02	6.64	563.35	601.13	643.35
66	Zn	286.68	P	26.46	9.23	266.68	276.68	316.68
74	Ge	179475.09	P	6565.00	3.66	177292.98	186853.19	174279.30
74	Ge	27612.86	P	349.10	1.26	27739.08	27218.16	27881.32
74	Ge	167808.50	P	3441.00	2.05	166235.16	165435.45	171754.88
75	As	18.78	P	2.87	15.31	21.33	19.33	15.67
78	Se	25.44	P	2.50	9.83	28.00	23.00	25.33
88	Sr	143.34	P	14.53	10.14	153.34	126.67	150.01
89	Y	1098415.00	M	43320.00	3.94	1069029.00	1078052.50	1148163.50
95	Mo	118.89	P	25.24	21.23	90.00	130.00	136.67
107	Ag	73.34	P	20.82	28.39	66.67	56.67	96.67
111	Cd	39.96	P	8.83	22.09	49.97	33.29	36.62
115	In	1103428.00	M	18490.00	1.68	1087608.10	1098920.40	1123754.40
118	Sn	354.46	P	64.75	18.27	283.34	410.02	370.02
121	Sb	410.02	P	20.82	5.08	426.69	416.68	386.68
137	Ba	44.45	P	13.88	31.23	33.33	60.00	40.00
159	Tb	1688356.00	A	40740.00	2.41	1664657.80	1665017.60	1735392.60
202	Hg	60.00	P	2.31	3.85	58.67	58.67	62.67
205	Tl	153.34	P	23.33	15.22	180.01	143.34	136.67
208	Pb	337.79	P	15.03	4.45	323.35	336.68	353.35
209	Bi	1074428.00	P	19900.00	1.85	1063518.40	1062365.60	1097398.60
232	Th	360.02	P	47.26	13.13	376.68	306.68	396.68
238	U	160.01	P	32.15	20.09	123.34	173.34	183.34

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\005CALB.D\005CALB.D#
Date Acquired: Dec 24 2012 06:40 pm
Operator: BR
Sample Name: CalBlk
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 06:37 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	845786.19	A	21150.00	2.50	842763.63	826312.50	868282.56
9	Be	16.67	P	8.82	52.91	26.67	13.33	10.00
11	B	9131.28	P	143.70	1.57	9205.75	8965.61	9222.46
23	Na	97983.36	P	1204.00	1.23	96815.21	97914.29	99220.59
24	Mg	3115.89	P	31.68	1.02	3147.01	3083.68	3117.00
27	Al	3065.89	P	44.03	1.44	3057.01	3113.68	3026.98
39	K	9778.34	P	357.40	3.66	9505.98	9646.04	10183.01
40	Ca	75353.58	P	1256.00	1.67	74068.72	75413.59	76578.44
45	Sc	563572.31	P	3670.00	0.65	559829.38	567164.13	563723.25
45	Sc		P			43133.63	44237.31	47203.45
45	Sc	670841.00	P	30510.00	4.55	674874.38	638516.44	699132.25
47	Ti	35.56	P	16.78	47.19	20.00	53.34	33.33
51	V	211.48	P	17.30	8.18	193.34	227.78	213.34
52	Cr	146.67	P	5.88	4.01	140.00	148.89	151.11
55	Mn	1380.09	P	61.20	4.43	1450.10	1336.75	1353.42
56	Fe	21516.32	P	326.00	1.52	21202.68	21492.84	21853.46
59	Co	91.11	P	10.18	11.17	80.00	93.34	100.00
60	Ni	52.59	P	13.98	26.58	37.78	54.45	65.56
63	Cu	633.35	P	57.30	9.05	574.46	636.68	688.91
66	Zn	263.34	P	31.80	12.08	266.68	230.01	293.34
74	Ge	178613.91	P	1204.00	0.67	177234.39	179457.36	179150.09
74	Ge	28080.33	P	988.00	3.52	27036.71	28202.96	29001.33
74	Ge	169730.50	P	5741.00	3.38	169630.59	164040.27	175520.47
75	As	18.22	P	3.36	18.41	18.67	21.33	14.67
78	Se	20.56	P	1.64	8.00	21.33	18.67	21.67
88	Sr	127.78	P	8.39	6.57	126.67	136.67	120.00
89	Y	1105628.00	M	39730.00	3.59	1115152.90	1061997.90	1139732.50
95	Mo	108.89	P	1.93	1.77	110.00	110.00	106.67
107	Ag	52.22	P	12.62	24.17	43.33	46.67	66.67
111	Cd	33.30	P	8.82	26.49	39.97	23.30	36.63
115	In	1122179.00	M	37680.00	3.36	1122193.30	1084494.10	1159848.40
118	Sn	355.57	P	19.53	5.49	333.35	370.02	363.35
121	Sb	402.24	P	49.14	12.22	420.02	440.02	346.68
137	Ba	38.89	P	11.71	30.11	26.67	50.00	40.00
159	Tb	1716791.00	A	71480.00	4.16	1735036.60	1637956.80	1777380.60
202	Hg	56.22	P	5.27	9.38	55.00	51.67	62.00
205	Tl	130.00	P	32.15	24.73	166.67	106.67	116.67
208	Pb	347.79	P	40.05	11.52	306.68	350.01	386.68
209	Bi	1087880.00	P	36360.00	3.34	1094186.60	1048780.40	1120674.10
232	Th	350.01	P	29.63	8.47	360.02	316.68	373.35
238	U	147.78	P	1.93	1.30	146.67	146.67	150.01

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\006CALB.D\006CALB.D#
Date Acquired: Dec 24 2012 06:47 pm
Operator: BR
Sample Name: CalBlk
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 06:44 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	834477.19	A	24940.00	2.99	846834.44	805776.31	850820.69
9	Be	5.56	P	5.09	91.65	6.67	0.00	10.00
11	B	9076.79	P	168.50	1.86	8882.25	9169.04	9179.07
23	Na	94903.70	P	1054.00	1.11	94353.57	94239.07	96118.46
24	Mg	1193.40	P	49.78	4.17	1213.40	1230.08	1136.73
27	Al	1378.98	P	123.40	8.95	1256.74	1376.75	1503.43
39	K	9513.77	P	201.80	2.12	9312.58	9512.63	9716.11
40	Ca	71218.92	P	705.90	0.99	70411.09	71529.10	71716.59
45	Sc	559150.13	P	6103.00	1.09	554709.06	556631.88	566109.38
45	Sc		P			43698.25	43826.34	48532.16
45	Sc	650084.38	P	20600.00	3.17	672841.13	632692.50	644719.69
47	Ti	26.67	P	3.33	12.50	23.33	26.67	30.00
51	V	209.26	P	5.01	2.39	208.89	214.45	204.45
52	Cr	135.93	P	7.80	5.74	127.78	143.34	136.67
55	Mn	1178.96	P	64.76	5.49	1250.08	1123.40	1163.40
56	Fe	15443.50	P	49.79	0.32	15500.18	15406.81	15423.52
59	Co	44.45	P	13.47	30.31	60.00	36.67	36.67
60	Ni	51.11	P	8.82	17.25	54.44	41.11	57.78
63	Cu	578.90	P	55.41	9.57	586.68	520.01	630.02
66	Zn	247.79	P	56.80	22.92	313.35	213.34	216.68
74	Ge	177726.20	P	461.00	0.26	177654.06	177305.47	178219.00
74	Ge	28329.60	P	1439.00	5.08	27405.05	27596.47	29987.28
74	Ge	164782.59	P	5570.00	3.38	171094.22	160554.02	162699.69
75	As	17.22	P	3.86	22.43	15.33	14.67	21.67
78	Se	22.11	P	0.77	3.48	21.67	21.67	23.00
88	Sr	104.45	P	21.43	20.52	113.34	120.00	80.00
89	Y	1088141.00	M	48480.00	4.46	1132698.40	1036521.90	1095203.30
95	Mo	81.11	P	20.37	25.11	63.34	76.67	103.34
107	Ag	37.78	P	13.88	36.74	26.67	53.34	33.33
111	Cd	43.31	P	6.67	15.39	36.65	49.98	43.30
115	In	1096914.00	M	47760.00	4.35	1139841.10	1045461.60	1105437.80
118	Sn	353.35	P	30.55	8.65	380.02	320.01	360.02
121	Sb	376.68	P	15.28	4.06	393.35	363.35	373.35
137	Ba	34.45	P	11.71	34.00	46.67	33.33	23.33
159	Tb	1671851.00	A	65030.00	3.89	1745928.40	1624183.40	1645442.00
202	Hg	53.78	P	5.55	10.32	52.00	60.00	49.33
205	Tl	105.56	P	13.47	12.76	120.00	103.34	93.34
208	Pb	256.68	P	41.63	16.22	303.34	243.34	223.34
209	Bi	1069146.00	M	35250.00	3.30	1106423.30	1036344.90	1064668.90
232	Th	295.57	P	24.12	8.16	323.35	280.01	283.34
238	U	87.78	P	15.75	17.94	93.34	100.00	70.00

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\007CALB.D\007CALB.D#
Date Acquired: Dec 24 2012 06:55 pm
Operator: BR
Sample Name: CalBlk
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 06:52 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	851153.00	A	5542.00	0.65	848968.81	847035.69	857454.25
9	Be	11.11	P	5.09	45.83	16.67	10.00	6.67
11	B	8953.41	P	258.30	2.88	8772.22	9249.13	8838.88
23	Na	96090.64	P	1326.00	1.38	94607.67	96500.49	97163.76
24	Mg	1336.75	P	17.64	1.32	1330.08	1356.75	1323.41
27	Al	1552.33	P	162.20	10.45	1383.43	1566.77	1706.80
39	K	9497.08	P	252.80	2.66	9209.16	9599.34	9682.74
40	Ca	71052.75	P	646.40	0.91	70485.09	70916.85	71756.33
45	Sc	558114.13	P	3976.00	0.71	553538.56	560730.63	560073.19
45	Sc		P			43562.36	44286.25	46269.26
45	Sc	654429.19	P	16870.00	2.58	670945.75	637228.81	655113.06
47	Ti	42.22	P	1.93	4.56	40.00	43.33	43.34
51	V	231.12	P	10.60	4.59	220.00	241.12	232.23
52	Cr	127.41	P	18.90	14.83	146.67	108.89	126.67
55	Mn	1088.95	P	32.38	2.97	1116.73	1053.39	1096.73
56	Fe	15610.30	P	453.60	2.91	15086.58	15877.16	15867.18
59	Co	38.89	P	16.78	43.15	56.67	36.67	23.33
60	Ni	54.07	P	4.49	8.30	56.67	48.89	56.67
63	Cu	600.39	P	68.97	11.49	533.35	671.13	596.68
66	Zn	217.79	P	16.44	7.55	206.67	236.67	210.01
74	Ge	177511.30	P	1249.00	0.70	177208.72	176441.77	178883.44
74	Ge	27609.23	P	440.60	1.60	27178.06	27590.95	28058.68
74	Ge	166126.30	P	3438.00	2.07	169036.83	162333.20	167008.88
75	As	16.44	P	1.02	6.19	17.33	16.67	15.33
78	Se	23.78	P	1.95	8.21	26.00	22.33	23.00
88	Sr	81.11	P	5.09	6.28	80.00	76.67	86.67
89	Y	1093349.00	M	29950.00	2.74	1127779.10	1073352.90	1078915.10
95	Mo	73.34	P	29.06	39.63	106.67	60.00	53.34
107	Ag	43.33	P	5.77	13.32	50.00	40.00	40.00
111	Cd	38.87	P	10.71	27.56	46.63	26.65	43.32
115	In	1111156.00	M	29580.00	2.66	1145226.60	1092087.80	1096154.40
118	Sn	318.90	P	27.15	8.51	306.68	300.01	350.02
121	Sb	276.68	P	14.53	5.25	266.68	293.34	270.01
137	Ba	31.11	P	13.47	43.30	23.33	23.33	46.67
159	Tb	1653490.00	A	57410.00	3.47	1709191.80	1594508.60	1656770.60
202	Hg	48.89	P	3.60	7.35	47.33	46.33	53.00
205	Tl	76.67	P	18.56	24.21	56.67	93.34	80.00
208	Pb	281.12	P	39.06	13.89	236.67	310.01	296.68
209	Bi	1059558.00	P	22550.00	2.13	1081987.10	1036887.10	1059799.60
232	Th	274.46	P	43.38	15.81	316.68	230.01	276.68
238	U	75.56	P	1.93	2.55	76.67	76.67	73.34

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#
Date Acquired: Dec 24 2012 07:02 pm
Operator: BR
Sample Name: CALBLK
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 06:59 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	836165.31	A	17210.00	2.06	816429.69	848035.69	844030.63
9	Be	3.33	P	3.33	99.99	6.67	3.33	0.00
11	B	8413.14	P	214.40	2.55	8168.58	8568.77	8502.06
23	Na	94295.21	P	778.10	0.83	93448.93	94456.98	94979.71
24	Mg	510.02	P	27.28	5.35	480.02	516.69	533.36
27	Al	1153.40	P	80.84	7.01	1060.06	1200.07	1200.07
39	K	9438.16	P	369.50	3.92	9169.15	9285.84	9859.47
40	Ca	69084.26	P	305.90	0.44	68751.78	69353.86	69147.13
45	Sc	552676.31	P	4449.00	0.80	548661.81	551906.63	557460.38
45	Sc		P			42785.00	43304.01	44592.54
45	Sc	644433.88	P	13430.00	2.08	637107.50	659931.06	636263.38
47	Ti	27.78	P	10.18	36.65	36.67	30.00	16.67
51	V	205.19	P	18.67	9.10	225.56	201.11	188.89
52	Cr	129.26	P	10.79	8.35	120.00	126.67	141.11
55	Mn	947.83	P	71.99	7.60	880.05	1023.39	940.05
56	Fe	12703.58	P	297.50	2.34	12417.74	12681.41	13011.58
59	Co	17.78	P	1.93	10.83	16.67	20.00	16.67
60	Ni	33.70	P	1.70	5.04	35.56	32.22	33.33
63	Cu	545.20	P	36.76	6.74	516.68	532.23	586.68
66	Zn	255.56	P	15.03	5.88	256.68	270.01	240.01
74	Ge	175321.91	P	877.50	0.50	174343.95	175580.97	176040.67
74	Ge	27172.50	P	567.10	2.09	26908.79	26785.24	27823.48
74	Ge	164913.09	P	584.60	0.35	164618.16	165586.44	164534.78
75	As	19.11	P	1.39	7.26	18.67	18.00	20.67
78	Se	22.56	P	2.59	11.48	24.67	23.33	19.67
88	Sr	62.22	P	9.62	15.47	56.67	56.67	73.34
89	Y	1068488.00	M	32970.00	3.09	1058824.80	1105208.40	1041431.30
95	Mo	55.56	P	5.09	9.17	60.00	50.00	56.67
107	Ag	24.45	P	6.94	28.39	30.00	26.67	16.67
111	Cd	38.87	P	13.47	34.65	26.65	36.65	53.32
115	In	1083659.00	M	8848.00	0.82	1078451.80	1093875.60	1078650.50
118	Sn	322.24	P	30.97	9.61	286.68	336.68	343.35
121	Sb	274.45	P	35.64	12.99	293.34	296.68	233.34
137	Ba	20.00	P	13.33	66.65	33.33	20.00	6.67
159	Tb	1651257.00	A	37270.00	2.26	1644903.10	1691293.30	1617573.80
202	Hg	55.44	P	2.46	4.43	52.67	56.33	57.33
205	Tl	60.00	P	6.67	11.11	66.67	53.34	60.00
208	Pb	214.45	P	32.03	14.94	180.01	220.01	243.34
209	Bi	1054491.00	P	21810.00	2.07	1058811.80	1073820.90	1030840.50
232	Th	263.34	P	35.12	13.34	296.68	226.68	266.68
238	U	10.00	P	3.33	33.33	13.33	10.00	6.67

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\009CALS.D\009CALS.D#
Date Acquired: Dec 24 2012 07:10 pm
Operator: BR
Sample Name: cal-2212044
Misc Info:
Vial Number: 4501
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 07:07 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	839467.38	A	7961.00	0.95	832857.81	848304.69	837239.69
9 Be	412.24	P	13.88	3.37	396.68	423.35	416.68
11 B	98461.37	P	473.80	0.48	97942.02	98572.05	98870.06
23 Na	492788.31	P	6795.00	1.38	486554.69	491778.53	500031.56
24 Mg	275171.19	P	3305.00	1.20	271664.94	275618.13	278230.69
27 Al	64411.05	P	925.80	1.44	64071.20	63703.15	65458.80
39 K	30130.17	P	758.60	2.52	29256.58	30511.83	30622.11
40 Ca	684255.00	P	6944.00	1.01	677097.63	684702.94	690964.63
45 Sc	562457.88	P	4144.00	0.74	559039.75	561267.56	567066.50
45 Sc		P			43507.75	45062.65	48916.23
45 Sc	650583.50	P	5255.00	0.81	650318.69	645465.69	655966.31
47 Ti	1298.97	P	50.04	3.85	1270.08	1270.08	1356.75
51 V	2830.24	P	71.54	2.53	2839.13	2754.67	2896.91
52 Cr	3368.11	P	8.68	0.26	3363.67	3362.55	3378.11
55 Mn	23788.02	P	76.56	0.32	23752.43	23875.90	23735.74
56 Fe	367896.50	P	994.20	0.27	367851.88	366925.34	368912.25
59 Co	1739.02	P	82.83	4.76	1783.47	1790.14	1643.46
60 Ni	1995.31	P	59.66	2.99	1926.78	2023.46	2035.68
63 Cu	4260.53	P	232.20	5.45	4090.49	4166.06	4525.04
66 Zn	9990.78	P	68.03	0.68	9916.32	10049.69	10006.32
74 Ge	179200.50	P	677.10	0.38	178529.73	179883.83	179187.81
74 Ge	28466.41	P	1283.00	4.51	27658.77	27794.56	29945.91
74 Ge	166897.00	P	760.20	0.46	167592.11	167013.78	166085.27
75 As	152.67	P	5.36	3.51	148.33	158.67	151.00
78 Se	289.34	P	8.39	2.90	279.67	293.67	294.67
88 Sr	5674.39	P	95.07	1.68	5671.06	5581.03	5771.09
89 Y	1096141.00	M	11860.00	1.08	1082489.40	1103854.60	1102078.10
95 Mo	4063.92	P	106.80	2.63	3953.89	4070.60	4167.28
107 Ag	2512.48	P	116.60	4.64	2600.26	2556.93	2380.24
111 Cd	339.82	P	21.20	6.24	352.08	352.05	315.35
115 In	1102152.00	M	10330.00	0.94	1113877.80	1098158.10	1094420.90
118 Sn	8790.27	P	198.40	2.26	9005.97	8749.13	8615.71
121 Sb	8881.41	P	409.30	4.61	9125.99	8408.95	9109.31
137 Ba	4020.59	P	30.00	0.75	4020.59	4050.59	3990.59
159 Tb	1667617.00	A	21040.00	1.26	1685560.80	1644465.80	1672825.40
202 Hg	519.45	P	7.60	1.46	524.01	510.68	523.68
205 Tl	5731.22	P	100.40	1.75	5621.20	5817.90	5754.56
208 Pb	12108.86	P	104.70	0.86	12035.54	12228.83	12062.20
209 Bi	1073468.00	P	10380.00	0.97	1085446.60	1067137.50	1067820.80
232 Th	223.34	P	30.55	13.68	256.68	216.68	196.68
238 U	23.33	P	8.82	37.79	13.33	26.67	30.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	839467.38	0.95	836165.38	100.4	60 - 125		832857.81	848304.69	837239.69
45 Sc	562457.94	0.74	552676.25	101.8	60 - 125		559039.75	561267.56	567066.50
45 Sc	650583.56	0.81	644433.94	101.0	60 - 125		650318.69	645465.69	655966.31
74 Ge	179200.47	0.38	175321.88	102.2	60 - 125		178529.73	179883.83	179187.81
74 Ge	28466.41	4.51	27172.50	104.8	60 - 125		27658.77	27794.56	29945.91
74 Ge	166897.05	0.46	164913.13	101.2	60 - 125		167592.11	167013.78	166085.27
89 Y	1096140.80	1.08	1068488.30	102.6	60 - 125		1082489.40	1103854.60	1102078.10
115 In	1102152.30	0.94	1083659.40	101.7	60 - 125		1113877.80	1098158.10	1094420.90
159 Tb	1667617.40	1.26	1651256.80	101.0	60 - 125		1685560.80	1644465.80	1672825.40
209 Bi	1073468.40	0.97	1054491.00	101.8	60 - 125		1085446.60	1067137.50	1067820.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\010CALS.D\010CALS.D#
Date Acquired: Dec 24 2012 07:17 pm
Operator: BR
Sample Name: cal-2212044
Misc Info:
Vial Number: 4502
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 07:15 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	865376.13	A	32980.00	3.81	844748.50	903415.38	847964.25
9 Be	39644.27	P	214.30	0.54	39884.85	39473.87	39574.09
11 B	93540.77	P	1744.00	1.86	92601.81	92467.62	95552.89
23 Na	7290738.00	A	135100.00	1.85	7145511.50	7314112.50	7412591.50
24 Mg	4951809.00	A	75270.00	1.52	4884136.00	4938404.00	5032886.00
27 Al	572517.00	P	7044.00	1.23	564505.00	577737.50	575308.63
39 K	389378.19	P	6991.00	1.80	382003.16	390222.34	395909.16
40 Ca	11145570.00	A	95860.00	0.86	11035912.00	11213485.00	11187315.00
45 Sc	574675.38	P	3257.00	0.57	571027.88	575706.19	577292.19
45 Sc		P			44617.06	45990.55	45063.13
45 Sc	668675.19	P	37210.00	5.56	659112.63	709732.06	637181.13
47 Ti	11794.02	P	365.20	3.10	11737.26	11460.48	12184.32
51 V	25154.37	P	605.30	2.41	24555.06	25142.49	25765.55
52 Cr	30478.91	P	484.20	1.59	29972.92	30526.01	30937.80
55 Mn	2169001.00	A	13120.00	0.60	2171903.50	2154670.30	2180430.80
56 Fe	16801030.00	A	95750.00	0.57	16716628.00	16781384.00	16905084.00
59 Co	157553.20	P	763.50	0.48	157661.36	158256.83	156741.38
60 Ni	13312.63	P	140.60	1.06	13228.12	13234.80	13474.97
63 Cu	35430.23	P	731.10	2.06	34767.14	35309.25	36214.31
66 Zn	20168.27	P	385.70	1.91	19724.41	20358.51	20421.88
74 Ge	182198.50	P	290.90	0.16	181863.48	182387.78	182344.19
74 Ge	27875.58	P	471.40	1.69	27399.50	28342.07	27885.16
74 Ge	170364.41	P	6132.00	3.60	168893.30	177098.23	165101.67
75 As	2575.08	P	42.25	1.64	2561.19	2541.52	2622.53
78 Se	5003.36	P	35.37	0.71	4972.02	4996.36	5041.71
88 Sr	269383.91	P	1936.00	0.72	268026.81	268524.31	271600.41
89 Y	1113437.00	M	54070.00	4.86	1090555.30	1175183.90	1074572.60
95 Mo	38857.63	P	342.60	0.88	39040.28	38462.37	39070.25
107 Ag	120283.80	P	903.00	0.75	121274.19	119506.20	120070.95
111 Cd	25762.78	P	521.70	2.03	25910.68	25183.11	26194.55
115 In	1129598.00	M	51910.00	4.60	1114923.10	1187262.40	1086607.40
118 Sn	79083.01	P	296.40	0.37	79221.51	79284.78	78742.74
121 Sb	74016.44	P	788.60	1.07	74664.63	74246.29	73138.43
137 Ba	37926.39	P	184.60	0.49	38073.47	37719.20	37986.50
159 Tb	1717369.00	A	90320.00	5.26	1685707.60	1819255.00	1647145.60
202 Hg	1600.31	P	16.68	1.04	1603.08	1615.42	1582.42
205 Tl	53061.92	P	392.80	0.74	53414.27	52638.34	53133.13
208 Pb	366301.09	P	1477.00	0.40	364884.72	367832.00	366186.44
209 Bi	1075616.00	M	47460.00	4.41	1071786.90	1124871.60	1030189.80
232 Th	413993.41	P	3685.00	0.89	417024.72	409891.84	415063.63
238 U	435817.31	P	4066.00	0.93	438916.97	431213.91	437321.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	865376.06	3.81	836165.38	103.5	60 - 125		844748.50	903415.38	847964.25
45 Sc	574675.44	0.57	552676.25	104.0	60 - 125		571027.88	575706.19	577292.19
45 Sc	668675.25	5.56	644433.94	103.8	60 - 125		659112.63	709732.06	637181.13
74 Ge	182198.48	0.16	175321.88	103.9	60 - 125		181863.48	182387.78	182344.19
74 Ge	27875.58	1.69	27172.50	102.6	60 - 125		27399.50	28342.07	27885.16
74 Ge	170364.41	3.60	164913.13	103.3	60 - 125		168893.30	177098.23	165101.67
89 Y	1113437.30	4.86	1068488.30	104.2	60 - 125		1090555.30	1175183.90	1074572.60
115 In	1129597.60	4.60	1083659.40	104.2	60 - 125		1114923.10	1187262.40	1086607.40
159 Tb	1717369.40	5.26	1651256.80	104.0	60 - 125		1685707.60	1819255.00	1647145.60
209 Bi	1075616.10	4.41	1054491.00	102.0	60 - 125		1071786.90	1124871.60	1030189.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\011CALS.D\011CALS.D#
Date Acquired: Dec 24 2012 07:25 pm
Operator: BR
Sample Name: cal-2212044
Misc Info:
Vial Number: 4503
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 07:22 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	867763.50	A	40690.00	4.69	833892.81	912907.50	856490.13
9 Be	99350.62	P	1436.00	1.45	98447.43	98597.74	101006.69
11 B	221157.91	P	1517.00	0.69	220756.80	219882.03	222834.89
23 Na	17794890.00	A	160900.00	0.90	17684678.00	17720506.00	17979488.00
24 Mg	12140960.00	A	68380.00	0.56	12062096.00	12183826.00	12176957.00
27 Al	1399747.00	A	12310.00	0.88	1400885.80	1386905.80	1411449.60
39 K	954057.00	M	13180.00	1.38	944814.44	948209.25	969147.19
40 Ca	27569490.00	A	444900.00	1.61	27218736.00	27419862.00	28069862.00
45 Sc	580323.38	P	4605.00	0.79	575333.06	581227.50	584409.81
45 Sc		P			42926.61	46684.26	46491.53
45 Sc	674034.50	P	32140.00	4.77	664631.88	709830.88	647640.88
47 Ti	29426.97	P	428.40	1.46	29460.28	28982.92	29837.72
51 V	63086.94	P	532.30	0.84	62978.44	62617.22	63665.18
52 Cr	76598.75	P	278.60	0.36	76279.57	76723.68	76792.98
55 Mn	5232329.00	A	57000.00	1.09	5243250.00	5170655.00	5283083.50
56 Fe	41486500.00	A	342300.00	0.83	41107036.00	41772108.00	41580348.00
59 Co	386816.19	P	2939.00	0.76	384225.22	386213.28	390009.94
60 Ni	32834.95	P	238.90	0.73	32580.77	32869.09	33054.97
63 Cu	87408.72	P	1247.00	1.43	86779.98	86601.15	88845.02
66 Zn	49642.14	P	187.10	0.38	49530.81	49537.41	49858.21
74 Ge	183245.91	P	364.50	0.20	182923.06	183641.27	183173.39
74 Ge	28179.62	P	900.80	3.20	27150.26	28564.63	28823.98
74 Ge	169293.50	P	6124.00	3.62	169304.11	175411.89	163164.61
75 As	6444.59	P	111.10	1.72	6319.77	6481.49	6532.51
78 Se	12356.19	P	20.35	0.16	12356.87	12376.20	12335.51
88 Sr	666528.69	P	2664.00	0.40	666269.75	664003.25	669313.19
89 Y	1110235.00	M	58850.00	5.30	1093123.30	1175742.10	1061840.30
95 Mo	97568.53	P	559.70	0.57	97308.98	98210.95	97185.69
107 Ag	295987.31	P	1347.00	0.46	297158.69	294516.19	296287.06
111 Cd	64308.09	P	1186.00	1.84	65579.16	64113.96	63231.15
115 In	1109392.00	M	54700.00	4.93	1109423.60	1164073.10	1054679.60
118 Sn	195531.70	P	95.92	0.05	195432.14	195623.53	195539.39
121 Sb	185808.70	P	668.70	0.36	186444.00	185871.06	185110.95
137 Ba	94350.54	P	430.50	0.46	94096.65	94847.60	94107.38
159 Tb	1708937.00	A	82350.00	4.82	1711312.00	1790072.50	1625425.40
202 Hg	3873.70	P	14.68	0.38	3874.14	3888.15	3858.81
205 Tl	130280.00	P	1109.00	0.85	130706.95	129020.39	131112.77
208 Pb	902206.63	P	2751.00	0.30	905337.88	900179.38	901102.69
209 Bi	1057402.00	M	41270.00	3.90	1054491.80	1100048.10	1017666.90
232 Th	1039651.00	P	5603.00	0.54	1043655.10	1033248.20	1042050.60
238 U	1080827.00	P	10390.00	0.96	1088217.30	1068941.50	1085322.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	867763.50	4.69	836165.38	103.8	60 - 125		833892.81	912907.50	856490.13
45 Sc	580323.44	0.79	552676.25	105.0	60 - 125		575333.06	581227.50	584409.81
45 Sc	674034.50	4.77	644433.94	104.6	60 - 125		664631.88	709830.88	647640.88
74 Ge	183245.91	0.20	175321.88	104.5	60 - 125		182923.06	183641.27	183173.39
74 Ge	28179.62	3.20	27172.50	103.7	60 - 125		27150.26	28564.63	28823.98
74 Ge	169293.55	3.62	164913.13	102.7	60 - 125		169304.11	175411.89	163164.61
89 Y	1110235.30	5.30	1068488.30	103.9	60 - 125		1093123.30	1175742.10	1061840.30
115 In	1109392.10	4.93	1083659.40	102.4	60 - 125		1109423.60	1164073.10	1054679.60
159 Tb	1708936.60	4.82	1651256.80	103.5	60 - 125		1711312.00	1790072.50	1625425.40
209 Bi	1057402.30	3.90	1054491.00	100.3	60 - 125		1054491.80	1100048.10	1017666.90

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\012CALS.D\012CALS.D#
Date Acquired: Dec 24 2012 07:32 pm
Operator: BR
Sample Name: cal-2212044
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 07:29 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	864408.69	A	23990.00	2.78	854665.63	846817.94	891742.50
9 Be	198009.59	P	2553.00	1.29	195064.81	199362.97	199600.88
11 B	429517.31	P	3923.00	0.91	425163.00	432777.91	430610.91
23 Na	35978248.00	A	723100.00	2.01	35461656.00	35668520.00	36804576.00
24 Mg	24069970.00	A	321400.00	1.34	23857934.00	23912232.00	24439742.00
27 Al	2756921.00	A	40090.00	1.45	2767722.50	2712533.80	2790505.80
39 K	1899469.00	A	37720.00	1.99	1856228.90	1925620.00	1916559.10
40 Ca	54852740.00	A	841500.00	1.53	54744872.00	54070392.00	55742964.00
45 Sc	578305.31	P	72840.00	12.60	574194.25	653114.63	507606.94
45 Sc		P			46421.35	50644.81	45188.48
45 Sc	685878.13	P	22670.00	3.31	678765.00	667615.25	711254.13
47 Ti	59153.93	P	503.40	0.85	59143.87	58655.67	59662.26
51 V	126871.60	P	2251.00	1.77	124455.47	127250.73	128908.52
52 Cr	152481.91	P	1808.00	1.19	151164.06	151738.08	154543.64
55 Mn	10386080.00	A	45530.00	0.44	10406019.00	10418237.00	10333980.00
56 Fe	82871848.00	A	2030000.00	2.45	81320104.00	82126504.00	85168936.00
59 Co	776620.31	P	3400.00	0.44	779923.44	776805.50	773131.94
60 Ni	65713.10	P	178.90	0.27	65508.26	65792.63	65838.40
63 Cu	172718.41	P	1381.00	0.80	171262.03	172884.17	174009.16
66 Zn	97312.40	P	598.90	0.62	97941.02	96748.48	97247.70
74 Ge	180721.91	P	17880.00	9.89	181198.61	198354.39	162612.70
74 Ge	28338.48	P	1122.00	3.96	27786.75	29629.95	27598.74
74 Ge	169962.70	P	4898.00	2.88	167786.20	166529.81	175572.09
75 As	12828.84	P	108.90	0.85	12713.76	12842.52	12930.24
78 Se	24551.70	P	203.40	0.83	24484.73	24390.26	24780.12
88 Sr	1382571.00	A	12280.00	0.89	1392957.10	1385734.80	1369020.00
89 Y	1136727.00	M	62900.00	5.53	1131222.00	1076764.40	1202196.30
95 Mo	196661.09	P	618.00	0.31	197239.83	196733.36	196010.23
107 Ag	585700.38	P	5470.00	0.93	589818.00	587788.88	579494.38
111 Cd	126802.20	P	754.00	0.59	127154.28	127315.82	125936.61
115 In	1112063.00	M	30790.00	2.77	1103300.00	1086605.90	1146283.40
118 Sn	389405.41	P	1961.00	0.50	391656.09	388495.63	388064.56
121 Sb	366714.00	P	2719.00	0.74	368614.09	363599.72	367928.06
137 Ba	187868.50	P	1293.00	0.69	189305.95	186801.61	187497.94
159 Tb	1716067.00	A	25610.00	1.49	1707234.00	1696042.10	1744926.00
202 Hg	7559.58	P	30.46	0.40	7554.80	7592.15	7531.79
205 Tl	257492.20	P	1326.00	0.51	259009.55	256555.86	256911.33
208 Pb	1771355.00	P	10500.00	0.59	1782760.40	1769203.50	1762101.60
209 Bi	1042020.00	P	33010.00	3.17	1031440.60	1015595.90	1079023.10
232 Th	1959470.00	A	2208.00	0.11	1957014.80	1960104.40	1961291.90
238 U	1974373.00	A	17750.00	0.90	1989304.50	1979070.80	1954742.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	864408.69	2.78	836165.38	103.4	60 - 125		854665.63	846817.94	891742.50
45 Sc	578305.25	12.60	552676.25	104.6	60 - 125		574194.25	653114.63	507606.94
45 Sc	685878.13	3.31	644433.94	106.4	60 - 125		678765.00	667615.25	711254.13
74 Ge	180721.89	9.89	175321.88	103.1	60 - 125		181198.61	198354.39	162612.70
74 Ge	28338.48	3.96	27172.50	104.3	60 - 125		27786.75	29629.95	27598.74
74 Ge	169962.70	2.88	164913.13	103.1	60 - 125		167786.20	166529.81	175572.09
89 Y	1136727.50	5.53	1068488.30	106.4	60 - 125		1131222.00	1076764.40	1202196.30
115 In	1112063.00	2.77	1083659.40	102.6	60 - 125		1103300.00	1086605.90	1146283.40
159 Tb	1716067.40	1.49	1651256.80	103.9	60 - 125		1707234.00	1696042.10	1744926.00
209 Bi	1042019.90	3.17	1054491.00	98.8	60 - 125		1031440.60	1015595.90	1079023.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\013CALS.D\013CALS.D#
Date Acquired: Dec 24 2012 07:39 pm
Operator: BR
Sample Name: cal-2212044
Misc Info:
Vial Number: 4505
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 07:37 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	829442.63	A	28090.00	3.39	797166.25	848360.19	842801.38
9 Be	387736.91	P	3575.00	0.92	386275.84	385124.09	391810.84
11 B	868237.00	A	7490.00	0.86	869119.06	860344.44	875247.50
23 Na	70131768.00	A	670400.00	0.96	69359296.00	70474952.00	70561072.00
24 Mg	47351952.00	A	431600.00	0.91	46854336.00	47577112.00	47624404.00
27 Al	5378834.00	A	44940.00	0.84	5328080.00	5394835.00	5413587.00
39 K	3665421.00	A	69950.00	1.91	3627571.30	3622550.80	3746140.30
40 Ca	108497000.00	A	1682000.00	1.55	107498690.00	107552960.00	110439430.00
45 Sc	581296.88	P	4347.00	0.75	576315.13	583256.81	584318.75
45 Sc		P			47413.82	48069.93	49408.90
45 Sc	678162.69	P	28700.00	4.23	651917.44	673753.56	708817.13
47 Ti	118031.10	P	152.80	0.13	117942.38	118207.47	117943.41
51 V	251420.80	P	4302.00	1.71	247099.09	251461.28	255702.14
52 Cr	299883.91	P	4250.00	1.42	295052.66	301553.47	303045.63
55 Mn	20245170.00	A	184300.00	0.91	20035296.00	20319512.00	20380696.00
56 Fe	160787600.00	A	1480000.00	0.92	159710590.00	160177490.00	162474640.00
59 Co	1564149.00	A	17850.00	1.14	1546122.50	1564501.90	1581821.60
60 Ni	127605.30	P	909.90	0.71	126696.89	127602.38	128516.77
63 Cu	333250.81	P	2593.00	0.78	330601.91	333366.44	335784.28
66 Zn	186596.09	P	441.60	0.24	186771.41	186923.22	186093.80
74 Ge	179811.80	P	950.50	0.53	178937.84	180823.80	179673.81
74 Ge	27324.57	P	442.20	1.62	26838.68	27431.74	27703.29
74 Ge	166552.50	P	5377.00	3.23	161263.95	166380.28	172013.41
75 As	25220.44	P	289.90	1.15	24980.99	25137.56	25542.76
78 Se	47692.99	P	251.10	0.53	47403.57	47823.00	47852.41
88 Sr	2688714.00	A	18930.00	0.70	2671602.50	2709052.50	2685488.00
89 Y	1083765.00	M	42210.00	3.89	1046150.70	1075736.80	1129408.80
95 Mo	383131.09	P	4947.00	1.29	387144.03	384645.88	377603.31
107 Ag	1115029.00	P	9878.00	0.89	1122874.00	1118277.30	1103936.50
111 Cd	243866.91	P	1371.00	0.56	244843.48	244458.09	242299.27
115 In	1068465.00	M	40370.00	3.78	1032350.80	1060992.30	1112051.90
118 Sn	757483.31	P	7506.00	0.99	765195.00	757053.69	750201.19
121 Sb	709302.19	P	6570.00	0.93	714122.88	711965.38	701818.19
137 Ba	366866.09	P	4567.00	1.24	368466.91	370416.91	361714.38
159 Tb	1655419.00	A	81400.00	4.92	1573668.30	1656118.90	1736469.40
202 Hg	14654.37	P	74.70	0.51	14731.45	14649.36	14582.31
205 Tl	498717.59	P	4210.00	0.84	503092.75	498364.47	494695.56
208 Pb	3444523.00	A	7737.00	0.22	3453455.30	3440205.50	3439908.80
209 Bi	992409.88	P	29520.00	2.97	972039.44	978925.38	1026264.60
232 Th	3791499.00	A	37040.00	0.98	3812915.00	3812848.80	3748732.50
238 U	3781240.00	A	78540.00	2.08	3804602.80	3845452.80	3693665.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	829442.56	3.39	836165.38	99.2	60 - 125		797166.25	848360.19	842801.38
45 Sc	581296.88	0.75	552676.25	105.2	60 - 125		576315.13	583256.81	584318.75
45 Sc	678162.69	4.23	644433.94	105.2	60 - 125		651917.44	673753.56	708817.13
74 Ge	179811.81	0.53	175321.88	102.6	60 - 125		178937.84	180823.80	179673.81
74 Ge	27324.57	1.62	27172.50	100.6	60 - 125		26838.68	27431.74	27703.29
74 Ge	166552.55	3.23	164913.13	101.0	60 - 125		161263.95	166380.28	172013.41
89 Y	1083765.40	3.89	1068488.30	101.4	60 - 125		1046150.70	1075736.80	1129408.80
115 In	1068465.00	3.78	1083659.40	98.6	60 - 125		1032350.80	1060992.30	1112051.90
159 Tb	1655418.90	4.92	1651256.80	100.3	60 - 125		1573668.30	1656118.90	1736469.40
209 Bi	992409.88	2.97	1054491.00	94.1	60 - 125		972039.44	978925.38	1026264.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\014_BLK.D\014_BLK.D#
Date Acquired: Dec 24 2012 07:47 pm
Operator: BR
Sample Name: BLANK
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 24 2012 07:44 pm
Sample Type: Blank
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	0.02 ug/l	14.98	#######	
11 B	2.10 ug/l	3.28	#######	
23 Na	2.64 ug/l	31.75	#######	
24 Mg	2.30 ug/l	34.04	#######	
27 Al	0.50 ug/l	12.62	#######	
39 K	3.06 ug/l	41.53	#######	
40 Ca	2.29 ug/l	30.42	#######	
45 Sc	--------	--------	#######	
47 Ti	0.03 ug/l	8.94	#######	
51 V	0.03 ug/l	19.92	#######	
52 Cr	0.03 ug/l	17.03	#######	
55 Mn	0.26 ug/l	13.55	#######	
56 Fe	2.19 ug/l	32.06	#######	
59 Co	0.03 ug/l	6.56	#######	
60 Ni	0.05 ug/l	25.64	#######	
63 Cu	0.08 ug/l	10.96	#######	
66 Zn	0.07 ug/l	14.40	#######	
75 As	0.05 ug/l	4.60	#######	
78 Se	0.07 ug/l	30.07	#######	
88 Sr	0.02 ug/l	10.78	#######	
95 Mo	0.14 ug/l	19.20	#######	
107 Ag	0.02 ug/l	22.29	#######	
111 Cd	0.02 ug/l	84.13	#######	
118 Sn	0.07 ug/l	11.08	#######	
121 Sb	0.53 ug/l	4.42	#######	
137 Ba	0.03 ug/l	16.64	#######	
202 Hg	0.03 ug/l	14.37	#######	
205 Tl	0.01 ug/l	9.79	#######	
208 Pb	0.03 ug/l	19.04	#######	
232 Th	0.18 ug/l	2.49	#######	
238 U	0.03 ug/l	12.04	#######	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	836393.50	1.79	836165.38	100.0	60 - 125	
45 Sc	555211.00	1.35	552676.25	100.5	60 - 125	
45 Sc	649523.56	3.69	644433.94	100.8	60 - 125	
74 Ge	177593.00	0.30	175321.88	101.3	60 - 125	
74 Ge	27599.08	2.08	27172.50	101.6	60 - 125	
74 Ge	163838.39	2.57	164913.13	99.3	60 - 125	
89 Y	1078230.30	2.94	1068488.30	100.9	60 - 125	
115 In	1081399.00	3.85	1083659.40	99.8	60 - 125	
159 Tb	1624584.50	3.74	1651256.80	98.4	60 - 125	
209 Bi	1046608.30	2.57	1054491.00	99.3	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

ICS-A QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\015ICSA.D\015ICSA.D#
Date Acquired: Dec 24 2012 07:54 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: icv
Misc Info: MS ICVWK 00157
Vial Number: 4506
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: ICS
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	39.67 ug/l	1.55	1.10	
11 B	82.41 ug/l	2.24	1.10	
23 Na	4093 ug/l	0.73	1.10	
24 Mg	4076 ug/l	0.92	1.10	
27 Al	422.2 ug/l	1.55	1.10	
39 K	4094 ug/l	3.46	1.10	
40 Ca	3912 ug/l	0.90	1.10	
45 Sc	--------	--------	1.10	
47 Ti	38.61 ug/l	3.75	1.10	
51 V	39.75 ug/l	2.62	1.10	
52 Cr	38.79 ug/l	2.72	1.10	
55 Mn	403.5 ug/l	1.42	1.10	
56 Fe	3878 ug/l	1.29	1.10	
59 Co	39.41 ug/l	0.91	1.10	
60 Ni	40.78 ug/l	3.17	1.10	
63 Cu	41.32 ug/l	3.51	1.10	
66 Zn	43.46 ug/l	1.75	1.10	
75 As	41.72 ug/l	3.38	1.10	
78 Se	40.26 ug/l	0.59	1.10	
88 Sr	36.41 ug/l	4.07	1.10	
95 Mo	40.23 ug/l	4.63	1.10	
107 Ag	42.25 ug/l	4.46	1.10	
111 Cd	40.5 ug/l	5.22	1.10	
118 Sn	38.38 ug/l	4.15	1.10	
121 Sb	42.75 ug/l	4.87	1.10	
137 Ba	39.92 ug/l	4.16	1.10	
202 Hg	1.907 ug/l	2.62	1.10	
205 Tl	8.034 ug/l	3.87	1.10	
208 Pb	40.87 ug/l	2.38	1.10	
232 Th	0.2772 ug/l	8.13	1.10	
238 U	0.007179 ug/l	2.65	1.10	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	846319.94	2.65	836165.38	101.2	60 - 125	
45 Sc	572950.13	1.07	552676.25	103.7	60 - 125	
45 Sc	669954.13	2.55	644433.94	104.0	60 - 125	
74 Ge	181400.25	0.19	175321.88	103.5	60 - 125	
74 Ge	27280.54	3.50	27172.50	100.4	60 - 125	
74 Ge	166684.78	0.73	164913.13	101.1	60 - 125	
89 Y	1109356.80	4.09	1068488.30	103.8	60 - 125	
115 In	1109006.80	4.19	1083659.40	102.3	60 - 125	
159 Tb	1683675.90	2.15	1651256.80	102.0	60 - 125	
209 Bi	1044624.10	2.76	1054491.00	99.1	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\016_CCB.D\016_CCB.D#
Date Acquired: Dec 24 2012 08:02 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: ICB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB Tune Step
Dilution Factor: 1.00 1 babh2.u
Autodil Factor: Undiluted 2 babhe.u
Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0005359	0.0005359	ug/l	241.84	#VALUE!		6.67	0.00	10.00
11 B	# 3	1.159	1.159	ug/l	6.52	#VALUE!		13268.23	13258.26	13338.25
23 Na	# 1	-0.8159	-0.8159	ug/l	78.88	#VALUE!		91606.66	93130.59	94684.53
24 Mg	# 1	0.252	0.252	ug/l	4.48	#VALUE!		1720.13	1673.45	1813.48
27 Al	# 1	0.08331	0.08331	ug/l	31.29	#VALUE!		1440.09	1706.78	1853.47
39 K	# 2	-0.6227	-0.6227	ug/l	64.62	#VALUE!		9115.81	9375.95	9455.98
40 Ca	# 1	0.3316	0.3316	ug/l	103.92	#VALUE!		74845.02	76066.38	77261.34
45 Sc	# 2	----	--------		--------	#VALUE!		43028.92	44285.22	45820.38
47 Ti	# 3	0.003596	0.003596	ug/l	50.14	#VALUE!		33.33	33.33	30.00
51 V	# 2	0.004392	0.004392	ug/l	60.45	#VALUE!		208.89	218.89	228.89
52 Cr	# 2	0.001224	0.001224	ug/l	254.17	#VALUE!		123.33	133.34	146.67
55 Mn	# 3	-0.001499	-0.001499	ug/l	240.36	#VALUE!		1013.39	916.72	846.71
56 Fe	# 1	0.4359	0.4359	ug/l	3.26	#VALUE!		19977.81	20294.90	21392.81
59 Co	# 3	0.0007818	0.0007818	ug/l	139.68	#VALUE!		30.00	46.67	13.33
60 Ni	# 2	0.02102	0.02102	ug/l	23.60	#VALUE!		62.22	53.33	67.78
63 Cu	# 2	0.07614	0.07614	ug/l	13.95	#VALUE!		766.69	788.91	864.47
66 Zn	# 3	0.04804	0.04804	ug/l	109.72	#VALUE!		400.02	410.02	233.34
75 As	# 2	0.004848	0.004848	ug/l	217.20	#VALUE!		22.33	17.33	22.00
78 Se	# 1	0.02742	0.02742	ug/l	14.96	#VALUE!		38.33	36.00	37.00
88 Sr	# 3	0.0006048	0.0006048	ug/l	40.79	#VALUE!		83.34	83.34	73.34
95 Mo	# 3	0.0564	0.0564	ug/l	16.98	#VALUE!		323.35	233.34	276.68
107 Ag	# 3	0.00265	0.00265	ug/l	77.96	#VALUE!		83.34	33.33	50.00
111 Cd	# 3	0.002927	0.002927	ug/l	202.73	#VALUE!		39.90	36.59	63.25
118 Sn	# 3	0.006905	0.006905	ug/l	89.24	#VALUE!		446.69	353.35	340.01
121 Sb	# 3	0.09616	0.09616	ug/l	13.70	#VALUE!		1100.07	856.71	970.05
137 Ba	# 3	0.0008013	0.0008013	ug/l	200.67	#VALUE!		30.00	16.67	23.33
202 Hg	# 3	0.02092	0.02092	ug/l	10.84	#VALUE!		120.00	125.67	115.33
205 Tl	# 3	0.01343	0.01343	ug/l	13.93	#VALUE!		450.02	383.35	350.02
208 Pb	# 3	0.0005183	0.0005183	ug/l	132.78	#VALUE!		256.68	233.34	206.67
232 Th	# 3	0.009896	0.009896	ug/l	16.22	#VALUE!		680.04	713.37	596.70
238 U	# 3	0.001262	0.001262	ug/l	25.52	#VALUE!		63.34	46.67	73.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	845840.69	2.31	836165.38	101.2	60 - 125		867455.19	829368.31	840698.63
45 Sc	# 1	580809.13	6.48	552676.25	105.1	60 - 125		556729.44	561528.69	624169.25
45 Sc	# 3	653533.06	2.63	644433.94	101.4	60 - 125		671647.81	637425.81	651525.50
74 Ge	# 1	184041.42	4.28	175321.88	105.0	60 - 125		179644.92	179339.56	193139.75
74 Ge	# 2	27488.66	1.98	27172.50	101.2	60 - 125		27181.42	27166.91	28117.66
74 Ge	# 3	166271.34	1.56	164913.13	100.8	60 - 125		169145.23	164097.14	165571.63
89 Y	# 3	1091617.50	2.73	1068488.30	102.2	60 - 125		1116922.40	1058753.10	1099177.10
115 In	# 3	1095540.40	2.76	1083659.40	101.1	60 - 125		1129352.60	1070908.40	1086360.40
159 Tb	# 3	1649279.50	1.98	1651256.80	99.9	60 - 125		1679226.00	1614455.80	1654157.00
209 Bi	# 3	1057303.60	2.55	1054491.00	100.3	60 - 125		1086725.80	1033841.30	1051343.90

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\017SMPL.D\017SMPL.D#
Date Acquired: Dec 24 2012 08:09 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CRI
Misc Info: MS STD1-RL-00028
Vial Number: 4501
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.1105	0.1105	ug/l	15.01	100.00		503.35	400.01	410.01
11 B	# 3	22.32	22.32	ug/l	0.47	1800.00		98907.13	101111.37	101962.31
23 Na	# 1	57.87	57.87	ug/l	1.37	81000.00		483844.78	498576.44	500928.69
24 Mg	# 1	59.39	59.39	ug/l	1.09	81000.00		270222.09	280975.22	278061.47
27 Al	# 1	12	12	ug/l	0.60	81000.00		63630.05	65088.20	65198.01
39 K	# 2	54.24	54.24	ug/l	2.23	81000.00		29573.70	30451.86	30518.54
40 Ca	# 1	58.24	58.24	ug/l	0.35	81000.00		679674.25	696319.69	691336.94
45 Sc	# 2	----	--------		--------	#VALUE!		44108.05	44310.75	45528.04
47 Ti	# 3	1.048	1.048	ug/l	4.65	1620.00		1203.40	1196.74	1243.41
51 V	# 2	0.9959	0.9959	ug/l	2.89	1800.00		2684.66	2829.13	2800.23
52 Cr	# 2	1.052	1.052	ug/l	1.66	1800.00		3371.44	3381.45	3350.33
55 Mn	# 3	1.152	1.152	ug/l	0.79	1800.00		24763.64	24423.20	24042.88
56 Fe	# 1	22.09	22.09	ug/l	0.21	81000.00		367454.84	372858.63	373451.41
59 Co	# 3	0.1072	0.1072	ug/l	2.75	1800.00		1716.80	1653.45	1696.80
60 Ni	# 2	1.502	1.502	ug/l	1.47	1800.00		2022.35	1963.46	2030.13
63 Cu	# 2	1.146	1.146	ug/l	2.99	1800.00		4347.21	4456.14	4670.63
66 Zn	# 3	4.953	4.953	ug/l	3.53	1800.00		9326.00	9672.79	9729.48
75 As	# 2	0.5462	0.5462	ug/l	9.32	100.00		148.67	156.67	177.67
78 Se	# 1	0.5753	0.5753	ug/l	4.35	100.00		309.67	291.67	297.34
88 Sr	# 3	0.2022	0.2022	ug/l	5.45	1800.00		5677.74	5220.89	5737.73
95 Mo	# 3	1.002	1.002	ug/l	4.66	1800.00		3950.55	4277.31	3890.53
107 Ag	# 3	0.2152	0.2152	ug/l	4.12	100.00		2413.57	2593.60	2586.93
111 Cd	# 3	0.09704	0.09704	ug/l	19.09	100.00		252.08	341.98	265.43
118 Sn	# 3	1.07	1.07	ug/l	5.12	1800.00		9222.72	8675.77	8332.26
121 Sb	# 3	1.212	1.212	ug/l	0.69	100.00		9136.00	9236.07	9199.40
137 Ba	# 3	1.064	1.064	ug/l	4.02	1800.00		3927.24	4060.61	4220.66
202 Hg	# 3	0.1713	0.1713	ug/l	6.69	5.00		563.01	594.35	610.68
205 Tl	# 3	0.2288	0.2288	ug/l	3.37	20.00		5751.21	5757.88	5847.92
208 Pb	# 3	0.3433	0.3433	ug/l	0.32	1800.00		12145.56	12335.59	11748.73
232 Th	# 3	0.006471	0.006471	ug/l	11.19	#VALUE!		503.36	573.36	510.02
238 U	# 3	0.001061	0.001061	ug/l	12.09	#VALUE!		53.34	60.00	46.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	846181.19	1.77	836165.38	101.2	60 - 125		828938.81	854130.06	855474.69
45 Sc	# 1	565696.81	0.92	552676.25	102.4	60 - 125		559929.00	570130.94	567030.44
45 Sc	# 3	651654.44	2.52	644433.94	101.1	60 - 125		651998.50	667908.00	635056.75
74 Ge	# 1	180025.94	1.03	175321.88	102.7	60 - 125		177939.06	180621.31	181517.41
74 Ge	# 2	28131.72	1.14	27172.50	103.5	60 - 125		27954.78	27936.94	28503.42
74 Ge	# 3	166960.98	1.53	164913.13	101.2	60 - 125		168383.52	168494.38	164005.08
89 Y	# 3	1097674.00	1.18	1068488.30	102.7	60 - 125		1110614.00	1097762.50	1084645.60
115 In	# 3	1111319.00	0.60	1083659.40	102.6	60 - 125		1111549.00	1117886.40	1104521.60
159 Tb	# 3	1659349.50	2.39	1651256.80	100.5	60 - 125		1674000.60	1689525.10	1614523.00
209 Bi	# 3	1063687.40	2.77	1054491.00	100.9	60 - 125		1069017.80	1090171.00	1031873.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\018_CCV.D\018_CCV.D#
Date Acquired: Dec 24 2012 08:17 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info: MS CCV cpi 00102
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.91 ug/l	2.23	50.00	90 - 110		194754.50	197758.67	199744.22
11 B	99.28 ug/l	2.65	100.00	90 - 110		427742.13	423378.84	434714.47
23 Na	5068 ug/l	0.74	5000.00	90 - 110		35362908.00	35997912.00	35996560.00
24 Mg	5089 ug/l	0.45	5000.00	90 - 110		23901712.00	24180312.00	24545416.00
27 Al	511.6 ug/l	0.65	500.00	90 - 110		2730272.00	2773784.30	2811902.80
39 K	5041 ug/l	6.19	5000.00	90 - 110		1866715.40	1908391.00	1917583.50
40 Ca	5079 ug/l	0.30	5000.00	90 - 110		54812724.00	55335032.00	55731644.00
45 Sc	--------	--------	---	##### - #####		46229.79	51171.15	43832.03
47 Ti	50.73 ug/l	0.90	50.00	90 - 110		59685.42	59388.02	59093.32
51 V	49.73 ug/l	6.44	50.00	90 - 110		125725.90	127512.49	128809.06
52 Cr	49.95 ug/l	6.43	50.00	90 - 110		150364.64	153378.16	154954.30
55 Mn	513.9 ug/l	1.43	500.00	90 - 110		10485098.00	10522782.00	10483423.00
56 Fe	5048 ug/l	0.41	5000.00	90 - 110		81661760.00	82647456.00	83038568.00
59 Co	49.69 ug/l	1.87	50.00	90 - 110		771217.56	778926.63	781724.94
60 Ni	50.5 ug/l	6.55	50.00	90 - 110		65339.97	65865.01	66660.20
63 Cu	50.71 ug/l	6.27	50.00	90 - 110		171551.66	173962.89	175031.42
66 Zn	51.7 ug/l	2.00	50.00	90 - 110		97197.31	98649.03	97853.91
75 As	49.68 ug/l	6.78	50.00	90 - 110		12621.02	12768.46	12988.28
78 Se	50.9 ug/l	0.43	50.00	90 - 110		24630.91	24593.87	24760.42
88 Sr	51.75 ug/l	1.39	50.00	90 - 110		1407795.80	1374159.80	1394724.40
95 Mo	50.11 ug/l	0.92	50.00	90 - 110		195109.39	194535.30	196096.17
107 Ag	51.52 ug/l	0.49	50.00	90 - 110		587902.00	588325.94	587969.81
111 Cd	51.3 ug/l	0.86	50.00	90 - 110		127018.36	127833.95	128424.45
118 Sn	51.06 ug/l	1.24	50.00	90 - 110		394128.44	390876.28	396477.75
121 Sb	50.87 ug/l	0.81	50.00	90 - 110		368622.03	365431.03	366020.50
137 Ba	50.61 ug/l	0.93	50.00	90 - 110		189463.16	187903.22	189133.47
202 Hg	2.521 ug/l	0.06	2.50	90 - 110		7636.84	7651.18	7553.80
205 Tl	10.04 ug/l	1.03	10.00	90 - 110		258437.13	257578.83	256445.05
208 Pb	50.33 ug/l	1.01	50.00	90 - 110		1787714.50	1781295.00	1772535.40
232 Th	50.49 ug/l	0.75	---	##### - #####		1980222.90	1967007.50	1971388.90
238 U	50.86 ug/l	0.50	---	##### - #####		1991672.50	1993807.50	1987234.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	867184.19	1.26	836165.38	103.7	60 - 125		869105.38	877011.44	855435.75
45 Sc	579301.38	0.92	552676.25	104.8	60 - 125		574878.50	577784.81	585240.94
45 Sc	672785.81	0.47	644433.94	104.4	60 - 125		671727.13	670269.56	676360.88
74 Ge	181349.22	0.46	175321.88	103.4	60 - 125		180407.47	181684.42	181955.73
74 Ge	28065.83	6.30	27172.50	103.3	60 - 125		27425.06	30066.15	26706.30
74 Ge	167603.27	1.27	164913.13	101.6	60 - 125		169893.58	165704.19	167212.03
89 Y	1088897.80	0.29	1068488.30	101.9	60 - 125		1089384.60	1091825.90	1085482.90
115 In	1089374.30	0.53	1083659.40	100.5	60 - 125		1088181.10	1095640.40	1084301.00
159 Tb	1698931.30	1.24	1651256.80	102.9	60 - 125		1701376.00	1718707.90	1676709.90
209 Bi	1023464.90	0.66	1054491.00	97.1	60 - 125		1025861.00	1028737.60	1015795.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\019_CCB.D\019_CCB.D#
Date Acquired: Dec 24 2012 08:24 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001423	0.001423	ug/l	33.68	#VALUE!		10.00	6.67	10.00
11 B # 3	1.253	1.253	ug/l	4.96	#VALUE!		13488.29	13121.41	13818.59
23 Na # 1	-0.3528	-0.3528	ug/l	83.31	#VALUE!		93144.11	95130.26	96919.03
24 Mg # 1	0.1908	0.1908	ug/l	42.02	#VALUE!		1106.73	1260.08	1933.49
27 Al # 1	0.04959	0.04959	ug/l	39.85	#VALUE!		1480.10	1316.75	1580.11
39 K # 2	-0.4297	-0.4297	ug/l	156.27	#VALUE!		9319.23	9405.94	9442.59
40 Ca # 1	0.2454	0.2454	ug/l	14.79	#VALUE!		71565.59	73435.99	77354.92
45 Sc # 2	-----	--------		--------	#VALUE!		43261.65	46743.89	43153.75
47 Ti # 3	0.0005646	0.0005646	ug/l	1509.00	#VALUE!		26.67	20.00	40.00
51 V # 2	-0.004248	-0.004248	ug/l	127.50	#VALUE!		206.67	188.89	195.56
52 Cr # 2	0.002385	0.002385	ug/l	130.40	#VALUE!		134.45	133.34	145.56
55 Mn # 3	0.01226	0.01226	ug/l	14.56	#VALUE!		1226.74	1163.40	1226.75
56 Fe # 1	0.3182	0.3182	ug/l	32.21	#VALUE!		17064.93	17285.17	20698.68
59 Co # 3	0.001635	0.001635	ug/l	69.79	#VALUE!		23.33	50.00	56.67
60 Ni # 2	0.007949	0.007949	ug/l	63.43	#VALUE!		38.89	53.33	41.11
63 Cu # 2	0.0407	0.0407	ug/l	53.32	#VALUE!		630.02	672.24	760.02
66 Zn # 3	0.006991	0.006991	ug/l	182.66	#VALUE!		286.68	243.34	283.34
75 As # 2	0.005025	0.005025	ug/l	251.94	#VALUE!		23.67	18.33	19.67
78 Se # 1	0.03448	0.03448	ug/l	29.00	#VALUE!		44.33	35.00	40.67
88 Sr # 3	0.001556	0.001556	ug/l	53.42	#VALUE!		123.34	113.34	80.00
95 Mo # 3	0.06101	0.06101	ug/l	12.29	#VALUE!		323.35	263.34	296.68
107 Ag # 3	0.004741	0.004741	ug/l	13.47	#VALUE!		73.34	86.67	76.67
111 Cd # 3	0.006497	0.006497	ug/l	112.47	#VALUE!		73.23	36.58	56.57
118 Sn # 3	0.02226	0.02226	ug/l	37.35	#VALUE!		553.36	506.69	430.02
121 Sb # 3	0.3156	0.3156	ug/l	6.74	#VALUE!		2706.97	2386.90	2576.95
137 Ba # 3	0.00232	0.00232	ug/l	121.81	#VALUE!		33.33	16.67	36.67
202 Hg # 3	0.02156	0.02156	ug/l	7.19	#VALUE!		124.67	125.00	118.67
205 Tl # 3	0.003366	0.003366	ug/l	23.83	#VALUE!		153.34	120.00	156.67
208 Pb # 3	0.001609	0.001609	ug/l	47.99	#VALUE!		236.68	286.68	283.34
232 Th # 3	0.1091	0.1091	ug/l	8.30	#VALUE!		4954.27	4760.87	4330.75
238 U # 3	0.004439	0.004439	ug/l	8.43	#VALUE!		203.34	190.01	176.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	833109.75	0.84	836165.38	99.6	60 - 125		836937.56	825016.88	837374.69
45 Sc # 1	571857.44	3.94	552676.25	103.5	60 - 125		554784.06	563404.56	597383.69
45 Sc # 3	653558.75	1.56	644433.94	101.4	60 - 125		649706.38	645870.88	665098.88
74 Ge # 1	181268.22	1.90	175321.88	103.4	60 - 125		178774.23	179835.27	185195.19
74 Ge # 2	27506.00	2.76	27172.50	101.2	60 - 125		27046.74	28382.23	27089.03
74 Ge # 3	166499.64	0.25	164913.13	101.0	60 - 125		166949.88	166420.75	166128.31
89 Y # 3	1089668.40	1.55	1068488.30	102.0	60 - 125		1106236.90	1072466.80	1090301.10
115 In # 3	1092594.50	0.64	1083659.40	100.8	60 - 125		1091899.60	1085960.10	1099923.80
159 Tb # 3	1644182.80	0.95	1651256.80	99.6	60 - 125		1631292.00	1639627.80	1661628.50
209 Bi # 3	1060722.10	1.06	1054491.00	100.6	60 - 125		1052758.60	1055843.10	1073564.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\020_ICV.D\020_ICV.D#
Date Acquired: Dec 24 2012 08:31 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: ICSA
Misc Info: MS ICSA WK 00056
Vial Number: 4510
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: ICV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	-0.000139 ug/l	453.09	---	##### - #####		3.33	3.33	0.00
11 B	0.4488 ug/l	9.63	---	##### - #####		8178.60	7958.50	8105.23
23 Na	98780 ug/l	0.93	#########	80 - 120		644665090.00	649487870.00	651713090.00
24 Mg	95770 ug/l	2.32	#########	80 - 120		415200670.00	429773150.00	429342300.00
27 Al	93530 ug/l	1.46	#########	80 - 120		466439070.00	476250750.00	474242750.00
39 K	108600 ug/l	1.44	#########	80 - 120		31981426.00	32471086.00	33047770.00
40 Ca	97560 ug/l	1.00	#########	80 - 120		983983420.00	986680000.00	996839680.00
45 Sc	--------	--------	---	##### - #####		39951.15	41370.76	42661.42
47 Ti	2137 ug/l	0.39	2000.00	80 - 120		2150267.80	2153673.00	2122417.50
51 V	0.2112 ug/l	5.17	---	##### - #####		596.68	620.02	584.46
52 Cr	1.279 ug/l	5.37	---	##### - #####		3323.66	3171.41	3195.85
55 Mn	0.1925 ug/l	8.39	---	##### - #####		3543.79	3940.55	3857.18
56 Fe	101000 ug/l	0.76	#########	80 - 120		##########	##########	##########
59 Co	0.1029 ug/l	2.70	---	##### - #####		1236.74	1263.41	1273.41
60 Ni	0.8662 ug/l	0.46	---	##### - #####		898.92	945.59	950.03
63 Cu	0.2154 ug/l	1.70	---	##### - #####		1013.37	1038.93	1054.48
66 Zn	3.1 ug/l	4.61	---	##### - #####		4547.36	4800.76	4820.79
75 As	0.4304 ug/l	4.09	---	##### - #####		97.33	106.00	109.33
78 Se	0.05662 ug/l	15.26	---	##### - #####		43.00	37.00	42.67
88 Sr	0.3144 ug/l	3.62	---	##### - #####		7548.47	7034.91	7545.15
95 Mo	2163 ug/l	0.57	2000.00	80 - 120		6715757.00	6767748.00	6694461.50
107 Ag	0.05421 ug/l	9.21	---	##### - #####		463.35	543.36	533.36
111 Cd	0.2272 ug/l	26.23	---	##### - #####		351.20	577.96	518.05
118 Sn	0.1063 ug/l	7.49	---	##### - #####		973.43	890.05	873.38
121 Sb	0.4773 ug/l	3.91	---	##### - #####		3073.70	2997.02	2823.65
137 Ba	0.1894 ug/l	1.59	---	##### - #####		593.36	576.69	570.03
202 Hg	0.02353 ug/l	5.76	---	##### - #####		96.00	90.67	90.00
205 Tl	0.01172 ug/l	14.80	---	##### - #####		323.35	336.68	263.34
208 Pb	0.1235 ug/l	5.53	---	##### - #####		4117.01	3896.98	3686.95
232 Th	0.1269 ug/l	10.28	---	##### - #####		4310.72	3607.20	3677.22
238 U	0.002586 ug/l	13.47	---	##### - #####		73.34	93.34	80.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	659667.94	0.87	836165.38	78.9	60 - 125		654820.31	658173.56	666010.00
45 Sc	540151.94	0.38	552676.25	97.7	60 - 125		542483.38	539280.25	538692.31
45 Sc	576340.19	1.02	644433.94	89.4	60 - 125		576755.13	582028.56	570236.88
74 Ge	146123.02	0.35	175321.88	83.3	60 - 125		146631.56	146129.61	145607.88
74 Ge	22368.98	2.61	27172.50	82.3	60 - 125		21696.33	22671.96	22738.66
74 Ge	129495.86	1.25	164913.13	78.5	60 - 125		131330.33	128262.03	128895.24
89 Y	942371.63	1.08	1068488.30	88.2	60 - 125		936769.75	936231.00	954114.25
115 In	869479.81	0.73	1083659.40	80.2	60 - 125		873875.50	872342.69	862221.31
159 Tb	1443340.40	0.45	1651256.80	87.4	60 - 125		1444328.90	1449341.10	1436351.10
209 Bi	758728.81	0.50	1054491.00	72.0	60 - 125		761130.19	760680.25	754376.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\021_ICB.D\021_ICB.D#
Date Acquired: Dec 24 2012 08:39 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: ICSAB
Misc Info: MS ICSABWK 00053
Vial Number: 4511
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: ICB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001991	0.001991	ug/l	130.14	#VALUE!		0.00	10.00	13.33
11 B # 3	0.1818	0.1818	ug/l	64.91	#VALUE!		6494.61	6281.16	6387.89
23 Na # 1	95600	95600	ug/l	0.76	#VALUE!		612068350.00	614673470.00	625292540.00
24 Mg # 1	93270	93270	ug/l	1.26	#VALUE!		403183390.00	402853600.00	414550240.00
27 Al # 1	91590	91590	ug/l	0.98	#VALUE!		450572990.00	452034430.00	461943360.00
39 K # 2	106600	106600	ug/l	0.43	#VALUE!		31101120.00	31399420.00	31632860.00
40 Ca # 1	96920	96920	ug/l	0.46	#VALUE!		958969150.00	966705340.00	973480000.00
45 Sc # 2	----	--------		--------	#VALUE!		39343.16	40594.70	40820.67
47 Ti # 3	2109	2109	ug/l	4.85	#VALUE!		2031804.80	2000704.10	2021433.10
51 V # 2	0.1927	0.1927	ug/l	7.11	#VALUE!		542.24	530.01	588.90
52 Cr # 2	22.52	22.52	ug/l	0.67	#VALUE!		53619.67	54379.66	54737.47
55 Mn # 3	21.46	21.46	ug/l	4.01	#VALUE!		335899.50	332009.75	333035.00
56 Fe # 1	100200	100200	ug/l	0.95	#VALUE!		1310023800.00	1314875500.00	1335353100.00
59 Co # 3	20.03	20.03	ug/l	3.49	#VALUE!		239122.66	238426.58	236644.58
60 Ni # 2	20.82	20.82	ug/l	0.33	#VALUE!		21223.32	21355.69	21607.12
63 Cu # 2	18.81	18.81	ug/l	1.03	#VALUE!		50218.98	50546.50	51818.90
66 Zn # 3	21.31	21.31	ug/l	4.47	#VALUE!		30706.28	30642.80	30936.50
75 As # 2	21.19	21.19	ug/l	1.90	#VALUE!		4185.49	4326.19	4380.20
78 Se # 1	0.04482	0.04482	ug/l	5.46	#VALUE!		35.33	37.00	36.67
88 Sr # 3	0.3202	0.3202	ug/l	6.31	#VALUE!		7224.98	7271.67	7435.10
95 Mo # 3	2119	2119	ug/l	4.77	#VALUE!		6583847.50	6560488.00	6585542.50
107 Ag # 3	17.49	17.49	ug/l	4.78	#VALUE!		160501.50	157978.80	158799.30
111 Cd # 3	17.91	17.91	ug/l	4.84	#VALUE!		35838.47	35298.02	35517.08
118 Sn # 3	0.09537	0.09537	ug/l	2.01	#VALUE!		853.38	866.71	813.38
121 Sb # 3	0.4479	0.4479	ug/l	3.82	#VALUE!		2783.64	2826.98	2763.64
137 Ba # 3	0.1988	0.1988	ug/l	7.41	#VALUE!		590.03	603.36	626.70
202 Hg # 3	0.0207	0.0207	ug/l	9.24	#VALUE!		83.00	87.67	87.33
205 Tl # 3	0.01143	0.01143	ug/l	8.24	#VALUE!		296.68	293.35	303.35
208 Pb # 3	0.1222	0.1222	ug/l	5.32	#VALUE!		3903.64	3776.96	3770.29
232 Th # 3	0.07579	0.07579	ug/l	3.61	#VALUE!		2480.28	2383.60	2300.25
238 U # 3	0.002178	0.002178	ug/l	33.10	#VALUE!		73.34	50.00	86.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	584283.38	4.00	836165.38	69.9	60 - 125		575403.44	610827.25	566619.50
45 Sc # 1	531183.31	0.38	552676.25	96.1	60 - 125		529904.19	530163.38	533482.31
45 Sc # 3	550835.94	4.33	644433.94	85.5	60 - 125		552302.94	573926.06	526278.88
74 Ge # 1	146307.27	0.30	175321.88	83.5	60 - 125		146555.80	145794.94	146571.05
74 Ge # 2	22001.10	0.65	27172.50	81.0	60 - 125		21907.66	21929.92	22165.72
74 Ge # 3	127390.09	3.88	164913.13	77.2	60 - 125		128382.93	131766.73	122020.63
89 Y # 3	919324.69	4.88	1068488.30	86.0	60 - 125		924898.31	961156.88	871918.94
115 In # 3	869210.38	4.54	1083659.40	80.2	60 - 125		874543.50	905766.31	827321.00
159 Tb # 3	1429679.40	5.02	1651256.80	86.6	60 - 125		1438159.60	1496902.50	1353976.00
209 Bi # 3	759979.81	3.58	1054491.00	72.1	60 - 125		764193.50	784852.88	730893.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\022SMPL.D\022SMPL.D#
Date Acquired: Dec 24 2012 08:46 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 2PPM
Misc Info: 00030 MS LINNG 1/10
Vial Number: 4512
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001043	0.001043	ug/l	166.83	100.00		0.00	6.67	10.00
11 B # 3	1990	1990	ug/l	1.87	1800.00		5820693.00	6111731.50	6118605.50
23 Na # 1	39.47	39.47	ug/l	18.66	81000.00		285000.97	327542.91	382375.19
24 Mg # 1	31.7	31.7	ug/l	19.25	81000.00		106985.05	132255.38	160581.61
27 Al # 1	27.52	27.52	ug/l	20.27	81000.00		105920.55	129527.23	161433.36
39 K # 2	62.87	62.87	ug/l	11.37	81000.00		28905.98	28682.42	28595.52
40 Ca # 1	35.07	35.07	ug/l	18.51	81000.00		335927.34	394714.41	467539.69
45 Sc # 2	----	--------		--------	#VALUE!		37349.13	42507.09	34760.91
47 Ti # 3	1.413	1.413	ug/l	2.95	1620.00		1403.42	1486.77	1463.43
51 V # 2	1879	1879	ug/l	9.78	1800.00	Fail	4027263.30	4145247.00	4267821.00
52 Cr # 2	1891	1891	ug/l	9.86	1800.00	Fail	4850557.50	4982529.00	5139531.00
55 Mn # 3	2922	2922	ug/l	0.63	1800.00	Fail	54783084.00	54792060.00	55106600.00
56 Fe # 1	29.51	29.51	ug/l	19.06	81000.00		373745.47	453263.22	546826.38
59 Co # 3	1843	1843	ug/l	0.77	1800.00	Fail	26611144.00	26199522.00	26776090.00
60 Ni # 2	2017	2017	ug/l	9.99	1800.00	Fail	2205351.50	2268826.00	2344761.50
63 Cu # 2	1992	1992	ug/l	10.14	1800.00	Fail	5744715.50	5808524.00	6039121.50
66 Zn # 3	2190	2190	ug/l	0.32	1800.00	Fail	3770197.50	3789969.00	3853009.50
75 As # 2	1949	1949	ug/l	9.67	100.00	Fail	422160.09	431529.50	443986.28
78 Se # 1	0.02975	0.02975	ug/l	37.85	100.00		40.00	30.00	34.67
88 Sr # 3	1834	1834	ug/l	0.62	1800.00	Fail	46383712.00	47064940.00	47267844.00
95 Mo # 3	1.8	1.8	ug/l	2.46	1800.00		7064.92	7281.70	6838.17
107 Ag # 3	0.02289	0.02289	ug/l	9.87	100.00		260.01	313.35	283.34
111 Cd # 3	0.01285	0.01285	ug/l	52.58	100.00		61.07	91.01	61.15
118 Sn # 3	1955	1955	ug/l	1.24	1800.00	Fail	14865565.00	15185196.00	15107013.00
121 Sb # 3	0.1609	0.1609	ug/l	5.97	100.00		1500.12	1370.10	1430.11
137 Ba # 3	1973	1973	ug/l	1.71	1800.00	Fail	7232330.00	7398882.50	7421365.00
202 Hg # 3	0.03139	0.03139	ug/l	13.17	5.00		139.00	159.33	164.33
205 Tl # 3	0.09353	0.09353	ug/l	2.87	20.00		2526.95	2386.94	2430.26
208 Pb # 3	1972	1972	ug/l	0.59	1800.00	Fail	69318216.00	69216168.00	69779344.00
232 Th # 3	0.07645	0.07645	ug/l	4.76	#VALUE!		3523.84	3227.10	3387.15
238 U # 3	0.005037	0.005037	ug/l	10.94	#VALUE!		240.01	196.67	210.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	619093.81	1.76	836165.38	74.0	60 - 125		609559.56	616754.25	630967.63
45 Sc # 1	509483.09	0.95	552676.25	92.2	60 - 125		504852.19	509089.81	514507.28
45 Sc # 3	580285.69	1.21	644433.94	90.0	60 - 125		576038.31	576447.00	588371.75
74 Ge # 1	167660.89	0.38	175321.88	95.6	60 - 125		167208.16	167383.50	168391.05
74 Ge # 2	24285.61	8.30	27172.50	89.4	60 - 125		23897.90	26467.21	22491.72
74 Ge # 3	154154.69	0.97	164913.13	93.5	60 - 125		153330.83	153256.84	155876.36
89 Y # 3	1035019.10	1.52	1068488.30	96.9	60 - 125		1018925.30	1035729.60	1050402.10
115 In # 3	1088137.80	0.71	1083659.40	100.4	60 - 125		1089125.60	1095292.10	1079995.10
159 Tb # 3	1691415.90	0.19	1651256.80	102.4	60 - 125		1694721.60	1691248.10	1688277.90
209 Bi # 3	1066621.80	0.55	1054491.00	101.2	60 - 125		1063534.60	1062886.00	1073444.40

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

12 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\023SMPL.D\023SMPL.D#
Date Acquired: Dec 24 2012 08:54 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: Rinse
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006026	0.006026	ug/l	10.39	100.00		20.00	23.33	20.00
11 B # 3	15.42	15.42	ug/l	0.93	1800.00		56549.98	56706.99	55069.13
23 Na # 1	7.434	7.434	ug/l	17.50	81000.00		144556.14	132062.19	133172.73
24 Mg # 1	7.26	7.26	ug/l	19.08	81000.00		38079.13	29272.91	27630.35
27 Al # 1	6.221	6.221	ug/l	20.78	81000.00		38342.81	29019.35	27159.83
39 K # 2	7.167	7.167	ug/l	32.45	81000.00		11203.61	11527.13	11567.18
40 Ca # 1	7.389	7.389	ug/l	18.57	81000.00		151869.48	132124.41	129948.85
45 Sc # 2	----	--------		--------	#VALUE!		39043.63	44108.81	37211.36
47 Ti # 3	0.1514	0.1514	ug/l	13.22	1620.00		203.34	183.34	160.01
51 V # 2	0.6119	0.6119	ug/l	9.58	1800.00		1511.19	1710.09	1693.43
52 Cr # 2	0.599	0.599	ug/l	12.68	1800.00		1731.21	1761.21	1931.23
55 Mn # 3	0.6067	0.6067	ug/l	23.27	1800.00		15350.13	12577.92	9909.62
56 Fe # 1	7.067	7.067	ug/l	18.64	81000.00		144539.53	112672.38	108228.77
59 Co # 3	0.3747	0.3747	ug/l	24.55	1800.00		7001.53	5354.25	4303.97
60 Ni # 2	0.6992	0.6992	ug/l	6.42	1800.00		850.03	892.25	878.92
63 Cu # 2	0.7974	0.7974	ug/l	6.40	1800.00		2873.58	3183.64	3028.05
66 Zn # 3	0.4225	0.4225	ug/l	30.51	1800.00		1263.42	893.39	840.04
75 As # 2	0.9852	0.9852	ug/l	7.38	100.00		243.34	256.34	255.34
78 Se # 1	0.002384	0.002384	ug/l	345.81	100.00		19.00	26.33	24.33
88 Sr # 3	0.3447	0.3447	ug/l	23.06	1800.00		11540.71	8742.38	7024.95
95 Mo # 3	0.3294	0.3294	ug/l	4.06	1800.00		1413.43	1366.76	1280.08
107 Ag # 3	0.006648	0.006648	ug/l	52.81	100.00		146.67	60.00	100.00
111 Cd # 3	0.002782	0.002782	ug/l	353.20	100.00		26.22	39.56	72.93
118 Sn # 3	0.8918	0.8918	ug/l	11.66	1800.00		8215.50	7318.41	6314.65
121 Sb # 3	0.06167	0.06167	ug/l	13.21	100.00		683.37	763.37	733.37
137 Ba # 3	0.367	0.367	ug/l	26.44	1800.00		1813.48	1396.76	1016.73
202 Hg # 3	0.005676	0.005676	ug/l	33.70	5.00		69.67	72.00	80.33
205 Tl # 3	0.0028	0.0028	ug/l	30.87	20.00		133.34	110.00	156.67
208 Pb # 3	0.3834	0.3834	ug/l	25.20	1800.00		17420.94	13752.73	10151.60
232 Th # 3	0.01002	0.01002	ug/l	10.27	#VALUE!		736.71	650.04	643.37
238 U # 3	0.006272	0.006272	ug/l	2.99	#VALUE!		280.01	260.01	260.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	658057.94	1.55	836165.38	78.7	60 - 125		667746.00	659025.31	647402.63
45 Sc # 1	523612.31	0.97	552676.25	94.7	60 - 125		517759.91	526580.44	526496.56
45 Sc # 3	594445.44	1.86	644433.94	92.2	60 - 125		604393.25	582507.25	596435.75
74 Ge # 1	171925.16	0.91	175321.88	98.1	60 - 125		171204.69	170859.39	173711.34
74 Ge # 2	25882.24	7.09	27172.50	95.3	60 - 125		25383.22	27916.05	24347.46
74 Ge # 3	158282.38	0.26	164913.13	96.0	60 - 125		158421.75	157819.59	158605.75
89 Y # 3	1058770.50	3.08	1068488.30	99.1	60 - 125		1091992.80	1026816.40	1057502.30
115 In # 3	1101093.40	2.73	1083659.40	101.6	60 - 125		1135243.60	1078927.90	1089108.80
159 Tb # 3	1694209.50	2.77	1651256.80	102.6	60 - 125		1741894.90	1648248.10	1692485.60
209 Bi # 3	1069224.60	1.79	1054491.00	101.4	60 - 125		1088492.10	1050183.80	1068998.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\024SMPL.D\024SMPL.D#
Date Acquired: Dec 24 2012 09:01 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: Rinse
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.004997	0.004997	ug/l	49.29	100.00		10.00	26.67	20.00
11 B # 3	7.723	7.723	ug/l	4.34	1800.00		32300.87	32685.00	33329.26
23 Na # 1	4.1	4.1	ug/l	14.34	81000.00		115179.11	115557.31	117971.78
24 Mg # 1	4.857	4.857	ug/l	4.30	81000.00		21338.98	21168.75	22033.14
27 Al # 1	4.223	4.223	ug/l	5.32	81000.00		22190.11	21235.63	22303.53
39 K # 2	3.656	3.656	ug/l	44.01	81000.00		9919.51	10363.09	10790.03
40 Ca # 1	4.842	4.842	ug/l	8.03	81000.00		113303.62	112784.06	115379.42
45 Sc # 2	----	--------		--------	#VALUE!		39506.89	43555.60	39314.29
47 Ti # 3	0.07054	0.07054	ug/l	12.42	1620.00		96.67	110.00	90.00
51 V # 2	0.1005	0.1005	ug/l	9.63	1800.00		408.90	473.34	432.23
52 Cr # 2	0.1041	0.1041	ug/l	8.66	1800.00		424.45	405.56	434.45
55 Mn # 3	0.1114	0.1114	ug/l	22.38	1800.00		3497.07	3070.34	2570.25
56 Fe # 1	4.776	4.776	ug/l	2.54	81000.00		86498.91	86120.12	87107.94
59 Co # 3	0.05287	0.05287	ug/l	35.52	1800.00		1083.39	753.37	546.69
60 Ni # 2	0.111	0.111	ug/l	6.51	1800.00		161.11	167.78	174.45
63 Cu # 2	0.1855	0.1855	ug/l	1.78	1800.00		1101.16	1162.27	1084.49
66 Zn # 3	0.08444	0.08444	ug/l	15.82	1800.00		386.68	376.68	420.02
75 As # 2	0.2026	0.2026	ug/l	10.78	100.00		70.67	70.67	60.00
78 Se # 1	0.004908	0.004908	ug/l	67.03	100.00		25.33	25.67	22.33
88 Sr # 3	0.04749	0.04749	ug/l	24.20	1800.00		1640.12	1246.75	1056.73
95 Mo # 3	0.2161	0.2161	ug/l	10.35	1800.00		1016.73	900.05	853.38
107 Ag # 3	0.006461	0.006461	ug/l	34.45	100.00		73.34	106.67	123.34
111 Cd # 3	0.006856	0.006856	ug/l	139.64	100.00		83.01	36.38	53.06
118 Sn # 3	0.2236	0.2236	ug/l	11.87	1800.00		2303.56	2156.86	1863.49
121 Sb # 3	0.04553	0.04553	ug/l	6.49	100.00		636.70	620.03	606.70
137 Ba # 3	0.04662	0.04662	ug/l	16.10	1800.00		220.01	216.68	163.34
202 Hg # 3	0.004197	0.004197	ug/l	43.91	5.00		66.00	77.00	64.67
205 Tl # 3	0.002061	0.002061	ug/l	13.01	20.00		103.34	120.00	116.67
208 Pb # 3	0.0545	0.0545	ug/l	36.66	1800.00		2833.53	1973.45	1540.09
232 Th # 3	0.008818	0.008818	ug/l	14.99	#VALUE!		620.03	690.04	566.69
238 U # 3	0.006348	0.006348	ug/l	9.34	#VALUE!		286.68	280.01	240.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	686954.94	3.09	836165.38	82.2	60 - 125		671827.63	711221.13	677816.06
45 Sc # 1	527537.75	2.44	552676.25	95.5	60 - 125		521310.28	542355.56	518947.38
45 Sc # 3	596290.13	1.99	644433.94	92.5	60 - 125		583834.13	607460.19	597575.94
74 Ge # 1	172295.59	1.61	175321.88	98.3	60 - 125		172103.06	175161.91	169621.80
74 Ge # 2	26160.36	2.72	27172.50	96.3	60 - 125		25883.93	26969.09	25628.07
74 Ge # 3	157727.98	0.93	164913.13	95.6	60 - 125		156283.78	159208.42	157691.72
89 Y # 3	1067810.30	3.17	1068488.30	99.9	60 - 125		1056116.50	1105942.10	1041371.90
115 In # 3	1121268.60	3.02	1083659.40	103.5	60 - 125		1109549.00	1159385.90	1094871.00
159 Tb # 3	1678407.90	1.85	1651256.80	101.6	60 - 125		1643804.10	1703940.10	1687479.30
209 Bi # 3	1065712.10	1.40	1054491.00	101.1	60 - 125		1057367.10	1082990.10	1056779.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\025SMPL.D\025SMPL.D#
Date Acquired: Dec 24 2012 09:09 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: Rinse
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.004598	0.004598	ug/l	54.07	100.00		16.67	10.00	26.67
11 B # 3	5.321	5.321	ug/l	2.77	1800.00		24880.02	25166.98	25203.62
23 Na # 1	1.945	1.945	ug/l	7.16	81000.00		100389.78	102165.77	105098.25
24 Mg # 1	2.839	2.839	ug/l	3.27	81000.00		12260.87	12707.86	13428.34
27 Al # 1	2.335	2.335	ug/l	2.12	81000.00		12174.22	12697.86	13008.08
39 K # 2	1.14	1.14	ug/l	133.25	81000.00		9335.87	9305.88	9209.14
40 Ca # 1	2.862	2.862	ug/l	1.73	81000.00		92552.29	94789.42	95680.73
45 Sc # 2	-----	--------		--------	#VALUE!		37170.35	40153.77	41589.11
47 Ti # 3	0.03913	0.03913	ug/l	20.13	1620.00		73.34	56.67	70.00
51 V # 2	0.05399	0.05399	ug/l	20.91	1800.00		313.34	294.45	353.34
52 Cr # 2	0.06549	0.06549	ug/l	18.37	1800.00		325.56	293.34	294.45
55 Mn # 3	0.09066	0.09066	ug/l	4.52	1800.00		2650.27	2603.59	2783.62
56 Fe # 1	2.814	2.814	ug/l	3.17	81000.00		55112.82	55196.29	58369.07
59 Co # 3	0.04056	0.04056	ug/l	5.29	1800.00		656.70	590.02	616.69
60 Ni # 2	0.08692	0.08692	ug/l	2.58	1800.00		125.56	138.89	143.34
63 Cu # 2	0.1266	0.1266	ug/l	18.71	1800.00		880.03	985.59	861.14
66 Zn # 3	0.0462	0.0462	ug/l	62.71	1800.00		346.68	370.01	273.34
75 As # 2	0.1116	0.1116	ug/l	13.55	100.00		45.67	42.00	45.00
78 Se # 1	0.004402	0.004402	ug/l	74.01	100.00		25.67	23.67	23.33
88 Sr # 3	0.03485	0.03485	ug/l	2.60	1800.00		973.39	1006.72	990.06
95 Mo # 3	0.1316	0.1316	ug/l	5.20	1800.00		560.03	606.69	580.03
107 Ag # 3	0.004611	0.004611	ug/l	42.53	100.00		53.34	93.34	90.00
111 Cd # 3	-2.687E-005	-2.687E-005	ug/l	23204.00	100.00		26.49	36.47	56.48
118 Sn # 3	0.127	0.127	ug/l	8.22	1800.00		1426.77	1246.75	1330.09
121 Sb # 3	0.03591	0.03591	ug/l	21.05	100.00		620.03	513.36	510.02
137 Ba # 3	0.04142	0.04142	ug/l	5.59	1800.00		190.01	170.01	176.67
202 Hg # 3	0.003002	0.003002	ug/l	45.94	5.00		70.00	65.33	61.00
205 Tl # 3	0.001662	0.001662	ug/l	63.36	20.00		93.34	83.34	133.34
208 Pb # 3	0.04143	0.04143	ug/l	5.75	1800.00		1673.42	1736.76	1596.74
232 Th # 3	0.008666	0.008666	ug/l	2.01	#VALUE!		616.70	620.03	620.04
238 U # 3	0.00602	0.00602	ug/l	7.30	#VALUE!		276.68	236.68	253.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	696611.50	2.66	836165.38	83.3	60 - 125		676604.81	700008.06	713221.63
45 Sc # 1	527868.06	1.46	552676.25	95.5	60 - 125		520356.09	527477.50	535770.56
45 Sc # 3	599491.06	1.02	644433.94	93.0	60 - 125		605590.38	593360.13	599522.75
74 Ge # 1	172534.13	1.02	175321.88	98.4	60 - 125		170750.70	172595.13	174256.58
74 Ge # 2	25655.94	4.89	27172.50	94.4	60 - 125		24259.63	26023.04	26685.14
74 Ge # 3	159494.98	0.56	164913.13	96.7	60 - 125		159635.66	158531.95	160317.34
89 Y # 3	1076964.10	1.46	1068488.30	100.8	60 - 125		1089086.50	1082574.60	1059231.40
115 In # 3	1115716.50	1.43	1083659.40	103.0	60 - 125		1130908.00	1117120.40	1099121.00
159 Tb # 3	1681985.10	1.79	1651256.80	101.9	60 - 125		1715307.80	1656497.10	1674150.40
209 Bi # 3	1065711.30	0.89	1054491.00	101.1	60 - 125		1074087.90	1055406.10	1067639.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\026SMPL.D\026SMPL.D#
Date Acquired: Dec 24 2012 09:16 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: Rinse
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006659	0.006659	ug/l	21.58	100.00		26.67	20.00	26.67
11 B # 3	3.995	3.995	ug/l	2.56	1800.00		20444.61	21228.74	20467.93
23 Na # 1	2.444	2.444	ug/l	65.47	81000.00		101079.96	103053.70	116874.93
24 Mg # 1	3.411	3.411	ug/l	29.93	81000.00		12777.93	12911.36	20740.76
27 Al # 1	2.849	2.849	ug/l	32.53	81000.00		12437.61	12864.68	20771.12
39 K # 2	2.196	2.196	ug/l	36.64	81000.00		9169.18	9399.26	9692.73
40 Ca # 1	3.285	3.285	ug/l	33.15	81000.00		93255.70	95023.84	110879.22
45 Sc # 2	-----	--------		--------	#VALUE!		35802.95	40318.61	41479.95
47 Ti # 3	0.0577	0.0577	ug/l	23.03	1620.00		93.34	100.00	66.67
51 V # 2	0.03136	0.03136	ug/l	22.10	1800.00		256.67	246.67	278.89
52 Cr # 2	0.04231	0.04231	ug/l	3.14	1800.00		217.78	242.23	244.45
55 Mn # 3	0.08084	0.08084	ug/l	18.95	1800.00		2673.60	2233.53	2503.56
56 Fe # 1	3.292	3.292	ug/l	27.60	81000.00		55704.24	56205.66	80665.91
59 Co # 3	0.03471	0.03471	ug/l	2.99	1800.00		526.69	573.36	496.69
60 Ni # 2	0.05624	0.05624	ug/l	25.11	1800.00		101.11	106.67	81.11
63 Cu # 2	0.1217	0.1217	ug/l	8.58	1800.00		824.47	917.81	876.70
66 Zn # 3	0.05137	0.05137	ug/l	23.20	1800.00		360.01	333.35	320.01
75 As # 2	0.09912	0.09912	ug/l	17.60	100.00		35.33	45.67	40.33
78 Se # 1	-0.0009992	-0.0009992	ug/l	669.94	100.00		19.33	21.67	24.67
88 Sr # 3	0.03115	0.03115	ug/l	9.06	1800.00		923.38	843.38	836.72
95 Mo # 3	0.103	0.103	ug/l	1.59	1800.00		460.02	493.35	426.68
107 Ag # 3	0.005741	0.005741	ug/l	25.05	100.00		96.67	76.67	96.67
111 Cd # 3	0.00308	0.00308	ug/l	166.95	100.00		46.52	36.51	56.53
118 Sn # 3	0.09407	0.09407	ug/l	11.34	1800.00		1106.73	1160.08	906.72
121 Sb # 3	0.02694	0.02694	ug/l	45.06	100.00		386.68	493.35	533.36
137 Ba # 3	0.03566	0.03566	ug/l	11.47	1800.00		166.67	166.67	130.00
202 Hg # 3	0.002471	0.002471	ug/l	106.07	5.00		57.33	63.67	68.33
205 Tl # 3	0.002041	0.002041	ug/l	76.92	20.00		156.67	90.00	90.00
208 Pb # 3	0.036	0.036	ug/l	11.22	1800.00		1613.42	1433.41	1370.07
232 Th # 3	0.008574	0.008574	ug/l	18.64	#VALUE!		640.03	693.37	506.69
238 U # 3	0.005187	0.005187	ug/l	16.38	#VALUE!		236.68	190.01	230.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	701237.63	3.85	836165.38	83.9	60 - 125		687683.56	732329.81	683699.56
45 Sc # 1	535409.38	6.02	552676.25	96.9	60 - 125		565366.63	501318.31	539543.13
45 Sc # 3	601499.81	5.87	644433.94	93.3	60 - 125		593240.63	640212.31	571046.38
74 Ge # 1	174160.48	4.63	175321.88	99.3	60 - 125		181882.45	165797.52	174801.45
74 Ge # 2	25035.42	5.26	27172.50	92.1	60 - 125		23568.65	25419.99	26117.62
74 Ge # 3	158820.11	4.36	164913.13	96.3	60 - 125		158348.05	165965.75	152146.52
89 Y # 3	1050885.80	5.96	1068488.30	98.4	60 - 125		1035955.60	1119618.40	997083.13
115 In # 3	1096379.90	6.31	1083659.40	101.2	60 - 125		1084943.00	1170599.80	1033596.90
159 Tb # 3	1676701.80	5.73	1651256.80	101.5	60 - 125		1661609.60	1779423.80	1589071.90
209 Bi # 3	1058504.60	5.50	1054491.00	100.4	60 - 125		1064494.00	1113502.40	997517.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\027_CCV.D\027_CCV.D#
Date Acquired: Dec 24 2012 09:24 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info: MS CCV cpi 00102
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	53.43 ug/l	1.18	50.00	90 - 110		169296.48	173559.69	173583.98
11 B	110.9 ug/l	1.51	100.00	90 - 110	Fail	376171.41	382302.22	385382.59
23 Na	5005 ug/l	13.88	5000.00	90 - 110		32570460.00	33657588.00	33616308.00
24 Mg	5006 ug/l	14.28	5000.00	90 - 110		21882738.00	22812360.00	22568256.00
27 Al	501.7 ug/l	13.31	500.00	90 - 110		2509632.00	2564870.50	2609175.00
39 K	4931 ug/l	7.76	5000.00	90 - 110		1704135.00	1764932.90	1814790.80
40 Ca	5035 ug/l	13.79	5000.00	90 - 110		50516084.00	52133952.00	52219820.00
45 Sc	--------	--------	---	##### - #####		45869.56	39493.65	44424.39
47 Ti	51.53 ug/l	4.26	50.00	90 - 110		55385.65	55760.15	54636.82
51 V	48.93 ug/l	7.48	50.00	90 - 110		115694.42	119365.09	121625.74
52 Cr	49.55 ug/l	7.80	50.00	90 - 110		139557.56	144934.75	147195.41
55 Mn	505 ug/l	1.56	500.00	90 - 110		9794327.00	9926197.00	9886387.00
56 Fe	5025 ug/l	12.10	5000.00	90 - 110		77301360.00	81032408.00	80261016.00
59 Co	48.82 ug/l	2.18	50.00	90 - 110		731074.75	730263.63	730483.63
60 Ni	50.21 ug/l	7.17	50.00	90 - 110		61043.27	62602.87	63055.37
63 Cu	50.57 ug/l	7.30	50.00	90 - 110		160417.42	164906.73	167231.53
66 Zn	51.12 ug/l	1.75	50.00	90 - 110		92248.63	92443.13	93115.82
75 As	49.82 ug/l	7.84	50.00	90 - 110		11827.50	12293.80	12391.86
78 Se	50.8 ug/l	10.21	50.00	90 - 110		23677.67	23880.58	24083.85
88 Sr	52.34 ug/l	4.69	50.00	90 - 110		1384418.80	1389337.80	1386940.50
95 Mo	50.02 ug/l	3.95	50.00	90 - 110		193232.44	193566.73	193162.20
107 Ag	51.19 ug/l	4.01	50.00	90 - 110		579475.50	577194.81	582440.13
111 Cd	51.73 ug/l	4.69	50.00	90 - 110		128720.59	126726.33	127870.91
118 Sn	51.93 ug/l	4.25	50.00	90 - 110		398261.09	395225.50	398454.88
121 Sb	52.11 ug/l	3.86	50.00	90 - 110		372056.09	372995.09	372755.09
137 Ba	52.06 ug/l	4.20	50.00	90 - 110		193073.36	194033.63	190943.56
202 Hg	2.541 ug/l	2.97	2.50	90 - 110		7617.16	7728.21	7634.17
205 Tl	10.38 ug/l	4.15	10.00	90 - 110		260894.23	263263.38	260934.61
208 Pb	51.68 ug/l	4.84	50.00	90 - 110		1805974.10	1792102.30	1793714.40
232 Th	51.28 ug/l	3.60	---	##### - #####		2006976.60	1993687.50	1999242.90
238 U	50.73 ug/l	3.73	---	##### - #####		1991081.60	1981300.40	1973451.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	692283.06	2.60	836165.38	82.8	60 - 125		671544.25	701962.50	703342.38
45 Sc	551855.50	12.35	552676.25	99.9	60 - 125		622501.69	486483.09	546581.63
45 Sc	616956.69	3.80	644433.94	95.7	60 - 125		589909.81	628964.38	631996.06
74 Ge	177113.95	9.83	175321.88	101.0	60 - 125		194963.39	160183.92	176194.55
74 Ge	26636.23	5.96	27172.50	98.0	60 - 125		28047.27	24917.07	26944.36
74 Ge	160347.30	2.11	164913.13	97.2	60 - 125		156544.34	161504.88	162992.67
89 Y	1074154.40	4.76	1068488.30	100.5	60 - 125		1019869.30	1081304.50	1121289.30
115 In	1081744.40	3.90	1083659.40	99.8	60 - 125		1033085.50	1108934.60	1103212.80
159 Tb	1672367.50	4.30	1651256.80	101.3	60 - 125		1589412.00	1716400.10	1711290.10
209 Bi	1022236.00	3.24	1054491.00	96.9	60 - 125		984245.38	1037452.10	1045010.70

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\028_CCB.D\028_CCB.D#
Date Acquired: Dec 24 2012 09:31 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001117	0.001117	ug/l	148.34	#VALUE!		3.33	3.33	13.33
11 B	# 3	3.527	3.527	ug/l	5.03	#VALUE!		19236.67	19500.36	19310.05
23 Na	# 1	-0.9637	-0.9637	ug/l	65.57	#VALUE!		84638.73	86061.63	87557.90
24 Mg	# 1	0.1009	0.1009	ug/l	19.31	#VALUE!		893.38	993.39	956.72
27 Al	# 1	0.02108	0.02108	ug/l	26.70	#VALUE!		1260.08	1220.08	1233.40
39 K	# 2	-1.502	-1.502	ug/l	23.50	#VALUE!		8268.70	8638.90	8905.68
40 Ca	# 1	0.2432	0.2432	ug/l	128.78	#VALUE!		69257.16	70013.87	71327.97
45 Sc	# 2	----	--------		--------	#VALUE!		40220.53	41582.36	42494.39
47 Ti	# 3	-0.00713	-0.00713	ug/l	223.98	#VALUE!		0.00	23.33	33.33
51 V	# 2	-0.004457	-0.004457	ug/l	185.69	#VALUE!		202.23	190.00	171.11
52 Cr	# 2	0.002009	0.002009	ug/l	83.97	#VALUE!		131.11	125.56	135.56
55 Mn	# 3	0.01027	0.01027	ug/l	121.71	#VALUE!		956.72	1013.39	1403.44
56 Fe	# 1	0.3153	0.3153	ug/l	14.64	#VALUE!		17358.61	17475.36	18372.86
59 Co	# 3	0.001808	0.001808	ug/l	58.19	#VALUE!		26.67	50.00	56.67
60 Ni	# 2	0.002717	0.002717	ug/l	125.95	#VALUE!		35.56	40.00	32.22
63 Cu	# 2	0.04134	0.04134	ug/l	33.67	#VALUE!		602.24	657.80	721.13
66 Zn	# 3	0.03058	0.03058	ug/l	158.70	#VALUE!		400.02	226.67	286.68
75 As	# 2	0.03299	0.03299	ug/l	23.71	#VALUE!		27.00	24.33	28.00
78 Se	# 1	0.02538	0.02538	ug/l	5.53	#VALUE!		34.67	34.00	35.00
88 Sr	# 3	0.001753	0.001753	ug/l	40.82	#VALUE!		90.00	106.67	133.34
95 Mo	# 3	0.07954	0.07954	ug/l	13.94	#VALUE!		386.68	396.68	320.01
107 Ag	# 3	0.004041	0.004041	ug/l	34.13	#VALUE!		83.34	53.34	76.67
111 Cd	# 3	-0.002454	-0.002454	ug/l	192.58	#VALUE!		29.88	23.21	46.57
118 Sn	# 3	0.05471	0.05471	ug/l	9.49	#VALUE!		773.37	703.37	773.38
121 Sb	# 3	0.2976	0.2976	ug/l	11.43	#VALUE!		2700.30	2330.23	2270.22
137 Ba	# 3	0.002892	0.002892	ug/l	62.41	#VALUE!		23.33	33.33	36.67
202 Hg	# 3	0.01344	0.01344	ug/l	11.14	#VALUE!		102.33	99.00	92.67
205 Tl	# 3	0.001882	0.001882	ug/l	5.73	#VALUE!		110.00	110.00	106.67
208 Pb	# 3	0.003146	0.003146	ug/l	67.93	#VALUE!		333.34	250.01	403.35
232 Th	# 3	0.107	0.107	ug/l	3.85	#VALUE!		4827.55	4530.82	4494.11
238 U	# 3	0.004471	0.004471	ug/l	18.38	#VALUE!		190.01	160.01	226.68

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	710109.88	3.14	836165.38	84.9	60 - 125		692357.63	702830.81	735141.06
45 Sc	# 1	542402.38	3.86	552676.25	98.1	60 - 125		563052.94	521161.06	542993.19
45 Sc	# 3	614382.19	0.44	644433.94	95.3	60 - 125		611259.25	615845.00	616042.25
74 Ge	# 1	175949.56	2.66	175321.88	100.4	60 - 125		180438.50	171108.91	176301.28
74 Ge	# 2	26294.55	2.28	27172.50	96.8	60 - 125		25664.76	26360.22	26858.67
74 Ge	# 3	160729.08	0.14	164913.13	97.5	60 - 125		160843.55	160874.84	160468.83
89 Y	# 3	1078550.30	2.67	1068488.30	100.9	60 - 125		1063487.80	1060429.90	1111733.40
115 In	# 3	1096059.50	0.61	1083659.40	101.1	60 - 125		1089834.00	1095273.10	1103071.30
159 Tb	# 3	1681086.60	0.76	1651256.80	101.8	60 - 125		1671231.80	1676410.40	1695617.90
209 Bi	# 3	1065172.10	0.33	1054491.00	101.0	60 - 125		1069262.00	1062998.40	1063255.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\029SMPL.D\029SMPL.D#
Date Acquired: Dec 24 2012 09:38 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: mb 680-260719_1-a
Misc Info: 3005 1/5
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0005123	-0.0005123	ug/l	119.64	100.00		0.00	0.00	3.33
11 B	# 3	3.318	3.318	ug/l	8.89	1800.00		17825.37	17585.00	17301.47
23 Na	# 1	-0.1488	-0.1488	ug/l	39.50	81000.00		90116.95	90300.90	91914.93
24 Mg	# 1	0.2128	0.2128	ug/l	3.69	81000.00		1443.43	1456.76	1406.76
27 Al	# 1	0.8476	0.8476	ug/l	4.18	81000.00		5264.21	5574.29	5310.86
39 K	# 2	-1.089	-1.089	ug/l	97.52	81000.00		8275.38	8698.92	9289.20
40 Ca	# 1	2.124	2.124	ug/l	5.01	81000.00		87227.02	88281.99	90488.59
45 Sc	# 2	----	--------		--------	#VALUE!		39886.80	40625.88	42283.89
47 Ti	# 3	0.0338	0.0338	ug/l	37.87	1620.00		60.00	76.67	46.67
51 V	# 2	0.102	0.102	ug/l	5.35	1800.00		448.90	434.45	447.79
52 Cr	# 2	0.004342	0.004342	ug/l	94.75	1800.00		142.22	144.45	125.56
55 Mn	# 3	0.008381	0.008381	ug/l	15.20	1800.00		1076.73	1093.39	1076.73
56 Fe	# 1	0.4455	0.4455	ug/l	5.63	81000.00		19704.39	19440.70	20271.59
59 Co	# 3	0.0008631	0.0008631	ug/l	50.97	1800.00		33.33	23.33	33.33
60 Ni	# 2	0.0308	0.0308	ug/l	37.44	1800.00		77.78	54.44	78.89
63 Cu	# 2	0.07447	0.07447	ug/l	13.86	1800.00		738.91	745.58	814.47
66 Zn	# 3	0.325	0.325	ug/l	4.80	1800.00		833.38	830.04	836.71
75 As	# 2	0.181	0.181	ug/l	2.83	100.00		59.67	63.67	63.33
78 Se	# 1	0.01165	0.01165	ug/l	43.21	100.00		30.33	25.67	28.33
88 Sr	# 3	0.00222	0.00222	ug/l	40.18	1800.00		90.00	146.67	126.67
95 Mo	# 3	0.06256	0.06256	ug/l	13.08	1800.00		260.01	310.01	333.35
107 Ag	# 3	0.002364	0.002364	ug/l	77.75	100.00		66.67	30.00	56.67
111 Cd	# 3	-0.00411	-0.00411	ug/l	156.08	100.00		23.25	16.57	46.56
118 Sn	# 3	0.0944	0.0944	ug/l	8.33	1800.00		1023.39	1163.45	983.39
121 Sb	# 3	0.3415	0.3415	ug/l	6.70	100.00		2776.97	2703.62	2746.97
137 Ba	# 3	0.004363	0.004363	ug/l	79.62	1800.00		23.33	36.67	50.00
202 Hg	# 3	0.003115	0.003115	ug/l	65.07	5.00		68.67	60.00	67.00
205 Tl	# 3	-0.0003056	-0.0003056	ug/l	73.40	20.00		56.67	50.00	53.33
208 Pb	# 3	0.001477	0.001477	ug/l	44.10	1800.00		273.34	256.68	280.01
232 Th	# 3	0.04763	0.04763	ug/l	4.86	#VALUE!		2083.54	2363.59	2123.54
238 U	# 3	0.001266	0.001266	ug/l	17.86	#VALUE!		70.00	56.67	56.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	670509.44	4.40	836165.38	80.2	60 - 125		639175.63	697788.44	674564.19
45 Sc	# 1	537749.63	0.67	552676.25	97.3	60 - 125		535018.69	536376.81	541853.25
45 Sc	# 3	598037.06	3.99	644433.94	92.8	60 - 125		576499.50	623683.25	593928.50
74 Ge	# 1	175930.84	0.19	175321.88	100.3	60 - 125		175603.45	175903.80	176285.28
74 Ge	# 2	26303.15	1.73	27172.50	96.8	60 - 125		25789.64	26461.43	26658.38
74 Ge	# 3	159984.88	3.14	164913.13	97.0	60 - 125		155672.06	165495.33	158787.20
89 Y	# 3	1063351.10	5.30	1068488.30	99.5	60 - 125		1018803.40	1126725.60	1044524.40
115 In	# 3	1094116.10	4.73	1083659.40	101.0	60 - 125		1045904.90	1148708.50	1087735.10
159 Tb	# 3	1683923.50	4.59	1651256.80	102.0	60 - 125		1618409.50	1769075.40	1664285.60
209 Bi	# 3	1058338.80	2.72	1054491.00	100.4	60 - 125		1032304.10	1089230.90	1053481.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\030SMPL.D\030SMPL.D#
Date Acquired: Dec 24 2012 09:46 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: lcs 680-260719_2-a
Misc Info: 3005 1/5
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.4	10.4	ug/l	4.26	100.00		34147.02	35446.00	35683.17
11 B # 3	44.34	44.34	ug/l	4.43	1800.00		160720.19	166720.55	164904.22
23 Na # 1	977.8	977.8	ug/l	6.20	81000.00		6789460.50	6898580.50	6966690.00
24 Mg # 1	989.6	989.6	ug/l	5.74	81000.00		4563007.00	4645141.00	4718769.50
27 Al # 1	958.8	958.8	ug/l	6.40	81000.00		5072721.00	5123038.50	5162234.50
39 K # 2	981.2	981.2	ug/l	2.18	81000.00		357414.84	364892.19	373394.94
40 Ca # 1	976.6	976.6	ug/l	6.89	81000.00		10432737.00	10606402.00	10569360.00
45 Sc # 2	----	--------		--------	#VALUE!		41651.43	42730.46	46155.63
47 Ti # 3	19.96	19.96	ug/l	5.72	1620.00		22083.59	22136.79	21359.30
51 V # 2	19.46	19.46	ug/l	2.85	1800.00		47501.11	48601.61	49001.63
52 Cr # 2	19.87	19.87	ug/l	2.77	1800.00		58103.02	58924.51	59922.16
55 Mn # 3	104.7	104.7	ug/l	3.90	1800.00		2095964.50	2117238.30	2108551.00
56 Fe # 1	953.5	953.5	ug/l	5.45	81000.00		15929438.00	15660180.00	15681061.00
59 Co # 3	9.787	9.787	ug/l	3.69	1800.00		150051.53	151040.17	151570.70
60 Ni # 2	20.79	20.79	ug/l	3.19	1800.00		25832.51	26591.31	26539.06
63 Cu # 2	20.77	20.77	ug/l	3.34	1800.00		67741.02	70059.61	69577.91
66 Zn # 3	22.45	22.45	ug/l	3.69	1800.00		41758.32	42022.12	42342.89
75 As # 2	20.96	20.96	ug/l	1.85	100.00		5120.73	5214.75	5378.47
78 Se # 1	20.12	20.12	ug/l	5.13	100.00		9904.03	9864.34	9851.67
88 Sr # 3	19.06	19.06	ug/l	7.05	1800.00		513224.41	519359.69	512020.81
95 Mo # 3	19.58	19.58	ug/l	6.27	1800.00		77696.77	78316.02	78654.43
107 Ag # 3	10.33	10.33	ug/l	5.92	100.00		120327.97	120066.49	122510.52
111 Cd # 3	10.4	10.4	ug/l	4.31	100.00		26976.68	26111.69	26732.62
118 Sn # 3	20.46	20.46	ug/l	5.92	1800.00		161864.14	162166.77	161954.97
121 Sb # 3	11.38	11.38	ug/l	6.91	100.00		83525.25	85376.97	83984.37
137 Ba # 3	20.75	20.75	ug/l	5.66	1800.00		79459.66	79181.92	79509.75
202 Hg # 3	0.9854	0.9854	ug/l	4.91	5.00		3207.00	3216.33	3104.98
205 Tl # 3	8.169	8.169	ug/l	4.93	20.00		210948.31	213434.34	210328.20
208 Pb # 3	10.44	10.44	ug/l	4.69	1800.00		371888.53	374350.09	373661.03
232 Th # 3	20.65	20.65	ug/l	4.63	#VALUE!		849242.19	853224.75	853267.38
238 U # 3	21.91	21.91	ug/l	4.52	#VALUE!		904162.81	906646.44	905919.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	725537.44	2.49	836165.38	86.8	60 - 125		739247.56	705086.69	732278.00
45 Sc # 1	572817.25	7.42	552676.25	103.6	60 - 125		545167.19	551536.31	621748.19
45 Sc # 3	630102.88	5.26	644433.94	97.8	60 - 125		664390.38	598214.81	627703.44
74 Ge # 1	183679.11	5.06	175321.88	104.8	60 - 125		177819.55	178822.25	194395.53
74 Ge # 2	27127.05	4.33	27172.50	99.8	60 - 125		26028.67	26988.92	28363.54
74 Ge # 3	165264.33	3.38	164913.13	100.2	60 - 125		170361.22	159299.66	166132.09
89 Y # 3	1096491.40	6.65	1068488.30	102.6	60 - 125		1176385.10	1033649.10	1079440.00
115 In # 3	1119473.10	5.90	1083659.40	103.3	60 - 125		1190432.10	1059837.90	1108149.30
159 Tb # 3	1718891.80	4.39	1651256.80	104.1	60 - 125		1799200.40	1649395.40	1708079.40
209 Bi # 3	1081800.30	4.42	1054491.00	102.6	60 - 125		1132411.40	1037429.60	1075560.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\031SMPL.D\031SMPL.D#
Date Acquired: Dec 24 2012 09:53 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85852-a-1-a
Misc Info: 3005 1/5
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.08602	0.08602	ug/l	15.87	100.00		226.67	310.01	296.68
11 B # 3	9	9	ug/l	0.81	1800.00		37099.63	36979.30	37052.90
23 Na # 1	5316	5316	ug/l	3.67	81000.00		33429682.00	34011400.00	34417684.00
24 Mg # 1	615.4	615.4	ug/l	2.50	81000.00		2572900.00	2677821.30	2699697.50
27 Al # 1	29.87	29.87	ug/l	3.58	81000.00		144937.33	148188.69	149264.14
39 K # 2	431.4	431.4	ug/l	0.63	81000.00		157513.64	160376.92	164085.31
40 Ca # 1	1432	1432	ug/l	3.63	81000.00		13932030.00	14150631.00	14381005.00
45 Sc # 2	----	--------		--------	#VALUE!		39219.59	41031.14	42524.46
47 Ti # 3	0.1026	0.1026	ug/l	7.51	1620.00		126.67	133.34	143.34
51 V # 2	0.1062	0.1062	ug/l	8.08	1800.00		455.57	464.46	438.90
52 Cr # 2	0.01209	0.01209	ug/l	22.63	1800.00		146.67	165.56	166.67
55 Mn # 3	42.28	42.28	ug/l	0.80	1800.00		836451.88	829345.06	841474.50
56 Fe # 1	2141	2141	ug/l	3.31	81000.00		33557156.00	33315882.00	33651220.00
59 Co # 3	1.722	1.722	ug/l	0.98	1800.00		26095.57	25821.86	26292.72
60 Ni # 2	0.8801	0.8801	ug/l	1.60	1800.00		1088.93	1127.82	1114.49
63 Cu # 2	0.2298	0.2298	ug/l	5.67	1800.00		1256.72	1218.94	1310.06
66 Zn # 3	5.611	5.611	ug/l	1.28	1800.00		10586.65	10359.90	10539.96
75 As # 2	0.3306	0.3306	ug/l	2.99	100.00		94.00	101.33	99.33
78 Se # 1	0.04031	0.04031	ug/l	21.66	100.00		44.00	38.33	40.67
88 Sr # 3	8.407	8.407	ug/l	2.51	1800.00		230656.77	225062.08	226913.02
95 Mo # 3	0.04984	0.04984	ug/l	31.48	1800.00		263.34	186.67	303.34
107 Ag # 3	0.0007617	0.0007617	ug/l	236.44	100.00		20.00	23.33	56.67
111 Cd # 3	0.02818	0.02818	ug/l	13.30	100.00		119.92	109.94	99.91
118 Sn # 3	0.07278	0.07278	ug/l	4.08	1800.00		913.38	900.05	856.71
121 Sb # 3	0.2277	0.2277	ug/l	5.99	100.00		2016.85	1966.84	1800.15
137 Ba # 3	11.56	11.56	ug/l	1.69	1800.00		43823.98	42894.79	43439.62
202 Hg # 3	0.003659	0.003659	ug/l	76.74	5.00		57.33	69.67	73.33
205 Tl # 3	0.0399	0.0399	ug/l	5.67	20.00		1153.41	1023.40	1080.07
208 Pb # 3	0.00741	0.00741	ug/l	6.02	1800.00		470.02	490.02	490.02
232 Th # 3	0.1026	0.1026	ug/l	2.74	#VALUE!		4530.81	4390.76	4260.71
238 U # 3	0.01129	0.01129	ug/l	9.61	#VALUE!		460.02	426.69	510.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	686462.75	0.57	836165.38	82.1	60 - 125		682410.06	686739.06	690239.06
45 Sc # 1	524764.50	4.99	552676.25	94.9	60 - 125		495264.69	533721.63	545307.25
45 Sc # 3	606748.00	0.52	644433.94	94.2	60 - 125		607669.50	603263.00	609311.50
74 Ge # 1	173840.33	3.20	175321.88	99.2	60 - 125		167576.34	175758.39	178186.20
74 Ge # 2	26261.90	2.38	27172.50	96.6	60 - 125		25591.35	26366.81	26827.55
74 Ge # 3	162013.97	0.12	164913.13	98.2	60 - 125		161815.19	162198.88	162027.86
89 Y # 3	1095428.90	1.46	1068488.30	102.5	60 - 125		1086597.30	1113846.90	1085842.50
115 In # 3	1095758.10	0.94	1083659.40	101.1	60 - 125		1098104.40	1104710.90	1084459.10
159 Tb # 3	1700605.10	0.92	1651256.80	103.0	60 - 125		1717915.80	1696686.30	1687213.30
209 Bi # 3	1054917.90	0.51	1054491.00	100.0	60 - 125		1059764.00	1055883.10	1049106.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\032SMPL.D\032SMPL.D#
Date Acquired: Dec 24 2012 10:00 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85852-a-1-a SD
Misc Info: 3005 1/25
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.07055	0.01411	ug/l	11.38	100.00		43.33	53.33	56.67
11 B # 3	14.51	2.902	ug/l	2.35	1800.00		17161.35	18048.88	17925.40
23 Na # 1	4934	986.8	ug/l	12.53	81000.00		6492691.50	6673637.50	6810606.50
24 Mg # 1	590	118	ug/l	12.25	81000.00		527196.56	526537.63	538217.06
27 Al # 1	30.145	6.029	ug/l	11.82	81000.00		31907.17	31983.95	32147.64
39 K # 2	404.1	80.82	ug/l	8.20	81000.00		37454.38	38783.68	38429.65
40 Ca # 1	1366	273.2	ug/l	13.10	81000.00		2839912.50	2845027.50	2938540.00
45 Sc # 2	----	--------		--------	#VALUE!		43796.63	38900.37	43365.26
47 Ti # 3	0.16705	0.03341	ug/l	55.07	1620.00		80.00	63.34	43.33
51 V # 2	0.0706	0.01412	ug/l	28.07	1800.00		233.34	232.23	245.56
52 Cr # 2	0.01955	0.00391	ug/l	47.55	1800.00		137.78	131.11	147.78
55 Mn # 3	42.375	8.475	ug/l	0.46	1800.00		168539.22	170635.34	171246.69
56 Fe # 1	2060	412	ug/l	9.95	81000.00		6505279.00	6545521.00	6706512.50
59 Co # 3	1.707	0.3414	ug/l	0.73	1800.00		5200.90	5227.54	5287.57
60 Ni # 2	1.816	0.3632	ug/l	5.90	1800.00		497.79	488.90	473.34
63 Cu # 2	0.4014	0.08028	ug/l	16.92	1800.00		812.25	722.24	867.81
66 Zn # 3	6.5	1.3	ug/l	4.87	1800.00		2520.24	2780.30	2663.61
75 As # 2	0.446	0.0892	ug/l	22.35	100.00		36.67	39.33	46.33
78 Se # 1	0.00976	0.001952	ug/l	391.39	100.00		22.33	23.00	25.67
88 Sr # 3	8.445	1.689	ug/l	2.80	1800.00		45501.93	44813.57	45849.36
95 Mo # 3	0.1425	0.0285	ug/l	13.67	1800.00		180.01	176.67	156.67
107 Ag # 3	0.0059	0.00118	ug/l	76.42	100.00		50.00	33.33	33.33
111 Cd # 3	0.03228	0.006456	ug/l	19.80	100.00		56.61	53.28	59.95
118 Sn # 3	0.15705	0.03141	ug/l	18.30	1800.00		560.03	543.36	640.03
121 Sb # 3	0.4093	0.08186	ug/l	7.51	100.00		896.71	916.72	850.05
137 Ba # 3	11.305	2.261	ug/l	1.16	1800.00		8455.69	8849.23	8729.20
202 Hg # 3	-0.004197	-0.0008394	ug/l	171.79	5.00		58.33	54.00	51.00
205 Tl # 3	0.0558	0.01116	ug/l	13.01	20.00		383.35	316.68	350.02
208 Pb # 3	0.002536	0.0005072	ug/l	249.80	1800.00		286.68	223.34	210.01
232 Th # 3	0.195	0.039	ug/l	6.86	#VALUE!		1853.50	2010.20	1803.50
238 U # 3	0.013885	0.002777	ug/l	10.66	#VALUE!		136.67	123.34	116.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	731472.88	3.04	836165.38	87.5	60 - 125		707340.69	735951.81	751126.00
45 Sc # 1	552421.56	11.36	552676.25	100.0	60 - 125		542876.63	619396.75	494991.31
45 Sc # 3	617918.88	2.29	644433.94	95.9	60 - 125		603234.38	619125.31	631397.06
74 Ge # 1	178186.94	8.73	175321.88	101.6	60 - 125		176549.33	194496.59	163514.89
74 Ge # 2	26810.21	4.59	27172.50	98.7	60 - 125		27627.70	25395.61	27407.33
74 Ge # 3	163803.61	0.52	164913.13	99.3	60 - 125		162862.73	164514.45	164033.63
89 Y # 3	1086841.50	3.27	1068488.30	101.7	60 - 125		1057641.60	1076512.10	1126370.90
115 In # 3	1118158.40	2.14	1083659.40	103.2	60 - 125		1091259.50	1126348.80	1136867.10
159 Tb # 3	1711122.80	1.64	1651256.80	103.6	60 - 125		1681052.80	1715692.30	1736623.30
209 Bi # 3	1086683.50	1.63	1054491.00	103.1	60 - 125		1067068.00	1091495.00	1101487.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\033SMPL.D\033SMPL.D#
Date Acquired: Dec 24 2012 10:08 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85852-a-1-a PDS
Misc Info: 3005 1/5
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	22.06	22.06	ug/l	1.74	100.00		69825.36	71501.38	71049.59
11 B # 3	51.45	51.45	ug/l	1.94	1800.00		179193.27	178608.50	181993.92
23 Na # 1	6985	6985	ug/l	1.42	81000.00		46207864.00	46004220.00	47076480.00
24 Mg # 1	2658	2658	ug/l	1.69	81000.00		11520242.00	12072516.00	12148045.00
27 Al # 1	239.2	239.2	ug/l	1.59	81000.00		1184047.60	1248137.40	1234136.60
39 K # 2	2459	2459	ug/l	1.37	81000.00		866761.94	890590.94	909446.56
40 Ca # 1	3380	3380	ug/l	0.49	81000.00		34131236.00	34825760.00	35126428.00
45 Sc # 2	----	--------		--------	#VALUE!		41231.66	42343.03	44396.56
47 Ti # 3	21.64	21.64	ug/l	0.93	1620.00		22941.12	22527.39	22984.42
51 V # 2	20.2	20.2	ug/l	1.92	1800.00		48836.71	49573.07	50157.97
52 Cr # 2	20.55	20.55	ug/l	2.49	1800.00		59515.15	60406.99	60505.01
55 Mn # 3	250.4	250.4	ug/l	1.14	1800.00		4882618.00	4913721.00	4880615.00
56 Fe # 1	4062	4062	ug/l	1.12	81000.00		64129804.00	64615800.00	65780740.00
59 Co # 3	21.67	21.67	ug/l	1.31	1800.00		325174.75	325152.50	322383.03
60 Ni # 2	21.62	21.62	ug/l	2.41	1800.00		26475.62	27270.11	27253.44
63 Cu # 2	21.28	21.28	ug/l	2.41	1800.00		68876.50	70292.70	70401.01
66 Zn # 3	26.47	26.47	ug/l	1.56	1800.00		47572.45	48581.83	48017.06
75 As # 2	21.25	21.25	ug/l	1.82	100.00		5144.07	5252.10	5315.12
78 Se # 1	21.01	21.01	ug/l	0.56	100.00		9856.01	9993.41	10029.43
88 Sr # 3	28.33	28.33	ug/l	1.08	1800.00		764271.88	757698.75	760885.69
95 Mo # 3	20.51	20.51	ug/l	1.22	1800.00		79467.77	80261.53	79903.58
107 Ag # 3	17.27	17.27	ug/l	1.99	100.00		199146.89	197321.92	194308.61
111 Cd # 3	21.08	21.08	ug/l	1.22	100.00		52410.96	52737.92	52269.93
118 Sn # 3	21.17	21.17	ug/l	2.11	1800.00		164598.59	162627.36	162755.78
121 Sb # 3	22.33	22.33	ug/l	1.76	100.00		162200.48	161316.03	159459.05
137 Ba # 3	32.55	32.55	ug/l	1.41	1800.00		121378.75	121683.52	120945.44
202 Hg # 3	1.02	1.02	ug/l	0.59	5.00		3103.64	3104.31	3102.64
205 Tl # 3	4.183	4.183	ug/l	1.28	20.00		106741.49	106051.45	106832.30
208 Pb # 3	21.17	21.17	ug/l	1.07	1800.00		744863.94	742643.44	745114.13
232 Th # 3	22.42	22.42	ug/l	0.50	#VALUE!		877206.63	871503.50	873632.25
238 U # 3	23.18	23.18	ug/l	0.37	#VALUE!		909542.38	902709.88	903271.44

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	689491.56	2.46	836165.38	82.5	60 - 125		672045.75	690511.13	705917.88
45 Sc # 1	545813.19	1.22	552676.25	98.8	60 - 125		538154.50	549754.31	549530.81
45 Sc # 3	605541.44	0.21	644433.94	94.0	60 - 125		605427.75	604303.50	606893.06
74 Ge # 1	177203.53	0.42	175321.88	101.1	60 - 125		176364.00	177769.72	177476.89
74 Ge # 2	26747.78	3.07	27172.50	98.4	60 - 125		26154.28	26402.47	27686.58
74 Ge # 3	160279.95	0.83	164913.13	97.2	60 - 125		159890.61	159182.97	161766.23
89 Y # 3	1087158.60	0.73	1068488.30	101.7	60 - 125		1084368.40	1096094.00	1081013.40
115 In # 3	1088525.60	1.64	1083659.40	100.4	60 - 125		1076913.80	1109121.90	1079541.30
159 Tb # 3	1687741.90	0.89	1651256.80	102.2	60 - 125		1684539.50	1704152.90	1674533.10
209 Bi # 3	1021018.00	0.60	1054491.00	96.8	60 - 125		1026904.40	1021476.30	1014673.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\034SMPL.D\034SMPL.D#
Date Acquired: Dec 24 2012 10:15 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85852-a-1-b ms
Misc Info: 3005 1/5
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.47	11.47	ug/l	0.35	100.00		35910.40	36191.08	37072.55
11 B # 3	53.56	53.56	ug/l	1.09	1800.00		182894.47	185011.64	186972.03
23 Na # 1	6242	6242	ug/l	1.20	81000.00		40805428.00	41611488.00	42075628.00
24 Mg # 1	1676	1676	ug/l	1.62	81000.00		7351462.50	7564424.00	7615675.00
27 Al # 1	1079	1079	ug/l	1.55	81000.00		5395934.00	5548511.00	5570686.00
39 K # 2	1471	1471	ug/l	2.85	81000.00		516754.63	532581.81	546884.38
40 Ca # 1	2467	2467	ug/l	1.10	81000.00		24978614.00	25461074.00	25588570.00
45 Sc # 2	----	--------		--------	#VALUE!		40659.24	43592.92	40883.20
47 Ti # 3	21.51	21.51	ug/l	2.81	1620.00		22724.18	22904.55	22731.03
51 V # 2	20.68	20.68	ug/l	2.17	1800.00		50141.28	50000.84	50992.43
52 Cr # 2	21.06	21.06	ug/l	2.36	1800.00		60454.82	60828.30	62415.68
55 Mn # 3	152.9	152.9	ug/l	1.95	1800.00		2999814.80	2989700.30	2974794.00
56 Fe # 1	3162	3162	ug/l	0.48	81000.00		50021652.00	50360304.00	50498312.00
59 Co # 3	11.88	11.88	ug/l	2.10	1800.00		177556.30	177719.86	177885.59
60 Ni # 2	22.3	22.3	ug/l	2.27	1800.00		27692.93	27405.86	27886.55
63 Cu # 2	22.01	22.01	ug/l	2.20	1800.00		70767.95	71462.86	73061.15
66 Zn # 3	28.47	28.47	ug/l	1.76	1800.00		51914.04	51569.74	51559.89
75 As # 2	22.54	22.54	ug/l	2.00	100.00		5477.16	5490.50	5586.86
78 Se # 1	22.02	22.02	ug/l	0.52	100.00		10361.95	10429.32	10419.99
88 Sr # 3	28.37	28.37	ug/l	2.49	1800.00		758251.13	752447.06	755743.81
95 Mo # 3	20.9	20.9	ug/l	1.86	1800.00		81038.61	79568.45	81212.55
107 Ag # 3	10.75	10.75	ug/l	1.92	100.00		123456.49	121365.43	119576.57
111 Cd # 3	10.81	10.81	ug/l	3.34	100.00		26812.05	27079.46	26120.84
118 Sn # 3	21.72	21.72	ug/l	2.70	1800.00		165985.45	166677.61	165225.50
121 Sb # 3	12.02	12.02	ug/l	2.47	100.00		86435.90	86275.16	85005.37
137 Ba # 3	33.8	33.8	ug/l	2.24	1800.00		125277.19	124651.38	124450.53
202 Hg # 3	1.057	1.057	ug/l	2.28	5.00		3279.01	3268.01	3303.68
205 Tl # 3	8.039	8.039	ug/l	2.38	20.00		204976.98	204259.42	204810.38
208 Pb # 3	10.87	10.87	ug/l	2.08	1800.00		384162.69	380585.66	381743.28
232 Th # 3	22.31	22.31	ug/l	2.23	#VALUE!		891247.25	890025.38	884456.25
238 U # 3	23.48	23.48	ug/l	2.22	#VALUE!		939364.75	937948.75	932782.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	681750.63	1.98	836165.38	81.5	60 - 125		672111.06	675940.00	697200.81
45 Sc # 1	545751.50	0.78	552676.25	98.7	60 - 125		544080.38	542607.31	550566.69
45 Sc # 3	608529.19	2.37	644433.94	94.4	60 - 125		622017.13	593344.75	610225.75
74 Ge # 1	176600.08	0.39	175321.88	100.7	60 - 125		176476.48	175974.75	177349.00
74 Ge # 2	26566.46	1.54	27172.50	97.8	60 - 125		26227.75	27022.36	26449.25
74 Ge # 3	160320.11	2.05	164913.13	97.2	60 - 125		163556.66	156974.69	160428.95
89 Y # 3	1078205.80	2.87	1068488.30	100.9	60 - 125		1107803.40	1046103.10	1080710.80
115 In # 3	1078280.50	2.52	1083659.40	99.5	60 - 125		1107478.10	1053789.00	1073574.40
159 Tb # 3	1687932.10	2.56	1651256.80	102.2	60 - 125		1732622.40	1646438.00	1684736.00
209 Bi # 3	1043256.30	2.31	1054491.00	98.9	60 - 125		1068760.90	1020912.90	1040095.40

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\035SMPL.D\035SMPL.D#
Date Acquired: Dec 24 2012 10:23 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85852-a-1-c msd
Misc Info: 3005 1/5
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.54	11.54	ug/l	2.36	100.00		36120.52	37102.40	36701.81
11 B # 3	53.95	53.95	ug/l	3.83	1800.00		186027.75	185835.31	186987.08
23 Na # 1	6688	6688	ug/l	0.58	81000.00		43664216.00	43506120.00	43852024.00
24 Mg # 1	1784	1784	ug/l	0.93	81000.00		7779150.00	7944015.00	7836290.50
27 Al # 1	1157	1157	ug/l	0.69	81000.00		5783695.50	5827141.00	5783305.50
39 K # 2	1555	1555	ug/l	1.45	81000.00		547019.06	551932.50	556051.56
40 Ca # 1	2642	2642	ug/l	0.65	81000.00		26666996.00	26631630.00	26652412.00
45 Sc # 2	-----	--------		--------	#VALUE!		40218.36	41329.59	42332.90
47 Ti # 3	21.83	21.83	ug/l	3.06	1620.00		22240.36	22864.36	22834.43
51 V # 2	21.73	21.73	ug/l	0.80	1800.00		51133.92	52168.92	52629.02
52 Cr # 2	22.01	22.01	ug/l	1.69	1800.00		62400.15	63118.02	63081.22
55 Mn # 3	155.2	155.2	ug/l	2.68	1800.00		3028630.00	2984869.50	2983156.30
56 Fe # 1	3385	3385	ug/l	0.67	81000.00		53087044.00	53122380.00	53425640.00
59 Co # 3	12.11	12.11	ug/l	2.26	1800.00		181623.53	179185.63	176687.19
60 Ni # 2	23.53	23.53	ug/l	1.13	1800.00		28358.34	28595.41	29037.24
63 Cu # 2	23.12	23.12	ug/l	1.99	1800.00		73934.54	73510.68	74583.94
66 Zn # 3	28.86	28.86	ug/l	3.68	1800.00		52636.26	50921.34	51757.07
75 As # 2	23.25	23.25	ug/l	1.73	100.00		5508.84	5664.89	5594.87
78 Se # 1	23.27	23.27	ug/l	0.45	100.00		10831.57	10895.93	10856.91
88 Sr # 3	28.65	28.65	ug/l	3.98	1800.00		772858.50	753527.56	771440.19
95 Mo # 3	21.03	21.03	ug/l	3.93	1800.00		81400.47	80211.53	80171.81
107 Ag # 3	11.05	11.05	ug/l	3.20	100.00		125306.49	124359.98	122437.21
111 Cd # 3	11.09	11.09	ug/l	2.16	100.00		27299.26	27616.78	26668.81
118 Sn # 3	22.08	22.08	ug/l	4.15	1800.00		168396.69	166698.33	167543.89
121 Sb # 3	12.29	12.29	ug/l	3.84	100.00		87746.18	87085.52	86975.22
137 Ba # 3	34.42	34.42	ug/l	3.24	1800.00		126149.53	127113.28	125491.12
202 Hg # 3	1.07	1.07	ug/l	4.57	5.00		3417.37	3236.00	3254.34
205 Tl # 3	8.118	8.118	ug/l	2.04	20.00		208037.98	206066.98	204370.17
208 Pb # 3	11.06	11.06	ug/l	2.17	1800.00		390040.16	386933.00	386225.88
232 Th # 3	22.81	22.81	ug/l	2.63	#VALUE!		913662.25	902985.38	891286.63
238 U # 3	24.21	24.21	ug/l	2.89	#VALUE!		975879.38	957006.63	945922.88

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	682370.94	3.65	836165.38	81.6	60 - 125		654901.13	703555.94	688655.75
45 Sc # 1	536123.56	0.61	552676.25	97.0	60 - 125		532587.00	536745.88	539037.94
45 Sc # 3	595983.25	3.15	644433.94	92.5	60 - 125		590081.38	617014.00	580854.25
74 Ge # 1	174509.58	0.71	175321.88	99.5	60 - 125		173125.66	175511.78	174891.33
74 Ge # 2	26093.53	2.24	27172.50	96.0	60 - 125		25481.18	26155.46	26643.96
74 Ge # 3	158526.31	2.52	164913.13	96.1	60 - 125		158151.39	162701.22	154726.36
89 Y # 3	1082633.40	2.74	1068488.30	101.3	60 - 125		1081150.60	1113042.50	1053706.90
115 In # 3	1071853.90	3.88	1083659.40	98.9	60 - 125		1071467.50	1113642.80	1030451.40
159 Tb # 3	1683500.10	2.11	1651256.80	102.0	60 - 125		1674936.40	1722525.40	1653038.30
209 Bi # 3	1036762.50	3.03	1054491.00	98.3	60 - 125		1034867.70	1069056.10	1006363.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\036SMPL.D\036SMPL.D#
Date Acquired: Dec 24 2012 10:30 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85852-a-4-a
Misc Info: 3005 1/5
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.006269	0.006269	ug/l	58.54	100.00		13.33	36.67	20.00
11 B	# 3	8.203	8.203	ug/l	1.18	1800.00		34478.06	35092.58	35760.67
23 Na	# 1	8811	8811	ug/l	1.06	81000.00		57178612.00	58220712.00	58581864.00
24 Mg	# 1	557.3	557.3	ug/l	1.35	81000.00		2456249.50	2467489.30	2499887.00
27 Al	# 1	1.291	1.291	ug/l	3.83	81000.00		7801.81	7788.48	7371.66
39 K	# 2	427.4	427.4	ug/l	9.45	81000.00		155388.31	157993.69	162325.86
40 Ca	# 1	1408	1408	ug/l	1.16	81000.00		14214150.00	14358310.00	14494356.00
45 Sc	# 2	----	--------		--------	#VALUE!		40832.98	45565.58	38599.54
47 Ti	# 3	0.07487	0.07487	ug/l	12.25	1620.00		106.67	93.34	120.00
51 V	# 2	0.1077	0.1077	ug/l	22.32	1800.00		418.90	455.57	488.90
52 Cr	# 2	0.007226	0.007226	ug/l	105.98	1800.00		144.45	133.34	155.56
55 Mn	# 3	33.91	33.91	ug/l	2.64	1800.00		672841.50	673154.88	678558.19
56 Fe	# 1	41.95	41.95	ug/l	0.55	81000.00		670471.31	680858.44	675782.94
59 Co	# 3	1.281	1.281	ug/l	1.66	1800.00		19257.13	19447.38	19861.19
60 Ni	# 2	0.6631	0.6631	ug/l	9.89	1800.00		772.25	878.92	875.58
63 Cu	# 2	0.09357	0.09357	ug/l	8.33	1800.00		810.03	870.03	794.47
66 Zn	# 3	2.346	2.346	ug/l	3.42	1800.00		4460.67	4640.74	4587.38
75 As	# 2	0.1382	0.1382	ug/l	9.15	100.00		49.33	54.00	51.67
78 Se	# 1	0.026	0.026	ug/l	10.55	100.00		33.67	36.67	34.00
88 Sr	# 3	8.985	8.985	ug/l	3.95	1800.00		243552.75	240658.59	240098.17
95 Mo	# 3	0.04817	0.04817	ug/l	15.16	1800.00		236.67	276.68	236.68
107 Ag	# 3	0.0003072	0.0003072	ug/l	438.48	100.00		46.67	16.67	23.33
111 Cd	# 3	0.008966	0.008966	ug/l	21.50	100.00		63.26	56.58	69.93
118 Sn	# 3	0.06074	0.06074	ug/l	14.91	1800.00		850.05	836.71	753.38
121 Sb	# 3	0.1802	0.1802	ug/l	3.12	100.00		1636.80	1600.13	1616.79
137 Ba	# 3	10.32	10.32	ug/l	3.90	1800.00		39403.20	40144.89	39236.00
202 Hg	# 3	0.0117	0.0117	ug/l	18.21	5.00		83.67	95.33	99.00
205 Tl	# 3	0.04261	0.04261	ug/l	7.28	20.00		1240.09	1170.08	1123.41
208 Pb	# 3	0.001162	0.001162	ug/l	32.30	1800.00		250.01	266.68	286.68
232 Th	# 3	0.1107	0.1107	ug/l	7.14	#VALUE!		4920.95	4787.57	4584.15
238 U	# 3	0.004424	0.004424	ug/l	12.27	#VALUE!		206.68	190.01	173.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	701256.88	2.78	836165.38	83.9	60 - 125		682350.94	700197.69	721221.94
45 Sc	# 1	540663.19	1.10	552676.25	97.8	60 - 125		535314.88	547052.19	539622.50
45 Sc	# 3	614361.69	3.75	644433.94	95.3	60 - 125		603657.56	598604.69	640822.81
74 Ge	# 1	175504.94	1.28	175321.88	100.1	60 - 125		173074.80	177527.41	175912.61
74 Ge	# 2	26264.66	7.85	27172.50	96.7	60 - 125		25700.36	28550.33	24543.30
74 Ge	# 3	163131.81	3.16	164913.13	98.9	60 - 125		159904.17	160406.98	169084.27
89 Y	# 3	1088475.40	3.77	1068488.30	101.9	60 - 125		1086262.80	1048612.30	1130551.10
115 In	# 3	1120465.40	2.77	1083659.40	103.4	60 - 125		1116180.90	1091739.90	1153475.50
159 Tb	# 3	1735978.90	2.56	1651256.80	105.1	60 - 125		1719029.10	1702476.60	1786430.60
209 Bi	# 3	1066044.00	3.55	1054491.00	101.1	60 - 125		1048221.60	1040381.40	1109529.40

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\037SMPL.D\037SMPL.D#
Date Acquired: Dec 24 2012 10:37 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-40-a
Misc Info: 3005 1/5
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006514	0.006514	ug/l	24.46	100.00		30.00	20.00	23.33
11 B # 3	2.464	2.464	ug/l	4.91	1800.00		15062.88	15816.87	16307.27
23 Na # 1	635.7	635.7	ug/l	2.71	81000.00		4169111.30	4257420.50	4248191.50
24 Mg # 1	925.3	925.3	ug/l	3.23	81000.00		4037839.00	4047282.50	4108591.30
27 Al # 1	20.01	20.01	ug/l	4.24	81000.00		101591.98	101095.02	100777.77
39 K # 2	788	788	ug/l	1.39	81000.00		284840.47	290903.81	297718.66
40 Ca # 1	734.1	734.1	ug/l	3.48	81000.00		7406847.50	7442589.00	7458505.00
45 Sc # 2	----	--------		--------	#VALUE!		40462.27	42372.04	42752.71
47 Ti # 3	1.681	1.681	ug/l	1.72	1620.00		1776.80	1863.48	1860.14
51 V # 2	0.1888	0.1888	ug/l	6.54	1800.00		621.13	707.80	662.24
52 Cr # 2	0.04614	0.04614	ug/l	8.15	1800.00		257.78	274.45	253.34
55 Mn # 3	6.768	6.768	ug/l	0.41	1800.00		134175.25	136056.17	135763.48
56 Fe # 1	22.74	22.74	ug/l	1.92	81000.00		367479.56	366889.56	372230.09
59 Co # 3	0.08746	0.08746	ug/l	1.74	1800.00		1346.75	1376.76	1320.09
60 Ni # 2	0.4532	0.4532	ug/l	3.76	1800.00		578.90	586.68	630.02
63 Cu # 2	1.563	1.563	ug/l	1.52	1800.00		5514.20	5622.02	5746.50
66 Zn # 3	3.063	3.063	ug/l	2.66	1800.00		5921.15	5757.71	5947.80
75 As # 2	0.1239	0.1239	ug/l	6.44	100.00		47.67	48.00	52.00
78 Se # 1	0.01364	0.01364	ug/l	59.70	100.00		24.00	32.33	30.00
88 Sr # 3	6.948	6.948	ug/l	1.84	1800.00		188284.27	185880.25	188012.94
95 Mo # 3	0.0257	0.0257	ug/l	19.81	1800.00		146.67	153.34	183.34
107 Ag # 3	0.0008504	0.0008504	ug/l	92.94	100.00		26.67	46.67	33.33
111 Cd # 3	0.01846	0.01846	ug/l	38.37	100.00		83.29	73.29	106.61
118 Sn # 3	0.07102	0.07102	ug/l	4.50	1800.00		913.38	903.38	883.38
121 Sb # 3	0.1858	0.1858	ug/l	1.88	100.00		1666.80	1706.80	1630.13
137 Ba # 3	17.99	17.99	ug/l	1.56	1800.00		68960.41	69864.43	69241.59
202 Hg # 3	0.01185	0.01185	ug/l	6.35	5.00		96.33	93.67	92.00
205 Tl # 3	0.01321	0.01321	ug/l	21.89	20.00		486.69	360.01	370.02
208 Pb # 3	0.01531	0.01531	ug/l	8.57	1800.00		743.36	846.70	733.36
232 Th # 3	0.05908	0.05908	ug/l	4.24	#VALUE!		2783.67	2727.00	2580.30
238 U # 3	0.004421	0.004421	ug/l	22.08	#VALUE!		150.01	196.67	230.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	712159.06	1.71	836165.38	85.2	60 - 125		703795.19	706573.31	726108.63
45 Sc # 1	535295.63	3.72	552676.25	96.9	60 - 125		512385.88	544987.13	548513.81
45 Sc # 3	617784.56	1.57	644433.94	95.9	60 - 125		608977.00	628129.88	616246.94
74 Ge # 1	174007.53	2.08	175321.88	99.3	60 - 125		169849.50	175823.44	176349.64
74 Ge # 2	26741.86	2.60	27172.50	98.4	60 - 125		25938.49	27136.88	27150.23
74 Ge # 3	162934.53	0.90	164913.13	98.8	60 - 125		161554.03	164471.11	162778.44
89 Y # 3	1091484.30	1.15	1068488.30	102.2	60 - 125		1081208.10	1105535.10	1087709.60
115 In # 3	1125854.60	2.24	1083659.40	103.9	60 - 125		1106715.30	1154384.40	1116464.50
159 Tb # 3	1724068.60	1.96	1651256.80	104.4	60 - 125		1705389.80	1763043.30	1703772.80
209 Bi # 3	1076495.60	0.66	1054491.00	102.1	60 - 125		1072165.00	1084715.50	1072606.40

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\038SMPL.D\038SMPL.D#
Date Acquired: Dec 24 2012 10:45 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-41-a
Misc Info: 3005 1/5
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.008654	0.008654	ug/l	14.83	100.00		26.67	36.67	30.00
11 B # 3	1.999	1.999	ug/l	6.68	1800.00		13611.81	13912.00	14078.76
23 Na # 1	106.7	106.7	ug/l	4.25	81000.00		826358.00	835633.19	846573.00
24 Mg # 1	154.6	154.6	ug/l	3.67	81000.00		716050.81	721804.44	733724.44
27 Al # 1	16.07	16.07	ug/l	7.79	81000.00		90325.75	84882.64	84932.09
39 K # 2	818	818	ug/l	7.20	81000.00		299323.06	308171.88	313866.50
40 Ca # 1	111.1	111.1	ug/l	3.31	81000.00		1225747.80	1267836.80	1287457.10
45 Sc # 2	----	--------		--------	#VALUE!		44937.15	39273.06	43552.34
47 Ti # 3	0.9515	0.9515	ug/l	3.25	1620.00		1083.39	1053.40	1033.40
51 V # 2	0.19	0.19	ug/l	11.92	1800.00		642.24	662.24	730.02
52 Cr # 2	0.03244	0.03244	ug/l	17.29	1800.00		240.00	225.56	212.23
55 Mn # 3	6.866	6.866	ug/l	3.31	1800.00		139323.14	139155.22	140612.39
56 Fe # 1	23.1	23.1	ug/l	2.95	81000.00		388940.66	398431.28	395179.84
59 Co # 3	0.3201	0.3201	ug/l	5.05	1800.00		5077.52	4830.78	5004.16
60 Ni # 2	0.4573	0.4573	ug/l	6.37	1800.00		616.68	615.57	610.02
63 Cu # 2	0.3989	0.3989	ug/l	5.25	1800.00		1886.78	1819.00	1903.45
66 Zn # 3	12.89	12.89	ug/l	4.19	1800.00		24139.78	24092.98	24763.87
75 As # 2	0.1095	0.1095	ug/l	22.83	100.00		49.00	49.33	41.00
78 Se # 1	0.009681	0.009681	ug/l	32.04	100.00		27.33	26.67	31.00
88 Sr # 3	0.3103	0.3103	ug/l	2.32	1800.00		8395.50	8495.55	8175.43
95 Mo # 3	0.01978	0.01978	ug/l	20.55	1800.00		136.67	123.34	146.67
107 Ag # 3	0.0007922	0.0007922	ug/l	85.00	100.00		43.33	33.33	26.67
111 Cd # 3	0.004893	0.004893	ug/l	97.53	100.00		56.62	39.96	59.95
118 Sn # 3	0.06408	0.06408	ug/l	4.41	1800.00		833.38	843.38	830.04
121 Sb # 3	0.2182	0.2182	ug/l	6.76	100.00		2013.51	1833.48	1816.83
137 Ba # 3	2.898	2.898	ug/l	5.32	1800.00		11207.36	10770.43	11213.99
202 Hg # 3	0.0001418	0.0001418	ug/l	855.43	5.00		59.00	54.67	59.00
205 Tl # 3	0.01607	0.01607	ug/l	3.89	20.00		470.02	496.69	483.36
208 Pb # 3	0.01784	0.01784	ug/l	5.11	1800.00		873.37	873.37	860.04
232 Th # 3	0.03889	0.03889	ug/l	8.26	#VALUE!		2013.53	1930.19	1713.50
238 U # 3	0.003762	0.003762	ug/l	1.57	#VALUE!		163.34	173.34	163.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	700360.38	3.03	836165.38	83.8	60 - 125		689163.94	724849.75	687067.38
45 Sc # 1	570635.19	4.99	552676.25	103.2	60 - 125		550050.38	558713.50	603141.63
45 Sc # 3	622652.94	3.28	644433.94	96.6	60 - 125		622305.81	643244.06	602408.94
74 Ge # 1	183160.16	2.87	175321.88	104.5	60 - 125		179994.23	180262.84	189223.36
74 Ge # 2	27273.11	5.73	27172.50	100.4	60 - 125		28501.28	25514.61	27803.46
74 Ge # 3	165904.53	2.82	164913.13	100.6	60 - 125		164885.66	171016.56	161811.36
89 Y # 3	1082541.50	4.23	1068488.30	101.3	60 - 125		1087782.80	1125516.90	1034325.00
115 In # 3	1113824.60	3.34	1083659.40	102.8	60 - 125		1122001.60	1146244.40	1073227.80
159 Tb # 3	1734867.80	4.48	1651256.80	105.1	60 - 125		1715887.50	1820234.80	1668480.80
209 Bi # 3	1086710.90	2.56	1054491.00	103.1	60 - 125		1082668.80	1116346.50	1061117.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\039_CCV.D\039_CCV.D#
Date Acquired: Dec 24 2012 10:52 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.57 ug/l	1.40	50.00	90 - 110		170332.56	174785.09	175195.02
11 B	102.1 ug/l	2.33	100.00	90 - 110		357603.47	373524.75	370436.84
23 Na	4899 ug/l	8.97	5000.00	90 - 110		33736768.00	34299064.00	34560088.00
24 Mg	4915 ug/l	9.52	5000.00	90 - 110		22785594.00	23044412.00	23489292.00
27 Al	495.4 ug/l	10.16	500.00	90 - 110		2608258.00	2631980.30	2715463.30
39 K	4813 ug/l	2.67	5000.00	90 - 110		1745548.30	1796923.30	1816847.00
40 Ca	5006 ug/l	10.09	5000.00	90 - 110		52971188.00	53480888.00	55096568.00
45 Sc	--------	--------	---	##### - #####		46118.73	43889.86	45778.69
47 Ti	51.92 ug/l	2.60	50.00	90 - 110		57438.77	56392.11	56676.23
51 V	48.32 ug/l	1.80	50.00	90 - 110		120435.05	122155.91	123380.50
52 Cr	49.05 ug/l	1.74	50.00	90 - 110		146408.17	148605.38	149047.56
55 Mn	504 ug/l	1.98	500.00	90 - 110		10139808.00	9899634.00	10063094.00
56 Fe	4965 ug/l	7.06	5000.00	90 - 110		82003248.00	80941816.00	82514920.00
59 Co	48.88 ug/l	1.22	50.00	90 - 110		744827.56	739012.06	752390.38
60 Ni	49.31 ug/l	1.34	50.00	90 - 110		63380.98	63718.85	63414.32
63 Cu	49.92 ug/l	1.50	50.00	90 - 110		166851.72	168252.11	170119.19
66 Zn	51.34 ug/l	1.19	50.00	90 - 110		95045.47	94322.11	94922.02
75 As	49.39 ug/l	2.17	50.00	90 - 110		12322.16	12524.62	12769.46
78 Se	50.45 ug/l	6.34	50.00	90 - 110		24436.65	24746.74	24830.19
88 Sr	52.04 ug/l	2.37	50.00	90 - 110		1377374.10	1366342.30	1388030.30
95 Mo	50.3 ug/l	2.48	50.00	90 - 110		195578.77	195129.44	194005.31
107 Ag	51.35 ug/l	2.77	50.00	90 - 110		586558.81	584024.75	578285.94
111 Cd	51.6 ug/l	2.07	50.00	90 - 110		127582.56	128431.84	127488.23
118 Sn	51.39 ug/l	2.34	50.00	90 - 110		395516.47	391875.25	395202.06
121 Sb	51.84 ug/l	2.35	50.00	90 - 110		372925.09	369531.41	372522.09
137 Ba	51.67 ug/l	2.96	50.00	90 - 110		192629.81	193501.30	189047.75
202 Hg	2.49 ug/l	0.89	2.50	90 - 110		7441.41	7479.76	7527.45
205 Tl	10.19 ug/l	2.19	10.00	90 - 110		260707.70	258269.92	256834.77
208 Pb	50.84 ug/l	1.98	50.00	90 - 110		1791708.90	1775609.80	1773966.30
232 Th	50.72 ug/l	2.01	---	##### - #####		1985574.50	1965345.80	1965177.60
238 U	50.56 ug/l	2.23	---	##### - #####		1987519.10	1961884.10	1958731.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	722482.63	1.27	836165.38	86.4	60 - 125		717521.00	716839.13	733087.88
45 Sc	575619.63	8.72	552676.25	104.2	60 - 125		566697.13	629694.69	530467.00
45 Sc	629192.94	1.72	644433.94	97.6	60 - 125		617255.56	631878.81	638444.50
74 Ge	183498.13	6.13	175321.88	104.7	60 - 125		182708.05	195118.41	172667.89
74 Ge	27600.65	1.04	27172.50	101.6	60 - 125		27816.05	27275.97	27709.92
74 Ge	163343.86	0.87	164913.13	99.0	60 - 125		161706.44	164211.67	164113.52
89 Y	1071636.60	2.34	1068488.30	100.3	60 - 125		1043155.80	1081127.90	1090626.40
115 In	1083828.40	2.09	1083659.40	100.0	60 - 125		1058510.60	1090787.40	1102187.10
159 Tb	1681970.90	1.43	1651256.80	101.9	60 - 125		1655388.30	1688460.10	1702064.10
209 Bi	1018640.90	1.44	1054491.00	96.6	60 - 125		1002882.70	1021262.30	1031777.90

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\040_CCB.D\040_CCB.D#
Date Acquired: Dec 24 2012 11:00 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001076	0.001076	ug/l	156.41	#VALUE!		0.00	10.00	10.00
11 B # 3	1.561	1.561	ug/l	8.67	#VALUE!		12767.88	13344.84	13011.35
23 Na # 1	-1.74	-1.74	ug/l	8.87	#VALUE!		83831.73	83664.48	84756.05
24 Mg # 1	0.1481	0.1481	ug/l	7.58	#VALUE!		1200.08	1253.41	1156.74
27 Al # 1	0.02661	0.02661	ug/l	55.81	#VALUE!		1226.74	1303.42	1413.42
39 K # 2	-1.682	-1.682	ug/l	41.27	#VALUE!		8705.55	8912.35	9499.34
40 Ca # 1	0.6601	0.6601	ug/l	9.62	#VALUE!		76809.39	77462.56	77626.32
45 Sc # 2	----	--------		--------	#VALUE!		41875.28	43125.88	45385.80
47 Ti # 3	-0.002443	-0.002443	ug/l	255.10	#VALUE!		30.00	26.67	16.67
51 V # 2	-0.009192	-0.009192	ug/l	17.79	#VALUE!		180.00	186.67	194.45
52 Cr # 2	0.0002111	0.0002111	ug/l	929.42	#VALUE!		128.89	127.78	142.22
55 Mn # 3	0.00745	0.00745	ug/l	34.73	#VALUE!		1143.40	1030.06	1156.73
56 Fe # 1	0.2766	0.2766	ug/l	7.04	#VALUE!		17865.74	17441.97	17675.45
59 Co # 3	0.001614	0.001614	ug/l	67.10	#VALUE!		56.67	23.33	50.00
60 Ni # 2	0.007906	0.007906	ug/l	58.50	#VALUE!		37.78	50.00	46.67
63 Cu # 2	0.04098	0.04098	ug/l	10.40	#VALUE!		671.13	697.80	722.24
66 Zn # 3	0.01249	0.01249	ug/l	114.65	#VALUE!		320.01	256.68	270.01
75 As # 2	0.007817	0.007817	ug/l	11.35	#VALUE!		21.00	21.67	22.00
78 Se # 1	0.02337	0.02337	ug/l	16.81	#VALUE!		33.67	37.00	33.33
88 Sr # 3	0.001387	0.001387	ug/l	70.33	#VALUE!		93.34	80.00	133.34
95 Mo # 3	0.05313	0.05313	ug/l	16.82	#VALUE!		286.68	223.34	300.01
107 Ag # 3	0.004465	0.004465	ug/l	50.64	#VALUE!		106.67	76.67	50.00
111 Cd # 3	-0.002228	-0.002228	ug/l	137.97	#VALUE!		29.91	29.93	43.24
118 Sn # 3	0.02622	0.02622	ug/l	10.69	#VALUE!		543.36	546.69	526.69
121 Sb # 3	0.2897	0.2897	ug/l	7.98	#VALUE!		2533.59	2496.93	2233.55
137 Ba # 3	0.001005	0.001005	ug/l	55.48	#VALUE!		23.33	23.33	26.67
202 Hg # 3	0.01697	0.01697	ug/l	6.39	#VALUE!		115.00	108.33	105.00
205 Tl # 3	0.006888	0.006888	ug/l	4.57	#VALUE!		240.01	236.68	236.68
208 Pb # 3	0.001293	0.001293	ug/l	160.32	#VALUE!		230.01	336.68	226.67
232 Th # 3	0.1109	0.1109	ug/l	2.46	#VALUE!		4940.94	4757.54	4677.53
238 U # 3	0.004187	0.004187	ug/l	13.61	#VALUE!		183.34	200.01	160.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	738124.25	1.91	836165.38	88.3	60 - 125		738730.06	723764.75	751877.94
45 Sc # 1	562661.50	1.42	552676.25	101.8	60 - 125		553516.13	566325.63	568142.75
45 Sc # 3	629742.44	3.78	644433.94	97.7	60 - 125		652053.69	604723.56	632450.06
74 Ge # 1	181401.67	0.63	175321.88	103.5	60 - 125		180105.56	182256.45	181843.02
74 Ge # 2	27825.12	1.68	27172.50	102.4	60 - 125		27422.90	27713.31	28339.14
74 Ge # 3	166741.67	2.32	164913.13	101.1	60 - 125		170705.97	162987.02	166532.03
89 Y # 3	1101102.10	4.05	1068488.30	103.1	60 - 125		1141554.30	1053326.30	1108426.30
115 In # 3	1117178.40	3.39	1083659.40	103.1	60 - 125		1156799.50	1081270.60	1113465.10
159 Tb # 3	1696466.90	4.06	1651256.80	102.7	60 - 125		1766626.40	1628848.90	1693925.10
209 Bi # 3	1069609.80	3.58	1054491.00	101.4	60 - 125		1110558.50	1034634.70	1063636.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\041SMPL.D\041SMPL.D#
Date Acquired: Dec 24 2012 11:07 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-42-a
Misc Info: 3005 1/5
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.08007	0.08007	ug/l	15.01	100.00		310.01	256.67	250.01
11 B # 3	1.673	1.673	ug/l	7.95	1800.00		12877.98	12887.95	13828.59
23 Na # 1	250.6	250.6	ug/l	0.77	81000.00		1800686.40	1805427.50	1838001.30
24 Mg # 1	505.1	505.1	ug/l	0.44	81000.00		2319452.50	2345940.50	2356626.30
27 Al # 1	647.6	647.6	ug/l	1.23	81000.00		3416472.80	3393234.50	3440373.30
39 K # 2	386.4	386.4	ug/l	0.26	81000.00		149232.30	151450.55	158031.13
40 Ca # 1	178.9	178.9	ug/l	0.50	81000.00		1947579.80	1969996.30	1976930.00
45 Sc # 2	----	--------		--------	#VALUE!		42201.52	43563.52	45471.38
47 Ti # 3	18.98	18.98	ug/l	2.41	1620.00		20761.96	21239.17	20942.18
51 V # 2	0.8788	0.8788	ug/l	2.42	1800.00		2390.18	2357.95	2555.76
52 Cr # 2	0.9936	0.9936	ug/l	1.21	1800.00		3029.16	3155.85	3236.97
55 Mn # 3	18.64	18.64	ug/l	0.39	1800.00		383259.28	384880.31	383342.22
56 Fe # 1	483.8	483.8	ug/l	0.74	81000.00		7920101.50	7858870.00	8004552.50
59 Co # 3	0.5927	0.5927	ug/l	1.13	1800.00		9399.33	9452.68	9172.56
60 Ni # 2	1.195	1.195	ug/l	0.82	1800.00		1532.30	1562.30	1643.42
63 Cu # 2	1.334	1.334	ug/l	1.36	1800.00		4894.02	5095.19	5191.89
66 Zn # 3	5.105	5.105	ug/l	2.50	1800.00		9962.96	9752.84	10149.77
75 As # 2	0.2126	0.2126	ug/l	8.73	100.00		71.33	68.67	81.00
78 Se # 1	0.048	0.048	ug/l	23.54	100.00		46.67	41.00	52.33
88 Sr # 3	2.065	2.065	ug/l	2.00	1800.00		62663.63	62937.92	62707.30
95 Mo # 3	0.04887	0.04887	ug/l	12.58	1800.00		273.34	273.34	226.67
107 Ag # 3	0.004633	0.004633	ug/l	33.72	100.00		96.67	86.67	60.00
111 Cd # 3	0.01031	0.01031	ug/l	40.34	100.00		76.58	56.58	69.93
118 Sn # 3	0.09966	0.09966	ug/l	12.43	1800.00		1143.40	1256.75	1030.06
121 Sb # 3	0.2984	0.2984	ug/l	2.17	100.00		2576.93	2570.28	2466.90
137 Ba # 3	11	11	ug/l	0.83	1800.00		42677.65	43255.88	42944.82
202 Hg # 3	0.01428	0.01428	ug/l	4.82	5.00		104.33	99.00	102.67
205 Tl # 3	0.02594	0.02594	ug/l	7.16	20.00		760.04	676.70	773.38
208 Pb # 3	0.3751	0.3751	ug/l	0.62	1800.00		13909.48	13466.00	13659.38
232 Th # 3	0.5736	0.5736	ug/l	2.01	#VALUE!		24409.93	23922.39	23421.74
238 U # 3	0.09522	0.09522	ug/l	3.00	#VALUE!		4077.33	3800.59	3953.97

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	724440.94	2.60	836165.38	86.6	60 - 125		702715.94	735415.31	735191.50
45 Sc # 1	564235.13	1.25	552676.25	102.1	60 - 125		556492.56	565901.19	570311.63
45 Sc # 3	634995.63	1.30	644433.94	98.5	60 - 125		639410.19	625482.25	640094.38
74 Ge # 1	181647.66	0.70	175321.88	103.6	60 - 125		180410.81	181569.86	182962.27
74 Ge # 2	27716.31	2.84	27172.50	102.0	60 - 125		27041.22	27526.34	28581.37
74 Ge # 3	168496.13	0.47	164913.13	102.2	60 - 125		168853.55	169050.86	167583.95
89 Y # 3	1229429.80	1.75	1068488.30	115.1	60 - 125		1239519.60	1204689.40	1244080.40
115 In # 3	1139983.40	1.23	1083659.40	105.2	60 - 125		1135016.60	1155832.60	1129101.00
159 Tb # 3	1722419.40	1.06	1651256.80	104.3	60 - 125		1742765.80	1707412.40	1717079.80
209 Bi # 3	1079983.10	0.54	1054491.00	102.4	60 - 125		1084831.80	1073479.90	1081637.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\042SMPL.D\042SMPL.D#
Date Acquired: Dec 24 2012 11:15 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-b-42-a
Misc Info: 3005 1/5
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.019	0.019	ug/l	29.29	100.00		50.00	60.00	86.67
11 B # 3	1.498	1.498	ug/l	2.44	1800.00		12237.49	12337.59	12287.59
23 Na # 1	256.6	256.6	ug/l	9.70	81000.00		1818853.10	1849503.30	1889566.00
24 Mg # 1	382.2	382.2	ug/l	10.17	81000.00		1719228.80	1784213.50	1796892.50
27 Al # 1	4.022	4.022	ug/l	11.02	81000.00		21505.87	22330.43	23178.03
39 K # 2	290.8	290.8	ug/l	0.55	81000.00		113704.22	115888.11	118454.24
40 Ca # 1	159.9	159.9	ug/l	10.41	81000.00		1720184.50	1779422.90	1778650.40
45 Sc # 2	----	--------		--------	#VALUE!		41455.16	42238.32	43398.66
47 Ti # 3	0.1036	0.1036	ug/l	22.20	1620.00		110.00	160.00	143.34
51 V # 2	0.1561	0.1561	ug/l	6.69	1800.00		556.68	611.13	624.46
52 Cr # 2	0.08184	0.08184	ug/l	2.74	1800.00		375.56	372.23	376.67
55 Mn # 3	11.49	11.49	ug/l	2.49	1800.00		231820.86	231928.98	233509.08
56 Fe # 1	0.8926	0.8926	ug/l	10.68	81000.00		27677.81	27868.39	28228.79
59 Co # 3	0.3123	0.3123	ug/l	5.63	1800.00		4664.06	4780.74	5060.84
60 Ni # 2	0.5966	0.5966	ug/l	1.55	1800.00		790.02	802.25	794.47
63 Cu # 2	0.2743	0.2743	ug/l	7.14	1800.00		1374.51	1535.63	1482.29
66 Zn # 3	3.138	3.138	ug/l	2.84	1800.00		6044.49	6091.21	6164.53
75 As # 2	0.1145	0.1145	ug/l	11.40	100.00		50.67	45.33	48.00
78 Se # 1	0.008665	0.008665	ug/l	64.26	100.00		32.00	23.67	28.00
88 Sr # 3	1.817	1.817	ug/l	1.68	1800.00		48720.57	49425.66	49188.28
95 Mo # 3	0.02132	0.02132	ug/l	21.94	1800.00		153.34	123.34	150.00
107 Ag # 3	0.002501	0.002501	ug/l	7.13	100.00		56.67	53.34	53.33
111 Cd # 3	0.007413	0.007413	ug/l	62.46	100.00		63.29	46.63	66.62
118 Sn # 3	0.1139	0.1139	ug/l	1.03	1800.00		1226.75	1263.42	1206.75
121 Sb # 3	0.2349	0.2349	ug/l	3.04	100.00		2016.84	2010.18	2023.51
137 Ba # 3	7.149	7.149	ug/l	3.06	1800.00		26918.71	27513.03	27633.21
202 Hg # 3	0.00918	0.00918	ug/l	4.59	5.00		85.67	86.00	85.00
205 Tl # 3	0.0138	0.0138	ug/l	10.58	20.00		386.68	473.36	396.68
208 Pb # 3	0.006694	0.006694	ug/l	20.84	1800.00		520.02	450.02	413.35
232 Th # 3	0.04152	0.04152	ug/l	5.34	#VALUE!		2080.21	2000.20	1846.84
238 U # 3	0.0008829	0.0008829	ug/l	44.55	#VALUE!		63.34	46.67	30.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	707604.81	1.35	836165.38	84.6	60 - 125		696563.13	713134.06	713117.38
45 Sc # 1	565991.06	8.34	552676.25	102.4	60 - 125		613688.88	519281.16	565003.19
45 Sc # 3	617120.56	2.29	644433.94	95.8	60 - 125		618351.63	630617.19	602393.00
74 Ge # 1	183064.80	5.24	175321.88	104.4	60 - 125		192706.50	173504.48	182983.44
74 Ge # 2	27375.44	1.72	27172.50	100.7	60 - 125		26868.93	27460.67	27796.72
74 Ge # 3	165326.52	2.22	164913.13	100.3	60 - 125		164090.47	169452.86	162436.22
89 Y # 3	1092822.80	1.62	1068488.30	102.3	60 - 125		1096147.50	1108668.40	1073652.30
115 In # 3	1117022.50	2.27	1083659.40	103.1	60 - 125		1121712.90	1139692.80	1089661.90
159 Tb # 3	1711081.10	3.23	1651256.80	103.6	60 - 125		1717436.40	1762969.50	1652837.50
209 Bi # 3	1076361.50	2.14	1054491.00	102.1	60 - 125		1080852.10	1096815.30	1051416.90

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\043SMPL.D\043SMPL.D#
Date Acquired: Dec 24 2012 11:22 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-43-a
Misc Info: 3005 1/5
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01795	0.01795	ug/l	17.54	100.00		50.00	66.67	70.00
11 B # 3	1.317	1.317	ug/l	3.15	1800.00		11527.01	11663.79	11920.61
23 Na # 1	236.1	236.1	ug/l	1.57	81000.00		1689102.90	1741021.40	1707165.60
24 Mg # 1	217.3	217.3	ug/l	3.32	81000.00		996802.06	999647.50	1018952.20
27 Al # 1	55.68	55.68	ug/l	2.30	81000.00		293916.19	294839.50	294104.59
39 K # 2	191	191	ug/l	4.79	81000.00		77177.85	79962.80	82196.08
40 Ca # 1	49.75	49.75	ug/l	2.29	81000.00		591453.56	600546.94	596502.19
45 Sc # 2	-----	--------		--------	#VALUE!		44354.29	41197.16	44206.07
47 Ti # 3	2.619	2.619	ug/l	3.37	1620.00		2793.62	2823.62	2883.65
51 V # 2	0.2053	0.2053	ug/l	2.88	1800.00		717.80	708.91	743.36
52 Cr # 2	0.1988	0.1988	ug/l	10.07	1800.00		714.47	774.47	692.24
55 Mn # 3	2.047	2.047	ug/l	1.25	1800.00		42348.99	41523.78	41403.48
56 Fe # 1	38.44	38.44	ug/l	0.72	81000.00		645476.81	647795.25	645780.25
59 Co # 3	0.1338	0.1338	ug/l	5.11	1800.00		2120.19	1956.82	2103.51
60 Ni # 2	0.4415	0.4415	ug/l	11.32	1800.00		570.01	655.57	572.24
63 Cu # 2	0.2804	0.2804	ug/l	11.47	1800.00		1423.40	1565.64	1477.85
66 Zn # 3	1.857	1.857	ug/l	2.78	1800.00		3777.17	3730.48	3527.10
75 As # 2	0.1214	0.1214	ug/l	19.57	100.00		47.00	55.33	47.33
78 Se # 1	0.01829	0.01829	ug/l	54.24	100.00		37.33	28.00	32.00
88 Sr # 3	0.6925	0.6925	ug/l	1.77	1800.00		18660.17	18553.46	19067.32
95 Mo # 3	0.01421	0.01421	ug/l	11.17	1800.00		116.67	120.00	103.34
107 Ag # 3	0.0008984	0.0008984	ug/l	73.83	100.00		43.33	36.67	26.67
111 Cd # 3	0.002272	0.002272	ug/l	46.00	100.00		46.63	43.30	46.63
118 Sn # 3	0.06181	0.06181	ug/l	12.91	1800.00		850.05	873.38	723.37
121 Sb # 3	0.2307	0.2307	ug/l	0.92	100.00		1980.17	2010.18	1926.83
137 Ba # 3	3.491	3.491	ug/l	3.38	1800.00		13118.77	13278.89	13415.69
202 Hg # 3	0.008756	0.008756	ug/l	22.25	5.00		77.33	87.33	86.33
205 Tl # 3	0.008317	0.008317	ug/l	12.18	20.00		253.34	310.01	273.35
208 Pb # 3	0.03239	0.03239	ug/l	11.88	1800.00		1236.73	1520.08	1400.07
232 Th # 3	0.0526	0.0526	ug/l	5.47	#VALUE!		2350.25	2400.26	2490.28
238 U # 3	0.01682	0.01682	ug/l	6.30	#VALUE!		653.36	726.71	713.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	709894.06	0.55	836165.38	84.9	60 - 125		705516.81	711074.13	713091.25
45 Sc # 1	563283.63	2.46	552676.25	101.9	60 - 125		558934.50	578805.13	552111.19
45 Sc # 3	616357.94	1.85	644433.94	95.6	60 - 125		619335.75	625983.69	603754.44
74 Ge # 1	182867.31	0.87	175321.88	104.3	60 - 125		182485.78	184622.77	181493.41
74 Ge # 2	27496.32	2.41	27172.50	101.2	60 - 125		27931.43	26735.18	27822.37
74 Ge # 3	163606.67	1.14	164913.13	99.2	60 - 125		164368.88	164968.14	161483.00
89 Y # 3	1092895.30	0.34	1068488.30	102.3	60 - 125		1095769.60	1094255.40	1088660.80
115 In # 3	1109047.90	2.34	1083659.40	102.3	60 - 125		1123529.90	1124563.60	1079050.30
159 Tb # 3	1722614.30	2.08	1651256.80	104.3	60 - 125		1731821.00	1753013.50	1683008.30
209 Bi # 3	1069587.80	2.08	1054491.00	101.4	60 - 125		1076975.10	1087166.10	1044622.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\044SMPL.D\044SMPL.D#
Date Acquired: Dec 24 2012 11:29 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-44-a
Misc Info: 3005 1/5
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01288	0.01288	ug/l	8.27	100.00		40.00	43.33	50.00
11 B	# 3	1.279	1.279	ug/l	12.37	1800.00		11326.87	11330.25	11210.16
23 Na	# 1	666.9	666.9	ug/l	1.36	81000.00		4565778.50	4600152.50	4694063.00
24 Mg	# 1	377.4	377.4	ug/l	0.96	81000.00		1708000.10	1746635.60	1737215.60
27 Al	# 1	9.752	9.752	ug/l	1.78	81000.00		52735.11	51153.72	52269.18
39 K	# 2	362.3	362.3	ug/l	1.59	81000.00		140161.47	142964.64	144821.61
40 Ca	# 1	855.2	855.2	ug/l	0.70	81000.00		8957588.00	9024656.00	9107324.00
45 Sc	# 2	----	--------		--------	#VALUE!		41839.59	42515.59	42935.46
47 Ti	# 3	0.4514	0.4514	ug/l	3.81	1620.00		533.36	500.02	516.69
51 V	# 2	0.2808	0.2808	ug/l	2.37	1800.00		930.03	903.36	902.25
52 Cr	# 2	0.2085	0.2085	ug/l	4.65	1800.00		768.91	720.02	780.02
55 Mn	# 3	0.6957	0.6957	ug/l	2.41	1800.00		15283.30	15089.86	14722.87
56 Fe	# 1	10.32	10.32	ug/l	0.58	81000.00		181015.67	183906.81	182495.78
59 Co	# 3	0.01577	0.01577	ug/l	3.23	1800.00		270.01	260.01	256.67
60 Ni	# 2	0.2027	0.2027	ug/l	10.02	1800.00		264.45	313.34	303.34
63 Cu	# 2	0.9042	0.9042	ug/l	3.64	1800.00		3463.69	3670.40	3594.83
66 Zn	# 3	0.9024	0.9024	ug/l	4.21	1800.00		2013.51	1936.83	1886.83
75 As	# 2	0.1287	0.1287	ug/l	18.68	100.00		45.33	52.33	57.67
78 Se	# 1	0.011	0.011	ug/l	21.24	100.00		30.00	28.00	28.33
88 Sr	# 3	5.619	5.619	ug/l	1.36	1800.00		152854.63	150088.36	148189.61
95 Mo	# 3	0.01807	0.01807	ug/l	29.95	1800.00		133.34	106.67	150.00
107 Ag	# 3	0.003047	0.003047	ug/l	18.67	100.00		66.67	53.34	63.34
111 Cd	# 3	-0.00445	-0.00445	ug/l	43.46	100.00		33.29	23.30	29.95
118 Sn	# 3	0.04917	0.04917	ug/l	11.32	1800.00		676.70	750.04	743.37
121 Sb	# 3	0.1853	0.1853	ug/l	3.07	100.00		1640.14	1630.12	1703.48
137 Ba	# 3	2.582	2.582	ug/l	2.01	1800.00		10013.26	10086.60	9713.06
202 Hg	# 3	0.001872	0.001872	ug/l	41.83	5.00		65.33	61.33	62.33
205 Tl	# 3	0.003728	0.003728	ug/l	12.17	20.00		156.67	173.34	150.01
208 Pb	# 3	0.007473	0.007473	ug/l	1.60	1800.00		496.68	490.02	493.35
232 Th	# 3	0.02447	0.02447	ug/l	2.52	#VALUE!		1273.43	1266.76	1313.43
238 U	# 3	0.02107	0.02107	ug/l	9.84	#VALUE!		923.39	943.40	786.71

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	693527.00	4.23	836165.38	82.9	60 - 125		660980.44	701762.81	717837.88
45 Sc	# 1	558189.50	0.21	552676.25	101.0	60 - 125		556866.56	559071.31	558630.69
45 Sc	# 3	623916.06	0.60	644433.94	96.8	60 - 125		620008.31	624235.88	627504.13
74 Ge	# 1	182086.48	0.30	175321.88	103.9	60 - 125		181708.16	182705.27	181846.05
74 Ge	# 2	27464.42	0.43	27172.50	101.1	60 - 125		27451.78	27353.88	27587.61
74 Ge	# 3	166035.58	0.37	164913.13	100.7	60 - 125		165395.55	166084.17	166627.03
89 Y	# 3	1082865.90	0.25	1068488.30	101.3	60 - 125		1084510.90	1084341.30	1079745.60
115 In	# 3	1121458.40	0.52	1083659.40	103.5	60 - 125		1128004.40	1116919.00	1119451.80
159 Tb	# 3	1727526.00	0.20	1651256.80	104.6	60 - 125		1723842.90	1730657.00	1728078.10
209 Bi	# 3	1084676.10	0.64	1054491.00	102.9	60 - 125		1077024.00	1090419.10	1086585.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\045SMPL.D\045SMPL.D#
Date Acquired: Dec 24 2012 11:37 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-45-a
Misc Info: 3005 1/5
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.04097	0.04097	ug/l	14.49	100.00		136.67	116.67	160.00
11 B # 3	1.562	1.562	ug/l	6.08	1800.00		12167.42	12651.14	12654.53
23 Na # 1	552.3	552.3	ug/l	1.53	81000.00		3869177.50	3830907.50	3925734.00
24 Mg # 1	623.6	623.6	ug/l	0.69	81000.00		2834244.30	2885586.50	2931676.30
27 Al # 1	7.476	7.476	ug/l	2.41	81000.00		39799.82	41768.11	40024.52
39 K # 2	526	526	ug/l	1.33	81000.00		201003.55	206835.06	210532.00
40 Ca # 1	45.73	45.73	ug/l	0.22	81000.00		545975.19	557665.19	557412.25
45 Sc # 2	----	--------		--------	#VALUE!		42453.23	43106.91	44980.61
47 Ti # 3	0.2377	0.2377	ug/l	16.52	1620.00		310.01	303.35	236.68
51 V # 2	0.1938	0.1938	ug/l	6.30	1800.00		727.80	682.24	704.47
52 Cr # 2	0.07837	0.07837	ug/l	9.32	1800.00		366.67	388.90	358.90
55 Mn # 3	2.514	2.514	ug/l	2.01	1800.00		51889.78	51689.58	51257.97
56 Fe # 1	7.071	7.071	ug/l	0.34	81000.00		129082.74	129712.34	130510.91
59 Co # 3	0.07742	0.07742	ug/l	7.08	1800.00		1140.07	1220.08	1276.75
60 Ni # 2	0.537	0.537	ug/l	3.21	1800.00		697.80	746.69	757.80
63 Cu # 2	0.4516	0.4516	ug/l	3.58	1800.00		2104.59	2086.81	2094.58
66 Zn # 3	3.483	3.483	ug/l	3.10	1800.00		6661.41	6664.72	6918.19
75 As # 2	0.1219	0.1219	ug/l	14.64	100.00		54.33	45.67	52.67
78 Se # 1	0.013	0.013	ug/l	46.12	100.00		32.67	27.00	30.00
88 Sr # 3	0.8233	0.8233	ug/l	3.26	1800.00		22851.88	23112.22	22190.95
95 Mo # 3	0.006959	0.006959	ug/l	109.17	1800.00		96.67	50.00	110.00
107 Ag # 3	0.000315	0.000315	ug/l	211.30	100.00		33.33	33.34	20.00
111 Cd # 3	0.009442	0.009442	ug/l	80.13	100.00		86.64	59.99	46.63
118 Sn # 3	0.05546	0.05546	ug/l	4.06	1800.00		766.70	760.04	786.71
121 Sb # 3	0.1871	0.1871	ug/l	1.20	100.00		1683.46	1630.12	1686.81
137 Ba # 3	8.579	8.579	ug/l	2.72	1800.00		32591.92	32909.32	33103.04
202 Hg # 3	0.006785	0.006785	ug/l	25.93	5.00		79.00	71.67	85.00
205 Tl # 3	0.02139	0.02139	ug/l	2.95	20.00		626.70	583.36	646.70
208 Pb # 3	0.01144	0.01144	ug/l	9.03	1800.00		623.36	646.69	630.03
232 Th # 3	0.02162	0.02162	ug/l	5.33	#VALUE!		1250.09	1100.08	1146.75
238 U # 3	0.004716	0.004716	ug/l	7.95	#VALUE!		196.67	196.67	223.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	706501.00	1.56	836165.38	84.5	60 - 125		705287.13	696167.00	718048.94
45 Sc # 1	563053.75	1.21	552676.25	101.9	60 - 125		555260.38	565985.38	567915.44
45 Sc # 3	621365.63	3.07	644433.94	96.4	60 - 125		638008.94	600590.19	625497.75
74 Ge # 1	182965.13	0.85	175321.88	104.4	60 - 125		181640.94	182586.88	184667.61
74 Ge # 2	27921.20	2.53	27172.50	102.8	60 - 125		27423.98	27609.82	28729.80
74 Ge # 3	165405.30	2.06	164913.13	100.3	60 - 125		168810.94	161986.44	165418.52
89 Y # 3	1114137.60	2.61	1068488.30	104.3	60 - 125		1147143.80	1092509.10	1102759.90
115 In # 3	1118473.80	2.23	1083659.40	103.2	60 - 125		1141719.00	1092166.00	1121536.30
159 Tb # 3	1723124.10	3.85	1651256.80	104.4	60 - 125		1773832.50	1648115.80	1747424.30
209 Bi # 3	1083177.50	2.71	1054491.00	102.7	60 - 125		1110211.30	1051962.80	1087358.40

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\046SMPL.D\046SMPL.D#
Date Acquired: Dec 24 2012 11:44 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-46-a
Misc Info: 3005 1/5
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02707	0.02707	ug/l	22.58	100.00		66.67	100.00	106.67
11 B # 3	1.108	1.108	ug/l	4.30	1800.00		10513.16	11060.10	10853.29
23 Na # 1	193.7	193.7	ug/l	4.87	81000.00		1466530.80	1455227.30	1492535.10
24 Mg # 1	313.7	313.7	ug/l	4.97	81000.00		1490220.30	1502266.90	1512106.90
27 Al # 1	24.68	24.68	ug/l	6.18	81000.00		134993.19	137175.69	134617.58
39 K # 2	463.1	463.1	ug/l	2.04	81000.00		176240.80	181512.33	182198.78
40 Ca # 1	123.3	123.3	ug/l	5.54	81000.00		1399574.40	1438586.10	1426286.00
45 Sc # 2	-----	--------		--------	#VALUE!		43257.28	42104.78	43504.49
47 Ti # 3	1.347	1.347	ug/l	7.82	1620.00		1610.11	1416.76	1436.76
51 V # 2	0.2066	0.2066	ug/l	6.02	1800.00		711.13	702.24	767.80
52 Cr # 2	0.156	0.156	ug/l	9.95	1800.00		644.46	600.02	554.46
55 Mn # 3	4.237	4.237	ug/l	0.18	1800.00		87160.90	87348.38	87730.71
56 Fe # 1	31.27	31.27	ug/l	4.14	81000.00		540303.88	546959.94	537338.38
59 Co # 3	0.1172	0.1172	ug/l	1.55	1800.00		1860.14	1860.14	1826.81
60 Ni # 2	0.254	0.254	ug/l	1.66	1800.00		355.56	363.34	361.12
63 Cu # 2	0.2917	0.2917	ug/l	1.61	1800.00		1514.52	1518.97	1554.53
66 Zn # 3	2.59	2.59	ug/l	2.24	1800.00		5110.83	5037.48	5294.26
75 As # 2	0.1174	0.1174	ug/l	5.75	100.00		50.00	49.67	47.33
78 Se # 1	0.008702	0.008702	ug/l	106.72	100.00		33.00	25.33	27.00
88 Sr # 3	1.453	1.453	ug/l	1.60	1800.00		40055.47	40433.00	40082.23
95 Mo # 3	0.004041	0.004041	ug/l	67.24	1800.00		73.34	63.34	86.67
107 Ag # 3	0.0005746	0.0005746	ug/l	207.80	100.00		43.33	36.67	16.67
111 Cd # 3	0.002732	0.002732	ug/l	188.25	100.00		36.64	43.31	63.31
118 Sn # 3	0.05364	0.05364	ug/l	8.50	1800.00		733.37	803.38	760.04
121 Sb # 3	0.1787	0.1787	ug/l	1.04	100.00		1610.12	1630.12	1630.12
137 Ba # 3	4.558	4.558	ug/l	2.47	1800.00		17082.34	17989.96	17969.98
202 Hg # 3	0.003037	0.003037	ug/l	36.39	5.00		64.00	71.00	65.67
205 Tl # 3	0.01639	0.01639	ug/l	9.30	20.00		503.36	516.69	450.02
208 Pb # 3	0.02756	0.02756	ug/l	4.20	1800.00		1166.72	1213.39	1270.06
232 Th # 3	0.03462	0.03462	ug/l	1.92	#VALUE!		1733.49	1713.49	1680.15
238 U # 3	0.007499	0.007499	ug/l	13.98	#VALUE!		296.68	373.35	296.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	698796.06	1.92	836165.38	83.6	60 - 125		683783.13	703043.00	709562.00
45 Sc # 1	583847.75	5.78	552676.25	105.6	60 - 125		559263.56	569960.88	622318.75
45 Sc # 3	623625.69	0.68	644433.94	96.8	60 - 125		620323.63	628410.50	622142.81
74 Ge # 1	187669.92	3.50	175321.88	107.0	60 - 125		182786.63	185094.02	195129.13
74 Ge # 2	27510.54	0.67	27172.50	101.2	60 - 125		27531.95	27315.33	27684.33
74 Ge # 3	167416.75	0.51	164913.13	101.5	60 - 125		166767.11	167107.45	168375.66
89 Y # 3	1118205.80	1.09	1068488.30	104.7	60 - 125		1120859.10	1104885.40	1128872.60
115 In # 3	1131371.50	1.08	1083659.40	104.4	60 - 125		1122828.80	1125938.80	1145346.90
159 Tb # 3	1728384.30	0.96	1651256.80	104.7	60 - 125		1718999.50	1718520.30	1747632.90
209 Bi # 3	1087461.10	0.20	1054491.00	103.1	60 - 125		1085713.00	1089870.40	1086800.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\047SMPL.D\047SMPL.D#
Date Acquired: Dec 24 2012 11:52 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-47-a
Misc Info: 3005 1/5
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02808	0.02808	ug/l	11.67	100.00		80.00	96.67	106.67
11 B	# 3	0.9091	0.9091	ug/l	13.24	1800.00		10142.87	10229.63	10016.16
23 Na	# 1	136.4	136.4	ug/l	9.37	81000.00		1022810.60	1022376.00	1049155.80
24 Mg	# 1	200.2	200.2	ug/l	8.77	81000.00		918876.31	917604.13	946847.38
27 Al	# 1	56.41	56.41	ug/l	7.65	81000.00		297077.47	298439.06	300788.19
39 K	# 2	213.4	213.4	ug/l	9.33	81000.00		86066.42	89204.24	89519.15
40 Ca	# 1	79.2	79.2	ug/l	8.66	81000.00		909156.63	902533.13	915548.75
45 Sc	# 2	----	--------		--------	#VALUE!		45947.69	38768.74	44276.34
47 Ti	# 3	2.279	2.279	ug/l	6.34	1620.00		2570.26	2496.91	2340.23
51 V	# 2	0.2207	0.2207	ug/l	5.66	1800.00		787.80	743.36	764.47
52 Cr	# 2	0.1621	0.1621	ug/l	11.99	1800.00		594.46	631.13	631.13
55 Mn	# 3	1.662	1.662	ug/l	1.53	1800.00		34656.33	34569.60	34332.26
56 Fe	# 1	32.69	32.69	ug/l	5.70	81000.00		547840.69	550153.13	560423.56
59 Co	# 3	0.08154	0.08154	ug/l	4.25	1800.00		1313.41	1290.08	1233.41
60 Ni	# 2	0.3351	0.3351	ug/l	8.47	1800.00		478.90	470.01	446.68
63 Cu	# 2	1.176	1.176	ug/l	7.72	1800.00		4387.23	4375.01	4757.32
66 Zn	# 3	2.282	2.282	ug/l	5.05	1800.00		4714.07	4437.35	4403.99
75 As	# 2	0.1287	0.1287	ug/l	32.64	100.00		45.00	59.00	51.00
78 Se	# 1	0.00672	0.00672	ug/l	68.16	100.00		24.67	27.67	28.33
88 Sr	# 3	0.906	0.906	ug/l	3.54	1800.00		24751.07	24740.98	24257.01
95 Mo	# 3	0.01513	0.01513	ug/l	16.76	1800.00		106.67	116.67	130.00
107 Ag	# 3	0.0002169	0.0002169	ug/l	527.89	100.00		13.33	40.00	30.00
111 Cd	# 3	-9.702E-005	-9.702E-005	ug/l	6745.00	100.00		29.97	29.96	59.96
118 Sn	# 3	0.07155	0.07155	ug/l	11.82	1800.00		950.06	900.05	840.04
121 Sb	# 3	0.1885	0.1885	ug/l	3.48	100.00		1693.47	1616.79	1713.46
137 Ba	# 3	2.902	2.902	ug/l	3.08	1800.00		11377.44	10890.50	11087.32
202 Hg	# 3	-0.00515	-0.00515	ug/l	29.63	5.00		36.67	46.00	38.67
205 Tl	# 3	0.01173	0.01173	ug/l	8.34	20.00		376.68	340.01	386.68
208 Pb	# 3	0.04431	0.04431	ug/l	9.02	1800.00		1956.78	1723.43	1760.10
232 Th	# 3	0.04295	0.04295	ug/l	4.72	#VALUE!		1966.86	2133.54	2010.20
238 U	# 3	0.01303	0.01303	ug/l	10.45	#VALUE!		586.70	560.03	493.36

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	699414.56	3.27	836165.38	83.6	60 - 125		679409.06	694454.25	724380.38
45 Sc	# 1	566392.44	7.49	552676.25	102.5	60 - 125		554916.50	613394.88	530865.94
45 Sc	# 3	616568.75	1.57	644433.94	95.7	60 - 125		606628.31	617155.63	625922.25
74 Ge	# 1	183603.78	4.92	175321.88	104.7	60 - 125		180261.67	193838.98	176710.66
74 Ge	# 2	27661.88	6.63	27172.50	101.8	60 - 125		29132.33	25606.95	28246.35
74 Ge	# 3	165724.34	1.02	164913.13	100.5	60 - 125		163946.42	165912.11	167314.50
89 Y	# 3	1095981.90	2.44	1068488.30	102.6	60 - 125		1076093.00	1085537.00	1126315.80
115 In	# 3	1116829.00	1.33	1083659.40	103.1	60 - 125		1103407.50	1114263.30	1132816.00
159 Tb	# 3	1723771.80	0.98	1651256.80	104.4	60 - 125		1704412.90	1731299.60	1735602.90
209 Bi	# 3	1077909.50	1.55	1054491.00	102.2	60 - 125		1061055.50	1078306.50	1094366.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\048SMPL.D\048SMPL.D#
Date Acquired: Dec 24 2012 11:59 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-48-a
Misc Info: 3005 1/5
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02761	0.02761	ug/l	16.92	100.00		103.34	90.00	83.34
11 B	# 3	0.8372	0.8372	ug/l	11.36	1800.00		9739.37	9669.30	10256.27
23 Na	# 1	128.1	128.1	ug/l	6.09	81000.00		1007584.80	1000047.10	1029368.30
24 Mg	# 1	177.6	177.6	ug/l	6.35	81000.00		840805.31	864055.00	859110.88
27 Al	# 1	42.73	42.73	ug/l	10.75	81000.00		229933.64	249133.59	225116.34
39 K	# 2	218.5	218.5	ug/l	1.04	81000.00		88604.43	91739.26	91742.51
40 Ca	# 1	26.76	26.76	ug/l	7.90	81000.00		364558.28	368053.91	369199.56
45 Sc	# 2	----	--------		--------	#VALUE!		42937.59	43299.55	44285.07
47 Ti	# 3	1.319	1.319	ug/l	11.44	1620.00		1486.77	1570.34	1273.41
51 V	# 2	0.2126	0.2126	ug/l	2.28	1800.00		730.02	743.36	771.13
52 Cr	# 2	0.1136	0.1136	ug/l	0.80	1800.00		468.90	474.45	484.46
55 Mn	# 3	1.251	1.251	ug/l	3.72	1800.00		26893.38	25972.06	26008.82
56 Fe	# 1	34.2	34.2	ug/l	5.65	81000.00		592265.19	594670.50	584864.38
59 Co	# 3	0.0931	0.0931	ug/l	6.90	1800.00		1546.77	1433.44	1403.43
60 Ni	# 2	0.2427	0.2427	ug/l	7.05	1800.00		362.23	354.45	327.78
63 Cu	# 2	0.1756	0.1756	ug/l	15.85	1800.00		1065.60	1113.38	1271.17
66 Zn	# 3	2.102	2.102	ug/l	5.78	1800.00		4330.62	3980.54	4267.29
75 As	# 2	0.1018	0.1018	ug/l	6.98	100.00		43.33	45.00	48.00
78 Se	# 1	0.01018	0.01018	ug/l	51.45	100.00		27.33	26.67	34.00
88 Sr	# 3	0.4545	0.4545	ug/l	4.79	1800.00		12664.79	11950.92	12427.96
95 Mo	# 3	0.01648	0.01648	ug/l	136.95	1800.00		226.67	73.34	70.00
107 Ag	# 3	0.003823	0.003823	ug/l	117.79	100.00		126.67	60.00	23.33
111 Cd	# 3	0.006798	0.006798	ug/l	71.35	100.00		63.26	43.31	66.65
118 Sn	# 3	0.05761	0.05761	ug/l	6.65	1800.00		816.71	760.04	796.71
121 Sb	# 3	0.211	0.211	ug/l	6.45	100.00		1950.17	1766.81	1833.48
137 Ba	# 3	2.951	2.951	ug/l	2.77	1800.00		11424.16	11554.27	11107.29
202 Hg	# 3	-1.675E-005	-1.675E-005	ug/l	1717.00	5.00		55.67	57.67	58.67
205 Tl	# 3	0.01076	0.01076	ug/l	26.06	20.00		420.02	306.68	300.01
208 Pb	# 3	0.02253	0.02253	ug/l	28.90	1800.00		1263.40	1006.71	826.70
232 Th	# 3	0.05123	0.05123	ug/l	8.18	#VALUE!		2540.30	2236.90	2436.94
238 U	# 3	0.01457	0.01457	ug/l	13.25	#VALUE!		696.70	550.03	606.70

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	699775.56	5.48	836165.38	83.7	60 - 125		663438.88	696057.69	739830.19
45 Sc	# 1	587280.88	7.06	552676.25	106.3	60 - 125		559131.13	567781.06	634930.38
45 Sc	# 3	618019.56	1.70	644433.94	95.9	60 - 125		605997.50	622807.38	625253.88
74 Ge	# 1	187697.22	4.86	175321.88	107.1	60 - 125		181077.36	183916.00	198098.31
74 Ge	# 2	27731.10	1.29	27172.50	102.1	60 - 125		27347.18	27791.18	28054.94
74 Ge	# 3	166178.98	1.59	164913.13	100.8	60 - 125		163176.81	167172.56	168187.58
89 Y	# 3	1094514.90	1.92	1068488.30	102.4	60 - 125		1071060.60	1111813.00	1100670.90
115 In	# 3	1122478.80	0.85	1083659.40	103.6	60 - 125		1114541.10	1119876.10	1133019.00
159 Tb	# 3	1726396.40	1.47	1651256.80	104.6	60 - 125		1697348.30	1744622.60	1737217.90
209 Bi	# 3	1090747.60	1.12	1054491.00	103.4	60 - 125		1076709.60	1096599.80	1098933.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\049SMPL.D\049SMPL.D#
Date Acquired: Dec 25 2012 12:07 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-53-a
Misc Info: 3005 1/5
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0001533	0.0001533	ug/l	15.34	100.00		3.33	3.33	3.33
11 B	# 3	1.865	1.865	ug/l	6.98	1800.00		13548.35	13124.79	13705.14
23 Na	# 1	900.6	900.6	ug/l	5.97	81000.00		6176335.00	6236132.50	6309013.00
24 Mg	# 1	581.6	581.6	ug/l	6.08	81000.00		2663211.80	2669424.30	2711308.30
27 Al	# 1	4.793	4.793	ug/l	9.69	81000.00		27117.95	25001.39	26749.30
39 K	# 2	365.2	365.2	ug/l	2.44	81000.00		140281.44	145746.11	147257.58
40 Ca	# 1	1163	1163	ug/l	5.87	81000.00		12241295.00	12299145.00	12430560.00
45 Sc	# 2	----	--------		--------	#VALUE!		43155.25	41273.97	43185.95
47 Ti	# 3	0.3131	0.3131	ug/l	12.42	1620.00		376.69	403.35	316.68
51 V	# 2	0.2809	0.2809	ug/l	1.98	1800.00		910.03	915.59	924.48
52 Cr	# 2	0.03632	0.03632	ug/l	26.93	1800.00		251.12	257.78	212.23
55 Mn	# 3	0.4652	0.4652	ug/l	2.37	1800.00		10336.48	10069.60	10443.20
56 Fe	# 1	12.71	12.71	ug/l	3.30	81000.00		217361.77	221157.86	222087.39
59 Co	# 3	0.007955	0.007955	ug/l	7.73	1800.00		136.67	133.34	150.00
60 Ni	# 2	0.1103	0.1103	ug/l	7.72	1800.00		186.67	164.45	177.78
63 Cu	# 2	0.09373	0.09373	ug/l	18.75	1800.00		810.02	842.25	956.70
66 Zn	# 3	0.8695	0.8695	ug/l	6.98	1800.00		2006.84	1800.15	1800.14
75 As	# 2	0.1305	0.1305	ug/l	18.71	100.00		55.00	44.67	58.00
78 Se	# 1	0.02054	0.02054	ug/l	4.55	100.00		33.33	34.33	32.00
88 Sr	# 3	7.184	7.184	ug/l	2.47	1800.00		193000.63	194029.58	194214.89
95 Mo	# 3	0.005223	0.005223	ug/l	79.92	1800.00		70.00	100.00	66.67
107 Ag	# 3	-0.000465	-0.000465	ug/l	236.77	100.00		6.67	33.33	20.00
111 Cd	# 3	0.001163	0.001163	ug/l	204.82	100.00		49.98	39.97	39.98
118 Sn	# 3	0.05019	0.05019	ug/l	8.23	1800.00		720.03	720.04	760.04
121 Sb	# 3	0.1876	0.1876	ug/l	8.03	100.00		1783.48	1606.79	1646.79
137 Ba	# 3	2.627	2.627	ug/l	0.94	1800.00		9953.17	10383.50	10079.95
202 Hg	# 3	0.0004711	0.0004711	ug/l	411.17	5.00		56.33	55.67	65.67
205 Tl	# 3	0.0004555	0.0004555	ug/l	183.64	20.00		90.00	86.67	50.00
208 Pb	# 3	0.002937	0.002937	ug/l	35.27	1800.00		340.01	296.68	363.35
232 Th	# 3	0.01128	0.01128	ug/l	12.57	#VALUE!		746.71	816.71	680.03
238 U	# 3	0.0005745	0.0005745	ug/l	30.32	#VALUE!		36.67	26.67	40.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	702671.25	2.28	836165.38	84.0	60 - 125		684522.31	708572.63	714918.75
45 Sc	# 1	562520.06	5.48	552676.25	101.8	60 - 125		554462.19	596579.56	536518.44
45 Sc	# 3	621835.63	0.98	644433.94	96.5	60 - 125		617770.13	628853.19	618883.56
74 Ge	# 1	181007.00	3.03	175321.88	103.2	60 - 125		179132.94	187185.00	176703.08
74 Ge	# 2	27607.99	2.17	27172.50	101.6	60 - 125		27351.71	27179.20	28293.06
74 Ge	# 3	164663.78	0.48	164913.13	99.8	60 - 125		165331.05	164876.06	163784.27
89 Y	# 3	1091636.10	2.49	1068488.30	102.2	60 - 125		1084482.80	1121690.90	1068735.00
115 In	# 3	1124639.10	1.79	1083659.40	103.8	60 - 125		1115886.50	1147703.80	1110327.10
159 Tb	# 3	1745598.30	1.39	1651256.80	105.7	60 - 125		1727756.30	1773279.40	1735758.90
209 Bi	# 3	1097777.40	1.20	1054491.00	104.1	60 - 125		1096310.90	1111564.60	1085456.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\050SMPL.D\050SMPL.D#
Date Acquired: Dec 25 2012 12:14 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-54-a
Misc Info: 3005 1/5
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01411	0.01411	ug/l	40.91	100.00		66.67	40.00	36.67
11 B	# 3	20.3	20.3	ug/l	4.40	1800.00		75368.31	75859.39	74946.07
23 Na	# 1	2938	2938	ug/l	7.06	81000.00		19865162.00	20222690.00	20431644.00
24 Mg	# 1	2191	2191	ug/l	6.97	81000.00		9951964.00	10150516.00	10242808.00
27 Al	# 1	99.52	99.52	ug/l	7.80	81000.00		517203.84	520791.72	534419.44
39 K	# 2	721.1	721.1	ug/l	5.39	81000.00		265676.00	268927.69	274844.69
40 Ca	# 1	4712	4712	ug/l	7.41	81000.00		49461960.00	49474204.00	50421024.00
45 Sc	# 2	----	--------		--------	#VALUE!		44951.50	40085.15	43674.84
47 Ti	# 3	6.064	6.064	ug/l	8.92	1620.00		6571.36	6277.90	6901.44
51 V	# 2	0.4571	0.4571	ug/l	6.50	1800.00		1326.73	1338.95	1327.84
52 Cr	# 2	0.1792	0.1792	ug/l	6.88	1800.00		644.46	656.68	670.02
55 Mn	# 3	333.3	333.3	ug/l	3.85	1800.00		6728492.50	6581238.00	6691265.50
56 Fe	# 1	1286	1286	ug/l	6.17	81000.00		20685284.00	20807472.00	21224544.00
59 Co	# 3	1.417	1.417	ug/l	3.27	1800.00		22097.00	21522.95	21553.07
60 Ni	# 2	0.5565	0.5565	ug/l	7.25	1800.00		703.35	735.58	763.36
63 Cu	# 2	0.7327	0.7327	ug/l	3.23	1800.00		3002.49	2762.45	3106.96
66 Zn	# 3	3.166	3.166	ug/l	6.01	1800.00		6161.23	5911.11	6247.93
75 As	# 2	0.1483	0.1483	ug/l	6.49	100.00		55.33	55.00	57.00
78 Se	# 1	0.007977	0.007977	ug/l	92.53	100.00		26.67	25.00	29.33
88 Sr	# 3	30.03	30.03	ug/l	5.25	1800.00		822267.81	799187.50	805263.50
95 Mo	# 3	0.02649	0.02649	ug/l	35.26	1800.00		140.00	146.67	193.34
107 Ag	# 3	-0.0007273	-0.0007273	ug/l	69.46	100.00		16.67	23.33	10.00
111 Cd	# 3	0.001116	0.001116	ug/l	499.73	100.00		56.62	29.95	39.94
118 Sn	# 3	0.05383	0.05383	ug/l	7.08	1800.00		716.70	790.04	736.70
121 Sb	# 3	0.1558	0.1558	ug/l	12.47	100.00		1463.44	1320.09	1450.10
137 Ba	# 3	9.473	9.473	ug/l	4.84	1800.00		36216.30	35631.34	35420.85
202 Hg	# 3	0.007012	0.007012	ug/l	31.05	5.00		85.00	74.67	73.33
205 Tl	# 3	0.004362	0.004362	ug/l	21.61	20.00		150.01	186.67	193.34
208 Pb	# 3	0.08565	0.08565	ug/l	3.19	1800.00		3336.92	3333.58	3256.90
232 Th	# 3	0.03892	0.03892	ug/l	2.65	#VALUE!		1873.51	1860.18	1796.83
238 U	# 3	0.007148	0.007148	ug/l	8.93	#VALUE!		316.68	280.01	303.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	691968.88	4.22	836165.38	82.8	60 - 125		662118.06	720534.69	693254.06
45 Sc	# 1	563955.31	6.57	552676.25	102.0	60 - 125		557577.50	603795.25	530493.13
45 Sc	# 3	623177.56	4.25	644433.94	96.7	60 - 125		618343.44	651724.13	599465.19
74 Ge	# 1	180795.20	4.95	175321.88	103.1	60 - 125		181621.36	189305.69	171458.52
74 Ge	# 2	27044.27	4.86	27172.50	99.5	60 - 125		27999.40	25544.77	27588.65
74 Ge	# 3	164210.66	3.00	164913.13	99.6	60 - 125		164678.31	168892.58	159061.11
89 Y	# 3	1091848.00	4.65	1068488.30	102.2	60 - 125		1085414.60	1145479.60	1044649.80
115 In	# 3	1103314.30	5.06	1083659.40	101.8	60 - 125		1103146.60	1159244.60	1047551.60
159 Tb	# 3	1730658.50	3.90	1651256.80	104.8	60 - 125		1717157.60	1803953.50	1670864.40
209 Bi	# 3	1062421.30	3.31	1054491.00	100.8	60 - 125		1059063.80	1099134.80	1029065.20

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\051_CCV.D\051_CCV.D#
Date Acquired: Dec 25 2012 12:22 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	52.28 ug/l	3.51	50.00	90 - 110		172336.47	176960.33	174961.42
11 B	102.6 ug/l	3.16	100.00	90 - 110		360977.97	369616.00	369021.41
23 Na	4876 ug/l	13.42	5000.00	90 - 110		33292436.00	33948668.00	34742868.00
24 Mg	4914 ug/l	15.13	5000.00	90 - 110		22654716.00	22549308.00	23931836.00
27 Al	495.8 ug/l	15.00	500.00	90 - 110		2653249.80	2566516.50	2725088.00
39 K	4895 ug/l	6.96	5000.00	90 - 110		1796809.80	1812528.90	1889343.50
40 Ca	5034 ug/l	14.08	5000.00	90 - 110		54546344.00	52717364.00	54928948.00
45 Sc	--------	--------		--- ##### - #####		49298.55	42337.48	46198.61
47 Ti	51.73 ug/l	4.61	50.00	90 - 110		56525.88	57783.14	56305.32
51 V	48.76 ug/l	7.50	50.00	90 - 110		121815.13	124790.03	125840.08
52 Cr	49.44 ug/l	8.02	50.00	90 - 110		146810.06	151994.02	152465.38
55 Mn	499.8 ug/l	4.17	500.00	90 - 110		10123559.00	10161665.00	9933835.00
56 Fe	4992 ug/l	10.07	5000.00	90 - 110		81933520.00	81426064.00	82870016.00
59 Co	48.45 ug/l	3.31	50.00	90 - 110		747822.38	750474.56	745890.69
60 Ni	49.44 ug/l	6.79	50.00	90 - 110		63425.60	64058.88	65184.87
63 Cu	50.2 ug/l	7.28	50.00	90 - 110		168221.75	171516.69	172622.55
66 Zn	50.71 ug/l	3.49	50.00	90 - 110		95324.09	94104.45	94861.34
75 As	49.43 ug/l	7.27	50.00	90 - 110		12462.25	12708.09	12803.81
78 Se	50.2 ug/l	9.93	50.00	90 - 110		24528.11	24286.14	24633.60
88 Sr	51.3 ug/l	7.00	50.00	90 - 110		1402286.30	1399976.40	1381105.30
95 Mo	50.05 ug/l	3.95	50.00	90 - 110		194451.64	196263.25	194390.47
107 Ag	51.25 ug/l	3.77	50.00	90 - 110		582859.69	587496.38	585130.94
111 Cd	50.92 ug/l	4.76	50.00	90 - 110		127669.40	127073.95	125725.66
118 Sn	51.28 ug/l	4.35	50.00	90 - 110		396786.09	395711.03	394224.97
121 Sb	51.67 ug/l	4.15	50.00	90 - 110		373266.97	371260.19	372982.81
137 Ba	51.02 ug/l	5.33	50.00	90 - 110		193096.73	189380.83	188471.73
202 Hg	2.482 ug/l	3.78	2.50	90 - 110		7561.47	7462.42	7474.09
205 Tl	10.16 ug/l	3.35	10.00	90 - 110		259468.25	258349.61	257419.86
208 Pb	50.7 ug/l	3.50	50.00	90 - 110		1789007.00	1782215.00	1768027.60
232 Th	49.86 ug/l	2.83		--- ##### - #####		1946233.30	1940859.40	1961119.10
238 U	49.79 ug/l	3.13		--- ##### - #####		1953651.30	1935645.80	1960375.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	718660.06	4.17	836165.38	85.9	60 - 125		688087.69	719897.69	747994.88
45 Sc	578168.94	12.29	552676.25	104.6	60 - 125		568122.44	653717.94	512666.47
45 Sc	632634.56	4.48	644433.94	98.2	60 - 125		601515.75	639411.69	656976.19
74 Ge	183688.34	9.43	175321.88	104.8	60 - 125		180258.67	202469.23	168337.11
74 Ge	27917.84	6.30	27172.50	102.7	60 - 125		29585.33	26080.97	28087.20
74 Ge	165496.47	3.17	164913.13	100.4	60 - 125		160300.58	165385.44	170803.41
89 Y	1103352.00	6.18	1068488.30	103.3	60 - 125		1027292.70	1123912.10	1158850.90
115 In	1090700.50	3.98	1083659.40	100.6	60 - 125		1043211.40	1100659.40	1128230.60
159 Tb	1686617.00	2.92	1651256.80	102.1	60 - 125		1630493.80	1706413.90	1722943.90
209 Bi	1024584.30	3.02	1054491.00	97.2	60 - 125		990134.38	1033713.50	1049904.90

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\052_CCB.D\052_CCB.D#
Date Acquired: Dec 25 2012 12:29 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0007399	0.0007399	ug/l	148.80	#VALUE!		3.33	10.00	3.33
11 B # 3	1.075	1.075	ug/l	6.18	#VALUE!		11340.34	11467.02	11210.14
23 Na # 1	-1.442	-1.442	ug/l	10.26	#VALUE!		84685.57	86687.41	88603.16
24 Mg # 1	0.1597	0.1597	ug/l	16.09	#VALUE!		1350.09	1126.73	1316.75
27 Al # 1	0.0451	0.0451	ug/l	25.28	#VALUE!		1350.09	1406.76	1503.43
39 K # 2	-1.835	-1.835	ug/l	46.15	#VALUE!		8852.31	9155.81	9102.47
40 Ca # 1	0.8561	0.8561	ug/l	3.11	#VALUE!		79256.07	79179.02	81120.26
45 Sc # 2	----	--------		--------	#VALUE!		42821.83	43819.64	46297.87
47 Ti # 3	0.001275	0.001275	ug/l	782.67	#VALUE!		16.67	36.67	33.33
51 V # 2	-0.007801	-0.007801	ug/l	79.14	#VALUE!		173.34	204.45	197.78
52 Cr # 2	0.003754	0.003754	ug/l	89.72	#VALUE!		148.89	145.56	138.89
55 Mn # 3	0.0139	0.0139	ug/l	32.06	#VALUE!		1153.40	1310.08	1253.41
56 Fe # 1	0.3195	0.3195	ug/l	10.20	#VALUE!		18406.23	17922.57	19033.59
59 Co # 3	0.002062	0.002062	ug/l	31.43	#VALUE!		40.00	50.00	60.00
60 Ni # 2	0.02358	0.02358	ug/l	13.54	#VALUE!		61.11	68.89	66.67
63 Cu # 2	0.05202	0.05202	ug/l	25.91	#VALUE!		695.58	698.91	827.80
66 Zn # 3	0.03708	0.03708	ug/l	36.97	#VALUE!		356.68	323.35	303.34
75 As # 2	0.0006276	0.0006276	ug/l	2906.30	#VALUE!		14.33	23.33	22.00
78 Se # 1	0.03128	0.03128	ug/l	40.86	#VALUE!		42.00	42.33	31.67
88 Sr # 3	0.002119	0.002119	ug/l	31.09	#VALUE!		146.67	116.67	106.67
95 Mo # 3	0.04343	0.04343	ug/l	9.19	#VALUE!		256.68	210.01	230.01
107 Ag # 3	0.005044	0.005044	ug/l	16.99	#VALUE!		80.00	93.34	80.00
111 Cd # 3	0.006069	0.006069	ug/l	114.91	#VALUE!		36.59	66.60	63.26
118 Sn # 3	0.0246	0.0246	ug/l	4.45	#VALUE!		536.69	516.69	533.36
121 Sb # 3	0.2836	0.2836	ug/l	8.44	#VALUE!		2473.59	2490.27	2200.20
137 Ba # 3	0.002707	0.002707	ug/l	37.50	#VALUE!		33.33	33.33	26.67
202 Hg # 3	0.01251	0.01251	ug/l	10.86	#VALUE!		101.00	91.33	93.33
205 Tl # 3	0.003192	0.003192	ug/l	36.06	#VALUE!		126.67	173.34	130.00
208 Pb # 3	0.002614	0.002614	ug/l	20.13	#VALUE!		306.68	326.68	306.68
232 Th # 3	0.1068	0.1068	ug/l	7.60	#VALUE!		4997.66	4540.82	4307.39
238 U # 3	0.004708	0.004708	ug/l	10.50	#VALUE!		203.34	180.01	223.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	741000.25	1.65	836165.38	88.6	60 - 125		727031.31	746501.69	749467.69
45 Sc # 1	566029.63	1.22	552676.25	102.4	60 - 125		560687.75	563568.94	573832.31
45 Sc # 3	640583.31	1.77	644433.94	99.4	60 - 125		651495.94	628875.56	641378.50
74 Ge # 1	182298.64	0.67	175321.88	104.0	60 - 125		180911.05	182747.22	183237.66
74 Ge # 2	28024.70	3.84	27172.50	103.1	60 - 125		27368.36	27440.66	29265.08
74 Ge # 3	166587.59	0.97	164913.13	101.0	60 - 125		167902.19	164776.45	167084.13
89 Y # 3	1111759.80	3.20	1068488.30	104.0	60 - 125		1145749.40	1074750.30	1114779.60
115 In # 3	1122487.80	3.17	1083659.40	103.6	60 - 125		1160241.40	1089675.00	1117546.80
159 Tb # 3	1700694.30	2.29	1651256.80	103.0	60 - 125		1735466.40	1658695.50	1707921.00
209 Bi # 3	1066394.60	1.12	1054491.00	101.1	60 - 125		1076050.90	1053114.60	1070018.40

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\053SMPL.D\053SMPL.D#
Date Acquired: Dec 25 2012 12:36 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41588-a-55-a
Misc Info: 3005 1/5
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001168	0.001168	ug/l	86.39	100.00		3.33	10.00	6.67
11 B # 3	1.528	1.528	ug/l	4.39	1800.00		11833.87	12551.05	12477.64
23 Na # 1	805.8	805.8	ug/l	11.72	81000.00		5443571.00	5499846.50	5622519.00
24 Mg # 1	1057	1057	ug/l	11.18	81000.00		4721458.50	4828933.00	4890633.50
27 Al # 1	6.12	6.12	ug/l	9.06	81000.00		32942.47	33369.38	32455.68
39 K # 2	487.4	487.4	ug/l	0.30	81000.00		187302.59	188927.36	192337.67
40 Ca # 1	2160	2160	ug/l	10.92	81000.00		22486856.00	22411522.00	22729734.00
45 Sc # 2	----	--------		--------	#VALUE!		42883.03	44391.63	43004.47
47 Ti # 3	0.3655	0.3655	ug/l	7.52	1620.00		390.02	463.36	413.35
51 V # 2	0.2044	0.2044	ug/l	7.39	1800.00		744.47	681.13	745.58
52 Cr # 2	0.02612	0.02612	ug/l	18.06	1800.00		205.56	196.67	227.78
55 Mn # 3	6.676	6.676	ug/l	2.13	1800.00		134689.44	134406.59	133538.98
56 Fe # 1	20.14	20.14	ug/l	9.96	81000.00		334919.41	335369.44	344696.78
59 Co # 3	0.0271	0.0271	ug/l	20.10	1800.00		516.69	376.68	400.02
60 Ni # 2	0.1548	0.1548	ug/l	8.11	1800.00		248.89	223.34	227.78
63 Cu # 2	0.1219	0.1219	ug/l	13.16	1800.00		891.14	1005.59	994.48
66 Zn # 3	0.5952	0.5952	ug/l	6.96	1800.00		1260.08	1450.10	1350.09
75 As # 2	0.1277	0.1277	ug/l	8.64	100.00		48.00	52.67	54.67
78 Se # 1	0.0186	0.0186	ug/l	81.51	100.00		25.67	33.33	36.67
88 Sr # 3	7.519	7.519	ug/l	4.23	1800.00		200839.66	199459.64	199565.27
95 Mo # 3	0.02533	0.02533	ug/l	10.57	1800.00		143.34	170.01	156.67
107 Ag # 3	0.001782	0.001782	ug/l	72.90	100.00		36.67	63.34	36.67
111 Cd # 3	0.003256	0.003256	ug/l	61.30	100.00		49.96	49.95	43.28
118 Sn # 3	0.04064	0.04064	ug/l	17.84	1800.00		663.36	673.36	596.70
121 Sb # 3	0.253	0.253	ug/l	6.96	100.00		2143.53	1996.84	2233.54
137 Ba # 3	2.618	2.618	ug/l	3.36	1800.00		9933.16	9846.46	9946.54
202 Hg # 3	0.001249	0.001249	ug/l	107.77	5.00		60.67	63.00	56.00
205 Tl # 3	0.001922	0.001922	ug/l	74.56	20.00		133.34	70.00	126.67
208 Pb # 3	0.005062	0.005062	ug/l	10.25	1800.00		370.01	400.01	423.35
232 Th # 3	0.05005	0.05005	ug/l	3.08	#VALUE!		2303.58	2323.58	2273.57
238 U # 3	0.002519	0.002519	ug/l	48.95	#VALUE!		66.67	103.34	170.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	701487.50	2.11	836165.38	83.9	60 - 125		686393.06	702055.94	716013.50
45 Sc # 1	558377.31	9.99	552676.25	101.0	60 - 125		562229.44	612115.94	500786.63
45 Sc # 3	621627.56	3.45	644433.94	96.5	60 - 125		597054.50	631240.50	636587.69
74 Ge # 1	180239.56	7.93	175321.88	102.8	60 - 125		181387.92	193920.94	165409.81
74 Ge # 2	27595.84	1.27	27172.50	101.6	60 - 125		27244.82	27597.96	27944.74
74 Ge # 3	163825.69	1.75	164913.13	99.3	60 - 125		160511.25	165408.70	165557.13
89 Y # 3	1077176.30	3.92	1068488.30	100.8	60 - 125		1036351.00	1074553.90	1120623.90
115 In # 3	1103815.60	3.20	1083659.40	101.9	60 - 125		1064790.30	1113257.80	1133398.90
159 Tb # 3	1689000.10	2.61	1651256.80	102.3	60 - 125		1638066.00	1715920.10	1713014.10
209 Bi # 3	1065059.60	2.17	1054491.00	101.0	60 - 125		1038912.30	1073431.50	1082835.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\054SMPL.D\054SMPL.D#
Date Acquired: Dec 25 2012 12:44 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-13-a
Misc Info: 3005 1/5
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01502	0.01502	ug/l	32.40	100.00		56.67	70.00	36.67
11 B	# 3	3.462	3.462	ug/l	3.59	1800.00		19383.51	19884.03	20220.95
23 Na	# 1	12520	12520	ug/l	0.69	81000.00		87385096.00	88855896.00	90261128.00
24 Mg	# 1	3652	3652	ug/l	0.50	81000.00		17259322.00	17576052.00	17624456.00
27 Al	# 1	1.289	1.289	ug/l	1.89	81000.00		8035.23	8242.02	8455.41
39 K	# 2	180.2	180.2	ug/l	1.67	81000.00		75883.09	78587.53	78838.45
40 Ca	# 1	24010	24010	ug/l	0.96	81000.00		258677380.00	261477170.00	268190420.00
45 Sc	# 2	----	--------		--------	#VALUE!		44744.01	45608.21	46224.12
47 Ti	# 3	0.1134	0.1134	ug/l	19.83	1620.00		153.34	133.34	176.67
51 V	# 2	0.1898	0.1898	ug/l	1.28	1800.00		703.35	702.24	700.02
52 Cr	# 2	0.101	0.101	ug/l	7.08	1800.00		452.23	461.12	422.23
55 Mn	# 3	0.09729	0.09729	ug/l	10.01	1800.00		3057.00	2743.63	3003.66
56 Fe	# 1	1.395	1.395	ug/l	1.04	81000.00		36095.90	36590.48	36506.84
59 Co	# 3	0.02775	0.02775	ug/l	12.53	1800.00		406.68	433.35	510.02
60 Ni	# 2	0.4546	0.4546	ug/l	9.68	1800.00		562.24	660.02	676.69
63 Cu	# 2	1.032	1.032	ug/l	1.57	1800.00		4016.03	4149.39	4166.06
66 Zn	# 3	1.092	1.092	ug/l	2.10	1800.00		2253.55	2330.21	2350.22
75 As	# 2	0.1598	0.1598	ug/l	14.96	100.00		58.00	57.00	68.67
78 Se	# 1	0.05034	0.05034	ug/l	7.46	100.00		50.33	47.67	47.00
88 Sr	# 3	75.82	75.82	ug/l	3.04	1800.00		2058718.90	2067552.50	2078032.50
95 Mo	# 3	0.09783	0.09783	ug/l	4.95	1800.00		420.02	476.69	440.02
107 Ag	# 3	0.001194	0.001194	ug/l	62.68	100.00		30.00	40.00	46.67
111 Cd	# 3	0.005668	0.005668	ug/l	40.16	100.00		56.53	59.85	46.53
118 Sn	# 3	0.04655	0.04655	ug/l	15.75	1800.00		640.03	783.38	666.70
121 Sb	# 3	0.3343	0.3343	ug/l	7.17	100.00		2593.60	2733.63	2873.66
137 Ba	# 3	15.55	15.55	ug/l	3.23	1800.00		59150.17	58825.92	59337.68
202 Hg	# 3	0.002119	0.002119	ug/l	34.01	5.00		59.67	58.67	61.67
205 Tl	# 3	0.001305	0.001305	ug/l	65.59	20.00		70.00	106.67	110.00
208 Pb	# 3	0.0106	0.0106	ug/l	19.56	1800.00		660.03	623.36	510.02
232 Th	# 3	0.03174	0.03174	ug/l	4.01	#VALUE!		1546.79	1476.79	1450.11
238 U	# 3	0.2061	0.2061	ug/l	1.00	#VALUE!		7968.94	8229.15	7969.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	735807.06	0.21	836165.38	88.0	60 - 125		736106.88	737173.25	734141.06
45 Sc	# 1	583025.94	0.93	552676.25	105.5	60 - 125		577714.75	582762.06	588601.19
45 Sc	# 3	644408.19	2.42	644433.94	100.0	60 - 125		639812.25	661796.25	631615.94
74 Ge	# 1	183735.19	0.22	175321.88	104.8	60 - 125		183465.47	183536.20	184203.92
74 Ge	# 2	28191.79	0.66	27172.50	103.8	60 - 125		27982.58	28249.66	28343.14
74 Ge	# 3	166784.36	1.07	164913.13	101.1	60 - 125		165345.31	168778.92	166228.88
89 Y	# 3	1104620.80	2.90	1068488.30	103.4	60 - 125		1094091.80	1140580.60	1079189.60
115 In	# 3	1110333.00	2.84	1083659.40	102.5	60 - 125		1099188.50	1145906.00	1085904.40
159 Tb	# 3	1703485.80	2.23	1651256.80	103.2	60 - 125		1690640.00	1746247.80	1673569.50
209 Bi	# 3	1020398.50	1.07	1054491.00	96.8	60 - 125		1019295.40	1031836.60	1010063.40

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\055SMPL.D\055SMPL.D#
Date Acquired: Dec 25 2012 12:51 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-14-a
Misc Info: 3005 1/5
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0005546	-0.0005546	ug/l	97.30	100.00		0.00	0.00	3.33
11 B	# 3	2.992	2.992	ug/l	7.57	1800.00		18612.73	18395.89	18312.51
23 Na	# 1	3925	3925	ug/l	0.10	81000.00		28450796.00	28734970.00	29094566.00
24 Mg	# 1	2588	2588	ug/l	0.84	81000.00		12616218.00	12863433.00	12818330.00
27 Al	# 1	1.131	1.131	ug/l	4.63	81000.00		7268.24	7921.93	7621.72
39 K	# 2	433	433	ug/l	3.58	81000.00		173285.63	177794.94	178750.28
40 Ca	# 1	22830	22830	ug/l	1.12	81000.00		257526820.00	254684450.00	260258530.00
45 Sc	# 2	----	--------		--------	#VALUE!		45381.14	47840.88	44359.04
47 Ti	# 3	0.09728	0.09728	ug/l	3.88	1620.00		136.67	140.00	136.67
51 V	# 2	0.2185	0.2185	ug/l	7.83	1800.00		795.58	768.91	808.91
52 Cr	# 2	0.02579	0.02579	ug/l	13.51	1800.00		208.89	238.89	206.67
55 Mn	# 3	0.123	0.123	ug/l	9.96	1800.00		3480.43	3720.48	3290.38
56 Fe	# 1	1.218	1.218	ug/l	2.45	81000.00		33911.88	34877.32	34997.25
59 Co	# 3	0.02146	0.02146	ug/l	18.80	1800.00		406.68	366.68	293.34
60 Ni	# 2	0.4473	0.4473	ug/l	3.28	1800.00		622.24	643.35	642.24
63 Cu	# 2	0.8934	0.8934	ug/l	6.41	1800.00		3657.06	3642.61	3820.43
66 Zn	# 3	1.906	1.906	ug/l	2.68	1800.00		3890.52	3767.16	4000.55
75 As	# 2	0.1466	0.1466	ug/l	16.84	100.00		56.33	55.67	64.67
78 Se	# 1	0.05589	0.05589	ug/l	6.41	100.00		53.67	54.00	50.67
88 Sr	# 3	105	105	ug/l	3.40	1800.00		2995395.80	2986297.80	2967419.80
95 Mo	# 3	0.1266	0.1266	ug/l	15.71	1800.00		626.70	480.02	630.03
107 Ag	# 3	0.00071	0.00071	ug/l	80.82	100.00		26.67	40.00	36.67
111 Cd	# 3	0.009307	0.009307	ug/l	143.12	100.00		56.47	103.18	36.47
118 Sn	# 3	0.04181	0.04181	ug/l	21.60	1800.00		746.70	600.03	696.70
121 Sb	# 3	1.552	1.552	ug/l	6.27	100.00		12664.93	12077.89	11474.11
137 Ba	# 3	12.96	12.96	ug/l	2.08	1800.00		51478.72	50853.42	50612.82
202 Hg	# 3	0.01403	0.01403	ug/l	8.79	5.00		97.33	94.67	102.67
205 Tl	# 3	0.000554	0.000554	ug/l	27.17	20.00		80.00	76.67	76.67
208 Pb	# 3	0.04771	0.04771	ug/l	10.62	1800.00		2086.78	1940.11	1826.77
232 Th	# 3	0.02176	0.02176	ug/l	6.41	#VALUE!		1156.75	1086.74	1153.41
238 U	# 3	0.242	0.242	ug/l	4.59	#VALUE!		9906.83	9726.70	9479.88

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	748641.88	3.56	836165.38	89.5	60 - 125		717939.13	761847.69	766138.75
45 Sc	# 1	600682.75	1.22	552676.25	108.7	60 - 125		593613.31	600232.50	608202.56
45 Sc	# 3	649467.19	3.00	644433.94	100.8	60 - 125		628520.38	652832.00	667049.31
74 Ge	# 1	189923.39	0.34	175321.88	108.3	60 - 125		189297.03	190600.28	189872.86
74 Ge	# 2	28785.40	3.19	27172.50	105.9	60 - 125		28455.56	29824.44	28076.20
74 Ge	# 3	168775.00	1.79	164913.13	102.3	60 - 125		165960.03	168405.63	171959.36
89 Y	# 3	1150866.60	2.94	1068488.30	107.7	60 - 125		1112348.40	1164349.90	1175901.60
115 In	# 3	1148313.80	1.41	1083659.40	106.0	60 - 125		1140158.00	1137829.90	1166953.40
159 Tb	# 3	1739897.50	2.69	1651256.80	105.4	60 - 125		1691439.50	1743491.30	1784761.60
209 Bi	# 3	1048304.90	2.43	1054491.00	99.4	60 - 125		1019568.80	1057091.50	1068254.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\056SMPL.D\056SMPL.D#
Date Acquired: Dec 25 2012 12:59 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-15-a
Misc Info: 3005 1/5
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0001064	0.0001064	ug/l	925.94	100.00		0.00	6.67	3.33
11 B # 3	5.408	5.408	ug/l	3.96	1800.00		27536.90	27286.49	27456.74
23 Na # 1	67900	67900	ug/l	1.40	81000.00		483003460.00	491830240.00	495180030.00
24 Mg # 1	6787	6787	ug/l	0.74	81000.00		32701446.00	32882546.00	33678068.00
27 Al # 1	0.9228	0.9228	ug/l	5.52	81000.00		6034.45	6334.57	6714.73
39 K # 2	633.8	633.8	ug/l	1.97	81000.00		239761.88	244893.91	249462.86
40 Ca # 1	46590	46590	ug/l	1.92	81000.00		508949540.00	523805860.00	524692800.00
45 Sc # 2	----	--------		--------	#VALUE!		44786.44	45659.47	49142.95
47 Ti # 3	0.1326	0.1326	ug/l	27.56	1620.00		166.67	210.01	146.67
51 V # 2	0.2623	0.2623	ug/l	5.69	1800.00		881.14	870.03	868.92
52 Cr # 2	0.01522	0.01522	ug/l	25.60	1800.00		185.56	167.78	180.00
55 Mn # 3	28.1	28.1	ug/l	3.31	1800.00		551166.13	547508.63	542802.50
56 Fe # 1	25.08	25.08	ug/l	1.42	81000.00		418450.03	418940.31	416155.63
59 Co # 3	0.3859	0.3859	ug/l	3.52	1800.00		5851.07	5797.74	5637.68
60 Ni # 2	0.519	0.519	ug/l	1.49	1800.00		691.13	702.24	723.36
63 Cu # 2	0.8182	0.8182	ug/l	4.13	1800.00		3309.22	3319.22	3327.00
66 Zn # 3	2.366	2.366	ug/l	2.56	1800.00		4780.77	4370.64	4360.65
75 As # 2	0.2914	0.2914	ug/l	16.08	100.00		104.00	84.00	92.67
78 Se # 1	0.04865	0.04865	ug/l	9.45	100.00		47.33	47.33	44.33
88 Sr # 3	179.2	179.2	ug/l	5.59	1800.00		4778523.50	4758883.50	4655852.50
95 Mo # 3	0.2147	0.2147	ug/l	6.87	1800.00		843.38	873.38	840.05
107 Ag # 3	0.001092	0.001092	ug/l	47.45	100.00		43.33	33.33	30.00
111 Cd # 3	0.007683	0.007683	ug/l	84.45	100.00		39.73	63.06	63.07
118 Sn # 3	0.04679	0.04679	ug/l	8.89	1800.00		686.70	596.69	683.37
121 Sb # 3	0.8072	0.8072	ug/l	7.26	100.00		5791.16	6011.22	5651.08
137 Ba # 3	47.13	47.13	ug/l	5.02	1800.00		169112.81	169903.41	165152.92
202 Hg # 3	0.0123	0.0123	ug/l	3.61	5.00		86.00	79.33	80.67
205 Tl # 3	0.003593	0.003593	ug/l	52.41	20.00		146.67	103.34	200.01
208 Pb # 3	0.02723	0.02723	ug/l	5.39	1800.00		1196.72	1150.05	1103.38
232 Th # 3	0.01816	0.01816	ug/l	8.06	#VALUE!		853.39	873.38	886.73
238 U # 3	0.4994	0.4994	ug/l	5.02	#VALUE!		17770.86	17820.81	17370.27

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	753067.00	3.31	836165.38	90.1	60 - 125		776737.63	727022.88	755440.50
45 Sc # 1	593611.25	1.39	552676.25	107.4	60 - 125		591593.75	586530.00	602709.94
45 Sc # 3	641739.88	5.42	644433.94	99.6	60 - 125		675960.81	606443.50	642815.31
74 Ge # 1	179263.66	1.04	175321.88	102.2	60 - 125		178124.16	178256.45	181410.36
74 Ge # 2	27737.80	3.75	27172.50	102.1	60 - 125		26880.95	27438.39	28894.06
74 Ge # 3	159597.83	3.67	164913.13	96.8	60 - 125		165845.59	154248.23	158699.66
89 Y # 3	1070582.90	5.64	1068488.30	100.2	60 - 125		1132994.50	1012386.80	1066367.50
115 In # 3	1042717.10	4.58	1083659.40	96.2	60 - 125		1092056.80	996737.06	1039357.50
159 Tb # 3	1651248.30	4.80	1651256.80	100.0	60 - 125		1732887.40	1574651.90	1646205.90
209 Bi # 3	925216.44	4.63	1054491.00	87.7	60 - 125		968512.69	882847.50	924289.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\057SMPL.D\057SMPL.D#
Date Acquired: Dec 25 2012 01:06 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-16-a
Misc Info: 3005 1/5
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0001219	0.0001219	ug/l	808.04	100.00		6.67	0.00	3.33
11 B	# 3	1.535	1.535	ug/l	10.25	1800.00		12907.93	12934.76	13104.76
23 Na	# 1	315.7	315.7	ug/l	9.45	81000.00		2310760.00	2387162.50	2424086.50
24 Mg	# 1	1989	1989	ug/l	9.36	81000.00		9378329.00	9746737.00	9898018.00
27 Al	# 1	1.759	1.759	ug/l	11.01	81000.00		10626.53	11150.17	11140.14
39 K	# 2	426.8	426.8	ug/l	0.83	81000.00		165151.38	168876.28	171968.08
40 Ca	# 1	19480	19480	ug/l	7.98	81000.00		213556660.00	215870980.00	220970140.00
45 Sc	# 2	----	--------		--------	#VALUE!		42292.71	45407.90	45751.95
47 Ti	# 3	0.1648	0.1648	ug/l	9.48	1620.00		206.67	206.67	220.01
51 V	# 2	0.3537	0.3537	ug/l	4.77	1800.00		1116.71	1070.04	1142.27
52 Cr	# 2	0.07211	0.07211	ug/l	10.09	1800.00		346.67	328.90	380.01
55 Mn	# 3	26.35	26.35	ug/l	3.36	1800.00		538905.19	535170.44	533003.88
56 Fe	# 1	220.5	220.5	ug/l	6.60	81000.00		3700172.00	3812282.50	3762471.50
59 Co	# 3	0.04303	0.04303	ug/l	7.20	1800.00		646.70	760.04	656.70
60 Ni	# 2	0.4149	0.4149	ug/l	4.74	1800.00		557.79	601.13	561.13
63 Cu	# 2	0.2159	0.2159	ug/l	2.51	1800.00		1273.39	1285.61	1313.39
66 Zn	# 3	0.3805	0.3805	ug/l	16.34	1800.00		943.39	906.72	1060.06
75 As	# 2	0.5146	0.5146	ug/l	5.22	100.00		151.67	154.67	147.00
78 Se	# 1	0.02616	0.02616	ug/l	30.12	100.00		35.00	36.00	41.33
88 Sr	# 3	83.31	83.31	ug/l	7.39	1800.00		2292680.00	2243397.00	2253415.80
95 Mo	# 3	0.1593	0.1593	ug/l	7.84	1800.00		650.03	706.70	706.70
107 Ag	# 3	0.0006963	0.0006963	ug/l	88.97	100.00		30.00	43.33	26.67
111 Cd	# 3	0.000458	0.000458	ug/l	863.10	100.00		29.79	46.44	46.44
118 Sn	# 3	0.05008	0.05008	ug/l	5.17	1800.00		703.37	776.71	690.04
121 Sb	# 3	0.4072	0.4072	ug/l	5.44	100.00		3240.40	3277.09	3273.73
137 Ba	# 3	6.728	6.728	ug/l	4.88	1800.00		25763.48	25449.75	25442.89
202 Hg	# 3	-0.001436	-0.001436	ug/l	31.79	5.00		52.67	52.33	48.67
205 Tl	# 3	-0.0004391	-0.0004391	ug/l	44.68	20.00		56.67	50.00	46.67
208 Pb	# 3	0.001734	0.001734	ug/l	70.93	1800.00		250.01	353.35	256.68
232 Th	# 3	0.01528	0.01528	ug/l	14.20	#VALUE!		950.06	820.05	870.05
238 U	# 3	0.2407	0.2407	ug/l	5.87	#VALUE!		9736.76	9609.95	9873.44

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	740586.06	3.99	836165.38	88.6	60 - 125		726965.13	774514.75	720278.19
45 Sc	# 1	595008.25	7.39	552676.25	107.7	60 - 125		639162.19	551236.94	594625.69
45 Sc	# 3	641841.44	4.74	644433.94	99.6	60 - 125		642829.38	671771.38	610923.56
74 Ge	# 1	188989.64	5.08	175321.88	107.8	60 - 125		198391.94	179218.19	189358.81
74 Ge	# 2	27850.27	2.77	27172.50	102.5	60 - 125		27024.76	27975.92	28550.14
74 Ge	# 3	166655.17	3.61	164913.13	101.1	60 - 125		168122.92	171796.95	160045.63
89 Y	# 3	1103387.90	7.12	1068488.30	103.3	60 - 125		1090036.00	1187722.10	1032405.30
115 In	# 3	1109784.60	4.89	1083659.40	102.4	60 - 125		1112987.00	1162398.50	1053968.80
159 Tb	# 3	1718799.60	5.21	1651256.80	104.1	60 - 125		1710280.90	1812250.40	1633867.60
209 Bi	# 3	1058699.10	4.52	1054491.00	100.4	60 - 125		1056245.00	1107764.00	1012088.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\058SMPL.D\058SMPL.D#
Date Acquired: Dec 25 2012 01:13 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-17-a
Misc Info: 3005 1/5
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01278	0.01278	ug/l	16.82	100.00		50.00	50.00	40.00
11 B # 3	1.43	1.43	ug/l	8.28	1800.00		12454.34	12314.25	12901.30
23 Na # 1	1734	1734	ug/l	1.85	81000.00		12453188.00	12609515.00	12708626.00
24 Mg # 1	1435	1435	ug/l	1.49	81000.00		6880397.00	7001347.50	7076732.50
27 Al # 1	2.293	2.293	ug/l	3.13	81000.00		13248.24	14302.35	14288.95
39 K # 2	475.8	475.8	ug/l	2.85	81000.00		187527.59	190032.02	192382.20
40 Ca # 1	14090	14090	ug/l	1.67	81000.00		155136430.00	156747840.00	158704400.00
45 Sc # 2	----	--------		--------	#VALUE!		44502.29	47518.65	42984.43
47 Ti # 3	0.1246	0.1246	ug/l	21.00	1620.00		143.34	196.67	150.00
51 V # 2	0.2204	0.2204	ug/l	8.75	1800.00		800.02	745.58	804.47
52 Cr # 2	0.04237	0.04237	ug/l	15.44	1800.00		266.67	291.12	240.00
55 Mn # 3	2.093	2.093	ug/l	2.17	1800.00		43040.85	42960.53	42616.45
56 Fe # 1	6.539	6.539	ug/l	1.57	81000.00		122861.84	125871.22	124912.66
59 Co # 3	0.03523	0.03523	ug/l	10.01	1800.00		486.69	590.02	600.03
60 Ni # 2	0.321	0.321	ug/l	4.17	1800.00		440.01	491.12	446.68
63 Cu # 2	0.8986	0.8986	ug/l	4.97	1800.00		3589.27	3630.39	3778.20
66 Zn # 3	0.4236	0.4236	ug/l	5.42	1800.00		1046.73	1066.73	1003.39
75 As # 2	0.2355	0.2355	ug/l	15.14	100.00		72.67	80.67	90.00
78 Se # 1	0.03107	0.03107	ug/l	24.11	100.00		38.67	36.33	44.67
88 Sr # 3	60.3	60.3	ug/l	4.56	1800.00		1644302.60	1639632.60	1620834.10
95 Mo # 3	0.3254	0.3254	ug/l	1.97	1800.00		1306.75	1333.42	1400.09
107 Ag # 3	0.0001379	0.0001379	ug/l	330.17	100.00		20.00	30.00	30.00
111 Cd # 3	-0.0001588	-0.0001588	ug/l	4496.20	100.00		19.58	56.24	42.89
118 Sn # 3	0.04222	0.04222	ug/l	18.13	1800.00		666.70	710.03	603.36
121 Sb # 3	0.2542	0.2542	ug/l	8.15	100.00		2056.85	2323.57	2050.19
137 Ba # 3	8.188	8.188	ug/l	6.34	1800.00		32565.21	30291.15	30361.22
202 Hg # 3	0.002723	0.002723	ug/l	34.04	5.00		64.67	65.67	60.67
205 Tl # 3	7.755E-005	7.755E-005	ug/l	1174.60	20.00		90.00	53.33	50.00
208 Pb # 3	0.004947	0.004947	ug/l	23.59	1800.00		440.02	383.35	380.02
232 Th # 3	0.01162	0.01162	ug/l	1.50	#VALUE!		730.04	726.71	730.04
238 U # 3	0.1644	0.1644	ug/l	3.31	#VALUE!		6711.69	6741.68	6398.20

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	737551.94	4.29	836165.38	88.2	60 - 125		703940.75	741909.88	766805.06
45 Sc # 1	592897.50	2.81	552676.25	107.3	60 - 125		577943.88	589890.94	610857.63
45 Sc # 3	628413.00	1.57	644433.94	97.5	60 - 125		617984.94	629649.56	637604.44
74 Ge # 1	188343.84	1.83	175321.88	107.4	60 - 125		184989.64	188182.70	191859.17
74 Ge # 2	28314.69	2.26	27172.50	104.2	60 - 125		28027.06	29046.82	27870.19
74 Ge # 3	164361.06	1.66	164913.13	99.7	60 - 125		161292.55	165254.84	166535.81
89 Y # 3	1098646.50	3.91	1068488.30	102.8	60 - 125		1049057.30	1121695.40	1125186.80
115 In # 3	1108350.40	2.18	1083659.40	102.3	60 - 125		1081706.40	1114692.30	1128652.50
159 Tb # 3	1723964.00	2.00	1651256.80	104.4	60 - 125		1685557.60	1752551.40	1733783.00
209 Bi # 3	1050992.00	0.80	1054491.00	99.7	60 - 125		1041296.60	1055677.90	1056001.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\059_CCV.D\059_CCV.D#
Date Acquired: Dec 25 2012 01:21 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.89 ug/l	2.77	50.00	90 - 110		178909.58	180035.97	182770.31
11 B	98.22 ug/l	2.60	100.00	90 - 110		378227.50	379653.53	383138.38
23 Na	5013 ug/l	1.68	5000.00	90 - 110		35825276.00	36812492.00	36357596.00
24 Mg	5005 ug/l	1.17	5000.00	90 - 110		24285620.00	24000302.00	25041094.00
27 Al	504.2 ug/l	1.00	500.00	90 - 110		2790207.30	2758812.00	2863429.00
39 K	5027 ug/l	0.69	5000.00	90 - 110		1888325.80	1902669.10	1940395.80
40 Ca	4996 ug/l	0.71	5000.00	90 - 110		54765640.00	55906548.00	56829544.00
45 Sc	--------	--------	---	##### - #####		46409.23	47062.97	47789.36
47 Ti	50.33 ug/l	6.48	50.00	90 - 110		56799.81	56452.24	57565.93
51 V	49.26 ug/l	0.32	50.00	90 - 110		126462.05	127015.70	128622.23
52 Cr	49.87 ug/l	0.71	50.00	90 - 110		152891.64	152610.17	156938.02
55 Mn	502.7 ug/l	5.54	500.00	90 - 110		10095676.00	10064243.00	10194223.00
56 Fe	4982 ug/l	1.18	5000.00	90 - 110		82985296.00	85706424.00	84945136.00
59 Co	48.77 ug/l	5.45	50.00	90 - 110		747418.19	749575.75	758577.69
60 Ni	50.21 ug/l	0.55	50.00	90 - 110		65638.73	66226.41	66785.12
63 Cu	50.74 ug/l	0.68	50.00	90 - 110		173783.53	175635.58	176513.56
66 Zn	50.98 ug/l	5.28	50.00	90 - 110		95391.45	94784.77	95263.75
75 As	49.47 ug/l	0.26	50.00	90 - 110		12783.14	12823.50	12986.28
78 Se	50.27 ug/l	0.28	50.00	90 - 110		25066.18	25304.49	25541.84
88 Sr	51.08 ug/l	7.49	50.00	90 - 110		1408745.10	1372891.90	1384432.80
95 Mo	48.84 ug/l	5.94	50.00	90 - 110		195045.28	193658.56	193772.83
107 Ag	49.96 ug/l	5.78	50.00	90 - 110		581940.50	582548.56	581188.56
111 Cd	49.87 ug/l	6.36	50.00	90 - 110		126259.49	126377.66	127512.63
118 Sn	49.76 ug/l	6.24	50.00	90 - 110		392929.72	389490.72	392058.59
121 Sb	50.27 ug/l	6.20	50.00	90 - 110		368947.09	368995.50	371145.06
137 Ba	49.86 ug/l	6.19	50.00	90 - 110		190972.31	188648.30	189690.47
202 Hg	2.439 ug/l	4.57	2.50	90 - 110		7508.78	7403.39	7359.04
205 Tl	10.04 ug/l	5.13	10.00	90 - 110		257518.59	255594.58	257364.55
208 Pb	50.23 ug/l	5.25	50.00	90 - 110		1791677.90	1758674.40	1771910.00
232 Th	50.01 ug/l	4.64	---	##### - #####		1967196.30	1972815.40	1967038.30
238 U	49.42 ug/l	5.46	---	##### - #####		1942754.80	1939048.50	1964338.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	777760.06	2.36	836165.38	93.0	60 - 125		766539.44	798967.69	767773.00
45 Sc	594668.13	1.44	552676.25	107.6	60 - 125		587869.81	591879.69	604254.81
45 Sc	651704.81	5.56	644433.94	101.1	60 - 125		646995.63	690088.00	618030.75
74 Ge	188400.95	1.22	175321.88	107.5	60 - 125		186081.05	188429.16	190692.63
74 Ge	28263.80	0.86	27172.50	104.0	60 - 125		28151.77	28097.25	28542.36
74 Ge	165446.80	5.08	164913.13	100.3	60 - 125		162546.61	174924.39	158869.38
89 Y	1104230.90	7.02	1068488.30	103.3	60 - 125		1095019.50	1185970.30	1031703.00
115 In	1114061.80	5.93	1083659.40	102.8	60 - 125		1109545.30	1182219.80	1050420.30
159 Tb	1698671.90	4.81	1651256.80	102.9	60 - 125		1690073.30	1784309.80	1621632.60
209 Bi	1032753.80	4.78	1054491.00	97.9	60 - 125		1032890.60	1082029.60	983340.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\060_CCB.D\060_CCB.D#
Date Acquired: Dec 25 2012 01:28 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001852	0.001852	ug/l	97.52	#VALUE!		3.33	16.67	10.00
11 B # 3	0.8562	0.8562	ug/l	6.89	#VALUE!		10829.98	11480.39	11313.57
23 Na # 1	-1.182	-1.182	ug/l	52.51	#VALUE!		95344.81	94771.60	95348.05
24 Mg # 1	0.2375	0.2375	ug/l	20.41	#VALUE!		1916.81	1730.13	1586.78
27 Al # 1	0.02109	0.02109	ug/l	56.52	#VALUE!		1400.09	1283.41	1496.77
39 K # 2	-0.9483	-0.9483	ug/l	22.51	#VALUE!		9419.26	9906.18	9425.92
40 Ca # 1	0.9383	0.9383	ug/l	42.14	#VALUE!		86828.41	87116.64	86577.99
45 Sc # 2	----	--------		--------	#VALUE!		45053.68	48397.73	43588.20
47 Ti # 3	-0.0004079	-0.0004079	ug/l	2171.40	#VALUE!		16.67	30.00	36.67
51 V # 2	-0.001987	-0.001987	ug/l	254.86	#VALUE!		206.67	206.67	220.00
52 Cr # 2	-0.001826	-0.001826	ug/l	74.37	#VALUE!		132.22	130.00	128.89
55 Mn # 3	0.01688	0.01688	ug/l	7.45	#VALUE!		1360.09	1323.42	1313.42
56 Fe # 1	0.3831	0.3831	ug/l	16.08	#VALUE!		20865.58	20698.70	20214.84
59 Co # 3	0.002822	0.002822	ug/l	14.17	#VALUE!		66.67	56.67	66.67
60 Ni # 2	0.01729	0.01729	ug/l	26.78	#VALUE!		61.11	53.33	61.11
63 Cu # 2	0.06777	0.06777	ug/l	17.90	#VALUE!		775.58	817.80	837.80
66 Zn # 3	0.03875	0.03875	ug/l	41.32	#VALUE!		326.68	320.01	370.02
75 As # 2	0.0305	0.0305	ug/l	36.10	#VALUE!		26.67	27.00	30.67
78 Se # 1	0.03938	0.03938	ug/l	21.50	#VALUE!		43.33	49.00	42.67
88 Sr # 3	0.003248	0.003248	ug/l	22.69	#VALUE!		136.67	176.67	156.67
95 Mo # 3	0.04596	0.04596	ug/l	14.70	#VALUE!		276.68	246.68	216.68
107 Ag # 3	0.005097	0.005097	ug/l	34.92	#VALUE!		73.34	110.00	76.67
111 Cd # 3	0.002993	0.002993	ug/l	125.59	#VALUE!		43.25	43.26	59.93
118 Sn # 3	0.02154	0.02154	ug/l	28.71	#VALUE!		580.03	486.69	476.69
121 Sb # 3	0.2654	0.2654	ug/l	1.17	#VALUE!		2346.90	2280.22	2260.22
137 Ba # 3	0.004004	0.004004	ug/l	135.64	#VALUE!		30.00	60.00	20.00
202 Hg # 3	0.01202	0.01202	ug/l	12.41	#VALUE!		98.67	89.33	96.67
205 Tl # 3	0.002743	0.002743	ug/l	45.97	#VALUE!		136.67	163.34	100.00
208 Pb # 3	0.005021	0.005021	ug/l	27.82	#VALUE!		440.02	413.35	353.35
232 Th # 3	0.09884	0.09884	ug/l	6.12	#VALUE!		4574.15	4397.45	4070.66
238 U # 3	0.005184	0.005184	ug/l	7.77	#VALUE!		213.34	216.68	243.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	787124.13	1.35	836165.38	94.1	60 - 125		775458.50	789611.00	796302.88
45 Sc # 1	609999.69	5.10	552676.25	110.4	60 - 125		589739.94	594413.31	645845.81
45 Sc # 3	655073.75	0.55	644433.94	101.7	60 - 125		651095.75	658144.56	655981.00
74 Ge # 1	192776.42	3.64	175321.88	110.0	60 - 125		187393.97	190234.91	200700.38
74 Ge # 2	28646.63	3.14	27172.50	105.4	60 - 125		28372.04	29650.85	27916.98
74 Ge # 3	170735.13	1.13	164913.13	103.5	60 - 125		170700.59	172678.61	168826.17
89 Y # 3	1130562.30	1.21	1068488.30	105.8	60 - 125		1142652.50	1133261.90	1115772.40
115 In # 3	1143138.40	1.39	1083659.40	105.5	60 - 125		1160773.80	1129818.40	1138823.00
159 Tb # 3	1716974.30	1.45	1651256.80	104.0	60 - 125		1691915.10	1717442.50	1741565.40
209 Bi # 3	1080527.90	0.24	1054491.00	102.5	60 - 125		1083465.00	1078330.40	1079788.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\061SMPL.D\061SMPL.D#
Date Acquired: Dec 25 2012 01:35 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85580-a-7-a
Misc Info: 3010 1/100 259731
Vial Number: 4412
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	38.68	1.934	ug/l	6.25	100.00		6504.58	5964.37	6077.82
11 B # 3	699.4	34.97	ug/l	2.00	1800.00		123260.05	122395.38	126495.05
23 Na # 1	68620	3431	ug/l	1.44	81000.00		24976102.00	25874976.00	25884754.00
24 Mg # 1	64580	3229	ug/l	1.06	81000.00		15884941.00	16342486.00	16362060.00
27 Al # 1	402400	20120	ug/l	0.97	81000.00		112753880.00	115320860.00	116607440.00
39 K # 2	3492	174.6	ug/l	3.28	81000.00		74276.43	73948.45	76160.40
40 Ca # 1	87120	4356	ug/l	0.42	81000.00		49797100.00	49776444.00	50445388.00
45 Sc # 2	----	--------		--------	#VALUE!		43632.62	46705.34	46880.29
47 Ti # 3	15.778	0.7889	ug/l	7.52	1620.00		983.39	843.38	940.05
51 V # 2	694.6	34.73	ug/l	2.56	1800.00		88135.56	88108.66	89693.88
52 Cr # 2	191.34	9.567	ug/l	2.87	1800.00		29302.98	29137.17	29380.86
55 Mn # 3	2698	134.9	ug/l	0.32	1800.00		2733321.80	2725753.80	2708777.80
56 Fe # 1	439600	21980	ug/l	0.63	81000.00		367526340.00	372248420.00	375553630.00
59 Co # 3	135.74	6.787	ug/l	0.64	1800.00		105245.26	105634.49	103717.29
60 Ni # 2	250.4	12.52	ug/l	2.15	1800.00		16198.24	16329.47	16405.13
63 Cu # 2	67.1	3.355	ug/l	2.15	1800.00		11842.78	11957.29	12068.46
66 Zn # 3	6446	322.3	ug/l	0.44	1800.00		605552.63	604105.88	594427.31
75 As # 2	191.58	9.579	ug/l	3.47	100.00		2478.17	2433.84	2504.85
78 Se # 1	2.28	0.114	ug/l	5.25	100.00		81.00	78.33	84.67
88 Sr # 3	47.44	2.372	ug/l	1.03	1800.00		130135.31	128626.99	127266.84
95 Mo # 3	0.6656	0.03328	ug/l	52.04	1800.00		273.34	153.34	153.34
107 Ag # 3	0.296	0.0148	ug/l	91.55	100.00		383.35	136.67	83.34
111 Cd # 3	25.24	1.262	ug/l	3.66	100.00		3373.70	3343.70	3233.68
118 Sn # 3	0.579	0.02895	ug/l	73.68	1800.00		763.38	486.69	460.02
121 Sb # 3	2.704	0.1352	ug/l	16.05	100.00		1480.10	1233.42	1196.74
137 Ba # 3	5.478	0.2739	ug/l	7.51	1800.00		1163.41	1070.06	1026.74
202 Hg # 3	0.13892	0.006946	ug/l	24.60	5.00		77.00	81.33	71.00
205 Tl # 3	3.06	0.153	ug/l	2.88	20.00		4177.37	4083.96	4307.38
208 Pb # 3	0.2626	0.01313	ug/l	107.31	1800.00		1336.74	490.02	346.68
232 Th # 3	9.488	0.4744	ug/l	2.42	#VALUE!		19860.03	18935.47	18922.18
238 U # 3	145.86	7.293	ug/l	0.49	#VALUE!		292868.75	293008.78	290988.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	686763.69	1.62	836165.38	82.1	60 - 125		673936.06	692579.25	693775.81
45 Sc # 1	610756.56	0.76	552676.25	110.5	60 - 125		606116.00	610757.06	615396.75
45 Sc # 3	651534.50	0.52	644433.94	101.1	60 - 125		653579.69	647654.63	653369.06
74 Ge # 1	187833.39	0.45	175321.88	107.1	60 - 125		186943.13	187911.92	188645.11
74 Ge # 2	27892.51	2.62	27172.50	102.6	60 - 125		27072.43	28476.70	28128.40
74 Ge # 3	165492.05	0.75	164913.13	100.4	60 - 125		166740.88	165476.44	164258.83
89 Y # 3	2194045.00	0.40	1068488.30	205.3	60 - 125	IS I	2192983.00	2203280.00	2185871.80
115 In # 3	1136676.00	1.50	1083659.40	104.9	60 - 125		1130623.60	1123434.60	1155969.80
159 Tb # 3	1786802.90	1.11	1651256.80	108.2	60 - 125		1809434.40	1772200.10	1778773.90
209 Bi # 3	1047833.20	0.42	1054491.00	99.4	60 - 125		1052761.10	1044482.20	1046256.40

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\062SMPL.D\062SMPL.D#
Date Acquired: Dec 25 2012 01:43 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: mb 680-260273_1-a
Misc Info: 200.8TT 1/5
Vial Number: 4401
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0008661	-0.0008661	ug/l	0.00	100.00		0.00	0.00	0.00
11 B	# 3	0.8936	0.8936	ug/l	4.27	1800.00		10046.15	10282.96	10152.94
23 Na	# 1	2.218	2.218	ug/l	36.88	81000.00		119454.65	120600.44	121241.31
24 Mg	# 1	0.3968	0.3968	ug/l	14.04	81000.00		2720.27	2490.23	2420.22
27 Al	# 1	1.703	1.703	ug/l	13.82	81000.00		11813.93	10793.34	10239.66
39 K	# 2	-1.328	-1.328	ug/l	14.30	81000.00		9232.47	9502.64	9566.02
40 Ca	# 1	4.242	4.242	ug/l	12.03	81000.00		123074.53	125032.47	126116.59
45 Sc	# 2	----	--------		--------	#VALUE!		44359.85	45726.35	47431.23
47 Ti	# 3	0.04213	0.04213	ug/l	9.92	1620.00		80.00	73.34	70.00
51 V	# 2	0.1186	0.1186	ug/l	14.06	1800.00		472.23	531.12	577.79
52 Cr	# 2	0.01492	0.01492	ug/l	34.30	1800.00		197.78	173.34	176.67
55 Mn	# 3	0.03833	0.03833	ug/l	7.79	1800.00		1880.15	1790.14	1726.79
56 Fe	# 1	14.79	14.79	ug/l	4.66	81000.00		277776.50	269683.66	272765.06
59 Co	# 3	8.332E-005	8.332E-005	ug/l	732.72	1800.00		30.00	20.00	10.00
60 Ni	# 2	0.1864	0.1864	ug/l	2.63	1800.00		272.23	288.89	292.23
63 Cu	# 2	0.03737	0.03737	ug/l	1.38	1800.00		693.35	704.46	715.58
66 Zn	# 3	0.4661	0.4661	ug/l	5.19	1800.00		1176.73	1223.41	1123.40
75 As	# 2	0.09692	0.09692	ug/l	29.77	100.00		53.00	39.00	44.67
78 Se	# 1	0.003056	0.003056	ug/l	348.49	100.00		31.67	25.67	22.33
88 Sr	# 3	0.004061	0.004061	ug/l	19.13	1800.00		196.67	190.01	156.67
95 Mo	# 3	0.009751	0.009751	ug/l	13.14	1800.00		110.00	96.67	96.67
107 Ag	# 3	0.00219	0.00219	ug/l	4.68	100.00		53.34	53.34	53.34
111 Cd	# 3	-0.003697	-0.003697	ug/l	136.46	100.00		29.97	19.97	46.64
118 Sn	# 3	0.04749	0.04749	ug/l	20.62	1800.00		763.37	806.71	656.70
121 Sb	# 3	0.2254	0.2254	ug/l	1.31	100.00		2096.86	2026.86	2010.18
137 Ba	# 3	0.008416	0.008416	ug/l	48.65	1800.00		70.00	60.00	36.67
202 Hg	# 3	-0.0006927	-0.0006927	ug/l	71.69	5.00		58.33	54.33	56.00
205 Tl	# 3	0.0001253	0.0001253	ug/l	1180.40	20.00		113.34	60.00	33.33
208 Pb	# 3	0.003102	0.003102	ug/l	35.40	1800.00		363.35	303.35	380.01
232 Th	# 3	0.03289	0.03289	ug/l	3.07	#VALUE!		1726.82	1620.14	1673.48
238 U	# 3	0.001319	0.001319	ug/l	26.38	#VALUE!		80.00	70.00	50.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	704625.38	0.77	836165.38	84.3	60 - 125		707181.44	708275.19	698419.50
45 Sc	# 1	610731.94	5.80	552676.25	110.5	60 - 125		587644.00	593055.44	651496.38
45 Sc	# 3	639758.63	0.74	644433.94	99.3	60 - 125		644966.44	635640.63	638668.88
74 Ge	# 1	194949.14	4.10	175321.88	111.2	60 - 125		190594.95	190071.77	204180.72
74 Ge	# 2	28631.16	1.80	27172.50	105.4	60 - 125		28139.54	28585.71	29168.23
74 Ge	# 3	172639.52	0.79	164913.13	104.7	60 - 125		174081.05	172449.73	171387.78
89 Y	# 3	1141339.80	1.69	1068488.30	106.8	60 - 125		1157119.50	1119822.90	1147076.90
115 In	# 3	1172682.00	2.38	1083659.40	108.2	60 - 125		1203469.60	1149126.00	1165450.10
159 Tb	# 3	1793455.00	0.92	1651256.80	108.6	60 - 125		1810561.90	1792089.50	1777713.30
209 Bi	# 3	1111476.90	0.87	1054491.00	105.4	60 - 125		1122555.40	1107413.90	1104461.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\063SMPL.D\063SMPL.D#
Date Acquired: Dec 25 2012 01:50 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: mb 680-260273_1-a
Misc Info: 200.8TT 1/5
Vial Number: 4401
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	-0.0005284	-0.0005284	ug/l	110.73	100.00		3.33	0.00	0.00
11	B	# 3	0.7047	0.7047	ug/l	5.00	1800.00		9676.03	9676.05	9585.96
23	Na	# 1	1.895	1.895	ug/l	4.14	81000.00		115758.34	117827.66	119125.75
24	Mg	# 1	0.3857	0.3857	ug/l	5.96	81000.00		2333.54	2506.90	2610.25
27	Al	# 1	1.651	1.651	ug/l	0.80	81000.00		10459.82	10773.32	10676.56
39	K	# 2	-1.392	-1.392	ug/l	26.15	81000.00		9272.47	9659.40	9719.43
40	Ca	# 1	4.502	4.502	ug/l	2.31	81000.00		125401.84	126723.99	129439.07
45	Sc	# 2	----	--------		--------	#VALUE!		45604.91	46497.13	47397.17
47	Ti	# 3	0.04349	0.04349	ug/l	22.40	1620.00		86.67	66.67	76.67
51	V	# 2	0.123	0.123	ug/l	4.37	1800.00		555.57	540.01	542.24
52	Cr	# 2	0.01816	0.01816	ug/l	32.74	1800.00		174.45	196.67	216.67
55	Mn	# 3	0.0361	0.0361	ug/l	5.95	1800.00		1783.47	1743.47	1670.12
56	Fe	# 1	14.73	14.73	ug/l	0.92	81000.00		268006.47	272977.28	273246.28
59	Co	# 3	0.0009551	0.0009551	ug/l	103.03	1800.00		26.67	23.33	50.00
60	Ni	# 2	0.1954	0.1954	ug/l	9.75	1800.00		320.01	273.34	308.89
63	Cu	# 2	0.05452	0.05452	ug/l	23.20	1800.00		802.25	726.69	797.80
66	Zn	# 3	0.4819	0.4819	ug/l	11.15	1800.00		1163.40	1140.07	1266.75
75	As	# 2	0.1078	0.1078	ug/l	16.41	100.00		44.67	48.00	55.00
78	Se	# 1	0.00542	0.00542	ug/l	106.38	100.00		29.67	24.33	29.33
88	Sr	# 3	0.003592	0.003592	ug/l	7.12	1800.00		180.01	180.01	160.01
95	Mo	# 3	0.008182	0.008182	ug/l	38.32	1800.00		90.00	110.00	83.34
107	Ag	# 3	1.832E-005	1.832E-005	ug/l	2871.70	100.00		33.33	20.00	26.67
111	Cd	# 3	-0.002471	-0.002471	ug/l	182.03	100.00		49.97	26.63	29.97
118	Sn	# 3	0.04849	0.04849	ug/l	7.27	1800.00		730.04	763.37	756.71
121	Sb	# 3	0.2045	0.2045	ug/l	5.24	100.00		1870.16	1986.84	1786.81
137	Ba	# 3	0.01149	0.01149	ug/l	16.68	1800.00		66.67	76.67	60.00
202	Hg	# 3	-0.001384	-0.001384	ug/l	97.76	5.00		54.33	50.67	57.67
205	Tl	# 3	-0.0005495	-0.0005495	ug/l	134.74	20.00		46.67	33.33	70.00
208	Pb	# 3	0.002888	0.002888	ug/l	34.08	1800.00		360.01	373.35	290.01
232	Th	# 3	0.02128	0.02128	ug/l	9.43	#VALUE!		1160.08	1140.08	1260.09
238	U	# 3	0.0007414	0.0007414	ug/l	43.08	#VALUE!		26.67	50.00	50.00

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	714655.44	1.21	836165.38	85.5	60 - 125		706636.94	723844.56	713484.88
45	Sc	# 1	607111.06	1.07	552676.25	109.8	60 - 125		599678.19	609965.56	611689.63
45	Sc	# 3	646824.50	2.54	644433.94	100.4	60 - 125		646656.25	663329.81	630487.38
74	Ge	# 1	194027.05	0.27	175321.88	110.7	60 - 125		193540.98	193963.92	194576.20
74	Ge	# 2	29057.59	1.16	27172.50	106.9	60 - 125		28702.60	29096.52	29373.64
74	Ge	# 3	170768.14	3.03	164913.13	103.6	60 - 125		170986.19	175837.36	165480.86
89	Y	# 3	1177214.60	2.43	1068488.30	110.2	60 - 125		1193733.40	1193733.00	1144177.50
115	In	# 3	1171792.10	2.02	1083659.40	108.1	60 - 125		1191910.90	1177818.40	1145647.50
159	Tb	# 3	1790973.50	2.62	1651256.80	108.5	60 - 125		1822474.10	1813410.80	1737035.40
209	Bi	# 3	1117865.30	1.74	1054491.00	106.0	60 - 125		1123540.30	1133868.00	1096187.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\064SMPL.D\064SMPL.D#
Date Acquired: Dec 25 2012 01:58 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: lcs 680-260273_2-a
Misc Info: 200.8TT 1/5
Vial Number: 4402
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.62	10.62	ug/l	4.09	100.00		35516.34	36958.83	35759.99
11 B # 3	43.64	43.64	ug/l	3.36	1800.00		163290.50	163790.52	161022.08
23 Na # 1	1073	1073	ug/l	0.24	81000.00		8159363.00	8101750.00	8266660.50
24 Mg # 1	1092	1092	ug/l	1.51	81000.00		5454964.00	5542161.50	5662174.00
27 Al # 1	1072	1072	ug/l	0.37	81000.00		6188626.50	6185553.00	6250679.00
39 K # 2	1041	1041	ug/l	3.13	81000.00		422144.09	428225.66	431584.47
40 Ca # 1	1100	1100	ug/l	1.63	81000.00		12645985.00	12761049.00	13178367.00
45 Sc # 2	-----	--------		--------	#VALUE!		47477.27	47511.90	51565.90
47 Ti # 3	21.05	21.05	ug/l	3.39	1620.00		24296.32	23622.11	24242.94
51 V # 2	20.5	20.5	ug/l	4.15	1800.00		56104.72	56520.37	56125.88
52 Cr # 2	21.02	21.02	ug/l	3.30	1800.00		68120.86	69117.81	69343.16
55 Mn # 3	109.6	109.6	ug/l	4.04	1800.00		2278985.30	2317934.50	2264681.30
56 Fe # 1	1119	1119	ug/l	0.38	81000.00		19916796.00	19724834.00	20080444.00
59 Co # 3	10.26	10.26	ug/l	2.67	1800.00		165633.14	163915.44	162354.95
60 Ni # 2	21.72	21.72	ug/l	3.75	1800.00		30175.69	30462.77	30416.09
63 Cu # 2	21.87	21.87	ug/l	4.34	1800.00		80349.96	80633.54	80020.57
66 Zn # 3	21.75	21.75	ug/l	2.40	1800.00		42937.36	42215.85	41598.04
75 As # 2	20.92	20.92	ug/l	2.56	100.00		5659.22	5798.60	5863.29
78 Se # 1	20.4	20.4	ug/l	0.38	100.00		10822.55	10623.10	10865.25
88 Sr # 3	19.11	19.11	ug/l	3.81	1800.00		563564.06	559735.56	551524.88
95 Mo # 3	20.14	20.14	ug/l	3.30	1800.00		86859.14	84501.30	84698.62
107 Ag # 3	10.66	10.66	ug/l	4.20	100.00		133906.75	132583.23	130255.83
111 Cd # 3	10.52	10.52	ug/l	5.58	100.00		28606.33	29047.83	27838.97
118 Sn # 3	20.93	20.93	ug/l	4.85	1800.00		175484.53	175947.17	175447.78
121 Sb # 3	11.26	11.26	ug/l	5.52	100.00		87745.41	89189.91	88221.80
137 Ba # 3	21.24	21.24	ug/l	5.89	1800.00		85505.02	87626.05	85170.18
202 Hg # 3	0.9751	0.9751	ug/l	3.69	5.00		3249.34	3303.68	3227.67
205 Tl # 3	8.342	8.342	ug/l	2.96	20.00		232164.45	228779.39	228906.64
208 Pb # 3	10.58	10.58	ug/l	3.89	1800.00		404077.44	405644.78	398345.13
232 Th # 3	21.32	21.32	ug/l	2.58	#VALUE!		918113.94	914475.19	905105.19
238 U # 3	22.81	22.81	ug/l	2.20	#VALUE!		986985.94	976069.44	971005.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	730051.13	2.34	836165.38	87.3	60 - 125		726556.13	714997.69	748599.56
45 Sc # 1	619072.56	0.81	552676.25	112.0	60 - 125		618777.56	614203.94	624236.06
45 Sc # 3	656810.38	4.59	644433.94	101.9	60 - 125		689700.50	630536.44	650194.13
74 Ge # 1	197302.70	0.84	175321.88	112.5	60 - 125		198199.86	195387.03	198321.27
74 Ge # 2	29955.49	4.10	27172.50	110.2	60 - 125		28944.11	29599.61	31322.76
74 Ge # 3	171337.20	3.35	164913.13	103.9	60 - 125		177786.16	166792.50	169432.94
89 Y # 3	1183523.00	4.13	1068488.30	110.8	60 - 125		1235721.50	1138704.50	1176143.40
115 In # 3	1185504.10	4.81	1083659.40	109.4	60 - 125		1248241.50	1136962.10	1171308.60
159 Tb # 3	1828210.60	3.77	1651256.80	110.7	60 - 125		1903556.00	1768406.00	1812669.80
209 Bi # 3	1121222.00	2.72	1054491.00	106.3	60 - 125		1152873.80	1092124.60	1118667.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\065SMPL.D\065SMPL.D#
Date Acquired: Dec 25 2012 02:05 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85719-c-1-a
Misc Info: 200.8TT 1/5
Vial Number: 4403
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001261	0.001261	ug/l	142.11	100.00		3.33	3.33	13.33
11 B # 3	7.723	7.723	ug/l	4.50	1800.00		31105.81	32037.42	31967.11
23 Na # 1	2051	2051	ug/l	0.64	81000.00		14286630.00	14580486.00	14747373.00
24 Mg # 1	3305	3305	ug/l	0.39	81000.00		15408963.00	15786450.00	15981073.00
27 Al # 1	1.205	1.205	ug/l	1.69	81000.00		7561.71	7868.50	7771.80
39 K # 2	326.6	326.6	ug/l	3.18	81000.00		130325.22	132509.63	135913.94
40 Ca # 1	12080	12080	ug/l	1.54	81000.00		130555880.00	130906580.00	132782770.00
45 Sc # 2	----	--------		--------	#VALUE!		43122.47	43987.81	48366.08
47 Ti # 3	0.2859	0.2859	ug/l	4.28	1620.00		333.35	323.35	343.35
51 V # 2	0.1342	0.1342	ug/l	13.61	1800.00		516.68	596.68	561.12
52 Cr # 2	0.01262	0.01262	ug/l	21.52	1800.00		160.00	176.67	182.22
55 Mn # 3	141	141	ug/l	2.16	1800.00		2788698.80	2759923.00	2769360.80
56 Fe # 1	34.92	34.92	ug/l	1.14	81000.00		590951.88	592743.88	589405.25
59 Co # 3	0.05553	0.05553	ug/l	5.26	1800.00		886.71	870.05	803.37
60 Ni # 2	0.1308	0.1308	ug/l	7.05	1800.00		204.45	211.11	204.45
63 Cu # 2	0.167	0.167	ug/l	11.57	1800.00		1067.82	1183.38	1164.49
66 Zn # 3	0.722	0.722	ug/l	2.39	1800.00		1590.11	1503.45	1593.44
75 As # 2	0.3081	0.3081	ug/l	6.28	100.00		91.67	97.33	110.33
78 Se # 1	0.02222	0.02222	ug/l	33.82	100.00		33.00	31.67	39.00
88 Sr # 3	89.24	89.24	ug/l	5.10	1800.00		2384484.30	2412790.80	2366654.00
95 Mo # 3	0.04297	0.04297	ug/l	19.63	1800.00		273.34	223.34	193.34
107 Ag # 3	0.0007783	0.0007783	ug/l	44.66	100.00		40.00	33.33	30.00
111 Cd # 3	0.0006319	0.0006319	ug/l	827.35	100.00		56.58	26.60	43.27
118 Sn # 3	0.04964	0.04964	ug/l	9.18	1800.00		750.04	736.70	690.04
121 Sb # 3	0.1567	0.1567	ug/l	1.16	100.00		1493.44	1403.44	1433.44
137 Ba # 3	45.45	45.45	ug/l	3.66	1800.00		175872.25	174390.41	172222.81
202 Hg # 3	0.001955	0.001955	ug/l	55.55	5.00		60.67	63.00	64.67
205 Tl # 3	0.02368	0.02368	ug/l	7.04	20.00		733.37	706.71	646.70
208 Pb # 3	0.006444	0.006444	ug/l	21.51	1800.00		500.02	490.02	410.01
232 Th # 3	0.1014	0.1014	ug/l	3.76	#VALUE!		4750.89	4267.39	4310.71
238 U # 3	0.005911	0.005911	ug/l	16.95	#VALUE!		280.01	200.01	283.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	664545.81	2.85	836165.38	79.5	60 - 125		666411.56	644760.75	682465.25
45 Sc # 1	579384.31	2.24	552676.25	104.8	60 - 125		565431.06	581669.38	591052.50
45 Sc # 3	617342.00	3.91	644433.94	95.8	60 - 125		643488.56	595879.50	612658.06
74 Ge # 1	183728.50	1.00	175321.88	104.8	60 - 125		181697.67	184194.77	185293.08
74 Ge # 2	28206.73	4.89	27172.50	103.8	60 - 125		27377.24	27445.09	29797.86
74 Ge # 3	161296.13	2.69	164913.13	97.8	60 - 125		165860.72	157233.64	160794.02
89 Y # 3	1084801.50	4.69	1068488.30	101.5	60 - 125		1141277.10	1042629.60	1070497.90
115 In # 3	1119761.90	4.08	1083659.40	103.3	60 - 125		1168543.90	1077874.60	1112867.40
159 Tb # 3	1767840.40	3.71	1651256.80	107.1	60 - 125		1833829.50	1702527.50	1767164.40
209 Bi # 3	1077255.50	3.09	1054491.00	102.2	60 - 125		1109716.30	1043230.20	1078820.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\066SMPL.D\066SMPL.D#
Date Acquired: Dec 25 2012 02:13 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85719-c-1-a SD
Misc Info: 200.8TT 1/25
Vial Number: 4404
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0043305	-0.0008661	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	8.465	1.693	ug/l	6.80	1800.00		12754.48	13598.44	12871.32
23 Na # 1	1975.5	395.1	ug/l	1.13	81000.00		2928471.30	3031060.00	2991735.30
24 Mg # 1	3196	639.2	ug/l	0.49	81000.00		3101345.30	3161498.30	3186554.50
27 Al # 1	3.2465	0.6493	ug/l	2.58	81000.00		4770.71	5017.48	4894.10
39 K # 2	310	62	ug/l	1.18	81000.00		32568.87	33760.75	34235.13
40 Ca # 1	11250	2250	ug/l	0.34	81000.00		25252250.00	25456392.00	25539674.00
45 Sc # 2	-----	--------		--------	#VALUE!		43605.90	44941.15	46842.43
47 Ti # 3	0.2763	0.05526	ug/l	12.31	1620.00		80.00	96.67	90.00
51 V # 2	0.21315	0.04263	ug/l	17.84	1800.00		330.01	303.34	345.56
52 Cr # 2	0.0133	0.00266	ug/l	137.14	1800.00		133.34	156.67	141.11
55 Mn # 3	132.8	26.56	ug/l	2.43	1800.00		550906.88	543903.13	547354.81
56 Fe # 1	32.315	6.463	ug/l	0.67	81000.00		124234.48	126717.19	125851.74
59 Co # 3	0.049945	0.009989	ug/l	6.37	1800.00		186.67	170.01	170.01
60 Ni # 2	1.071	0.2142	ug/l	3.09	1800.00		308.89	314.45	336.67
63 Cu # 2	0.31925	0.06385	ug/l	22.18	1800.00		722.24	827.80	830.03
66 Zn # 3	1.4615	0.2923	ug/l	12.15	1800.00		810.04	770.04	870.05
75 As # 2	0.2838	0.05676	ug/l	29.16	100.00		30.67	39.67	34.33
78 Se # 1	0.030065	0.006013	ug/l	50.27	100.00		28.67	28.67	26.00
88 Sr # 3	81.15	16.23	ug/l	4.51	1800.00		462702.06	452114.25	458088.84
95 Mo # 3	0.047905	0.009581	ug/l	44.39	1800.00		110.00	110.00	76.67
107 Ag # 3	-0.0025335	-0.0005067	ug/l	99.19	100.00		20.00	26.67	13.33
111 Cd # 3	-0.00743	-0.001486	ug/l	386.41	100.00		26.63	56.63	29.98
118 Sn # 3	0.06525	0.01305	ug/l	51.53	1800.00		506.69	420.02	420.02
121 Sb # 3	0.1913	0.03826	ug/l	12.68	100.00		616.70	566.69	566.69
137 Ba # 3	42.955	8.591	ug/l	3.92	1800.00		34292.00	33507.25	33991.20
202 Hg # 3	0.004275	0.000855	ug/l	74.22	5.00		61.67	65.33	58.00
205 Tl # 3	0.03501	0.007002	ug/l	12.63	20.00		243.35	240.01	273.35
208 Pb # 3	0.0023185	0.0004637	ug/l	208.86	1800.00		280.01	220.01	243.34
232 Th # 3	0.1632	0.03264	ug/l	7.03	#VALUE!		1640.15	1636.80	1736.83
238 U # 3	0.00678	0.001356	ug/l	31.53	#VALUE!		66.67	90.00	50.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	713577.25	0.57	836165.38	85.3	60 - 125		709043.81	716862.44	714825.50
45 Sc # 1	599974.63	0.91	552676.25	108.6	60 - 125		593760.75	602077.50	604085.69
45 Sc # 3	638516.63	3.15	644433.94	99.1	60 - 125		637247.19	659219.88	619082.75
74 Ge # 1	191907.25	0.42	175321.88	109.5	60 - 125		191092.16	192686.27	191943.33
74 Ge # 2	28487.47	1.99	27172.50	104.8	60 - 125		27927.00	28475.59	29059.81
74 Ge # 3	168813.06	2.08	164913.13	102.4	60 - 125		169035.50	172212.34	165191.33
89 Y # 3	1142129.00	3.89	1068488.30	106.9	60 - 125		1150477.50	1181812.10	1094097.50
115 In # 3	1153408.30	2.99	1083659.40	106.4	60 - 125		1143178.10	1191896.90	1125149.80
159 Tb # 3	1778731.00	2.98	1651256.80	107.7	60 - 125		1750984.80	1839768.90	1745439.50
209 Bi # 3	1118294.60	2.58	1054491.00	106.1	60 - 125		1118646.50	1146933.10	1089304.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\067SMPL.D\067SMPL.D#
Date Acquired: Dec 25 2012 02:20 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85719-c-1-a PDS
Misc Info: 200.8TT 1/5
Vial Number: 4405
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	21.2	21.2	ug/l	1.40	100.00		66079.09	67286.92	66309.86
11 B	# 3	49.46	49.46	ug/l	1.22	1800.00		168231.58	170907.06	169291.64
23 Na	# 1	3913	3913	ug/l	1.00	81000.00		27370068.00	27494106.00	28405530.00
24 Mg	# 1	5088	5088	ug/l	0.92	81000.00		23920784.00	24356500.00	24610028.00
27 Al	# 1	215.2	215.2	ug/l	1.40	81000.00		1146158.60	1177678.40	1189707.10
39 K	# 2	2428	2428	ug/l	0.18	81000.00		891546.63	893654.38	910245.06
40 Ca	# 1	13080	13080	ug/l	0.61	81000.00		141273460.00	141634050.00	145528910.00
45 Sc	# 2	----	--------		--------	#VALUE!		43863.06	44747.41	45299.71
47 Ti	# 3	21.1	21.1	ug/l	1.55	1620.00		22163.57	22640.85	22143.71
51 V	# 2	20.37	20.37	ug/l	1.57	1800.00		49945.16	51416.92	52012.88
52 Cr	# 2	20.65	20.65	ug/l	0.26	1800.00		61397.96	61629.71	62636.34
55 Mn	# 3	341.5	341.5	ug/l	0.85	1800.00		6626618.00	6589988.00	6560364.00
56 Fe	# 1	2149	2149	ug/l	0.88	81000.00		34820144.00	35437720.00	36035440.00
59 Co	# 3	19.99	19.99	ug/l	1.25	1800.00		295622.88	297439.25	293522.25
60 Ni	# 2	20.79	20.79	ug/l	1.14	1800.00		26451.18	26656.96	26585.77
63 Cu	# 2	20.93	20.93	ug/l	0.58	1800.00		70287.10	69937.12	70813.74
66 Zn	# 3	20.34	20.34	ug/l	0.62	1800.00		36410.13	36526.97	36710.81
75 As	# 2	19.94	19.94	ug/l	0.63	100.00		4994.36	5031.37	5071.04
78 Se	# 1	19.64	19.64	ug/l	0.65	100.00		9565.52	9536.84	9741.94
88 Sr	# 3	104.9	104.9	ug/l	0.90	1800.00		2801619.50	2775718.00	2782608.00
95 Mo	# 3	19.93	19.93	ug/l	3.30	1800.00		79745.72	79189.58	78352.95
107 Ag	# 3	17.2	17.2	ug/l	2.52	100.00		200684.47	199270.64	199880.36
111 Cd	# 3	20.26	20.26	ug/l	3.31	100.00		52099.50	51137.14	50909.94
118 Sn	# 3	21.08	21.08	ug/l	3.30	1800.00		167142.23	165793.83	164145.94
121 Sb	# 3	21.38	21.38	ug/l	2.85	100.00		157064.84	157544.75	156509.05
137 Ba	# 3	63.63	63.63	ug/l	3.89	1800.00		245125.64	242112.08	237675.72
202 Hg	# 3	0.9908	0.9908	ug/l	2.02	5.00		3089.64	3112.31	3013.62
205 Tl	# 3	4.242	4.242	ug/l	0.34	20.00		111027.66	111618.56	110443.88
208 Pb	# 3	21.06	21.06	ug/l	0.31	1800.00		761383.81	763315.94	757037.31
232 Th	# 3	22.49	22.49	ug/l	0.39	#VALUE!		887016.25	897165.69	893807.38
238 U	# 3	23.2	23.2	ug/l	0.15	#VALUE!		919663.75	922471.00	924839.13

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	674291.63	0.55	836165.38	80.6	60 - 125		673796.63	670859.31	678218.88
45 Sc	# 1	581522.13	1.06	552676.25	105.2	60 - 125		578049.63	577910.31	588606.38
45 Sc	# 3	607310.94	0.39	644433.94	94.2	60 - 125		609990.44	605452.00	606490.44
74 Ge	# 1	182988.38	0.84	175321.88	104.4	60 - 125		181513.88	182862.72	184588.55
74 Ge	# 2	27369.43	1.13	27172.50	100.7	60 - 125		27209.18	27174.72	27724.37
74 Ge	# 3	158351.94	0.61	164913.13	96.0	60 - 125		158692.39	157264.28	159099.14
89 Y	# 3	1074843.10	1.35	1068488.30	100.6	60 - 125		1089522.30	1060412.30	1074594.80
115 In	# 3	1109499.90	2.57	1083659.40	102.4	60 - 125		1098255.80	1088350.10	1141894.00
159 Tb	# 3	1734021.50	0.26	1651256.80	105.0	60 - 125		1731121.30	1739244.50	1731698.80
209 Bi	# 3	1039396.30	0.43	1054491.00	98.6	60 - 125		1034700.00	1039952.30	1043536.40

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\068SMPL.D\068SMPL.D#
Date Acquired: Dec 25 2012 02:28 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85719-c-1-b ms
Misc Info: 200.8TT 1/5
Vial Number: 4406
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.53	10.53	ug/l	0.73	100.00		32200.35	32935.02	32911.68
11 B # 3	50.57	50.57	ug/l	2.25	1800.00		172417.03	171696.77	169366.72
23 Na # 1	2913	2913	ug/l	0.90	81000.00		20138958.00	20724326.00	20397480.00
24 Mg # 1	4090	4090	ug/l	1.48	81000.00		19274924.00	19054002.00	19502426.00
27 Al # 1	999.9	999.9	ug/l	1.77	81000.00		5344194.00	5294207.50	5458553.00
39 K # 2	1352	1352	ug/l	0.76	81000.00		490961.97	497779.09	508993.84
40 Ca # 1	12130	12130	ug/l	1.07	81000.00		130606100.00	129868180.00	131844890.00
45 Sc # 2	----	--------		--------	#VALUE!		42460.02	44247.29	44870.97
47 Ti # 3	21.17	21.17	ug/l	3.60	1620.00		22040.10	22677.56	22190.30
51 V # 2	20.17	20.17	ug/l	0.35	1800.00		49452.75	50024.34	50798.65
52 Cr # 2	20.52	20.52	ug/l	0.53	1800.00		59799.34	60899.65	61908.43
55 Mn # 3	240.5	240.5	ug/l	2.33	1800.00		4602263.50	4653306.00	4607828.50
56 Fe # 1	1025	1025	ug/l	0.34	81000.00		16634076.00	16730431.00	16761263.00
59 Co # 3	9.906	9.906	ug/l	1.49	1800.00		146282.88	147397.42	143683.25
60 Ni # 2	20.68	20.68	ug/l	1.32	1800.00		26159.66	26200.75	26115.12
63 Cu # 2	20.58	20.58	ug/l	1.20	1800.00		68430.16	68396.88	68532.77
66 Zn # 3	21.45	21.45	ug/l	3.73	1800.00		38638.01	37826.47	38527.75
75 As # 2	20.65	20.65	ug/l	0.22	100.00		5097.39	5157.07	5214.75
78 Se # 1	19.43	19.43	ug/l	0.15	100.00		9384.75	9422.78	9415.11
88 Sr # 3	105.5	105.5	ug/l	2.21	1800.00		2812694.00	2783738.80	2759608.30
95 Mo # 3	19.94	19.94	ug/l	2.21	1800.00		78135.13	78259.06	77412.05
107 Ag # 3	10.33	10.33	ug/l	3.46	100.00		117327.54	118065.87	119127.21
111 Cd # 3	10.23	10.23	ug/l	1.44	100.00		25667.93	25868.12	25194.06
118 Sn # 3	21.05	21.05	ug/l	2.75	1800.00		162906.08	163094.33	162869.97
121 Sb # 3	11.38	11.38	ug/l	3.23	100.00		82594.04	81954.18	82751.13
137 Ba # 3	65.29	65.29	ug/l	2.75	1800.00		246263.30	242913.33	243425.98
202 Hg # 3	0.9943	0.9943	ug/l	2.85	5.00		3129.98	3139.65	3114.98
205 Tl # 3	8.337	8.337	ug/l	3.92	20.00		217213.88	217935.98	216727.67
208 Pb # 3	10.48	10.48	ug/l	4.55	1800.00		377845.41	375363.63	378222.53
232 Th # 3	21.95	21.95	ug/l	3.73	#VALUE!		885452.69	877921.56	888150.69
238 U # 3	23.38	23.38	ug/l	3.22	#VALUE!		943735.00	942509.38	943175.31

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	666762.13	1.68	836165.38	79.7	60 - 125		655162.00	677498.13	667626.31
45 Sc # 1	573900.69	0.55	552676.25	103.8	60 - 125		570627.81	576922.38	574151.75
45 Sc # 3	605535.81	4.09	644433.94	94.0	60 - 125		612457.75	626121.94	578027.75
74 Ge # 1	180945.78	0.06	175321.88	103.2	60 - 125		180817.08	181039.06	180981.17
74 Ge # 2	27087.52	1.24	27172.50	99.7	60 - 125		26721.80	27154.66	27386.09
74 Ge # 3	157678.53	2.76	164913.13	95.6	60 - 125		157882.36	161925.19	153228.02
89 Y # 3	1068908.50	2.51	1068488.30	100.0	60 - 125		1069233.40	1095580.60	1041911.60
115 In # 3	1092667.00	2.76	1083659.40	100.8	60 - 125		1103657.60	1115787.50	1058555.90
159 Tb # 3	1729072.30	4.15	1651256.80	104.7	60 - 125		1739056.90	1795309.10	1652851.00
209 Bi # 3	1055393.80	3.16	1054491.00	100.1	60 - 125		1064168.80	1083457.30	1018555.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\069SMPL.D\069SMPL.D#
Date Acquired: Dec 25 2012 02:35 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85719-c-1-c msd
Misc Info: 200.8TT 1/5
Vial Number: 4407
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.37	10.37	ug/l	3.60	100.00		32280.72	32647.79	32390.73
11 B # 3	49.42	49.42	ug/l	4.39	1800.00		166244.25	169091.38	171087.63
23 Na # 1	2917	2917	ug/l	1.25	81000.00		20276504.00	20408856.00	21254904.00
24 Mg # 1	4070	4070	ug/l	1.57	81000.00		19402450.00	19320574.00	19377732.00
27 Al # 1	997.2	997.2	ug/l	0.17	81000.00		5323814.00	5407021.00	5478581.00
39 K # 2	1335	1335	ug/l	0.74	81000.00		484932.03	490611.03	498323.00
40 Ca # 1	12030	12030	ug/l	0.89	81000.00		130385680.00	130149880.00	132315540.00
45 Sc # 2	----	--------		--------	#VALUE!		42817.35	43054.53	44282.88
47 Ti # 3	20.21	20.21	ug/l	3.89	1620.00		21272.53	21142.39	21489.46
51 V # 2	20.07	20.07	ug/l	0.75	1800.00		49114.18	49564.19	50318.39
52 Cr # 2	20.39	20.39	ug/l	0.94	1800.00		59622.16	59988.96	61124.80
55 Mn # 3	233.1	233.1	ug/l	1.17	1800.00		4463441.00	4536528.50	4481863.50
56 Fe # 1	1027	1027	ug/l	0.25	81000.00		16753020.00	16888296.00	17016604.00
59 Co # 3	9.596	9.596	ug/l	2.30	1800.00		143659.16	140236.83	141099.30
60 Ni # 2	20.43	20.43	ug/l	0.68	1800.00		25559.87	25868.11	25810.28
63 Cu # 2	21.17	21.17	ug/l	1.02	1800.00		69776.27	70733.39	69971.47
66 Zn # 3	20.55	20.55	ug/l	0.88	1800.00		36831.10	37185.25	36620.69
75 As # 2	20.43	20.43	ug/l	0.27	100.00		5021.37	5117.06	5109.73
78 Se # 1	19.52	19.52	ug/l	0.69	100.00		9504.82	9530.50	9555.85
88 Sr # 3	104.3	104.3	ug/l	3.74	1800.00		2747310.50	2691268.00	2713521.30
95 Mo # 3	19.8	19.8	ug/l	1.93	1800.00		77177.71	76866.28	75537.66
107 Ag # 3	10.22	10.22	ug/l	2.74	100.00		115894.97	115708.13	115472.37
111 Cd # 3	10.11	10.11	ug/l	2.14	100.00		24947.05	25244.23	24827.47
118 Sn # 3	20.93	20.93	ug/l	2.10	1800.00		161847.88	160599.00	158321.88
121 Sb # 3	11.24	11.24	ug/l	1.98	100.00		80725.76	81204.34	79784.31
137 Ba # 3	64.52	64.52	ug/l	2.92	1800.00		238884.63	238467.03	238749.42
202 Hg # 3	0.9582	0.9582	ug/l	0.99	5.00		3050.97	3057.63	2954.28
205 Tl # 3	8.121	8.121	ug/l	2.84	20.00		215202.20	212452.05	212091.73
208 Pb # 3	10.21	10.21	ug/l	2.81	1800.00		373444.50	368810.78	367946.66
232 Th # 3	21.48	21.48	ug/l	1.78	#VALUE!		870941.31	868599.31	859667.88
238 U # 3	22.88	22.88	ug/l	1.97	#VALUE!		926050.63	926113.13	920845.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	672820.31	4.25	836165.38	80.5	60 - 125		655414.19	705790.44	657256.38
45 Sc # 1	579471.13	1.50	552676.25	104.8	60 - 125		571095.13	578856.44	588461.81
45 Sc # 3	605645.75	3.15	644433.94	94.0	60 - 125		600283.44	626818.44	589835.25
74 Ge # 1	182491.58	0.96	175321.88	104.1	60 - 125		180973.91	182102.53	184398.30
74 Ge # 2	26990.76	1.28	27172.50	99.3	60 - 125		26593.91	27169.16	27209.21
74 Ge # 3	158159.98	1.64	164913.13	95.9	60 - 125		158067.67	160793.83	155618.44
89 Y # 3	1055339.80	3.26	1068488.30	98.8	60 - 125		1056577.90	1089095.90	1020345.50
115 In # 3	1080754.50	2.85	1083659.40	99.7	60 - 125		1087942.80	1107295.30	1047025.60
159 Tb # 3	1741002.50	2.55	1651256.80	105.4	60 - 125		1721471.40	1791909.50	1709626.60
209 Bi # 3	1056344.60	2.26	1054491.00	100.2	60 - 125		1056909.00	1079909.40	1032215.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\070SMPL.D\070SMPL.D#
Date Acquired: Dec 25 2012 02:42 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 640-41563-i-1-c
Misc Info: 200.8TT 1/5
Vial Number: 4408
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.008049	0.008049	ug/l	14.31	100.00		33.33	26.67	33.33
11 B # 3	824.1	824.1	ug/l	1.57	1800.00		3016077.50	3013171.50	3039319.80
23 Na # 1	188300	188300	ug/l	0.78	81000.00		1289371000.00	1323410900.00	1342393600.00
24 Mg # 1	19970	19970	ug/l	0.87	81000.00		92438712.00	94523832.00	96461992.00
27 Al # 1	6.924	6.924	ug/l	0.65	81000.00		37754.47	38813.36	38920.21
39 K # 2	23960	23960	ug/l	4.03	81000.00		8268461.50	8417790.00	8590787.00
40 Ca # 1	15560	15560	ug/l	1.05	81000.00		165125900.00	167531390.00	172361250.00
45 Sc # 2	----	--------		--------	#VALUE!		47914.65	42371.99	45913.43
47 Ti # 3	2.107	2.107	ug/l	6.25	1620.00		2440.22	2260.20	2466.91
51 V # 2	3.873	3.873	ug/l	1.87	1800.00		9539.17	9262.36	9672.56
52 Cr # 2	2.622	2.622	ug/l	4.34	1800.00		7540.45	7724.99	7674.97
55 Mn # 3	92.81	92.81	ug/l	0.49	1800.00		1733305.80	1749496.00	1733947.90
56 Fe # 1	1230	1230	ug/l	0.13	81000.00		18499414.00	18754616.00	18915914.00
59 Co # 3	2.871	2.871	ug/l	1.07	1800.00		41136.36	41176.55	41270.24
60 Ni # 2	11.31	11.31	ug/l	4.31	1800.00		13579.50	13899.73	14163.27
63 Cu # 2	0.4496	0.4496	ug/l	5.13	1800.00		1957.90	1876.78	2064.58
66 Zn # 3	2.091	2.091	ug/l	2.89	1800.00		3783.84	3840.50	3953.87
75 As # 2	4.907	4.907	ug/l	5.45	100.00		1161.04	1213.38	1230.71
78 Se # 1	0.332	0.332	ug/l	7.61	100.00		174.00	158.67	181.67
88 Sr # 3	125.7	125.7	ug/l	3.44	1800.00		3292293.50	3259954.00	3268494.50
95 Mo # 3	0.3223	0.3223	ug/l	7.64	1800.00		1246.75	1216.74	1073.40
107 Ag # 3	0.005862	0.005862	ug/l	31.66	100.00		103.34	76.67	66.67
111 Cd # 3	0.00202	0.00202	ug/l	198.81	100.00		49.60	32.95	36.32
118 Sn # 3	0.4524	0.4524	ug/l	4.81	1800.00		3413.77	3313.75	3543.80
121 Sb # 3	0.2809	0.2809	ug/l	5.15	100.00		2096.87	1983.50	2116.85
137 Ba # 3	55.72	55.72	ug/l	1.17	1800.00		188265.81	186773.13	185547.39
202 Hg # 3	0.07298	0.07298	ug/l	5.35	5.00		234.34	216.67	214.00
205 Tl # 3	0.03148	0.03148	ug/l	3.70	20.00		823.38	790.04	776.71
208 Pb # 3	0.07242	0.07242	ug/l	2.78	1800.00		2473.49	2583.50	2600.16
232 Th # 3	0.1377	0.1377	ug/l	7.04	#VALUE!		4894.26	4670.86	4180.68
238 U # 3	0.08123	0.08123	ug/l	5.92	#VALUE!		2460.27	2610.30	2703.66

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	750134.69	1.81	836165.38	89.7	60 - 125		735065.06	753812.69	761526.25
45 Sc # 1	576103.94	1.27	552676.25	104.2	60 - 125		568363.69	577065.44	582882.69
45 Sc # 3	644579.19	1.53	644433.94	100.0	60 - 125		641047.31	655693.56	636996.63
74 Ge # 1	168915.41	1.00	175321.88	96.3	60 - 125		167140.88	169088.59	170516.77
74 Ge # 2	26279.75	3.09	27172.50	96.7	60 - 125		26975.64	25386.56	26477.04
74 Ge # 3	153647.19	1.01	164913.13	93.2	60 - 125		152896.56	155437.70	152607.30
89 Y # 3	1055236.90	3.22	1068488.30	98.8	60 - 125		1046873.80	1092650.90	1026185.90
115 In # 3	979162.56	1.09	1083659.40	90.4	60 - 125		976090.38	991007.50	970390.00
159 Tb # 3	1558306.00	1.16	1651256.80	94.4	60 - 125		1548865.90	1579123.30	1546928.90
209 Bi # 3	831890.25	1.38	1054491.00	78.9	60 - 125		838358.75	838646.75	818665.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\071_CCV.D\071_CCV.D#
Date Acquired: Dec 25 2012 02:50 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.18 ug/l	4.63	50.00	90 - 110		183931.45	187912.59	188096.30
11 B	108.6 ug/l	5.42	100.00	90 - 110		420724.78	424070.38	423646.44
23 Na	4952 ug/l	3.11	5000.00	90 - 110		36274968.00	36940784.00	37695708.00
24 Mg	4914 ug/l	3.71	5000.00	90 - 110		24356850.00	24764514.00	25011622.00
27 Al	495.1 ug/l	3.60	500.00	90 - 110		2791594.30	2841843.80	2874842.50
39 K	5082 ug/l	2.46	5000.00	90 - 110		1867367.50	1945025.80	1984524.80
40 Ca	4935 ug/l	3.41	5000.00	90 - 110		55757368.00	56938924.00	57738800.00
45 Sc	--------	--------	---	##### - #####		45960.34	48176.89	47027.67
47 Ti	49.6 ug/l	2.14	50.00	90 - 110		57288.24	58044.02	58451.55
51 V	49.61 ug/l	1.52	50.00	90 - 110		126118.77	128884.02	129927.77
52 Cr	50.07 ug/l	1.66	50.00	90 - 110		152966.84	155061.28	156332.91
55 Mn	503.3 ug/l	1.59	500.00	90 - 110		10442391.00	10427896.00	10309933.00
56 Fe	4923 ug/l	3.13	5000.00	90 - 110		84004056.00	85378600.00	85383736.00
59 Co	48.96 ug/l	1.42	50.00	90 - 110		784752.00	771930.69	766507.75
60 Ni	50.74 ug/l	1.27	50.00	90 - 110		66130.56	67354.81	67344.88
63 Cu	51.1 ug/l	1.68	50.00	90 - 110		174463.31	176875.59	178444.31
66 Zn	51.19 ug/l	1.66	50.00	90 - 110		98980.04	98165.81	96895.78
75 As	49.66 ug/l	1.50	50.00	90 - 110		12707.09	12972.95	13068.00
78 Se	49.56 ug/l	3.08	50.00	90 - 110		25155.29	25414.66	25503.77
88 Sr	50.93 ug/l	2.45	50.00	90 - 110		1429324.10	1416033.90	1402440.50
95 Mo	48.61 ug/l	3.41	50.00	90 - 110		196440.72	196653.05	196923.14
107 Ag	49.52 ug/l	3.40	50.00	90 - 110		586723.25	587919.13	586317.38
111 Cd	49.49 ug/l	2.11	50.00	90 - 110		129911.61	127017.23	127101.99
118 Sn	49.66 ug/l	3.07	50.00	90 - 110		399322.03	397885.09	395879.84
121 Sb	49.81 ug/l	3.15	50.00	90 - 110		373371.97	371690.00	373376.44
137 Ba	49.42 ug/l	3.50	50.00	90 - 110		191297.61	192239.80	190806.69
202 Hg	2.369 ug/l	1.87	2.50	90 - 110		7215.64	7266.00	7188.29
205 Tl	10.01 ug/l	1.40	10.00	90 - 110		262194.09	257849.38	255435.67
208 Pb	49.77 ug/l	1.28	50.00	90 - 110		1780531.40	1772165.80	1766678.50
232 Th	49.52 ug/l	1.93	---	##### - #####		1929872.00	1955891.30	1973063.30
238 U	49.52 ug/l	2.03	---	##### - #####		1930332.00	1958494.50	1981567.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	784789.50	5.70	836165.38	93.9	60 - 125		743649.88	778362.88	832355.69
45 Sc	613111.69	4.84	552676.25	110.9	60 - 125		593921.19	598090.94	647323.00
45 Sc	671342.56	1.98	644433.94	104.2	60 - 125		674910.75	656636.19	682480.81
74 Ge	191641.75	3.66	175321.88	109.3	60 - 125		186832.11	188404.72	199688.41
74 Ge	28276.89	2.04	27172.50	104.1	60 - 125		27717.74	28870.63	28242.28
74 Ge	169440.64	1.20	164913.13	102.7	60 - 125		170754.41	167108.23	170459.30
89 Y	1125555.80	2.34	1068488.30	105.3	60 - 125		1144032.00	1095347.00	1137288.40
115 In	1131962.80	3.37	1083659.40	104.5	60 - 125		1174851.40	1101614.00	1119423.00
159 Tb	1710918.10	1.39	1651256.80	103.6	60 - 125		1731579.50	1685016.00	1716158.90
209 Bi	1033144.90	1.34	1054491.00	98.0	60 - 125		1042745.80	1017308.10	1039380.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\072_CCB.D\072_CCB.D#
Date Acquired: Dec 25 2012 02:57 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.004788	0.004788	ug/l	102.99	#VALUE!		0.00	30.00	36.67
11 B	# 3	3.882	3.882	ug/l	5.95	#VALUE!		23761.80	23778.41	24162.30
23 Na	# 1	0.9705	0.9705	ug/l	44.15	#VALUE!		113475.18	110615.20	111252.20
24 Mg	# 1	0.3566	0.3566	ug/l	31.27	#VALUE!		2950.31	2133.50	1980.15
27 Al	# 1	0.06558	0.06558	ug/l	23.16	#VALUE!		1710.13	1556.77	1696.79
39 K	# 2	-0.6632	-0.6632	ug/l	174.61	#VALUE!		9472.63	9726.12	10162.99
40 Ca	# 1	1.38	1.38	ug/l	9.35	#VALUE!		92150.32	92620.01	92673.76
45 Sc	# 2	----	--------		--------	#VALUE!		46931.75	44670.15	46957.09
47 Ti	# 3	0.01064	0.01064	ug/l	101.41	#VALUE!		26.67	50.00	50.00
51 V	# 2	0.008743	0.008743	ug/l	98.23	#VALUE!		230.00	260.00	234.45
52 Cr	# 2	0.002867	0.002867	ug/l	105.76	#VALUE!		144.45	136.67	158.89
55 Mn	# 3	0.08828	0.08828	ug/l	82.82	#VALUE!		1556.77	2367.35	4757.57
56 Fe	# 1	0.4932	0.4932	ug/l	12.92	#VALUE!		23248.42	22744.67	21790.04
59 Co	# 3	0.008434	0.008434	ug/l	88.86	#VALUE!		60.00	110.00	303.34
60 Ni	# 2	0.009633	0.009633	ug/l	53.38	#VALUE!		43.33	46.67	56.67
63 Cu	# 2	0.06196	0.06196	ug/l	13.86	#VALUE!		800.02	756.69	840.03
66 Zn	# 3	0.06068	0.06068	ug/l	35.89	#VALUE!		370.01	343.35	450.02
75 As	# 2	0.01081	0.01081	ug/l	68.22	#VALUE!		22.67	21.33	25.67
78 Se	# 1	0.03829	0.03829	ug/l	21.42	#VALUE!		47.00	39.67	47.33
88 Sr	# 3	0.02334	0.02334	ug/l	103.34	#VALUE!		173.34	516.76	1546.81
95 Mo	# 3	0.05575	0.05575	ug/l	25.20	#VALUE!		310.01	220.01	343.35
107 Ag	# 3	0.008949	0.008949	ug/l	68.33	#VALUE!		86.67	93.34	230.01
111 Cd	# 3	0.01375	0.01375	ug/l	88.07	#VALUE!		46.57	73.27	116.56
118 Sn	# 3	0.02775	0.02775	ug/l	24.10	#VALUE!		500.02	570.03	650.03
121 Sb	# 3	0.2765	0.2765	ug/l	7.38	#VALUE!		2510.26	2346.90	2370.24
137 Ba	# 3	0.02051	0.02051	ug/l	80.79	#VALUE!		46.67	83.34	183.34
202 Hg	# 3	0.02028	0.02028	ug/l	9.72	#VALUE!		125.33	114.33	125.67
205 Tl	# 3	0.01035	0.01035	ug/l	15.21	#VALUE!		283.34	350.02	376.68
208 Pb	# 3	0.008546	0.008546	ug/l	47.64	#VALUE!		433.35	460.02	726.70
232 Th	# 3	0.12	0.12	ug/l	2.43	#VALUE!		5164.35	5261.11	5327.77
238 U	# 3	0.01117	0.01117	ug/l	55.95	#VALUE!		256.68	390.03	796.72

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	825242.81	4.82	836165.38	98.7	60 - 125		790635.38	816367.88	868725.06
45 Sc	# 1	612993.56	1.85	552676.25	110.9	60 - 125		603305.00	610158.25	625517.38
45 Sc	# 3	683186.75	4.42	644433.94	106.0	60 - 125		664626.56	666908.75	718025.00
74 Ge	# 1	193429.89	1.66	175321.88	110.3	60 - 125		190668.30	192667.56	196953.83
74 Ge	# 2	28937.88	2.59	27172.50	106.5	60 - 125		29550.64	28102.99	29160.00
74 Ge	# 3	173242.05	3.39	164913.13	105.1	60 - 125		169456.27	170256.33	180013.52
89 Y	# 3	1156705.10	2.43	1068488.30	108.3	60 - 125		1136110.30	1145234.10	1188770.90
115 In	# 3	1158995.50	3.78	1083659.40	107.0	60 - 125		1127138.90	1140851.80	1208995.90
159 Tb	# 3	1746329.60	2.35	1651256.80	105.8	60 - 125		1711917.90	1735247.00	1791824.10
209 Bi	# 3	1087517.40	3.60	1054491.00	103.1	60 - 125		1059960.40	1070199.80	1132391.90

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\073SMPL.D\073SMPL.D#
Date Acquired: Dec 25 2012 03:05 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85901-c-1-a
Misc Info: 200.8TT 1/5
Vial Number: 4409
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.183	0.183	ug/l	3.18	100.00		600.02	636.69	616.69
11	B	# 3	3.927	3.927	ug/l	2.06	1800.00		20978.49	20968.47	21332.29
23	Na	# 1	541.7	541.7	ug/l	0.41	81000.00		4003104.50	4031792.00	4051541.30
24	Mg	# 1	582	582	ug/l	0.97	81000.00		2820309.50	2846446.50	2885669.80
27	Al	# 1	1488	1488	ug/l	0.68	81000.00		8257105.00	8266886.50	8378788.00
39	K	# 2	1383	1383	ug/l	8.15	81000.00		506836.97	511360.50	524215.50
40	Ca	# 1	1691	1691	ug/l	1.79	81000.00		18777334.00	18818714.00	19430978.00
45	Sc	# 2	----	--------		--------	#VALUE!		43769.50	48894.01	41246.23
47	Ti	# 3	72.88	72.88	ug/l	2.98	1620.00		82297.71	81420.32	81239.15
51	V	# 2	2.373	2.373	ug/l	10.07	1800.00		6022.13	5971.00	6337.79
52	Cr	# 2	1.367	1.367	ug/l	8.14	1800.00		4146.04	4184.95	4281.64
55	Mn	# 3	43.45	43.45	ug/l	2.22	1800.00		871723.00	868545.31	868506.94
56	Fe	# 1	2130	2130	ug/l	0.68	81000.00		35120492.00	35464448.00	35447228.00
59	Co	# 3	1.136	1.136	ug/l	1.60	1800.00		17295.19	17488.72	17485.40
60	Ni	# 2	1.68	1.68	ug/l	7.18	1800.00		2174.59	2161.26	2179.04
63	Cu	# 2	2.448	2.448	ug/l	7.26	1800.00		8624.30	8703.22	8725.46
66	Zn	# 3	9.709	9.709	ug/l	2.94	1800.00		18396.35	18132.71	18079.34
75	As	# 2	1.522	1.522	ug/l	7.68	100.00		407.01	395.34	399.34
78	Se	# 1	0.1238	0.1238	ug/l	12.18	100.00		76.33	87.00	90.33
88	Sr	# 3	5.146	5.146	ug/l	2.28	1800.00		161494.42	163151.98	160031.86
95	Mo	# 3	0.7383	0.7383	ug/l	3.13	1800.00		3070.35	3043.69	3007.00
107	Ag	# 3	0.01942	0.01942	ug/l	4.44	100.00		256.68	240.01	270.01
111	Cd	# 3	0.02148	0.02148	ug/l	48.05	100.00		119.02	99.03	69.04
118	Sn	# 3	0.2038	0.2038	ug/l	3.61	1800.00		1956.83	1986.84	1950.17
121	Sb	# 3	0.3219	0.3219	ug/l	3.42	100.00		2740.30	2663.62	2666.95
137	Ba	# 3	12.86	12.86	ug/l	3.59	1800.00		49910.96	50428.89	49004.83
202	Hg	# 3	0.01261	0.01261	ug/l	8.29	5.00		95.33	100.00	97.00
205	Tl	# 3	0.03693	0.03693	ug/l	9.09	20.00		1116.74	1046.74	986.73
208	Pb	# 3	1.829	1.829	ug/l	3.46	1800.00		68070.56	68029.94	66970.91
232	Th	# 3	3.032	3.032	ug/l	2.64	#VALUE!		126572.66	126458.41	125598.41
238	U	# 3	0.8904	0.8904	ug/l	2.91	#VALUE!		36611.01	37703.68	36895.10

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	722038.75	2.23	836165.38	86.4	60 - 125		707985.19	718539.75	739591.31
45	Sc	# 1	596413.19	0.21	552676.25	107.9	60 - 125		595019.94	596839.13	597380.44
45	Sc	# 3	644251.00	2.56	644433.94	100.0	60 - 125		635653.63	633833.00	663266.25
74	Ge	# 1	184150.78	0.42	175321.88	105.0	60 - 125		184156.97	184922.31	183373.02
74	Ge	# 2	27365.86	6.72	27172.50	100.7	60 - 125		27163.58	29298.17	25635.82
74	Ge	# 3	164091.09	2.05	164913.13	99.5	60 - 125		161031.19	163542.61	167699.48
89	Y	# 3	1270433.40	1.57	1068488.30	118.9	60 - 125		1253044.80	1266059.30	1292196.30
115	In	# 3	1130168.00	2.19	1083659.40	104.3	60 - 125		1120270.50	1111903.10	1158330.30
159	Tb	# 3	1771889.40	2.58	1651256.80	107.3	60 - 125		1739728.90	1751716.60	1824222.50
209	Bi	# 3	1088581.50	2.25	1054491.00	103.2	60 - 125		1072319.40	1076672.80	1116752.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\074SMPL.D\074SMPL.D#
Date Acquired: Dec 25 2012 03:12 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85901-c-2-a
Misc Info: 200.8TT 1/5
Vial Number: 4410
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.06712	0.06712	ug/l	13.35	100.00		196.67	223.34	266.68
11 B # 3	3.863	3.863	ug/l	3.95	1800.00		20434.61	21132.02	21018.56
23 Na # 1	395.8	395.8	ug/l	2.33	81000.00		2900418.00	2950654.00	2956674.50
24 Mg # 1	815.4	815.4	ug/l	3.63	81000.00		3861902.50	3929995.80	4047944.00
27 Al # 1	708.2	708.2	ug/l	2.04	81000.00		3843801.30	3936742.50	3930889.50
39 K # 2	1770	1770	ug/l	3.23	81000.00		661410.13	668759.81	674399.44
40 Ca # 1	1545	1545	ug/l	2.20	81000.00		17032380.00	17245444.00	17228294.00
45 Sc # 2	----	--------		--------	#VALUE!		43929.86	46621.93	43407.62
47 Ti # 3	16.4	16.4	ug/l	3.48	1620.00		18265.93	17945.77	17802.25
51 V # 2	1.297	1.297	ug/l	4.58	1800.00		3373.67	3538.14	3603.72
52 Cr # 2	0.9178	0.9178	ug/l	6.37	1800.00		2822.46	2879.13	3056.94
55 Mn # 3	53.41	53.41	ug/l	2.07	1800.00		1060516.10	1061259.80	1057282.80
56 Fe # 1	874.7	874.7	ug/l	3.01	81000.00		14483963.00	14370231.00	14774953.00
59 Co # 3	1.143	1.143	ug/l	3.09	1800.00		17705.58	17211.84	17181.75
60 Ni # 2	1.656	1.656	ug/l	3.75	1800.00		2125.70	2194.60	2226.82
63 Cu # 2	1.378	1.378	ug/l	2.94	1800.00		5300.80	5275.23	5107.41
66 Zn # 3	5.116	5.116	ug/l	3.06	1800.00		9769.52	9602.76	9516.08
75 As # 2	0.5099	0.5099	ug/l	9.73	100.00		143.67	144.67	160.67
78 Se # 1	0.06419	0.06419	ug/l	14.82	100.00		51.00	55.67	59.33
88 Sr # 3	3.691	3.691	ug/l	3.00	1800.00		109752.05	107637.19	106043.72
95 Mo # 3	0.2034	0.2034	ug/l	12.80	1800.00		790.04	973.39	873.38
107 Ag # 3	0.008643	0.008643	ug/l	4.52	100.00		126.67	130.00	126.67
111 Cd # 3	0.01181	0.01181	ug/l	50.74	100.00		66.42	86.36	59.72
118 Sn # 3	0.09575	0.09575	ug/l	6.75	1800.00		1053.40	1130.07	1120.08
121 Sb # 3	0.2067	0.2067	ug/l	5.88	100.00		1903.50	1820.15	1766.81
137 Ba # 3	5.205	5.205	ug/l	3.54	1800.00		20616.34	20095.82	19768.73
202 Hg # 3	0.01274	0.01274	ug/l	28.51	5.00		96.33	108.00	88.33
205 Tl # 3	0.01652	0.01652	ug/l	8.47	20.00		523.36	506.69	476.69
208 Pb # 3	0.6896	0.6896	ug/l	3.63	1800.00		25675.60	25572.28	25235.41
232 Th # 3	1.131	1.131	ug/l	4.53	#VALUE!		47530.46	47968.62	45888.90
238 U # 3	0.3667	0.3667	ug/l	5.00	#VALUE!		15574.95	15371.44	14760.98

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	721944.00	2.45	836165.38	86.3	60 - 125		712931.56	710554.50	742346.00
45 Sc # 1	589597.19	2.58	552676.25	106.7	60 - 125		579725.56	607116.31	581949.81
45 Sc # 3	630696.69	2.40	644433.94	97.9	60 - 125		621255.25	622707.94	648126.75
74 Ge # 1	184513.59	1.58	175321.88	105.2	60 - 125		184598.00	187388.23	181554.50
74 Ge # 2	27823.23	3.01	27172.50	102.4	60 - 125		27449.56	28781.92	27238.20
74 Ge # 3	162690.84	1.90	164913.13	98.7	60 - 125		161063.59	160761.48	166247.45
89 Y # 3	1181835.30	2.00	1068488.30	110.6	60 - 125		1185177.10	1156687.80	1203641.30
115 In # 3	1130257.10	2.21	1083659.40	104.3	60 - 125		1130742.80	1105052.80	1154975.80
159 Tb # 3	1760587.60	2.73	1651256.80	106.6	60 - 125		1712608.80	1760339.50	1808814.50
209 Bi # 3	1086366.50	2.29	1054491.00	103.0	60 - 125		1069557.50	1074553.10	1114989.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\075SMPL.D\075SMPL.D#
Date Acquired: Dec 25 2012 03:19 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85901-c-3-a
Misc Info: 200.8TT 1/5
Vial Number: 4411
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.06713	0.06713	ug/l	15.82	100.00		213.34	253.34	183.34
11	B	# 3	3.425	3.425	ug/l	10.34	1800.00		18362.56	18759.65	17775.25
23	Na	# 1	289.2	289.2	ug/l	7.63	81000.00		2191456.80	2264930.80	2276657.50
24	Mg	# 1	282	282	ug/l	8.91	81000.00		1384914.40	1440182.00	1401818.50
27	Al	# 1	496.9	496.9	ug/l	8.96	81000.00		2822231.30	2852652.50	2805250.50
39	K	# 2	790.4	790.4	ug/l	1.61	81000.00		296268.19	306545.13	306943.00
40	Ca	# 1	751	751	ug/l	8.10	81000.00		8633921.00	8639980.00	8685770.00
45	Sc	# 2	----	--------		--------	#VALUE!		43435.44	46624.15	43589.28
47	Ti	# 3	18.99	18.99	ug/l	3.99	1620.00		20258.09	19737.55	20107.88
51	V	# 2	0.7819	0.7819	ug/l	3.05	1800.00		2109.03	2221.26	2249.04
52	Cr	# 2	0.4356	0.4356	ug/l	6.14	1800.00		1510.08	1406.73	1441.18
55	Mn	# 3	25.84	25.84	ug/l	2.07	1800.00		515359.56	507593.75	507684.53
56	Fe	# 1	565	565	ug/l	5.08	81000.00		9667108.00	9649793.00	9804390.00
59	Co	# 3	0.4553	0.4553	ug/l	6.38	1800.00		7284.98	6784.78	6591.38
60	Ni	# 2	0.7329	0.7329	ug/l	3.34	1800.00		995.59	972.26	982.26
63	Cu	# 2	1.279	1.279	ug/l	3.97	1800.00		4805.10	4819.55	5026.27
66	Zn	# 3	4.682	4.682	ug/l	2.39	1800.00		8869.06	8839.02	8635.63
75	As	# 2	0.3483	0.3483	ug/l	4.43	100.00		110.67	110.00	104.33
78	Se	# 1	0.02778	0.02778	ug/l	8.96	100.00		36.33	37.00	43.00
88	Sr	# 3	3.172	3.172	ug/l	4.13	1800.00		88090.59	87353.91	86847.78
95	Mo	# 3	0.15	0.15	ug/l	2.66	1800.00		606.70	670.03	683.36
107	Ag	# 3	0.005747	0.005747	ug/l	11.16	100.00		80.00	93.34	103.34
111	Cd	# 3	0.004648	0.004648	ug/l	110.69	100.00		43.14	43.12	69.78
118	Sn	# 3	0.1136	0.1136	ug/l	7.54	1800.00		1190.08	1276.76	1200.07
121	Sb	# 3	0.2005	0.2005	ug/l	6.92	100.00		1783.48	1696.80	1776.82
137	Ba	# 3	4.639	4.639	ug/l	5.21	1800.00		17839.79	17269.21	17843.19
202	Hg	# 3	0.001271	0.001271	ug/l	46.44	5.00		57.00	63.00	60.00
205	Tl	# 3	0.01309	0.01309	ug/l	8.43	20.00		420.02	380.02	406.69
208	Pb	# 3	0.6654	0.6654	ug/l	3.47	1800.00		24404.74	24137.99	23677.81
232	Th	# 3	0.796	0.796	ug/l	2.32	#VALUE!		32588.36	32608.57	32628.67
238	U	# 3	0.297	0.297	ug/l	4.77	#VALUE!		12432.07	11938.34	11925.02

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	685169.44	5.70	836165.38	81.9	60 - 125		640462.50	712516.00	702529.75
45	Sc	# 1	611376.50	8.76	552676.25	110.6	60 - 125		578638.19	582333.38	673158.00
45	Sc	# 3	606085.31	2.78	644433.94	94.0	60 - 125		586834.56	617972.31	613449.06
74	Ge	# 1	190906.09	6.11	175321.88	108.9	60 - 125		183511.92	184859.48	204346.83
74	Ge	# 2	27770.96	2.09	27172.50	102.2	60 - 125		27282.67	28411.45	27618.76
74	Ge	# 3	161695.92	1.18	164913.13	98.0	60 - 125		159495.64	162938.36	162653.75
89	Y	# 3	1115754.40	3.38	1068488.30	104.4	60 - 125		1075017.50	1122826.80	1149418.90
115	In	# 3	1111445.90	4.68	1083659.40	102.6	60 - 125		1058406.10	1113517.80	1162414.00
159	Tb	# 3	1722136.00	2.22	1651256.80	104.3	60 - 125		1678998.40	1752137.60	1735271.80
209	Bi	# 3	1064802.60	2.33	1054491.00	101.0	60 - 125		1036282.50	1080892.40	1077232.90

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\076_CCV.D\076_CCV.D#
Date Acquired: Dec 25 2012 03:27 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.88 ug/l	2.52	50.00	90 - 110		171456.36	172918.98	173842.30
11 B	103.8 ug/l	2.52	100.00	90 - 110		366884.44	369450.94	371876.34
23 Na	4871 ug/l	2.59	5000.00	90 - 110		35028176.00	36212332.00	36176808.00
24 Mg	4896 ug/l	2.34	5000.00	90 - 110		23606486.00	24529984.00	24611820.00
27 Al	485.6 ug/l	3.01	500.00	90 - 110		2696775.80	2769521.00	2749489.50
39 K	4977 ug/l	1.38	5000.00	90 - 110		1847175.00	1921160.40	1946571.30
40 Ca	4873 ug/l	1.83	5000.00	90 - 110		54113072.00	55383552.00	56228792.00
45 Sc	--------	--------		--- ##### - #####		45857.76	46386.77	50005.20
47 Ti	50.75 ug/l	5.70	50.00	90 - 110		55492.76	56011.30	55800.51
51 V	48.12 ug/l	2.55	50.00	90 - 110		124091.01	125193.73	126489.18
52 Cr	48.62 ug/l	2.80	50.00	90 - 110		150109.53	151409.78	152267.77
55 Mn	504.1 ug/l	5.17	500.00	90 - 110		9937778.00	10062636.00	10084244.00
56 Fe	4922 ug/l	2.02	5000.00	90 - 110		83191968.00	84713656.00	84676896.00
59 Co	48.16 ug/l	5.28	50.00	90 - 110		729247.44	741093.94	731226.94
60 Ni	48.94 ug/l	2.48	50.00	90 - 110		64344.25	64939.70	65671.16
63 Cu	49.54 ug/l	2.71	50.00	90 - 110		171165.48	171840.33	173885.16
66 Zn	50.7 ug/l	5.01	50.00	90 - 110		92958.48	93850.74	93752.63
75 As	48.45 ug/l	2.91	50.00	90 - 110		12541.63	12773.80	12723.77
78 Se	49.52 ug/l	2.76	50.00	90 - 110		25183.34	25159.98	25031.14
88 Sr	52.29 ug/l	7.07	50.00	90 - 110		1371129.00	1407992.00	1380353.40
95 Mo	49.12 ug/l	6.21	50.00	90 - 110		191163.11	194353.48	190435.59
107 Ag	50.36 ug/l	5.31	50.00	90 - 110		582176.88	580090.94	568497.94
111 Cd	50.48 ug/l	5.77	50.00	90 - 110		125797.08	126878.44	125733.45
118 Sn	50.57 ug/l	6.08	50.00	90 - 110		390360.56	395742.22	387663.94
121 Sb	51.12 ug/l	5.57	50.00	90 - 110		370324.78	371786.88	367103.06
137 Ba	51.15 ug/l	5.61	50.00	90 - 110		192043.48	192836.91	189618.88
202 Hg	2.446 ug/l	5.52	2.50	90 - 110		7425.73	7460.75	7328.69
205 Tl	10.07 ug/l	6.45	10.00	90 - 110		255695.72	257544.34	254275.31
208 Pb	50.56 ug/l	6.20	50.00	90 - 110		1775289.80	1779545.80	1764226.90
232 Th	49.87 ug/l	6.20		--- ##### - #####		1945054.50	1982034.50	1930691.60
238 U	49.68 ug/l	6.68		--- ##### - #####		1923707.60	1983887.90	1937650.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	715518.31	1.92	836165.38	85.6	60 - 125		731267.06	706277.25	709010.63
45 Sc	603372.13	3.44	552676.25	109.2	60 - 125		587272.00	596072.63	626771.69
45 Sc	632744.38	5.24	644433.94	98.2	60 - 125		666237.31	599974.31	632021.44
74 Ge	189969.30	2.47	175321.88	108.4	60 - 125		186741.17	187822.19	195344.53
74 Ge	28468.34	3.52	27172.50	104.8	60 - 125		27527.52	28357.65	29519.85
74 Ge	163471.45	4.55	164913.13	99.1	60 - 125		171439.27	156727.75	162247.34
89 Y	1076241.00	5.87	1068488.30	100.7	60 - 125		1144716.30	1020173.10	1063833.90
115 In	1095159.10	5.35	1083659.40	101.1	60 - 125		1155598.80	1038607.90	1091270.90
159 Tb	1688213.90	6.07	1651256.80	102.2	60 - 125		1793065.00	1588348.90	1683227.50
209 Bi	1027602.30	5.04	1054491.00	97.5	60 - 125		1077673.30	974157.19	1030976.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\077_CCB.D\077_CCB.D#
Date Acquired: Dec 25 2012 03:34 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001944	0.001944	ug/l	49.88	#VALUE!		13.33	10.00	6.67
11 B # 3	1.742	1.742	ug/l	5.11	#VALUE!		14315.72	14412.41	13915.41
23 Na # 1	-0.1446	-0.1446	ug/l	79.88	#VALUE!		98848.70	98879.02	101756.95
24 Mg # 1	0.3496	0.3496	ug/l	5.26	#VALUE!		2330.22	2206.85	2190.18
27 Al # 1	0.06677	0.06677	ug/l	14.67	#VALUE!		1556.77	1656.79	1593.45
39 K # 2	-0.8064	-0.8064	ug/l	30.69	#VALUE!		9702.75	9529.33	9545.99
40 Ca # 1	1.405	1.405	ug/l	1.32	#VALUE!		88844.64	89035.91	90569.53
45 Sc # 2	----	--------		--------	#VALUE!		46271.54	43755.10	45626.10
47 Ti # 3	0.01321	0.01321	ug/l	60.50	#VALUE!		40.00	36.67	50.00
51 V # 2	0.0003447	0.0003447	ug/l	3257.90	#VALUE!		223.34	182.22	244.45
52 Cr # 2	0.002585	0.002585	ug/l	286.50	#VALUE!		138.89	122.22	170.00
55 Mn # 3	0.02476	0.02476	ug/l	4.79	#VALUE!		1456.76	1533.44	1390.09
56 Fe # 1	0.4699	0.4699	ug/l	6.13	#VALUE!		21429.54	22050.31	21169.28
59 Co # 3	0.003474	0.003474	ug/l	23.86	#VALUE!		63.34	90.00	63.34
60 Ni # 2	0.02493	0.02493	ug/l	3.97	#VALUE!		67.78	67.78	70.00
63 Cu # 2	0.07033	0.07033	ug/l	21.17	#VALUE!		811.14	760.02	877.81
66 Zn # 3	0.0421	0.0421	ug/l	38.58	#VALUE!		366.68	320.01	323.35
75 As # 2	0.003697	0.003697	ug/l	109.01	#VALUE!		20.00	21.33	21.67
78 Se # 1	0.03115	0.03115	ug/l	10.60	#VALUE!		39.00	41.67	38.67
88 Sr # 3	0.003519	0.003519	ug/l	13.32	#VALUE!		150.01	183.34	153.34
95 Mo # 3	0.04406	0.04406	ug/l	8.11	#VALUE!		233.34	233.34	240.01
107 Ag # 3	0.00455	0.00455	ug/l	71.74	#VALUE!		120.00	80.00	40.00
111 Cd # 3	0.001424	0.001424	ug/l	138.27	#VALUE!		46.59	49.93	36.59
118 Sn # 3	0.02064	0.02064	ug/l	10.32	#VALUE!		523.36	516.69	463.35
121 Sb # 3	0.2756	0.2756	ug/l	3.30	#VALUE!		2410.24	2360.23	2260.22
137 Ba # 3	0.002556	0.002556	ug/l	123.71	#VALUE!		33.33	43.33	16.67
202 Hg # 3	0.018	0.018	ug/l	3.52	#VALUE!		112.33	118.67	112.33
205 Tl # 3	0.00434	0.00434	ug/l	10.37	#VALUE!		170.01	170.01	180.01
208 Pb # 3	0.003554	0.003554	ug/l	30.70	#VALUE!		360.01	316.68	363.35
232 Th # 3	0.1077	0.1077	ug/l	1.43	#VALUE!		4687.51	4970.95	4557.48
238 U # 3	0.005791	0.005791	ug/l	11.99	#VALUE!		283.34	250.01	220.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	766163.13	2.07	836165.38	91.6	60 - 125		751644.13	783034.88	763810.38
45 Sc # 1	591170.56	0.84	552676.25	107.0	60 - 125		588186.81	588435.06	596889.69
45 Sc # 3	643441.88	4.66	644433.94	99.8	60 - 125		642298.56	673993.94	614033.13
74 Ge # 1	187770.98	0.55	175321.88	107.1	60 - 125		186671.95	187902.41	188738.56
74 Ge # 2	28511.34	1.40	27172.50	104.9	60 - 125		28813.21	28057.16	28663.66
74 Ge # 3	166536.38	3.38	164913.13	101.0	60 - 125		165373.25	172656.31	161579.55
89 Y # 3	1114553.90	3.87	1068488.30	104.3	60 - 125		1108702.30	1160323.10	1074636.30
115 In # 3	1129952.80	4.48	1083659.40	104.3	60 - 125		1137781.30	1176230.60	1075846.50
159 Tb # 3	1704455.30	3.91	1651256.80	103.2	60 - 125		1683791.40	1778934.40	1650640.00
209 Bi # 3	1086536.50	3.38	1054491.00	103.0	60 - 125		1086868.50	1123140.90	1049600.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\078SMPL.D\078SMPL.D#
Date Acquired: Dec 25 2012 03:42 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: mb 680-260768_1-a
Misc Info: 200.8TR 1/5
Vial Number: 4301
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001668	0.001668	ug/l	120.62	100.00		16.67	6.67	3.33
11 B	# 3	1.411	1.411	ug/l	5.98	1800.00		12817.94	13044.70	12771.22
23 Na	# 1	2.776	2.776	ug/l	10.11	81000.00		117834.28	120980.26	122308.48
24 Mg	# 1	0.4497	0.4497	ug/l	7.83	81000.00		2520.23	2866.95	2770.28
27 Al	# 1	0.6615	0.6615	ug/l	3.81	81000.00		4764.06	4817.41	5034.14
39 K	# 2	-0.6056	-0.6056	ug/l	109.20	81000.00		9322.59	9652.77	9972.90
40 Ca	# 1	2.973	2.973	ug/l	6.17	81000.00		104276.04	106517.95	108723.27
45 Sc	# 2	----	--------		--------	#VALUE!		44083.50	45447.88	46273.27
47 Ti	# 3	0.004342	0.004342	ug/l	312.53	1620.00		16.67	46.67	33.33
51 V	# 2	0.002352	0.002352	ug/l	504.25	1800.00		190.00	250.00	223.34
52 Cr	# 2	-0.01034	-0.01034	ug/l	39.28	1800.00		112.22	106.67	90.00
55 Mn	# 3	0.01384	0.01384	ug/l	15.46	1800.00		1190.07	1280.09	1230.07
56 Fe	# 1	0.2708	0.2708	ug/l	9.00	81000.00		17825.68	18112.61	18936.91
59 Co	# 3	0.001285	0.001285	ug/l	10.56	1800.00		40.00	36.67	36.67
60 Ni	# 2	0.06749	0.06749	ug/l	5.15	1800.00		122.22	128.89	123.34
63 Cu	# 2	0.04841	0.04841	ug/l	8.60	1800.00		750.02	730.02	734.47
66 Zn	# 3	0.4609	0.4609	ug/l	2.81	1800.00		1096.73	1106.73	1153.40
75 As	# 2	-0.0004162	-0.0004162	ug/l	1193.90	100.00		21.00	18.33	20.33
78 Se	# 1	0.003992	0.003992	ug/l	163.25	100.00		22.33	28.33	28.33
88 Sr	# 3	0.009085	0.009085	ug/l	15.30	1800.00		336.68	276.68	320.01
95 Mo	# 3	0.0206	0.0206	ug/l	11.94	1800.00		140.00	133.34	150.01
107 Ag	# 3	0.005555	0.005555	ug/l	25.46	100.00		96.67	73.34	103.34
111 Cd	# 3	-0.002365	-0.002365	ug/l	69.05	100.00		36.62	29.96	36.62
118 Sn	# 3	0.01307	0.01307	ug/l	44.62	1800.00		436.69	400.02	483.35
121 Sb	# 3	0.1215	0.1215	ug/l	8.30	100.00		1230.08	1256.76	1096.73
137 Ba	# 3	0.1661	0.1661	ug/l	6.30	1800.00		633.36	653.37	703.37
202 Hg	# 3	0.008422	0.008422	ug/l	27.88	5.00		90.67	85.67	75.00
205 Tl	# 3	0.002198	0.002198	ug/l	8.27	20.00		116.67	123.34	116.67
208 Pb	# 3	0.003088	0.003088	ug/l	5.66	1800.00		340.01	323.35	333.35
232 Th	# 3	0.04558	0.04558	ug/l	3.82	#VALUE!		2250.24	2150.23	2070.20
238 U	# 3	0.002891	0.002891	ug/l	8.36	#VALUE!		123.34	140.01	126.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	760159.75	1.85	836165.38	90.9	60 - 125		747554.44	757596.31	775328.50
45 Sc	# 1	589040.06	0.32	552676.25	106.6	60 - 125		586993.25	590755.69	589371.38
45 Sc	# 3	636813.19	0.52	644433.94	98.8	60 - 125		639300.56	638080.69	633058.25
74 Ge	# 1	188854.44	0.90	175321.88	107.7	60 - 125		187227.56	188703.55	190632.22
74 Ge	# 2	28448.12	1.23	27172.50	104.7	60 - 125		28326.43	28176.20	28841.73
74 Ge	# 3	165917.84	0.55	164913.13	100.6	60 - 125		165059.86	165810.41	166883.31
89 Y	# 3	1102001.40	2.33	1068488.30	103.1	60 - 125		1082709.00	1131177.10	1092117.90
115 In	# 3	1129889.00	1.19	1083659.40	104.3	60 - 125		1125377.50	1144978.00	1119311.60
159 Tb	# 3	1709830.00	0.70	1651256.80	103.5	60 - 125		1718055.40	1696198.10	1715236.40
209 Bi	# 3	1083677.10	1.13	1054491.00	102.8	60 - 125		1097613.00	1074467.80	1078950.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\079SMPL.D\079SMPL.D#
Date Acquired: Dec 25 2012 03:49 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: lcs 680-260768_2-a
Misc Info: 200.8TR 1/5
Vial Number: 4302
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.871	9.871	ug/l	4.59	100.00		34330.67	35012.07	35976.92
11 B # 3	39.41	39.41	ug/l	3.68	1800.00		153153.28	154315.14	156228.70
23 Na # 1	962.9	962.9	ug/l	0.97	81000.00		6982333.00	7128580.50	7108190.00
24 Mg # 1	972.3	972.3	ug/l	1.14	81000.00		4698118.50	4801606.00	4770084.50
27 Al # 1	941.5	941.5	ug/l	0.50	81000.00		5157807.50	5247111.00	5329819.00
39 K # 2	948.5	948.5	ug/l	1.04	81000.00		366217.63	374482.53	380112.50
40 Ca # 1	961.3	961.3	ug/l	0.65	81000.00		10672637.00	10874305.00	10921543.00
45 Sc # 2	----	--------		--------	#VALUE!		43876.54	46232.01	47322.49
47 Ti # 3	18.97	18.97	ug/l	4.69	1620.00		21379.44	21245.92	21576.23
51 V # 2	18.38	18.38	ug/l	2.24	1800.00		47997.88	48322.06	48620.67
52 Cr # 2	18.88	18.88	ug/l	2.18	1800.00		58776.28	59373.72	59603.28
55 Mn # 3	99.91	99.91	ug/l	2.77	1800.00		2023158.30	2064137.60	2031505.10
56 Fe # 1	920.1	920.1	ug/l	0.87	81000.00		15585083.00	15697753.00	15991753.00
59 Co # 3	9.337	9.337	ug/l	2.82	1800.00		145080.89	147222.86	145489.03
60 Ni # 2	19.57	19.57	ug/l	2.04	1800.00		25947.10	26249.77	26384.40
63 Cu # 2	19.77	19.77	ug/l	1.89	1800.00		68834.04	69721.71	70221.38
66 Zn # 3	22.93	22.93	ug/l	2.83	1800.00		43609.17	43592.69	43368.66
75 As # 2	19.94	19.94	ug/l	1.90	100.00		5172.41	5333.45	5300.11
78 Se # 1	20.17	20.17	ug/l	0.89	100.00		10080.47	10336.94	10345.61
88 Sr # 3	17.76	17.76	ug/l	2.35	1800.00		496410.41	493662.50	496239.94
95 Mo # 3	18.57	18.57	ug/l	4.97	1800.00		74808.15	74145.21	75383.54
107 Ag # 3	9.876	9.876	ug/l	3.81	100.00		116110.28	117244.02	116194.01
111 Cd # 3	10	10	ug/l	4.21	100.00		25692.18	25819.28	25805.58
118 Sn # 3	19.26	19.26	ug/l	4.40	1800.00		153256.05	153621.38	154164.66
121 Sb # 3	10.68	10.68	ug/l	4.43	100.00		80580.56	79060.76	79690.63
137 Ba # 3	19.72	19.72	ug/l	5.10	1800.00		76094.42	75237.03	76713.90
202 Hg # 3	0.992	0.992	ug/l	6.33	5.00		3231.33	3130.31	3258.34
205 Tl # 3	7.747	7.747	ug/l	3.61	20.00		203659.53	201184.22	199781.11
208 Pb # 3	9.833	9.833	ug/l	4.13	1800.00		353400.72	353391.97	352629.09
232 Th # 3	19.43	19.43	ug/l	4.24	#VALUE!		806643.19	803529.94	802938.44
238 U # 3	20.56	20.56	ug/l	4.58	#VALUE!		854217.81	849411.25	854344.75

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	764541.31	2.79	836165.38	91.4	60 - 125		763564.69	786338.44	743720.81
45 Sc # 1	595707.25	1.23	552676.25	107.8	60 - 125		589260.00	594149.13	603712.63
45 Sc # 3	648412.31	3.86	644433.94	100.6	60 - 125		653267.31	670626.56	621343.00
74 Ge # 1	189997.53	0.60	175321.88	108.4	60 - 125		188715.86	190368.56	190908.17
74 Ge # 2	28666.63	2.87	27172.50	105.5	60 - 125		27826.81	28701.47	29471.62
74 Ge # 3	167495.94	3.07	164913.13	101.6	60 - 125		169512.31	171332.25	161643.23
89 Y # 3	1129521.80	2.18	1068488.30	105.7	60 - 125		1144967.40	1142453.10	1101144.90
115 In # 3	1126860.60	4.09	1083659.40	104.0	60 - 125		1138471.50	1166060.80	1076049.60
159 Tb # 3	1725656.40	4.15	1651256.80	104.5	60 - 125		1758526.60	1775017.00	1643425.60
209 Bi # 3	1085619.40	4.26	1054491.00	103.0	60 - 125		1096647.10	1125376.40	1034834.70

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\080SMPL.D\080SMPL.D#
Date Acquired: Dec 25 2012 03:57 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 660-51787-s-1-a
Misc Info: 200.8TR 1/5
Vial Number: 4303
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.007899	0.007899	ug/l	36.21	100.00		26.67	23.33	43.33
11 B	# 3	22.24	22.24	ug/l	2.90	1800.00		88292.62	90230.16	91563.79
23 Na	# 1	40350	40350	ug/l	0.99	81000.00		280243010.00	291097820.00	287740000.00
24 Mg	# 1	615.4	615.4	ug/l	0.57	81000.00		2894533.30	2975456.30	2980072.00
27 Al	# 1	24.98	24.98	ug/l	0.67	81000.00		134983.31	138210.34	139335.91
39 K	# 2	706.9	706.9	ug/l	4.78	81000.00		270215.78	276981.56	284319.97
40 Ca	# 1	5693	5693	ug/l	0.49	81000.00		61316020.00	63033144.00	62938624.00
45 Sc	# 2	----	--------		--------	#VALUE!		44013.40	48812.84	42706.09
47 Ti	# 3	0.1593	0.1593	ug/l	7.83	1620.00		200.01	213.34	210.01
51 V	# 2	0.3166	0.3166	ug/l	4.20	1800.00		1013.37	1043.37	1037.82
52 Cr	# 2	0.3581	0.3581	ug/l	7.80	1800.00		1261.17	1202.27	1254.50
55 Mn	# 3	5.874	5.874	ug/l	2.59	1800.00		117976.80	118150.65	116665.59
56 Fe	# 1	29.07	29.07	ug/l	0.17	81000.00		489960.34	494453.47	496250.50
59 Co	# 3	0.06729	0.06729	ug/l	4.25	1800.00		1060.06	1063.39	1000.06
60 Ni	# 2	0.3433	0.3433	ug/l	3.98	1800.00		485.57	492.23	485.57
63 Cu	# 2	0.6781	0.6781	ug/l	5.51	1800.00		2800.24	2920.26	2990.27
66 Zn	# 3	3.344	3.344	ug/l	6.37	1800.00		6267.92	6684.73	6221.22
75 As	# 2	0.2215	0.2215	ug/l	7.06	100.00		78.67	81.33	72.33
78 Se	# 1	0.6929	0.6929	ug/l	3.34	100.00		372.67	355.34	360.67
88 Sr	# 3	31.43	31.43	ug/l	3.12	1800.00		846983.63	849454.88	843503.75
95 Mo	# 3	0.2267	0.2267	ug/l	16.92	1800.00		876.71	1073.40	830.04
107 Ag	# 3	0.00536	0.00536	ug/l	29.35	100.00		66.67	93.34	93.34
111 Cd	# 3	0.00595	0.00595	ug/l	146.91	100.00		43.05	76.33	39.74
118 Sn	# 3	0.03156	0.03156	ug/l	40.75	1800.00		470.02	630.03	576.70
121 Sb	# 3	0.09856	0.09856	ug/l	4.41	100.00		976.72	980.06	966.72
137 Ba	# 3	2.95	2.95	ug/l	1.78	1800.00		11080.61	10713.68	10917.21
202 Hg	# 3	0.01185	0.01185	ug/l	14.02	5.00		95.67	82.00	85.00
205 Tl	# 3	0.01668	0.01668	ug/l	7.96	20.00		540.03	446.69	463.35
208 Pb	# 3	0.06175	0.06175	ug/l	6.02	1800.00		2320.14	2320.14	2470.17
232 Th	# 3	0.1037	0.1037	ug/l	5.20	#VALUE!		4577.48	3983.99	4090.67
238 U	# 3	0.08239	0.08239	ug/l	4.62	#VALUE!		3183.77	3257.12	3050.41

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	759661.06	2.19	836165.38	90.9	60 - 125		764736.06	741101.44	773145.81
45 Sc	# 1	583578.06	1.07	552676.25	105.6	60 - 125		576389.75	587109.38	587235.00
45 Sc	# 3	649888.06	3.53	644433.94	100.8	60 - 125		673346.06	627451.94	648866.38
74 Ge	# 1	183470.55	0.70	175321.88	104.6	60 - 125		181981.64	184147.69	184282.31
74 Ge	# 2	28305.84	4.52	27172.50	104.2	60 - 125		27296.01	29745.73	27875.77
74 Ge	# 3	163015.66	2.46	164913.13	98.8	60 - 125		167225.23	159241.91	162579.84
89 Y	# 3	1090911.50	3.01	1068488.30	102.1	60 - 125		1126161.50	1061184.30	1085388.80
115 In	# 3	1077620.10	3.21	1083659.40	99.4	60 - 125		1117027.30	1052220.90	1063612.00
159 Tb	# 3	1675733.60	3.25	1651256.80	101.5	60 - 125		1737023.90	1632721.30	1657455.80
209 Bi	# 3	1001535.70	2.61	1054491.00	95.0	60 - 125		1029961.30	978692.19	995953.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\081SMPL.D\081SMPL.D#
Date Acquired: Dec 25 2012 04:04 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 660-51787-s-1-a SD
Misc Info: 200.8TR 1/25
Vial Number: 4304
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0034655	0.0006931	ug/l	279.76	100.00		3.33	13.33	0.00
11 B # 3	25.99	5.198	ug/l	2.95	1800.00		27222.98	27363.36	26972.78
23 Na # 1	40655	8131	ug/l	1.51	81000.00		58028432.00	59608660.00	59347672.00
24 Mg # 1	637.5	127.5	ug/l	1.31	81000.00		613816.06	629877.75	629674.31
27 Al # 1	27.07	5.414	ug/l	1.45	81000.00		30431.41	31486.68	32307.99
39 K # 2	714.5	142.9	ug/l	1.09	81000.00		63664.38	65547.91	65193.25
40 Ca # 1	5775	1155	ug/l	1.80	81000.00		12959683.00	13024648.00	12987233.00
45 Sc # 2	----	--------		--------	#VALUE!		45216.23	45896.84	46897.49
47 Ti # 3	0.25645	0.05129	ug/l	33.20	1620.00		106.67	66.67	83.34
51 V # 2	0.37815	0.07563	ug/l	11.67	1800.00		437.79	401.12	405.56
52 Cr # 2	0.34915	0.06983	ug/l	6.08	1800.00		348.90	344.45	372.23
55 Mn # 3	5.87	1.174	ug/l	1.74	1800.00		25221.16	24576.86	24994.08
56 Fe # 1	29.415	5.883	ug/l	1.87	81000.00		112313.01	115934.69	115042.82
59 Co # 3	0.0593	0.01186	ug/l	20.32	1800.00		170.01	243.34	196.67
60 Ni # 2	0.917	0.1834	ug/l	12.54	1800.00		243.34	298.89	301.12
63 Cu # 2	0.823	0.1646	ug/l	11.76	1800.00		1215.60	1131.16	1103.38
66 Zn # 3	3.84	0.768	ug/l	7.49	1800.00		1800.14	1586.79	1740.14
75 As # 2	0.1701	0.03402	ug/l	35.80	100.00		30.00	31.67	25.67
78 Se # 1	0.6645	0.1329	ug/l	12.17	100.00		99.67	90.33	85.33
88 Sr # 3	31.435	6.287	ug/l	2.13	1800.00		173310.52	172704.39	172108.80
95 Mo # 3	0.25095	0.05019	ug/l	23.95	1800.00		263.34	210.01	303.35
107 Ag # 3	0.004815	0.000963	ug/l	24.83	100.00		40.00	36.67	33.33
111 Cd # 3	-0.029015	-0.005803	ug/l	61.78	100.00		36.58	19.93	19.90
118 Sn # 3	0.05855	0.01171	ug/l	29.65	1800.00		413.35	456.69	410.02
121 Sb # 3	0.2653	0.05306	ug/l	7.69	100.00		653.37	693.37	686.70
137 Ba # 3	2.916	0.5832	ug/l	4.66	1800.00		2343.57	2330.24	2116.87
202 Hg # 3	0.044605	0.008921	ug/l	21.63	5.00		87.67	85.33	76.33
205 Tl # 3	0.0213	0.00426	ug/l	21.28	20.00		200.01	156.67	160.01
208 Pb # 3	0.05645	0.01129	ug/l	11.79	1800.00		653.36	573.36	646.69
232 Th # 3	0.20705	0.04141	ug/l	0.89	#VALUE!		1913.51	1940.19	1943.51
238 U # 3	0.0805	0.0161	ug/l	6.17	#VALUE!		616.70	666.70	696.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	767764.31	1.59	836165.38	91.8	60 - 125		755462.25	767940.88	779889.88
45 Sc # 1	595952.50	1.84	552676.25	107.8	60 - 125		586933.19	592777.94	608146.31
45 Sc # 3	645803.63	1.10	644433.94	100.2	60 - 125		653885.00	640623.75	642902.13
74 Ge # 1	190009.31	1.20	175321.88	108.4	60 - 125		188472.03	188919.38	192636.56
74 Ge # 2	28680.50	0.78	27172.50	105.5	60 - 125		28433.31	28738.23	28869.98
74 Ge # 3	167473.86	1.38	164913.13	101.6	60 - 125		169626.09	167773.16	165022.38
89 Y # 3	1111886.60	2.41	1068488.30	104.1	60 - 125		1130584.10	1123894.60	1081181.40
115 In # 3	1122587.10	1.45	1083659.40	103.6	60 - 125		1140448.40	1118761.90	1108551.00
159 Tb # 3	1710712.50	0.98	1651256.80	103.6	60 - 125		1719810.00	1720905.60	1691421.80
209 Bi # 3	1055454.00	0.18	1054491.00	100.1	60 - 125		1054086.40	1057561.30	1054714.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\082SMPL.D\082SMPL.D#
Date Acquired: Dec 25 2012 04:11 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 660-51787-s-1-a PDS
Misc Info: 200.8TR 1/5
Vial Number: 4305
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	21.26	21.26	ug/l	3.60	100.00		72659.08	73632.91	75720.16
11 B	# 3	63.45	63.45	ug/l	2.91	1800.00		235868.56	238668.67	242363.06
23 Na	# 1	41860	41860	ug/l	0.77	81000.00		295006720.00	302465820.00	302833540.00
24 Mg	# 1	2634	2634	ug/l	0.99	81000.00		12532631.00	12736489.00	12983430.00
27 Al	# 1	236.1	236.1	ug/l	0.51	81000.00		1283696.30	1308230.30	1315464.10
39 K	# 2	2852	2852	ug/l	1.30	81000.00		1041066.60	1057967.10	1093183.80
40 Ca	# 1	7639	7639	ug/l	0.05	81000.00		83908904.00	84651656.00	85234896.00
45 Sc	# 2	----	--------		--------	#VALUE!		45012.56	45351.02	46520.54
47 Ti	# 3	21.55	21.55	ug/l	2.88	1620.00		23915.73	23889.09	24369.79
51 V	# 2	21.14	21.14	ug/l	0.86	1800.00		53339.91	53538.29	53779.02
52 Cr	# 2	21.17	21.17	ug/l	0.42	1800.00		63350.97	63747.91	65017.69
55 Mn	# 3	216.9	216.9	ug/l	2.36	1800.00		4298697.50	4252226.50	4319689.50
56 Fe	# 1	2117	2117	ug/l	0.46	81000.00		34415648.00	34984268.00	34890568.00
59 Co	# 3	20.09	20.09	ug/l	2.25	1800.00		305441.16	301899.88	305582.03
60 Ni	# 2	20.83	20.83	ug/l	1.31	1800.00		26523.49	27257.86	26879.56
63 Cu	# 2	21.44	21.44	ug/l	1.11	1800.00		72147.65	73317.63	72707.50
66 Zn	# 3	24.67	24.67	ug/l	3.21	1800.00		45791.18	44494.53	45764.26
75 As	# 2	21.18	21.18	ug/l	1.20	100.00		5344.46	5449.16	5389.14
78 Se	# 1	22.27	22.27	ug/l	0.50	100.00		10749.85	10895.27	10937.63
88 Sr	# 3	54.19	54.19	ug/l	3.21	1800.00		1432953.40	1428893.40	1434915.10
95 Mo	# 3	21.05	21.05	ug/l	2.60	1800.00		80586.07	80763.73	80311.70
107 Ag	# 3	17.68	17.68	ug/l	1.94	100.00		197835.31	200165.33	196505.31
111 Cd	# 3	21	21	ug/l	2.26	100.00		50993.04	51898.86	51267.21
118 Sn	# 3	21.27	21.27	ug/l	3.01	1800.00		160827.69	161160.75	161642.19
121 Sb	# 3	21.89	21.89	ug/l	3.03	100.00		156243.86	154478.02	154528.31
137 Ba	# 3	24.3	24.3	ug/l	2.76	1800.00		89575.73	88983.84	88574.24
202 Hg	# 3	1.046	1.046	ug/l	1.84	5.00		3029.96	3038.96	3045.63
205 Tl	# 3	4.115	4.115	ug/l	1.76	20.00		102709.26	103909.66	104198.84
208 Pb	# 3	20.55	20.55	ug/l	2.01	1800.00		721235.00	710878.75	710093.00
232 Th	# 3	22.98	22.98	ug/l	1.80	#VALUE!		856941.63	853143.00	854904.25
238 U	# 3	23.58	23.58	ug/l	1.94	#VALUE!		888696.63	874223.63	874147.19

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	747950.06	1.73	836165.38	89.5	60 - 125		749025.63	760303.31	734521.31
45 Sc	# 1	589554.63	0.80	552676.25	106.7	60 - 125		584496.88	590286.06	593880.94
45 Sc	# 3	641410.69	1.84	644433.94	99.5	60 - 125		641113.25	653325.88	629792.94
74 Ge	# 1	182265.91	0.43	175321.88	104.0	60 - 125		181357.39	182720.94	182719.41
74 Ge	# 2	27633.54	1.27	27172.50	101.7	60 - 125		27279.31	27642.06	27979.24
74 Ge	# 3	162277.69	1.59	164913.13	98.4	60 - 125		160949.41	165249.59	160634.02
89 Y	# 3	1070424.00	3.04	1068488.30	100.2	60 - 125		1061610.00	1106429.90	1043232.10
115 In	# 3	1070143.90	2.89	1083659.40	98.8	60 - 125		1065073.40	1103272.30	1042085.60
159 Tb	# 3	1668228.00	1.66	1651256.80	101.0	60 - 125		1659488.50	1699213.90	1645981.60
209 Bi	# 3	974699.38	1.69	1054491.00	92.4	60 - 125		974176.88	991398.13	958523.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\083SMPL.D\083SMPL.D#
Date Acquired: Dec 25 2012 04:19 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 660-51787-s-1-b ms
Misc Info: 200.8TR 1/5
Vial Number: 4306
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	9.684	9.684	ug/l	2.00	100.00		34200.60	34033.53	33870.16
11 B	# 3	61.16	61.16	ug/l	1.16	1800.00		231440.17	234438.41	232670.75
23 Na	# 1	41970	41970	ug/l	1.09	81000.00		293172420.00	298208800.00	305182430.00
24 Mg	# 1	1557	1557	ug/l	1.22	81000.00		7330790.00	7493416.50	7647134.00
27 Al	# 1	959.7	959.7	ug/l	1.89	81000.00		5111856.00	5337811.00	5317787.00
39 K	# 2	1685	1685	ug/l	3.59	81000.00		639563.56	643314.69	655997.38
40 Ca	# 1	6750	6750	ug/l	1.07	81000.00		73286544.00	74985864.00	74499816.00
45 Sc	# 2	----	--------		--------	#VALUE!		44762.95	45951.28	50190.88
47 Ti	# 3	19.46	19.46	ug/l	1.71	1620.00		21803.15	21943.44	22013.45
51 V	# 2	18.99	18.99	ug/l	3.92	1800.00		48415.70	49371.43	49741.31
52 Cr	# 2	19.1	19.1	ug/l	5.37	1800.00		59043.93	59401.59	58635.82
55 Mn	# 3	105.9	105.9	ug/l	0.24	1800.00		2132809.80	2115278.80	2099383.00
56 Fe	# 1	940.1	940.1	ug/l	0.21	81000.00		15423956.00	15514226.00	15712796.00
59 Co	# 3	9.273	9.273	ug/l	0.61	1800.00		142257.11	142993.63	140459.50
60 Ni	# 2	18.96	18.96	ug/l	4.62	1800.00		25108.18	24801.09	25073.72
63 Cu	# 2	19.25	19.25	ug/l	4.49	1800.00		66367.27	66940.56	67072.06
66 Zn	# 3	23.6	23.6	ug/l	1.80	1800.00		43482.22	43562.26	44464.80
75 As	# 2	20.32	20.32	ug/l	5.15	100.00		5263.10	5333.12	5268.77
78 Se	# 1	20.4	20.4	ug/l	0.68	100.00		9959.06	10067.12	10027.10
88 Sr	# 3	52.08	52.08	ug/l	1.28	1800.00		1394742.60	1414762.50	1401802.60
95 Mo	# 3	19.52	19.52	ug/l	1.84	1800.00		75333.34	75644.27	75299.45
107 Ag	# 3	9.406	9.406	ug/l	2.50	100.00		106087.56	106104.49	107072.70
111 Cd	# 3	9.738	9.738	ug/l	2.62	100.00		23896.14	24016.29	24283.33
118 Sn	# 3	18.66	18.66	ug/l	1.38	1800.00		140893.48	145165.05	142471.28
121 Sb	# 3	10.88	10.88	ug/l	2.53	100.00		78592.05	77436.89	77815.17
137 Ba	# 3	22.77	22.77	ug/l	2.23	1800.00		84453.22	83994.78	84165.42
202 Hg	# 3	1.048	1.048	ug/l	1.23	5.00		3119.65	3065.30	3052.97
205 Tl	# 3	7.554	7.554	ug/l	1.97	20.00		188635.28	190760.86	189212.91
208 Pb	# 3	9.564	9.564	ug/l	1.39	1800.00		331679.91	331503.69	330928.03
232 Th	# 3	20.76	20.76	ug/l	0.44	#VALUE!		785107.25	784330.81	776186.31
238 U	# 3	22.28	22.28	ug/l	0.62	#VALUE!		843027.56	841704.75	836471.31

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	755101.00	1.54	836165.38	90.3	60 - 125		741690.69	761154.81	762457.38
45 Sc	# 1	585605.63	0.94	552676.25	106.0	60 - 125		580940.50	584165.00	591711.38
45 Sc	# 3	647004.75	1.46	644433.94	100.4	60 - 125		647411.69	656253.50	637349.06
74 Ge	# 1	183522.27	0.74	175321.88	104.7	60 - 125		182311.64	183254.11	185001.06
74 Ge	# 2	28273.53	4.94	27172.50	104.1	60 - 125		27399.50	27536.34	29884.74
74 Ge	# 3	163900.66	0.57	164913.13	99.4	60 - 125		164770.66	164008.75	162922.59
89 Y	# 3	1091098.90	1.77	1068488.30	102.1	60 - 125		1086092.90	1112440.60	1074763.00
115 In	# 3	1079920.80	2.09	1083659.40	99.7	60 - 125		1074995.50	1104528.40	1060238.40
159 Tb	# 3	1663089.10	1.45	1651256.80	100.7	60 - 125		1690131.30	1643531.40	1655604.80
209 Bi	# 3	986333.81	0.93	1054491.00	93.5	60 - 125		988078.94	994501.31	976421.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\084SMPL.D\084SMPL.D#
Date Acquired: Dec 25 2012 04:26 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 660-51787-s-1-c msd
Misc Info: 200.8TR 1/5
Vial Number: 4307
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.597	9.597	ug/l	3.16	100.00		33088.68	34938.57	33913.21
11 B # 3	59.89	59.89	ug/l	1.93	1800.00		227410.31	233715.64	228465.63
23 Na # 1	40750	40750	ug/l	1.25	81000.00		283179580.00	289454080.00	292873020.00
24 Mg # 1	1543	1543	ug/l	0.81	81000.00		7283145.00	7386959.00	7471340.50
27 Al # 1	969.6	969.6	ug/l	1.13	81000.00		5197038.50	5306791.00	5335803.50
39 K # 2	1706	1706	ug/l	2.14	81000.00		631945.94	631092.63	643647.38
40 Ca # 1	6737	6737	ug/l	0.86	81000.00		72735984.00	73872216.00	74512888.00
45 Sc # 2	----	--------		--------	#VALUE!		42674.86	45133.84	45601.65
47 Ti # 3	19.34	19.34	ug/l	1.21	1620.00		21893.36	21359.38	21569.49
51 V # 2	19.34	19.34	ug/l	2.13	1800.00		48427.82	48893.48	48691.82
52 Cr # 2	19.27	19.27	ug/l	1.79	1800.00		57416.56	58127.49	58144.18
55 Mn # 3	104.3	104.3	ug/l	1.00	1800.00		2051558.80	2091724.50	2076118.10
56 Fe # 1	939.9	939.9	ug/l	0.61	81000.00		15234973.00	15363723.00	15524828.00
59 Co # 3	9.255	9.255	ug/l	0.91	1800.00		140189.03	141580.13	140659.16
60 Ni # 2	19.25	19.25	ug/l	2.35	1800.00		24615.34	24534.13	24841.17
63 Cu # 2	19.75	19.75	ug/l	2.04	1800.00		65916.83	67505.73	66295.84
66 Zn # 3	22.99	22.99	ug/l	1.30	1800.00		42720.31	42413.25	42286.33
75 As # 2	20.67	20.67	ug/l	1.68	100.00		5181.74	5239.76	5270.77
78 Se # 1	20.49	20.49	ug/l	0.55	100.00		9952.39	9830.99	10068.46
88 Sr # 3	51.27	51.27	ug/l	1.68	1800.00		1379985.80	1361144.30	1374839.60
95 Mo # 3	19.41	19.41	ug/l	0.92	1800.00		74600.73	73789.65	74978.53
107 Ag # 3	9.404	9.404	ug/l	1.44	100.00		105624.17	105668.23	105591.02
111 Cd # 3	9.637	9.637	ug/l	2.21	100.00		23676.12	23820.01	23428.94
118 Sn # 3	18.54	18.54	ug/l	1.33	1800.00		139040.14	141781.70	141920.08
121 Sb # 3	10.66	10.66	ug/l	2.02	100.00		76747.24	75167.25	75462.09
137 Ba # 3	22.62	22.62	ug/l	1.79	1800.00		83924.33	82306.31	82889.16
202 Hg # 3	1.047	1.047	ug/l	0.91	5.00		3073.30	3099.97	3074.30
205 Tl # 3	7.365	7.365	ug/l	0.81	20.00		187655.83	185368.64	186821.69
208 Pb # 3	9.435	9.435	ug/l	1.03	1800.00		330708.97	329054.03	330519.28
232 Th # 3	20.62	20.62	ug/l	0.49	#VALUE!		776996.06	778883.00	778282.81
238 U # 3	22.01	22.01	ug/l	0.25	#VALUE!		833735.94	829426.31	832221.31

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	760605.31	0.43	836165.38	91.0	60 - 125		764100.38	757543.31	760172.19
45 Sc # 1	582315.31	0.87	552676.25	105.4	60 - 125		579865.06	578912.63	588168.31
45 Sc # 3	641515.44	1.11	644433.94	99.5	60 - 125		642258.69	634032.31	648255.38
74 Ge # 1	181472.58	0.71	175321.88	103.5	60 - 125		181062.92	180432.14	182922.67
74 Ge # 2	27448.85	2.48	27172.50	101.0	60 - 125		26669.55	27752.26	27924.73
74 Ge # 3	162969.23	0.81	164913.13	98.8	60 - 125		161891.06	162583.27	164433.39
89 Y # 3	1083263.30	1.86	1068488.30	101.4	60 - 125		1075077.60	1068533.60	1106178.50
115 In # 3	1071869.80	1.42	1083659.40	98.9	60 - 125		1064079.60	1062176.80	1089352.90
159 Tb # 3	1679218.10	1.29	1651256.80	101.7	60 - 125		1688229.40	1654532.90	1694892.00
209 Bi # 3	988125.81	0.41	1054491.00	93.7	60 - 125		989350.94	983588.63	991437.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\085SMPL.D\085SMPL.D#
Date Acquired: Dec 25 2012 04:33 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 660-51806-k-1-a
Misc Info: 200.8TR 1/5
Vial Number: 4308
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.007589	0.007589	ug/l	33.05	100.00		20.00	36.67	33.33
11 B # 3	7.877	7.877	ug/l	2.01	1800.00		36561.99	37143.07	37196.76
23 Na # 1	28960	28960	ug/l	0.18	81000.00		204499090.00	207095840.00	208845920.00
24 Mg # 1	1476	1476	ug/l	0.93	81000.00		6977294.00	7110003.00	7273700.50
27 Al # 1	2.324	2.324	ug/l	3.28	81000.00		13324.94	14298.99	14335.73
39 K # 2	327	327	ug/l	2.27	81000.00		126666.92	130029.34	133213.84
40 Ca # 1	29910	29910	ug/l	0.33	81000.00		324220700.00	330437440.00	334384100.00
45 Sc # 2	-----	--------		--------	#VALUE!		45088.09	45538.05	45812.07
47 Ti # 3	0.1433	0.1433	ug/l	29.92	1620.00		150.00	230.01	180.01
51 V # 2	0.1304	0.1304	ug/l	8.88	1800.00		543.35	503.34	561.13
52 Cr # 2	0.02123	0.02123	ug/l	61.23	1800.00		161.11	184.45	238.89
55 Mn # 3	6.331	6.331	ug/l	3.41	1800.00		124941.74	126676.22	125066.25
56 Fe # 1	3.813	3.813	ug/l	0.68	81000.00		74035.35	75194.61	76130.88
59 Co # 3	0.04521	0.04521	ug/l	14.29	1800.00		623.36	780.04	690.03
60 Ni # 2	0.8749	0.8749	ug/l	0.45	1800.00		1157.83	1153.38	1161.16
63 Cu # 2	0.11	0.11	ug/l	12.06	1800.00		866.69	954.48	942.25
66 Zn # 3	3.374	3.374	ug/l	3.86	1800.00		6364.64	6481.30	6331.25
75 As # 2	0.072	0.072	ug/l	25.49	100.00		39.00	32.33	41.33
78 Se # 1	0.03731	0.03731	ug/l	45.00	100.00		41.67	49.00	33.00
88 Sr # 3	145.1	145.1	ug/l	3.24	1800.00		3829758.30	3905852.50	3896238.30
95 Mo # 3	0.1102	0.1102	ug/l	3.36	1800.00		470.02	476.69	476.69
107 Ag # 3	0.02112	0.02112	ug/l	7.81	100.00		260.01	240.01	280.01
111 Cd # 3	-0.002504	-0.002504	ug/l	123.36	100.00		29.85	39.85	26.51
118 Sn # 3	0.0431	0.0431	ug/l	25.31	1800.00		623.36	720.06	580.03
121 Sb # 3	0.07852	0.07852	ug/l	14.58	100.00		766.70	890.05	810.04
137 Ba # 3	6.61	6.61	ug/l	3.78	1800.00		23707.05	24434.80	24274.49
202 Hg # 3	0.01511	0.01511	ug/l	17.36	5.00		104.67	84.67	95.00
205 Tl # 3	0.01616	0.01616	ug/l	10.50	20.00		526.69	440.02	423.35
208 Pb # 3	0.04746	0.04746	ug/l	4.68	1800.00		1873.43	1873.44	1790.10
232 Th # 3	0.114	0.114	ug/l	7.81	#VALUE!		4887.60	4464.11	4137.34
238 U # 3	0.02053	0.02053	ug/l	9.94	#VALUE!		800.05	826.72	700.04

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	762487.19	1.48	836165.38	91.2	60 - 125		760791.56	752180.94	774489.06
45 Sc # 1	587165.13	1.22	552676.25	106.2	60 - 125		579406.25	588507.63	593581.44
45 Sc # 3	642485.44	3.71	644433.94	99.7	60 - 125		659337.19	615230.31	652888.88
74 Ge # 1	180650.23	0.87	175321.88	103.0	60 - 125		178909.64	181068.75	181972.34
74 Ge # 2	27527.48	0.42	27172.50	101.3	60 - 125		27407.31	27536.35	27638.78
74 Ge # 3	161623.41	2.65	164913.13	98.0	60 - 125		165814.34	157245.75	161810.11
89 Y # 3	1081871.30	2.23	1068488.30	101.3	60 - 125		1106352.10	1058024.30	1081237.30
115 In # 3	1066105.40	2.24	1083659.40	98.4	60 - 125		1091086.80	1043464.80	1063764.50
159 Tb # 3	1651763.10	3.40	1651256.80	100.0	60 - 125		1710977.60	1599335.10	1644976.50
209 Bi # 3	977087.50	2.66	1054491.00	92.7	60 - 125		1001555.70	949875.19	979831.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\086SMPL.D\086SMPL.D#
Date Acquired: Dec 25 2012 04:41 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 660-51812-h-1-a
Misc Info: 200.8TR 1/5
Vial Number: 4309
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001964	0.001964	ug/l	127.55	100.00		3.33	20.00	6.67
11 B	# 3	38.22	38.22	ug/l	1.51	1800.00		147211.23	150782.70	149133.73
23 Na	# 1	43860	43860	ug/l	1.69	81000.00		298966210.00	309507390.00	312741020.00
24 Mg	# 1	958.7	958.7	ug/l	0.70	81000.00		4475586.50	4527033.50	4597274.50
27 Al	# 1	17.82	17.82	ug/l	0.75	81000.00		95709.22	97949.52	97695.44
39 K	# 2	861.4	861.4	ug/l	0.86	81000.00		317371.09	324712.56	331423.06
40 Ca	# 1	9513	9513	ug/l	0.91	81000.00		101125020.00	103128130.00	104358620.00
45 Sc	# 2	----	--------		--------	#VALUE!		43467.64	44694.98	44743.95
47 Ti	# 3	0.2052	0.2052	ug/l	7.35	1620.00		233.34	253.34	280.01
51 V	# 2	0.2943	0.2943	ug/l	3.60	1800.00		917.81	924.48	982.26
52 Cr	# 2	0.1835	0.1835	ug/l	4.09	1800.00		691.13	662.24	680.02
55 Mn	# 3	18.18	18.18	ug/l	1.32	1800.00		358359.34	356018.78	357086.50
56 Fe	# 1	86.04	86.04	ug/l	1.16	81000.00		1392820.30	1391174.90	1429618.90
59 Co	# 3	0.06777	0.06777	ug/l	4.08	1800.00		1020.06	1073.40	1010.06
60 Ni	# 2	0.5699	0.5699	ug/l	1.91	1800.00		763.36	753.36	764.47
63 Cu	# 2	0.3121	0.3121	ug/l	6.15	1800.00		1494.52	1604.53	1665.65
66 Zn	# 3	2.721	2.721	ug/l	3.06	1800.00		5197.54	4984.16	5364.25
75 As	# 2	0.2459	0.2459	ug/l	8.48	100.00		73.67	84.33	85.00
78 Se	# 1	0.6407	0.6407	ug/l	1.52	100.00		330.00	334.00	326.67
88 Sr	# 3	59.2	59.2	ug/l	2.06	1800.00		1564518.10	1556687.60	1564016.90
95 Mo	# 3	0.1822	0.1822	ug/l	1.58	1800.00		746.70	726.70	750.04
107 Ag	# 3	0.00188	0.00188	ug/l	51.82	100.00		53.34	46.67	33.33
111 Cd	# 3	0.007302	0.007302	ug/l	107.52	100.00		76.43	46.44	43.09
118 Sn	# 3	0.01718	0.01718	ug/l	45.15	1800.00		490.02	446.69	386.68
121 Sb	# 3	0.07439	0.07439	ug/l	4.23	100.00		803.38	763.37	790.04
137 Ba	# 3	5.652	5.652	ug/l	1.86	1800.00		20245.88	20623.02	20409.52
202 Hg	# 3	0.01231	0.01231	ug/l	12.51	5.00		90.33	81.33	87.33
205 Tl	# 3	0.005843	0.005843	ug/l	21.91	20.00		203.34	233.34	176.67
208 Pb	# 3	0.004249	0.004249	ug/l	22.91	1800.00		383.35	363.35	330.01
232 Th	# 3	0.06306	0.06306	ug/l	2.41	#VALUE!		2550.30	2530.29	2680.31
238 U	# 3	0.07877	0.07877	ug/l	2.52	#VALUE!		2950.38	2840.34	3037.07

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	758540.75	1.46	836165.38	90.7	60 - 125		748322.69	756960.06	770339.56
45 Sc	# 1	575733.25	0.68	552676.25	104.2	60 - 125		571563.75	576353.38	579282.75
45 Sc	# 3	638228.44	2.78	644433.94	99.0	60 - 125		625897.31	630255.50	658532.56
74 Ge	# 1	179581.50	0.53	175321.88	102.4	60 - 125		178599.78	179637.03	180507.73
74 Ge	# 2	27334.59	1.47	27172.50	100.6	60 - 125		26883.19	27467.37	27653.21
74 Ge	# 3	160816.36	1.21	164913.13	97.5	60 - 125		159398.33	160013.22	163037.50
89 Y	# 3	1067979.60	2.19	1068488.30	100.0	60 - 125		1054063.00	1054920.30	1094955.60
115 In	# 3	1054545.30	1.56	1083659.40	97.3	60 - 125		1044928.00	1045208.40	1073499.40
159 Tb	# 3	1644775.30	2.00	1651256.80	99.6	60 - 125		1626604.00	1625050.40	1682671.30
209 Bi	# 3	973462.56	0.96	1054491.00	92.3	60 - 125		969639.56	966677.06	984071.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\087SMPL.D\087SMPL.D#
Date Acquired: Dec 25 2012 04:48 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85950-d-1-a
Misc Info: 200.8TR 1/5
Vial Number: 4310
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.003213	0.003213	ug/l	45.94	100.00		10.00	20.00	13.33
11 B # 3	2.174	2.174	ug/l	2.92	1800.00		16030.64	15483.31	15736.69
23 Na # 1	380.4	380.4	ug/l	0.89	81000.00		2741897.30	2839384.00	2877059.50
24 Mg # 1	142.6	142.6	ug/l	0.87	81000.00		674334.38	692098.63	701050.19
27 Al # 1	31.48	31.48	ug/l	2.46	81000.00		169063.61	178510.39	175294.55
39 K # 2	46.06	46.06	ug/l	2.75	81000.00		26856.36	26659.19	27306.98
40 Ca # 1	977.1	977.1	ug/l	1.32	81000.00		10621887.00	10953836.00	10993678.00
45 Sc # 2	----	--------		--------	#VALUE!		43640.34	44558.08	46215.72
47 Ti # 3	0.4482	0.4482	ug/l	2.97	1620.00		543.36	506.71	513.37
51 V # 2	0.1047	0.1047	ug/l	10.26	1800.00		442.23	475.57	520.01
52 Cr # 2	0.07552	0.07552	ug/l	13.06	1800.00		341.12	397.79	352.23
55 Mn # 3	6.733	6.733	ug/l	1.44	1800.00		137003.45	133749.02	132897.75
56 Fe # 1	58.61	58.61	ug/l	1.59	81000.00		990013.31	994121.13	996195.06
59 Co # 3	0.03123	0.03123	ug/l	7.43	1800.00		526.69	453.35	496.69
60 Ni # 2	0.3171	0.3171	ug/l	4.25	1800.00		457.79	438.90	447.79
63 Cu # 2	0.3063	0.3063	ug/l	5.34	1800.00		1563.41	1660.09	1590.09
66 Zn # 3	8.965	8.965	ug/l	0.77	1800.00		16871.55	16654.71	16584.58
75 As # 2	0.07429	0.07429	ug/l	22.55	100.00		33.67	43.00	39.67
78 Se # 1	0.01949	0.01949	ug/l	44.32	100.00		36.00	28.67	36.00
88 Sr # 3	3.247	3.247	ug/l	2.71	1800.00		86817.13	87028.51	87468.06
95 Mo # 3	0.04985	0.04985	ug/l	32.12	1800.00		200.01	320.01	243.34
107 Ag # 3	0.003963	0.003963	ug/l	11.33	100.00		66.67	73.34	73.34
111 Cd # 3	0.02447	0.02447	ug/l	18.24	100.00		116.61	99.90	89.93
118 Sn # 3	0.02795	0.02795	ug/l	11.76	1800.00		560.03	573.36	516.69
121 Sb # 3	0.05032	0.05032	ug/l	5.58	100.00		676.70	660.03	616.70
137 Ba # 3	4.963	4.963	ug/l	1.81	1800.00		19137.99	18590.65	18974.37
202 Hg # 3	0.006276	0.006276	ug/l	24.33	5.00		73.33	74.00	81.33
205 Tl # 3	0.00432	0.00432	ug/l	17.79	20.00		170.01	153.34	193.34
208 Pb # 3	0.08783	0.08783	ug/l	1.07	1800.00		3386.94	3250.25	3326.90
232 Th # 3	0.03322	0.03322	ug/l	7.91	#VALUE!		1656.82	1723.49	1510.13
238 U # 3	0.003785	0.003785	ug/l	29.35	#VALUE!		160.01	213.37	123.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	762039.44	1.08	836165.38	91.1	60 - 125		762637.50	753489.81	769991.13
45 Sc # 1	588050.25	2.60	552676.25	106.4	60 - 125		573578.69	586511.81	604060.38
45 Sc # 3	633335.81	0.96	644433.94	98.3	60 - 125		639750.06	627722.31	632535.06
74 Ge # 1	185713.16	1.88	175321.88	105.9	60 - 125		182260.05	185623.88	189255.50
74 Ge # 2	27972.75	2.40	27172.50	102.9	60 - 125		27324.99	27925.83	28667.42
74 Ge # 3	162822.69	0.33	164913.13	98.7	60 - 125		163289.81	162230.59	162947.63
89 Y # 3	1085391.40	2.47	1068488.30	101.6	60 - 125		1116175.90	1067243.50	1072754.60
115 In # 3	1110970.10	2.06	1083659.40	102.5	60 - 125		1136571.00	1103992.30	1092346.90
159 Tb # 3	1695487.00	1.10	1651256.80	102.7	60 - 125		1715209.80	1677941.90	1693309.50
209 Bi # 3	1073859.60	0.79	1054491.00	101.8	60 - 125		1083702.30	1068843.40	1069032.90

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\088_CCV.D\088_CCV.D#
Date Acquired: Dec 25 2012 04:56 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.46 ug/l	1.99	50.00	90 - 110		174644.56	178969.63	182080.38
11 B	101.3 ug/l	3.09	100.00	90 - 110		380448.97	381208.16	388312.19
23 Na	4938 ug/l	1.15	5000.00	90 - 110		34793420.00	35499888.00	36004452.00
24 Mg	4939 ug/l	1.43	5000.00	90 - 110		23596812.00	23820890.00	24196730.00
27 Al	497.8 ug/l	1.59	500.00	90 - 110		2680530.80	2766506.30	2775306.30
39 K	5089 ug/l	5.21	5000.00	90 - 110		1871015.80	1871646.60	1895859.10
40 Ca	4986 ug/l	1.18	5000.00	90 - 110		54086600.00	55346744.00	56037052.00
45 Sc	--------	--------		--- ##### - #####		45129.36	49463.97	42706.14
47 Ti	50.51 ug/l	1.85	50.00	90 - 110		56559.07	57251.62	56890.38
51 V	49.59 ug/l	5.68	50.00	90 - 110		123819.25	123588.94	126391.80
52 Cr	50.06 ug/l	5.62	50.00	90 - 110		148331.11	149932.36	152862.25
55 Mn	503.3 ug/l	0.91	500.00	90 - 110		10055658.00	10076745.00	10019660.00
56 Fe	4973 ug/l	1.10	5000.00	90 - 110		81821520.00	83126736.00	83361600.00
59 Co	48.33 ug/l	0.18	50.00	90 - 110		736244.44	735693.25	745664.25
60 Ni	50.32 ug/l	5.36	50.00	90 - 110		63599.51	64501.62	65415.85
63 Cu	50.72 ug/l	5.32	50.00	90 - 110		170061.91	169114.34	171737.86
66 Zn	50.95 ug/l	0.69	50.00	90 - 110		93524.91	94534.05	94892.47
75 As	50.2 ug/l	5.16	50.00	90 - 110		12572.65	12669.72	12815.83
78 Se	49.84 ug/l	1.43	50.00	90 - 110		24502.07	24626.58	24682.33
88 Sr	51.54 ug/l	3.13	50.00	90 - 110		1386525.00	1394120.30	1382635.60
95 Mo	48.83 ug/l	2.66	50.00	90 - 110		189477.22	192327.16	191225.02
107 Ag	49.87 ug/l	2.36	50.00	90 - 110		568973.00	574354.13	571111.25
111 Cd	50.22 ug/l	2.10	50.00	90 - 110		125391.77	125920.77	125411.76
118 Sn	50.16 ug/l	1.51	50.00	90 - 110		392578.97	388854.38	384014.69
121 Sb	50.93 ug/l	2.06	50.00	90 - 110		367984.63	369071.28	368557.03
137 Ba	50.51 ug/l	1.46	50.00	90 - 110		190187.11	188556.97	188873.91
202 Hg	2.426 ug/l	1.57	2.50	90 - 110		7271.33	7269.67	7209.63
205 Tl	10.07 ug/l	0.49	10.00	90 - 110		255260.33	251652.67	256006.19
208 Pb	50.11 ug/l	0.39	50.00	90 - 110		1751914.10	1742417.60	1747926.40
232 Th	49.79 ug/l	1.74		--- ##### - #####		1937536.30	1933057.50	1904330.80
238 U	50.08 ug/l	1.88		--- ##### - #####		1928943.30	1948061.90	1942494.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	760587.19	4.05	836165.38	91.0	60 - 125		731132.88	758081.88	792546.81
45 Sc	588771.81	2.72	552676.25	106.5	60 - 125		574736.25	585405.31	606173.75
45 Sc	647404.94	1.25	644433.94	100.5	60 - 125		653589.19	638239.81	650385.88
74 Ge	184797.58	1.77	175321.88	105.4	60 - 125		182063.91	183913.39	188415.47
74 Ge	27513.44	4.57	27172.50	101.3	60 - 125		27389.48	28827.34	26323.51
74 Ge	163828.22	0.63	164913.13	99.3	60 - 125		163485.72	163014.27	164984.66
89 Y	1090426.30	2.95	1068488.30	102.1	60 - 125		1126418.90	1064401.30	1080458.80
115 In	1093936.50	1.92	1083659.40	100.9	60 - 125		1117208.10	1076264.80	1088336.60
159 Tb	1674357.90	0.66	1651256.80	101.4	60 - 125		1684374.80	1662546.60	1676152.40
209 Bi	1012843.40	1.40	1054491.00	96.1	60 - 125		1025406.10	997449.75	1015674.40

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\089_CCB.D\089_CCB.D#
Date Acquired: Dec 25 2012 05:03 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01999	0.01999	ug/l	63.73	#VALUE!		23.33	113.34	96.67
11 B # 3	1.363	1.363	ug/l	1.15	#VALUE!		12954.66	13361.60	13581.82
23 Na # 1	0.9228	0.9228	ug/l	18.81	#VALUE!		106941.63	109579.97	109103.64
24 Mg # 1	0.3934	0.3934	ug/l	8.31	#VALUE!		2276.87	2546.90	2616.91
27 Al # 1	0.06387	0.06387	ug/l	55.71	#VALUE!		1383.42	1783.46	1640.12
39 K # 2	-0.5728	-0.5728	ug/l	177.72	#VALUE!		9556.03	10086.32	9992.93
40 Ca # 1	1.849	1.849	ug/l	0.93	#VALUE!		94381.14	95011.26	96642.59
45 Sc # 2	----	--------		--------	#VALUE!		45488.02	49273.00	44955.70
47 Ti # 3	0.01757	0.01757	ug/l	77.23	#VALUE!		43.34	36.67	66.67
51 V # 2	0.001883	0.001883	ug/l	92.35	#VALUE!		221.12	240.00	214.45
52 Cr # 2	0.002829	0.002829	ug/l	143.41	#VALUE!		148.89	138.89	153.34
55 Mn # 3	0.1287	0.1287	ug/l	68.44	#VALUE!		1680.13	5306.42	3990.62
56 Fe # 1	0.522	0.522	ug/l	4.41	#VALUE!		22337.39	23131.56	22998.11
59 Co # 3	0.01308	0.01308	ug/l	68.10	#VALUE!		63.34	316.69	300.01
60 Ni # 2	0.01551	0.01551	ug/l	34.49	#VALUE!		52.22	55.56	63.33
63 Cu # 2	0.04799	0.04799	ug/l	27.84	#VALUE!		704.46	837.80	722.24
66 Zn # 3	0.03861	0.03861	ug/l	35.85	#VALUE!		330.01	320.01	366.68
75 As # 2	0.01564	0.01564	ug/l	81.27	#VALUE!		25.67	21.67	26.33
78 Se # 1	0.03	0.03	ug/l	30.10	#VALUE!		34.67	41.33	43.67
88 Sr # 3	0.01962	0.01962	ug/l	70.85	#VALUE!		183.34	926.83	743.38
95 Mo # 3	0.07704	0.07704	ug/l	4.97	#VALUE!		383.35	380.02	346.68
107 Ag # 3	0.01468	0.01468	ug/l	37.66	#VALUE!		126.67	236.68	233.34
111 Cd # 3	0.008033	0.008033	ug/l	161.83	#VALUE!		23.21	83.22	76.56
118 Sn # 3	0.03433	0.03433	ug/l	47.51	#VALUE!		476.69	716.71	636.70
121 Sb # 3	0.2794	0.2794	ug/l	7.99	#VALUE!		2273.56	2543.61	2313.57
137 Ba # 3	0.01621	0.01621	ug/l	48.33	#VALUE!		50.00	96.67	103.34
202 Hg # 3	0.01952	0.01952	ug/l	11.45	#VALUE!		124.33	110.00	119.67
205 Tl # 3	0.005694	0.005694	ug/l	54.88	#VALUE!		123.34	276.68	223.34
208 Pb # 3	0.01672	0.01672	ug/l	56.17	#VALUE!		456.68	1090.08	890.04
232 Th # 3	0.1146	0.1146	ug/l	6.69	#VALUE!		4787.56	5324.56	4790.91
238 U # 3	0.01516	0.01516	ug/l	54.91	#VALUE!		280.01	960.16	656.71

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	795939.00	2.01	836165.38	95.2	60 - 125		779423.13	797104.25	811289.56
45 Sc # 1	596949.63	1.04	552676.25	108.0	60 - 125		592204.44	594677.75	603966.81
45 Sc # 3	663712.25	0.73	644433.94	103.0	60 - 125		668248.13	658553.19	664335.44
74 Ge # 1	191034.69	0.18	175321.88	109.0	60 - 125		190703.80	191013.70	191386.58
74 Ge # 2	29110.07	3.84	27172.50	107.1	60 - 125		28878.44	30325.60	28126.16
74 Ge # 3	170814.16	0.60	164913.13	103.6	60 - 125		171430.16	171381.30	169631.02
89 Y # 3	1142762.30	1.08	1068488.30	107.0	60 - 125		1155281.40	1130609.60	1142396.00
115 In # 3	1131991.10	1.95	1083659.40	104.5	60 - 125		1156376.50	1126116.00	1113480.90
159 Tb # 3	1705441.40	1.40	1651256.80	103.3	60 - 125		1732148.80	1685913.00	1698262.50
209 Bi # 3	1074472.50	0.52	1054491.00	101.9	60 - 125		1080483.50	1073398.00	1069535.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\090SMPL.D\090SMPL.D#
Date Acquired: Dec 25 2012 05:11 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85950-d-2-a
Misc Info: 200.8TR 1/5
Vial Number: 4311
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.009609	0.009609	ug/l	56.66	100.00		53.33	40.00	16.67
11 B # 3	1.901	1.901	ug/l	6.24	1800.00		14535.87	14725.97	14739.27
23 Na # 1	359.9	359.9	ug/l	0.86	81000.00		2640443.00	2631104.50	2709359.50
24 Mg # 1	143.6	143.6	ug/l	0.66	81000.00		684469.56	688663.31	699238.13
27 Al # 1	35.16	35.16	ug/l	2.08	81000.00		190935.91	196756.09	193089.30
39 K # 2	38.74	38.74	ug/l	5.21	81000.00		24613.26	24646.67	25411.07
40 Ca # 1	981.4	981.4	ug/l	0.42	81000.00		10867640.00	10722702.00	10975855.00
45 Sc # 2	----	--------		--------	#VALUE!		44440.05	45594.92	49737.18
47 Ti # 3	0.8314	0.8314	ug/l	70.58	1620.00		680.06	1671.99	490.03
51 V # 2	0.08806	0.08806	ug/l	8.10	1800.00		450.01	443.34	452.23
52 Cr # 2	0.06532	0.06532	ug/l	10.36	1800.00		355.56	312.23	358.90
55 Mn # 3	9.876	9.876	ug/l	0.48	1800.00		202265.80	198202.00	201261.53
56 Fe # 1	61.76	61.76	ug/l	1.42	81000.00		1041727.10	1068956.10	1084590.40
59 Co # 3	0.0401	0.0401	ug/l	3.67	1800.00		666.70	603.36	646.70
60 Ni # 2	0.2586	0.2586	ug/l	2.80	1800.00		376.67	377.79	393.34
63 Cu # 2	0.1875	0.1875	ug/l	5.49	1800.00		1214.49	1223.39	1263.39
66 Zn # 3	7.142	7.142	ug/l	1.23	1800.00		13605.35	13531.99	13675.47
75 As # 2	0.07404	0.07404	ug/l	32.89	100.00		36.00	45.67	37.33
78 Se # 1	0.02249	0.02249	ug/l	6.39	100.00		35.67	36.00	35.33
88 Sr # 3	3.222	3.222	ug/l	1.66	1800.00		89347.30	87510.81	87956.34
95 Mo # 3	0.02938	0.02938	ug/l	20.23	1800.00		196.67	150.00	180.01
107 Ag # 3	0.003039	0.003039	ug/l	29.42	100.00		73.34	53.34	56.67
111 Cd # 3	0.009806	0.009806	ug/l	18.28	100.00		66.61	69.95	59.94
118 Sn # 3	0.01838	0.01838	ug/l	23.41	1800.00		520.02	453.35	466.69
121 Sb # 3	0.1253	0.1253	ug/l	8.19	100.00		1260.09	1270.09	1116.74
137 Ba # 3	4.939	4.939	ug/l	1.66	1800.00		19448.34	18834.20	18780.91
202 Hg # 3	0.0109	0.0109	ug/l	23.02	5.00		101.00	87.67	84.33
205 Tl # 3	0.003392	0.003392	ug/l	12.85	20.00		140.00	156.67	146.67
208 Pb # 3	0.07734	0.07734	ug/l	3.53	1800.00		3040.20	2966.90	2813.52
232 Th # 3	0.04698	0.04698	ug/l	4.55	#VALUE!		2126.87	2210.23	2256.90
238 U # 3	0.007145	0.007145	ug/l	8.63	#VALUE!		333.35	273.34	306.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	759116.56	3.20	836165.38	90.8	60 - 125		750728.31	740105.19	786516.13
45 Sc # 1	585340.88	0.83	552676.25	105.9	60 - 125		584449.19	581016.50	590557.00
45 Sc # 3	640094.19	1.54	644433.94	99.3	60 - 125		648935.94	629477.44	641869.13
74 Ge # 1	189019.33	1.17	175321.88	107.8	60 - 125		187847.22	187643.84	191566.94
74 Ge # 2	28786.50	5.00	27172.50	105.9	60 - 125		28052.68	27861.28	30445.55
74 Ge # 3	165843.50	1.53	164913.13	100.6	60 - 125		167874.64	162999.97	166655.86
89 Y # 3	1108241.00	1.96	1068488.30	103.7	60 - 125		1126540.30	1113946.80	1084236.00
115 In # 3	1123212.80	0.82	1083659.40	103.6	60 - 125		1128206.40	1128860.30	1112571.90
159 Tb # 3	1689381.40	1.97	1651256.80	102.3	60 - 125		1726777.60	1662774.40	1678591.90
209 Bi # 3	1075912.80	1.57	1054491.00	102.0	60 - 125		1091020.30	1057654.60	1079063.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\091_CCV.D\091_CCV.D#
Date Acquired: Dec 25 2012 05:18 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.08 ug/l	2.01	50.00	90 - 110		173961.52	178511.53	178919.14
11 B	101.8 ug/l	1.49	100.00	90 - 110		370244.81	382517.66	379201.03
23 Na	5050 ug/l	0.73	5000.00	90 - 110		35697728.00	35828908.00	36046908.00
24 Mg	5052 ug/l	0.49	5000.00	90 - 110		23738266.00	24340436.00	24427830.00
27 Al	499.5 ug/l	0.83	500.00	90 - 110		2667655.80	2753276.80	2744536.50
39 K	5072 ug/l	4.97	5000.00	90 - 110		1838893.50	1920391.00	1922681.40
40 Ca	4994 ug/l	1.04	5000.00	90 - 110		53348704.00	54992024.00	55695584.00
45 Sc	--------	--------	---	##### - #####		47053.22	44177.91	46851.34
47 Ti	50.7 ug/l	1.52	50.00	90 - 110		57030.80	56198.24	56191.47
51 V	49.48 ug/l	3.97	50.00	90 - 110		123485.67	126404.20	127312.09
52 Cr	49.96 ug/l	3.40	50.00	90 - 110		149687.42	151534.89	154104.73
55 Mn	499.7 ug/l	0.56	500.00	90 - 110		9989673.00	9936670.00	9942515.00
56 Fe	4984 ug/l	0.59	5000.00	90 - 110		82080656.00	82015136.00	83965424.00
59 Co	48.54 ug/l	0.35	50.00	90 - 110		737384.75	746217.81	738506.63
60 Ni	50.11 ug/l	3.75	50.00	90 - 110		64117.99	65267.48	65478.19
63 Cu	50.53 ug/l	3.31	50.00	90 - 110		170587.45	171762.05	172383.23
66 Zn	50.93 ug/l	1.17	50.00	90 - 110		92744.82	94446.39	95099.44
75 As	50.13 ug/l	3.36	50.00	90 - 110		12718.42	12827.50	12881.87
78 Se	50.45 ug/l	0.19	50.00	90 - 110		24742.06	24750.40	24993.73
88 Sr	50.84 ug/l	2.65	50.00	90 - 110		1366338.40	1390580.00	1375553.40
95 Mo	49.52 ug/l	0.95	50.00	90 - 110		192473.17	192214.08	190739.88
107 Ag	50.47 ug/l	0.73	50.00	90 - 110		575956.69	572684.94	569826.94
111 Cd	50.41 ug/l	0.56	50.00	90 - 110		125377.19	124242.99	124861.02
118 Sn	50.91 ug/l	0.80	50.00	90 - 110		390980.03	388771.75	391360.97
121 Sb	51.56 ug/l	0.89	50.00	90 - 110		370662.00	369913.31	368048.13
137 Ba	51.04 ug/l	1.15	50.00	90 - 110		191183.47	189996.19	186858.06
202 Hg	2.445 ug/l	1.57	2.50	90 - 110		7329.03	7280.34	7221.64
205 Tl	10.13 ug/l	1.30	10.00	90 - 110		255321.95	253859.53	252994.11
208 Pb	50.38 ug/l	0.59	50.00	90 - 110		1739307.90	1754863.10	1737632.30
232 Th	50.18 ug/l	0.11	---	##### - #####		1914368.10	1954788.50	1927364.10
238 U	50.5 ug/l	0.22	---	##### - #####		1923564.10	1971915.60	1948747.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	745131.63	2.73	836165.38	89.1	60 - 125		728074.06	767686.00	739634.69
45 Sc	582568.94	1.17	552676.25	105.4	60 - 125		575130.75	584026.06	588550.06
45 Sc	640172.25	0.71	644433.94	99.3	60 - 125		635588.56	640303.00	644625.00
74 Ge	184193.34	0.76	175321.88	105.1	60 - 125		183270.16	183503.50	185806.34
74 Ge	27796.51	3.08	27172.50	102.3	60 - 125		28343.24	26811.09	28235.19
74 Ge	163473.72	0.30	164913.13	99.1	60 - 125		163054.39	164023.63	163343.16
89 Y	1097046.30	2.02	1068488.30	102.7	60 - 125		1096163.40	1075365.50	1119610.10
115 In	1083118.80	0.99	1083659.40	100.0	60 - 125		1094890.30	1073829.60	1080636.30
159 Tb	1662358.30	0.98	1651256.80	100.7	60 - 125		1646766.00	1679207.90	1661100.90
209 Bi	1008524.40	1.15	1054491.00	95.6	60 - 125		997989.75	1020913.90	1006669.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\092_CCB.D\092_CCB.D#
Date Acquired: Dec 25 2012 05:26 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0006154	0.0006154	ug/l	220.34	#VALUE!		6.67	0.00	10.00
11 B # 3	1.272	1.272	ug/l	11.22	#VALUE!		13455.02	12694.44	12491.04
23 Na # 1	0.2444	0.2444	ug/l	233.06	#VALUE!		102862.70	105018.01	104387.95
24 Mg # 1	0.4583	0.4583	ug/l	8.24	#VALUE!		2786.95	2903.63	2733.60
27 Al # 1	0.06848	0.06848	ug/l	20.34	#VALUE!		1630.12	1650.12	1623.45
39 K # 2	-0.8968	-0.8968	ug/l	8.52	#VALUE!		9606.04	9609.36	9696.08
40 Ca # 1	1.617	1.617	ug/l	15.02	#VALUE!		92210.71	92740.03	94598.80
45 Sc # 2	----	--------		--------	#VALUE!		45187.20	46167.40	46997.16
47 Ti # 3	0.004325	0.004325	ug/l	289.02	#VALUE!		50.00	30.00	20.00
51 V # 2	-0.006912	-0.006912	ug/l	106.42	#VALUE!		188.89	185.56	223.34
52 Cr # 2	0.0001393	0.0001393	ug/l	2308.00	#VALUE!		147.78	131.11	132.22
55 Mn # 3	0.03434	0.03434	ug/l	5.20	#VALUE!		1663.45	1680.12	1680.12
56 Fe # 1	0.5582	0.5582	ug/l	1.80	#VALUE!		23088.37	23028.16	24002.72
59 Co # 3	0.003652	0.003652	ug/l	16.77	#VALUE!		66.67	83.34	76.67
60 Ni # 2	0.01212	0.01212	ug/l	74.81	#VALUE!		64.45	50.00	41.11
63 Cu # 2	0.05273	0.05273	ug/l	6.54	#VALUE!		743.35	770.02	770.02
66 Zn # 3	0.01862	0.01862	ug/l	4.76	#VALUE!		300.01	293.35	296.68
75 As # 2	0.01988	0.01988	ug/l	45.54	#VALUE!		28.00	23.67	24.67
78 Se # 1	0.02855	0.02855	ug/l	15.02	#VALUE!		40.67	37.67	38.67
88 Sr # 3	0.00467	0.00467	ug/l	22.59	#VALUE!		176.67	216.67	190.01
95 Mo # 3	0.04797	0.04797	ug/l	23.91	#VALUE!		313.35	223.34	216.68
107 Ag # 3	0.005504	0.005504	ug/l	8.56	#VALUE!		86.67	90.00	93.34
111 Cd # 3	0.001521	0.001521	ug/l	269.82	#VALUE!		56.57	43.26	33.27
118 Sn # 3	0.02729	0.02729	ug/l	9.06	#VALUE!		590.03	520.02	543.36
121 Sb # 3	0.2973	0.2973	ug/l	2.89	#VALUE!		2566.93	2380.25	2530.26
137 Ba # 3	0.003796	0.003796	ug/l	78.11	#VALUE!		50.00	26.67	30.00
202 Hg # 3	0.01876	0.01876	ug/l	12.75	#VALUE!		126.33	106.33	111.67
205 Tl # 3	0.004119	0.004119	ug/l	7.13	#VALUE!		183.34	163.34	160.01
208 Pb # 3	0.00365	0.00365	ug/l	21.21	#VALUE!		346.68	370.02	340.01
232 Th # 3	0.1067	0.1067	ug/l	3.58	#VALUE!		4907.59	4377.46	4554.16
238 U # 3	0.006812	0.006812	ug/l	9.57	#VALUE!		303.35	303.35	256.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	792063.19	2.86	836165.38	94.7	60 - 125		802741.63	766077.19	807370.69
45 Sc # 1	600311.69	4.34	552676.25	108.6	60 - 125		582094.19	588677.06	630164.00
45 Sc # 3	654403.13	3.22	644433.94	101.5	60 - 125		677275.63	635779.38	650154.38
74 Ge # 1	190469.78	2.79	175321.88	108.6	60 - 125		186549.53	188333.47	196526.38
74 Ge # 2	28745.40	0.80	27172.50	105.8	60 - 125		28561.25	28670.33	29004.62
74 Ge # 3	168637.66	1.69	164913.13	102.3	60 - 125		171414.56	165729.28	168769.11
89 Y # 3	1123853.90	4.34	1068488.30	105.2	60 - 125		1165723.40	1070232.40	1135605.90
115 In # 3	1123195.30	2.95	1083659.40	103.6	60 - 125		1160884.50	1098674.00	1110027.50
159 Tb # 3	1713137.30	4.00	1651256.80	103.7	60 - 125		1785582.50	1649245.40	1704583.90
209 Bi # 3	1065948.90	2.46	1054491.00	101.1	60 - 125		1094813.40	1043693.40	1059340.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\093SMPL.D\093SMPL.D#
Date Acquired: Dec 25 2012 05:33 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: mb 680-260571_1-a
Misc Info: 3010 1/5
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.008064	0.008064	ug/l	47.04	100.00		16.67	33.33	43.33
11 B	# 3	1.236	1.236	ug/l	7.90	1800.00		11490.37	12160.78	12380.95
23 Na	# 1	2.97	2.97	ug/l	52.86	81000.00		117284.40	116828.13	119984.18
24 Mg	# 1	0.6617	0.6617	ug/l	11.31	81000.00		3620.44	3630.46	3633.77
27 Al	# 1	0.9604	0.9604	ug/l	8.57	81000.00		6437.91	6124.46	6417.90
39 K	# 2	0.01065	0.01065	ug/l	2751.20	81000.00		9849.51	9546.04	9916.23
40 Ca	# 1	4.118	4.118	ug/l	23.80	81000.00		115154.26	114366.59	117019.34
45 Sc	# 2	----	--------		--------	#VALUE!		46841.47	43359.77	45221.82
47 Ti	# 3	0.06471	0.06471	ug/l	14.67	1620.00		86.67	96.67	113.34
51 V	# 2	0.1064	0.1064	ug/l	14.06	1800.00		450.01	498.90	507.79
52 Cr	# 2	0.02481	0.02481	ug/l	34.67	1800.00		200.00	188.89	241.12
55 Mn	# 3	0.01952	0.01952	ug/l	17.41	1800.00		1300.08	1280.08	1430.10
56 Fe	# 1	0.8225	0.8225	ug/l	13.01	81000.00		26960.14	26522.80	27040.31
59 Co	# 3	0.0008805	0.0008805	ug/l	125.27	1800.00		50.00	20.00	23.33
60 Ni	# 2	0.04344	0.04344	ug/l	5.41	1800.00		92.22	93.33	90.00
63 Cu	# 2	0.3396	0.3396	ug/l	10.44	1800.00		1757.88	1810.11	1612.31
66 Zn	# 3	0.3453	0.3453	ug/l	5.32	1800.00		903.38	913.39	866.72
75 As	# 2	0.08505	0.08505	ug/l	29.39	100.00		40.00	48.00	37.00
78 Se	# 1	0.00954	0.00954	ug/l	103.91	100.00		25.00	26.33	33.33
88 Sr	# 3	0.004825	0.004825	ug/l	17.55	1800.00		166.67	193.34	223.34
95 Mo	# 3	0.02355	0.02355	ug/l	6.53	1800.00		146.67	156.67	150.01
107 Ag	# 3	0.00242	0.00242	ug/l	24.24	100.00		56.67	56.67	46.67
111 Cd	# 3	-0.0005465	-0.0005465	ug/l	1031.70	100.00		29.95	29.95	56.62
118 Sn	# 3	0.3235	0.3235	ug/l	3.78	1800.00		2947.01	2803.65	2900.31
121 Sb	# 3	0.3111	0.3111	ug/l	1.31	100.00		2563.60	2523.59	2643.60
137 Ba	# 3	0.02298	0.02298	ug/l	39.64	1800.00		76.67	100.00	150.01
202 Hg	# 3	0.008111	0.008111	ug/l	26.83	5.00		87.33	78.00	78.00
205 Tl	# 3	0.00113	0.00113	ug/l	53.17	20.00		86.67	106.67	80.00
208 Pb	# 3	0.002045	0.002045	ug/l	32.82	1800.00		310.01	293.34	280.01
232 Th	# 3	0.06534	0.06534	ug/l	7.74	#VALUE!		3067.07	2683.64	3000.39
238 U	# 3	0.001996	0.001996	ug/l	14.84	#VALUE!		103.34	83.34	86.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	746335.19	1.03	836165.38	89.3	60 - 125		739284.56	745190.50	754530.50
45 Sc	# 1	574287.13	9.43	552676.25	103.9	60 - 125		626700.13	518592.38	577569.00
45 Sc	# 3	634159.88	2.97	644433.94	98.4	60 - 125		616540.81	631884.75	654054.00
74 Ge	# 1	183773.48	7.37	175321.88	104.8	60 - 125		196595.03	169596.06	185129.33
74 Ge	# 2	28125.88	2.05	27172.50	103.5	60 - 125		28656.09	27511.91	28209.63
74 Ge	# 3	164460.09	1.36	164913.13	99.7	60 - 125		162152.45	164615.44	166612.38
89 Y	# 3	1092525.50	3.08	1068488.30	102.2	60 - 125		1070149.80	1076171.50	1131255.40
115 In	# 3	1115503.30	2.21	1083659.40	102.9	60 - 125		1097243.50	1105668.90	1143597.30
159 Tb	# 3	1709204.30	3.21	1651256.80	103.5	60 - 125		1666775.10	1689785.50	1771052.00
209 Bi	# 3	1063163.90	2.35	1054491.00	100.8	60 - 125		1044988.10	1052792.60	1091710.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\094SMPL.D\094SMPL.D#
Date Acquired: Dec 25 2012 05:40 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: lcs 680-260571_2-a
Misc Info: 3010 1/5
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	9.907	9.907	ug/l	5.37	100.00		34527.76	33936.70	33662.91
11 B	# 3	41.39	41.39	ug/l	3.48	1800.00		155896.30	155305.88	158493.03
23 Na	# 1	1017	1017	ug/l	13.40	81000.00		7173875.00	7168008.00	7453971.50
24 Mg	# 1	1033	1033	ug/l	12.63	81000.00		4823736.00	4902116.00	5028398.50
27 Al	# 1	1009	1009	ug/l	11.64	81000.00		5404729.50	5489652.50	5529851.00
39 K	# 2	1035	1035	ug/l	0.68	81000.00		384830.56	388317.22	395586.44
40 Ca	# 1	1028	1028	ug/l	10.88	81000.00		11227026.00	11345357.00	11258771.00
45 Sc	# 2	----	--------		--------	#VALUE!		43657.08	46486.34	44199.47
47 Ti	# 3	20.36	20.36	ug/l	6.42	1620.00		22166.91	22887.98	21843.21
51 V	# 2	19.98	19.98	ug/l	0.57	1800.00		49784.74	50398.55	50727.24
52 Cr	# 2	20.26	20.26	ug/l	0.79	1800.00		60392.45	60736.89	61590.84
55 Mn	# 3	106	106	ug/l	2.21	1800.00		2109059.80	2095726.00	2096621.90
56 Fe	# 1	986.1	986.1	ug/l	8.18	81000.00		16583526.00	16203615.00	16187766.00
59 Co	# 3	9.858	9.858	ug/l	2.87	1800.00		150758.31	149948.89	148026.52
60 Ni	# 2	20.8	20.8	ug/l	0.89	1800.00		26288.68	26527.92	27204.46
63 Cu	# 2	21.02	21.02	ug/l	0.28	1800.00		69506.49	71125.91	71963.46
66 Zn	# 3	20.94	20.94	ug/l	2.58	1800.00		38971.98	38377.43	38477.72
75 As	# 2	20.09	20.09	ug/l	0.32	100.00		5004.03	5092.72	5166.40
78 Se	# 1	19.18	19.18	ug/l	9.05	100.00		9425.78	9339.07	9497.82
88 Sr	# 3	18.71	18.71	ug/l	3.51	1800.00		516730.97	509214.09	511445.00
95 Mo	# 3	19.39	19.39	ug/l	2.59	1800.00		78406.05	77358.79	77291.70
107 Ag	# 3	10.23	10.23	ug/l	2.65	100.00		120606.80	120046.26	119445.09
111 Cd	# 3	9.82	9.82	ug/l	1.39	100.00		25233.87	24887.07	25401.05
118 Sn	# 3	20.21	20.21	ug/l	3.25	1800.00		162263.25	160484.41	158348.17
121 Sb	# 3	10.89	10.89	ug/l	2.57	100.00		82027.84	80182.91	80537.70
137 Ba	# 3	20.51	20.51	ug/l	2.81	1800.00		80052.56	77818.49	78106.80
202 Hg	# 3	0.9622	0.9622	ug/l	3.56	5.00		3074.97	3004.62	3050.30
205 Tl	# 3	8.097	8.097	ug/l	4.50	20.00		211752.34	209988.52	209102.20
208 Pb	# 3	10.3	10.3	ug/l	4.57	1800.00		372335.72	368648.47	367094.63
232 Th	# 3	20.98	20.98	ug/l	3.46	#VALUE!		850880.63	850298.63	845477.06
238 U	# 3	22.22	22.22	ug/l	3.10	#VALUE!		904779.69	893055.94	904119.56

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	739188.50	4.12	836165.38	88.4	60 - 125		710196.88	736378.75	770989.88
45 Sc	# 1	585358.50	11.26	552676.25	105.9	60 - 125		579386.75	654032.25	522656.63
45 Sc	# 3	630106.19	4.94	644433.94	97.8	60 - 125		605526.13	619672.63	665119.81
74 Ge	# 1	184495.39	8.20	175321.88	105.2	60 - 125		183890.66	199921.00	169674.50
74 Ge	# 2	27459.01	1.51	27172.50	101.1	60 - 125		26997.82	27579.07	27800.15
74 Ge	# 3	162576.47	1.95	164913.13	98.6	60 - 125		159777.86	161937.13	166014.42
89 Y	# 3	1109266.10	3.63	1068488.30	103.8	60 - 125		1105375.90	1071080.00	1151342.50
115 In	# 3	1120007.80	2.33	1083659.40	103.4	60 - 125		1115360.30	1096489.60	1148173.40
159 Tb	# 3	1723173.50	3.95	1651256.80	104.4	60 - 125		1665475.40	1705733.00	1798312.30
209 Bi	# 3	1060476.30	3.15	1054491.00	100.6	60 - 125		1032357.30	1051600.60	1097470.90

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\095SMPL.D\095SMPL.D#
Date Acquired: Dec 25 2012 05:48 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85852-b-4-a
Misc Info: 3010 1/5
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.08472	0.08472	ug/l	2.27	100.00		276.68	293.34	296.68
11 B # 3	7.273	7.273	ug/l	3.11	1800.00		33232.48	33279.15	32511.21
23 Na # 1	8845	8845	ug/l	1.11	81000.00		60542652.00	62054212.00	61672140.00
24 Mg # 1	575.7	575.7	ug/l	0.43	81000.00		2660408.00	2685595.80	2747293.30
27 Al # 1	40.56	40.56	ug/l	0.49	81000.00		214793.08	218213.06	219462.00
39 K # 2	432.3	432.3	ug/l	3.79	81000.00		164155.97	168379.14	171493.42
40 Ca # 1	1410	1410	ug/l	0.17	81000.00		15002230.00	15113021.00	15398521.00
45 Sc # 2	----	--------		--------	#VALUE!		44568.29	42086.77	44284.04
47 Ti # 3	0.412	0.412	ug/l	13.11	1620.00		430.02	540.02	443.35
51 V # 2	0.2006	0.2006	ug/l	8.69	1800.00		690.02	735.58	701.13
52 Cr # 2	0.1226	0.1226	ug/l	14.67	1800.00		544.46	503.35	444.45
55 Mn # 3	39.94	39.94	ug/l	1.26	1800.00		788453.19	786595.19	778876.75
56 Fe # 1	1763	1763	ug/l	0.79	81000.00		28588790.00	29029436.00	29006590.00
59 Co # 3	1.864	1.864	ug/l	1.76	1800.00		28335.67	28012.00	27768.11
60 Ni # 2	0.9464	0.9464	ug/l	4.31	1800.00		1204.50	1250.06	1276.72
63 Cu # 2	0.4362	0.4362	ug/l	4.03	1800.00		1966.79	1967.90	2086.80
66 Zn # 3	5.039	5.039	ug/l	2.17	1800.00		9512.75	9305.93	9356.01
75 As # 2	0.291	0.291	ug/l	8.92	100.00		92.00	84.33	101.67
78 Se # 1	0.03513	0.03513	ug/l	28.38	100.00		45.33	35.67	40.33
88 Sr # 3	9.098	9.098	ug/l	2.01	1800.00		249738.67	249410.55	244214.39
95 Mo # 3	0.04729	0.04729	ug/l	21.06	1800.00		250.01	273.34	200.01
107 Ag # 3	0.004831	0.004831	ug/l	37.96	100.00		103.34	70.00	66.67
111 Cd # 3	0.02238	0.02238	ug/l	62.47	100.00		79.92	69.91	136.61
118 Sn # 3	0.1416	0.1416	ug/l	6.04	1800.00		1443.44	1463.44	1360.10
121 Sb # 3	0.2233	0.2233	ug/l	6.65	100.00		1996.85	1853.49	1830.15
137 Ba # 3	11.31	11.31	ug/l	1.17	1800.00		42614.45	42206.66	42520.77
202 Hg # 3	0.007785	0.007785	ug/l	35.20	5.00		81.33	82.33	69.33
205 Tl # 3	0.04196	0.04196	ug/l	12.43	20.00		1193.42	1183.42	996.73
208 Pb # 3	0.02192	0.02192	ug/l	5.95	1800.00		950.04	1033.38	976.71
232 Th # 3	0.1147	0.1147	ug/l	6.58	#VALUE!		5040.99	4670.84	4590.83
238 U # 3	0.03165	0.03165	ug/l	2.23	#VALUE!		1213.42	1273.43	1286.76

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	725000.38	1.79	836165.38	86.7	60 - 125		710598.06	735916.81	728486.25
45 Sc # 1	570477.50	1.25	552676.25	103.2	60 - 125		564009.63	569326.88	578096.00
45 Sc # 3	620120.88	2.55	644433.94	96.2	60 - 125		603322.13	622246.81	634793.69
74 Ge # 1	181791.30	0.35	175321.88	103.7	60 - 125		181472.39	181373.66	182527.84
74 Ge # 2	27423.34	2.79	27172.50	100.9	60 - 125		27796.78	26544.06	27929.18
74 Ge # 3	161009.20	0.99	164913.13	97.6	60 - 125		159457.88	162655.89	160913.83
89 Y # 3	1102243.90	0.82	1068488.30	103.2	60 - 125		1101097.00	1093871.30	1111763.40
115 In # 3	1094986.50	0.98	1083659.40	101.0	60 - 125		1084764.40	1094059.60	1106135.60
159 Tb # 3	1682780.10	2.10	1651256.80	101.9	60 - 125		1653188.90	1673336.30	1721815.50
209 Bi # 3	1030900.40	1.47	1054491.00	97.8	60 - 125		1019665.00	1024947.20	1048089.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\096SMPL.D\096SMPL.D#
Date Acquired: Dec 25 2012 05:55 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85828-e-1-a
Misc Info: 3010 1/5
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.003348	0.003348	ug/l	60.39	100.00		20.00	6.67	13.33
11 B # 3	2.006	2.006	ug/l	10.75	1800.00		12924.68	13701.90	13518.48
23 Na # 1	2283	2283	ug/l	0.68	81000.00		15637228.00	15914278.00	16196616.00
24 Mg # 1	2196	2196	ug/l	1.13	81000.00		10100330.00	10219547.00	10531628.00
27 Al # 1	40.8	40.8	ug/l	1.24	81000.00		219403.41	217179.00	219300.52
39 K # 2	353.8	353.8	ug/l	1.72	81000.00		137045.50	136833.84	140555.50
40 Ca # 1	5250	5250	ug/l	0.56	81000.00		55790744.00	56432300.00	56500732.00
45 Sc # 2	----	--------		--------	#VALUE!		42533.41	42826.29	45931.55
47 Ti # 3	3.594	3.594	ug/l	13.40	1620.00		3733.92	3503.76	4490.52
51 V # 2	0.2856	0.2856	ug/l	8.95	1800.00		833.36	964.48	947.81
52 Cr # 2	0.3295	0.3295	ug/l	3.14	1800.00		1104.49	1107.82	1111.15
55 Mn # 3	704.4	704.4	ug/l	4.26	1800.00		13576312.00	13696338.00	13442918.00
56 Fe # 1	7629	7629	ug/l	1.18	81000.00		121079940.00	122752580.00	126008340.00
59 Co # 3	2.182	2.182	ug/l	4.63	1800.00		32115.10	32636.21	31898.34
60 Ni # 2	1.877	1.877	ug/l	2.82	1800.00		2400.18	2421.29	2421.29
63 Cu # 2	1.512	1.512	ug/l	3.58	1800.00		5629.79	5439.73	5590.89
66 Zn # 3	0.9227	0.9227	ug/l	7.04	1800.00		1823.48	1900.15	1940.15
75 As # 2	0.2979	0.2979	ug/l	0.24	100.00		91.67	92.33	96.67
78 Se # 1	0.02412	0.02412	ug/l	32.00	100.00		32.00	32.67	39.33
88 Sr # 3	33.75	33.75	ug/l	5.46	1800.00		899332.38	884319.13	885423.75
95 Mo # 3	0.3067	0.3067	ug/l	6.78	1800.00		1230.08	1263.41	1236.74
107 Ag # 3	0.009588	0.009588	ug/l	14.17	100.00		126.67	123.34	150.01
111 Cd # 3	-0.005983	-0.005983	ug/l	91.43	100.00		16.27	16.26	39.61
118 Sn # 3	0.09072	0.09072	ug/l	6.34	1800.00		1023.40	1006.72	1023.39
121 Sb # 3	0.1819	0.1819	ug/l	1.23	100.00		1683.47	1490.11	1570.12
137 Ba # 3	25.45	25.45	ug/l	5.41	1800.00		93923.27	94438.64	94965.44
202 Hg # 3	0.01588	0.01588	ug/l	3.90	5.00		109.67	101.33	100.00
205 Tl # 3	0.008586	0.008586	ug/l	16.34	20.00		313.35	296.68	243.34
208 Pb # 3	0.02466	0.02466	ug/l	5.72	1800.00		1156.72	1096.72	1056.71
232 Th # 3	0.0662	0.0662	ug/l	3.92	#VALUE!		2943.70	2843.69	2917.04
238 U # 3	0.0156	0.0156	ug/l	7.79	#VALUE!		666.70	656.70	576.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	674827.88	2.32	836165.38	80.7	60 - 125		691887.19	661144.38	671452.00
45 Sc # 1	570087.63	1.08	552676.25	103.2	60 - 125		564043.06	569851.88	576367.94
45 Sc # 3	621749.31	5.64	644433.94	96.5	60 - 125		657823.06	587830.13	619594.81
74 Ge # 1	179410.20	0.98	175321.88	102.3	60 - 125		178465.33	178319.63	181445.67
74 Ge # 2	27201.18	3.10	27172.50	100.1	60 - 125		26623.88	26811.94	28167.72
74 Ge # 3	158226.97	3.71	164913.13	95.9	60 - 125		164111.41	152384.91	158184.58
89 Y # 3	1069513.10	6.39	1068488.30	100.1	60 - 125		1142339.60	1006820.80	1059379.00
115 In # 3	1085433.40	5.14	1083659.40	100.2	60 - 125		1142972.80	1031639.60	1081687.80
159 Tb # 3	1716165.80	5.48	1651256.80	103.9	60 - 125		1812077.50	1624247.90	1712171.60
209 Bi # 3	1045951.40	5.05	1054491.00	99.2	60 - 125		1105444.50	1004352.30	1028057.80

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\097SMPL.D\097SMPL.D#
Date Acquired: Dec 25 2012 06:03 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85852-b-1-a
Misc Info: 3010 1/5
Vial Number: 2510
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.07911	0.07911	ug/l	4.92	100.00		256.67	246.67	246.67
11 B # 3	7.275	7.275	ug/l	5.05	1800.00		30985.23	30347.92	30444.53
23 Na # 1	4984	4984	ug/l	1.00	81000.00		33697600.00	34443560.00	35293472.00
24 Mg # 1	573.7	573.7	ug/l	0.38	81000.00		2654915.50	2654741.80	2711608.00
27 Al # 1	38.72	38.72	ug/l	1.18	81000.00		201560.25	207115.63	211189.66
39 K # 2	431.4	431.4	ug/l	0.98	81000.00		162238.08	166828.19	169668.31
40 Ca # 1	1340	1340	ug/l	0.60	81000.00		14202420.00	14335656.00	14504183.00
45 Sc # 2	----	--------		--------	#VALUE!		42941.00	43356.37	44730.61
47 Ti # 3	0.1179	0.1179	ug/l	24.37	1620.00		163.34	120.00	163.34
51 V # 2	0.102	0.102	ug/l	21.48	1800.00		473.34	498.90	402.23
52 Cr # 2	0.02119	0.02119	ug/l	27.91	1800.00		170.00	197.78	208.89
55 Mn # 3	42.9	42.9	ug/l	3.22	1800.00		827531.63	826183.50	825619.88
56 Fe # 1	2125	2125	ug/l	0.61	81000.00		34327448.00	34638588.00	35379968.00
59 Co # 3	1.737	1.737	ug/l	2.66	1800.00		25718.43	25718.47	25437.89
60 Ni # 2	0.9301	0.9301	ug/l	6.66	1800.00		1168.94	1151.16	1318.95
63 Cu # 2	0.2502	0.2502	ug/l	3.56	1800.00		1327.84	1404.51	1387.84
66 Zn # 3	5.296	5.296	ug/l	5.45	1800.00		9702.82	9435.99	9856.23
75 As # 2	0.2531	0.2531	ug/l	7.92	100.00		86.67	80.67	79.33
78 Se # 1	0.01366	0.01366	ug/l	23.98	100.00		30.00	31.33	28.67
88 Sr # 3	8.356	8.356	ug/l	3.60	1800.00		226392.23	224374.55	226980.41
95 Mo # 3	0.01242	0.01242	ug/l	30.53	1800.00		120.00	103.34	86.67
107 Ag # 3	0.0011	0.0011	ug/l	166.09	100.00		60.00	20.00	30.00
111 Cd # 3	0.0255	0.0255	ug/l	36.43	100.00		79.96	103.30	119.98
118 Sn # 3	0.1448	0.1448	ug/l	3.83	1800.00		1460.10	1420.10	1390.09
121 Sb # 3	0.1851	0.1851	ug/l	9.18	100.00		1590.13	1526.78	1650.13
137 Ba # 3	11.74	11.74	ug/l	3.94	1800.00		43824.09	42951.66	43192.41
202 Hg # 3	0.01599	0.01599	ug/l	24.66	5.00		103.67	94.67	109.33
205 Tl # 3	0.02084	0.02084	ug/l	5.71	20.00		580.03	600.03	606.70
208 Pb # 3	0.01402	0.01402	ug/l	15.74	1800.00		806.70	673.36	670.03
232 Th # 3	0.03685	0.03685	ug/l	5.67	#VALUE!		1763.49	1683.48	1690.15
238 U # 3	0.01444	0.01444	ug/l	12.56	#VALUE!		646.71	520.03	573.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	672150.94	3.07	836165.38	80.4	60 - 125		656828.31	695648.31	663976.19
45 Sc # 1	567470.50	1.53	552676.25	102.7	60 - 125		561091.56	563962.06	577357.88
45 Sc # 3	603046.69	4.63	644433.94	93.6	60 - 125		609700.69	627017.56	572421.94
74 Ge # 1	181707.09	1.01	175321.88	103.6	60 - 125		180519.81	180770.16	183831.31
74 Ge # 2	27172.49	1.38	27172.50	100.0	60 - 125		26800.85	27168.04	27548.58
74 Ge # 3	158008.86	3.24	164913.13	95.8	60 - 125		160259.84	161608.75	152158.00
89 Y # 3	1094835.40	3.04	1068488.30	102.5	60 - 125		1085890.40	1131645.30	1066970.80
115 In # 3	1077719.90	3.71	1083659.40	99.5	60 - 125		1086297.50	1112732.10	1034130.00
159 Tb # 3	1699726.40	3.72	1651256.80	102.9	60 - 125		1707183.30	1758895.00	1633101.10
209 Bi # 3	1034869.80	4.52	1054491.00	98.1	60 - 125		1047110.60	1074354.00	983144.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\098SMPL.D\098SMPL.D#
Date Acquired: Dec 25 2012 06:10 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85814-a-1-b
Misc Info: 3010 1/5
Vial Number: 2511
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0005674	-0.0005674	ug/l	91.21	100.00		0.00	0.00	3.33
11 B	# 3	1.368	1.368	ug/l	8.01	1800.00		13228.20	12801.28	13151.45
23 Na	# 1	1198	1198	ug/l	0.67	81000.00		8923875.00	9080148.00	9224817.00
24 Mg	# 1	135.7	135.7	ug/l	0.43	81000.00		676291.06	690385.13	694590.69
27 Al	# 1	7.502	7.502	ug/l	1.77	81000.00		43246.36	45317.60	44863.20
39 K	# 2	10.14	10.14	ug/l	6.17	81000.00		14062.25	14208.99	14589.39
40 Ca	# 1	16.15	16.15	ug/l	2.60	81000.00		257824.11	261427.55	271734.59
45 Sc	# 2	----	--------		--------	#VALUE!		46337.79	48687.17	47528.50
47 Ti	# 3	6.776	6.776	ug/l	3.00	1620.00		8105.33	7701.77	8148.66
51 V	# 2	0.1196	0.1196	ug/l	8.82	1800.00		557.79	561.13	521.12
52 Cr	# 2	1.409	1.409	ug/l	2.07	1800.00		4607.27	4657.29	4819.55
55 Mn	# 3	0.1861	0.1861	ug/l	8.80	1800.00		4590.68	5074.19	5197.55
56 Fe	# 1	20.77	20.77	ug/l	2.01	81000.00		367876.44	369963.44	386682.97
59 Co	# 3	0.01119	0.01119	ug/l	18.18	1800.00		230.01	163.34	210.01
60 Ni	# 2	1.416	1.416	ug/l	3.86	1800.00		2023.46	1956.79	1990.13
63 Cu	# 2	0.08716	0.08716	ug/l	25.06	1800.00		850.03	865.58	1007.81
66 Zn	# 3	0.6418	0.6418	ug/l	1.95	1800.00		1556.77	1536.78	1500.10
75 As	# 2	0.1468	0.1468	ug/l	11.51	100.00		62.33	63.67	56.00
78 Se	# 1	0.0284	0.0284	ug/l	15.63	100.00		41.67	37.67	39.00
88 Sr	# 3	0.02744	0.02744	ug/l	6.63	1800.00		826.71	936.72	903.38
95 Mo	# 3	0.2636	0.2636	ug/l	2.79	1800.00		1220.08	1200.08	1160.07
107 Ag	# 3	0.001468	0.001468	ug/l	27.41	100.00		46.67	40.00	50.00
111 Cd	# 3	0.001574	0.001574	ug/l	656.92	100.00		36.28	79.62	26.30
118 Sn	# 3	1.298	1.298	ug/l	1.16	1800.00		11233.91	11457.44	11470.77
121 Sb	# 3	0.3713	0.3713	ug/l	1.67	100.00		3203.73	3247.07	3307.08
137 Ba	# 3	0.1316	0.1316	ug/l	5.31	1800.00		530.02	576.69	583.36
202 Hg	# 3	0.05709	0.05709	ug/l	2.54	5.00		258.67	255.00	248.67
205 Tl	# 3	0.002799	0.002799	ug/l	29.72	20.00		120.00	163.34	146.67
208 Pb	# 3	0.0112	0.0112	ug/l	10.30	1800.00		720.03	650.03	620.03
232 Th	# 3	0.02743	0.02743	ug/l	5.07	#VALUE!		1493.47	1556.79	1446.78
238 U	# 3	0.003647	0.003647	ug/l	15.64	#VALUE!		180.01	143.34	193.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	780695.25	2.35	836165.38	93.4	60 - 125		762336.44	780799.06	798950.31
45 Sc	# 1	615794.69	1.02	552676.25	111.4	60 - 125		609121.00	616741.44	621521.56
45 Sc	# 3	675067.75	0.13	644433.94	104.8	60 - 125		676045.81	674244.56	674912.88
74 Ge	# 1	192925.88	0.90	175321.88	110.0	60 - 125		191237.41	192848.64	194691.63
74 Ge	# 2	29586.70	2.16	27172.50	108.9	60 - 125		28853.96	30021.68	29884.46
74 Ge	# 3	174337.28	0.64	164913.13	105.7	60 - 125		175574.97	173415.05	174021.83
89 Y	# 3	1206973.80	0.61	1068488.30	113.0	60 - 125		1200924.60	1204861.50	1215134.90
115 In	# 3	1200835.60	0.09	1083659.40	110.8	60 - 125		1200176.50	1200252.10	1202078.40
159 Tb	# 3	1825213.50	1.11	1651256.80	110.5	60 - 125		1847076.00	1821497.50	1807067.00
209 Bi	# 3	1155680.60	0.56	1054491.00	109.6	60 - 125		1161620.30	1148749.00	1156672.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\099SMPL.D\099SMPL.D#
Date Acquired: Dec 25 2012 06:17 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85792-a-16-a
Misc Info: 3010 1/5
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001196	0.001196	ug/l	175.84	100.00		6.67	13.33	0.00
11 B # 3	9.575	9.575	ug/l	6.65	1800.00		38616.00	40633.41	40897.69
23 Na # 1	5277	5277	ug/l	3.59	81000.00		36965824.00	38192884.00	38689968.00
24 Mg # 1	2198	2198	ug/l	4.57	81000.00		10451718.00	10769897.00	10727512.00
27 Al # 1	26.64	26.64	ug/l	5.25	81000.00		147686.48	148572.92	148042.50
39 K # 2	5099	5099	ug/l	1.60	81000.00		1815588.30	1895650.00	1924117.30
40 Ca # 1	3348	3348	ug/l	4.18	81000.00		36795652.00	37047688.00	37589320.00
45 Sc # 2	----	--------		--------	#VALUE!		43332.95	44055.65	45349.29
47 Ti # 3	0.2296	0.2296	ug/l	7.24	1620.00		280.01	280.01	263.34
51 V # 2	0.2177	0.2177	ug/l	8.93	1800.00		776.69	760.02	716.69
52 Cr # 2	0.03167	0.03167	ug/l	14.10	1800.00		205.56	231.11	238.89
55 Mn # 3	42.9	42.9	ug/l	3.90	1800.00		831422.25	843079.06	841439.38
56 Fe # 1	670.5	670.5	ug/l	3.66	81000.00		11137188.00	11361755.00	11175860.00
59 Co # 3	0.06912	0.06912	ug/l	11.92	1800.00		1010.05	960.06	1183.41
60 Ni # 2	0.2551	0.2551	ug/l	4.03	1800.00		344.45	372.23	363.34
63 Cu # 2	0.2845	0.2845	ug/l	6.55	1800.00		1472.29	1547.86	1474.52
66 Zn # 3	0.8509	0.8509	ug/l	5.41	1800.00		1773.47	1826.80	1753.47
75 As # 2	0.4709	0.4709	ug/l	3.19	100.00		131.67	140.67	141.00
78 Se # 1	0.107	0.107	ug/l	2.90	100.00		73.67	76.33	81.00
88 Sr # 3	14.14	14.14	ug/l	6.46	1800.00		415572.81	416442.63	416459.72
95 Mo # 3	0.0672	0.0672	ug/l	4.02	1800.00		326.68	316.68	316.68
107 Ag # 3	0.002373	0.002373	ug/l	16.43	100.00		60.00	46.67	50.00
111 Cd # 3	0.09385	0.09385	ug/l	24.74	100.00		223.24	313.24	283.24
118 Sn # 3	0.1794	0.1794	ug/l	5.94	1800.00		1836.81	1700.14	1623.47
121 Sb # 3	0.2522	0.2522	ug/l	4.92	100.00		2253.54	2073.52	2003.51
137 Ba # 3	22.52	22.52	ug/l	4.29	1800.00		84838.71	84034.40	85073.34
202 Hg # 3	0.01309	0.01309	ug/l	13.75	5.00		92.33	96.00	94.33
205 Tl # 3	0.03044	0.03044	ug/l	6.67	20.00		856.71	793.38	916.73
208 Pb # 3	0.0419	0.0419	ug/l	18.09	1800.00		1720.09	1933.45	1520.08
232 Th # 3	0.03259	0.03259	ug/l	4.62	#VALUE!		1650.14	1533.46	1466.79
238 U # 3	0.04306	0.04306	ug/l	7.32	#VALUE!		1690.15	1796.83	1660.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	706132.31	3.08	836165.38	84.4	60 - 125		722220.38	681430.75	714745.81
45 Sc # 1	590823.31	5.36	552676.25	106.9	60 - 125		567833.94	577702.69	626933.31
45 Sc # 3	621584.00	5.40	644433.94	96.5	60 - 125		655683.63	588554.50	620513.88
74 Ge # 1	185799.33	3.25	175321.88	106.0	60 - 125		181962.70	182668.56	192766.73
74 Ge # 2	27398.02	2.42	27172.50	100.8	60 - 125		26868.68	27184.74	28140.65
74 Ge # 3	160352.22	3.20	164913.13	97.2	60 - 125		166049.02	156109.00	158898.61
89 Y # 3	1194146.50	6.32	1068488.30	111.8	60 - 125		1267859.60	1117111.60	1197468.10
115 In # 3	1098609.50	4.75	1083659.40	101.4	60 - 125		1151821.60	1047481.00	1096525.90
159 Tb # 3	1727238.90	5.11	1651256.80	104.6	60 - 125		1814674.40	1638095.00	1728947.00
209 Bi # 3	1037380.10	3.93	1054491.00	98.4	60 - 125		1082218.40	1002511.40	1027410.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\100SMPL.D\100SMPL.D#
Date Acquired: Dec 25 2012 06:25 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85792-a-17-a
Misc Info: 3010 1/5
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.05907	0.05907	ug/l	22.25	100.00		173.34	233.34	153.34
11 B # 3	3.238	3.238	ug/l	1.14	1800.00		16844.40	17548.31	17501.57
23 Na # 1	2971	2971	ug/l	0.46	81000.00		20338130.00	20643946.00	21227732.00
24 Mg # 1	1812	1812	ug/l	0.77	81000.00		8399217.00	8513384.00	8603338.00
27 Al # 1	2.329	2.329	ug/l	4.46	81000.00		14005.48	13525.15	13358.32
39 K # 2	817.1	817.1	ug/l	4.19	81000.00		293985.25	299314.38	302576.88
40 Ca # 1	4771	4771	ug/l	1.16	81000.00		50625492.00	51483784.00	51625304.00
45 Sc # 2	----	--------		--------	#VALUE!		44567.30	40227.60	43383.11
47 Ti # 3	0.4045	0.4045	ug/l	1.84	1620.00		440.02	460.02	446.69
51 V # 2	0.1136	0.1136	ug/l	20.82	1800.00		445.57	520.01	456.68
52 Cr # 2	0.02411	0.02411	ug/l	17.27	1800.00		200.00	200.00	186.67
55 Mn # 3	58.15	58.15	ug/l	0.56	1800.00		1087953.30	1111632.60	1109230.90
56 Fe # 1	531.1	531.1	ug/l	0.98	81000.00		8451160.00	8545104.00	8719547.00
59 Co # 3	0.1967	0.1967	ug/l	2.13	1800.00		2800.29	2876.98	2940.31
60 Ni # 2	0.3751	0.3751	ug/l	13.18	1800.00		447.79	537.79	500.01
63 Cu # 2	0.1076	0.1076	ug/l	6.84	1800.00		921.14	850.03	865.58
66 Zn # 3	9.783	9.783	ug/l	1.47	1800.00		17345.26	17288.56	17515.47
75 As # 2	0.1953	0.1953	ug/l	12.97	100.00		64.67	59.67	74.33
78 Se # 1	0.01317	0.01317	ug/l	47.38	100.00		28.00	27.00	33.00
88 Sr # 3	51.98	51.98	ug/l	0.78	1800.00		1334917.00	1328463.40	1350796.30
95 Mo # 3	0.004685	0.004685	ug/l	34.69	1800.00		66.67	73.34	80.00
107 Ag # 3	0.001395	0.001395	ug/l	93.55	100.00		30.00	56.67	33.33
111 Cd # 3	0.02716	0.02716	ug/l	25.63	100.00		86.65	119.98	109.98
118 Sn # 3	0.1152	0.1152	ug/l	12.13	1800.00		1276.75	1230.08	1086.73
121 Sb # 3	0.1876	0.1876	ug/l	1.82	100.00		1600.12	1626.79	1600.13
137 Ba # 3	47.79	47.79	ug/l	1.52	1800.00		176682.52	177564.14	174745.86
202 Hg # 3	0.003622	0.003622	ug/l	34.68	5.00		68.00	61.33	67.33
205 Tl # 3	0.01042	0.01042	ug/l	5.51	20.00		310.01	343.35	316.68
208 Pb # 3	0.08477	0.08477	ug/l	5.91	1800.00		3286.90	3080.21	3120.22
232 Th # 3	0.0229	0.0229	ug/l	5.22	#VALUE!		1200.09	1120.08	1176.76
238 U # 3	0.001458	0.001458	ug/l	56.69	#VALUE!		70.00	33.33	100.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	668909.56	1.68	836165.38	80.0	60 - 125		655993.75	673971.25	676763.75
45 Sc # 1	571463.69	1.78	552676.25	103.4	60 - 125		563409.13	568116.56	582865.38
45 Sc # 3	601223.81	1.48	644433.94	93.3	60 - 125		591065.19	604818.25	607787.81
74 Ge # 1	178938.31	0.76	175321.88	102.1	60 - 125		178338.00	177986.45	180490.50
74 Ge # 2	26501.59	3.38	27172.50	97.5	60 - 125		27134.74	25476.83	26893.21
74 Ge # 3	155493.69	1.10	164913.13	94.3	60 - 125		153833.52	157261.52	155386.03
89 Y # 3	1041893.80	0.09	1068488.30	97.5	60 - 125		1041113.80	1041638.80	1042929.10
115 In # 3	1077427.90	0.71	1083659.40	99.4	60 - 125		1074364.30	1071766.50	1086152.90
159 Tb # 3	1669976.80	2.02	1651256.80	101.1	60 - 125		1631166.40	1687566.00	1691197.80
209 Bi # 3	1037083.60	1.29	1054491.00	98.3	60 - 125		1024105.90	1036261.00	1050884.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\101SMPL.D\101SMPL.D#
Date Acquired: Dec 25 2012 06:32 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85792-a-18-a
Misc Info: 3010 1/5
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.1298	0.1298	ug/l	9.96	100.00		420.01	426.68	366.68
11 B # 3	6.957	6.957	ug/l	3.71	1800.00		29212.82	29476.44	29125.82
23 Na # 1	4736	4736	ug/l	6.17	81000.00		33747788.00	34256332.00	34497972.00
24 Mg # 1	1902	1902	ug/l	6.47	81000.00		9170338.00	9259567.00	9296727.00
27 Al # 1	14.29	14.29	ug/l	7.51	81000.00		79505.76	81400.39	79859.88
39 K # 2	914.6	914.6	ug/l	2.59	81000.00		334943.38	339011.44	345110.72
40 Ca # 1	8600	8600	ug/l	5.83	81000.00		94105760.00	95797560.00	96923128.00
45 Sc # 2	-----	--------		--------	#VALUE!		42155.89	42825.28	43350.27
47 Ti # 3	1.022	1.022	ug/l	3.62	1620.00		1126.74	1080.07	1156.74
51 V # 2	0.164	0.164	ug/l	6.23	1800.00		593.35	602.24	630.02
52 Cr # 2	0.08327	0.08327	ug/l	2.72	1800.00		376.67	383.34	362.23
55 Mn # 3	16.78	16.78	ug/l	0.77	1800.00		323180.13	323610.22	324153.56
56 Fe # 1	1942	1942	ug/l	5.83	81000.00		31847092.00	31914490.00	31667740.00
59 Co # 3	0.253	0.253	ug/l	3.12	1800.00		3843.85	3627.12	3760.48
60 Ni # 2	0.4615	0.4615	ug/l	1.67	1800.00		617.79	630.02	596.68
63 Cu # 2	0.4984	0.4984	ug/l	3.39	1800.00		2185.71	2159.03	2197.93
66 Zn # 3	1.095	1.095	ug/l	1.14	1800.00		2190.20	2226.88	2160.19
75 As # 2	0.4575	0.4575	ug/l	5.49	100.00		125.67	134.33	137.33
78 Se # 1	0.04222	0.04222	ug/l	11.39	100.00		43.33	44.33	44.00
88 Sr # 3	61.46	61.46	ug/l	2.87	1800.00		1655870.80	1653055.80	1656021.40
95 Mo # 3	0.07833	0.07833	ug/l	7.29	1800.00		346.68	356.68	376.68
107 Ag # 3	0.003908	0.003908	ug/l	69.63	100.00		56.67	46.67	103.34
111 Cd # 3	0.1562	0.1562	ug/l	12.96	100.00		403.24	476.57	399.90
118 Sn # 3	0.2339	0.2339	ug/l	7.47	1800.00		2033.51	2203.54	2123.53
121 Sb # 3	0.1816	0.1816	ug/l	7.96	100.00		1503.44	1623.46	1610.12
137 Ba # 3	46.72	46.72	ug/l	2.72	1800.00		173967.38	175522.70	172233.16
202 Hg # 3	0.002083	0.002083	ug/l	36.62	5.00		62.33	62.00	58.00
205 Tl # 3	0.01635	0.01635	ug/l	3.35	20.00		503.36	460.02	476.69
208 Pb # 3	0.5849	0.5849	ug/l	2.63	1800.00		20862.57	20705.98	21036.19
232 Th # 3	0.02188	0.02188	ug/l	3.72	#VALUE!		1113.41	1100.07	1156.75
238 U # 3	0.04297	0.04297	ug/l	2.80	#VALUE!		1736.83	1740.16	1656.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	665586.81	2.21	836165.38	79.6	60 - 125		670067.56	649171.56	677521.25
45 Sc # 1	593515.38	7.26	552676.25	107.4	60 - 125		565644.81	571734.31	643167.06
45 Sc # 3	616017.94	1.93	644433.94	95.6	60 - 125		629617.31	607747.00	610689.38
74 Ge # 1	182174.80	5.64	175321.88	103.9	60 - 125		175782.83	176721.38	194020.17
74 Ge # 2	27004.94	1.67	27172.50	99.4	60 - 125		26809.71	27520.77	26684.33
74 Ge # 3	157791.89	0.63	164913.13	95.7	60 - 125		158272.44	158450.45	156652.78
89 Y # 3	1090512.90	2.96	1068488.30	102.1	60 - 125		1127827.90	1071031.00	1072679.90
115 In # 3	1087340.10	2.51	1083659.40	100.3	60 - 125		1118631.30	1068926.40	1074462.80
159 Tb # 3	1695963.30	2.32	1651256.80	102.7	60 - 125		1740570.00	1681419.10	1665900.90
209 Bi # 3	1035200.30	1.11	1054491.00	98.2	60 - 125		1047946.30	1025492.80	1032161.60

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\102_CCV.D\102_CCV.D#
Date Acquired: Dec 25 2012 06:39 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.33 ug/l	4.23	50.00	90 - 110		172019.64	174351.83	176061.00
11 B	99.59 ug/l	4.26	100.00	90 - 110		364479.84	373017.06	368324.88
23 Na	5001 ug/l	1.87	5000.00	90 - 110		34372984.00	34827988.00	36319260.00
24 Mg	5000 ug/l	0.53	5000.00	90 - 110		23311712.00	23690212.00	24068508.00
27 Al	497.6 ug/l	0.58	500.00	90 - 110		2672595.00	2683734.30	2699026.00
39 K	4995 ug/l	1.85	5000.00	90 - 110		1862344.50	1894774.50	1883256.30
40 Ca	5013 ug/l	0.72	5000.00	90 - 110		54231248.00	54143592.00	54664044.00
45 Sc	--------	--------		--- ##### - #####		45668.49	46031.59	47696.31
47 Ti	50.64 ug/l	7.27	50.00	90 - 110		55278.80	56890.43	55041.66
51 V	48.33 ug/l	0.95	50.00	90 - 110		121870.03	124018.46	125424.34
52 Cr	48.79 ug/l	0.93	50.00	90 - 110		147209.95	149560.66	151280.41
55 Mn	494.5 ug/l	3.88	500.00	90 - 110		9872414.00	9786523.00	9854897.00
56 Fe	4980 ug/l	1.58	5000.00	90 - 110		81050416.00	82599200.00	83362840.00
59 Co	48.13 ug/l	5.05	50.00	90 - 110		729967.25	739057.69	730200.31
60 Ni	49.15 ug/l	0.99	50.00	90 - 110		63429.03	64264.08	64939.80
63 Cu	49.63 ug/l	1.36	50.00	90 - 110		169289.44	169234.47	170956.45
66 Zn	50.93 ug/l	5.27	50.00	90 - 110		93482.25	94908.81	93300.82
75 As	49.1 ug/l	1.02	50.00	90 - 110		12513.29	12644.71	12776.46
78 Se	50.1 ug/l	0.88	50.00	90 - 110		24355.89	24444.68	24912.96
88 Sr	51.37 ug/l	6.12	50.00	90 - 110		1380815.60	1367485.30	1351154.00
95 Mo	49.77 ug/l	5.64	50.00	90 - 110		193178.41	192329.86	192041.34
107 Ag	50.61 ug/l	5.75	50.00	90 - 110		574138.75	573141.44	573346.50
111 Cd	50.27 ug/l	6.44	50.00	90 - 110		123793.25	125186.35	123786.33
118 Sn	50.84 ug/l	6.00	50.00	90 - 110		389020.34	390133.53	388544.63
121 Sb	51.82 ug/l	6.01	50.00	90 - 110		372389.06	372657.22	367312.94
137 Ba	51.63 ug/l	5.40	50.00	90 - 110		193309.03	191066.33	189447.75
202 Hg	2.467 ug/l	5.17	2.50	90 - 110		7424.41	7398.39	7429.41
205 Tl	10.15 ug/l	5.92	10.00	90 - 110		258492.19	262840.38	256486.92
208 Pb	50.12 ug/l	5.00	50.00	90 - 110		1773348.90	1772339.10	1756609.50
232 Th	50.23 ug/l	5.28		--- ##### - #####		1959369.50	1956161.60	1946538.80
238 U	50.47 ug/l	6.41		--- ##### - #####		1962155.80	1997041.60	1939975.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	743943.94	3.22	836165.38	89.0	60 - 125		771650.06	729921.69	730260.13
45 Sc	576907.50	1.07	552676.25	104.4	60 - 125		570948.31	576504.00	583270.13
45 Sc	634245.75	5.59	644433.94	98.4	60 - 125		668685.13	597823.94	636228.06
74 Ge	183560.38	1.03	175321.88	104.7	60 - 125		183820.03	181557.63	185303.48
74 Ge	27995.73	1.93	27172.50	103.0	60 - 125		27606.48	27767.81	28612.92
74 Ge	163385.97	4.28	164913.13	99.1	60 - 125		169210.47	155639.09	165308.38
89 Y	1079395.50	6.45	1068488.30	101.0	60 - 125		1149031.60	1009874.70	1079280.30
115 In	1083864.60	5.81	1083659.40	100.0	60 - 125		1145676.00	1019807.70	1086110.00
159 Tb	1696106.40	5.03	1651256.80	102.7	60 - 125		1784515.00	1614244.90	1689559.40
209 Bi	1020812.40	5.30	1054491.00	96.8	60 - 125		1074129.60	965950.31	1022357.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\103_CCB.D\103_CCB.D#
Date Acquired: Dec 25 2012 06:47 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.003228	0.003228	ug/l	35.60	#VALUE!		10.00	16.67	16.67
11	B	# 3	0.9153	0.9153	ug/l	7.82	#VALUE!		11100.11	11216.87	10820.00
23	Na	# 1	-0.5642	-0.5642	ug/l	26.69	#VALUE!		93000.18	95642.66	97528.55
24	Mg	# 1	0.4986	0.4986	ug/l	2.21	#VALUE!		2833.63	2990.31	2943.65
27	Al	# 1	0.06333	0.06333	ug/l	41.32	#VALUE!		1376.75	1666.79	1640.12
39	K	# 2	-0.1767	-0.1767	ug/l	621.96	#VALUE!		9849.52	9726.11	9882.86
40	Ca	# 1	1.686	1.686	ug/l	1.85	#VALUE!		89601.63	91557.51	92582.51
45	Sc	# 2	----	--------		--------	#VALUE!		44362.00	47372.83	44187.23
47	Ti	# 3	0.004057	0.004057	ug/l	231.75	#VALUE!		23.33	30.00	43.33
51	V	# 2	0.0001531	0.0001531	ug/l	10523.00	#VALUE!		260.00	203.34	183.34
52	Cr	# 2	0.00913	0.00913	ug/l	71.46	#VALUE!		177.78	176.67	137.78
55	Mn	# 3	0.05251	0.05251	ug/l	27.71	#VALUE!		1826.81	1890.15	2337.51
56	Fe	# 1	0.625	0.625	ug/l	2.46	#VALUE!		23495.44	24309.76	24286.51
59	Co	# 3	0.005118	0.005118	ug/l	39.61	#VALUE!		130.00	63.34	100.00
60	Ni	# 2	0.0181	0.0181	ug/l	66.52	#VALUE!		76.67	51.11	50.00
63	Cu	# 2	0.0429	0.0429	ug/l	27.48	#VALUE!		753.36	740.02	667.80
66	Zn	# 3	0.001757	0.001757	ug/l	336.65	#VALUE!		280.01	250.01	253.34
75	As	# 2	0.01077	0.01077	ug/l	62.07	#VALUE!		22.33	25.67	20.67
78	Se	# 1	0.02804	0.02804	ug/l	11.38	#VALUE!		36.33	37.67	40.00
88	Sr	# 3	0.005476	0.005476	ug/l	5.69	#VALUE!		226.67	216.67	203.34
95	Mo	# 3	0.05422	0.05422	ug/l	28.18	#VALUE!		220.01	326.68	276.68
107	Ag	# 3	0.006141	0.006141	ug/l	6.23	#VALUE!		103.34	90.00	100.00
111	Cd	# 3	0.003237	0.003237	ug/l	84.34	#VALUE!		56.60	39.90	49.91
118	Sn	# 3	0.0289	0.0289	ug/l	18.29	#VALUE!		536.69	586.69	566.69
121	Sb	# 3	0.2798	0.2798	ug/l	4.95	#VALUE!		2510.26	2353.56	2233.54
137	Ba	# 3	0.009341	0.009341	ug/l	12.03	#VALUE!		56.67	60.00	53.33
202	Hg	# 3	0.01566	0.01566	ug/l	4.64	#VALUE!		108.67	102.00	108.33
205	Tl	# 3	0.003515	0.003515	ug/l	26.97	#VALUE!		186.68	126.67	146.67
208	Pb	# 3	0.004949	0.004949	ug/l	31.34	#VALUE!		360.01	440.02	390.01
232	Th	# 3	0.0954	0.0954	ug/l	2.81	#VALUE!		4427.43	4114.00	4067.33
238	U	# 3	0.007255	0.007255	ug/l	9.60	#VALUE!		343.35	310.01	276.68

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	760546.75	1.81	836165.38	91.0	60 - 125		776385.38	751401.44	753853.44
45	Sc	# 1	582457.13	1.30	552676.25	105.4	60 - 125		574025.38	584633.44	588712.50
45	Sc	# 3	644960.38	2.88	644433.94	100.1	60 - 125		664977.38	628258.38	641645.25
74	Ge	# 1	186654.28	0.87	175321.88	106.5	60 - 125		184788.47	187434.84	187739.53
74	Ge	# 2	28499.13	3.50	27172.50	104.9	60 - 125		28060.47	29641.21	27795.72
74	Ge	# 3	166297.61	2.05	164913.13	100.8	60 - 125		170086.88	163487.95	165318.00
89	Y	# 3	1112782.40	2.88	1068488.30	104.1	60 - 125		1149274.60	1089017.10	1100055.40
115	In	# 3	1124484.10	3.05	1083659.40	103.8	60 - 125		1161551.40	1093914.90	1117986.10
159	Tb	# 3	1708054.30	3.84	1651256.80	103.4	60 - 125		1778779.10	1649388.10	1695995.40
209	Bi	# 3	1079653.40	2.56	1054491.00	102.4	60 - 125		1109588.80	1055003.50	1074368.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\104SMPL.D\104SMPL.D#
Date Acquired: Dec 25 2012 06:54 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-14-a
Misc Info: 3010 1/5
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.007267	0.007267	ug/l	42.63	100.00		23.33	10.00	20.00
11 B # 3	757.4	757.4	ug/l	0.30	1800.00		1765324.40	1716602.60	1721992.00
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	254600	254600	ug/l	10.87	81000.00		891747900.00	916223100.00	907645630.00
27 Al # 1	39.65	39.65	ug/l	11.17	81000.00		158763.63	163898.20	161415.97
39 K # 2	110200	110200	ug/l	1.68	81000.00		23370842.00	23944522.00	24614504.00
40 Ca # 1	94750	94750	ug/l	11.22	81000.00		754143740.00	780158980.00	775050560.00
45 Sc # 2	----	--------		--------	#VALUE!		32173.13	35586.84	35560.09
47 Ti # 3	4.081	4.081	ug/l	3.61	1620.00		3173.69	3170.37	3120.35
51 V # 2	0.5567	0.5567	ug/l	4.77	1800.00		874.47	1002.26	974.48
52 Cr # 2	0.2603	0.2603	ug/l	9.39	1800.00		560.01	504.46	552.24
55 Mn # 3	25.43	25.43	ug/l	2.33	1800.00		266658.59	262624.97	257593.22
56 Fe # 1	314.7	314.7	ug/l	7.82	81000.00		2850560.30	2932974.50	2886477.50
59 Co # 3	0.253	0.253	ug/l	3.47	1800.00		1963.51	2033.51	2013.50
60 Ni # 2	0.8241	0.8241	ug/l	5.47	1800.00		630.02	612.24	693.35
63 Cu # 2	1.657	1.657	ug/l	3.96	1800.00		3589.26	3607.05	3623.72
66 Zn # 3	8.549	8.549	ug/l	2.23	1800.00		8462.21	8228.75	8115.35
75 As # 2	0.5595	0.5595	ug/l	0.28	100.00		91.00	95.67	98.33
78 Se # 1	0.4545	0.4545	ug/l	5.64	100.00		138.00	133.33	138.67
88 Sr # 3	1594	1594	ug/l	3.60	1800.00		24435292.00	24177056.00	23824012.00
95 Mo # 3	1.708	1.708	ug/l	8.06	1800.00		3483.76	3010.36	3130.38
107 Ag # 3	0.058	0.058	ug/l	12.15	100.00		336.68	353.35	293.34
111 Cd # 3	0.05439	0.05439	ug/l	16.96	100.00		95.56	75.71	79.00
118 Sn # 3	0.2633	0.2633	ug/l	5.16	1800.00		1136.74	1140.07	1096.73
121 Sb # 3	0.5494	0.5494	ug/l	6.96	100.00		2016.85	2110.20	1940.17
137 Ba # 3	7.185	7.185	ug/l	4.13	1800.00		13092.06	12831.83	12541.64
202 Hg # 3	0.04678	0.04678	ug/l	15.56	5.00		81.33	70.33	67.00
205 Tl # 3	0.002464	0.002464	ug/l	42.45	20.00		76.67	50.00	60.00
208 Pb # 3	1.644	1.644	ug/l	3.30	1800.00		29488.32	28904.44	28757.84
232 Th # 3	0.1272	0.1272	ug/l	9.39	#VALUE!		2100.22	1976.86	1810.17
238 U # 3	0.6799	0.6799	ug/l	1.52	#VALUE!		10053.61	9906.84	10053.62

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	468177.22	1.36	836165.38	56.0	60 - 125	IS F	475279.47	462943.13	466309.09
45 Sc # 1	435967.09	9.69	552676.25	78.9	60 - 125		480848.13	396985.91	430067.28
45 Sc # 3	442051.41	2.72	644433.94	68.6	60 - 125		438396.13	432291.94	455466.03
74 Ge # 1	102059.33	6.51	175321.88	58.2	60 - 125	IS F	109239.18	96118.91	100819.90
74 Ge # 2	16262.15	4.01	27172.50	59.8	60 - 125	IS F	15544.49	16420.79	16821.15
74 Ge # 3	84470.22	1.79	164913.13	51.2	60 - 125	IS F	85624.26	82760.51	85025.91
89 Y # 3	613455.44	2.57	1068488.30	57.4	60 - 125	IS F	608419.31	600793.31	631153.75
115 In # 3	521013.16	2.39	1083659.40	48.1	60 - 125	IS F	517836.03	510480.19	534723.25
159 Tb # 3	845660.69	2.63	1651256.80	51.2	60 - 125	IS F	841531.94	825762.25	869687.69
209 Bi # 3	384667.06	2.06	1054491.00	36.5	60 - 125	IS F	382683.28	377941.56	393376.28

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
8 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\105SMPL.D\105SMPL.D#
Date Acquired: Dec 25 2012 07:02 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-a-15-a
Misc Info: 3010 1/5
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0008661	-0.0008661	ug/l	0.00	100.00		0.00	0.00	0.00
11 B	# 3	839.3	839.3	ug/l	0.74	1800.00		1765446.60	1763231.60	1725215.10
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	254800	254800	ug/l	1.15	81000.00		957458240.00	965503230.00	983934910.00
27 Al	# 1	18.47	18.47	ug/l	1.47	81000.00		79519.60	81097.63	82149.69
39 K	# 2	108300	108300	ug/l	3.65	81000.00		24449916.00	25257656.00	25650570.00
40 Ca	# 1	86980	86980	ug/l	0.80	81000.00		754885310.00	748631420.00	764893760.00
45 Sc	# 2	----	--------		--------	#VALUE!		36075.49	37147.58	42042.87
47 Ti	# 3	2.593	2.593	ug/l	1.21	1620.00		2040.18	2006.84	1936.82
51 V	# 2	0.4619	0.4619	ug/l	6.45	1800.00		838.92	882.25	863.36
52 Cr	# 2	0.119	0.119	ug/l	8.50	1800.00		276.67	305.56	343.34
55 Mn	# 3	5.197	5.197	ug/l	1.71	1800.00		55098.62	54172.44	54410.04
56 Fe	# 1	46.32	46.32	ug/l	0.54	81000.00		464822.75	467303.44	467924.94
59 Co	# 3	0.1768	0.1768	ug/l	5.43	1800.00		1416.77	1510.11	1330.10
60 Ni	# 2	0.3249	0.3249	ug/l	3.52	1800.00		282.23	278.89	291.12
63 Cu	# 2	0.5715	0.5715	ug/l	4.44	1800.00		1562.30	1482.30	1620.09
66 Zn	# 3	3.121	3.121	ug/l	1.31	1800.00		3173.69	3120.36	3110.35
75 As	# 2	0.5077	0.5077	ug/l	3.31	100.00		92.00	91.33	95.67
78 Se	# 1	0.3753	0.3753	ug/l	1.65	100.00		123.00	124.00	126.00
88 Sr	# 3	1519	1519	ug/l	1.65	1800.00		23279200.00	22958956.00	22707566.00
95 Mo	# 3	2.159	2.159	ug/l	4.07	1800.00		4280.62	3987.23	3870.54
107 Ag	# 3	0.02082	0.02082	ug/l	12.41	100.00		130.00	140.01	106.67
111 Cd	# 3	0.04387	0.04387	ug/l	11.31	100.00		78.63	68.73	65.43
118 Sn	# 3	0.3037	0.3037	ug/l	6.32	1800.00		1283.42	1226.75	1306.76
121 Sb	# 3	0.3269	0.3269	ug/l	3.99	100.00		1273.42	1233.42	1263.41
137 Ba	# 3	3.965	3.965	ug/l	5.09	1800.00		7035.00	6921.59	7265.12
202 Hg	# 3	0.03686	0.03686	ug/l	2.78	5.00		60.67	63.00	59.67
205 Tl	# 3	0.003752	0.003752	ug/l	34.14	20.00		90.00	60.00	83.34
208 Pb	# 3	0.4103	0.4103	ug/l	2.10	1800.00		7480.94	7184.23	7124.17
232 Th	# 3	0.07316	0.07316	ug/l	2.08	#VALUE!		1146.75	1193.42	1133.41
238 U	# 3	0.6697	0.6697	ug/l	3.29	#VALUE!		10066.92	9476.57	9700.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	426729.28	1.94	836165.38	51.0	60 - 125	IS F	433583.94	429065.78	417538.16
45 Sc	# 1	463112.56	0.29	552676.25	83.8	60 - 125		462600.66	462094.91	464642.13
45 Sc	# 3	438145.97	2.56	644433.94	68.0	60 - 125		442876.03	446213.13	425348.78
74 Ge	# 1	109969.36	0.27	175321.88	62.7	60 - 125		110066.96	110205.57	109635.57
74 Ge	# 2	17349.47	5.36	27172.50	63.8	60 - 125		16753.31	16874.55	18420.54
74 Ge	# 3	85376.70	2.07	164913.13	51.8	60 - 125	IS F	86983.51	85655.90	83490.70
89 Y	# 3	612525.94	2.32	1068488.30	57.3	60 - 125	IS F	618440.13	622838.00	596299.75
115 In	# 3	520683.59	2.57	1083659.40	48.0	60 - 125	IS F	526899.31	529850.75	505300.81
159 Tb	# 3	837476.31	1.95	1651256.80	50.7	60 - 125	IS F	846658.75	847179.56	818590.69
209 Bi	# 3	380477.84	1.38	1054491.00	36.1	60 - 125	IS F	382913.22	384059.72	374460.59

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
6 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\106SMPL.D\106SMPL.D#
Date Acquired: Dec 25 2012 07:09 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-16-a
Misc Info: 3010 1/5
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0002456	-0.0002456	ug/l	437.70	100.00		0.00	0.00	3.33
11 B	# 3	847.7	847.7	ug/l	1.60	1800.00		1625044.30	1586894.40	1600292.50
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	247500	247500	ug/l	6.24	81000.00		993366140.00	986157120.00	1005932800.00
27 Al	# 1	8.044	8.044	ug/l	6.14	81000.00		37487.16	37754.56	38325.49
39 K	# 2	110100	110100	ug/l	4.56	81000.00		24531436.00	25185152.00	25567052.00
40 Ca	# 1	84560	84560	ug/l	6.27	81000.00		773732610.00	771008640.00	787176380.00
45 Sc	# 2	----	--------		--------	#VALUE!		38117.52	35327.79	37589.54
47 Ti	# 3	1.807	1.807	ug/l	8.36	1620.00		1386.76	1213.41	1423.44
51 V	# 2	0.4787	0.4787	ug/l	1.84	1800.00		882.25	850.03	888.92
52 Cr	# 2	0.08284	0.08284	ug/l	15.19	1800.00		215.56	246.67	242.23
55 Mn	# 3	4.41	4.41	ug/l	1.58	1800.00		45339.23	44557.37	44971.30
56 Fe	# 1	31.77	31.77	ug/l	4.56	81000.00		338453.28	336345.06	342823.28
59 Co	# 3	0.1713	0.1713	ug/l	5.52	1800.00		1406.76	1323.42	1266.77
60 Ni	# 2	0.3359	0.3359	ug/l	10.95	1800.00		297.78	305.56	260.00
63 Cu	# 2	0.3912	0.3912	ug/l	11.86	1800.00		1072.26	1164.49	1221.16
66 Zn	# 3	2.968	2.968	ug/l	6.46	1800.00		3063.69	2743.62	2880.31
75 As	# 2	0.4828	0.4828	ug/l	14.16	100.00		81.00	96.00	85.00
78 Se	# 1	0.2416	0.2416	ug/l	5.75	100.00		89.33	88.33	90.67
88 Sr	# 3	1517	1517	ug/l	2.89	1800.00		22676792.00	22177878.00	21980974.00
95 Mo	# 3	2.191	2.191	ug/l	1.36	1800.00		4020.58	4020.55	4017.26
107 Ag	# 3	0.01284	0.01284	ug/l	29.41	100.00		80.00	100.00	60.00
111 Cd	# 3	0.0347	0.0347	ug/l	43.37	100.00		52.05	78.72	45.38
118 Sn	# 3	0.2004	0.2004	ug/l	12.36	1800.00		956.73	860.05	803.38
121 Sb	# 3	0.3074	0.3074	ug/l	5.72	100.00		1193.41	1190.07	1110.07
137 Ba	# 3	3.861	3.861	ug/l	1.18	1800.00		6638.18	6858.24	6748.19
202 Hg	# 3	0.03954	0.03954	ug/l	4.38	5.00		64.00	61.67	61.67
205 Tl	# 3	0.002793	0.002793	ug/l	55.28	20.00		53.34	86.67	53.33
208 Pb	# 3	0.1885	0.1885	ug/l	3.89	1800.00		3416.91	3290.24	3270.23
232 Th	# 3	0.05454	0.05454	ug/l	4.00	#VALUE!		850.05	896.72	846.72
238 U	# 3	0.6357	0.6357	ug/l	4.07	#VALUE!		9216.37	9133.01	8696.04

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	386980.50	0.64	836165.38	46.3	60 - 125	IS F	386652.03	389614.78	384674.63
45 Sc	# 1	490800.75	5.39	552676.25	88.8	60 - 125		484103.81	519971.84	468326.53
45 Sc	# 3	420971.66	0.85	644433.94	65.3	60 - 125		417440.97	420865.56	424608.44
74 Ge	# 1	115744.29	3.55	175321.88	66.0	60 - 125		114951.07	120194.81	112086.99
74 Ge	# 2	17043.63	3.21	27172.50	62.7	60 - 125		17522.98	16446.43	17161.49
74 Ge	# 3	82762.47	0.73	164913.13	50.2	60 - 125	IS F	82373.46	83461.11	82452.83
89 Y	# 3	594719.50	1.33	1068488.30	55.7	60 - 125	IS F	587416.88	593597.69	603143.88
115 In	# 3	509700.78	1.31	1083659.40	47.0	60 - 125	IS F	502317.38	511550.72	515234.16
159 Tb	# 3	820517.69	1.38	1651256.80	49.7	60 - 125	IS F	808389.38	822251.56	830912.19
209 Bi	# 3	370735.25	1.00	1054491.00	35.2	60 - 125	IS F	367386.34	370095.56	374723.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
6 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\107SMPL.D\107SMPL.D#
Date Acquired: Dec 25 2012 07:17 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-17-a
Misc Info: 3010 1/5
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0001974	-0.0001974	ug/l	586.63	100.00		0.00	3.33	0.00
11 B	# 3	858.7	858.7	ug/l	0.69	1800.00		1521231.30	1490147.40	1482218.00
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	252100	252100	ug/l	0.21	81000.00		1011874600.00	1007758100.00	1013056500.00
27 Al	# 1	6.44	6.44	ug/l	1.58	81000.00		30014.09	30277.75	30962.15
39 K	# 2	107200	107200	ug/l	2.12	81000.00		24053930.00	24884826.00	24885084.00
40 Ca	# 1	87760	87760	ug/l	0.68	81000.00		801734140.00	799891900.00	811360320.00
45 Sc	# 2	----	--------		--------	#VALUE!		36399.48	36989.54	39613.96
47 Ti	# 3	1.638	1.638	ug/l	1.75	1620.00		1166.74	1196.74	1156.74
51 V	# 2	0.4119	0.4119	ug/l	7.52	1800.00		716.69	756.69	855.58
52 Cr	# 2	0.0787	0.0787	ug/l	2.85	1800.00		220.00	226.67	241.11
55 Mn	# 3	10.23	10.23	ug/l	0.68	1800.00		102276.02	100047.40	99096.43
56 Fe	# 1	64.84	64.84	ug/l	0.50	81000.00		694893.44	695427.94	688480.44
59 Co	# 3	0.1677	0.1677	ug/l	4.56	1800.00		1343.42	1236.74	1213.41
60 Ni	# 2	0.2713	0.2713	ug/l	10.46	1800.00		221.11	222.23	273.34
63 Cu	# 2	0.2904	0.2904	ug/l	6.57	1800.00		924.48	905.59	1026.70
66 Zn	# 3	2.895	2.895	ug/l	6.72	1800.00		2573.59	2780.28	2866.97
75 As	# 2	0.513	0.513	ug/l	5.31	100.00		86.00	94.33	98.67
78 Se	# 1	0.2444	0.2444	ug/l	6.76	100.00		86.00	95.67	93.00
88 Sr	# 3	1534	1534	ug/l	0.27	1800.00		22203894.00	21960526.00	21739220.00
95 Mo	# 3	1.616	1.616	ug/l	4.36	1800.00		2833.65	2850.31	2993.68
107 Ag	# 3	0.01535	0.01535	ug/l	10.85	100.00		96.67	96.67	80.00
111 Cd	# 3	0.02277	0.02277	ug/l	54.24	100.00		29.09	45.76	55.71
118 Sn	# 3	0.1588	0.1588	ug/l	11.91	1800.00		756.70	740.04	620.03
121 Sb	# 3	0.2844	0.2844	ug/l	5.85	100.00		1063.40	1010.06	1103.40
137 Ba	# 3	3.956	3.956	ug/l	1.16	1800.00		6918.31	6698.15	6588.12
202 Hg	# 3	0.04327	0.04327	ug/l	5.71	5.00		65.33	63.00	67.00
205 Tl	# 3	0.002245	0.002245	ug/l	37.48	20.00		56.67	46.67	66.67
208 Pb	# 3	0.2684	0.2684	ug/l	1.96	1800.00		4623.73	4543.72	4680.42
232 Th	# 3	0.04295	0.04295	ug/l	12.46	#VALUE!		723.37	743.38	593.37
238 U	# 3	0.4868	0.4868	ug/l	2.67	#VALUE!		7015.15	6621.64	6654.95

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	356730.25	1.77	836165.38	42.7	60 - 125	IS F	362945.53	356920.16	350325.03
45 Sc	# 1	488266.69	0.09	552676.25	88.3	60 - 125		488116.00	487936.16	488747.91
45 Sc	# 3	405698.38	1.36	644433.94	63.0	60 - 125		410562.81	406851.19	399681.16
74 Ge	# 1	117210.05	0.21	175321.88	66.9	60 - 125		117496.02	117076.67	117057.47
74 Ge	# 2	17164.47	2.90	27172.50	63.2	60 - 125		16777.79	16989.12	17726.49
74 Ge	# 3	80208.06	0.94	164913.13	48.6	60 - 125	IS F	81049.98	79990.70	79583.51
89 Y	# 3	579544.50	1.10	1068488.30	54.2	60 - 125	IS F	586709.25	577516.81	574407.56
115 In	# 3	496367.75	1.37	1083659.40	45.8	60 - 125	IS F	503303.22	496058.22	489741.88
159 Tb	# 3	807076.00	0.78	1651256.80	48.9	60 - 125	IS F	813585.25	806583.56	801059.31
209 Bi	# 3	363095.88	1.20	1054491.00	34.4	60 - 125	IS F	366384.41	364752.06	358151.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
6 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\108SMPL.D\108SMPL.D#
Date Acquired: Dec 25 2012 07:24 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a
Misc Info: 3010 1/5
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005716	0.005716	ug/l	84.27	100.00		6.67	6.67	20.00
11 B	# 3	865.3	865.3	ug/l	2.91	1800.00		1557039.50	1578018.90	1547201.00
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	217100	217100	ug/l	0.94	81000.00		892055420.00	913056320.00	930388350.00
27 Al	# 1	2.97	2.97	ug/l	1.51	81000.00		14836.01	15489.92	15473.26
39 K	# 2	92500	92500	ug/l	1.49	81000.00		21437234.00	21924530.00	22202030.00
40 Ca	# 1	66200	66200	ug/l	0.19	81000.00		626096700.00	638297980.00	641821570.00
45 Sc	# 2	----	--------		--------	#VALUE!		37147.60	38005.99	38240.88
47 Ti	# 3	1.259	1.259	ug/l	11.13	1620.00		983.39	883.38	960.05
51 V	# 2	0.3834	0.3834	ug/l	1.84	1800.00		758.91	731.13	765.58
52 Cr	# 2	0.09372	0.09372	ug/l	7.73	1800.00		248.89	263.34	282.23
55 Mn	# 3	16.24	16.24	ug/l	5.75	1800.00		170709.02	167691.83	169012.39
56 Fe	# 1	54.18	54.18	ug/l	0.24	81000.00		618098.63	617091.06	622119.25
59 Co	# 3	0.1224	0.1224	ug/l	16.16	1800.00		970.05	880.04	1086.74
60 Ni	# 2	0.2064	0.2064	ug/l	6.05	1800.00		187.78	201.11	186.67
63 Cu	# 2	0.2994	0.2994	ug/l	0.73	1800.00		998.92	985.59	1010.04
66 Zn	# 3	2.934	2.934	ug/l	6.92	1800.00		2930.31	2923.66	2990.33
75 As	# 2	0.3678	0.3678	ug/l	12.87	100.00		77.33	74.33	64.33
78 Se	# 1	0.2045	0.2045	ug/l	9.11	100.00		77.00	88.33	87.67
88 Sr	# 3	1153	1153	ug/l	7.23	1800.00		17613068.00	17259798.00	17287284.00
95 Mo	# 3	0.6275	0.6275	ug/l	9.01	1800.00		1316.75	1166.74	1183.41
107 Ag	# 3	0.008474	0.008474	ug/l	31.74	100.00		56.67	80.00	43.33
111 Cd	# 3	0.02496	0.02496	ug/l	19.45	100.00		42.91	56.30	49.62
118 Sn	# 3	0.1188	0.1188	ug/l	9.69	1800.00		560.02	656.70	603.36
121 Sb	# 3	0.1877	0.1877	ug/l	12.64	100.00		816.71	746.71	820.05
137 Ba	# 3	11.72	11.72	ug/l	5.11	1800.00		21544.16	21467.27	21173.69
202 Hg	# 3	0.04581	0.04581	ug/l	7.05	5.00		75.33	72.33	71.33
205 Tl	# 3	0.002691	0.002691	ug/l	39.35	20.00		73.34	53.34	70.00
208 Pb	# 3	0.03253	0.03253	ug/l	10.90	1800.00		636.69	726.70	710.03
232 Th	# 3	0.0349	0.0349	ug/l	7.94	#VALUE!		616.70	610.03	626.70
238 U	# 3	0.5877	0.5877	ug/l	5.23	#VALUE!		9123.01	8689.35	8552.65

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	369104.56	3.65	836165.38	44.1	60 - 125	IS F	374389.56	379151.44	353772.59
45 Sc	# 1	511350.53	1.19	552676.25	92.5	60 - 125		504723.84	512624.28	516703.44
45 Sc	# 3	424000.44	6.56	644433.94	65.8	60 - 125		426070.31	450730.47	395200.47
74 Ge	# 1	125030.23	0.66	175321.88	71.3	60 - 125		124676.33	124435.86	125978.53
74 Ge	# 2	17657.51	1.43	27172.50	65.0	60 - 125		17579.66	17452.86	17940.01
74 Ge	# 3	85363.84	5.35	164913.13	51.8	60 - 125	IS F	85791.92	89701.11	80598.52
89 Y	# 3	612561.31	7.16	1068488.30	57.3	60 - 125	IS F	617944.75	653476.00	566263.13
115 In	# 3	533803.00	5.80	1083659.40	49.3	60 - 125	IS F	535474.56	563877.38	502057.06
159 Tb	# 3	858183.06	6.33	1651256.80	52.0	60 - 125	IS F	862113.44	910456.44	801979.13
209 Bi	# 3	391365.66	5.28	1054491.00	37.1	60 - 125	IS F	392935.06	411190.00	369971.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
6 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\109SMPL.D\109SMPL.D#
Date Acquired: Dec 25 2012 07:31 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a SD
Misc Info: 3010 1/25
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0025185	-0.0005037	ug/l	124.62	100.00		3.33	0.00	0.00
11 B	# 3	1050.5	210.1	ug/l	6.10	1800.00		640443.75	649948.38	643777.38
23 Na	# 1	----	--------	ug/l	--------	81000.00		3258684400.00	--------	--------
24 Mg	# 1	225150	45030	ug/l	1.15	81000.00		261052000.00	260321860.00	264250290.00
27 Al	# 1	5.69	1.138	ug/l	1.19	81000.00		8818.92	9052.40	9155.76
39 K	# 2	80450	16090	ug/l	3.50	81000.00		5854079.00	5893120.50	6001394.00
40 Ca	# 1	67050	13410	ug/l	0.71	81000.00		175910530.00	178448510.00	180677920.00
45 Sc	# 2	----	--------		--------	#VALUE!		49857.82	50520.70	55590.83
47 Ti	# 3	0.5955	0.1191	ug/l	16.27	1620.00		190.01	153.34	136.67
51 V	# 2	0.3672	0.07344	ug/l	26.08	1800.00		350.01	441.12	383.34
52 Cr	# 2	0.1576	0.03152	ug/l	18.82	1800.00		235.56	208.89	230.00
55 Mn	# 3	15.995	3.199	ug/l	6.22	1800.00		54688.21	55821.20	53995.92
56 Fe	# 1	89.6	17.92	ug/l	0.70	81000.00		328720.63	333161.34	333764.84
59 Co	# 3	0.12665	0.02533	ug/l	7.38	1800.00		373.35	343.35	313.35
60 Ni	# 2	0.872	0.1744	ug/l	10.84	1800.00		268.89	256.67	244.45
63 Cu	# 2	0.3474	0.06948	ug/l	22.74	1800.00		806.69	725.58	815.58
66 Zn	# 3	3.5545	0.7109	ug/l	3.66	1800.00		1380.10	1310.09	1290.09
75 As	# 2	0.30315	0.06063	ug/l	39.12	100.00		36.00	27.33	40.67
78 Se	# 1	0.19985	0.03997	ug/l	14.71	100.00		43.00	49.33	46.67
88 Sr	# 3	1198	239.6	ug/l	6.34	1800.00		5662135.00	5588133.00	5526979.50
95 Mo	# 3	0.656	0.1312	ug/l	12.58	1800.00		473.36	480.02	403.35
107 Ag	# 3	0.011295	0.002259	ug/l	121.34	100.00		73.34	26.67	23.33
111 Cd	# 3	0.032595	0.006519	ug/l	44.73	100.00		46.52	36.51	49.87
118 Sn	# 3	0.1835	0.0367	ug/l	6.36	1800.00		503.36	473.35	476.69
121 Sb	# 3	0.3075	0.0615	ug/l	17.07	100.00		546.69	600.03	570.03
137 Ba	# 3	11.815	2.363	ug/l	5.35	1800.00		7251.74	7081.65	6818.25
202 Hg	# 3	0.031215	0.006243	ug/l	22.55	5.00		53.67	42.67	46.33
205 Tl	# 3	0.003861	0.0007722	ug/l	64.76	20.00		56.67	66.67	66.67
208 Pb	# 3	0.02992	0.005984	ug/l	38.52	1800.00		370.01	366.68	273.34
232 Th	# 3	0.0632	0.01264	ug/l	17.70	#VALUE!		546.69	500.03	423.35
238 U	# 3	0.516	0.1032	ug/l	4.47	#VALUE!		2666.98	2570.30	2693.65

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	624125.75	5.33	836165.38	74.6	60 - 125		658594.56	592206.56	621576.06
45 Sc	# 1	708172.56	1.08	552676.25	128.1	60 - 125	IS F	699389.13	713097.31	712031.25
45 Sc	# 3	637994.75	5.62	644433.94	99.0	60 - 125		674503.56	602821.06	636659.50
74 Ge	# 1	196830.42	0.20	175321.88	112.3	60 - 125		196417.23	197188.84	196885.20
74 Ge	# 2	27467.88	4.85	27172.50	101.1	60 - 125		26369.06	27084.58	28949.99
74 Ge	# 3	138861.36	5.07	164913.13	84.2	60 - 125		146333.48	132369.08	137881.56
89 Y	# 3	947368.50	6.95	1068488.30	88.7	60 - 125		1015674.70	884305.50	942125.38
115 In	# 3	870856.69	5.95	1083659.40	80.4	60 - 125		925539.38	822528.63	864502.25
159 Tb	# 3	1328743.40	7.65	1651256.80	80.5	60 - 125		1425349.60	1222760.80	1338120.00
209 Bi	# 3	669254.13	5.98	1054491.00	63.5	60 - 125		710374.44	630495.00	666892.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\110SMPL.D\110SMPL.D#
Date Acquired: Dec 25 2012 07:39 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a PDS
Misc Info: 3010 1/5
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	20.49	20.49	ug/l	3.41	100.00		33372.24	33342.15	32948.07
11 B	# 3	917.9	917.9	ug/l	2.94	1800.00		1590363.60	1564754.00	1535504.90
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	212700	212700	ug/l	0.59	81000.00		850981820.00	855298820.00	867711230.00
27 Al	# 1	204.5	204.5	ug/l	2.16	81000.00		912206.44	961880.19	945620.94
39 K	# 2	93060	93060	ug/l	1.30	81000.00		20793512.00	21227948.00	21535424.00
40 Ca	# 1	66800	66800	ug/l	0.85	81000.00		609781950.00	612977470.00	624819070.00
45 Sc	# 2	----	--------		--------	#VALUE!		34216.63	36616.56	37091.86
47 Ti	# 3	22.31	22.31	ug/l	7.10	1620.00		15463.38	15650.16	15880.37
51 V	# 2	27.04	27.04	ug/l	2.54	1800.00		41838.73	41652.79	42931.18
52 Cr	# 2	24.81	24.81	ug/l	2.07	1800.00		45775.72	46174.48	46605.57
55 Mn	# 3	252.2	252.2	ug/l	3.67	1800.00		2510483.50	2473971.00	2456952.80
56 Fe	# 1	2217	2217	ug/l	0.21	81000.00		24000810.00	24127732.00	24016130.00
59 Co	# 3	20.8	20.8	ug/l	3.93	1800.00		158122.14	156246.30	155691.20
60 Ni	# 2	20.75	20.75	ug/l	2.93	1800.00		16498.54	16383.99	16569.68
63 Cu	# 2	20.02	20.02	ug/l	2.19	1800.00		41514.22	41812.66	42166.82
66 Zn	# 3	16.81	16.81	ug/l	3.33	1800.00		15620.29	15410.20	15203.32
75 As	# 2	18.72	18.72	ug/l	2.96	100.00		2939.58	2923.91	2944.24
78 Se	# 1	17.01	17.01	ug/l	0.73	100.00		5418.81	5525.51	5505.84
88 Sr	# 3	1175	1175	ug/l	5.27	1800.00		17159574.00	16979860.00	16981370.00
95 Mo	# 3	23.57	23.57	ug/l	5.61	1800.00		44101.76	42638.29	42698.47
107 Ag	# 3	13.48	13.48	ug/l	5.33	100.00		72409.73	72496.04	71950.50
111 Cd	# 3	15.23	15.23	ug/l	5.36	100.00		18252.42	17655.68	17585.62
118 Sn	# 3	20.06	20.06	ug/l	5.14	1800.00		73502.48	72698.97	72066.45
121 Sb	# 3	20.27	20.27	ug/l	5.26	100.00		70011.69	68254.81	67882.93
137 Ba	# 3	33.66	33.66	ug/l	4.99	1800.00		60514.79	58594.80	57912.56
202 Hg	# 3	1.109	1.109	ug/l	5.79	5.00		1286.39	1239.05	1256.05
205 Tl	# 3	3.678	3.678	ug/l	4.33	20.00		46304.98	46268.17	44917.52
208 Pb	# 3	17.87	17.87	ug/l	5.74	1800.00		309796.25	305954.78	305421.13
232 Th	# 3	28.6	28.6	ug/l	4.66	#VALUE!		421014.38	417062.13	413203.84
238 U	# 3	29.92	29.92	ug/l	5.04	#VALUE!		441349.88	435408.69	434733.31

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	348647.88	4.03	836165.38	41.7	60 - 125	IS F	353540.09	359592.75	332810.84
45 Sc	# 1	491128.22	0.66	552676.25	88.9	60 - 125		487448.88	492312.06	493623.72
45 Sc	# 3	404292.38	5.84	644433.94	62.7	60 - 125		411033.78	423809.25	378034.09
74 Ge	# 1	120415.80	0.31	175321.88	68.7	60 - 125		119997.65	120706.54	120543.19
74 Ge	# 2	17016.91	2.80	27172.50	62.6	60 - 125		16468.63	17248.21	17333.89
74 Ge	# 3	80764.71	4.35	164913.13	49.0	60 - 125	IS F	82904.65	82681.27	76708.21
89 Y	# 3	588148.44	5.32	1068488.30	55.0	60 - 125	IS F	599634.19	612050.19	552760.94
115 In	# 3	512689.00	5.62	1083659.40	47.3	60 - 125	IS F	519870.88	537245.50	480950.50
159 Tb	# 3	826874.00	5.87	1651256.80	50.1	60 - 125	IS F	840946.63	866782.81	772892.69
209 Bi	# 3	382609.72	5.22	1054491.00	36.3	60 - 125	IS F	389575.09	398150.78	360103.22

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
6 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\111SMPL.D\111SMPL.D#
Date Acquired: Dec 25 2012 07:46 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-b ms
Misc Info: 3010 1/5
Vial Number: 2501
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.18	10.18	ug/l	0.99	100.00		15509.87	15719.97	15493.15
11 B	# 3	959.6	959.6	ug/l	0.26	1800.00		1531041.60	1547546.50	1547526.90
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	224000	224000	ug/l	0.98	81000.00		877004030.00	882809920.00	887834750.00
27 Al	# 1	957	957	ug/l	1.08	81000.00		4263254.50	4292288.50	4326148.50
39 K	# 2	97150	97150	ug/l	3.06	81000.00		20681744.00	21272724.00	21388856.00
40 Ca	# 1	69250	69250	ug/l	1.05	81000.00		621295620.00	620099970.00	629599170.00
45 Sc	# 2	----	--------		--------	#VALUE!		32446.85	34911.15	35494.39
47 Ti	# 3	22.08	22.08	ug/l	4.87	1620.00		15139.89	14155.70	14999.70
51 V	# 2	27.48	27.48	ug/l	4.17	1800.00		40526.98	40794.24	41327.67
52 Cr	# 2	25.37	25.37	ug/l	3.87	1800.00		44577.32	45253.33	45423.79
55 Mn	# 3	137.8	137.8	ug/l	2.61	1800.00		1320603.40	1295853.90	1274595.90
56 Fe	# 1	1092	1092	ug/l	0.66	81000.00		11637678.00	11531033.00	11586166.00
59 Co	# 3	10.47	10.47	ug/l	2.84	1800.00		76963.31	74308.96	75132.26
60 Ni	# 2	21.12	21.12	ug/l	3.29	1800.00		15731.20	16111.52	16212.72
63 Cu	# 2	20.2	20.2	ug/l	4.12	1800.00		39948.59	40459.77	40466.41
66 Zn	# 3	17.63	17.63	ug/l	2.11	1800.00		15657.07	15426.84	15293.42
75 As	# 2	18.98	18.98	ug/l	3.56	100.00		2793.89	2913.24	2821.89
78 Se	# 1	16.53	16.53	ug/l	0.31	100.00		5241.10	5202.42	5189.08
88 Sr	# 3	1243	1243	ug/l	2.97	1800.00		17450850.00	17183360.00	17083786.00
95 Mo	# 3	24.07	24.07	ug/l	2.37	1800.00		42598.27	41575.70	42130.34
107 Ag	# 3	7.934	7.934	ug/l	2.04	100.00		40891.52	41025.31	40049.48
111 Cd	# 3	7.669	7.669	ug/l	3.21	100.00		8702.10	8722.46	8335.47
118 Sn	# 3	20.23	20.23	ug/l	2.39	1800.00		71002.05	70031.72	69254.84
121 Sb	# 3	10.44	10.44	ug/l	2.73	100.00		34354.66	34080.73	33199.07
137 Ba	# 3	34.81	34.81	ug/l	1.94	1800.00		58768.75	58269.98	57845.66
202 Hg	# 3	1.245	1.245	ug/l	2.64	5.00		1383.73	1347.06	1356.06
205 Tl	# 3	7.358	7.358	ug/l	2.73	20.00		89552.08	88429.23	87112.16
208 Pb	# 3	8.998	8.998	ug/l	2.80	1800.00		151405.78	148064.83	148124.97
232 Th	# 3	28.74	28.74	ug/l	1.92	#VALUE!		407140.84	403795.72	401171.16
238 U	# 3	30.84	30.84	ug/l	1.74	#VALUE!		436871.53	433455.78	432526.03

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	328713.19	0.84	836165.38	39.3	60 - 125	IS F	325587.72	329780.34	330771.50
45 Sc	# 1	479809.94	0.39	552676.25	86.8	60 - 125		481956.13	478788.94	478684.78
45 Sc	# 3	384178.91	1.63	644433.94	59.6	60 - 125	IS F	376968.75	388307.97	387260.00
74 Ge	# 1	117753.56	0.82	175321.88	67.2	60 - 125		118784.28	117597.72	116878.70
74 Ge	# 2	16258.43	4.71	27172.50	59.8	60 - 125	IS F	15375.47	16746.62	16653.21
74 Ge	# 3	77219.27	1.03	164913.13	46.8	60 - 125	IS F	76350.23	77913.48	77394.06
89 Y	# 3	561743.63	1.86	1068488.30	52.6	60 - 125	IS F	549687.69	567693.94	567849.25
115 In	# 3	488945.09	1.21	1083659.40	45.1	60 - 125	IS F	482121.13	492872.22	491841.97
159 Tb	# 3	796020.75	1.50	1651256.80	48.2	60 - 125	IS F	782358.13	804490.94	801213.19
209 Bi	# 3	368234.25	1.20	1054491.00	34.9	60 - 125	IS F	363125.44	370601.50	370975.78

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
8 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\112SMPL.D\112SMPL.D#
Date Acquired: Dec 25 2012 07:54 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-c msd
Misc Info: 3010 1/5
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.27	10.27	ug/l	0.98	100.00		15506.50	15746.72	15296.27
11 B	# 3	955.7	955.7	ug/l	1.46	1800.00		1517853.10	1513537.30	1517201.40
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	224700	224700	ug/l	0.31	81000.00		868109180.00	873696700.00	881006140.00
27 Al	# 1	970.1	970.1	ug/l	0.61	81000.00		4269999.00	4280306.00	4343331.50
39 K	# 2	96230	96230	ug/l	0.13	81000.00		20543044.00	20883166.00	21127014.00
40 Ca	# 1	69230	69230	ug/l	0.62	81000.00		611369920.00	613204990.00	622296640.00
45 Sc	# 2	----	--------		--------	#VALUE!		33551.96	34042.86	35146.05
47 Ti	# 3	22.09	22.09	ug/l	2.99	1620.00		14709.44	14459.19	14912.96
51 V	# 2	27.3	27.3	ug/l	0.85	1800.00		40097.22	40690.71	40694.07
52 Cr	# 2	25.14	25.14	ug/l	0.45	1800.00		44044.96	44381.28	45241.11
55 Mn	# 3	136.1	136.1	ug/l	0.95	1800.00		1280097.10	1271096.40	1264367.00
56 Fe	# 1	1095	1095	ug/l	0.55	81000.00		11492485.00	11487048.00	11576801.00
59 Co	# 3	10.47	10.47	ug/l	0.26	1800.00		76139.44	74848.17	73692.94
60 Ni	# 2	21.12	21.12	ug/l	0.84	1800.00		15865.72	15861.29	16196.03
63 Cu	# 2	20.53	20.53	ug/l	0.21	1800.00		40096.67	40870.57	41501.97
66 Zn	# 3	17.51	17.51	ug/l	1.90	1800.00		15136.56	15326.77	15236.71
75 As	# 2	18.65	18.65	ug/l	1.36	100.00		2781.89	2779.55	2791.89
78 Se	# 1	16.83	16.83	ug/l	0.96	100.00		5321.45	5220.09	5232.43
88 Sr	# 3	1223	1223	ug/l	1.41	1800.00		17139666.00	16917576.00	16795264.00
95 Mo	# 3	23.95	23.95	ug/l	1.99	1800.00		42581.68	41392.17	41382.10
107 Ag	# 3	7.89	7.89	ug/l	1.50	100.00		41018.65	40243.38	39722.25
111 Cd	# 3	7.632	7.632	ug/l	2.96	100.00		8492.04	8402.34	8672.50
118 Sn	# 3	20.1	20.1	ug/l	1.13	1800.00		69579.30	69559.84	69281.61
121 Sb	# 3	10.49	10.49	ug/l	1.19	100.00		34207.89	33893.81	33706.90
137 Ba	# 3	34.27	34.27	ug/l	1.55	1800.00		58347.24	57270.35	56139.76
202 Hg	# 3	1.232	1.232	ug/l	0.52	5.00		1344.06	1349.39	1327.73
205 Tl	# 3	7.337	7.337	ug/l	0.56	20.00		88633.59	88513.16	87427.16
208 Pb	# 3	8.949	8.949	ug/l	1.32	1800.00		150402.53	147614.19	147585.52
232 Th	# 3	28.88	28.88	ug/l	0.57	#VALUE!		405966.94	404263.72	400289.38
238 U	# 3	31.02	31.02	ug/l	1.18	#VALUE!		439591.88	431307.44	431613.78

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	324550.06	1.40	836165.38	38.8	60 - 125	IS F	327796.31	326497.09	319356.81
45 Sc	# 1	473754.59	0.51	552676.25	85.7	60 - 125		471054.00	474508.03	475701.78
45 Sc	# 3	382091.59	1.44	644433.94	59.3	60 - 125	IS F	382391.88	387444.88	376437.97
74 Ge	# 1	116677.88	0.13	175321.88	66.6	60 - 125		116819.34	116693.14	116521.20
74 Ge	# 2	16193.18	1.52	27172.50	59.6	60 - 125	IS F	15941.49	16206.14	16431.90
74 Ge	# 3	76620.65	1.54	164913.13	46.5	60 - 125	IS F	77708.89	76790.41	75362.66
89 Y	# 3	561103.38	1.19	1068488.30	52.5	60 - 125	IS F	559826.06	568327.94	555156.19
115 In	# 3	487690.47	1.34	1083659.40	45.0	60 - 125	IS F	488469.72	493787.06	480814.47
159 Tb	# 3	796618.50	1.26	1651256.80	48.2	60 - 125	IS F	800830.63	803830.94	785194.13
209 Bi	# 3	365947.56	0.37	1054491.00	34.7	60 - 125	IS F	365844.22	367360.94	364637.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
8 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\113SMPL.D\113SMPL.D#
Date Acquired: Dec 25 2012 08:01 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-19-a
Misc Info: 3010 1/5
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.002112	0.002112	ug/l	160.37	100.00		10.00	3.33	0.00
11 B	# 3	942.9	942.9	ug/l	1.05	1800.00		1484038.90	1438554.10	1456911.10
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	226800	226800	ug/l	1.33	81000.00		882975550.00	896378560.00	897128700.00
27 Al	# 1	2.263	2.263	ug/l	7.13	81000.00		12014.04	10833.35	10563.15
39 K	# 2	96770	96770	ug/l	0.86	81000.00		20731150.00	21005966.00	21380980.00
40 Ca	# 1	68760	68760	ug/l	1.10	81000.00		613136060.00	621590270.00	619746050.00
45 Sc	# 2	----	--------		--------	#VALUE!		34052.96	35248.59	34953.48
47 Ti	# 3	1.122	1.122	ug/l	6.54	1620.00		736.70	790.04	746.71
51 V	# 2	0.414	0.414	ug/l	10.05	1800.00		672.24	726.69	814.47
52 Cr	# 2	0.07988	0.07988	ug/l	53.43	1800.00		161.11	188.89	308.90
55 Mn	# 3	20.14	20.14	ug/l	1.25	1800.00		190049.19	188938.45	188699.00
56 Fe	# 1	46.17	46.17	ug/l	0.56	81000.00		505306.28	499526.56	496301.97
59 Co	# 3	0.1392	0.1392	ug/l	4.25	1800.00		980.06	993.39	1050.06
60 Ni	# 2	0.3256	0.3256	ug/l	21.17	1800.00		215.56	260.00	326.67
63 Cu	# 2	0.08072	0.08072	ug/l	28.68	1800.00		448.90	464.45	544.46
66 Zn	# 3	2.502	2.502	ug/l	7.43	1800.00		2220.19	2436.89	2203.53
75 As	# 2	0.3894	0.3894	ug/l	5.50	100.00		66.00	68.67	74.00
78 Se	# 1	0.2291	0.2291	ug/l	1.43	100.00		87.00	87.33	88.33
88 Sr	# 3	1226	1226	ug/l	2.36	1800.00		16898904.00	16753398.00	16836776.00
95 Mo	# 3	0.7389	0.7389	ug/l	5.71	1800.00		1373.43	1346.76	1226.74
107 Ag	# 3	0.006106	0.006106	ug/l	28.19	100.00		43.33	50.00	33.33
111 Cd	# 3	0.0237	0.0237	ug/l	44.05	100.00		42.90	32.90	56.28
118 Sn	# 3	0.2317	0.2317	ug/l	6.48	1800.00		1033.40	906.72	900.05
121 Sb	# 3	0.1854	0.1854	ug/l	13.18	100.00		750.04	780.04	636.70
137 Ba	# 3	12.49	12.49	ug/l	1.49	1800.00		21220.35	20763.15	20719.83
202 Hg	# 3	0.05415	0.05415	ug/l	8.52	5.00		73.33	80.00	72.67
205 Tl	# 3	0.03732	0.03732	ug/l	9.48	20.00		523.36	416.68	483.36
208 Pb	# 3	0.008327	0.008327	ug/l	25.46	1800.00		246.68	200.01	273.34
232 Th	# 3	0.1866	0.1866	ug/l	6.47	#VALUE!		2807.01	2663.65	2423.60
238 U	# 3	0.628	0.628	ug/l	3.79	#VALUE!		8355.90	8686.04	8666.07

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	316687.56	1.62	836165.38	37.9	60 - 125	IS F	322427.25	315073.59	312561.91
45 Sc	# 1	478968.72	0.51	552676.25	86.7	60 - 125		481082.72	479552.84	476270.69
45 Sc	# 3	380283.91	3.12	644433.94	59.0	60 - 125	IS F	393830.78	371640.78	375380.16
74 Ge	# 1	118281.51	0.39	175321.88	67.5	60 - 125		118703.78	118354.05	117786.68
74 Ge	# 2	16248.85	1.68	27172.50	59.8	60 - 125	IS F	15933.69	16385.39	16427.46
74 Ge	# 3	76910.68	1.51	164913.13	46.6	60 - 125	IS F	78082.25	75754.25	76895.54
89 Y	# 3	556084.63	2.78	1068488.30	52.0	60 - 125	IS F	573735.81	544924.56	549593.50
115 In	# 3	488518.13	2.62	1083659.40	45.1	60 - 125	IS F	502585.09	477477.38	485491.91
159 Tb	# 3	790384.50	2.67	1651256.80	47.9	60 - 125	IS F	813195.31	771471.44	786486.88
209 Bi	# 3	356739.44	1.67	1054491.00	33.8	60 - 125	IS F	363581.88	352848.94	353787.53

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
8 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\114_CCV.D\114_CCV.D#
Date Acquired: Dec 25 2012 08:08 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	55.77 ug/l	2.15	50.00	90 - 110	Fail	149051.52	153220.28	152020.36
11 B	127.7 ug/l	2.45	100.00	90 - 110	Fail	365255.50	373018.78	369627.44
23 Na	5156 ug/l	0.58	5000.00	90 - 110		45508480.00	45962792.00	46490992.00
24 Mg	4990 ug/l	1.27	5000.00	90 - 110		29464926.00	29983592.00	30532900.00
27 Al	485.9 ug/l	1.33	500.00	90 - 110		3263825.30	3329868.30	3384107.80
39 K	5244 ug/l	0.29	5000.00	90 - 110		2057667.00	2078895.00	2098722.00
40 Ca	4841 ug/l	1.39	5000.00	90 - 110		65553872.00	66149212.00	68062568.00
45 Sc	--------	--------		--- ##### - #####		50556.32	51159.03	51797.49
47 Ti	50.26 ug/l	1.18	50.00	90 - 110		54463.32	53734.28	54282.70
51 V	52.69 ug/l	0.35	50.00	90 - 110		141162.47	141890.80	143181.47
52 Cr	53.03 ug/l	0.86	50.00	90 - 110		170551.78	170966.78	171271.95
55 Mn	519.3 ug/l	1.35	500.00	90 - 110		9556131.00	9720275.00	9686296.00
56 Fe	5125 ug/l	0.54	5000.00	90 - 110		104994920.00	106118300.00	106886600.00
59 Co	48.61 ug/l	0.79	50.00	90 - 110		690402.94	697734.31	688167.81
60 Ni	54.72 ug/l	0.45	50.00	90 - 110		74526.46	75417.79	75874.00
63 Cu	55.2 ug/l	0.89	50.00	90 - 110	Fail	199120.23	197584.00	199895.77
66 Zn	49.8 ug/l	1.45	50.00	90 - 110		86293.38	87100.13	84143.38
75 As	49.73 ug/l	0.90	50.00	90 - 110		13395.24	13552.02	13512.00
78 Se	50.32 ug/l	0.12	50.00	90 - 110		30710.43	30776.55	31123.46
88 Sr	52.22 ug/l	1.88	50.00	90 - 110		1269956.30	1302769.10	1284339.60
95 Mo	49.24 ug/l	2.94	50.00	90 - 110		175210.36	172744.14	173046.89
107 Ag	50.13 ug/l	2.61	50.00	90 - 110		520770.19	517354.53	515866.44
111 Cd	49.67 ug/l	2.39	50.00	90 - 110		112904.84	112100.78	110943.29
118 Sn	50.57 ug/l	1.92	50.00	90 - 110		353479.06	355595.78	350247.03
121 Sb	51.71 ug/l	2.09	50.00	90 - 110		336105.53	339850.16	336472.97
137 Ba	50.96 ug/l	3.21	50.00	90 - 110		172674.58	170860.16	172735.19
202 Hg	2.462 ug/l	0.28	2.50	90 - 110		6352.27	6314.93	6275.91
205 Tl	9.73 ug/l	2.52	10.00	90 - 110		224066.30	218240.09	218439.36
208 Pb	48.29 ug/l	1.57	50.00	90 - 110		1511024.80	1511495.90	1503932.90
232 Th	49.72 ug/l	2.02		--- ##### - #####		1668913.50	1616524.10	1662292.60
238 U	49.86 ug/l	1.05		--- ##### - #####		1660700.80	1648565.00	1661693.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	583574.81	3.46	836165.38	69.8	60 - 125		564658.44	604850.25	581215.56
45 Sc	731866.56	0.59	552676.25	132.4	60 - 125	IS Fail	729054.38	729712.88	736832.56
45 Sc	619304.06	0.48	644433.94	96.1	60 - 125		617135.63	622693.31	618083.25
74 Ge	229618.34	0.75	175321.88	131.0	60 - 125	IS Fail	228638.22	228611.63	231605.20
74 Ge	29480.51	1.06	27172.50	108.5	60 - 125		29223.40	29390.39	29827.75
74 Ge	152518.47	0.55	164913.13	92.5	60 - 125		153342.05	152538.02	151675.36
89 Y	996764.88	2.71	1068488.30	93.3	60 - 125		987428.13	1027163.80	975702.69
115 In	986578.44	2.65	1083659.40	91.0	60 - 125		980454.75	1015203.90	964076.44
159 Tb	1500530.90	1.30	1651256.80	90.9	60 - 125		1486164.50	1492604.80	1522823.50
209 Bi	868934.81	0.82	1054491.00	82.4	60 - 125		874788.13	871015.00	861001.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\115_CCB.D\115_CCB.D#
Date Acquired: Dec 25 2012 08:16 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.003755	0.003755	ug/l	29.61	#VALUE!		16.67	10.00	13.33
11 B	# 3	10.55	10.55	ug/l	3.16	#VALUE!		37791.32	38258.73	38091.77
23 Na	# 1	136.4	136.4	ug/l	4.16	#VALUE!		1354886.30	1319339.00	1295413.90
24 Mg	# 1	0.9887	0.9887	ug/l	6.52	#VALUE!		6884.78	6351.22	6384.58
27 Al	# 1	0.03888	0.03888	ug/l	41.15	#VALUE!		1866.81	1680.12	1770.13
39 K	# 2	3.941	3.941	ug/l	53.77	#VALUE!		12120.86	11964.13	12164.26
40 Ca	# 1	6.165	6.165	ug/l	2.00	#VALUE!		171423.98	175614.53	175565.34
45 Sc	# 2	----	--------		--------	#VALUE!		49410.07	54628.53	45771.18
47 Ti	# 3	0.002907	0.002907	ug/l	395.60	#VALUE!		20.00	43.33	26.67
51 V	# 2	0.006198	0.006198	ug/l	216.36	#VALUE!		266.67	216.67	251.12
52 Cr	# 2	0.007088	0.007088	ug/l	33.59	#VALUE!		175.56	172.22	154.45
55 Mn	# 3	0.05033	0.05033	ug/l	8.10	#VALUE!		1786.81	1900.16	1926.83
56 Fe	# 1	0.7355	0.7355	ug/l	2.68	#VALUE!		31494.06	32188.60	32465.58
59 Co	# 3	0.004587	0.004587	ug/l	28.67	#VALUE!		76.67	70.00	106.67
60 Ni	# 2	0.008097	0.008097	ug/l	123.24	#VALUE!		47.78	67.78	33.33
63 Cu	# 2	0.02096	0.02096	ug/l	99.57	#VALUE!		595.57	795.58	666.69
66 Zn	# 3	0.0228	0.0228	ug/l	81.80	#VALUE!		250.01	313.34	290.01
75 As	# 2	0.01542	0.01542	ug/l	80.09	#VALUE!		25.33	23.67	27.33
78 Se	# 1	0.04564	0.04564	ug/l	6.12	#VALUE!		59.67	56.33	57.67
88 Sr	# 3	0.006564	0.006564	ug/l	17.29	#VALUE!		203.34	250.01	223.34
95 Mo	# 3	0.04811	0.04811	ug/l	18.30	#VALUE!		210.01	216.67	263.34
107 Ag	# 3	0.00823	0.00823	ug/l	21.84	#VALUE!		120.00	126.67	90.00
111 Cd	# 3	0.009112	0.009112	ug/l	140.36	#VALUE!		76.60	23.26	76.58
118 Sn	# 3	0.03169	0.03169	ug/l	9.21	#VALUE!		550.03	550.03	513.36
121 Sb	# 3	0.2642	0.2642	ug/l	6.35	#VALUE!		2046.85	2150.20	1986.85
137 Ba	# 3	0.004332	0.004332	ug/l	80.59	#VALUE!		40.00	20.00	43.33
202 Hg	# 3	0.01579	0.01579	ug/l	10.35	#VALUE!		89.00	93.33	96.33
205 Tl	# 3	0.01138	0.01138	ug/l	7.32	#VALUE!		330.01	333.35	296.68
208 Pb	# 3	0.004582	0.004582	ug/l	9.50	#VALUE!		366.68	333.35	340.01
232 Th	# 3	0.1125	0.1125	ug/l	2.51	#VALUE!		4414.11	4257.38	4140.69
238 U	# 3	0.008657	0.008657	ug/l	4.08	#VALUE!		310.01	330.01	320.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	618619.38	2.30	836165.38	74.0	60 - 125		619886.06	603816.19	632155.88
45 Sc	# 1	723719.38	1.54	552676.25	130.9	60 - 125	IS I	713505.81	722031.38	735620.94
45 Sc	# 3	625970.50	1.54	644433.94	97.1	60 - 125		635545.56	616290.19	626075.75
74 Ge	# 1	231079.77	0.87	175321.88	131.8	60 - 125	IS I	230313.66	229571.20	233354.44
74 Ge	# 2	30299.41	6.30	27172.50	111.5	60 - 125		30144.93	32279.82	28473.50
74 Ge	# 3	157512.83	0.43	164913.13	95.5	60 - 125		157999.20	156730.30	157808.95
89 Y	# 3	1024772.70	2.74	1068488.30	95.9	60 - 125		1057137.30	1006428.20	1010752.80
115 In	# 3	1031496.40	2.77	1083659.40	95.2	60 - 125		1064170.90	1010900.60	1019417.60
159 Tb	# 3	1537689.00	1.06	1651256.80	93.1	60 - 125		1556526.30	1527558.80	1528982.00
209 Bi	# 3	939839.13	0.96	1054491.00	89.1	60 - 125		950223.75	934753.94	934539.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
2 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\116SMPL.D\116SMPL.D#
Date Acquired: Dec 25 2012 08:23 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-20-a
Misc Info: 3010 1/5
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0005861	0.0005861	ug/l	214.81	100.00		3.33	0.00	3.33
11 B	# 3	732.2	732.2	ug/l	4.87	1800.00		1152953.50	1177201.50	1147805.10
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	205700	205700	ug/l	0.59	81000.00		805014140.00	816424060.00	820231740.00
27 Al	# 1	2.98	2.98	ug/l	2.17	81000.00		14012.12	14662.69	14605.87
39 K	# 2	86590	86590	ug/l	3.29	81000.00		19227736.00	19549988.00	19790020.00
40 Ca	# 1	94990	94990	ug/l	0.93	81000.00		845139330.00	866791870.00	865223100.00
45 Sc	# 2	----	--------		--------	#VALUE!		34565.00	35110.48	38533.26
47 Ti	# 3	0.8522	0.8522	ug/l	11.97	1620.00		583.36	643.37	563.36
51 V	# 2	0.3977	0.3977	ug/l	6.15	1800.00		742.24	738.91	735.58
52 Cr	# 2	1.514	1.514	ug/l	4.13	1800.00		2759.12	2951.37	2892.47
55 Mn	# 3	4.875	4.875	ug/l	4.32	1800.00		47868.50	48262.95	47842.10
56 Fe	# 1	16.51	16.51	ug/l	0.66	81000.00		183805.13	185552.83	184504.86
59 Co	# 3	0.1688	0.1688	ug/l	4.30	1800.00		1266.75	1230.07	1313.42
60 Ni	# 2	0.869	0.869	ug/l	4.15	1800.00		658.91	730.02	724.47
63 Cu	# 2	0.06419	0.06419	ug/l	6.37	1800.00		446.68	460.01	504.46
66 Zn	# 3	2.34	2.34	ug/l	2.54	1800.00		2303.55	2123.52	2280.22
75 As	# 2	24.51	24.51	ug/l	4.10	100.00		3783.07	3803.07	3826.74
78 Se	# 1	0.2143	0.2143	ug/l	3.54	100.00		81.33	85.67	82.00
88 Sr	# 3	1631	1631	ug/l	5.23	1800.00		23710116.00	23488370.00	23221978.00
95 Mo	# 3	2.515	2.515	ug/l	6.46	1800.00		4617.40	4684.07	4527.37
107 Ag	# 3	0.007583	0.007583	ug/l	11.54	100.00		60.00	50.00	46.67
111 Cd	# 3	0.01371	0.01371	ug/l	43.38	100.00		28.52	38.50	35.22
118 Sn	# 3	0.2002	0.2002	ug/l	10.82	1800.00		880.05	916.72	823.38
121 Sb	# 3	0.3885	0.3885	ug/l	4.08	100.00		1466.77	1386.76	1466.78
137 Ba	# 3	6.248	6.248	ug/l	3.41	1800.00		11300.71	10777.05	10710.35
202 Hg	# 3	0.03675	0.03675	ug/l	10.10	5.00		59.67	57.67	64.00
205 Tl	# 3	0.008323	0.008323	ug/l	4.54	20.00		143.34	130.00	126.67
208 Pb	# 3	0.01244	0.01244	ug/l	10.31	1800.00		356.68	280.01	326.68
232 Th	# 3	0.1266	0.1266	ug/l	1.81	#VALUE!		2060.20	1810.16	1893.51
238 U	# 3	0.1166	0.1166	ug/l	13.05	#VALUE!		1563.47	1840.17	1640.13

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	324055.84	4.08	836165.38	38.8	60 - 125	IS F	339055.78	314119.44	318992.25
45 Sc	# 1	481762.91	0.49	552676.25	87.2	60 - 125		479099.44	483669.00	482520.22
45 Sc	# 3	392699.31	5.64	644433.94	60.9	60 - 125		416218.16	372215.81	389663.94
74 Ge	# 1	118431.21	0.23	175321.88	67.6	60 - 125		118722.77	118377.27	118193.59
74 Ge	# 2	16867.16	4.72	27172.50	62.1	60 - 125		16169.44	16698.82	17733.21
74 Ge	# 3	80090.58	3.94	164913.13	48.6	60 - 125	IS F	83501.38	77284.27	79486.09
89 Y	# 3	583590.44	5.88	1068488.30	54.6	60 - 125	IS F	621449.75	554440.81	574880.75
115 In	# 3	510979.69	5.74	1083659.40	47.2	60 - 125	IS F	542665.13	484820.72	505453.22
159 Tb	# 3	823428.31	5.78	1651256.80	49.9	60 - 125	IS F	874870.63	780989.88	814424.44
209 Bi	# 3	377676.75	4.90	1054491.00	35.8	60 - 125	IS F	398080.03	361934.97	373015.28

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
6 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\117SMPL.D\117SMPL.D#
Date Acquired: Dec 25 2012 08:31 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-21-a
Misc Info: 3010 1/5
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.007697	0.007697	ug/l	35.61	100.00		33.33	16.67	23.33
11 B	# 3	11.36	11.36	ug/l	2.06	1800.00		40399.37	40142.28	39310.55
23 Na	# 1	424	424	ug/l	0.54	81000.00		3959783.30	3934811.50	3997822.80
24 Mg	# 1	43.64	43.64	ug/l	0.76	81000.00		268084.91	265132.53	269207.41
27 Al	# 1	1.589	1.589	ug/l	1.61	81000.00		12491.09	12784.60	12557.73
39 K	# 2	14.72	14.72	ug/l	7.30	81000.00		16050.55	16614.39	16651.04
40 Ca	# 1	27.33	27.33	ug/l	1.04	81000.00		475508.00	474955.66	474206.50
45 Sc	# 2	----	--------		--------	#VALUE!		49513.60	52695.13	48951.07
47 Ti	# 3	0.3452	0.3452	ug/l	12.81	1620.00		446.68	353.35	420.02
51 V	# 2	0.2364	0.2364	ug/l	1.36	1800.00		866.70	918.92	857.81
52 Cr	# 2	0.1054	0.1054	ug/l	2.47	1800.00		493.34	502.23	478.90
55 Mn	# 3	0.04292	0.04292	ug/l	12.47	1800.00		1863.48	1633.45	1716.80
56 Fe	# 1	2.739	2.739	ug/l	0.79	81000.00		74292.49	75310.06	75759.18
59 Co	# 3	0.002982	0.002982	ug/l	18.97	1800.00		60.00	53.33	70.00
60 Ni	# 2	0.2777	0.2777	ug/l	1.29	1800.00		426.68	443.34	416.68
63 Cu	# 2	0.6031	0.6031	ug/l	3.40	1800.00		2815.79	2829.13	2830.24
66 Zn	# 3	0.7859	0.7859	ug/l	2.76	1800.00		1630.12	1680.13	1630.12
75 As	# 2	0.1115	0.1115	ug/l	16.47	100.00		52.00	48.33	56.00
78 Se	# 1	0.01774	0.01774	ug/l	47.89	100.00		46.00	35.67	42.67
88 Sr	# 3	0.2385	0.2385	ug/l	5.35	1800.00		6114.55	6374.66	5994.50
95 Mo	# 3	0.03505	0.03505	ug/l	33.01	1800.00		143.34	223.34	180.01
107 Ag	# 3	0.007384	0.007384	ug/l	2.82	100.00		103.34	103.34	103.34
111 Cd	# 3	-0.002506	-0.002506	ug/l	179.93	100.00		19.95	39.93	33.28
118 Sn	# 3	0.1493	0.1493	ug/l	8.27	1800.00		1330.09	1453.44	1413.44
121 Sb	# 3	0.2273	0.2273	ug/l	11.95	100.00		1830.14	1633.46	1983.51
137 Ba	# 3	0.1334	0.1334	ug/l	13.77	1800.00		476.69	440.02	556.69
202 Hg	# 3	0.006024	0.006024	ug/l	11.47	5.00		68.00	63.67	63.33
205 Tl	# 3	0.004287	0.004287	ug/l	28.88	20.00		190.01	150.01	130.00
208 Pb	# 3	0.006578	0.006578	ug/l	8.38	1800.00		400.02	410.01	430.02
232 Th	# 3	0.03417	0.03417	ug/l	2.59	#VALUE!		1456.78	1463.46	1393.44
238 U	# 3	0.0012	0.0012	ug/l	36.18	#VALUE!		36.67	66.67	50.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	610439.50	2.42	836165.38	73.0	60 - 125		627495.44	602260.75	601562.25
45 Sc	# 1	744488.38	0.70	552676.25	134.7	60 - 125	IS F	740129.44	743086.06	750249.69
45 Sc	# 3	632072.81	0.87	644433.94	98.1	60 - 125		635630.38	634855.75	625732.31
74 Ge	# 1	235425.56	0.41	175321.88	134.3	60 - 125	IS F	234460.70	235430.61	236385.41
74 Ge	# 2	30218.57	2.83	27172.50	111.2	60 - 125		29727.56	31204.99	29723.16
74 Ge	# 3	158262.45	0.75	164913.13	96.0	60 - 125		159578.00	157279.22	157930.16
89 Y	# 3	1036341.30	3.43	1068488.30	97.0	60 - 125		1077265.00	1012609.10	1019149.80
115 In	# 3	1034509.30	2.20	1083659.40	95.5	60 - 125		1060518.50	1025099.90	1017909.40
159 Tb	# 3	1548760.10	1.71	1651256.80	93.8	60 - 125		1572620.40	1520251.60	1553408.50
209 Bi	# 3	925012.69	1.13	1054491.00	87.7	60 - 125		936749.75	921684.56	916603.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\118SMPL.D\118SMPL.D#
Date Acquired: Dec 25 2012 08:38 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-22-a
Misc Info: 3010 1/5
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.002462	0.002462	ug/l	153.53	100.00		10.00	3.33	0.00
11 B	# 3	937.3	937.3	ug/l	1.40	1800.00		1306945.00	1307988.50	1297659.50
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	266100	266100	ug/l	1.33	81000.00		947773630.00	932314110.00	954553340.00
27 Al	# 1	9.156	9.156	ug/l	0.59	81000.00		37744.23	37720.99	38275.40
39 K	# 2	112500	112500	ug/l	1.13	81000.00		22081364.00	22629082.00	22922996.00
40 Ca	# 1	91360	91360	ug/l	1.05	81000.00		743553860.00	734801980.00	746000320.00
45 Sc	# 2	----	--------		--------	#VALUE!		31310.40	32285.35	32335.46
47 Ti	# 3	1.056	1.056	ug/l	5.22	1620.00		623.36	666.70	696.70
51 V	# 2	0.527	0.527	ug/l	3.31	1800.00		846.70	802.25	853.36
52 Cr	# 2	0.08624	0.08624	ug/l	14.87	1800.00		197.78	234.45	204.45
55 Mn	# 3	6.487	6.487	ug/l	0.76	1800.00		57268.46	56008.02	55804.49
56 Fe	# 1	58.41	58.41	ug/l	0.31	81000.00		565250.06	562735.31	563466.38
59 Co	# 3	0.1892	0.1892	ug/l	4.65	1800.00		1316.75	1273.42	1183.40
60 Ni	# 2	0.325	0.325	ug/l	3.84	1800.00		244.45	251.12	241.11
63 Cu	# 2	0.4646	0.4646	ug/l	3.96	1800.00		1146.71	1163.38	1133.38
66 Zn	# 3	3.517	3.517	ug/l	2.02	1800.00		2913.66	2980.34	2850.31
75 As	# 2	0.5233	0.5233	ug/l	4.79	100.00		81.00	78.67	88.00
78 Se	# 1	0.2246	0.2246	ug/l	2.70	100.00		75.00	78.33	77.67
88 Sr	# 3	1616	1616	ug/l	1.54	1800.00		20958216.00	20817436.00	20528928.00
95 Mo	# 3	1.928	1.928	ug/l	4.89	1800.00		3277.06	3133.71	2987.00
107 Ag	# 3	0.0303	0.0303	ug/l	4.78	100.00		156.67	156.67	146.67
111 Cd	# 3	0.0275	0.0275	ug/l	23.89	100.00		38.95	42.33	52.38
118 Sn	# 3	0.1443	0.1443	ug/l	8.84	1800.00		550.03	610.03	623.36
121 Sb	# 3	0.3577	0.3577	ug/l	2.22	100.00		1213.42	1150.07	1180.07
137 Ba	# 3	5.112	5.112	ug/l	0.71	1800.00		7932.10	7872.05	7912.07
202 Hg	# 3	0.0411	0.0411	ug/l	11.53	5.00		62.67	54.67	54.00
205 Tl	# 3	0.005448	0.005448	ug/l	34.78	20.00		100.00	96.67	63.34
208 Pb	# 3	0.2235	0.2235	ug/l	3.60	1800.00		3556.92	3546.95	3400.26
232 Th	# 3	0.07257	0.07257	ug/l	3.68	#VALUE!		1033.41	993.40	963.39
238 U	# 3	0.6195	0.6195	ug/l	0.83	#VALUE!		7838.90	7715.49	7915.61

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	284624.34	1.36	836165.38	34.0	60 - 125	IS F	288805.34	281178.09	283889.63
45 Sc	# 1	432385.22	0.69	552676.25	78.2	60 - 125		429096.31	433082.28	434977.09
45 Sc	# 3	352109.50	0.88	644433.94	54.6	60 - 125	IS F	351402.88	349429.94	355495.72
74 Ge	# 1	105734.98	0.08	175321.88	60.3	60 - 125		105665.59	105829.98	105709.35
74 Ge	# 2	14978.06	1.82	27172.50	55.1	60 - 125	IS F	14798.29	14845.00	15290.90
74 Ge	# 3	70769.10	0.81	164913.13	42.9	60 - 125	IS F	71326.63	70794.16	70186.52
89 Y	# 3	520326.91	0.77	1068488.30	48.7	60 - 125	IS F	521657.59	515829.38	523493.84
115 In	# 3	451079.88	1.02	1083659.40	41.6	60 - 125	IS F	453081.91	445796.41	454361.34
159 Tb	# 3	732022.88	1.26	1651256.80	44.3	60 - 125	IS F	734094.94	721928.00	740045.81
209 Bi	# 3	330010.88	0.68	1054491.00	31.3	60 - 125	IS F	331734.91	327494.63	330803.16

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
8 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\119SMPL.D\119SMPL.D#
Date Acquired: Dec 25 2012 08:46 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-23-a
Misc Info: 3010 1/5
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	6.31E-006	6.31E-006	ug/l	23958.00	100.00		0.00	3.33	0.00
11 B	# 3	939.2	939.2	ug/l	0.97	1800.00		1277992.10	1258801.40	1246756.90
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	268300	268300	ug/l	0.34	81000.00		976384960.00	984776060.00	982857790.00
27 Al	# 1	9.083	9.083	ug/l	0.88	81000.00		38773.61	38914.41	38552.69
39 K	# 2	115500	115500	ug/l	0.85	81000.00		22629642.00	23161522.00	23310586.00
40 Ca	# 1	91740	91740	ug/l	0.83	81000.00		763907460.00	772923390.00	763967740.00
45 Sc	# 2	----	--------		--------	#VALUE!		32091.73	31911.36	32542.48
47 Ti	# 3	1.153	1.153	ug/l	7.89	1620.00		650.03	706.70	753.38
51 V	# 2	0.5051	0.5051	ug/l	3.03	1800.00		775.58	798.91	825.58
52 Cr	# 2	0.08644	0.08644	ug/l	10.51	1800.00		223.34	214.45	196.67
55 Mn	# 3	6.802	6.802	ug/l	0.94	1800.00		58284.94	57522.73	55824.06
56 Fe	# 1	57.06	57.06	ug/l	0.35	81000.00		566349.88	564358.63	565595.69
59 Co	# 3	0.1941	0.1941	ug/l	0.92	1800.00		1250.08	1260.08	1236.74
60 Ni	# 2	0.4552	0.4552	ug/l	1.53	1800.00		330.01	333.34	341.12
63 Cu	# 2	0.464	0.464	ug/l	1.25	1800.00		1133.38	1157.83	1132.27
66 Zn	# 3	3.829	3.829	ug/l	2.45	1800.00		3020.34	3137.02	3033.69
75 As	# 2	0.5015	0.5015	ug/l	1.90	100.00		78.33	81.00	78.00
78 Se	# 1	0.2372	0.2372	ug/l	3.16	100.00		84.33	80.33	83.33
88 Sr	# 3	1641	1641	ug/l	0.53	1800.00		20831150.00	20509986.00	20300654.00
95 Mo	# 3	1.994	1.994	ug/l	3.69	1800.00		3073.68	3260.40	3167.04
107 Ag	# 3	0.02356	0.02356	ug/l	20.31	100.00		136.67	93.34	126.67
111 Cd	# 3	0.01967	0.01967	ug/l	1.48	100.00		35.68	35.62	35.65
118 Sn	# 3	0.1368	0.1368	ug/l	4.10	1800.00		543.36	563.36	566.69
121 Sb	# 3	0.3253	0.3253	ug/l	4.53	100.00		1023.40	1066.73	1090.07
137 Ba	# 3	5.634	5.634	ug/l	3.51	1800.00		8912.59	8475.69	8172.19
202 Hg	# 3	0.05132	0.05132	ug/l	13.81	5.00		72.67	58.33	65.33
205 Tl	# 3	0.005669	0.005669	ug/l	44.70	20.00		110.00	56.67	96.67
208 Pb	# 3	0.2035	0.2035	ug/l	5.40	1800.00		3356.92	3023.54	3053.56
232 Th	# 3	0.05603	0.05603	ug/l	10.60	#VALUE!		820.05	683.37	806.72
238 U	# 3	0.6261	0.6261	ug/l	2.13	#VALUE!		7822.23	7525.42	7815.54

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	274686.09	2.22	836165.38	32.9	60 - 125	IS F	281255.31	273574.66	269228.31
45 Sc	# 1	445365.06	0.50	552676.25	80.6	60 - 125		443152.06	445376.03	447567.09
45 Sc	# 3	343311.78	0.42	644433.94	53.3	60 - 125	IS F	344971.09	342497.50	342466.78
74 Ge	# 1	108511.22	0.20	175321.88	61.9	60 - 125		108265.30	108581.71	108686.65
74 Ge	# 2	14900.24	0.91	27172.50	54.8	60 - 125	IS F	14748.26	15011.81	14940.65
74 Ge	# 3	68530.48	1.28	164913.13	41.6	60 - 125	IS F	69315.22	68692.90	67583.33
89 Y	# 3	506726.28	0.84	1068488.30	47.4	60 - 125	IS F	511605.19	504904.06	503669.69
115 In	# 3	441085.31	0.89	1083659.40	40.7	60 - 125	IS F	445561.56	439452.50	438241.88
159 Tb	# 3	719729.81	0.70	1651256.80	43.6	60 - 125	IS F	725066.88	719125.50	714997.06
209 Bi	# 3	322283.66	0.98	1054491.00	30.6	60 - 125	IS F	325817.34	321264.34	319769.34

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
8 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\120_CCV.D\120_CCV.D#
Date Acquired: Dec 25 2012 08:53 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	55 ug/l	4.06	50.00	90 - 110		140767.81	146132.89	144804.41
11 B	125.3 ug/l	3.28	100.00	90 - 110	Fail	344982.50	352346.13	350477.44
23 Na	5268 ug/l	2.89	5000.00	90 - 110		46798664.00	45163224.00	47148132.00
24 Mg	4971 ug/l	2.31	5000.00	90 - 110		29195666.00	29611566.00	29639472.00
27 Al	480.3 ug/l	2.99	500.00	90 - 110		3212138.80	3283725.30	3236006.50
39 K	5203 ug/l	0.64	5000.00	90 - 110		1982809.10	1984585.10	2037438.30
40 Ca	4842 ug/l	2.74	5000.00	90 - 110		65045060.00	66375432.00	65756760.00
45 Sc	--------	--------	---	##### - #####		48333.97	49607.17	51168.86
47 Ti	50.59 ug/l	5.46	50.00	90 - 110		52303.63	53607.42	53881.57
51 V	52.98 ug/l	1.47	50.00	90 - 110		138582.17	137426.27	140027.89
52 Cr	52.87 ug/l	1.35	50.00	90 - 110		163987.55	165340.16	166963.69
55 Mn	513.7 ug/l	3.64	500.00	90 - 110		9189197.00	9419738.00	9399097.00
56 Fe	4977 ug/l	0.94	5000.00	90 - 110		102186140.00	101677530.00	103437370.00
59 Co	48.34 ug/l	2.41	50.00	90 - 110		672073.50	672705.75	674340.50
60 Ni	54.97 ug/l	1.35	50.00	90 - 110		73231.42	72805.16	74170.67
63 Cu	55.4 ug/l	1.62	50.00	90 - 110	Fail	193109.13	193078.05	194930.16
66 Zn	49.97 ug/l	2.52	50.00	90 - 110		84009.48	84257.73	84407.80
75 As	49.64 ug/l	2.05	50.00	90 - 110		13129.72	12958.26	13113.37
78 Se	49.1 ug/l	1.39	50.00	90 - 110		29851.72	30038.00	30042.00
88 Sr	51.65 ug/l	6.37	50.00	90 - 110		1206230.30	1253094.80	1244263.10
95 Mo	49.87 ug/l	4.62	50.00	90 - 110		168116.64	172227.45	170511.84
107 Ag	50.21 ug/l	3.39	50.00	90 - 110		503428.94	502787.50	501276.41
111 Cd	49.9 ug/l	4.25	50.00	90 - 110		107818.59	109659.45	109358.16
118 Sn	50.87 ug/l	3.87	50.00	90 - 110		342261.13	345380.06	344230.31
121 Sb	51.69 ug/l	4.35	50.00	90 - 110		322354.78	328527.59	328922.19
137 Ba	50.66 ug/l	4.09	50.00	90 - 110		164897.70	166974.64	165221.13
202 Hg	2.48 ug/l	5.23	2.50	90 - 110		6009.81	6223.22	6152.53
205 Tl	9.771 ug/l	5.21	10.00	90 - 110		210271.50	212766.66	211319.86
208 Pb	48.61 ug/l	4.46	50.00	90 - 110		1457156.30	1451420.10	1448638.30
232 Th	50.08 ug/l	3.74	---	##### - #####		1589955.00	1593902.50	1620737.60
238 U	49.99 ug/l	3.88	---	##### - #####		1594998.50	1609033.80	1599739.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	562325.06	2.15	836165.38	67.3	60 - 125		575438.13	551549.50	559987.63
45 Sc	722515.63	2.90	552676.25	130.7	60 - 125	IS Fail	705450.19	716162.69	745933.88
45 Sc	605862.31	4.10	644433.94	94.0	60 - 125		633149.19	584577.25	599860.50
74 Ge	228505.02	1.62	175321.88	130.3	60 - 125	IS Fail	225661.47	227150.27	232703.30
74 Ge	28619.66	2.17	27172.50	105.3	60 - 125		28190.69	28336.51	29331.77
74 Ge	149192.14	2.36	164913.13	90.5	60 - 125		152796.52	145767.11	149012.75
89 Y	969223.50	4.47	1068488.30	90.7	60 - 125		1016203.90	930961.31	960505.06
115 In	955771.44	3.41	1083659.40	88.2	60 - 125		986806.94	921854.75	958652.69
159 Tb	1436541.50	4.57	1651256.80	87.0	60 - 125		1497595.10	1367037.60	1444992.00
209 Bi	838231.94	3.46	1054491.00	79.5	60 - 125		868194.13	810376.75	836124.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\121_CCB.D\121_CCB.D#
Date Acquired: Dec 25 2012 09:00 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005245	0.005245	ug/l	76.30	#VALUE!		10.00	10.00	30.00
11 B	# 3	9.912	9.912	ug/l	4.55	#VALUE!		33813.77	33522.96	33683.50
23 Na	# 1	127.7	127.7	ug/l	2.40	#VALUE!		1223649.10	1225833.40	1209532.50
24 Mg	# 1	1.427	1.427	ug/l	6.48	#VALUE!		9122.38	9277.05	8445.40
27 Al	# 1	0.06554	0.06554	ug/l	18.89	#VALUE!		1956.82	1920.15	1853.48
39 K	# 2	3.287	3.287	ug/l	32.22	#VALUE!		11250.29	11287.03	11220.30
40 Ca	# 1	6.414	6.414	ug/l	2.45	#VALUE!		172912.17	173828.47	174409.27
45 Sc	# 2	----	--------		--------	#VALUE!		45008.02	47537.56	48364.04
47 Ti	# 3	0.01881	0.01881	ug/l	95.43	#VALUE!		66.67	36.67	33.33
51 V	# 2	0.01364	0.01364	ug/l	26.73	#VALUE!		253.34	245.56	261.12
52 Cr	# 2	0.005428	0.005428	ug/l	51.49	#VALUE!		157.78	151.11	152.22
55 Mn	# 3	0.05543	0.05543	ug/l	7.69	#VALUE!		1950.17	1820.15	1966.83
56 Fe	# 1	0.8245	0.8245	ug/l	2.60	#VALUE!		33440.83	32976.63	33353.95
59 Co	# 3	0.007248	0.007248	ug/l	19.47	#VALUE!		130.00	96.67	133.34
60 Ni	# 2	0.01263	0.01263	ug/l	27.38	#VALUE!		55.56	48.89	53.33
63 Cu	# 2	0.03059	0.03059	ug/l	27.98	#VALUE!		625.57	703.35	726.69
66 Zn	# 3	0.03912	0.03912	ug/l	6.88	#VALUE!		306.68	300.01	306.68
75 As	# 2	0.01086	0.01086	ug/l	52.65	#VALUE!		21.33	25.00	23.00
78 Se	# 1	0.04523	0.04523	ug/l	11.90	#VALUE!		53.33	60.33	56.00
88 Sr	# 3	0.00942	0.00942	ug/l	11.35	#VALUE!		300.01	260.01	323.35
95 Mo	# 3	0.04635	0.04635	ug/l	8.49	#VALUE!		216.67	233.34	203.34
107 Ag	# 3	0.01044	0.01044	ug/l	25.31	#VALUE!		130.00	106.67	160.01
111 Cd	# 3	0.005608	0.005608	ug/l	43.60	#VALUE!		43.27	49.93	53.27
118 Sn	# 3	0.02726	0.02726	ug/l	43.29	#VALUE!		593.36	430.02	453.35
121 Sb	# 3	0.2553	0.2553	ug/l	4.48	#VALUE!		2056.85	1906.84	1880.16
137 Ba	# 3	0.007522	0.007522	ug/l	43.39	#VALUE!		56.67	43.33	33.33
202 Hg	# 3	0.01717	0.01717	ug/l	4.61	#VALUE!		95.67	92.67	92.33
205 Tl	# 3	0.004329	0.004329	ug/l	14.77	#VALUE!		160.01	136.67	160.01
208 Pb	# 3	0.004695	0.004695	ug/l	2.04	#VALUE!		333.35	346.68	343.35
232 Th	# 3	0.1028	0.1028	ug/l	4.29	#VALUE!		3957.31	3723.89	3700.56
238 U	# 3	0.008603	0.008603	ug/l	5.05	#VALUE!		290.01	320.01	313.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	577002.50	3.68	836165.38	69.0	60 - 125		559187.56	571307.00	600512.94
45 Sc	# 1	708005.06	1.62	552676.25	128.1	60 - 125	IS F	695259.81	711202.75	717552.56
45 Sc	# 3	602642.13	1.66	644433.94	93.5	60 - 125		597450.50	596326.88	614149.06
74 Ge	# 1	226703.97	0.77	175321.88	129.3	60 - 125	IS F	224721.48	227404.66	227985.75
74 Ge	# 2	28786.46	3.49	27172.50	105.9	60 - 125		27704.39	28961.90	29693.08
74 Ge	# 3	152966.36	0.92	164913.13	92.8	60 - 125		151615.00	152865.31	154418.78
89 Y	# 3	1010343.00	2.23	1068488.30	94.6	60 - 125		1000433.00	994493.50	1036102.40
115 In	# 3	1003326.40	1.10	1083659.40	92.6	60 - 125		1014120.20	1003722.60	992136.31
159 Tb	# 3	1497786.80	1.35	1651256.80	90.7	60 - 125		1474471.00	1507662.90	1511226.30
209 Bi	# 3	909224.56	0.32	1054491.00	86.2	60 - 125		906410.69	909085.31	912177.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\122SMPL.D\122SMPL.D#
Date Acquired: Dec 25 2012 09:08 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0172	0.0172	ug/l	25.74	100.00		60.00	40.00	43.33
11 B	# 3	8.106	8.106	ug/l	3.37	1800.00		28424.89	28301.28	28050.92
23 Na	# 1	444	444	ug/l	0.09	81000.00		3804340.30	3845221.50	3882519.50
24 Mg	# 1	48.07	48.07	ug/l	0.83	81000.00		267758.19	273816.63	278041.13
27 Al	# 1	2.607	2.607	ug/l	0.72	81000.00		18072.33	18389.30	18352.58
39 K	# 2	18.2	18.2	ug/l	5.49	81000.00		17044.73	17475.11	17288.36
40 Ca	# 1	25.09	25.09	ug/l	0.94	81000.00		403500.56	412654.78	418044.78
45 Sc	# 2	----	--------		--------	#VALUE!		46586.27	48047.71	48715.16
47 Ti	# 3	0.05196	0.05196	ug/l	12.00	1620.00		83.34	83.34	73.34
51 V	# 2	0.03752	0.03752	ug/l	11.26	1800.00		307.78	313.34	343.34
52 Cr	# 2	0.04208	0.04208	ug/l	6.90	1800.00		274.45	275.56	270.00
55 Mn	# 3	0.2243	0.2243	ug/l	5.60	1800.00		4854.10	5190.87	5137.55
56 Fe	# 1	4.264	4.264	ug/l	2.66	81000.00		99178.05	101839.95	104725.45
59 Co	# 3	0.03813	0.03813	ug/l	7.09	1800.00		546.69	530.03	606.70
60 Ni	# 2	0.04549	0.04549	ug/l	19.84	1800.00		90.00	90.00	115.56
63 Cu	# 2	0.05701	0.05701	ug/l	9.01	1800.00		755.58	803.36	810.03
66 Zn	# 3	0.09002	0.09002	ug/l	12.88	1800.00		376.68	386.68	413.35
75 As	# 2	0.04308	0.04308	ug/l	9.71	100.00		32.00	32.67	31.67
78 Se	# 1	0.03288	0.03288	ug/l	18.21	100.00		45.67	46.67	52.67
88 Sr	# 3	0.2897	0.2897	ug/l	2.81	1800.00		7061.57	7505.10	7305.05
95 Mo	# 3	0.08112	0.08112	ug/l	9.07	1800.00		373.35	320.01	353.35
107 Ag	# 3	0.01475	0.01475	ug/l	24.41	100.00		223.34	173.34	146.67
111 Cd	# 3	0.01183	0.01183	ug/l	102.28	100.00		63.22	93.23	36.55
118 Sn	# 3	0.05772	0.05772	ug/l	8.36	1800.00		686.70	723.37	753.37
121 Sb	# 3	0.1214	0.1214	ug/l	2.61	100.00		1056.74	1086.73	1093.41
137 Ba	# 3	0.05619	0.05619	ug/l	17.26	1800.00		206.67	253.34	186.67
202 Hg	# 3	0.01044	0.01044	ug/l	21.07	5.00		82.67	69.33	78.67
205 Tl	# 3	0.007537	0.007537	ug/l	4.23	20.00		223.34	220.01	240.01
208 Pb	# 3	0.03916	0.03916	ug/l	7.92	1800.00		1490.07	1466.74	1343.40
232 Th	# 3	0.06383	0.06383	ug/l	8.15	#VALUE!		2550.30	2603.63	2286.91
238 U	# 3	0.0201	0.0201	ug/l	1.21	#VALUE!		733.38	700.04	723.37

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	569895.56	2.04	836165.38	68.2	60 - 125		556994.56	573111.25	579580.94
45 Sc	# 1	690427.19	1.09	552676.25	124.9	60 - 125		683024.00	690191.25	698066.31
45 Sc	# 3	599824.19	1.31	644433.94	93.1	60 - 125		602564.94	590972.44	605935.13
74 Ge	# 1	223239.94	0.48	175321.88	127.3	60 - 125	IS I	222136.73	223287.17	224295.92
74 Ge	# 2	29245.36	2.45	27172.50	107.6	60 - 125		28634.72	29067.64	30033.72
74 Ge	# 3	152997.61	1.17	164913.13	92.8	60 - 125		154639.95	151084.23	153268.63
89 Y	# 3	1010430.20	0.36	1068488.30	94.6	60 - 125		1008859.90	1014589.40	1007841.10
115 In	# 3	1022096.30	0.22	1083659.40	94.3	60 - 125		1023836.00	1022901.90	1019551.10
159 Tb	# 3	1517263.00	1.85	1651256.80	91.9	60 - 125		1522371.60	1486919.40	1542497.90
209 Bi	# 3	923515.69	1.19	1054491.00	87.6	60 - 125		932724.56	911312.69	926509.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\123SMPL.D\123SMPL.D#
Date Acquired: Dec 25 2012 09:15 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.009546	0.009546	ug/l	43.89	100.00		36.67	16.67	26.67
11 B	# 3	6.622	6.622	ug/l	1.61	1800.00		22927.58	23921.98	23648.40
23 Na	# 1	294.7	294.7	ug/l	1.28	81000.00		2448460.30	2468469.80	2545053.00
24 Mg	# 1	27.8	27.8	ug/l	2.47	81000.00		147021.59	151711.75	157104.73
27 Al	# 1	1.572	1.572	ug/l	1.81	81000.00		10860.03	11116.81	11403.68
39 K	# 2	9.184	9.184	ug/l	16.43	81000.00		13201.61	13551.84	13288.34
40 Ca	# 1	16.28	16.28	ug/l	1.73	81000.00		279118.53	286293.75	290695.88
45 Sc	# 2	----	--------		--------	#VALUE!		44208.34	44866.56	49147.84
47 Ti	# 3	0.02849	0.02849	ug/l	40.40	1620.00		43.33	66.67	53.33
51 V	# 2	0.01787	0.01787	ug/l	17.85	1800.00		247.78	253.34	283.34
52 Cr	# 2	0.01881	0.01881	ug/l	13.56	1800.00		178.89	192.23	210.00
55 Mn	# 3	0.1242	0.1242	ug/l	3.46	1800.00		3333.76	3170.36	3060.33
56 Fe	# 1	2.581	2.581	ug/l	0.72	81000.00		65463.18	65409.44	66155.48
59 Co	# 3	0.01872	0.01872	ug/l	8.16	1800.00		313.35	273.34	263.34
60 Ni	# 2	0.03463	0.03463	ug/l	4.91	1800.00		80.00	81.11	82.22
63 Cu	# 2	0.06127	0.06127	ug/l	28.38	1800.00		696.69	830.03	821.14
66 Zn	# 3	0.04538	0.04538	ug/l	38.45	1800.00		293.34	350.01	300.01
75 As	# 2	0.01154	0.01154	ug/l	153.12	100.00		27.33	20.67	20.67
78 Se	# 1	0.01846	0.01846	ug/l	11.13	100.00		38.67	37.00	39.33
88 Sr	# 3	0.1938	0.1938	ug/l	27.53	1800.00		6404.91	4260.64	3993.90
95 Mo	# 3	0.04688	0.04688	ug/l	28.97	1800.00		226.68	176.67	270.01
107 Ag	# 3	0.00878	0.00878	ug/l	16.80	100.00		103.34	136.67	113.34
111 Cd	# 3	0.009832	0.009832	ug/l	63.64	100.00		43.26	66.61	69.92
118 Sn	# 3	0.02297	0.02297	ug/l	28.20	1800.00		523.36	436.69	456.69
121 Sb	# 3	0.06592	0.06592	ug/l	9.39	100.00		753.37	680.03	690.03
137 Ba	# 3	0.03182	0.03182	ug/l	16.50	1800.00		126.67	153.34	113.34
202 Hg	# 3	0.009651	0.009651	ug/l	16.25	5.00		75.33	80.00	70.00
205 Tl	# 3	0.002551	0.002551	ug/l	28.48	20.00		133.34	103.34	103.34
208 Pb	# 3	0.02021	0.02021	ug/l	8.02	1800.00		893.37	790.03	816.70
232 Th	# 3	0.03919	0.03919	ug/l	10.75	#VALUE!		1796.85	1493.45	1573.46
238 U	# 3	0.01013	0.01013	ug/l	15.45	#VALUE!		436.69	340.02	330.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	554794.19	3.10	836165.38	66.3	60 - 125		538359.25	572706.88	553316.44
45 Sc	# 1	662828.63	0.86	552676.25	119.9	60 - 125		657452.88	662217.19	668815.94
45 Sc	# 3	587929.13	0.62	644433.94	91.2	60 - 125		591191.13	588559.19	584037.00
74 Ge	# 1	215377.33	0.08	175321.88	122.8	60 - 125		215258.31	215293.05	215580.66
74 Ge	# 2	28423.02	4.13	27172.50	104.6	60 - 125		27479.62	28052.74	29736.71
74 Ge	# 3	152579.55	2.15	164913.13	92.5	60 - 125		155107.73	153754.30	148876.59
89 Y	# 3	1008669.30	2.22	1068488.30	94.4	60 - 125		1005943.60	1032349.10	987715.00
115 In	# 3	1027437.60	1.43	1083659.40	94.8	60 - 125		1027421.30	1042149.60	1012741.90
159 Tb	# 3	1512965.10	1.13	1651256.80	91.6	60 - 125		1523806.30	1521829.00	1493259.90
209 Bi	# 3	928311.13	1.29	1054491.00	88.0	60 - 125		936766.94	933595.63	914570.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\124SMPL.D\124SMPL.D#
Date Acquired: Dec 25 2012 09:23 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01587	0.01587	ug/l	33.89	100.00		30.00	36.67	56.67
11 B	# 3	6.169	6.169	ug/l	2.93	1800.00		20925.23	21405.67	21015.28
23 Na	# 1	461.3	461.3	ug/l	6.65	81000.00		3839228.30	3591613.30	3481555.50
24 Mg	# 1	53.32	53.32	ug/l	7.62	81000.00		295597.72	270013.03	262982.88
27 Al	# 1	2.722	2.722	ug/l	5.54	81000.00		18022.33	17221.48	16761.06
39 K	# 2	15.51	15.51	ug/l	5.19	81000.00		14926.24	15523.40	15506.74
40 Ca	# 1	26.02	26.02	ug/l	4.70	81000.00		395719.69	384752.94	378115.66
45 Sc	# 2	----	--------		--------	#VALUE!		42896.46	43373.00	45868.19
47 Ti	# 3	0.06162	0.06162	ug/l	28.79	1620.00		106.67	76.67	73.34
51 V	# 2	0.03556	0.03556	ug/l	18.87	1800.00		277.78	313.34	304.45
52 Cr	# 2	0.03837	0.03837	ug/l	19.83	1800.00		264.45	221.11	255.56
55 Mn	# 3	0.2161	0.2161	ug/l	6.18	1800.00		4804.06	5030.83	4584.03
56 Fe	# 1	4.439	4.439	ug/l	4.00	81000.00		100595.79	97874.38	95529.57
59 Co	# 3	0.0362	0.0362	ug/l	10.15	1800.00		480.02	573.36	513.35
60 Ni	# 2	0.06056	0.06056	ug/l	11.10	1800.00		106.67	121.11	108.89
63 Cu	# 2	0.1286	0.1286	ug/l	9.56	1800.00		925.59	987.81	1047.82
66 Zn	# 3	0.06056	0.06056	ug/l	25.76	1800.00		330.01	310.01	363.35
75 As	# 2	0.02661	0.02661	ug/l	57.35	100.00		29.67	25.67	23.00
78 Se	# 1	0.02177	0.02177	ug/l	4.06	100.00		38.33	38.33	39.67
88 Sr	# 3	0.292	0.292	ug/l	3.16	1800.00		7265.00	7522.79	6908.21
95 Mo	# 3	0.05475	0.05475	ug/l	20.97	1800.00		300.01	230.01	220.01
107 Ag	# 3	0.01306	0.01306	ug/l	7.40	100.00		153.34	173.34	156.67
111 Cd	# 3	0.01359	0.01359	ug/l	14.12	100.00		73.24	66.60	63.26
118 Sn	# 3	0.05201	0.05201	ug/l	10.82	1800.00		643.36	666.70	706.70
121 Sb	# 3	0.05648	0.05648	ug/l	6.74	100.00		613.36	636.70	650.03
137 Ba	# 3	0.05563	0.05563	ug/l	11.55	1800.00		213.34	190.01	230.01
202 Hg	# 3	0.007965	0.007965	ug/l	2.41	5.00		71.33	67.67	70.00
205 Tl	# 3	0.006689	0.006689	ug/l	11.11	20.00		213.34	213.34	186.67
208 Pb	# 3	0.03809	0.03809	ug/l	4.95	1800.00		1456.74	1346.73	1323.40
232 Th	# 3	0.03921	0.03921	ug/l	6.15	#VALUE!		1693.48	1600.13	1513.46
238 U	# 3	0.0166	0.0166	ug/l	7.90	#VALUE!		646.70	580.03	546.69

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	525934.81	1.52	836165.38	62.9	60 - 125		520955.56	521697.06	535151.75
45 Sc	# 1	629939.75	1.47	552676.25	114.0	60 - 125		621285.81	628825.31	639708.31
45 Sc	# 3	568788.88	1.11	644433.94	88.3	60 - 125		574670.75	562080.13	569615.75
74 Ge	# 1	207560.73	0.81	175321.88	118.4	60 - 125		206017.06	207298.78	209366.42
74 Ge	# 2	27619.98	2.22	27172.50	101.6	60 - 125		27166.98	27373.90	28319.05
74 Ge	# 3	149828.56	0.79	164913.13	90.9	60 - 125		151060.13	148697.70	149727.88
89 Y	# 3	994111.94	1.20	1068488.30	93.0	60 - 125		998875.00	1002910.60	980550.19
115 In	# 3	1011019.70	1.23	1083659.40	93.3	60 - 125		1019083.50	1017322.30	996653.31
159 Tb	# 3	1489779.00	1.86	1651256.80	90.2	60 - 125		1513225.10	1459273.30	1496838.60
209 Bi	# 3	917261.75	1.94	1054491.00	87.0	60 - 125		932524.38	897782.38	921478.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\125SMPL.D\125SMPL.D#
Date Acquired: Dec 25 2012 09:30 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.009088	0.009088	ug/l	38.71	100.00		23.33	33.33	16.67
11 B # 3	5.306	5.306	ug/l	4.14	1800.00		18589.39	19490.17	18963.03
23 Na # 1	278.1	278.1	ug/l	3.47	81000.00		2084006.60	2137811.80	2266714.00
24 Mg # 1	29.66	29.66	ug/l	2.72	81000.00		147673.09	145255.47	153728.33
27 Al # 1	1.979	1.979	ug/l	7.42	81000.00		13291.62	12174.18	12127.54
39 K # 2	8.919	8.919	ug/l	8.98	81000.00		12264.31	12771.25	12661.26
40 Ca # 1	15.69	15.69	ug/l	3.51	81000.00		252125.09	250396.61	264067.56
45 Sc # 2	----	--------		--------	#VALUE!		41807.25	42626.95	43386.39
47 Ti # 3	0.0375	0.0375	ug/l	53.57	1620.00		66.67	76.67	40.00
51 V # 2	0.01139	0.01139	ug/l	61.26	1800.00		245.56	231.11	217.78
52 Cr # 2	0.0172	0.0172	ug/l	43.19	1800.00		165.56	163.34	207.78
55 Mn # 3	0.1175	0.1175	ug/l	5.32	1800.00		2920.31	2950.32	3080.35
56 Fe # 1	3.078	3.078	ug/l	4.44	81000.00		72155.05	69417.17	68798.17
59 Co # 3	0.02121	0.02121	ug/l	14.95	1800.00		293.34	353.35	283.34
60 Ni # 2	0.03821	0.03821	ug/l	11.42	1800.00		80.00	75.56	88.89
63 Cu # 2	0.0198	0.0198	ug/l	32.22	1800.00		575.57	612.24	627.79
66 Zn # 3	0.04113	0.04113	ug/l	96.18	1800.00		376.68	286.68	236.68
75 As # 2	0.01678	0.01678	ug/l	72.11	100.00		20.00	22.67	26.67
78 Se # 1	0.0128	0.0128	ug/l	10.99	100.00		32.67	33.33	32.00
88 Sr # 3	0.1546	0.1546	ug/l	3.66	1800.00		3777.19	3977.22	3830.52
95 Mo # 3	0.03218	0.03218	ug/l	23.18	1800.00		143.34	183.34	170.01
107 Ag # 3	0.006958	0.006958	ug/l	24.84	100.00		116.67	93.34	76.67
111 Cd # 3	0.01001	0.01001	ug/l	20.85	100.00		66.62	53.28	56.61
118 Sn # 3	0.02808	0.02808	ug/l	12.85	1800.00		496.69	463.35	526.69
121 Sb # 3	0.02998	0.02998	ug/l	22.04	100.00		433.35	480.02	436.69
137 Ba # 3	0.02616	0.02616	ug/l	16.03	1800.00		113.34	116.67	93.34
202 Hg # 3	0.007085	0.007085	ug/l	43.54	5.00		66.00	74.67	61.67
205 Tl # 3	0.003314	0.003314	ug/l	31.62	20.00		123.34	146.67	110.00
208 Pb # 3	0.01993	0.01993	ug/l	7.73	1800.00		786.70	813.36	803.37
232 Th # 3	0.02231	0.02231	ug/l	6.49	#VALUE!		1050.06	930.05	1066.73
238 U # 3	0.009226	0.009226	ug/l	11.52	#VALUE!		373.35	283.35	346.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	529033.19	1.39	836165.38	63.3	60 - 125		525435.75	524177.22	537486.56
45 Sc # 1	609062.81	1.36	552676.25	110.2	60 - 125		599568.75	612592.88	615026.75
45 Sc # 3	565729.81	2.81	644433.94	87.8	60 - 125		581092.31	549332.94	566764.31
74 Ge # 1	200589.13	0.96	175321.88	114.4	60 - 125		198374.09	201559.72	201833.55
74 Ge # 2	26935.10	1.67	27172.50	99.1	60 - 125		26685.07	26667.32	27452.90
74 Ge # 3	148771.98	2.19	164913.13	90.2	60 - 125		151974.73	145472.34	148868.89
89 Y # 3	995765.31	1.35	1068488.30	93.2	60 - 125		1011047.20	990457.69	985791.00
115 In # 3	999315.31	3.94	1083659.40	92.2	60 - 125		1036873.90	958416.44	1002655.40
159 Tb # 3	1472620.80	4.21	1651256.80	89.2	60 - 125		1530120.00	1406809.40	1480933.10
209 Bi # 3	921123.75	2.74	1054491.00	87.4	60 - 125		942376.31	893179.38	927815.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\126SMPL.D\126SMPL.D#
Date Acquired: Dec 25 2012 09:38 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0188	0.0188	ug/l	27.62	100.00		46.67	36.67	63.34
11 B	# 3	4.914	4.914	ug/l	4.97	1800.00		17865.33	18799.55	17775.29
23 Na	# 1	419.9	419.9	ug/l	9.27	81000.00		3157638.30	3190702.50	3246241.00
24 Mg	# 1	50.45	50.45	ug/l	9.40	81000.00		247277.97	250856.61	257159.84
27 Al	# 1	2.511	2.511	ug/l	11.10	81000.00		14916.16	15513.35	16063.79
39 K	# 2	15.26	15.26	ug/l	8.76	81000.00		14942.97	14389.16	15223.22
40 Ca	# 1	24.22	24.22	ug/l	11.51	81000.00		347013.38	350480.19	356962.91
45 Sc	# 2	----	--------		--------	#VALUE!		41824.05	43040.19	42295.07
47 Ti	# 3	0.05297	0.05297	ug/l	3.75	1620.00		76.67	80.00	76.67
51 V	# 2	0.04187	0.04187	ug/l	4.26	1800.00		298.89	307.78	313.34
52 Cr	# 2	0.03827	0.03827	ug/l	8.59	1800.00		226.67	246.67	248.89
55 Mn	# 3	0.2029	0.2029	ug/l	5.41	1800.00		4487.34	4904.12	4524.00
56 Fe	# 1	4.085	4.085	ug/l	8.34	81000.00		88748.72	87600.73	89398.81
59 Co	# 3	0.03637	0.03637	ug/l	5.39	1800.00		546.69	560.03	493.35
60 Ni	# 2	0.05828	0.05828	ug/l	8.44	1800.00		101.11	104.45	114.45
63 Cu	# 2	0.1048	0.1048	ug/l	14.41	1800.00		828.92	881.14	943.37
66 Zn	# 3	0.04887	0.04887	ug/l	55.15	1800.00		326.68	366.68	266.68
75 As	# 2	0.03115	0.03115	ug/l	45.23	100.00		22.33	29.00	28.67
78 Se	# 1	0.0195	0.0195	ug/l	18.37	100.00		38.33	37.33	33.67
88 Sr	# 3	0.3051	0.3051	ug/l	12.03	1800.00		7091.61	8583.04	7115.00
95 Mo	# 3	0.05253	0.05253	ug/l	8.81	1800.00		246.67	230.01	260.01
107 Ag	# 3	0.01653	0.01653	ug/l	4.54	100.00		196.67	210.01	196.67
111 Cd	# 3	0.01928	0.01928	ug/l	10.72	100.00		86.59	76.60	83.25
118 Sn	# 3	0.04963	0.04963	ug/l	19.12	1800.00		620.03	643.37	733.37
121 Sb	# 3	0.03582	0.03582	ug/l	4.78	100.00		496.69	510.02	503.36
137 Ba	# 3	0.052	0.052	ug/l	22.87	1800.00		253.34	173.34	180.01
202 Hg	# 3	0.006022	0.006022	ug/l	73.81	5.00		55.33	79.33	63.67
205 Tl	# 3	0.005624	0.005624	ug/l	10.05	20.00		173.34	196.67	183.34
208 Pb	# 3	0.03636	0.03636	ug/l	5.24	1800.00		1326.74	1416.74	1306.73
232 Th	# 3	0.02892	0.02892	ug/l	4.14	#VALUE!		1330.10	1263.43	1230.09
238 U	# 3	0.01611	0.01611	ug/l	7.31	#VALUE!		543.36	613.37	610.03

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	533310.75	2.09	836165.38	63.8	60 - 125		521092.59	535890.13	542949.56
45 Sc	# 1	609419.06	8.34	552676.25	110.3	60 - 125		598295.81	664902.81	565058.69
45 Sc	# 3	575307.44	0.24	644433.94	89.3	60 - 125		574237.81	574841.13	576843.31
74 Ge	# 1	201732.95	6.02	175321.88	115.1	60 - 125		199980.09	214660.69	190558.08
74 Ge	# 2	26937.40	1.10	27172.50	99.1	60 - 125		26596.06	27110.18	27105.95
74 Ge	# 3	152166.47	1.44	164913.13	92.3	60 - 125		153235.53	153611.88	149652.03
89 Y	# 3	1000842.40	2.03	1068488.30	93.7	60 - 125		1023522.30	994811.31	984193.31
115 In	# 3	1027420.90	1.38	1083659.40	94.8	60 - 125		1041402.10	1027783.50	1013077.20
159 Tb	# 3	1522110.80	1.19	1651256.80	92.2	60 - 125		1541576.00	1519054.40	1505701.90
209 Bi	# 3	941266.75	0.65	1054491.00	89.3	60 - 125		946929.88	942025.00	934845.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\127SMPL.D\127SMPL.D#
Date Acquired: Dec 25 2012 09:45 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01056	0.01056	ug/l	50.34	100.00		20.00	43.33	23.33
11 B	# 3	4.193	4.193	ug/l	3.57	1800.00		16657.64	16487.40	16967.88
23 Na	# 1	252.6	252.6	ug/l	0.93	81000.00		1933161.30	1950106.00	2016532.00
24 Mg	# 1	26.32	26.32	ug/l	0.64	81000.00		130121.73	130319.67	134675.11
27 Al	# 1	1.575	1.575	ug/l	3.19	81000.00		9816.07	10136.32	10649.91
39 K	# 2	8.214	8.214	ug/l	2.55	81000.00		12334.30	12350.97	12754.70
40 Ca	# 1	14.5	14.5	ug/l	0.13	81000.00		238303.69	239983.75	244675.98
45 Sc	# 2	----	--------		--------	#VALUE!		41994.43	42414.20	44644.07
47 Ti	# 3	0.03333	0.03333	ug/l	32.79	1620.00		73.34	46.67	56.67
51 V	# 2	0.01856	0.01856	ug/l	21.40	1800.00		246.67	262.23	248.89
52 Cr	# 2	0.01612	0.01612	ug/l	57.87	1800.00		166.67	154.45	213.34
55 Mn	# 3	0.1128	0.1128	ug/l	9.22	1800.00		2870.30	3077.02	2966.99
56 Fe	# 1	2.568	2.568	ug/l	2.46	81000.00		59599.74	61730.23	60469.26
59 Co	# 3	0.01948	0.01948	ug/l	11.92	1800.00		266.68	296.68	316.68
60 Ni	# 2	0.03995	0.03995	ug/l	12.22	1800.00		76.67	85.56	92.22
63 Cu	# 2	0.08557	0.08557	ug/l	25.52	1800.00		775.58	787.80	935.59
66 Zn	# 3	0.07	0.07	ug/l	37.36	1800.00		423.35	330.01	320.01
75 As	# 2	0.004076	0.004076	ug/l	92.42	100.00		19.00	20.00	21.67
78 Se	# 1	0.009805	0.009805	ug/l	120.75	100.00		38.00	28.33	26.33
88 Sr	# 3	0.1598	0.1598	ug/l	11.33	1800.00		3867.19	4378.28	3797.17
95 Mo	# 3	0.03355	0.03355	ug/l	6.28	1800.00		190.01	160.01	176.67
107 Ag	# 3	0.006822	0.006822	ug/l	33.25	100.00		73.34	113.34	100.00
111 Cd	# 3	0.009506	0.009506	ug/l	36.55	100.00		53.27	56.62	66.61
118 Sn	# 3	0.03167	0.03167	ug/l	11.35	1800.00		590.03	503.36	510.02
121 Sb	# 3	0.02506	0.02506	ug/l	26.61	100.00		430.02	380.02	476.69
137 Ba	# 3	0.02892	0.02892	ug/l	14.50	1800.00		110.00	116.67	133.34
202 Hg	# 3	0.005406	0.005406	ug/l	30.56	5.00		63.33	60.00	69.33
205 Tl	# 3	0.002796	0.002796	ug/l	46.64	20.00		116.67	143.34	93.34
208 Pb	# 3	0.0191	0.0191	ug/l	6.18	1800.00		793.37	786.70	803.37
232 Th	# 3	0.02013	0.02013	ug/l	7.71	#VALUE!		930.06	950.06	983.40
238 U	# 3	0.009848	0.009848	ug/l	13.93	#VALUE!		336.68	400.02	346.68

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	547574.44	2.72	836165.38	65.5	60 - 125		561262.38	531749.63	549711.25
45 Sc	# 1	606792.94	1.36	552676.25	109.8	60 - 125		600550.06	603697.63	616131.06
45 Sc	# 3	579876.13	4.01	644433.94	90.0	60 - 125		605059.50	559235.31	575333.63
74 Ge	# 1	199506.13	0.36	175321.88	113.8	60 - 125		199155.28	199034.41	200328.64
74 Ge	# 2	27300.57	1.97	27172.50	100.5	60 - 125		26825.34	27191.36	27885.01
74 Ge	# 3	152603.73	3.25	164913.13	92.5	60 - 125		158264.58	149048.48	150498.13
89 Y	# 3	1004295.70	4.22	1068488.30	94.0	60 - 125		1051424.90	969389.44	992072.88
115 In	# 3	1023865.50	4.42	1083659.40	94.5	60 - 125		1072492.30	982979.75	1016124.60
159 Tb	# 3	1508051.40	5.05	1651256.80	91.3	60 - 125		1582782.60	1430534.10	1510837.30
209 Bi	# 3	938725.06	4.25	1054491.00	89.0	60 - 125		978923.75	899152.50	938098.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\128SMPL.D\128SMPL.D#
Date Acquired: Dec 25 2012 09:53 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01829	0.01829	ug/l	5.52	100.00		50.00	50.00	46.67
11 B	# 3	3.972	3.972	ug/l	3.07	1800.00		16013.72	16150.45	16277.24
23 Na	# 1	397.6	397.6	ug/l	0.50	81000.00		3022732.80	3064455.00	3120087.00
24 Mg	# 1	48.09	48.09	ug/l	0.93	81000.00		238803.53	245914.30	243743.22
27 Al	# 1	2.502	2.502	ug/l	2.37	81000.00		15056.29	15967.05	15860.39
39 K	# 2	13.93	13.93	ug/l	7.94	81000.00		14215.77	15072.99	14976.28
40 Ca	# 1	23.37	23.37	ug/l	0.29	81000.00		340200.69	346758.84	350122.53
45 Sc	# 2	----	--------		--------	#VALUE!		42673.66	43164.77	46445.12
47 Ti	# 3	0.06576	0.06576	ug/l	76.13	1620.00		56.67	143.34	70.00
51 V	# 2	0.03467	0.03467	ug/l	24.67	1800.00		312.23	293.34	283.34
52 Cr	# 2	0.03998	0.03998	ug/l	21.30	1800.00		255.56	270.01	230.00
55 Mn	# 3	0.2078	0.2078	ug/l	5.21	1800.00		4684.05	4550.69	4914.12
56 Fe	# 1	4.114	4.114	ug/l	1.72	81000.00		87328.73	89804.27	91806.34
59 Co	# 3	0.03795	0.03795	ug/l	3.44	1800.00		570.03	520.02	573.36
60 Ni	# 2	0.05483	0.05483	ug/l	14.21	1800.00		102.22	94.45	118.89
63 Cu	# 2	0.05558	0.05558	ug/l	34.98	1800.00		672.24	718.91	837.80
66 Zn	# 3	0.05824	0.05824	ug/l	25.89	1800.00		376.68	303.34	326.68
75 As	# 2	0.02287	0.02287	ug/l	25.32	100.00		26.00	25.33	24.33
78 Se	# 1	0.01593	0.01593	ug/l	68.11	100.00		28.33	40.33	35.33
88 Sr	# 3	0.2754	0.2754	ug/l	5.35	1800.00		6738.14	6978.43	7024.92
95 Mo	# 3	0.05606	0.05606	ug/l	11.24	1800.00		273.34	266.68	233.34
107 Ag	# 3	0.01207	0.01207	ug/l	12.84	100.00		146.67	163.34	146.67
111 Cd	# 3	0.01417	0.01417	ug/l	10.36	100.00		69.92	66.58	73.26
118 Sn	# 3	0.04138	0.04138	ug/l	8.93	1800.00		650.04	546.69	620.03
121 Sb	# 3	0.03167	0.03167	ug/l	29.19	100.00		423.35	496.69	496.69
137 Ba	# 3	0.04913	0.04913	ug/l	13.49	1800.00		203.34	203.34	166.67
202 Hg	# 3	0.004945	0.004945	ug/l	25.74	5.00		62.67	59.67	67.00
205 Tl	# 3	0.005927	0.005927	ug/l	25.66	20.00		183.34	220.01	166.67
208 Pb	# 3	0.03707	0.03707	ug/l	7.89	1800.00		1343.40	1400.07	1353.40
232 Th	# 3	0.02611	0.02611	ug/l	13.12	#VALUE!		1076.74	1196.75	1236.76
238 U	# 3	0.0174	0.0174	ug/l	15.06	#VALUE!		580.03	583.37	740.04

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	548673.56	1.89	836165.38	65.6	60 - 125		553578.69	536740.50	555701.63
45 Sc	# 1	613413.38	1.23	552676.25	111.0	60 - 125		605255.56	614764.56	620220.13
45 Sc	# 3	578611.63	3.41	644433.94	89.8	60 - 125		597304.38	557979.06	580551.44
74 Ge	# 1	202354.75	1.07	175321.88	115.4	60 - 125		200227.28	202274.09	204562.89
74 Ge	# 2	27656.30	2.60	27172.50	101.8	60 - 125		27120.19	27373.86	28474.84
74 Ge	# 3	151861.19	3.46	164913.13	92.1	60 - 125		157257.64	146761.61	151564.30
89 Y	# 3	1008517.70	3.34	1068488.30	94.4	60 - 125		1044722.10	978130.06	1002701.00
115 In	# 3	1025145.40	4.89	1083659.40	94.6	60 - 125		1076566.10	976433.00	1022437.10
159 Tb	# 3	1517306.80	4.56	1651256.80	91.9	60 - 125		1585251.60	1446856.60	1519812.00
209 Bi	# 3	941138.00	4.42	1054491.00	89.3	60 - 125		982362.88	899222.81	941828.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\129SMPL.D\129SMPL.D#
Date Acquired: Dec 25 2012 10:00 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00947	0.00947	ug/l	75.10	100.00		16.67	46.67	16.67
11 B	# 3	3.67	3.67	ug/l	7.48	1800.00		15423.21	15753.46	16027.05
23 Na	# 1	232.2	232.2	ug/l	7.07	81000.00		1852391.60	1929605.80	1933117.90
24 Mg	# 1	24.96	24.96	ug/l	6.54	81000.00		128259.23	131835.48	132978.38
27 Al	# 1	1.521	1.521	ug/l	8.28	81000.00		9992.92	10629.92	10499.83
39 K	# 2	8.277	8.277	ug/l	10.54	81000.00		12334.36	12341.01	12914.75
40 Ca	# 1	13.61	13.61	ug/l	9.21	81000.00		238721.84	241134.73	246415.31
45 Sc	# 2	----	--------		--------	#VALUE!		42742.77	43385.40	43559.63
47 Ti	# 3	0.02324	0.02324	ug/l	68.24	1620.00		33.33	60.00	53.33
51 V	# 2	0.02252	0.02252	ug/l	25.10	1800.00		241.11	271.12	277.78
52 Cr	# 2	0.01674	0.01674	ug/l	18.31	1800.00		184.45	173.34	182.22
55 Mn	# 3	0.1103	0.1103	ug/l	6.43	1800.00		3067.01	2996.99	2843.64
56 Fe	# 1	2.431	2.431	ug/l	7.03	81000.00		59038.08	61693.18	60790.23
59 Co	# 3	0.01882	0.01882	ug/l	29.25	1800.00		216.67	353.35	290.01
60 Ni	# 2	0.03426	0.03426	ug/l	32.90	1800.00		68.89	95.56	68.89
63 Cu	# 2	0.0443	0.0443	ug/l	15.41	1800.00		683.35	681.13	724.47
66 Zn	# 3	0.03657	0.03657	ug/l	31.17	1800.00		293.34	296.68	320.01
75 As	# 2	0.009321	0.009321	ug/l	115.33	100.00		22.67	23.33	18.67
78 Se	# 1	0.00576	0.00576	ug/l	75.68	100.00		31.00	29.33	29.33
88 Sr	# 3	0.1554	0.1554	ug/l	11.24	1800.00		3793.84	4187.28	3937.23
95 Mo	# 3	0.0241	0.0241	ug/l	27.35	1800.00		176.67	133.34	120.00
107 Ag	# 3	0.005856	0.005856	ug/l	29.54	100.00		80.00	103.34	76.67
111 Cd	# 3	0.01052	0.01052	ug/l	89.72	100.00		76.61	73.29	36.63
118 Sn	# 3	0.0313	0.0313	ug/l	23.46	1800.00		540.03	570.03	503.36
121 Sb	# 3	0.0128	0.0128	ug/l	11.17	100.00		360.01	330.01	363.35
137 Ba	# 3	0.03184	0.03184	ug/l	11.68	1800.00		123.34	130.00	143.34
202 Hg	# 3	0.001918	0.001918	ug/l	84.62	5.00		59.00	57.33	50.33
205 Tl	# 3	0.002394	0.002394	ug/l	49.71	20.00		136.67	116.67	80.00
208 Pb	# 3	0.01883	0.01883	ug/l	11.09	1800.00		763.36	800.03	830.03
232 Th	# 3	0.01511	0.01511	ug/l	4.16	#VALUE!		856.72	746.71	766.71
238 U	# 3	0.008401	0.008401	ug/l	25.88	#VALUE!		243.34	373.35	323.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	563314.63	3.72	836165.38	67.4	60 - 125		581781.88	540505.75	567656.31
45 Sc	# 1	638589.63	8.02	552676.25	115.5	60 - 125		606766.94	611316.19	697685.94
45 Sc	# 3	592943.25	5.66	644433.94	92.0	60 - 125		628609.06	561985.88	588234.69
74 Ge	# 1	208066.28	5.77	175321.88	118.7	60 - 125		199307.56	203132.22	221759.03
74 Ge	# 2	27363.67	2.20	27172.50	100.7	60 - 125		26669.53	27750.03	27671.44
74 Ge	# 3	154826.45	3.94	164913.13	93.9	60 - 125		161118.41	148937.47	154423.48
89 Y	# 3	1024106.80	6.41	1068488.30	95.8	60 - 125		1096687.40	968751.88	1006881.00
115 In	# 3	1039604.60	5.04	1083659.40	95.9	60 - 125		1090235.90	985676.31	1042901.30
159 Tb	# 3	1532515.50	5.69	1651256.80	92.8	60 - 125		1614398.60	1440903.10	1542244.80
209 Bi	# 3	954743.75	4.65	1054491.00	90.5	60 - 125		1002749.90	915242.25	946239.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\130SMPL.D\130SMPL.D#
Date Acquired: Dec 25 2012 10:08 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01616	0.01616	ug/l	22.15	100.00		40.00	53.33	40.00
11 B	# 3	3.35	3.35	ug/l	5.39	1800.00		14469.07	14809.34	15339.81
23 Na	# 1	358.5	358.5	ug/l	1.40	81000.00		2765362.00	2872081.50	2874645.30
24 Mg	# 1	43.56	43.56	ug/l	1.66	81000.00		221097.86	226770.83	226155.08
27 Al	# 1	2.476	2.476	ug/l	1.55	81000.00		15259.77	16033.73	16153.94
39 K	# 2	13.86	13.86	ug/l	13.37	81000.00		13978.93	15139.80	15219.79
40 Ca	# 1	22.66	22.66	ug/l	2.00	81000.00		337943.13	348706.94	347753.97
45 Sc	# 2	----	--------		--------	#VALUE!		43318.50	44419.91	44175.34
47 Ti	# 3	0.05525	0.05525	ug/l	25.14	1620.00		86.67	63.33	96.67
51 V	# 2	0.03651	0.03651	ug/l	4.59	1800.00		305.56	300.01	301.12
52 Cr	# 2	0.03435	0.03435	ug/l	16.53	1800.00		234.45	221.11	252.23
55 Mn	# 3	0.2054	0.2054	ug/l	2.49	1800.00		4860.79	4684.04	4774.09
56 Fe	# 1	4.135	4.135	ug/l	0.80	81000.00		88903.46	91395.04	91767.16
59 Co	# 3	0.03748	0.03748	ug/l	7.46	1800.00		573.36	580.03	523.36
60 Ni	# 2	0.06411	0.06411	ug/l	6.59	1800.00		115.56	124.45	112.22
63 Cu	# 2	0.095	0.095	ug/l	24.18	1800.00		890.03	954.48	788.91
66 Zn	# 3	0.06487	0.06487	ug/l	33.61	1800.00		376.68	300.01	386.68
75 As	# 2	0.02552	0.02552	ug/l	27.38	100.00		28.00	25.00	25.00
78 Se	# 1	0.02034	0.02034	ug/l	29.27	100.00		33.00	39.67	39.33
88 Sr	# 3	0.2573	0.2573	ug/l	4.45	1800.00		6698.12	6304.64	6968.23
95 Mo	# 3	0.03612	0.03612	ug/l	10.86	1800.00		183.34	193.34	183.34
107 Ag	# 3	0.01053	0.01053	ug/l	1.94	100.00		143.34	133.34	136.67
111 Cd	# 3	0.01087	0.01087	ug/l	48.23	100.00		69.94	46.61	73.28
118 Sn	# 3	0.04276	0.04276	ug/l	9.38	1800.00		630.03	623.36	610.03
121 Sb	# 3	0.02467	0.02467	ug/l	35.02	100.00		393.35	403.35	496.69
137 Ba	# 3	0.04762	0.04762	ug/l	9.57	1800.00		186.67	196.67	180.01
202 Hg	# 3	0.002523	0.002523	ug/l	123.90	5.00		66.00	57.00	47.67
205 Tl	# 3	0.004611	0.004611	ug/l	34.42	20.00		126.67	163.34	196.67
208 Pb	# 3	0.03731	0.03731	ug/l	11.16	1800.00		1383.40	1446.74	1336.74
232 Th	# 3	0.02151	0.02151	ug/l	14.62	#VALUE!		996.73	1080.07	960.06
238 U	# 3	0.01562	0.01562	ug/l	6.88	#VALUE!		556.69	573.36	593.36

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	563604.19	3.72	836165.38	67.4	60 - 125		565549.44	541763.19	583500.06
45 Sc	# 1	626690.44	2.49	552676.25	113.4	60 - 125		611745.44	625419.81	642906.25
45 Sc	# 3	588329.50	5.15	644433.94	91.3	60 - 125		614339.38	555068.88	595580.19
74 Ge	# 1	203856.73	1.79	175321.88	116.3	60 - 125		200176.05	203932.20	207461.94
74 Ge	# 2	27743.85	0.71	27172.50	102.1	60 - 125		27695.51	27960.34	27575.70
74 Ge	# 3	155139.80	3.87	164913.13	94.1	60 - 125		161165.92	149148.00	155105.50
89 Y	# 3	1038043.80	4.46	1068488.30	97.2	60 - 125		1085324.90	992752.88	1036053.50
115 In	# 3	1037011.60	4.74	1083659.40	95.7	60 - 125		1083440.80	985533.44	1042060.70
159 Tb	# 3	1536920.80	5.70	1651256.80	93.1	60 - 125		1601205.10	1437135.10	1572421.90
209 Bi	# 3	948602.38	5.31	1054491.00	90.0	60 - 125		990875.69	892820.63	962111.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\131SMPL.D\131SMPL.D#
Date Acquired: Dec 25 2012 10:15 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01126	0.01126	ug/l	26.81	100.00		40.00	30.00	26.67
11 B	# 3	2.935	2.935	ug/l	4.49	1800.00		13818.60	14075.51	14055.48
23 Na	# 1	240.7	240.7	ug/l	0.84	81000.00		1896614.10	1907148.80	1947321.40
24 Mg	# 1	26.67	26.67	ug/l	0.32	81000.00		133991.52	136478.08	138047.13
27 Al	# 1	1.525	1.525	ug/l	1.42	81000.00		9939.51	10062.94	10366.38
39 K	# 2	8.456	8.456	ug/l	5.32	81000.00		12624.60	13131.54	13051.50
40 Ca	# 1	14.88	14.88	ug/l	0.64	81000.00		247874.22	250170.91	252978.92
45 Sc	# 2	----	--------		--------	#VALUE!		43233.83	43898.71	45569.48
47 Ti	# 3	0.02977	0.02977	ug/l	39.37	1620.00		70.00	46.67	53.33
51 V	# 2	0.02792	0.02792	ug/l	19.41	1800.00		270.00	300.00	282.23
52 Cr	# 2	0.01367	0.01367	ug/l	10.02	1800.00		168.89	175.56	182.22
55 Mn	# 3	0.1109	0.1109	ug/l	4.37	1800.00		2926.97	3020.34	3083.68
56 Fe	# 1	2.546	2.546	ug/l	1.36	81000.00		60255.40	61552.89	61790.20
59 Co	# 3	0.01811	0.01811	ug/l	13.08	1800.00		286.68	313.35	243.34
60 Ni	# 2	0.0335	0.0335	ug/l	34.99	1800.00		67.78	71.11	97.78
63 Cu	# 2	0.0443	0.0443	ug/l	47.81	1800.00		624.46	772.25	750.02
66 Zn	# 3	0.03475	0.03475	ug/l	18.59	1800.00		293.34	303.35	313.35
75 As	# 2	0.01816	0.01816	ug/l	29.34	100.00		23.67	23.33	26.33
78 Se	# 1	0.01335	0.01335	ug/l	32.05	100.00		31.00	33.00	36.00
88 Sr	# 3	0.1519	0.1519	ug/l	3.12	1800.00		3870.52	3913.87	4007.64
95 Mo	# 3	0.03029	0.03029	ug/l	16.34	1800.00		160.01	190.01	153.34
107 Ag	# 3	0.00884	0.00884	ug/l	42.81	100.00		83.34	166.67	113.34
111 Cd	# 3	0.006019	0.006019	ug/l	33.83	100.00		56.62	53.27	46.62
118 Sn	# 3	0.0254	0.0254	ug/l	10.95	1800.00		513.35	480.02	510.02
121 Sb	# 3	0.009377	0.009377	ug/l	62.21	100.00		286.68	343.35	363.35
137 Ba	# 3	0.02919	0.02919	ug/l	7.30	1800.00		133.34	120.00	120.00
202 Hg	# 3	0.004762	0.004762	ug/l	16.30	5.00		63.33	66.00	61.00
205 Tl	# 3	0.002216	0.002216	ug/l	30.96	20.00		126.67	93.34	103.34
208 Pb	# 3	0.01773	0.01773	ug/l	4.10	1800.00		806.70	753.36	750.03
232 Th	# 3	0.01479	0.01479	ug/l	13.79	#VALUE!		836.71	806.72	686.70
238 U	# 3	0.008536	0.008536	ug/l	10.99	#VALUE!		303.35	300.02	356.68

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	573886.56	3.58	836165.38	68.6	60 - 125		552036.38	592774.00	576849.31
45 Sc	# 1	619211.13	1.25	552676.25	112.0	60 - 125		610548.31	621629.19	625456.06
45 Sc	# 3	597734.06	0.27	644433.94	92.8	60 - 125		596060.44	599336.00	597805.75
74 Ge	# 1	202796.83	0.62	175321.88	115.7	60 - 125		201957.28	202188.81	204244.41
74 Ge	# 2	28097.60	1.40	27172.50	103.4	60 - 125		27698.82	28107.26	28486.72
74 Ge	# 3	156284.69	0.45	164913.13	94.8	60 - 125		156959.02	156350.53	155544.48
89 Y	# 3	1031354.80	1.79	1068488.30	96.5	60 - 125		1026185.20	1051849.40	1016029.70
115 In	# 3	1050753.40	0.60	1083659.40	97.0	60 - 125		1051335.00	1056697.00	1044228.10
159 Tb	# 3	1542420.80	1.08	1651256.80	93.4	60 - 125		1561591.30	1534916.40	1530754.50
209 Bi	# 3	953090.50	0.71	1054491.00	90.4	60 - 125		957639.69	956304.56	945327.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\132_CCV.D\132_CCV.D#
Date Acquired: Dec 25 2012 10:23 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	55.99 ug/l	2.88	50.00	90 - 110	Fail	141135.34	145148.88	143870.75
11 B	114.3 ug/l	2.83	100.00	90 - 110	Fail	307734.88	317423.63	312025.16
23 Na	5012 ug/l	1.97	5000.00	90 - 110		36837888.00	37161724.00	36548892.00
24 Mg	4899 ug/l	1.06	5000.00	90 - 110		23721782.00	24374662.00	24721266.00
27 Al	489.3 ug/l	0.23	500.00	90 - 110		2723929.30	2754467.00	2804151.50
39 K	5041 ug/l	0.17	5000.00	90 - 110		1806147.90	1804924.80	1836287.60
40 Ca	4923 ug/l	1.39	5000.00	90 - 110		54495684.00	55518476.00	57460412.00
45 Sc	--------	--------		--- ##### - #####		44163.83	44226.12	45368.79
47 Ti	50.56 ug/l	2.34	50.00	90 - 110		51789.15	51935.84	51621.67
51 V	50.92 ug/l	0.50	50.00	90 - 110		123369.41	124161.54	126773.17
52 Cr	51.35 ug/l	0.63	50.00	90 - 110		148738.39	150864.30	151608.16
55 Mn	496.9 ug/l	1.04	500.00	90 - 110		9211156.00	9236901.00	9131082.00
56 Fe	5006 ug/l	0.48	5000.00	90 - 110		87527104.00	88149744.00	89376536.00
59 Co	47.73 ug/l	1.58	50.00	90 - 110		677715.44	675752.38	675438.88
60 Ni	52.61 ug/l	0.43	50.00	90 - 110		65054.62	65485.05	66752.59
63 Cu	53.4 ug/l	0.50	50.00	90 - 110		172713.22	174846.80	176866.38
66 Zn	50.12 ug/l	2.36	50.00	90 - 110		87157.16	84776.72	85938.41
75 As	50.16 ug/l	0.31	50.00	90 - 110		12238.10	12342.51	12503.62
78 Se	50.11 ug/l	0.92	50.00	90 - 110		26258.51	26132.67	26315.94
88 Sr	51.5 ug/l	2.81	50.00	90 - 110		1302301.90	1291054.00	1275623.40
95 Mo	49.22 ug/l	2.67	50.00	90 - 110		177846.73	177761.42	177966.09
107 Ag	50.23 ug/l	2.14	50.00	90 - 110		532226.50	534393.63	529076.38
111 Cd	49.85 ug/l	2.41	50.00	90 - 110		115169.73	115390.84	114898.07
118 Sn	50.58 ug/l	2.99	50.00	90 - 110		363527.44	359929.00	362041.91
121 Sb	51.53 ug/l	2.99	50.00	90 - 110		346385.88	342591.66	344453.56
137 Ba	50.77 ug/l	3.40	50.00	90 - 110		175933.59	174166.31	176927.67
202 Hg	2.43 ug/l	1.72	2.50	90 - 110		6517.34	6471.32	6419.30
205 Tl	9.833 ug/l	1.69	10.00	90 - 110		228314.63	225464.45	226025.23
208 Pb	49.04 ug/l	1.38	50.00	90 - 110		1564182.30	1559071.60	1556008.90
232 Th	49.87 ug/l	2.23		--- ##### - #####		1717854.50	1713559.10	1719091.60
238 U	49.87 ug/l	1.74		--- ##### - #####		1715837.60	1729152.00	1716134.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	550586.19	4.28	836165.38	65.8	60 - 125		526064.69	573123.19	552570.75
45 Sc	603271.38	1.32	552676.25	109.2	60 - 125		596768.19	600917.44	612128.50
45 Sc	588732.69	2.65	644433.94	91.4	60 - 125		587820.94	604763.31	573613.88
74 Ge	195942.30	1.18	175321.88	111.8	60 - 125		194784.33	194431.64	198610.97
74 Ge	26786.74	0.94	27172.50	98.6	60 - 125		26610.53	26676.19	27073.49
74 Ge	151795.78	1.63	164913.13	92.0	60 - 125		152601.83	153766.80	149018.72
89 Y	1014141.40	3.20	1068488.30	94.9	60 - 125		1009970.60	1048511.80	983941.88
115 In	1010852.50	2.63	1083659.40	93.3	60 - 125		1004207.10	1040159.40	988190.94
159 Tb	1527490.40	1.46	1651256.80	92.5	60 - 125		1528468.50	1549358.90	1504643.90
209 Bi	902056.63	2.07	1054491.00	85.5	60 - 125		904017.19	919650.00	882503.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\133_CCB.D\133_CCB.D#
Date Acquired: Dec 25 2012 10:30 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005766	0.005766	ug/l	22.51	#VALUE!		13.33	20.00	20.00
11 B	# 3	3.362	3.362	ug/l	1.40	#VALUE!		14892.82	15500.02	15173.08
23 Na	# 1	43.35	43.35	ug/l	0.95	#VALUE!		421341.97	428578.97	437202.28
24 Mg	# 1	1.651	1.651	ug/l	2.14	#VALUE!		8605.48	9018.99	9092.42
27 Al	# 1	0.04662	0.04662	ug/l	9.88	#VALUE!		1556.78	1556.78	1540.10
39 K	# 2	-0.4825	-0.4825	ug/l	159.19	#VALUE!		9229.15	9736.11	9732.84
40 Ca	# 1	4.083	4.083	ug/l	2.45	#VALUE!		122272.89	125228.59	124587.29
45 Sc	# 2	-----	--------		--------	#VALUE!		42945.33	43014.47	48273.66
47 Ti	# 3	0.01123	0.01123	ug/l	188.25	#VALUE!		30.00	63.34	20.00
51 V	# 2	0.0003973	0.0003973	ug/l	1727.70	#VALUE!		205.56	193.34	242.23
52 Cr	# 2	0.003099	0.003099	ug/l	92.97	#VALUE!		145.56	132.22	151.11
55 Mn	# 3	0.09074	0.09074	ug/l	16.77	#VALUE!		2290.21	2746.94	2860.30
56 Fe	# 1	0.8057	0.8057	ug/l	4.05	#VALUE!		29153.63	29313.79	28632.69
59 Co	# 3	0.007811	0.007811	ug/l	30.11	#VALUE!		103.34	170.01	120.00
60 Ni	# 2	0.009264	0.009264	ug/l	55.74	#VALUE!		38.89	53.33	48.89
63 Cu	# 2	0.01315	0.01315	ug/l	56.21	#VALUE!		557.79	608.91	660.02
66 Zn	# 3	-0.0008707	-0.0008707	ug/l	381.76	#VALUE!		233.34	243.34	246.68
75 As	# 2	-0.004732	-0.004732	ug/l	428.78	#VALUE!		20.67	12.33	22.67
78 Se	# 1	0.04408	0.04408	ug/l	3.35	#VALUE!		48.67	48.67	50.67
88 Sr	# 3	0.01416	0.01416	ug/l	17.83	#VALUE!		343.35	476.69	446.69
95 Mo	# 3	0.05757	0.05757	ug/l	27.84	#VALUE!		200.01	310.01	300.01
107 Ag	# 3	0.01128	0.01128	ug/l	16.90	#VALUE!		123.34	163.34	156.67
111 Cd	# 3	0.009276	0.009276	ug/l	2.63	#VALUE!		59.94	59.90	59.91
118 Sn	# 3	0.03116	0.03116	ug/l	9.84	#VALUE!		560.03	523.36	546.69
121 Sb	# 3	0.2593	0.2593	ug/l	3.38	#VALUE!		2123.53	2083.53	1990.17
137 Ba	# 3	0.01161	0.01161	ug/l	16.81	#VALUE!		53.33	63.34	66.67
202 Hg	# 3	0.01547	0.01547	ug/l	15.00	#VALUE!		99.00	93.33	86.33
205 Tl	# 3	0.003666	0.003666	ug/l	35.05	#VALUE!		130.00	120.00	176.67
208 Pb	# 3	0.01086	0.01086	ug/l	34.83	#VALUE!		413.35	640.03	603.36
232 Th	# 3	0.1004	0.1004	ug/l	2.50	#VALUE!		3977.31	3840.60	3800.59
238 U	# 3	0.01237	0.01237	ug/l	6.07	#VALUE!		476.69	423.35	473.36

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	574055.06	2.52	836165.38	68.7	60 - 125		557927.06	585855.50	578382.50
45 Sc	# 1	615097.75	1.13	552676.25	111.3	60 - 125		608393.81	614575.69	622323.88
45 Sc	# 3	600621.38	1.30	644433.94	93.2	60 - 125		594623.56	609486.44	597754.06
74 Ge	# 1	200237.58	0.98	175321.88	114.2	60 - 125		198212.11	200361.44	202139.19
74 Ge	# 2	28087.33	4.50	27172.50	103.4	60 - 125		27012.22	27767.87	29481.91
74 Ge	# 3	156589.95	0.45	164913.13	95.0	60 - 125		155789.86	156858.63	157121.36
89 Y	# 3	1032952.70	2.25	1068488.30	96.7	60 - 125		1020253.40	1059794.00	1018810.60
115 In	# 3	1049690.10	0.97	1083659.40	96.9	60 - 125		1047276.60	1060862.60	1040931.10
159 Tb	# 3	1550966.40	0.17	1651256.80	93.9	60 - 125		1552155.10	1547963.30	1552780.50
209 Bi	# 3	948494.56	0.61	1054491.00	89.9	60 - 125		951096.75	941910.38	952476.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\134_CCV.D\134_CCV.D#
Date Acquired: Dec 25 2012 10:38 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	55.54 ug/l	6.56	50.00	90 - 110	Fail	144062.27	147127.63	145049.22
11 B	113.7 ug/l	6.57	100.00	90 - 110	Fail	313744.06	319950.31	319010.97
23 Na	5069 ug/l	0.58	5000.00	90 - 110		37025688.00	37844484.00	37836004.00
24 Mg	4916 ug/l	1.26	5000.00	90 - 110		23981092.00	24589912.00	25082640.00
27 Al	491.1 ug/l	2.13	500.00	90 - 110		2715762.50	2778474.00	2886174.00
39 K	5074 ug/l	6.74	5000.00	90 - 110		1799493.80	1800812.50	1862064.10
40 Ca	4902 ug/l	1.23	5000.00	90 - 110		55208260.00	55541352.00	57343464.00
45 Sc	--------	--------		--- ##### - #####		43923.20	47190.40	41499.15
47 Ti	51.04 ug/l	6.78	50.00	90 - 110		52344.16	53059.32	52424.09
51 V	51.61 ug/l	6.19	50.00	90 - 110		123972.46	125650.12	128465.35
52 Cr	51.69 ug/l	6.61	50.00	90 - 110		149908.44	148940.34	153743.84
55 Mn	495.3 ug/l	4.79	500.00	90 - 110		9299892.00	9304477.00	9212807.00
56 Fe	4995 ug/l	0.97	5000.00	90 - 110		89111056.00	88872576.00	87923536.00
59 Co	47.47 ug/l	4.88	50.00	90 - 110		681031.13	682508.88	677978.25
60 Ni	53.16 ug/l	6.06	50.00	90 - 110		65558.51	65863.98	67231.21
63 Cu	53.82 ug/l	6.37	50.00	90 - 110		173913.53	174071.47	178752.25
66 Zn	49.6 ug/l	4.70	50.00	90 - 110		86280.14	86129.81	85854.43
75 As	50.7 ug/l	6.19	50.00	90 - 110		12315.16	12375.19	12663.38
78 Se	50.19 ug/l	0.42	50.00	90 - 110		26203.44	26573.31	26471.83
88 Sr	52.09 ug/l	6.08	50.00	90 - 110		1308089.60	1297848.30	1298037.80
95 Mo	49.75 ug/l	5.18	50.00	90 - 110		180452.91	178587.05	177745.25
107 Ag	50.52 ug/l	5.20	50.00	90 - 110		536128.63	530796.25	529812.13
111 Cd	50.37 ug/l	5.86	50.00	90 - 110		115325.91	115565.39	116359.87
118 Sn	51.11 ug/l	5.24	50.00	90 - 110		367068.00	363632.84	360750.97
121 Sb	52.28 ug/l	5.79	50.00	90 - 110		348518.53	349168.06	345658.97
137 Ba	51.09 ug/l	6.84	50.00	90 - 110		174219.02	178281.33	175027.58
202 Hg	2.415 ug/l	5.45	2.50	90 - 110		6515.00	6471.32	6380.62
205 Tl	9.975 ug/l	6.77	10.00	90 - 110		224858.17	226518.61	230002.73
208 Pb	49.79 ug/l	5.54	50.00	90 - 110		1583444.10	1559187.60	1554421.90
232 Th	50.42 ug/l	6.27		--- ##### - #####		1733019.10	1753787.50	1741025.00
238 U	49.86 ug/l	6.63		--- ##### - #####		1705181.30	1738010.10	1735747.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	563807.13	5.48	836165.38	67.4	60 - 125		594766.81	532943.25	563711.44
45 Sc	608060.63	0.99	552676.25	110.0	60 - 125		601841.44	608530.44	613809.81
45 Sc	594006.31	6.23	644433.94	92.2	60 - 125		633987.69	561014.50	587016.63
74 Ge	197000.34	0.33	175321.88	112.4	60 - 125		196249.66	197352.84	197398.53
74 Ge	26750.13	5.17	27172.50	98.4	60 - 125		26425.90	28266.46	25558.04
74 Ge	153815.73	4.86	164913.13	93.3	60 - 125		161902.09	147163.09	152381.98
89 Y	1013867.90	6.62	1068488.30	94.9	60 - 125		1087122.80	955478.13	999003.00
115 In	1007484.60	5.78	1083659.40	93.0	60 - 125		1069768.60	954445.69	998239.44
159 Tb	1513424.50	6.35	1651256.80	91.7	60 - 125		1614498.50	1423175.00	1502600.00
209 Bi	907458.31	5.71	1054491.00	86.1	60 - 125		961386.88	858136.50	902851.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\135_CCB.D\135_CCB.D#
Date Acquired: Dec 25 2012 10:45 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01179	0.01179	ug/l	52.04	#VALUE!		53.33	30.00	20.00
11 B # 3	3.362	3.362	ug/l	4.49	#VALUE!		15149.68	15333.21	15776.87
23 Na # 1	36.1	36.1	ug/l	5.41	#VALUE!		376160.66	384366.72	390598.38
24 Mg # 1	1.733	1.733	ug/l	4.14	#VALUE!		9309.16	9592.69	9726.08
27 Al # 1	0.07271	0.07271	ug/l	39.69	#VALUE!		1590.10	1886.82	1746.80
39 K # 2	1.17	1.17	ug/l	88.29	#VALUE!		9839.50	10209.73	9979.56
40 Ca # 1	4.057	4.057	ug/l	11.37	#VALUE!		125459.45	126221.12	128198.58
45 Sc # 2	----	--------		--------	#VALUE!		43356.37	47904.84	41601.43
47 Ti # 3	0.003006	0.003006	ug/l	159.35	#VALUE!		33.33	30.00	23.33
51 V # 2	0.01255	0.01255	ug/l	38.80	#VALUE!		236.67	241.12	242.23
52 Cr # 2	0.009937	0.009937	ug/l	130.92	#VALUE!		131.11	153.34	196.67
55 Mn # 3	0.1062	0.1062	ug/l	31.01	#VALUE!		3703.81	2636.92	2453.57
56 Fe # 1	0.9233	0.9233	ug/l	1.22	#VALUE!		31150.17	30672.57	33367.47
59 Co # 3	0.01047	0.01047	ug/l	25.22	#VALUE!		206.67	176.67	126.67
60 Ni # 2	0.02226	0.02226	ug/l	21.07	#VALUE!		55.56	70.00	63.33
63 Cu # 2	0.0461	0.0461	ug/l	44.71	#VALUE!		624.46	793.36	710.02
66 Zn # 3	0.021	0.021	ug/l	150.90	#VALUE!		346.68	263.34	230.01
75 As # 2	0.02808	0.02808	ug/l	42.63	#VALUE!		25.00	25.67	28.67
78 Se # 1	0.04739	0.04739	ug/l	21.50	#VALUE!		51.67	55.67	48.33
88 Sr # 3	0.01537	0.01537	ug/l	9.39	#VALUE!		513.36	410.02	436.69
95 Mo # 3	0.06523	0.06523	ug/l	16.28	#VALUE!		303.34	330.01	256.68
107 Ag # 3	0.01484	0.01484	ug/l	40.36	#VALUE!		260.01	180.01	120.00
111 Cd # 3	0.007972	0.007972	ug/l	38.30	#VALUE!		66.57	53.23	49.92
118 Sn # 3	0.04186	0.04186	ug/l	17.86	#VALUE!		696.70	603.36	560.02
121 Sb # 3	0.3056	0.3056	ug/l	1.82	#VALUE!		2420.24	2360.23	2336.90
137 Ba # 3	0.01375	0.01375	ug/l	57.95	#VALUE!		96.67	36.67	73.34
202 Hg # 3	0.02087	0.02087	ug/l	10.92	#VALUE!		114.33	109.67	100.33
205 Tl # 3	0.004334	0.004334	ug/l	25.57	#VALUE!		190.01	130.00	153.34
208 Pb # 3	0.01185	0.01185	ug/l	31.37	#VALUE!		740.03	526.69	486.69
232 Th # 3	0.1123	0.1123	ug/l	8.10	#VALUE!		4784.23	4104.00	4060.67
238 U # 3	0.01459	0.01459	ug/l	35.25	#VALUE!		763.38	473.36	386.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	582870.88	1.65	836165.38	69.7	60 - 125		591372.56	572443.44	584796.56
45 Sc # 1	630504.63	5.53	552676.25	114.1	60 - 125		607799.75	613070.81	670643.31
45 Sc # 3	598098.44	2.31	644433.94	92.8	60 - 125		610502.94	583205.13	600587.25
74 Ge # 1	203889.59	4.13	175321.88	116.3	60 - 125		199454.27	198605.92	213608.58
74 Ge # 2	27612.51	4.86	27172.50	101.6	60 - 125		27412.81	29044.43	26380.29
74 Ge # 3	156482.39	1.47	164913.13	94.9	60 - 125		159126.14	154945.14	155375.89
89 Y # 3	1032477.60	3.61	1068488.30	96.6	60 - 125		1074533.00	1003752.80	1019146.90
115 In # 3	1043499.60	2.86	1083659.40	96.3	60 - 125		1076809.00	1018999.40	1034690.30
159 Tb # 3	1545931.00	2.73	1651256.80	93.6	60 - 125		1593470.00	1512801.00	1531522.00
209 Bi # 3	950257.81	1.83	1054491.00	90.1	60 - 125		969384.44	935282.25	946106.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\136_CCV.D\136_CCV.D#
Date Acquired: Dec 25 2012 10:52 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	54.25 ug/l	4.08	50.00	90 - 110		144142.14	148733.47	147608.02
11 B	111.3 ug/l	4.89	100.00	90 - 110	Fail	316689.66	327473.97	320195.78
23 Na	5084 ug/l	0.63	5000.00	90 - 110		37000368.00	38000580.00	38231392.00
24 Mg	4944 ug/l	1.93	5000.00	90 - 110		23880366.00	24999046.00	25310142.00
27 Al	492.2 ug/l	0.78	500.00	90 - 110		2744263.00	2822643.80	2845862.00
39 K	4900 ug/l	3.26	5000.00	90 - 110		1774844.80	1824447.50	1859050.80
40 Ca	4948 ug/l	0.25	5000.00	90 - 110		55820280.00	56762592.00	57356592.00
45 Sc	--------	--------		--- ##### - #####		44304.04	45149.41	50336.43
47 Ti	50.44 ug/l	2.21	50.00	90 - 110		52745.17	52534.52	52735.00
51 V	49.65 ug/l	4.20	50.00	90 - 110		123915.41	125507.10	126659.87
52 Cr	49.91 ug/l	4.28	50.00	90 - 110		148702.81	151172.13	152009.89
55 Mn	490.5 ug/l	1.65	500.00	90 - 110		9194240.00	9133307.00	9289892.00
56 Fe	4980 ug/l	0.70	5000.00	90 - 110		88307600.00	87792456.00	89667760.00
59 Co	47.62 ug/l	1.20	50.00	90 - 110		683465.44	682771.06	687513.88
60 Ni	51.34 ug/l	4.63	50.00	90 - 110		65782.71	66061.33	66500.85
63 Cu	51.89 ug/l	5.05	50.00	90 - 110		174094.09	175804.91	175083.39
66 Zn	49.88 ug/l	0.81	50.00	90 - 110		86912.83	86732.46	86785.60
75 As	49.23 ug/l	3.66	50.00	90 - 110		12342.50	12451.91	12717.09
78 Se	49.96 ug/l	0.44	50.00	90 - 110		26244.83	26402.40	26444.78
88 Sr	51.32 ug/l	3.42	50.00	90 - 110		1293652.10	1292075.90	1302163.80
95 Mo	49.26 ug/l	3.89	50.00	90 - 110		179759.42	177845.73	179505.83
107 Ag	50.17 ug/l	4.09	50.00	90 - 110		543651.38	529795.44	529184.75
111 Cd	49.9 ug/l	3.77	50.00	90 - 110		117094.67	115317.60	115427.04
118 Sn	50.33 ug/l	3.47	50.00	90 - 110		360301.41	362150.97	364000.97
121 Sb	51.67 ug/l	3.71	50.00	90 - 110		346714.44	346278.50	349368.56
137 Ba	50.66 ug/l	4.11	50.00	90 - 110		178324.25	174654.22	175991.66
202 Hg	2.454 ug/l	1.74	2.50	90 - 110		6600.37	6515.34	6605.37
205 Tl	10.02 ug/l	1.19	10.00	90 - 110		229518.30	231040.83	228473.06
208 Pb	49.81 ug/l	1.70	50.00	90 - 110		1578309.80	1573442.50	1576054.00
232 Th	50.33 ug/l	1.66		--- ##### - #####		1752372.30	1728980.30	1751278.90
238 U	49.97 ug/l	2.57		--- ##### - #####		1733236.90	1710437.00	1760164.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	582234.88	5.18	836165.38	69.6	60 - 125		551828.25	582783.13	612093.38
45 Sc	609077.13	1.13	552676.25	110.2	60 - 125		601486.69	610742.56	615002.06
45 Sc	600231.69	2.02	644433.94	93.1	60 - 125		599670.75	612615.25	588409.13
74 Ge	197495.33	0.78	175321.88	112.6	60 - 125		196046.06	197324.92	199114.98
74 Ge	27640.69	5.28	27172.50	101.7	60 - 125		26550.50	27072.37	29299.21
74 Ge	153996.41	0.82	164913.13	93.4	60 - 125		154736.28	154720.78	152532.14
89 Y	1022820.00	3.15	1068488.30	95.7	60 - 125		1010117.40	1059404.90	998937.56
115 In	1017061.30	3.40	1083659.40	93.9	60 - 125		1002477.60	1056556.30	992150.19
159 Tb	1519453.60	1.65	1651256.80	92.0	60 - 125		1529792.30	1537753.30	1490815.40
209 Bi	907793.00	1.27	1054491.00	86.1	60 - 125		916441.13	912177.69	894760.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\137_CCB.D\137_CCB.D#
Date Acquired: Dec 25 2012 11:00 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01127	0.01127	ug/l	55.79	#VALUE!		53.33	26.67	20.00
11 B # 3	3.378	3.378	ug/l	2.10	#VALUE!		15643.42	15416.59	15816.94
23 Na # 1	34.63	34.63	ug/l	2.06	#VALUE!		357583.06	365199.88	362918.91
24 Mg # 1	1.768	1.768	ug/l	2.04	#VALUE!		9129.13	9592.60	9629.34
27 Al # 1	0.0993	0.0993	ug/l	9.87	#VALUE!		1773.46	1900.15	1860.14
39 K # 2	0.8726	0.8726	ug/l	15.36	#VALUE!		9879.52	9892.83	10656.61
40 Ca # 1	4.358	4.358	ug/l	2.43	#VALUE!		125423.19	126637.15	127490.16
45 Sc # 2	----	--------		--------	#VALUE!		43453.25	43505.64	47831.86
47 Ti # 3	0.01425	0.01425	ug/l	85.75	#VALUE!		40.00	53.34	30.00
51 V # 2	0.009634	0.009634	ug/l	60.40	#VALUE!		217.78	232.23	266.67
52 Cr # 2	0.01387	0.01387	ug/l	76.21	#VALUE!		142.22	204.45	184.45
55 Mn # 3	0.08507	0.08507	ug/l	14.72	#VALUE!		2930.33	2366.88	2350.22
56 Fe # 1	0.9225	0.9225	ug/l	2.68	#VALUE!		30989.70	30796.21	31333.72
59 Co # 3	0.007645	0.007645	ug/l	27.01	#VALUE!		163.34	130.00	96.67
60 Ni # 2	0.01869	0.01869	ug/l	70.36	#VALUE!		38.89	65.56	75.56
63 Cu # 2	0.04478	0.04478	ug/l	15.17	#VALUE!		681.13	698.91	784.47
66 Zn # 3	0.007967	0.007967	ug/l	272.88	#VALUE!		230.01	286.68	256.68
75 As # 2	0.01984	0.01984	ug/l	127.97	#VALUE!		17.00	27.67	30.67
78 Se # 1	0.03935	0.03935	ug/l	12.08	#VALUE!		43.67	49.67	46.67
88 Sr # 3	0.01432	0.01432	ug/l	34.32	#VALUE!		606.79	363.35	330.01
95 Mo # 3	0.07471	0.07471	ug/l	11.78	#VALUE!		340.02	293.34	370.02
107 Ag # 3	0.009942	0.009942	ug/l	21.63	#VALUE!		116.67	150.01	130.00
111 Cd # 3	0.008264	0.008264	ug/l	38.12	#VALUE!		63.23	46.57	63.22
118 Sn # 3	0.03496	0.03496	ug/l	13.80	#VALUE!		566.69	540.02	606.70
121 Sb # 3	0.2922	0.2922	ug/l	9.74	#VALUE!		2566.94	2260.22	2060.19
137 Ba # 3	0.01727	0.01727	ug/l	23.78	#VALUE!		80.00	93.35	70.00
202 Hg # 3	0.02111	0.02111	ug/l	5.98	#VALUE!		112.00	104.00	113.33
205 Tl # 3	0.003355	0.003355	ug/l	24.94	#VALUE!		120.00	143.34	140.01
208 Pb # 3	0.009051	0.009051	ug/l	26.45	#VALUE!		610.02	460.02	420.02
232 Th # 3	0.1109	0.1109	ug/l	7.90	#VALUE!		4620.85	4337.41	3943.96
238 U # 3	0.01187	0.01187	ug/l	6.92	#VALUE!		480.02	443.36	410.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	588882.63	2.37	836165.38	70.4	60 - 125		596400.94	572804.06	597442.75
45 Sc # 1	611839.44	1.72	552676.25	110.7	60 - 125		602698.56	609432.44	623387.19
45 Sc # 3	608906.50	4.43	644433.94	94.5	60 - 125		637915.44	584659.81	604144.19
74 Ge # 1	199594.20	1.46	175321.88	113.8	60 - 125		196287.47	200699.86	201795.30
74 Ge # 2	28261.35	4.68	27172.50	104.0	60 - 125		27595.31	27403.94	29784.79
74 Ge # 3	157879.31	3.99	164913.13	95.7	60 - 125		164320.78	151727.83	157589.34
89 Y # 3	1041842.10	5.59	1068488.30	97.5	60 - 125		1104005.90	988686.00	1032834.30
115 In # 3	1049764.90	5.17	1083659.40	96.9	60 - 125		1106134.60	997755.19	1045405.00
159 Tb # 3	1553861.40	5.60	1651256.80	94.1	60 - 125		1644653.50	1471152.30	1545778.30
209 Bi # 3	959627.38	5.23	1054491.00	91.0	60 - 125		1010337.80	910054.75	958489.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\138_ICV.D\138_ICV.D#
Date Acquired: Dec 25 2012 11:07 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: ICSA
Misc Info:
Vial Number: 4510
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: ICV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	0.0008009 ug/l	211.26		--- ##### - #####		6.67	3.33	0.00
11 B	2.21 ug/l	5.74		--- ##### - #####		9122.39	9028.97	8999.00
23 Na	95260 ug/l	0.32	#########	80 - 120		605475900.00	610977470.00	612166080.00
24 Mg	93090 ug/l	0.37	#########	80 - 120		399818430.00	405810080.00	401471940.00
27 Al	90630 ug/l	1.21	#########	80 - 120		437618850.00	451459360.00	448950020.00
39 K	105100 ug/l	0.55	#########	80 - 120		28521906.00	28793240.00	29659832.00
40 Ca	94780 ug/l	0.95	#########	80 - 120		925015740.00	937168830.00	947080060.00
45 Sc	--------	--------		--- ##### - #####		36525.33	37251.15	38048.29
47 Ti	2160 ug/l	4.75	2000.00	80 - 120		1802876.00	1768910.80	1758532.00
51 V	0.2154 ug/l	1.71		--- ##### - #####		553.35	566.68	563.35
52 Cr	1.253 ug/l	1.85		--- ##### - #####		2906.92	2940.26	2908.03
55 Mn	0.2139 ug/l	1.77		--- ##### - #####		3473.78	3517.11	3547.12
56 Fe	98550 ug/l	0.52	#########	80 - 120		##########	##########	##########
59 Co	0.1073 ug/l	4.16		--- ##### - #####		1126.75	1080.06	1146.73
60 Ni	0.8511 ug/l	3.42		--- ##### - #####		842.25	862.25	825.58
63 Cu	0.2275 ug/l	2.93		--- ##### - #####		970.03	965.59	1017.82
66 Zn	3.21 ug/l	4.90		--- ##### - #####		4260.61	4163.94	4063.90
75 As	0.4071 ug/l	2.83		--- ##### - #####		90.67	89.00	95.00
78 Se	0.05189 ug/l	35.04		--- ##### - #####		34.67	36.67	48.00
88 Sr	0.3323 ug/l	3.74		--- ##### - #####		6641.42	6598.08	6648.07
95 Mo	2167 ug/l	4.01	2000.00	80 - 120		5905180.00	5840949.00	5787907.50
107 Ag	0.05351 ug/l	3.58		--- ##### - #####		440.02	446.68	433.35
111 Cd	0.5036 ug/l	13.51		--- ##### - #####		770.63	877.86	1044.85
118 Sn	0.1206 ug/l	8.29		--- ##### - #####		890.05	883.38	830.04
121 Sb	0.4652 ug/l	6.74		--- ##### - #####		2600.27	2466.92	2463.57
137 Ba	0.173 ug/l	10.56		--- ##### - #####		446.69	420.02	516.69
202 Hg	0.02612 ug/l	20.95		--- ##### - #####		88.33	85.33	73.00
205 Tl	0.0109 ug/l	17.32		--- ##### - #####		266.68	226.68	220.01
208 Pb	0.1271 ug/l	4.47		--- ##### - #####		3313.56	3240.24	3330.25
232 Th	0.1422 ug/l	10.16		--- ##### - #####		3870.62	3567.18	3413.81
238 U	0.004982 ug/l	41.81		--- ##### - #####		170.01	133.34	76.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	434413.31	2.29	836165.38	52.0	60 - 125	IS Fail	423308.59	442582.44	437348.94
45 Sc	526358.13	0.47	552676.25	95.2	60 - 125		523746.63	528667.94	526659.75
45 Sc	473418.22	3.37	644433.94	73.5	60 - 125		455109.56	480810.16	484334.88
74 Ge	148885.48	0.15	175321.88	84.9	60 - 125		148797.45	149137.19	148721.80
74 Ge	20608.01	1.64	27172.50	75.8	60 - 125		20286.91	20575.00	20962.12
74 Ge	110425.83	2.40	164913.13	67.0	60 - 125		107389.36	111654.14	112234.01
89 Y	802561.31	3.47	1068488.30	75.1	60 - 125		770382.56	817786.13	819515.19
115 In	754914.44	3.02	1083659.40	69.7	60 - 125		728620.31	767568.81	768554.19
159 Tb	1187839.80	3.39	1651256.80	71.9	60 - 125		1141552.10	1214274.00	1207693.40
209 Bi	638164.50	3.20	1054491.00	60.5	60 - 125		614681.50	647770.81	652041.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\139SMPL.D\139SMPL.D#
Date Acquired: Dec 25 2012 11:15 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: ICSAB
Misc Info:
Vial Number: 4511
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.002668	0.002668	ug/l	1.76	100.00		6.67	6.67	6.67
11	B	# 3	1.695	1.695	ug/l	2.01	1800.00		7424.99	7468.29	7391.58
23	Na	# 1	94010	94010	ug/l	1.06	81000.00		562957250.00	573477890.00	575682240.00
24	Mg	# 1	90690	90690	ug/l	0.98	81000.00		367348830.00	372965150.00	375309020.00
27	Al	# 1	88580	88580	ug/l	0.92	81000.00	Fail	408713950.00	414779360.00	417104510.00
39	K	# 2	101900	101900	ug/l	0.90	81000.00		26580040.00	26947990.00	26998302.00
40	Ca	# 1	93680	93680	ug/l	0.75	81000.00		869097150.00	881742910.00	883436740.00
45	Sc	# 2	----	--------		--------	#VALUE!		34267.84	35151.59	36302.86
47	Ti	# 3	2134	2134	ug/l	1.56	1620.00	Fail	1685902.00	1687108.50	1667994.50
51	V	# 2	0.2235	0.2235	ug/l	4.65	1800.00		558.90	552.24	540.01
52	Cr	# 2	22.02	22.02	ug/l	0.77	1800.00		46992.06	47331.76	48012.42
55	Mn	# 3	20.93	20.93	ug/l	1.01	1800.00		277038.63	276159.31	274504.59
56	Fe	# 1	98060	98060	ug/l	0.30	81000.00	Fail	1251387500.00	1258868100.00	1250916100.00
59	Co	# 3	19.42	19.42	ug/l	1.89	1800.00		197885.88	193814.45	195229.81
60	Ni	# 2	20.99	20.99	ug/l	1.96	1800.00		19370.17	19188.86	19321.24
63	Cu	# 2	19.11	19.11	ug/l	1.19	1800.00		45974.77	45939.05	46713.27
66	Zn	# 3	21.01	21.01	ug/l	1.31	1800.00		25695.19	25715.20	25751.97
75	As	# 2	20.83	20.83	ug/l	1.87	100.00		3765.40	3814.41	3756.39
78	Se	# 1	0.055	0.055	ug/l	19.35	100.00		43.33	38.67	35.33
88	Sr	# 3	0.3199	0.3199	ug/l	0.99	1800.00		6314.63	6277.95	6231.27
95	Mo	# 3	2105	2105	ug/l	1.80	1800.00	Fail	5598365.50	5561896.00	5572496.50
107	Ag	# 3	17.12	17.12	ug/l	1.47	100.00		134455.61	132523.44	131758.38
111	Cd	# 3	17.93	17.93	ug/l	2.41	100.00		30696.17	30019.76	30443.96
118	Sn	# 3	0.115	0.115	ug/l	0.97	1800.00		823.38	833.38	813.38
121	Sb	# 3	0.4268	0.4268	ug/l	6.08	100.00		2433.58	2200.20	2203.54
137	Ba	# 3	0.1904	0.1904	ug/l	23.17	1800.00		443.35	430.02	613.36
202	Hg	# 3	0.02017	0.02017	ug/l	0.30	5.00		71.33	71.33	70.67
205	Tl	# 3	0.01181	0.01181	ug/l	11.38	20.00		226.67	273.35	263.34
208	Pb	# 3	0.1245	0.1245	ug/l	4.96	1800.00		3130.22	3230.23	3323.57
232	Th	# 3	0.08866	0.08866	ug/l	2.73	#VALUE!		2353.59	2256.90	2330.26
238	U	# 3	0.002489	0.002489	ug/l	33.15	#VALUE!		90.00	56.67	53.34

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	405281.94	1.34	836165.38	48.5	60 - 125	IS F	401965.03	411552.69	402328.13
45	Sc	# 1	499352.66	0.16	552676.25	90.4	60 - 125		498495.44	500060.44	499502.06
45	Sc	# 3	452795.50	2.13	644433.94	70.3	60 - 125		453711.66	461960.19	442714.63
74	Ge	# 1	141961.48	0.66	175321.88	81.0	60 - 125		141545.20	143030.27	141308.95
74	Ge	# 2	19681.42	1.69	27172.50	72.4	60 - 125		19321.42	19742.95	19979.90
74	Ge	# 3	107932.00	1.23	164913.13	65.4	60 - 125		107864.54	109294.16	106637.27
89	Y	# 3	788200.38	1.40	1068488.30	73.8	60 - 125		791877.56	796944.25	775779.25
115	In	# 3	741085.75	1.77	1083659.40	68.4	60 - 125		745611.38	751297.00	726348.94
159	Tb	# 3	1186023.60	2.43	1651256.80	71.8	60 - 125		1185571.50	1215028.10	1157471.50
209	Bi	# 3	636609.38	0.65	1054491.00	60.4	60 - 125		638143.25	639773.25	631911.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

4 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\140SMPL.D\140SMPL.D#
Date Acquired: Dec 25 2012 11:23 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01516	0.01516	ug/l	44.19	100.00		20.00	50.00	33.33
11 B # 3	2.218	2.218	ug/l	8.72	1800.00		9689.34	9275.81	9786.04
23 Na # 1	360.3	360.3	ug/l	2.72	81000.00		2326970.30	2433802.80	2492452.80
24 Mg # 1	73.87	73.87	ug/l	7.95	81000.00		297350.63	317127.66	354260.91
27 Al # 1	29.98	29.98	ug/l	17.14	81000.00		126425.31	144378.44	179655.56
39 K # 2	65.98	65.98	ug/l	8.06	81000.00		30875.81	29346.84	29493.53
40 Ca # 1	51.45	51.45	ug/l	10.42	81000.00		527828.94	566982.13	644445.75
45 Sc # 2	----	--------		--------	#VALUE!		37182.16	37497.17	38480.39
47 Ti # 3	0.8354	0.8354	ug/l	3.52	1620.00		760.04	843.38	756.71
51 V # 2	0.03265	0.03265	ug/l	0.33	1800.00		250.00	252.23	267.78
52 Cr # 2	0.03818	0.03818	ug/l	3.91	1800.00		207.78	213.34	231.11
55 Mn # 3	0.2078	0.2078	ug/l	2.47	1800.00		4380.64	4550.68	4444.00
56 Fe # 1	33.27	33.27	ug/l	15.70	81000.00		471129.78	531746.06	646780.63
59 Co # 3	0.04495	0.04495	ug/l	7.37	1800.00		573.36	673.37	606.70
60 Ni # 2	0.05725	0.05725	ug/l	3.86	1800.00		95.56	92.22	97.78
63 Cu # 2	0.06853	0.06853	ug/l	31.86	1800.00		710.02	605.57	761.14
66 Zn # 3	0.07133	0.07133	ug/l	12.28	1800.00		353.35	343.35	316.68
75 As # 2	0.03569	0.03569	ug/l	24.81	100.00		22.33	26.33	26.67
78 Se # 1	0.02754	0.02754	ug/l	31.38	100.00		33.33	34.00	41.33
88 Sr # 3	0.2623	0.2623	ug/l	6.92	1800.00		5954.51	6154.57	6494.70
95 Mo # 3	1.323	1.323	ug/l	5.17	1800.00		4974.15	4904.15	4380.67
107 Ag # 3	0.02156	0.02156	ug/l	11.42	100.00		223.34	250.01	266.68
111 Cd # 3	0.02291	0.02291	ug/l	30.74	100.00		95.08	71.77	95.27
118 Sn # 3	0.05595	0.05595	ug/l	11.48	1800.00		633.36	736.70	696.70
121 Sb # 3	0.08304	0.08304	ug/l	10.33	100.00		853.38	773.37	763.37
137 Ba # 3	0.05826	0.05826	ug/l	11.17	1800.00		190.01	236.68	223.34
202 Hg # 3	0.007382	0.007382	ug/l	39.88	5.00		61.00	72.33	75.67
205 Tl # 3	0.005324	0.005324	ug/l	12.27	20.00		183.34	190.01	153.34
208 Pb # 3	0.03982	0.03982	ug/l	7.80	1800.00		1310.06	1580.09	1436.74
232 Th # 3	0.03341	0.03341	ug/l	1.80	#VALUE!		1446.78	1470.12	1380.10
238 U # 3	0.01835	0.01835	ug/l	0.72	#VALUE!		666.70	683.38	653.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	459192.75	2.05	836165.38	54.9	60 - 125	IS F	449545.50	468366.13	459666.56
45 Sc # 1	531254.19	0.99	552676.25	96.1	60 - 125		527058.63	529540.75	537163.19
45 Sc # 3	525554.06	3.00	644433.94	81.6	60 - 125		521923.31	542814.81	511924.00
74 Ge # 1	179016.11	0.90	175321.88	102.1	60 - 125		177410.75	179006.36	180631.19
74 Ge # 2	24348.91	3.86	27172.50	89.6	60 - 125		23712.13	23906.83	25427.79
74 Ge # 3	143486.83	2.15	164913.13	87.0	60 - 125		143902.53	146340.78	140217.19
89 Y # 3	949800.31	3.66	1068488.30	88.9	60 - 125		940043.75	988358.94	920998.13
115 In # 3	993819.25	3.32	1083659.40	91.7	60 - 125		988314.69	1029209.10	963934.06
159 Tb # 3	1502394.00	4.18	1651256.80	91.0	60 - 125		1480004.10	1573271.40	1453906.90
209 Bi # 3	939029.88	2.88	1054491.00	89.1	60 - 125		932704.44	968709.13	915675.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\141SMPL.D\141SMPL.D#
Date Acquired: Dec 25 2012 11:30 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01831	0.01831	ug/l	38.10	100.00		43.33	56.67	26.67
11 B # 3	1.984	1.984	ug/l	5.34	1800.00		9112.41	9599.30	9419.20
23 Na # 1	352.4	352.4	ug/l	0.22	81000.00		2340455.50	2362151.80	2421766.50
24 Mg # 1	61.32	61.32	ug/l	1.48	81000.00		261197.86	269215.38	276607.38
27 Al # 1	18.38	18.38	ug/l	6.78	81000.00		84705.61	94402.70	99326.90
39 K # 2	24.66	24.66	ug/l	7.58	81000.00		17248.25	16804.52	16554.37
40 Ca # 1	38.53	38.53	ug/l	2.90	81000.00		434096.44	457346.09	465695.81
45 Sc # 2	----	--------		--------	#VALUE!		38038.30	37815.61	38757.51
47 Ti # 3	0.2659	0.2659	ug/l	24.76	1620.00		323.35	266.68	220.01
51 V # 2	0.02898	0.02898	ug/l	24.20	1800.00		233.34	266.67	263.34
52 Cr # 2	0.03579	0.03579	ug/l	1.76	1800.00		211.11	216.67	220.00
55 Mn # 3	0.2072	0.2072	ug/l	3.50	1800.00		4480.68	4557.35	4450.65
56 Fe # 1	20.29	20.29	ug/l	6.89	81000.00		313591.59	346852.66	367791.69
59 Co # 3	0.04112	0.04112	ug/l	4.79	1800.00		570.03	593.36	553.36
60 Ni # 2	0.06871	0.06871	ug/l	13.06	1800.00		104.45	122.22	105.56
63 Cu # 2	0.1128	0.1128	ug/l	10.33	1800.00		790.02	857.81	880.03
66 Zn # 3	0.06614	0.06614	ug/l	19.90	1800.00		300.01	343.35	356.68
75 As # 2	0.04242	0.04242	ug/l	20.61	100.00		28.67	25.00	28.00
78 Se # 1	0.02104	0.02104	ug/l	37.89	100.00		32.00	37.67	30.33
88 Sr # 3	0.2724	0.2724	ug/l	5.38	1800.00		6674.73	6211.25	6731.48
95 Mo # 3	0.4878	0.4878	ug/l	9.58	1800.00		1886.83	1820.15	1680.13
107 Ag # 3	0.01663	0.01663	ug/l	15.10	100.00		210.01	206.67	173.34
111 Cd # 3	0.01315	0.01315	ug/l	28.46	100.00		59.40	76.09	62.80
118 Sn # 3	0.05302	0.05302	ug/l	8.50	1800.00		660.03	700.04	660.03
121 Sb # 3	0.05465	0.05465	ug/l	4.94	100.00		613.36	603.37	630.03
137 Ba # 3	0.05955	0.05955	ug/l	18.20	1800.00		230.01	250.01	186.67
202 Hg # 3	0.004868	0.004868	ug/l	29.91	5.00		57.67	68.00	65.33
205 Tl # 3	0.005717	0.005717	ug/l	38.53	20.00		230.01	136.67	193.34
208 Pb # 3	0.03732	0.03732	ug/l	6.66	1800.00		1420.07	1340.07	1390.07
232 Th # 3	0.02977	0.02977	ug/l	0.63	#VALUE!		1283.42	1326.77	1346.77
238 U # 3	0.01746	0.01746	ug/l	7.73	#VALUE!		673.37	643.37	613.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	475330.09	3.97	836165.38	56.8	60 - 125	IS F	454864.63	479030.47	492095.19
45 Sc # 1	533221.81	1.58	552676.25	96.5	60 - 125		526721.06	530236.56	542707.75
45 Sc # 3	537081.19	3.63	644433.94	83.3	60 - 125		518830.09	534760.88	557652.56
74 Ge # 1	180344.22	1.39	175321.88	102.9	60 - 125		177565.94	181031.69	182435.02
74 Ge # 2	24920.77	1.68	27172.50	91.7	60 - 125		24564.39	24814.65	25383.28
74 Ge # 3	145095.34	2.52	164913.13	88.0	60 - 125		141070.19	146025.28	148190.59
89 Y # 3	964089.88	3.48	1068488.30	90.2	60 - 125		931048.75	963173.31	998047.56
115 In # 3	1002258.90	3.53	1083659.40	92.5	60 - 125		966181.63	1003623.00	1036972.30
159 Tb # 3	1527036.60	4.16	1651256.80	92.5	60 - 125		1469322.90	1516678.30	1595108.60
209 Bi # 3	951362.88	2.95	1054491.00	90.2	60 - 125		921290.00	956068.19	976730.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\142SMPL.D\142SMPL.D#
Date Acquired: Dec 25 2012 11:37 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01537	0.01537	ug/l	18.37	100.00		30.00	40.00	40.00
11 B	# 3	1.724	1.724	ug/l	10.09	1800.00		8798.90	9172.40	8945.60
23 Na	# 1	340.5	340.5	ug/l	1.94	81000.00		2308843.30	2414848.00	2367553.80
24 Mg	# 1	49.16	49.16	ug/l	1.87	81000.00		215167.92	223869.97	226976.61
27 Al	# 1	7.872	7.872	ug/l	9.08	81000.00		37764.83	41027.94	45825.22
39 K	# 2	18.08	18.08	ug/l	10.66	81000.00		15286.61	14722.76	15036.35
40 Ca	# 1	26.95	26.95	ug/l	3.39	81000.00		334454.78	344499.59	359516.81
45 Sc	# 2	----	--------		--------	#VALUE!		38142.98	38666.21	42554.16
47 Ti	# 3	0.2104	0.2104	ug/l	22.87	1620.00		180.01	233.34	253.34
51 V	# 2	0.03184	0.03184	ug/l	39.51	1800.00		265.56	285.56	247.78
52 Cr	# 2	0.03972	0.03972	ug/l	16.42	1800.00		206.67	236.67	253.34
55 Mn	# 3	0.2054	0.2054	ug/l	1.14	1800.00		4650.72	4397.32	4464.00
56 Fe	# 1	9.828	9.828	ug/l	8.26	81000.00		161460.03	173149.67	189826.97
59 Co	# 3	0.035	0.035	ug/l	7.25	1800.00		476.69	480.02	523.36
60 Ni	# 2	0.0559	0.0559	ug/l	21.18	1800.00		82.22	95.56	117.78
63 Cu	# 2	0.08539	0.08539	ug/l	27.25	1800.00		727.80	706.69	903.37
66 Zn	# 3	0.08602	0.08602	ug/l	6.77	1800.00		393.35	346.68	366.68
75 As	# 2	0.03389	0.03389	ug/l	53.64	100.00		24.33	29.67	23.33
78 Se	# 1	0.01817	0.01817	ug/l	31.78	100.00		35.33	31.33	30.33
88 Sr	# 3	0.264	0.264	ug/l	5.02	1800.00		6354.59	6361.29	6441.43
95 Mo	# 3	0.3008	0.3008	ug/l	4.85	1800.00		1133.40	1100.07	1180.08
107 Ag	# 3	0.01374	0.01374	ug/l	13.17	100.00		156.67	180.01	166.67
111 Cd	# 3	0.02049	0.02049	ug/l	47.14	100.00		66.31	102.98	79.62
118 Sn	# 3	0.04964	0.04964	ug/l	14.36	1800.00		663.37	593.36	710.04
121 Sb	# 3	0.04428	0.04428	ug/l	14.28	100.00		566.69	573.36	513.36
137 Ba	# 3	0.05354	0.05354	ug/l	13.91	1800.00		240.01	196.67	176.67
202 Hg	# 3	0.007258	0.007258	ug/l	50.34	5.00		67.00	78.67	64.33
205 Tl	# 3	0.004635	0.004635	ug/l	11.47	20.00		156.67	166.67	166.67
208 Pb	# 3	0.04092	0.04092	ug/l	9.43	1800.00		1433.41	1506.74	1586.75
232 Th	# 3	0.02824	0.02824	ug/l	3.98	#VALUE!		1316.77	1173.42	1300.10
238 U	# 3	0.01749	0.01749	ug/l	7.03	#VALUE!		630.03	613.37	690.04

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	486134.31	2.47	836165.38	58.1	60 - 125	IS F	495793.53	472676.75	489932.69
45 Sc	# 1	548588.81	0.93	552676.25	99.3	60 - 125		543358.88	548813.50	553594.13
45 Sc	# 3	546474.06	4.72	644433.94	84.8	60 - 125		574573.19	523834.25	541014.63
74 Ge	# 1	182525.63	0.53	175321.88	104.1	60 - 125		181554.27	182549.81	183472.77
74 Ge	# 2	25517.24	4.36	27172.50	93.9	60 - 125		24981.57	24773.57	26796.56
74 Ge	# 3	146353.67	3.77	164913.13	88.7	60 - 125		152327.55	141431.08	145302.38
89 Y	# 3	971949.56	4.89	1068488.30	91.0	60 - 125		1020401.30	925424.38	970023.13
115 In	# 3	1010875.90	4.50	1083659.40	93.3	60 - 125		1058774.60	968378.00	1005475.30
159 Tb	# 3	1539739.90	4.28	1651256.80	93.2	60 - 125		1610505.90	1480278.90	1528435.00
209 Bi	# 3	950878.44	4.24	1054491.00	90.2	60 - 125		992701.75	912293.81	947639.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\143SMPL.D\143SMPL.D#
Date Acquired: Dec 25 2012 11:45 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.009184	0.009184	ug/l	30.74	100.00		23.33	16.67	30.00
11 B	# 3	1.547	1.547	ug/l	0.62	1800.00		8628.83	8805.52	8898.97
23 Na	# 1	216.7	216.7	ug/l	0.52	81000.00		1536694.60	1567151.60	1580740.80
24 Mg	# 1	28.87	28.87	ug/l	0.37	81000.00		131561.36	132213.47	133719.25
27 Al	# 1	3.661	3.661	ug/l	1.76	81000.00		19794.09	20000.89	20858.68
39 K	# 2	8.056	8.056	ug/l	5.00	81000.00		11550.55	11680.59	11687.24
40 Ca	# 1	16.11	16.11	ug/l	0.25	81000.00		234952.67	238061.50	240663.14
45 Sc	# 2	----	--------		--------	#VALUE!		38542.66	39029.21	40938.73
47 Ti	# 3	0.08495	0.08495	ug/l	14.22	1620.00		116.67	106.67	93.34
51 V	# 2	0.02372	0.02372	ug/l	17.78	1800.00		234.45	253.34	258.89
52 Cr	# 2	0.02179	0.02179	ug/l	25.35	1800.00		163.34	194.45	190.00
55 Mn	# 3	0.1178	0.1178	ug/l	3.40	1800.00		2936.97	2943.66	3047.01
56 Fe	# 1	4.807	4.807	ug/l	1.96	81000.00		93381.82	91388.69	94975.00
59 Co	# 3	0.01912	0.01912	ug/l	21.10	1800.00		293.34	220.01	326.68
60 Ni	# 2	0.03544	0.03544	ug/l	10.47	1800.00		68.89	73.33	80.00
63 Cu	# 2	0.02221	0.02221	ug/l	40.14	1800.00		552.24	610.02	584.46
66 Zn	# 3	0.03302	0.03302	ug/l	23.53	1800.00		283.34	273.34	296.68
75 As	# 2	0.01127	0.01127	ug/l	146.14	100.00		16.33	21.00	24.67
78 Se	# 1	0.01339	0.01339	ug/l	35.43	100.00		30.00	32.67	28.33
88 Sr	# 3	0.1619	0.1619	ug/l	2.16	1800.00		4084.01	4077.25	3903.87
95 Mo	# 3	0.1671	0.1671	ug/l	12.85	1800.00		726.70	703.37	573.36
107 Ag	# 3	0.009292	0.009292	ug/l	1.53	100.00		123.34	123.34	123.34
111 Cd	# 3	0.008325	0.008325	ug/l	19.78	100.00		59.77	53.11	56.49
118 Sn	# 3	0.02795	0.02795	ug/l	31.08	1800.00		576.69	463.35	486.69
121 Sb	# 3	0.02999	0.02999	ug/l	17.66	100.00		500.02	466.69	426.68
137 Ba	# 3	0.02868	0.02868	ug/l	10.35	1800.00		110.00	120.00	130.00
202 Hg	# 3	0.003798	0.003798	ug/l	8.49	5.00		61.00	62.67	61.00
205 Tl	# 3	0.002066	0.002066	ug/l	28.42	20.00		103.34	120.00	90.00
208 Pb	# 3	0.02041	0.02041	ug/l	9.39	1800.00		876.70	800.04	893.37
232 Th	# 3	0.01801	0.01801	ug/l	3.08	#VALUE!		913.39	923.39	880.06
238 U	# 3	0.01049	0.01049	ug/l	12.18	#VALUE!		416.69	343.35	430.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	498586.88	1.60	836165.38	59.6	60 - 125	IS F	489548.94	501681.28	504530.41
45 Sc	# 1	556700.13	1.18	552676.25	100.7	60 - 125		550492.25	555985.88	563622.25
45 Sc	# 3	553134.25	0.29	644433.94	85.8	60 - 125		554513.88	551366.06	553522.75
74 Ge	# 1	184511.66	1.08	175321.88	105.2	60 - 125		182604.89	184361.66	186568.45
74 Ge	# 2	25582.82	1.58	27172.50	94.1	60 - 125		25259.76	25452.27	26036.44
74 Ge	# 3	148042.13	0.46	164913.13	89.8	60 - 125		147909.69	148773.23	147443.44
89 Y	# 3	991169.69	1.90	1068488.30	92.8	60 - 125		982764.69	1012777.90	977966.44
115 In	# 3	1028627.10	1.25	1083659.40	94.9	60 - 125		1023723.30	1043218.80	1018939.10
159 Tb	# 3	1544708.10	1.49	1651256.80	93.5	60 - 125		1528819.40	1571142.10	1534162.60
209 Bi	# 3	965804.56	0.27	1054491.00	91.6	60 - 125		967688.13	966943.19	962782.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\144_CCV.D\144_CCV.D#
Date Acquired: Dec 25 2012 11:52 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	55.31 ug/l	4.35	50.00	90 - 110	Fail	125690.39	128134.77	131098.42
11 B	112.1 ug/l	4.24	100.00	90 - 110	Fail	270980.16	277906.06	283796.72
23 Na	4934 ug/l	11.31	5000.00	90 - 110		33368592.00	33745232.00	34002968.00
24 Mg	4839 ug/l	12.18	5000.00	90 - 110		22253724.00	21958464.00	22553780.00
27 Al	479.1 ug/l	11.92	500.00	90 - 110		2507200.00	2485294.30	2538687.80
39 K	4721 ug/l	2.56	5000.00	90 - 110		1616525.80	1646960.00	1675582.90
40 Ca	4847 ug/l	11.89	5000.00	90 - 110		50970928.00	50551184.00	51591772.00
45 Sc	--------	--------		--- ##### - #####		40587.99	41164.84	45319.34
47 Ti	50.54 ug/l	3.19	50.00	90 - 110		48219.33	48847.86	48002.21
51 V	48.24 ug/l	2.91	50.00	90 - 110		112427.31	114831.54	115975.18
52 Cr	49.03 ug/l	3.08	50.00	90 - 110		137463.58	138989.34	140576.64
55 Mn	493.1 ug/l	1.49	500.00	90 - 110		8787293.00	8746697.00	8764078.00
56 Fe	4965 ug/l	9.06	5000.00	90 - 110		80973200.00	81598816.00	83062896.00
59 Co	46.75 ug/l	1.59	50.00	90 - 110		637312.69	635833.25	636612.19
60 Ni	49.99 ug/l	3.48	50.00	90 - 110		60081.16	60465.74	60877.14
63 Cu	50.79 ug/l	3.80	50.00	90 - 110		160213.50	161164.28	161406.61
66 Zn	50.12 ug/l	1.44	50.00	90 - 110		82974.37	82412.54	82474.87
75 As	48.28 ug/l	3.17	50.00	90 - 110		11446.26	11456.59	11638.71
78 Se	49.83 ug/l	8.70	50.00	90 - 110		24334.84	24264.77	24541.13
88 Sr	51.62 ug/l	0.37	50.00	90 - 110		1274225.30	1250256.10	1241969.40
95 Mo	48.63 ug/l	0.52	50.00	90 - 110		176090.89	173340.70	171315.39
107 Ag	49.18 ug/l	0.40	50.00	90 - 110		517372.50	514505.88	511092.50
111 Cd	49.89 ug/l	1.20	50.00	90 - 110		113467.88	114596.69	113389.19
118 Sn	50.67 ug/l	1.06	50.00	90 - 110		357290.31	359203.13	357569.41
121 Sb	51.92 ug/l	0.71	50.00	90 - 110		343618.16	342901.34	342094.53
137 Ba	50.98 ug/l	1.06	50.00	90 - 110		173910.75	174671.61	174166.89
202 Hg	2.47 ug/l	2.72	2.50	90 - 110		6586.37	6567.36	6578.70
205 Tl	9.991 ug/l	3.25	10.00	90 - 110		229170.75	228586.25	228968.91
208 Pb	50.04 ug/l	3.39	50.00	90 - 110		1582976.90	1582980.80	1580744.40
232 Th	51.44 ug/l	1.86		--- ##### - #####		1795711.40	1756078.50	1765436.60
238 U	51.05 ug/l	2.88		--- ##### - #####		1753881.90	1756158.10	1776282.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	498932.22	4.55	836165.38	59.7	60 - 125	IS Fail	479109.06	523733.22	493954.38
45 Sc	565121.75	11.06	552676.25	102.3	60 - 125		556194.81	631594.13	507576.22
45 Sc	550060.88	2.27	644433.94	85.4	60 - 125		558171.81	535693.63	556317.31
74 Ge	183981.53	8.23	175321.88	104.9	60 - 125		182041.11	200011.92	169891.59
74 Ge	25946.73	4.17	27172.50	95.5	60 - 125		25172.98	25485.63	27181.60
74 Ge	145882.22	1.69	164913.13	88.5	60 - 125		147867.30	143119.28	146660.06
89 Y	984400.00	1.10	1068488.30	92.1	60 - 125		995413.75	983917.56	973868.63
115 In	998018.31	0.92	1083659.40	92.1	60 - 125		1008296.90	994937.69	990820.38
159 Tb	1519574.00	3.36	1651256.80	92.0	60 - 125		1567777.00	1466132.60	1524812.60
209 Bi	902848.63	2.83	1054491.00	85.6	60 - 125		926090.94	875515.50	906939.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\145_CCB.D\145_CCB.D#
Date Acquired: Dec 25 2012 12:00 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01039	0.01039	ug/l	25.81	#VALUE!		20.00	33.33	26.67
11 B	# 3	2.308	2.308	ug/l	3.06	#VALUE!		10386.37	10903.32	11186.90
23 Na	# 1	22.01	22.01	ug/l	1.46	#VALUE!		242262.08	246182.19	249779.31
24 Mg	# 1	1.737	1.737	ug/l	2.31	#VALUE!		8212.00	8668.84	8708.86
27 Al	# 1	0.09173	0.09173	ug/l	4.14	#VALUE!		1646.78	1643.45	1670.12
39 K	# 2	0.7083	0.7083	ug/l	71.72	#VALUE!		8935.70	9109.14	9649.40
40 Ca	# 1	3.585	3.585	ug/l	1.24	#VALUE!		107128.45	108415.59	108469.53
45 Sc	# 2	----	--------		--------	#VALUE!		39237.40	40070.27	42488.96
47 Ti	# 3	0.03148	0.03148	ug/l	36.21	#VALUE!		66.67	50.00	46.67
51 V	# 2	0.004006	0.004006	ug/l	122.52	#VALUE!		195.56	196.67	223.34
52 Cr	# 2	0.01146	0.01146	ug/l	38.60	#VALUE!		140.00	154.45	172.22
55 Mn	# 3	0.1187	0.1187	ug/l	30.67	#VALUE!		3747.16	2760.29	2480.24
56 Fe	# 1	1.095	1.095	ug/l	2.43	#VALUE!		31066.57	32385.05	31580.96
59 Co	# 3	0.01177	0.01177	ug/l	36.17	#VALUE!		230.01	193.34	113.34
60 Ni	# 2	0.02458	0.02458	ug/l	40.23	#VALUE!		60.00	50.00	75.56
63 Cu	# 2	0.01165	0.01165	ug/l	151.93	#VALUE!		502.23	533.35	633.35
66 Zn	# 3	0.03564	0.03564	ug/l	44.53	#VALUE!		263.34	290.01	313.34
75 As	# 2	0.03043	0.03043	ug/l	41.97	#VALUE!		24.33	22.67	29.33
78 Se	# 1	0.0367	0.0367	ug/l	32.64	#VALUE!		35.33	47.67	43.00
88 Sr	# 3	0.01841	0.01841	ug/l	20.92	#VALUE!		613.36	480.02	440.02
95 Mo	# 3	0.1137	0.1137	ug/l	19.91	#VALUE!		563.36	433.35	413.35
107 Ag	# 3	0.01398	0.01398	ug/l	33.78	#VALUE!		230.01	136.67	153.34
111 Cd	# 3	0.009731	0.009731	ug/l	102.61	#VALUE!		66.49	79.86	33.20
118 Sn	# 3	0.03889	0.03889	ug/l	12.93	#VALUE!		626.70	580.03	556.69
121 Sb	# 3	0.2579	0.2579	ug/l	1.45	#VALUE!		2026.85	2040.18	1966.84
137 Ba	# 3	0.01609	0.01609	ug/l	74.46	#VALUE!		120.00	70.00	36.67
202 Hg	# 3	0.01555	0.01555	ug/l	21.81	#VALUE!		96.33	84.00	101.33
205 Tl	# 3	0.003681	0.003681	ug/l	25.62	#VALUE!		160.01	143.34	116.67
208 Pb	# 3	0.01243	0.01243	ug/l	18.93	#VALUE!		670.03	586.69	520.02
232 Th	# 3	0.09986	0.09986	ug/l	9.12	#VALUE!		4254.06	3817.26	3590.53
238 U	# 3	0.01572	0.01572	ug/l	16.87	#VALUE!		680.04	590.03	483.36

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	507623.44	2.16	836165.38	60.7	60 - 125		495529.69	510519.31	516821.28
45 Sc	# 1	561676.25	1.11	552676.25	101.6	60 - 125		554512.44	566015.81	564500.56
45 Sc	# 3	556934.75	0.63	644433.94	86.4	60 - 125		553275.69	560241.75	557286.69
74 Ge	# 1	185169.33	0.75	175321.88	105.6	60 - 125		183640.98	186380.08	185486.94
74 Ge	# 2	25871.36	2.34	27172.50	95.2	60 - 125		25263.10	25879.48	26471.50
74 Ge	# 3	148103.61	0.72	164913.13	89.8	60 - 125		148370.88	149009.73	146930.19
89 Y	# 3	996811.31	2.82	1068488.30	93.3	60 - 125		984856.13	1028889.30	976688.50
115 In	# 3	1026975.90	1.25	1083659.40	94.8	60 - 125		1022162.90	1041520.70	1017244.10
159 Tb	# 3	1522859.60	0.34	1651256.80	92.2	60 - 125		1522215.60	1528265.10	1518098.30
209 Bi	# 3	956922.25	0.65	1054491.00	90.7	60 - 125		956278.13	963475.69	951013.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\146SMPL.D\146SMPL.D#
Date Acquired: Dec 25 2012 12:07 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: mb 680-260764_1-a
Misc Info: 3010 1/5
Vial Number: 3101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.005029	0.005029	ug/l	50.81	100.00		16.67	6.67	16.67
11 B # 3	1.967	1.967	ug/l	3.26	1800.00		9542.60	9632.65	9479.19
23 Na # 1	12.66	12.66	ug/l	4.89	81000.00		177141.64	179836.80	180415.67
24 Mg # 1	0.307	0.307	ug/l	52.12	81000.00		1520.10	2758.47	1433.42
27 Al # 1	3.66	3.66	ug/l	3.78	81000.00		20100.99	19984.23	20017.64
39 K # 2	-1.902	-1.902	ug/l	31.41	81000.00		8295.36	8278.71	8195.34
40 Ca # 1	4.127	4.127	ug/l	7.77	81000.00		111459.30	111235.16	112565.96
45 Sc # 2	----	--------		--------	#VALUE!		39106.00	40115.92	41364.41
47 Ti # 3	0.04118	0.04118	ug/l	22.05	1620.00		70.00	63.34	53.34
51 V # 2	0.08909	0.08909	ug/l	15.78	1800.00		388.90	436.68	382.23
52 Cr # 2	0.03645	0.03645	ug/l	11.65	1800.00		223.34	233.34	215.56
55 Mn # 3	0.009854	0.009854	ug/l	27.26	1800.00		1043.39	960.06	1046.72
56 Fe # 1	0.6198	0.6198	ug/l	4.71	81000.00		23338.57	23341.79	23525.48
59 Co # 3	0.001042	0.001042	ug/l	0.48	1800.00		30.00	30.00	30.00
60 Ni # 2	0.02283	0.02283	ug/l	26.39	1800.00		54.45	54.45	68.89
63 Cu # 2	0.4128	0.4128	ug/l	6.06	1800.00		1708.98	1880.11	1827.89
66 Zn # 3	0.2425	0.2425	ug/l	6.79	1800.00		623.36	600.03	656.70
75 As # 2	0.06752	0.06752	ug/l	24.04	100.00		30.33	32.67	39.00
78 Se # 1	0.01151	0.01151	ug/l	48.13	100.00		26.33	32.33	28.67
88 Sr # 3	0.002338	0.002338	ug/l	27.38	1800.00		120.00	96.67	126.67
95 Mo # 3	0.0732	0.0732	ug/l	9.10	1800.00		290.01	326.68	336.68
107 Ag # 3	0.001505	0.001505	ug/l	60.26	100.00		50.00	33.33	33.33
111 Cd # 3	0.004373	0.004373	ug/l	57.26	100.00		53.24	43.23	43.23
118 Sn # 3	0.04323	0.04323	ug/l	8.68	1800.00		586.69	606.70	643.37
121 Sb # 3	0.2344	0.2344	ug/l	1.13	100.00		1826.81	1806.81	1856.82
137 Ba # 3	0.005486	0.005486	ug/l	66.72	1800.00		46.67	43.33	23.33
202 Hg # 3	0.0006263	0.0006263	ug/l	358.61	5.00		56.00	44.67	55.00
205 Tl # 3	-0.0003607	-0.0003607	ug/l	121.74	20.00		36.67	50.00	56.67
208 Pb # 3	0.001119	0.001119	ug/l	50.44	1800.00		226.68	226.67	256.68
232 Th # 3	0.04998	0.04998	ug/l	4.19	#VALUE!		2140.22	2036.86	1993.52
238 U # 3	0.0008195	0.0008195	ug/l	23.23	#VALUE!		33.33	46.67	36.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	485911.34	1.10	836165.38	58.1	60 - 125	IS F	480525.47	486011.50	491197.03
45 Sc # 1	552315.44	3.26	552676.25	99.9	60 - 125		532320.94	557393.25	567232.13
45 Sc # 3	542666.19	0.47	644433.94	84.2	60 - 125		542323.63	540311.88	545363.06
74 Ge # 1	182494.47	2.35	175321.88	104.1	60 - 125		177782.09	183546.33	186154.97
74 Ge # 2	25663.68	1.86	27172.50	94.4	60 - 125		25269.78	25527.91	26193.36
74 Ge # 3	146336.36	0.23	164913.13	88.7	60 - 125		146146.13	146137.69	146725.31
89 Y # 3	985135.63	0.92	1068488.30	92.2	60 - 125		975912.19	985545.81	993948.94
115 In # 3	1015095.80	0.40	1083659.40	93.7	60 - 125		1014502.90	1011366.30	1019418.20
159 Tb # 3	1544180.50	0.45	1651256.80	93.5	60 - 125		1542311.40	1551925.10	1538304.80
209 Bi # 3	953103.94	0.04	1054491.00	90.4	60 - 125		952755.63	952982.69	953573.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\147SMPL.D\147SMPL.D#
Date Acquired: Dec 25 2012 12:15 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: lcs 680-260764_2-a
Misc Info: 3010 1/5
Vial Number: 3102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.03	11.03	ug/l	2.81	100.00		24212.13	25386.97	24779.59
11 B # 3	47.28	47.28	ug/l	5.47	1800.00		114653.95	115442.21	118104.05
23 Na # 1	1010	1010	ug/l	3.66	81000.00		6821399.00	6988712.00	7053056.50
24 Mg # 1	1002	1002	ug/l	3.51	81000.00		4513888.50	4622712.50	4657409.50
27 Al # 1	965	965	ug/l	2.71	81000.00		5011481.00	5026631.00	5081646.00
39 K # 2	976.7	976.7	ug/l	0.75	81000.00		335989.44	345131.00	347451.13
40 Ca # 1	1000	1000	ug/l	2.97	81000.00		10410967.00	10625440.00	10621782.00
45 Sc # 2	----	--------		--------	#VALUE!		39425.52	40055.74	40925.44
47 Ti # 3	20.62	20.62	ug/l	6.42	1620.00		19453.94	19517.46	19617.34
51 V # 2	19.81	19.81	ug/l	0.44	1800.00		45899.39	46350.40	47073.44
52 Cr # 2	20.21	20.21	ug/l	0.31	1800.00		55692.38	56626.39	57389.74
55 Mn # 3	103.3	103.3	ug/l	4.85	1800.00		1837689.10	1830542.90	1853557.30
56 Fe # 1	986.6	986.6	ug/l	3.62	81000.00		15981471.00	16465313.00	16573118.00
59 Co # 3	9.527	9.527	ug/l	4.37	1800.00		131603.78	129045.13	129303.58
60 Ni # 2	21.26	21.26	ug/l	1.58	1800.00		25369.66	25309.55	25434.15
63 Cu # 2	21.7	21.7	ug/l	1.60	1800.00		68123.72	67864.99	68286.40
66 Zn # 3	20.43	20.43	ug/l	5.46	1800.00		33764.95	33501.22	34306.20
75 As # 2	20.01	20.01	ug/l	0.28	100.00		4647.93	4716.95	4786.30
78 Se # 1	19.05	19.05	ug/l	2.14	100.00		9297.72	9459.80	9347.07
88 Sr # 3	19.08	19.08	ug/l	7.34	1800.00		464848.00	459894.16	468315.00
95 Mo # 3	19.45	19.45	ug/l	5.65	1800.00		70550.92	70302.84	70380.12
107 Ag # 3	10.23	10.23	ug/l	6.07	100.00		107663.17	108392.51	109246.69
111 Cd # 3	9.909	9.909	ug/l	4.49	100.00		23143.43	23116.69	22602.61
118 Sn # 3	20.53	20.53	ug/l	6.11	1800.00		146586.88	146858.16	148200.80
121 Sb # 3	11.15	11.15	ug/l	6.21	100.00		74822.36	74393.53	75273.74
137 Ba # 3	21.02	21.02	ug/l	5.67	1800.00		72345.06	73100.70	73087.63
202 Hg # 3	0.9787	0.9787	ug/l	6.51	5.00		2802.25	2714.24	2773.25
205 Tl # 3	7.951	7.951	ug/l	6.29	20.00		187363.33	187402.05	187114.84
208 Pb # 3	10.14	10.14	ug/l	6.25	1800.00		328953.38	330819.59	329758.47
232 Th # 3	20.98	20.98	ug/l	5.99	#VALUE!		760511.44	751507.06	762615.88
238 U # 3	22.04	22.04	ug/l	6.25	#VALUE!		802023.19	787542.06	803422.25

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	482982.75	4.66	836165.38	57.8	60 - 125	IS F	470265.66	508977.03	469705.63
45 Sc # 1	558722.88	1.97	552676.25	101.1	60 - 125		568543.00	560756.56	546869.06
45 Sc # 3	545276.06	6.18	644433.94	84.6	60 - 125		542494.63	580276.13	513057.28
74 Ge # 1	183827.63	1.79	175321.88	104.9	60 - 125		186884.89	184249.95	180348.06
74 Ge # 2	25562.76	1.71	27172.50	94.1	60 - 125		25150.72	25517.87	26019.70
74 Ge # 3	146319.33	4.21	164913.13	88.7	60 - 125		146472.38	152395.39	140090.25
89 Y # 3	988146.94	6.52	1068488.30	92.5	60 - 125		978025.63	1057058.50	929356.63
115 In # 3	1013650.30	5.59	1083659.40	93.5	60 - 125		1014042.20	1070109.60	956799.38
159 Tb # 3	1565268.40	6.31	1651256.80	94.8	60 - 125		1572355.50	1660318.00	1463131.90
209 Bi # 3	948370.50	5.26	1054491.00	89.9	60 - 125		947396.56	998770.38	898944.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\148SMPL.D\148SMPL.D#
Date Acquired: Dec 25 2012 12:22 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-1-a
Misc Info: 3010 1/5
Vial Number: 3103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.007907	0.007907	ug/l	35.20	100.00		23.33	23.33	13.33
11 B	# 3	4.882	4.882	ug/l	5.62	1800.00		16821.09	16554.25	16751.04
23 Na	# 1	12380	12380	ug/l	0.70	81000.00		82697296.00	84694008.00	85140760.00
24 Mg	# 1	3628	3628	ug/l	0.81	81000.00		16301885.00	16735611.00	16897316.00
27 Al	# 1	2.721	2.721	ug/l	6.55	81000.00		14355.78	15203.07	16594.86
39 K	# 2	173.1	173.1	ug/l	1.37	81000.00		65875.52	67434.16	69789.63
40 Ca	# 1	23660	23660	ug/l	0.37	81000.00		244301060.00	248635680.00	251336050.00
45 Sc	# 2	----	--------		--------	#VALUE!		39144.97	39958.94	42931.08
47 Ti	# 3	0.1343	0.1343	ug/l	19.37	1620.00		176.69	153.34	133.34
51 V	# 2	0.2026	0.2026	ug/l	4.19	1800.00		672.24	648.91	665.57
52 Cr	# 2	0.1234	0.1234	ug/l	7.18	1800.00		456.68	480.01	453.34
55 Mn	# 3	0.2161	0.2161	ug/l	6.52	1800.00		4504.03	4937.46	4627.38
56 Fe	# 1	7.195	7.195	ug/l	0.37	81000.00		129248.98	130098.37	130699.27
59 Co	# 3	0.03123	0.03123	ug/l	4.07	1800.00		426.69	426.68	473.36
60 Ni	# 2	0.3858	0.3858	ug/l	2.23	1800.00		484.45	488.90	493.34
63 Cu	# 2	0.6667	0.6667	ug/l	4.57	1800.00		2637.99	2497.97	2585.76
66 Zn	# 3	1.128	1.128	ug/l	6.79	1800.00		1940.16	2046.83	2276.88
75 As	# 2	0.1559	0.1559	ug/l	10.10	100.00		56.67	54.00	52.00
78 Se	# 1	0.05854	0.05854	ug/l	11.95	100.00		48.33	50.33	55.67
88 Sr	# 3	76.55	76.55	ug/l	3.69	1800.00		1871242.50	1895029.50	1870145.00
95 Mo	# 3	0.1273	0.1273	ug/l	7.56	1800.00		543.36	486.69	500.02
107 Ag	# 3	0.001989	0.001989	ug/l	89.14	100.00		50.00	56.67	23.33
111 Cd	# 3	0.01964	0.01964	ug/l	55.04	100.00		73.16	106.52	63.18
118 Sn	# 3	0.05399	0.05399	ug/l	7.98	1800.00		643.36	693.37	716.70
121 Sb	# 3	0.2974	0.2974	ug/l	5.00	100.00		2263.55	2243.54	2196.87
137 Ba	# 3	15.63	15.63	ug/l	4.34	1800.00		54334.27	54300.59	53073.80
202 Hg	# 3	0.01673	0.01673	ug/l	5.84	5.00		88.33	93.33	93.67
205 Tl	# 3	0.02707	0.02707	ug/l	4.40	20.00		703.37	696.70	690.04
208 Pb	# 3	0.01891	0.01891	ug/l	8.01	1800.00		756.70	836.70	870.04
232 Th	# 3	0.1003	0.1003	ug/l	5.27	#VALUE!		3730.57	3737.25	3577.18
238 U	# 3	0.2093	0.2093	ug/l	5.38	#VALUE!		7355.32	7351.99	6991.82

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	493684.78	3.88	836165.38	59.0	60 - 125	IS F	477847.81	488222.97	514983.53
45 Sc	# 1	558595.50	1.29	552676.25	101.1	60 - 125		551924.13	557655.94	566206.38
45 Sc	# 3	559617.31	2.67	644433.94	86.8	60 - 125		549309.19	552790.13	576752.56
74 Ge	# 1	180474.66	0.80	175321.88	102.9	60 - 125		179306.45	180038.25	182079.28
74 Ge	# 2	25424.91	2.86	27172.50	93.6	60 - 125		25008.35	25002.75	26263.63
74 Ge	# 3	146213.61	2.18	164913.13	88.7	60 - 125		143821.80	144993.67	149825.34
89 Y	# 3	994217.50	3.31	1068488.30	93.0	60 - 125		975006.13	975465.06	1032181.10
115 In	# 3	1007671.40	3.10	1083659.40	93.0	60 - 125		996548.19	983493.13	1042973.10
159 Tb	# 3	1567772.80	3.36	1651256.80	94.9	60 - 125		1550177.00	1526092.80	1627048.80
209 Bi	# 3	903134.13	2.57	1054491.00	85.6	60 - 125		889248.75	890267.88	929885.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\149SMPL.D\149SMPL.D#
Date Acquired: Dec 25 2012 12:29 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-2-a
Misc Info: 3010 1/5
Vial Number: 3104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	5.59E-005	5.59E-005	ug/l	1429.50	100.00		3.33	3.33	0.00
11 B	# 3	3.936	3.936	ug/l	2.38	1800.00		14839.47	15239.75	15169.71
23 Na	# 1	3499	3499	ug/l	0.82	81000.00		24784486.00	25465982.00	25637824.00
24 Mg	# 1	2245	2245	ug/l	1.05	81000.00		10665943.00	10959266.00	11145327.00
27 Al	# 1	3.428	3.428	ug/l	3.26	81000.00		20306.00	19491.63	20878.73
39 K	# 2	388.4	388.4	ug/l	0.49	81000.00		145363.52	147805.63	151182.33
40 Ca	# 1	20050	20050	ug/l	0.84	81000.00		219150590.00	221835120.00	227992930.00
45 Sc	# 2	----	--------		--------	#VALUE!		41669.28	42536.79	42730.44
47 Ti	# 3	0.1078	0.1078	ug/l	29.55	1620.00		153.34	100.00	143.34
51 V	# 2	0.1727	0.1727	ug/l	4.23	1800.00		633.35	618.91	617.79
52 Cr	# 2	0.03353	0.03353	ug/l	21.92	1800.00		214.45	247.78	212.23
55 Mn	# 3	0.1495	0.1495	ug/l	6.78	1800.00		3577.13	3603.79	3767.16
56 Fe	# 1	4.722	4.722	ug/l	3.82	81000.00		97782.99	93546.26	93644.05
59 Co	# 3	0.02047	0.02047	ug/l	8.29	1800.00		336.68	303.35	283.34
60 Ni	# 2	0.3852	0.3852	ug/l	3.96	1800.00		490.01	531.12	518.90
63 Cu	# 2	1.002	1.002	ug/l	2.45	1800.00		3750.41	3857.10	3789.31
66 Zn	# 3	1.766	1.766	ug/l	2.72	1800.00		3193.71	3353.74	3257.05
75 As	# 2	0.09446	0.09446	ug/l	15.54	100.00		37.33	43.33	45.33
78 Se	# 1	0.0538	0.0538	ug/l	28.61	100.00		52.67	43.67	59.67
88 Sr	# 3	102.2	102.2	ug/l	5.06	1800.00		2589313.80	2584136.80	2590901.30
95 Mo	# 3	0.1477	0.1477	ug/l	5.95	1800.00		583.36	603.36	613.36
107 Ag	# 3	0.002975	0.002975	ug/l	20.11	100.00		60.00	50.00	56.67
111 Cd	# 3	0.004369	0.004369	ug/l	23.62	100.00		49.81	49.81	43.14
118 Sn	# 3	0.04014	0.04014	ug/l	9.58	1800.00		573.36	630.03	603.36
121 Sb	# 3	1.428	1.428	ug/l	5.20	100.00		10173.24	9853.10	10089.88
137 Ba	# 3	12.42	12.42	ug/l	4.20	1800.00		44054.75	43917.55	44231.96
202 Hg	# 3	0.01343	0.01343	ug/l	9.84	5.00		86.33	84.00	86.00
205 Tl	# 3	0.009093	0.009093	ug/l	5.99	20.00		270.01	270.01	276.68
208 Pb	# 3	0.1326	0.1326	ug/l	5.20	1800.00		4817.11	4500.42	4303.73
232 Th	# 3	0.04612	0.04612	ug/l	3.64	#VALUE!		1850.18	1993.53	1770.16
238 U	# 3	0.2241	0.2241	ug/l	3.68	#VALUE!		8212.43	7862.31	7855.61

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	515514.94	2.34	836165.38	61.7	60 - 125		506689.22	529250.50	510605.00
45 Sc	# 1	592450.13	1.22	552676.25	107.2	60 - 125		585523.94	591867.25	599959.13
45 Sc	# 3	576441.38	3.85	644433.94	89.4	60 - 125		574725.63	599425.13	555173.38
74 Ge	# 1	190902.30	0.78	175321.88	108.9	60 - 125		189375.89	190978.67	192352.34
74 Ge	# 2	26723.68	1.69	27172.50	98.3	60 - 125		26365.76	26576.02	27229.25
74 Ge	# 3	152413.70	2.45	164913.13	92.4	60 - 125		153005.73	155823.34	148412.05
89 Y	# 3	1027083.50	4.99	1068488.30	96.1	60 - 125		1016738.20	1082769.90	981742.56
115 In	# 3	1036592.50	3.83	1083659.40	95.7	60 - 125		1038622.50	1075189.50	995965.31
159 Tb	# 3	1570268.10	3.35	1651256.80	95.1	60 - 125		1577435.80	1618907.90	1514460.60
209 Bi	# 3	930101.94	3.03	1054491.00	88.2	60 - 125		933203.81	956572.06	900530.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\150SMPL.D\150SMPL.D#
Date Acquired: Dec 25 2012 12:37 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-3-a
Misc Info: 3010 1/5
Vial Number: 3105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	9.024E-005	9.024E-005	ug/l	918.11	100.00		3.33	3.33	0.00
11 B	# 3	6.95	6.95	ug/l	2.59	1800.00		22003.12	22383.44	21792.63
23 Na	# 1	65070	65070	ug/l	1.67	81000.00		442491680.00	447046300.00	462209920.00
24 Mg	# 1	6463	6463	ug/l	1.39	81000.00		29758346.00	30015850.00	30911090.00
27 Al	# 1	2.384	2.384	ug/l	10.45	81000.00		12840.18	13318.04	15502.07
39 K	# 2	619.5	619.5	ug/l	1.56	81000.00		212491.95	214204.66	214108.33
40 Ca	# 1	44500	44500	ug/l	0.86	81000.00		467314560.00	477346660.00	482812900.00
45 Sc	# 2	----	--------		--------	#VALUE!		40447.74	41251.66	41677.02
47 Ti	# 3	0.1851	0.1851	ug/l	51.15	1620.00		200.02	116.67	300.07
51 V	# 2	0.2688	0.2688	ug/l	7.09	1800.00		817.81	804.47	760.02
52 Cr	# 2	0.0252	0.0252	ug/l	19.49	1800.00		166.67	195.56	195.56
55 Mn	# 3	27.67	27.67	ug/l	1.15	1800.00		482294.72	475427.53	469890.09
56 Fe	# 1	28.69	28.69	ug/l	0.66	81000.00		468004.72	467838.78	466866.03
59 Co	# 3	0.3711	0.3711	ug/l	6.55	1800.00		4654.05	4800.76	5227.54
60 Ni	# 2	0.6386	0.6386	ug/l	1.11	1800.00		742.24	782.25	778.91
63 Cu	# 2	2.209	2.209	ug/l	1.49	1800.00		6964.71	7333.73	7170.34
66 Zn	# 3	2.228	2.228	ug/l	3.04	1800.00		3793.84	3653.80	3817.17
75 As	# 2	0.2628	0.2628	ug/l	0.69	100.00		75.67	77.33	78.33
78 Se	# 1	0.06389	0.06389	ug/l	7.38	100.00		54.67	52.67	50.67
88 Sr	# 3	176.8	176.8	ug/l	2.07	1800.00		4298551.00	4246114.00	4218734.50
95 Mo	# 3	0.2302	0.2302	ug/l	5.81	1800.00		893.38	800.04	826.71
107 Ag	# 3	0.002928	0.002928	ug/l	18.37	100.00		50.00	46.67	56.67
111 Cd	# 3	0.04539	0.04539	ug/l	23.20	100.00		129.72	159.75	113.07
118 Sn	# 3	0.05281	0.05281	ug/l	5.34	1800.00		630.03	666.70	636.69
121 Sb	# 3	0.7806	0.7806	ug/l	1.30	100.00		5257.62	5140.92	5204.28
137 Ba	# 3	46.28	46.28	ug/l	0.71	1800.00		154270.39	152159.30	150387.02
202 Hg	# 3	0.02539	0.02539	ug/l	7.65	5.00		105.00	99.33	107.33
205 Tl	# 3	0.0075	0.0075	ug/l	28.52	20.00		270.01	223.34	173.34
208 Pb	# 3	0.6804	0.6804	ug/l	2.21	1800.00		21636.48	21002.86	21079.53
232 Th	# 3	0.03412	0.03412	ug/l	9.97	#VALUE!		1383.44	1183.42	1243.43
238 U	# 3	0.4972	0.4972	ug/l	1.49	#VALUE!		15501.58	15912.04	15294.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	501808.63	1.62	836165.38	60.0	60 - 125		492444.06	506002.84	506979.00
45 Sc	# 1	569523.69	0.80	552676.25	103.0	60 - 125		564416.94	570915.69	573238.31
45 Sc	# 3	564150.38	0.54	644433.94	87.5	60 - 125		563608.31	567444.38	561398.44
74 Ge	# 1	176026.42	0.52	175321.88	100.4	60 - 125		175633.61	175376.05	177069.61
74 Ge	# 2	24744.23	1.92	27172.50	91.1	60 - 125		24197.23	24968.22	25067.25
74 Ge	# 3	140869.97	0.56	164913.13	85.4	60 - 125		140898.20	141642.91	140068.81
89 Y	# 3	974379.88	1.92	1068488.30	91.2	60 - 125		968237.69	995378.19	959523.75
115 In	# 3	960581.88	0.67	1083659.40	88.6	60 - 125		965323.44	963144.69	953277.50
159 Tb	# 3	1485678.80	1.04	1651256.80	90.0	60 - 125		1481776.60	1502722.00	1472537.60
209 Bi	# 3	818280.75	0.53	1054491.00	77.6	60 - 125		816929.56	823140.63	814772.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\151SMPL.D\151SMPL.D#
Date Acquired: Dec 25 2012 12:44 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-4-a
Misc Info: 3010 1/5
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.004844	0.004844	ug/l	57.47	100.00		6.67	13.33	20.00
11 B	# 3	2.566	2.566	ug/l	1.91	1800.00		11016.73	11226.90	11547.08
23 Na	# 1	327.1	327.1	ug/l	1.06	81000.00		2329964.80	2368488.30	2404771.80
24 Mg	# 1	1958	1958	ug/l	0.32	81000.00		9122488.00	9145175.00	9284038.00
27 Al	# 1	4.982	4.982	ug/l	12.08	81000.00		27430.41	31034.07	24878.55
39 K	# 2	415.9	415.9	ug/l	0.93	81000.00		147926.05	150793.02	151360.56
40 Ca	# 1	19210	19210	ug/l	0.05	81000.00		205074720.00	205309490.00	207447970.00
45 Sc	# 2	----	--------		--------	#VALUE!		39718.34	40206.08	40855.26
47 Ti	# 3	0.1507	0.1507	ug/l	19.79	1620.00		150.00	153.34	200.01
51 V	# 2	0.3902	0.3902	ug/l	2.46	1800.00		1092.27	1071.15	1126.71
52 Cr	# 2	0.113	0.113	ug/l	12.11	1800.00		391.12	440.01	471.12
55 Mn	# 3	26.76	26.76	ug/l	1.68	1800.00		481697.50	472193.28	471474.47
56 Fe	# 1	265.9	265.9	ug/l	1.02	81000.00		4485703.50	4384271.00	4479928.00
59 Co	# 3	0.04698	0.04698	ug/l	9.74	1800.00		643.36	720.04	596.69
60 Ni	# 2	0.3651	0.3651	ug/l	1.25	1800.00		467.79	458.90	464.45
63 Cu	# 2	0.6086	0.6086	ug/l	2.97	1800.00		2326.83	2381.28	2466.86
66 Zn	# 3	0.8578	0.8578	ug/l	5.70	1800.00		1530.11	1676.79	1686.80
75 As	# 2	0.5325	0.5325	ug/l	2.56	100.00		143.67	138.00	144.33
78 Se	# 1	0.03201	0.03201	ug/l	27.51	100.00		44.00	39.33	35.67
88 Sr	# 3	85.53	85.53	ug/l	0.77	1800.00		2054391.90	2066270.80	2029318.80
95 Mo	# 3	0.2104	0.2104	ug/l	14.73	1800.00		676.70	876.72	840.05
107 Ag	# 3	0.001478	0.001478	ug/l	75.58	100.00		26.67	36.67	50.00
111 Cd	# 3	0.0008593	0.0008593	ug/l	703.13	100.00		39.78	49.72	23.07
118 Sn	# 3	0.06932	0.06932	ug/l	6.31	1800.00		776.71	750.04	820.04
121 Sb	# 3	0.3761	0.3761	ug/l	2.17	100.00		2766.97	2636.95	2760.31
137 Ba	# 3	7.734	7.734	ug/l	1.23	1800.00		26481.23	26381.08	26090.73
202 Hg	# 3	0.003467	0.003467	ug/l	38.19	5.00		59.00	53.00	60.00
205 Tl	# 3	0.003019	0.003019	ug/l	27.62	20.00		103.34	136.67	136.67
208 Pb	# 3	0.0533	0.0533	ug/l	1.41	1800.00		1923.45	1890.10	1886.77
232 Th	# 3	0.02679	0.02679	ug/l	3.71	#VALUE!		1173.42	1186.75	1126.74
238 U	# 3	0.2502	0.2502	ug/l	4.75	#VALUE!		8706.05	9146.37	8389.23

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	498849.63	1.77	836165.38	59.7	60 - 125	IS F	488874.56	502021.75	505652.53
45 Sc	# 1	571090.69	0.63	552676.25	103.3	60 - 125		568399.38	569662.69	575210.13
45 Sc	# 3	549960.56	0.41	644433.94	85.3	60 - 125		552496.81	549307.75	548077.19
74 Ge	# 1	185290.52	0.66	175321.88	105.7	60 - 125		184834.23	184358.05	186679.27
74 Ge	# 2	25383.98	0.64	27172.50	93.4	60 - 125		25268.62	25314.26	25569.05
74 Ge	# 3	145402.72	0.48	164913.13	88.2	60 - 125		144608.00	145726.55	145873.61
89 Y	# 3	970170.06	0.16	1068488.30	90.8	60 - 125		970003.81	971835.81	968670.63
115 In	# 3	992969.13	0.74	1083659.40	91.6	60 - 125		996735.00	984522.56	997650.00
159 Tb	# 3	1532469.30	0.78	1651256.80	92.8	60 - 125		1532417.30	1544415.00	1520575.50
209 Bi	# 3	913307.88	0.47	1054491.00	86.6	60 - 125		916583.31	908450.50	914890.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\152SMPL.D\152SMPL.D#
Date Acquired: Dec 25 2012 12:52 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-5-a
Misc Info: 3010 1/5
Vial Number: 3107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.009375	0.009375	ug/l	54.86	100.00		10.00	26.67	33.33
11 B	# 3	2.633	2.633	ug/l	1.51	1800.00		10790.00	11380.34	11216.84
23 Na	# 1	1849	1849	ug/l	0.72	81000.00		12391330.00	12425651.00	12551303.00
24 Mg	# 1	1511	1511	ug/l	0.94	81000.00		6728548.00	6897671.50	6846398.50
27 Al	# 1	60.55	60.55	ug/l	1.89	81000.00		312455.28	315471.25	309551.16
39 K	# 2	482.2	482.2	ug/l	0.69	81000.00		167985.00	171363.09	176677.73
40 Ca	# 1	14890	14890	ug/l	0.95	81000.00		152850060.00	154608190.00	154065550.00
45 Sc	# 2	-----	--------		--------	#VALUE!		39038.05	38972.40	41211.96
47 Ti	# 3	0.4762	0.4762	ug/l	5.72	1620.00		453.36	493.36	453.35
51 V	# 2	0.3285	0.3285	ug/l	4.58	1800.00		944.48	902.25	1005.59
52 Cr	# 2	0.1573	0.1573	ug/l	11.37	1800.00		514.46	606.68	543.35
55 Mn	# 3	5.144	5.144	ug/l	0.99	1800.00		90738.88	89905.02	88939.85
56 Fe	# 1	158.2	158.2	ug/l	0.43	81000.00		2542088.50	2560763.00	2583734.30
59 Co	# 3	0.08525	0.08525	ug/l	4.62	1800.00		1116.73	1113.39	1206.74
60 Ni	# 2	0.4024	0.4024	ug/l	7.49	1800.00		533.35	478.90	505.57
63 Cu	# 2	0.8295	0.8295	ug/l	1.68	1800.00		2995.83	3074.73	3122.51
66 Zn	# 3	1.152	1.152	ug/l	3.23	1800.00		2006.84	2073.51	2110.18
75 As	# 2	0.2624	0.2624	ug/l	5.10	100.00		79.33	74.67	82.33
78 Se	# 1	0.04088	0.04088	ug/l	9.73	100.00		40.33	44.00	43.33
88 Sr	# 3	64.15	64.15	ug/l	2.96	1800.00		1541315.60	1525333.90	1510207.30
95 Mo	# 3	0.3425	0.3425	ug/l	6.07	1800.00		1163.41	1336.76	1260.08
107 Ag	# 3	0.00183	0.00183	ug/l	67.92	100.00		43.33	53.34	26.67
111 Cd	# 3	0.003944	0.003944	ug/l	192.72	100.00		26.30	46.24	59.60
118 Sn	# 3	0.05811	0.05811	ug/l	7.29	1800.00		723.37	703.37	660.03
121 Sb	# 3	0.2586	0.2586	ug/l	2.54	100.00		1940.18	1993.51	1850.15
137 Ba	# 3	9.023	9.023	ug/l	1.76	1800.00		30280.99	30407.81	30371.14
202 Hg	# 3	0.003781	0.003781	ug/l	28.80	5.00		60.00	54.33	59.67
205 Tl	# 3	0.003028	0.003028	ug/l	44.25	20.00		96.67	113.34	156.67
208 Pb	# 3	0.07499	0.07499	ug/l	5.79	1800.00		2446.83	2416.82	2686.89
232 Th	# 3	0.03562	0.03562	ug/l	5.34	#VALUE!		1483.45	1516.80	1396.78
238 U	# 3	0.1884	0.1884	ug/l	2.65	#VALUE!		6408.20	6688.35	6611.63

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	485842.97	2.31	836165.38	58.1	60 - 125	IS I	472879.88	492070.50	492578.47
45 Sc	# 1	550115.00	1.29	552676.25	99.5	60 - 125		542786.25	550665.31	556893.38
45 Sc	# 3	535647.38	0.66	644433.94	83.1	60 - 125		539580.31	532813.19	534548.63
74 Ge	# 1	178944.06	0.76	175321.88	102.1	60 - 125		178273.69	178053.45	180505.03
74 Ge	# 2	25306.51	3.11	27172.50	93.1	60 - 125		24658.95	25078.39	26182.19
74 Ge	# 3	142028.70	0.59	164913.13	86.1	60 - 125		142796.28	141128.09	142161.77
89 Y	# 3	962978.13	2.63	1068488.30	90.1	60 - 125		944564.25	991876.00	952494.06
115 In	# 3	981889.69	1.88	1083659.40	90.6	60 - 125		975928.75	1002583.40	967157.06
159 Tb	# 3	1487732.80	0.76	1651256.80	90.1	60 - 125		1475575.80	1489653.80	1497968.90
209 Bi	# 3	910610.69	0.50	1054491.00	86.4	60 - 125		914319.25	905540.69	911972.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\153SMPL.D\153SMPL.D#
Date Acquired: Dec 25 2012 12:59 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-6-a
Misc Info: 3010 1/5
Vial Number: 3108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01613	0.01613	ug/l	5.16	100.00		36.67	43.34	40.00
11 B	# 3	15.17	15.17	ug/l	4.84	1800.00		41044.03	42748.19	43456.24
23 Na	# 1	6922	6922	ug/l	1.02	81000.00		46273852.00	47818672.00	47931600.00
24 Mg	# 1	4151	4151	ug/l	0.91	81000.00		18890826.00	19311570.00	19226264.00
27 Al	# 1	1.17	1.17	ug/l	2.07	81000.00		7104.83	7445.88	7388.34
39 K	# 2	1042	1042	ug/l	0.66	81000.00		357621.91	365758.69	372652.13
40 Ca	# 1	20920	20920	ug/l	0.27	81000.00		218257700.00	219828080.00	223488640.00
45 Sc	# 2	----	--------		--------	#VALUE!		39205.10	40284.08	41202.70
47 Ti	# 3	0.1659	0.1659	ug/l	13.97	1620.00		166.67	186.67	200.01
51 V	# 2	0.2012	0.2012	ug/l	7.35	1800.00		611.13	684.46	695.58
52 Cr	# 2	0.1182	0.1182	ug/l	3.39	1800.00		434.45	467.79	453.34
55 Mn	# 3	18.03	18.03	ug/l	3.07	1800.00		323332.38	323416.66	325486.72
56 Fe	# 1	2.585	2.585	ug/l	0.90	81000.00		54524.22	54524.33	55718.06
59 Co	# 3	0.04358	0.04358	ug/l	3.38	1800.00		596.69	626.70	620.03
60 Ni	# 2	0.442	0.442	ug/l	4.12	1800.00		523.35	573.35	581.13
63 Cu	# 2	1.669	1.669	ug/l	0.29	1800.00		5596.44	5742.05	5806.52
66 Zn	# 3	0.8245	0.8245	ug/l	6.25	1800.00		1526.78	1610.12	1646.79
75 As	# 2	0.1503	0.1503	ug/l	9.46	100.00		49.33	53.00	57.67
78 Se	# 1	0.05453	0.05453	ug/l	14.14	100.00		47.33	53.33	47.33
88 Sr	# 3	291.4	291.4	ug/l	6.07	1800.00		7062833.00	7046925.50	7130320.50
95 Mo	# 3	0.3313	0.3313	ug/l	15.51	1800.00		1100.07	1203.41	1380.09
107 Ag	# 3	-0.0002363	-0.0002363	ug/l	361.36	100.00		30.00	16.67	13.33
111 Cd	# 3	0.004176	0.004176	ug/l	41.38	100.00		46.32	42.95	46.23
118 Sn	# 3	0.05138	0.05138	ug/l	26.92	1800.00		583.37	650.03	736.71
121 Sb	# 3	2.537	2.537	ug/l	4.88	100.00		16895.32	16965.42	16988.85
137 Ba	# 3	20.17	20.17	ug/l	5.32	1800.00		69613.05	68110.30	68626.42
202 Hg	# 3	0.004755	0.004755	ug/l	61.51	5.00		59.33	54.67	64.33
205 Tl	# 3	0.002412	0.002412	ug/l	18.20	20.00		103.34	130.00	100.00
208 Pb	# 3	0.4958	0.4958	ug/l	4.72	1800.00		15973.62	16050.39	15630.22
232 Th	# 3	0.01773	0.01773	ug/l	2.60	#VALUE!		843.39	853.38	796.71
238 U	# 3	0.2138	0.2138	ug/l	8.61	#VALUE!		7355.30	7025.12	7588.78

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	505022.13	4.22	836165.38	60.4	60 - 125		490871.19	529544.75	494650.41
45 Sc	# 1	561530.13	1.32	552676.25	101.6	60 - 125		554253.94	561282.94	569053.44
45 Sc	# 3	557936.56	5.84	644433.94	86.6	60 - 125		550702.63	593510.94	529596.06
74 Ge	# 1	179921.05	0.62	175321.88	102.6	60 - 125		179636.63	178978.45	181148.13
74 Ge	# 2	25579.10	1.77	27172.50	94.1	60 - 125		25065.06	25759.34	25912.90
74 Ge	# 3	147183.64	2.74	164913.13	89.2	60 - 125		146982.80	151313.31	143254.81
89 Y	# 3	985611.63	5.62	1068488.30	92.2	60 - 125		972641.94	1046290.80	937902.19
115 In	# 3	996979.75	4.81	1083659.40	92.0	60 - 125		988646.13	1048545.80	953747.19
159 Tb	# 3	1522156.80	5.97	1651256.80	92.2	60 - 125		1512861.60	1617361.40	1436247.00
209 Bi	# 3	897062.81	4.77	1054491.00	85.1	60 - 125		895778.75	940515.63	854894.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\154SMPL.D\154SMPL.D#
Date Acquired: Dec 25 2012 01:07 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-6-a SD
Misc Info: 3010 1/25
Vial Number: 3109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.019645	0.003929	ug/l	49.89	100.00		6.67	16.67	13.33
11 B	# 3	18.66	3.732	ug/l	3.94	1800.00		15556.64	15366.52	15326.37
23 Na	# 1	6525	1305	ug/l	5.58	81000.00		9446788.00	9560740.00	9661239.00
24 Mg	# 1	3950	790	ug/l	5.71	81000.00		3794610.80	3905744.00	3901334.00
27 Al	# 1	3.366	0.6732	ug/l	6.82	81000.00		4757.39	5114.18	5124.16
39 K	# 2	1001	200.2	ug/l	4.64	81000.00		78409.95	79705.01	81194.67
40 Ca	# 1	19410	3882	ug/l	6.40	81000.00		42675460.00	44254060.00	43539240.00
45 Sc	# 2	----	--------		--------	#VALUE!		40819.68	45023.50	39968.99
47 Ti	# 3	0.30235	0.06047	ug/l	67.87	1620.00		93.34	40.00	120.01
51 V	# 2	0.29685	0.05937	ug/l	13.31	1800.00		342.23	334.45	350.01
52 Cr	# 2	0.1117	0.02234	ug/l	30.89	1800.00		175.56	185.56	207.78
55 Mn	# 3	17.79	3.558	ug/l	1.08	1800.00		66271.97	66530.01	66199.20
56 Fe	# 1	2.94	0.588	ug/l	8.64	81000.00		24109.57	24046.24	24526.78
59 Co	# 3	0.048585	0.009717	ug/l	12.34	1800.00		173.34	150.00	136.67
60 Ni	# 2	1.0645	0.2129	ug/l	9.13	1800.00		265.56	308.89	310.01
63 Cu	# 2	1.781	0.3562	ug/l	8.37	1800.00		1700.10	1626.75	1691.20
66 Zn	# 3	1.116	0.2232	ug/l	15.14	1800.00		570.03	600.03	670.03
75 As	# 2	0.1013	0.02026	ug/l	18.21	100.00		23.67	23.33	23.33
78 Se	# 1	0.047145	0.009429	ug/l	38.89	100.00		30.00	27.00	32.33
88 Sr	# 3	290.6	58.12	ug/l	1.84	1800.00		1449163.50	1431609.80	1449538.90
95 Mo	# 3	0.35235	0.07047	ug/l	3.45	1800.00		323.35	300.01	313.35
107 Ag	# 3	-0.000905	-0.000181	ug/l	865.19	100.00		13.33	10.00	40.00
111 Cd	# 3	-0.0006445	-0.0001289	ug/l	5629.90	100.00		36.56	19.90	53.23
118 Sn	# 3	0.0642	0.01284	ug/l	32.19	1800.00		440.02	396.68	363.35
121 Sb	# 3	2.5645	0.5129	ug/l	1.31	100.00		3883.89	3733.85	3640.49
137 Ba	# 3	19.39	3.878	ug/l	4.54	1800.00		13295.62	13836.02	13919.44
202 Hg	# 3	0.00683	0.001366	ug/l	172.55	5.00		50.33	61.00	49.33
205 Tl	# 3	0.0042365	0.0008473	ug/l	122.74	20.00		63.34	103.34	60.00
208 Pb	# 3	0.48725	0.09745	ug/l	5.11	1800.00		3186.89	3323.59	3440.26
232 Th	# 3	0.03959	0.007918	ug/l	27.38	#VALUE!		496.69	463.35	606.70
238 U	# 3	0.18675	0.03735	ug/l	6.15	#VALUE!		1280.10	1383.44	1416.78

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	545572.50	1.73	836165.38	65.2	60 - 125		535340.06	547388.56	553988.88
45 Sc	# 1	597553.19	6.73	552676.25	108.1	60 - 125		569253.56	579837.69	643568.25
45 Sc	# 3	569547.63	0.25	644433.94	88.4	60 - 125		568043.25	569797.94	570801.69
74 Ge	# 1	193415.38	4.77	175321.88	110.3	60 - 125		186958.09	189315.39	203972.63
74 Ge	# 2	26395.56	3.49	27172.50	97.1	60 - 125		25971.85	27452.09	25762.74
74 Ge	# 3	150967.95	1.05	164913.13	91.5	60 - 125		152673.63	150709.83	149520.44
89 Y	# 3	1005338.60	1.76	1068488.30	94.1	60 - 125		1024218.50	1002748.30	989049.13
115 In	# 3	1029509.90	2.12	1083659.40	95.0	60 - 125		1053918.50	1022607.70	1012003.50
159 Tb	# 3	1536711.10	0.98	1651256.80	93.1	60 - 125		1552134.50	1536056.90	1521941.90
209 Bi	# 3	946171.31	0.89	1054491.00	89.7	60 - 125		955334.06	944512.88	938666.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\155SMPL.D\155SMPL.D#
Date Acquired: Dec 25 2012 01:14 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-6-a PDS
Misc Info: 3010 1/5
Vial Number: 3110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	24.03	24.03	ug/l	4.99	100.00		53998.33	55853.87	55636.27
11 B	# 3	64.95	64.95	ug/l	5.56	1800.00		156565.19	163254.64	163663.64
23 Na	# 1	9206	9206	ug/l	0.98	81000.00		61053912.00	61292744.00	61907804.00
24 Mg	# 1	6405	6405	ug/l	0.28	81000.00		28424690.00	28798046.00	29272032.00
27 Al	# 1	226.7	226.7	ug/l	0.87	81000.00		1136048.10	1159988.60	1192176.90
39 K	# 2	3236	3236	ug/l	2.88	81000.00		1077380.60	1099497.50	1129750.00
40 Ca	# 1	23940	23940	ug/l	0.29	81000.00		241431460.00	247384690.00	250361700.00
45 Sc	# 2	----	--------		--------	#VALUE!		39565.87	39559.20	44278.13
47 Ti	# 3	22.29	22.29	ug/l	6.25	1620.00		21195.82	21462.85	21332.70
51 V	# 2	22.15	22.15	ug/l	4.55	1800.00		50905.50	51381.18	51449.21
52 Cr	# 2	22.23	22.23	ug/l	4.71	1800.00		60954.35	61773.63	61568.35
55 Mn	# 3	238.2	238.2	ug/l	4.82	1800.00		4146232.50	4219253.50	4171515.80
56 Fe	# 1	2301	2301	ug/l	0.68	81000.00		36234992.00	36391276.00	36247032.00
59 Co	# 3	20.64	20.64	ug/l	4.18	1800.00		275841.25	277154.00	278958.56
60 Ni	# 2	22.68	22.68	ug/l	4.20	1800.00		26475.59	26779.38	26953.00
63 Cu	# 2	24.06	24.06	ug/l	4.59	1800.00		74071.90	74690.94	74798.10
66 Zn	# 3	20.91	20.91	ug/l	4.44	1800.00		34175.82	34419.63	33821.77
75 As	# 2	20.87	20.87	ug/l	4.64	100.00		4875.00	4818.31	4875.99
78 Se	# 1	21.2	21.2	ug/l	0.61	100.00		9896.02	10013.43	9892.02
88 Sr	# 3	320.5	320.5	ug/l	6.09	1800.00		7743535.00	7648910.50	7574001.50
95 Mo	# 3	22.35	22.35	ug/l	6.72	1800.00		77354.93	77940.95	77499.57
107 Ag	# 3	18.34	18.34	ug/l	6.26	100.00		187248.28	186976.56	185456.92
111 Cd	# 3	21.63	21.63	ug/l	6.29	100.00		48637.39	48443.09	47022.75
118 Sn	# 3	22.64	22.64	ug/l	6.48	1800.00		156908.72	157113.36	153173.23
121 Sb	# 3	25.95	25.95	ug/l	6.60	100.00		166698.86	167556.77	166177.66
137 Ba	# 3	43.85	43.85	ug/l	5.31	1800.00		147425.17	144356.16	145715.50
202 Hg	# 3	1.041	1.041	ug/l	3.18	5.00		2794.59	2672.90	2689.90
205 Tl	# 3	4.282	4.282	ug/l	5.03	20.00		98632.72	96724.48	97657.12
208 Pb	# 3	22.05	22.05	ug/l	6.35	1800.00		693956.88	697425.69	689336.56
232 Th	# 3	24.2	24.2	ug/l	5.40	#VALUE!		807736.44	811785.00	809073.38
238 U	# 3	25.06	25.06	ug/l	5.39	#VALUE!		842592.69	844579.25	831623.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	493564.94	3.38	836165.38	59.0	60 - 125	IS I	507449.31	475054.72	498190.81
45 Sc	# 1	548129.63	1.61	552676.25	99.2	60 - 125		538859.75	549033.88	556495.19
45 Sc	# 3	550811.88	5.57	644433.94	85.5	60 - 125		579853.50	518726.25	553855.81
74 Ge	# 1	175116.17	0.84	175321.88	99.9	60 - 125		173482.70	176348.77	175517.08
74 Ge	# 2	25279.87	5.02	27172.50	93.0	60 - 125		24473.15	24624.42	26742.04
74 Ge	# 3	144068.91	3.94	164913.13	87.4	60 - 125		149725.13	138384.80	144096.78
89 Y	# 3	969255.69	6.60	1068488.30	90.7	60 - 125		1034321.10	906351.75	967094.38
115 In	# 3	973267.25	6.43	1083659.40	89.8	60 - 125		1040342.60	916361.88	963097.19
159 Tb	# 3	1514088.40	5.93	1651256.80	91.7	60 - 125		1598361.50	1419687.90	1524215.60
209 Bi	# 3	877615.31	5.13	1054491.00	83.2	60 - 125		922172.81	832153.31	878519.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\156_CCV.D\156_CCV.D#
Date Acquired: Dec 25 2012 01:21 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	54.68 ug/l	3.32	50.00	90 - 110		134565.28	136181.66	137119.56
11 B	112.1 ug/l	2.27	100.00	90 - 110	Fail	291421.00	297607.94	303527.75
23 Na	5059 ug/l	1.68	5000.00	90 - 110		34126908.00	33889012.00	35244688.00
24 Mg	4833 ug/l	1.33	5000.00	90 - 110		21613500.00	22342140.00	22516156.00
27 Al	487.1 ug/l	0.75	500.00	90 - 110		2505585.80	2569606.80	2554456.30
39 K	5000 ug/l	1.91	5000.00	90 - 110		1672665.50	1663888.00	1719020.80
40 Ca	4933 ug/l	0.14	5000.00	90 - 110		51314396.00	51768660.00	52188464.00
45 Sc	--------	--------		--- ##### - #####		39462.41	42031.12	42001.10
47 Ti	51 ug/l	1.90	50.00	90 - 110		49349.12	50859.78	50067.47
51 V	50.79 ug/l	1.33	50.00	90 - 110		114806.19	116125.26	118475.52
52 Cr	51.12 ug/l	1.74	50.00	90 - 110		138426.91	140333.86	141564.92
55 Mn	503.9 ug/l	1.90	500.00	90 - 110		8931097.00	8949550.00	8945688.00
56 Fe	5048 ug/l	0.96	5000.00	90 - 110		82895736.00	81328512.00	83152808.00
59 Co	47.81 ug/l	2.22	50.00	90 - 110		652545.31	646098.88	650769.19
60 Ni	52.13 ug/l	1.53	50.00	90 - 110		59940.94	61343.09	61643.03
63 Cu	52.96 ug/l	2.39	50.00	90 - 110		161759.56	161418.25	163517.28
66 Zn	50.61 ug/l	2.33	50.00	90 - 110		83255.43	82914.50	83627.71
75 As	50.51 ug/l	2.47	50.00	90 - 110		11611.36	11617.02	11707.09
78 Se	50.49 ug/l	0.35	50.00	90 - 110		24329.18	24478.39	24584.87
88 Sr	51.49 ug/l	1.33	50.00	90 - 110		1258386.50	1263067.60	1236612.10
95 Mo	49.81 ug/l	3.52	50.00	90 - 110		172395.94	173855.78	173523.39
107 Ag	50.82 ug/l	3.56	50.00	90 - 110		516598.06	518171.34	518971.97
111 Cd	50.85 ug/l	3.38	50.00	90 - 110		112828.44	113351.72	113086.17
118 Sn	51.74 ug/l	3.29	50.00	90 - 110		357448.78	355742.13	355810.78
121 Sb	52.83 ug/l	3.25	50.00	90 - 110		340112.13	340479.38	339517.66
137 Ba	51.67 ug/l	3.21	50.00	90 - 110		173207.30	171542.30	171634.69
202 Hg	2.442 ug/l	1.59	2.50	90 - 110		6403.29	6432.64	6334.93
205 Tl	10.08 ug/l	3.24	10.00	90 - 110		225525.48	222653.92	222760.39
208 Pb	50.5 ug/l	2.92	50.00	90 - 110		1547306.00	1554549.80	1539158.90
232 Th	50.55 ug/l	2.93		--- ##### - #####		1706239.10	1704707.40	1722605.10
238 U	50.38 ug/l	3.42		--- ##### - #####		1685259.50	1707971.60	1732078.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	534603.63	4.26	836165.38	63.9	60 - 125		511755.66	534726.19	557329.00
45 Sc	558240.00	0.86	552676.25	101.0	60 - 125		553019.31	559254.81	562445.88
45 Sc	564563.81	2.26	644433.94	87.6	60 - 125		563779.25	577710.44	552201.75
74 Ge	181341.94	0.57	175321.88	103.4	60 - 125		180757.03	180727.44	182541.33
74 Ge	25073.23	2.86	27172.50	92.3	60 - 125		24350.80	25083.96	25784.92
74 Ge	145621.08	1.88	164913.13	88.3	60 - 125		146152.23	148059.17	142651.84
89 Y	984736.75	0.85	1068488.30	92.2	60 - 125		976199.13	992907.81	985103.19
115 In	973372.38	3.33	1083659.40	89.8	60 - 125		989475.63	994540.81	936100.69
159 Tb	1471825.50	3.34	1651256.80	89.1	60 - 125		1490127.60	1509229.50	1416119.40
209 Bi	886987.50	2.35	1054491.00	84.1	60 - 125		890032.81	906168.13	864761.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\157_CCB.D\157_CCB.D#
Date Acquired: Dec 25 2012 01:29 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01239	0.01239	ug/l	19.46	#VALUE!		40.00	30.00	33.33
11 B	# 3	1.988	1.988	ug/l	4.82	#VALUE!		10936.71	11170.18	11113.54
23 Na	# 1	22.11	22.11	ug/l	7.84	#VALUE!		235898.14	241398.41	261513.84
24 Mg	# 1	2.924	2.924	ug/l	42.48	#VALUE!		9155.77	12377.68	20464.81
27 Al	# 1	0.2114	0.2114	ug/l	49.81	#VALUE!		1800.13	2130.18	2906.97
39 K	# 2	3.192	3.192	ug/l	46.71	#VALUE!		10443.19	10176.36	9776.12
40 Ca	# 1	5.539	5.539	ug/l	34.50	#VALUE!		111480.18	121792.81	151919.33
45 Sc	# 2	----	--------		--------	#VALUE!		39957.82	41162.61	41216.06
47 Ti	# 3	0.02075	0.02075	ug/l	69.59	#VALUE!		46.67	60.00	30.00
51 V	# 2	0.03932	0.03932	ug/l	23.38	#VALUE!		307.78	284.45	276.67
52 Cr	# 2	0.02813	0.02813	ug/l	16.47	#VALUE!		212.23	204.45	193.34
55 Mn	# 3	0.141	0.141	ug/l	14.33	#VALUE!		3047.01	3587.10	3710.47
56 Fe	# 1	1.977	1.977	ug/l	45.32	#VALUE!		32485.81	43221.86	62546.71
59 Co	# 3	0.0145	0.0145	ug/l	18.82	#VALUE!		186.67	263.34	210.01
60 Ni	# 2	0.03493	0.03493	ug/l	33.64	#VALUE!		88.89	64.45	70.00
63 Cu	# 2	0.05895	0.05895	ug/l	11.86	#VALUE!		717.80	703.35	702.24
66 Zn	# 3	0.03736	0.03736	ug/l	51.53	#VALUE!		310.01	323.35	256.67
75 As	# 2	0.03253	0.03253	ug/l	56.19	#VALUE!		28.33	28.33	21.33
78 Se	# 1	0.04674	0.04674	ug/l	12.66	#VALUE!		44.33	45.00	50.33
88 Sr	# 3	0.02721	0.02721	ug/l	4.92	#VALUE!		696.70	756.70	746.70
95 Mo	# 3	0.07565	0.07565	ug/l	11.86	#VALUE!		333.35	300.01	353.35
107 Ag	# 3	0.01486	0.01486	ug/l	15.01	#VALUE!		156.67	193.34	196.67
111 Cd	# 3	0.01241	0.01241	ug/l	79.02	#VALUE!		56.56	49.91	89.89
118 Sn	# 3	0.03782	0.03782	ug/l	12.49	#VALUE!		543.36	600.03	590.03
121 Sb	# 3	0.2721	0.2721	ug/l	4.75	#VALUE!		2206.88	2126.87	1970.17
137 Ba	# 3	0.01489	0.01489	ug/l	19.32	#VALUE!		83.34	66.67	63.34
202 Hg	# 3	0.01763	0.01763	ug/l	21.31	#VALUE!		96.67	110.67	87.67
205 Tl	# 3	0.006466	0.006466	ug/l	23.40	#VALUE!		166.67	240.01	203.34
208 Pb	# 3	0.01276	0.01276	ug/l	4.45	#VALUE!		586.69	603.36	610.03
232 Th	# 3	0.1192	0.1192	ug/l	1.42	#VALUE!		4587.48	4507.45	4470.80
238 U	# 3	0.01702	0.01702	ug/l	4.06	#VALUE!		620.03	606.70	640.03

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	560644.75	3.41	836165.38	67.0	60 - 125		541593.56	579815.81	560524.81
45 Sc	# 1	560402.31	0.67	552676.25	101.4	60 - 125		557887.50	558594.81	564724.69
45 Sc	# 3	573901.44	1.48	644433.94	89.1	60 - 125		569874.19	583663.56	568166.63
74 Ge	# 1	183617.41	0.84	175321.88	104.7	60 - 125		182236.98	183335.44	185279.81
74 Ge	# 2	25998.22	1.88	27172.50	95.7	60 - 125		25447.78	26162.15	26384.72
74 Ge	# 3	150445.61	0.94	164913.13	91.2	60 - 125		150992.66	151508.98	148835.20
89 Y	# 3	1004023.60	2.06	1068488.30	94.0	60 - 125		1003400.50	1024965.10	983705.38
115 In	# 3	1023300.50	1.95	1083659.40	94.4	60 - 125		1031276.00	1038041.00	1000584.40
159 Tb	# 3	1516868.40	1.76	1651256.80	91.9	60 - 125		1515521.50	1544157.10	1490926.40
209 Bi	# 3	942238.75	1.29	1054491.00	89.4	60 - 125		944615.94	953052.50	929047.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\158SMPL.D\158SMPL.D#
Date Acquired: Dec 25 2012 01:36 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-6-b ms
Misc Info: 3010 1/5
Vial Number: 3111
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.1	11.1	ug/l	0.97	100.00		25180.18	26017.98	25634.13
11 B # 3	61.12	61.12	ug/l	1.87	1800.00		151825.36	151475.42	155046.55
23 Na # 1	8447	8447	ug/l	5.40	81000.00		54987476.00	54367712.00	54699416.00
24 Mg # 1	5449	5449	ug/l	2.91	81000.00		23277886.00	24002592.00	24158342.00
27 Al # 1	1034	1034	ug/l	2.98	81000.00		5026578.00	5221807.00	5189146.00
39 K # 2	2130	2130	ug/l	0.71	81000.00		696746.69	712667.56	717955.31
40 Ca # 1	23370	23370	ug/l	2.68	81000.00		227701410.00	235323010.00	237511940.00
45 Sc # 2	----	--------		--------	#VALUE!		38942.33	39542.44	39856.50
47 Ti # 3	20.75	20.75	ug/l	3.02	1620.00		20121.46	19760.84	19293.70
51 V # 2	21.13	21.13	ug/l	0.89	1800.00		46829.45	47981.16	48138.29
52 Cr # 2	21.16	21.16	ug/l	2.18	1800.00		56969.68	57007.64	56915.00
55 Mn # 3	123.3	123.3	ug/l	0.38	1800.00		2133220.80	2131131.80	2114766.50
56 Fe # 1	1060	1060	ug/l	3.02	81000.00		16538756.00	16470826.00	16394030.00
59 Co # 3	9.483	9.483	ug/l	1.50	1800.00		127162.12	125126.06	123367.17
60 Ni # 2	21.67	21.67	ug/l	2.00	1800.00		24694.31	25134.88	24823.36
63 Cu # 2	22.14	22.14	ug/l	1.98	1800.00		66754.16	66652.94	67024.19
66 Zn # 3	20.54	20.54	ug/l	1.93	1800.00		33611.58	32516.06	32753.12
75 As # 2	21.26	21.26	ug/l	1.35	100.00		4787.30	4779.97	4892.66
78 Se # 1	20.1	20.1	ug/l	2.15	100.00		9215.00	9338.40	9264.69
88 Sr # 3	313	313	ug/l	1.89	1800.00		7490973.00	7333745.50	7348896.50
95 Mo # 3	20.03	20.03	ug/l	2.19	1800.00		70781.19	69141.73	68228.42
107 Ag # 3	10.04	10.04	ug/l	0.34	100.00		101942.65	101613.48	101956.27
111 Cd # 3	9.742	9.742	ug/l	1.80	100.00		21921.61	21558.38	21291.68
118 Sn # 3	20.59	20.59	ug/l	1.95	1800.00		143679.75	141145.73	139148.55
121 Sb # 3	13.7	13.7	ug/l	1.87	100.00		89638.54	86982.01	87273.32
137 Ba # 3	41.83	41.83	ug/l	1.75	1800.00		140917.05	138202.77	137016.73
202 Hg # 3	1.014	1.014	ug/l	2.12	5.00		2716.57	2629.22	2651.89
205 Tl # 3	7.944	7.944	ug/l	1.87	20.00		181805.80	179508.55	175950.25
208 Pb # 3	10.51	10.51	ug/l	1.54	1800.00		330540.63	328759.84	321742.28
232 Th # 3	21.88	21.88	ug/l	1.75	#VALUE!		749745.06	733828.38	727681.25
238 U # 3	23.37	23.37	ug/l	1.41	#VALUE!		798827.44	786478.19	779775.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	495761.03	1.98	836165.38	59.3	60 - 125	IS I	484460.50	501038.00	501784.56
45 Sc # 1	532622.56	4.80	552676.25	96.4	60 - 125		503363.09	543745.44	550759.13
45 Sc # 3	545844.13	0.91	644433.94	84.7	60 - 125		540811.25	545928.25	550792.81
74 Ge # 1	172516.14	2.58	175321.88	98.4	60 - 125		167389.58	174761.83	175397.03
74 Ge # 2	24593.65	2.13	27172.50	90.5	60 - 125		24053.66	24627.78	25099.51
74 Ge # 3	141426.78	0.31	164913.13	85.8	60 - 125		141274.88	141915.56	141089.95
89 Y # 3	955751.94	0.71	1068488.30	89.4	60 - 125		947954.06	960346.44	958955.38
115 In # 3	968190.81	0.39	1083659.40	89.3	60 - 125		965876.44	966167.25	972528.75
159 Tb # 3	1493998.60	0.63	1651256.80	90.5	60 - 125		1486079.10	1504494.10	1491422.60
209 Bi # 3	882086.44	0.50	1054491.00	83.7	60 - 125		879464.56	887190.06	879604.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\159SMPL.D\159SMPL.D#
Date Acquired: Dec 25 2012 01:44 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-6-c msd
Misc Info: 3010 1/5
Vial Number: 3112
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.11	11.11	ug/l	1.87	100.00		25630.77	26208.12	25710.79
11 B # 3	61.81	61.81	ug/l	2.20	1800.00		155281.91	156497.64	155206.98
23 Na # 1	8092	8092	ug/l	1.49	81000.00		53559660.00	54795104.00	54552956.00
24 Mg # 1	5273	5273	ug/l	0.80	81000.00		23712404.00	23561148.00	24334076.00
27 Al # 1	1021	1021	ug/l	1.17	81000.00		5202830.00	5195507.00	5385306.50
39 K # 2	2115	2115	ug/l	0.82	81000.00		699101.00	716416.56	720699.81
40 Ca # 1	22580	22580	ug/l	0.95	81000.00		231575410.00	230944340.00	238656320.00
45 Sc # 2	----	--------		--------	#VALUE!		39632.41	39458.97	40382.03
47 Ti # 3	21.05	21.05	ug/l	0.57	1620.00		19887.71	20074.62	20111.18
51 V # 2	21.2	21.2	ug/l	0.33	1800.00		48039.15	48338.68	48615.09
52 Cr # 2	21.36	21.36	ug/l	0.36	1800.00		57857.89	58209.98	58406.11
55 Mn # 3	124.8	124.8	ug/l	0.20	1800.00		2191848.00	2179851.50	2172400.50
56 Fe # 1	1039	1039	ug/l	0.72	81000.00		16715106.00	16641680.00	16538023.00
59 Co # 3	9.713	9.713	ug/l	1.37	1800.00		132282.03	128618.28	128961.23
60 Ni # 2	21.79	21.79	ug/l	0.54	1800.00		25149.31	25233.86	25519.81
63 Cu # 2	22.86	22.86	ug/l	0.38	1800.00		69422.91	69896.63	69979.34
66 Zn # 3	20.83	20.83	ug/l	1.11	1800.00		34346.02	33868.56	33370.96
75 As # 2	21.35	21.35	ug/l	0.80	100.00		4855.32	4867.99	4955.68
78 Se # 1	19.83	19.83	ug/l	0.23	100.00		9405.77	9416.10	9463.80
88 Sr # 3	311.9	311.9	ug/l	2.59	1800.00		7500669.00	7509046.50	7463495.50
95 Mo # 3	20.8	20.8	ug/l	2.16	1800.00		72585.47	72772.61	71303.48
107 Ag # 3	10.41	10.41	ug/l	2.63	100.00		107113.80	106331.95	104125.85
111 Cd # 3	10.12	10.12	ug/l	1.43	100.00		22538.50	22501.80	22438.78
118 Sn # 3	21.42	21.42	ug/l	2.36	1800.00		149231.13	146755.42	145936.44
121 Sb # 3	14.04	14.04	ug/l	2.04	100.00		91303.81	89748.99	90023.88
137 Ba # 3	42.46	42.46	ug/l	2.34	1800.00		142631.44	141320.63	139418.20
202 Hg # 3	1.037	1.037	ug/l	1.46	5.00		2765.25	2758.91	2700.90
205 Tl # 3	8.183	8.183	ug/l	1.11	20.00		186718.80	184807.31	184649.08
208 Pb # 3	10.78	10.78	ug/l	1.38	1800.00		339844.91	338987.88	332976.41
232 Th # 3	22.44	22.44	ug/l	1.48	#VALUE!		769522.19	760442.75	749777.13
238 U # 3	23.86	23.86	ug/l	1.01	#VALUE!		816619.75	807941.63	803464.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	499740.31	2.26	836165.38	59.8	60 - 125	IS I	486741.59	505648.31	506830.94
45 Sc # 1	551192.50	0.92	552676.25	99.7	60 - 125		549837.94	546947.00	556792.63
45 Sc # 3	546335.06	1.06	644433.94	84.8	60 - 125		540784.13	545898.00	552323.06
74 Ge # 1	177665.58	0.27	175321.88	101.3	60 - 125		177698.64	177170.98	178127.13
74 Ge # 2	24864.82	0.81	27172.50	91.5	60 - 125		24635.76	24952.65	25006.05
74 Ge # 3	143301.44	0.36	164913.13	86.9	60 - 125		143690.34	143488.59	142725.38
89 Y # 3	972550.06	2.31	1068488.30	91.0	60 - 125		956891.56	962491.13	998267.56
115 In # 3	970616.75	1.20	1083659.40	89.6	60 - 125		958522.06	971527.81	981800.31
159 Tb # 3	1501409.90	0.50	1651256.80	90.9	60 - 125		1492969.80	1507574.80	1503685.10
209 Bi # 3	886989.56	0.18	1054491.00	84.1	60 - 125		885238.13	887376.94	888353.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\160SMPL.D\160SMPL.D#
Date Acquired: Dec 25 2012 01:51 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-7-a
Misc Info: 3010 1/5
Vial Number: 3201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006149	0.006149	ug/l	46.17	100.00		23.33	16.67	10.00
11 B # 3	15.9	15.9	ug/l	1.11	1800.00		44164.62	44648.94	45551.16
23 Na # 1	7038	7038	ug/l	0.19	81000.00		46493288.00	47066552.00	47712644.00
24 Mg # 1	4313	4313	ug/l	0.39	81000.00		19210374.00	19400440.00	19763996.00
27 Al # 1	1.151	1.151	ug/l	2.44	81000.00		6941.44	6938.11	7301.57
39 K # 2	1076	1076	ug/l	7.72	81000.00		368467.59	367900.19	377822.28
40 Ca # 1	21980	21980	ug/l	1.02	81000.00		225694880.00	223959120.00	230511250.00
45 Sc # 2	----	--------		--------	#VALUE!		39711.74	43449.47	37231.35
47 Ti # 3	0.1633	0.1633	ug/l	8.68	1620.00		200.01	163.34	186.67
51 V # 2	0.1877	0.1877	ug/l	12.86	1800.00		646.68	598.90	621.13
52 Cr # 2	0.046	0.046	ug/l	16.56	1800.00		220.00	278.89	243.34
55 Mn # 3	18.15	18.15	ug/l	1.13	1800.00		328231.09	321450.22	320609.25
56 Fe # 1	2.11	2.11	ug/l	1.55	81000.00		46943.98	46302.09	46652.83
59 Co # 3	0.04752	0.04752	ug/l	5.42	1800.00		716.70	620.03	653.37
60 Ni # 2	0.4795	0.4795	ug/l	4.55	1800.00		585.57	612.24	588.90
63 Cu # 2	1.119	1.119	ug/l	10.19	1800.00		3835.99	3893.78	4091.60
66 Zn # 3	0.976	0.976	ug/l	3.77	1800.00		1846.81	1863.49	1780.14
75 As # 2	0.1679	0.1679	ug/l	27.96	100.00		53.00	51.00	65.00
78 Se # 1	0.07056	0.07056	ug/l	11.25	100.00		59.00	52.00	58.00
88 Sr # 3	297.8	297.8	ug/l	3.51	1800.00		7291671.50	7258167.50	7241061.50
95 Mo # 3	0.3563	0.3563	ug/l	1.29	1800.00		1346.76	1290.09	1300.08
107 Ag # 3	0.00172	0.00172	ug/l	108.14	100.00		43.33	56.67	20.00
111 Cd # 3	0.00982	0.00982	ug/l	107.94	100.00		46.24	82.92	42.92
118 Sn # 3	0.06617	0.06617	ug/l	17.38	1800.00		870.05	713.37	693.37
121 Sb # 3	2.76	2.76	ug/l	2.81	100.00		18253.47	18240.12	18440.34
137 Ba # 3	20.77	20.77	ug/l	2.73	1800.00		70603.81	70423.02	70188.57
202 Hg # 3	0.01946	0.01946	ug/l	8.96	5.00		102.33	98.67	92.33
205 Tl # 3	0.03613	0.03613	ug/l	8.40	20.00		920.05	923.39	806.71
208 Pb # 3	0.5251	0.5251	ug/l	4.03	1800.00		16620.61	16970.77	16824.01
232 Th # 3	0.1141	0.1141	ug/l	5.27	#VALUE!		4427.43	3983.97	3920.64
238 U # 3	0.2267	0.2267	ug/l	0.76	#VALUE!		7915.66	7645.45	7668.83

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	511149.88	0.60	836165.38	61.1	60 - 125		508795.72	510054.41	514599.47
45 Sc # 1	549401.56	1.10	552676.25	99.4	60 - 125		543472.13	549161.69	555570.75
45 Sc # 3	559915.75	2.86	644433.94	86.9	60 - 125		577310.63	545770.44	556666.25
74 Ge # 1	177680.41	0.76	175321.88	101.3	60 - 125		176585.39	177277.44	179178.41
74 Ge # 2	25277.29	6.36	27172.50	93.0	60 - 125		24941.52	27026.86	23863.50
74 Ge # 3	145877.02	2.09	164913.13	88.5	60 - 125		149138.75	143104.64	145387.66
89 Y # 3	988175.50	3.90	1068488.30	92.5	60 - 125		1032495.00	962601.13	969430.31
115 In # 3	990235.19	2.80	1083659.40	91.4	60 - 125		1016481.90	961206.88	993016.75
159 Tb # 3	1520061.90	2.96	1651256.80	92.1	60 - 125		1568116.60	1479042.40	1513026.40
209 Bi # 3	891894.38	2.12	1054491.00	84.6	60 - 125		911638.50	874001.88	890042.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\161SMPL.D\161SMPL.D#
Date Acquired: Dec 25 2012 01:58 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-8-a
Misc Info: 3010 1/5
Vial Number: 3202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.003724	0.003724	ug/l	91.33	100.00		10.00	20.00	3.33
11 B # 3	1.978	1.978	ug/l	6.48	1800.00		10189.62	10299.65	10272.97
23 Na # 1	518.9	518.9	ug/l	3.46	81000.00		3648203.30	3723180.30	3787175.80
24 Mg # 1	1531	1531	ug/l	2.74	81000.00		7045461.50	7206952.50	7405158.00
27 Al # 1	5.92	5.92	ug/l	6.95	81000.00		31745.60	34508.67	32615.19
39 K # 2	82.05	82.05	ug/l	1.74	81000.00		36282.23	37364.33	36876.66
40 Ca # 1	11020	11020	ug/l	4.14	81000.00		116723890.00	119827380.00	119930930.00
45 Sc # 2	----	--------		--------	#VALUE!		39482.37	41852.87	39574.74
47 Ti # 3	0.1539	0.1539	ug/l	40.75	1620.00		126.67	146.67	246.68
51 V # 2	0.3019	0.3019	ug/l	6.54	1800.00		851.14	902.25	933.36
52 Cr # 2	0.03602	0.03602	ug/l	12.09	1800.00		212.23	220.00	232.23
55 Mn # 3	1.627	1.627	ug/l	2.93	1800.00		30559.39	30018.29	29777.76
56 Fe # 1	18.04	18.04	ug/l	3.83	81000.00		311268.34	318097.41	311761.47
59 Co # 3	0.07407	0.07407	ug/l	12.49	1800.00		1113.39	1090.06	903.38
60 Ni # 2	0.3711	0.3711	ug/l	5.47	1800.00		446.68	481.12	491.12
63 Cu # 2	1.088	1.088	ug/l	2.90	1800.00		3972.69	3901.56	3795.98
66 Zn # 3	1.452	1.452	ug/l	3.00	1800.00		2670.27	2660.27	2603.59
75 As # 2	0.223	0.223	ug/l	12.06	100.00		66.33	67.67	76.33
78 Se # 1	0.04361	0.04361	ug/l	11.09	100.00		46.67	42.33	47.00
88 Sr # 3	48.53	48.53	ug/l	4.32	1800.00		1229246.50	1199968.30	1161961.90
95 Mo # 3	0.1673	0.1673	ug/l	4.33	1800.00		643.36	633.36	693.37
107 Ag # 3	0.001631	0.001631	ug/l	97.36	100.00		56.67	40.00	23.33
111 Cd # 3	0.08812	0.08812	ug/l	5.89	100.00		253.14	233.14	233.12
118 Sn # 3	0.07378	0.07378	ug/l	7.31	1800.00		860.05	830.05	793.38
121 Sb # 3	0.5495	0.5495	ug/l	5.81	100.00		4073.93	3987.26	3720.51
137 Ba # 3	5.681	5.681	ug/l	0.42	1800.00		19681.95	19581.79	19785.37
202 Hg # 3	0.01703	0.01703	ug/l	23.88	5.00		82.33	91.00	107.00
205 Tl # 3	0.01627	0.01627	ug/l	1.23	20.00		406.68	430.02	436.69
208 Pb # 3	0.2187	0.2187	ug/l	6.55	1800.00		7260.89	7144.18	6734.12
232 Th # 3	0.05833	0.05833	ug/l	4.41	#VALUE!		2306.92	2226.90	2226.91
238 U # 3	0.1115	0.1115	ug/l	3.34	#VALUE!		3957.30	3833.94	3883.96

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	520699.09	3.63	836165.38	62.3	60 - 125		499104.63	528792.06	534200.63
45 Sc # 1	574787.00	5.10	552676.25	104.0	60 - 125		553389.63	562795.25	608176.06
45 Sc # 3	555349.50	3.03	644433.94	86.2	60 - 125		535917.94	564288.94	565841.50
74 Ge # 1	184981.38	3.16	175321.88	105.5	60 - 125		180907.06	182369.00	191668.09
74 Ge # 2	25500.93	1.90	27172.50	93.8	60 - 125		25310.95	26052.21	25139.64
74 Ge # 3	147624.27	1.50	164913.13	89.5	60 - 125		145186.78	148167.17	149518.86
89 Y # 3	998844.56	1.81	1068488.30	93.5	60 - 125		993112.50	984331.88	1019089.30
115 In # 3	1010717.70	0.93	1083659.40	93.3	60 - 125		1009511.30	1001964.10	1020677.60
159 Tb # 3	1505953.10	2.68	1651256.80	91.2	60 - 125		1461275.30	1516872.90	1539711.00
209 Bi # 3	910409.88	1.93	1054491.00	86.3	60 - 125		891073.50	914841.63	925314.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\162SMPL.D\162SMPL.D#
Date Acquired: Dec 25 2012 02:06 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-9-a
Misc Info: 3010 1/5
Vial Number: 3203
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.008371	0.008371	ug/l	59.85	100.00		10.00	33.33	23.33
11 B # 3	6.887	6.887	ug/l	4.00	1800.00		22250.05	22894.17	22890.79
23 Na # 1	1707	1707	ug/l	1.15	81000.00		11283825.00	11487893.00	11684519.00
24 Mg # 1	2400	2400	ug/l	1.27	81000.00		10580932.00	10857700.00	11029777.00
27 Al # 1	4.312	4.312	ug/l	8.57	81000.00		23667.35	24952.12	21229.19
39 K # 2	495.2	495.2	ug/l	3.73	81000.00		177647.06	178021.03	179727.20
40 Ca # 1	23250	23250	ug/l	1.22	81000.00		235182340.00	239882690.00	244153200.00
45 Sc # 2	----	--------		--------	#VALUE!		39209.55	40356.41	44061.83
47 Ti # 3	0.1363	0.1363	ug/l	13.00	1620.00		143.34	156.67	166.67
51 V # 2	0.2159	0.2159	ug/l	2.59	1800.00		674.46	674.46	748.91
52 Cr # 2	0.03262	0.03262	ug/l	12.54	1800.00		202.23	221.11	215.56
55 Mn # 3	2.766	2.766	ug/l	3.05	1800.00		49908.16	50368.96	48851.70
56 Fe # 1	6.49	6.49	ug/l	0.96	81000.00		115916.88	116187.25	118336.98
59 Co # 3	0.08497	0.08497	ug/l	3.42	1800.00		1156.74	1146.73	1193.41
60 Ni # 2	0.3538	0.3538	ug/l	5.58	1800.00		447.79	464.46	450.01
63 Cu # 2	1.561	1.561	ug/l	3.78	1800.00		5371.93	5345.26	5429.73
66 Zn # 3	5.147	5.147	ug/l	5.75	1800.00		8312.10	8685.64	8895.73
75 As # 2	0.2019	0.2019	ug/l	11.84	100.00		61.33	70.33	64.67
78 Se # 1	0.0342	0.0342	ug/l	29.56	100.00		41.00	33.67	42.67
88 Sr # 3	320.4	320.4	ug/l	5.04	1800.00		7677770.00	7769822.50	7733060.00
95 Mo # 3	0.1549	0.1549	ug/l	4.26	1800.00		630.03	600.03	570.03
107 Ag # 3	0.01354	0.01354	ug/l	10.66	100.00		186.67	146.67	156.67
111 Cd # 3	0.02013	0.02013	ug/l	36.35	100.00		66.47	79.81	96.49
118 Sn # 3	0.05593	0.05593	ug/l	11.39	1800.00		683.37	643.37	733.37
121 Sb # 3	0.8804	0.8804	ug/l	2.45	100.00		6084.60	5877.83	6094.61
137 Ba # 3	13.58	13.58	ug/l	3.52	1800.00		46016.59	46069.87	46170.10
202 Hg # 3	0.02327	0.02327	ug/l	12.19	5.00		115.33	111.33	101.00
205 Tl # 3	0.009935	0.009935	ug/l	21.20	20.00		330.01	286.68	226.68
208 Pb # 3	0.1977	0.1977	ug/l	3.62	1800.00		6404.01	6424.02	6367.41
232 Th # 3	0.04077	0.04077	ug/l	4.71	#VALUE!		1630.17	1563.46	1706.81
238 U # 3	0.2979	0.2979	ug/l	2.33	#VALUE!		10443.86	10187.10	10300.44

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	519651.34	2.05	836165.38	62.1	60 - 125		524002.81	507509.00	527442.19
45 Sc # 1	549156.25	1.24	552676.25	99.4	60 - 125		541485.44	554363.38	551619.81
45 Sc # 3	556917.75	4.73	644433.94	86.4	60 - 125		585294.31	533228.75	552230.19
74 Ge # 1	177803.44	0.41	175321.88	101.4	60 - 125		176987.06	178026.59	178396.61
74 Ge # 2	25625.87	4.24	27172.50	94.3	60 - 125		24960.48	25037.20	26879.95
74 Ge # 3	145048.47	2.52	164913.13	88.0	60 - 125		149151.92	142138.67	143854.78
89 Y # 3	977697.38	4.46	1068488.30	91.5	60 - 125		1022771.00	935678.81	974642.06
115 In # 3	991312.81	3.47	1083659.40	91.5	60 - 125		1028642.70	960796.94	984498.94
159 Tb # 3	1507646.60	3.34	1651256.80	91.3	60 - 125		1559344.80	1458852.00	1504743.30
209 Bi # 3	904662.38	3.56	1054491.00	85.8	60 - 125		936553.50	872077.13	905356.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\163SMPL.D\163SMPL.D#
Date Acquired: Dec 25 2012 02:13 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-10-a
Misc Info: 3010 1/5
Vial Number: 3204
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001904	0.001904	ug/l	125.21	100.00		3.33	3.33	13.33
11 B	# 3	3.926	3.926	ug/l	1.92	1800.00		14672.65	15383.13	15126.32
23 Na	# 1	625.2	625.2	ug/l	0.81	81000.00		4198783.50	4274235.00	4346663.50
24 Mg	# 1	1157	1157	ug/l	0.90	81000.00		5087956.00	5305156.00	5283471.00
27 Al	# 1	8.024	8.024	ug/l	5.92	81000.00		40136.72	41516.20	45614.94
39 K	# 2	344.2	344.2	ug/l	1.23	81000.00		122284.84	124522.19	127579.30
40 Ca	# 1	13430	13430	ug/l	0.71	81000.00		137393340.00	138779600.00	139882580.00
45 Sc	# 2	----	--------		--------	#VALUE!		38779.70	39030.25	40318.55
47 Ti	# 3	0.1966	0.1966	ug/l	10.21	1620.00		233.34	210.01	193.34
51 V	# 2	0.1957	0.1957	ug/l	5.49	1800.00		614.46	632.24	676.69
52 Cr	# 2	0.0298	0.0298	ug/l	3.18	1800.00		197.78	201.11	206.67
55 Mn	# 3	0.1057	0.1057	ug/l	1.57	1800.00		2670.26	2743.62	2703.60
56 Fe	# 1	8.571	8.571	ug/l	0.96	81000.00		149230.97	151095.03	152577.03
59 Co	# 3	0.01975	0.01975	ug/l	7.35	1800.00		296.68	263.34	290.01
60 Ni	# 2	0.2473	0.2473	ug/l	2.39	1800.00		322.23	317.78	325.56
63 Cu	# 2	0.6451	0.6451	ug/l	3.34	1800.00		2389.07	2482.41	2589.09
66 Zn	# 3	5.263	5.263	ug/l	0.68	1800.00		8892.39	8915.73	8705.64
75 As	# 2	0.1496	0.1496	ug/l	8.74	100.00		51.67	55.67	49.67
78 Se	# 1	0.01948	0.01948	ug/l	32.46	100.00		29.33	36.00	31.67
88 Sr	# 3	87.09	87.09	ug/l	2.48	1800.00		2075867.00	2128538.00	2093161.30
95 Mo	# 3	0.07949	0.07949	ug/l	6.50	1800.00		313.34	340.01	340.01
107 Ag	# 3	0.007494	0.007494	ug/l	26.49	100.00		120.00	103.34	76.67
111 Cd	# 3	0.004405	0.004405	ug/l	131.92	100.00		59.90	43.23	33.23
118 Sn	# 3	0.05513	0.05513	ug/l	13.12	1800.00		686.70	640.03	706.70
121 Sb	# 3	0.2647	0.2647	ug/l	3.56	100.00		1993.50	1956.83	1980.17
137 Ba	# 3	7.18	7.18	ug/l	1.29	1800.00		24638.58	24531.55	23703.81
202 Hg	# 3	0.002953	0.002953	ug/l	27.29	5.00		53.67	57.67	57.00
205 Tl	# 3	0.009374	0.009374	ug/l	26.04	20.00		323.35	216.67	270.01
208 Pb	# 3	0.1563	0.1563	ug/l	4.57	1800.00		4907.14	5267.18	5267.17
232 Th	# 3	0.02811	0.02811	ug/l	6.23	#VALUE!		1256.76	1253.42	1126.74
238 U	# 3	0.1219	0.1219	ug/l	1.59	#VALUE!		4264.05	4280.73	4297.41

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	515496.09	1.23	836165.38	61.7	60 - 125		508202.44	519665.09	518620.72
45 Sc	# 1	549998.13	1.42	552676.25	99.5	60 - 125		540970.94	554227.75	554795.56
45 Sc	# 3	551027.00	2.29	644433.94	85.5	60 - 125		549460.63	564356.44	539263.81
74 Ge	# 1	178808.88	1.21	175321.88	102.0	60 - 125		176432.63	180671.59	179322.41
74 Ge	# 2	25201.92	1.73	27172.50	92.7	60 - 125		24700.07	25434.49	25471.19
74 Ge	# 3	145213.94	0.92	164913.13	88.1	60 - 125		145101.03	146601.84	143938.95
89 Y	# 3	976203.13	3.58	1068488.30	91.4	60 - 125		961227.81	1016182.10	951199.38
115 In	# 3	987328.00	2.49	1083659.40	91.1	60 - 125		989535.94	1010781.10	961667.06
159 Tb	# 3	1521348.10	2.00	1651256.80	92.1	60 - 125		1518450.10	1553109.80	1492484.50
209 Bi	# 3	916057.56	1.35	1054491.00	86.9	60 - 125		915993.00	928474.25	903705.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\164SMPL.D\164SMPL.D#
Date Acquired: Dec 25 2012 02:21 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-11-a
Misc Info: 3010 1/5
Vial Number: 3205
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006454	0.006454	ug/l	31.84	100.00		16.67	13.33	23.33
11 B # 3	3.38	3.38	ug/l	2.82	1800.00		13912.04	13872.08	13738.58
23 Na # 1	1842	1842	ug/l	0.70	81000.00		12100240.00	12223221.00	12529986.00
24 Mg # 1	3094	3094	ug/l	0.45	81000.00		13650793.00	13789580.00	14075023.00
27 Al # 1	3.756	3.756	ug/l	3.86	81000.00		19331.39	20199.16	21262.15
39 K # 2	156.1	156.1	ug/l	2.31	81000.00		58835.73	60668.42	61467.40
40 Ca # 1	17400	17400	ug/l	0.96	81000.00		174126190.00	178401150.00	181252260.00
45 Sc # 2	----	--------		--------	#VALUE!		38888.91	39180.59	39946.59
47 Ti # 3	0.2021	0.2021	ug/l	11.31	1620.00		193.34	230.01	233.34
51 V # 2	0.3199	0.3199	ug/l	6.73	1800.00		886.70	954.48	890.03
52 Cr # 2	0.0577	0.0577	ug/l	12.09	1800.00		267.78	291.12	262.23
55 Mn # 3	2.225	2.225	ug/l	2.17	1800.00		40989.14	40645.11	39486.09
56 Fe # 1	14.4	14.4	ug/l	1.15	81000.00		236572.89	241649.16	244235.59
59 Co # 3	0.04907	0.04907	ug/l	3.15	1800.00		706.70	676.70	666.70
60 Ni # 2	0.4235	0.4235	ug/l	1.56	1800.00		516.68	506.68	536.68
63 Cu # 2	0.9431	0.9431	ug/l	1.82	1800.00		3275.87	3349.22	3402.56
66 Zn # 3	0.8028	0.8028	ug/l	3.61	1800.00		1496.77	1586.78	1550.11
75 As # 2	0.2132	0.2132	ug/l	9.27	100.00		61.33	69.67	66.67
78 Se # 1	0.04179	0.04179	ug/l	16.94	100.00		45.67	41.00	40.00
88 Sr # 3	59.28	59.28	ug/l	1.31	1800.00		1458084.40	1442801.50	1421907.60
95 Mo # 3	0.2934	0.2934	ug/l	5.77	1800.00		1053.40	1153.41	1056.73
107 Ag # 3	0.0007455	0.0007455	ug/l	87.83	100.00		30.00	36.67	23.33
111 Cd # 3	0.01021	0.01021	ug/l	17.35	100.00		56.33	62.97	56.33
118 Sn # 3	0.06536	0.06536	ug/l	4.98	1800.00		756.71	723.37	773.37
121 Sb # 3	0.3896	0.3896	ug/l	7.22	100.00		3003.69	2673.63	2713.62
137 Ba # 3	13.41	13.41	ug/l	1.51	1800.00		46089.98	45191.02	45043.78
202 Hg # 3	0.008117	0.008117	ug/l	28.31	5.00		65.33	66.67	76.00
205 Tl # 3	0.006993	0.006993	ug/l	16.69	20.00		243.34	186.67	216.67
208 Pb # 3	0.06505	0.06505	ug/l	3.24	1800.00		2336.82	2170.13	2256.81
232 Th # 3	0.02424	0.02424	ug/l	6.16	#VALUE!		1086.74	1013.40	1100.07
238 U # 3	0.5885	0.5885	ug/l	1.66	#VALUE!		20821.41	20277.40	20233.83

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	521387.44	1.18	836165.38	62.4	60 - 125		514398.91	523812.44	525951.06
45 Sc # 1	544623.81	1.13	552676.25	98.5	60 - 125		538912.13	543851.50	551107.81
45 Sc # 3	554639.94	0.13	644433.94	86.1	60 - 125		554240.88	554199.69	555479.19
74 Ge # 1	175806.14	1.05	175321.88	100.3	60 - 125		174755.17	174720.55	177942.72
74 Ge # 2	24766.89	1.46	27172.50	91.1	60 - 125		24674.57	24459.76	25166.33
74 Ge # 3	145755.27	0.26	164913.13	88.4	60 - 125		145816.31	145350.33	146099.16
89 Y # 3	983849.88	1.42	1068488.30	92.1	60 - 125		982766.44	998374.25	970408.75
115 In # 3	988722.88	0.44	1083659.40	91.2	60 - 125		986854.75	985605.63	993708.44
159 Tb # 3	1518463.90	0.79	1651256.80	92.0	60 - 125		1531892.00	1508932.00	1514567.50
209 Bi # 3	907848.94	0.51	1054491.00	86.1	60 - 125		907745.63	912527.25	903273.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\165SMPL.D\165SMPL.D#
Date Acquired: Dec 25 2012 02:28 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-12-a
Misc Info: 3010 1/5
Vial Number: 3206
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-8.5E-006	-8.5E-006	ug/l	17482.00	100.00		0.00	0.00	6.67
11 B # 3	3.175	3.175	ug/l	6.74	1800.00		13221.52	13681.81	13575.11
23 Na # 1	1904	1904	ug/l	1.39	81000.00		12596728.00	12950841.00	12928157.00
24 Mg # 1	2120	2120	ug/l	1.33	81000.00		9381965.00	9673414.00	9677252.00
27 Al # 1	5.94	5.94	ug/l	3.17	81000.00		32286.91	31094.57	31665.83
39 K # 2	92.54	92.54	ug/l	2.02	81000.00		39338.38	40240.35	40367.22
40 Ca # 1	14940	14940	ug/l	1.14	81000.00		152948910.00	154563950.00	155476590.00
45 Sc # 2	----	--------		--------	#VALUE!		39117.13	39326.47	40700.40
47 Ti # 3	0.1717	0.1717	ug/l	5.43	1620.00		173.34	186.67	203.34
51 V # 2	0.2193	0.2193	ug/l	5.14	1800.00		670.02	674.46	744.47
52 Cr # 2	0.02264	0.02264	ug/l	47.04	1800.00		210.00	164.45	171.11
55 Mn # 3	11.75	11.75	ug/l	4.61	1800.00		213757.20	210051.48	206090.41
56 Fe # 1	32.72	32.72	ug/l	1.22	81000.00		538116.19	537066.06	544573.63
59 Co # 3	0.06157	0.06157	ug/l	10.17	1800.00		883.38	906.72	773.38
60 Ni # 2	0.3305	0.3305	ug/l	3.48	1800.00		423.34	412.23	424.45
63 Cu # 2	0.4154	0.4154	ug/l	2.99	1800.00		1768.99	1746.77	1831.22
66 Zn # 3	0.7222	0.7222	ug/l	11.70	1800.00		1493.43	1453.43	1293.42
75 As # 2	0.1982	0.1982	ug/l	0.77	100.00		62.00	63.33	65.67
78 Se # 1	0.02048	0.02048	ug/l	22.56	100.00		33.33	34.33	30.67
88 Sr # 3	55.68	55.68	ug/l	4.24	1800.00		1337771.10	1318512.50	1319385.90
95 Mo # 3	0.2897	0.2897	ug/l	4.53	1800.00		1053.40	1026.72	1140.07
107 Ag # 3	0.0005568	0.0005568	ug/l	192.53	100.00		36.67	30.00	16.67
111 Cd # 3	0.0152	0.0152	ug/l	19.53	100.00		73.00	63.01	72.97
118 Sn # 3	0.05906	0.05906	ug/l	17.27	1800.00		753.37	696.70	663.36
121 Sb # 3	0.2998	0.2998	ug/l	6.20	100.00		2243.55	2103.52	2270.23
137 Ba # 3	5.203	5.203	ug/l	5.00	1800.00		17913.20	17305.99	17566.29
202 Hg # 3	0.0006258	0.0006258	ug/l	451.74	5.00		56.00	43.33	48.33
205 Tl # 3	0.003658	0.003658	ug/l	43.93	20.00		126.67	176.67	106.67
208 Pb # 3	0.06903	0.06903	ug/l	6.95	1800.00		2426.82	2343.47	2246.80
232 Th # 3	0.01967	0.01967	ug/l	11.25	#VALUE!		966.77	863.39	886.72
238 U # 3	0.3352	0.3352	ug/l	4.90	#VALUE!		11788.25	11818.27	11247.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	528883.25	5.30	836165.38	63.3	60 - 125		500499.78	529554.38	556595.75
45 Sc # 1	550047.75	1.87	552676.25	99.5	60 - 125		541432.63	547295.19	561415.50
45 Sc # 3	549018.81	3.63	644433.94	85.2	60 - 125		526615.44	555663.69	564777.19
74 Ge # 1	178849.41	1.55	175321.88	102.0	60 - 125		175841.77	179416.02	181290.42
74 Ge # 2	25228.96	2.81	27172.50	92.8	60 - 125		24505.36	25258.63	25922.90
74 Ge # 3	146113.45	2.78	164913.13	88.6	60 - 125		141504.58	147631.97	149203.78
89 Y # 3	964279.25	3.47	1068488.30	90.2	60 - 125		929765.31	966533.75	996538.75
115 In # 3	987500.19	3.55	1083659.40	91.1	60 - 125		949739.75	993789.75	1018971.10
159 Tb # 3	1494002.80	2.54	1651256.80	90.5	60 - 125		1453084.50	1500925.10	1527998.50
209 Bi # 3	906128.44	2.57	1054491.00	85.9	60 - 125		880400.81	912341.63	925642.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\166SMPL.D\166SMPL.D#
Date Acquired: Dec 25 2012 02:36 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 400-71359-d-1-a
Misc Info: 3010 1/5
Vial Number: 3207
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0164	0.0164	ug/l	59.40	100.00		20.00	53.34	23.33
11 B # 3	641.1	641.1	ug/l	0.97	1800.00		1270338.90	1263349.50	1233307.80
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	189700	189700	ug/l	0.63	81000.00		678755070.00	690778560.00	695659650.00
27 Al # 1	21.23	21.23	ug/l	2.32	81000.00		86663.77	87837.70	91513.29
39 K # 2	74800	74800	ug/l	0.64	81000.00		16296655.00	17014636.00	17035328.00
40 Ca # 1	64860	64860	ug/l	0.58	81000.00		531386500.00	538810750.00	544365180.00
45 Sc # 2	----	--------		--------	#VALUE!		32471.25	34509.32	35029.14
47 Ti # 3	0.9302	0.9302	ug/l	3.79	1620.00		693.36	723.37	730.03
51 V # 2	0.7634	0.7634	ug/l	4.49	1800.00		1315.61	1290.06	1278.94
52 Cr # 2	0.1556	0.1556	ug/l	2.12	1800.00		347.78	372.23	374.45
55 Mn # 3	5.043	5.043	ug/l	0.58	1800.00		55232.56	54333.19	54433.61
56 Fe # 1	21.8	21.8	ug/l	0.81	81000.00		226616.45	227937.11	226805.00
59 Co # 3	0.154	0.154	ug/l	3.62	1800.00		1260.08	1250.08	1316.75
60 Ni # 2	0.2308	0.2308	ug/l	5.73	1800.00		206.67	200.00	196.67
63 Cu # 2	0.7784	0.7784	ug/l	1.72	1800.00		1902.34	1925.67	1950.12
66 Zn # 3	1.926	1.926	ug/l	2.19	1800.00		2103.52	2003.51	2040.18
75 As # 2	1.074	1.074	ug/l	2.23	100.00		173.33	174.33	184.00
78 Se # 1	0.186	0.186	ug/l	11.76	100.00		75.00	62.33	72.00
88 Sr # 3	1111	1111	ug/l	1.13	1800.00		17680008.00	17474694.00	17425724.00
95 Mo # 3	2.119	2.119	ug/l	3.30	1800.00		4404.00	4143.92	4120.60
107 Ag # 3	0.002451	0.002451	ug/l	25.88	100.00		23.33	26.67	30.00
111 Cd # 3	0.02553	0.02553	ug/l	57.46	100.00		45.26	38.68	72.02
118 Sn # 3	0.09494	0.09494	ug/l	10.45	1800.00		580.03	540.03	490.02
121 Sb # 3	0.1912	0.1912	ug/l	5.47	100.00		880.05	806.71	833.38
137 Ba # 3	4.548	4.548	ug/l	2.41	1800.00		8605.74	8565.77	8719.17
202 Hg # 3	0.02755	0.02755	ug/l	4.49	5.00		53.33	55.67	54.33
205 Tl # 3	0.004921	0.004921	ug/l	16.39	20.00		110.00	90.00	90.00
208 Pb # 3	0.02371	0.02371	ug/l	6.81	1800.00		520.02	550.02	563.35
232 Th # 3	0.04715	0.04715	ug/l	9.42	#VALUE!		790.04	816.72	903.39
238 U # 3	0.7511	0.7511	ug/l	2.02	#VALUE!		12135.20	11591.40	11487.98

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	400175.38	0.73	836165.38	47.9	60 - 125	IS F	401052.53	402537.84	396935.72
45 Sc # 1	442009.19	0.64	552676.25	80.0	60 - 125		438972.91	442521.03	444533.59
45 Sc # 3	430936.56	1.22	644433.94	66.9	60 - 125		434363.91	433581.13	424864.66
74 Ge # 1	111583.51	0.59	175321.88	63.6	60 - 125		111231.70	111171.54	112347.30
74 Ge # 2	16766.67	2.56	27172.50	61.7	60 - 125		16289.56	16886.78	17123.68
74 Ge # 3	88114.48	0.90	164913.13	53.4	60 - 125	IS F	88893.18	88139.01	87311.27
89 Y # 3	638277.31	1.63	1068488.30	59.7	60 - 125	IS F	646424.06	641874.44	626533.50
115 In # 3	553580.44	1.47	1083659.40	51.1	60 - 125	IS F	557338.56	559165.44	544237.50
159 Tb # 3	873379.25	1.49	1651256.80	52.9	60 - 125	IS F	882840.94	878698.13	858598.63
209 Bi # 3	408420.03	1.17	1054491.00	38.7	60 - 125	IS F	412752.81	409185.59	403321.59

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
6 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\167SMPL.D\167SMPL.D#
Date Acquired: Dec 25 2012 02:43 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 400-71359-d-2-a
Misc Info: 3010 1/5
Vial Number: 3208
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01307	0.01307	ug/l	31.07	100.00		40.00	23.33	26.67
11 B # 3	404.7	404.7	ug/l	0.73	1800.00		916380.81	925408.50	910629.38
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	108400	108400	ug/l	12.87	81000.00		445607780.00	448567230.00	460283520.00
27 Al # 1	27.62	27.62	ug/l	12.96	81000.00		132144.48	130230.73	133707.53
39 K # 2	44660	44660	ug/l	0.47	81000.00		11201912.00	11465086.00	11497361.00
40 Ca # 1	41220	41220	ug/l	12.72	81000.00		386732100.00	391023070.00	399878240.00
45 Sc # 2	----	--------		--------	#VALUE!		37155.40	38299.95	37731.18
47 Ti # 3	0.8001	0.8001	ug/l	36.02	1620.00		543.36	964.33	580.03
51 V # 2	0.7321	0.7321	ug/l	4.51	1800.00		1343.39	1488.96	1422.29
52 Cr # 2	0.2389	0.2389	ug/l	7.30	1800.00		576.68	631.13	555.57
55 Mn # 3	19.43	19.43	ug/l	1.50	1800.00		245991.19	247307.75	243288.36
56 Fe # 1	84.7	84.7	ug/l	8.56	81000.00		1024625.00	1026137.10	1038419.10
59 Co # 3	0.09454	0.09454	ug/l	4.63	1800.00		986.72	880.05	906.72
60 Ni # 2	0.2051	0.2051	ug/l	6.94	1800.00		198.89	197.78	221.11
63 Cu # 2	0.877	0.877	ug/l	0.27	1800.00		2385.73	2444.63	2422.40
66 Zn # 3	2.033	2.033	ug/l	4.11	1800.00		2500.23	2483.58	2603.59
75 As # 2	0.6078	0.6078	ug/l	6.94	100.00		112.67	118.00	128.67
78 Se # 1	0.1164	0.1164	ug/l	17.13	100.00		58.33	56.33	61.33
88 Sr # 3	636	636	ug/l	1.10	1800.00		11780853.00	11611073.00	11546920.00
95 Mo # 3	0.4961	0.4961	ug/l	3.81	1800.00		1183.40	1216.74	1170.07
107 Ag # 3	0.002371	0.002371	ug/l	116.95	100.00		53.34	16.67	23.33
111 Cd # 3	0.003446	0.003446	ug/l	261.96	100.00		16.29	26.28	42.96
118 Sn # 3	0.06568	0.06568	ug/l	9.62	1800.00		490.02	520.02	480.02
121 Sb # 3	0.1277	0.1277	ug/l	10.77	100.00		796.71	663.37	690.04
137 Ba # 3	6.85	6.85	ug/l	1.29	1800.00		15333.97	15173.87	15427.41
202 Hg # 3	0.01731	0.01731	ug/l	28.45	5.00		44.00	50.67	57.00
205 Tl # 3	0.005177	0.005177	ug/l	26.00	20.00		103.34	136.67	106.67
208 Pb # 3	0.03278	0.03278	ug/l	2.92	1800.00		860.04	786.70	820.03
232 Th # 3	0.04467	0.04467	ug/l	7.64	#VALUE!		983.40	1010.07	880.05
238 U # 3	0.1402	0.1402	ug/l	1.33	#VALUE!		2626.97	2633.63	2633.63

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	462409.31	0.30	836165.38	55.3	60 - 125	IS F	463744.41	462533.13	460950.41
45 Sc # 1	512417.72	11.87	552676.25	92.7	60 - 125		501374.25	577998.88	457880.03
45 Sc # 3	486542.13	1.48	644433.94	75.5	60 - 125		493910.09	479507.53	486208.69
74 Ge # 1	134333.97	8.00	175321.88	76.6	60 - 125		132847.44	145743.33	124411.13
74 Ge # 2	19050.45	1.15	27172.50	70.1	60 - 125		18801.97	19217.98	19131.39
74 Ge # 3	103449.04	1.68	164913.13	62.7	60 - 125		105386.10	102932.84	102028.17
89 Y # 3	741219.13	1.67	1068488.30	69.4	60 - 125		754232.69	729652.00	739772.56
115 In # 3	652298.94	1.82	1083659.40	60.2	60 - 125		662585.25	639318.56	654993.00
159 Tb # 3	1011550.10	2.02	1651256.80	61.3	60 - 125		1033272.10	992639.56	1008738.80
209 Bi # 3	489760.00	1.20	1054491.00	46.4	60 - 125	IS F	496354.16	487785.34	485140.41

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\168_CCV.D\168_CCV.D#
Date Acquired: Dec 25 2012 02:50 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	56 ug/l	1.09	50.00	90 - 110	Fail	142852.36	145289.52	146763.94
11 B	116.5 ug/l	1.27	100.00	90 - 110	Fail	319005.38	321604.75	323980.00
23 Na	5205 ug/l	6.70	5000.00	90 - 110		36765348.00	36185292.00	36527188.00
24 Mg	5047 ug/l	7.67	5000.00	90 - 110		23281500.00	23738142.00	24490322.00
27 Al	492.8 ug/l	7.26	500.00	90 - 110		2584717.00	2655005.80	2714634.50
39 K	5104 ug/l	2.56	5000.00	90 - 110		1682513.50	1672041.40	1770956.30
40 Ca	4938 ug/l	7.85	5000.00	90 - 110		51533580.00	53470236.00	55109540.00
45 Sc	--------	--------		--- ##### - #####		42579.24	39681.81	42429.82
47 Ti	50.91 ug/l	0.93	50.00	90 - 110		50936.40	51768.93	51110.41
51 V	51.21 ug/l	3.34	50.00	90 - 110		114772.39	116864.09	118094.93
52 Cr	51.61 ug/l	3.58	50.00	90 - 110		137939.22	141129.23	142290.41
55 Mn	506.5 ug/l	1.59	500.00	90 - 110		9011907.00	9399776.00	8990840.00
56 Fe	4914 ug/l	3.23	5000.00	90 - 110		82216752.00	82401024.00	81536136.00
59 Co	48.08 ug/l	0.45	50.00	90 - 110		661562.00	668445.56	661834.19
60 Ni	53.27 ug/l	3.61	50.00	90 - 110		60706.72	62163.71	62709.83
63 Cu	53.86 ug/l	3.64	50.00	90 - 110		160696.83	164621.78	166130.34
66 Zn	49.85 ug/l	1.26	50.00	90 - 110		83356.08	83075.22	83576.93
75 As	50.5 ug/l	3.78	50.00	90 - 110		11264.14	11579.00	11842.18
78 Se	49.98 ug/l	4.49	50.00	90 - 110		24792.14	24549.48	24913.64
88 Sr	51.94 ug/l	2.76	50.00	90 - 110		1245605.40	1280576.80	1234487.60
95 Mo	50.19 ug/l	1.41	50.00	90 - 110		170211.63	169203.59	173462.56
107 Ag	50.74 ug/l	0.97	50.00	90 - 110		505068.13	507146.03	506846.03
111 Cd	50.51 ug/l	1.88	50.00	90 - 110		110306.48	111065.41	108574.73
118 Sn	51.08 ug/l	1.21	50.00	90 - 110		342727.34	341746.16	348890.28
121 Sb	52.03 ug/l	1.24	50.00	90 - 110		327784.91	329105.16	326738.38
137 Ba	50.99 ug/l	1.33	50.00	90 - 110		166589.89	166237.78	166153.80
202 Hg	2.428 ug/l	0.82	2.50	90 - 110		6012.81	6041.49	6009.81
205 Tl	9.931 ug/l	2.00	10.00	90 - 110		211254.80	213292.89	211485.31
208 Pb	49.63 ug/l	1.89	50.00	90 - 110		1455448.10	1470752.30	1460435.60
232 Th	50.48 ug/l	1.42		--- ##### - #####		1615592.90	1600110.10	1642443.60
238 U	50.35 ug/l	2.46		--- ##### - #####		1636542.00	1582051.40	1635915.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	556139.19	1.89	836165.38	66.5	60 - 125		549487.81	550690.38	568239.38
45 Sc	576807.56	6.23	552676.25	104.4	60 - 125		567635.88	616434.63	546352.19
45 Sc	578689.44	0.81	644433.94	89.8	60 - 125		573555.44	579718.56	582794.31
74 Ge	185540.00	3.76	175321.88	105.8	60 - 125		185332.92	192608.97	178678.06
74 Ge	24900.80	2.86	27172.50	91.6	60 - 125		25255.37	24080.43	25366.60
74 Ge	147938.67	0.96	164913.13	89.7	60 - 125		147548.80	149519.91	146747.33
89 Y	976916.88	1.23	1068488.30	91.4	60 - 125		990413.00	967401.88	972935.63
115 In	952456.00	1.18	1083659.40	87.9	60 - 125		939488.19	958193.81	959686.00
159 Tb	1415232.60	2.08	1651256.80	85.7	60 - 125		1383582.50	1420517.00	1441598.30
209 Bi	840334.88	0.88	1054491.00	79.7	60 - 125		831824.75	844173.00	845006.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\169_CCB.D\169_CCB.D#
Date Acquired: Dec 25 2012 02:58 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01409	0.01409	ug/l	28.31	#VALUE!		33.33	36.67	53.33
11 B	# 3	4.047	4.047	ug/l	5.78	#VALUE!		17391.59	17374.93	18085.55
23 Na	# 1	193.7	193.7	ug/l	19.83	#VALUE!		1135631.60	1468147.00	1688385.00
24 Mg	# 1	17.65	17.65	ug/l	29.23	#VALUE!		57373.89	83763.65	106939.93
27 Al	# 1	0.3668	0.3668	ug/l	18.29	#VALUE!		2693.60	3243.70	3433.75
39 K	# 2	7.622	7.622	ug/l	3.70	#VALUE!		11523.81	11747.30	11480.44
40 Ca	# 1	11.96	11.96	ug/l	19.71	#VALUE!		170335.27	199235.56	224352.13
45 Sc	# 2	----	--------		--------	#VALUE!		39737.35	41172.67	41003.48
47 Ti	# 3	0.02634	0.02634	ug/l	25.76	#VALUE!		46.67	56.67	53.33
51 V	# 2	0.03319	0.03319	ug/l	50.53	#VALUE!		262.23	320.01	237.78
52 Cr	# 2	0.0369	0.0369	ug/l	18.87	#VALUE!		215.56	252.23	212.23
55 Mn	# 3	0.133	0.133	ug/l	6.07	#VALUE!		3373.73	3180.35	3533.78
56 Fe	# 1	3.27	3.27	ug/l	21.77	#VALUE!		54591.59	70555.27	78727.34
59 Co	# 3	0.01339	0.01339	ug/l	5.86	#VALUE!		203.34	200.01	220.01
60 Ni	# 2	0.04722	0.04722	ug/l	25.58	#VALUE!		82.22	106.67	77.78
63 Cu	# 2	0.07499	0.07499	ug/l	24.95	#VALUE!		722.24	716.69	818.92
66 Zn	# 3	0.06207	0.06207	ug/l	24.02	#VALUE!		343.35	316.68	373.35
75 As	# 2	0.04234	0.04234	ug/l	85.83	#VALUE!		36.67	27.67	20.00
78 Se	# 1	0.08174	0.08174	ug/l	15.40	#VALUE!		57.00	65.67	70.00
88 Sr	# 3	0.03493	0.03493	ug/l	13.30	#VALUE!		973.39	786.71	1036.73
95 Mo	# 3	0.06664	0.06664	ug/l	10.89	#VALUE!		280.01	313.34	283.34
107 Ag	# 3	0.01394	0.01394	ug/l	14.66	#VALUE!		153.34	170.01	186.67
111 Cd	# 3	0.009784	0.009784	ug/l	22.58	#VALUE!		56.58	56.57	63.24
118 Sn	# 3	0.04283	0.04283	ug/l	22.26	#VALUE!		613.37	536.69	670.03
121 Sb	# 3	0.26	0.26	ug/l	10.67	#VALUE!		2273.55	1940.16	1780.14
137 Ba	# 3	0.01753	0.01753	ug/l	47.51	#VALUE!		113.34	50.00	76.67
202 Hg	# 3	0.01656	0.01656	ug/l	2.54	#VALUE!		93.67	90.00	90.33
205 Tl	# 3	0.005306	0.005306	ug/l	24.44	#VALUE!		166.67	196.67	146.67
208 Pb	# 3	0.01323	0.01323	ug/l	18.30	#VALUE!		573.36	530.02	676.69
232 Th	# 3	0.1144	0.1144	ug/l	2.35	#VALUE!		4414.11	4064.00	4037.33
238 U	# 3	0.01658	0.01658	ug/l	11.59	#VALUE!		623.37	493.36	630.03

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	591447.88	3.03	836165.38	70.7	60 - 125		610045.19	574344.69	589953.63
45 Sc	# 1	565896.25	1.02	552676.25	102.4	60 - 125		560059.75	566046.50	571582.50
45 Sc	# 3	589474.06	3.68	644433.94	91.5	60 - 125		610645.44	567282.19	590494.50
74 Ge	# 1	185062.94	0.65	175321.88	105.6	60 - 125		183710.03	185472.22	186006.61
74 Ge	# 2	25787.62	1.32	27172.50	94.9	60 - 125		25448.93	26132.10	25781.82
74 Ge	# 3	153125.14	2.59	164913.13	92.9	60 - 125		157134.48	149212.00	153028.94
89 Y	# 3	1010706.10	3.68	1068488.30	94.6	60 - 125		1051216.50	978006.44	1002895.40
115 In	# 3	1011022.50	3.59	1083659.40	93.3	60 - 125		1052847.90	987385.38	992834.13
159 Tb	# 3	1463308.40	2.91	1651256.80	88.6	60 - 125		1507453.30	1422557.50	1459914.40
209 Bi	# 3	903486.56	3.30	1054491.00	85.7	60 - 125		936501.13	878487.88	895470.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\170SMPL.D\170SMPL.D#
Date Acquired: Dec 25 2012 03:05 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 400-71359-d-3-a
Misc Info: 3010 1/5
Vial Number: 3209
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0127	0.0127	ug/l	40.40	100.00		30.00	43.33	20.00
11 B # 3	248.1	248.1	ug/l	0.99	1800.00		595238.94	606281.25	602880.44
23 Na # 1	----	--------	ug/l	--------	81000.00		3607658500.00	--------	--------
24 Mg # 1	69780	69780	ug/l	1.25	81000.00		299177410.00	297602020.00	298138690.00
27 Al # 1	25.86	25.86	ug/l	1.29	81000.00		124473.95	129073.07	127307.66
39 K # 2	25070	25070	ug/l	3.10	81000.00		7033143.00	7090010.00	7289530.00
40 Ca # 1	27310	27310	ug/l	0.19	81000.00		263376770.00	267753490.00	269566020.00
45 Sc # 2	----	--------		--------	#VALUE!		37382.56	38247.63	42719.14
47 Ti # 3	0.443	0.443	ug/l	12.29	1620.00		480.03	373.35	416.69
51 V # 2	0.7448	0.7448	ug/l	3.01	1800.00		1581.19	1590.08	1651.20
52 Cr # 2	0.2076	0.2076	ug/l	6.26	1800.00		585.57	581.13	582.24
55 Mn # 3	10.35	10.35	ug/l	1.25	1800.00		148294.30	146371.80	146402.75
56 Fe # 1	48.11	48.11	ug/l	0.40	81000.00		634197.94	636363.13	639501.50
59 Co # 3	0.07526	0.07526	ug/l	14.36	1800.00		770.04	953.38	756.71
60 Ni # 2	0.2356	0.2356	ug/l	4.93	1800.00		252.23	266.67	261.12
63 Cu # 2	0.9073	0.9073	ug/l	7.06	1800.00		2785.79	2802.46	2735.78
66 Zn # 3	1.325	1.325	ug/l	2.71	1800.00		1963.50	1870.14	1900.15
75 As # 2	0.7884	0.7884	ug/l	9.47	100.00		169.00	176.33	160.67
78 Se # 1	0.08288	0.08288	ug/l	18.46	100.00		56.33	50.33	45.00
88 Sr # 3	434.9	434.9	ug/l	1.61	1800.00		8933527.00	8879374.00	8746633.00
95 Mo # 3	0.4695	0.4695	ug/l	0.73	1800.00		1303.42	1266.75	1280.08
107 Ag # 3	0.00242	0.00242	ug/l	7.10	100.00		36.67	33.33	36.67
111 Cd # 3	0.001221	0.001221	ug/l	839.48	100.00		12.92	46.26	26.26
118 Sn # 3	0.07592	0.07592	ug/l	4.59	1800.00		610.03	606.70	640.03
121 Sb # 3	0.2306	0.2306	ug/l	6.48	100.00		1380.09	1336.76	1240.08
137 Ba # 3	10.71	10.71	ug/l	3.88	1800.00		26988.85	27863.40	26758.33
202 Hg # 3	0.01655	0.01655	ug/l	28.58	5.00		50.67	65.00	56.33
205 Tl # 3	0.004197	0.004197	ug/l	27.14	20.00		110.00	133.34	96.67
208 Pb # 3	0.01766	0.01766	ug/l	14.55	1800.00		610.02	490.02	600.02
232 Th # 3	0.09812	0.09812	ug/l	4.51	#VALUE!		2346.93	2283.58	2173.55
238 U # 3	0.1301	0.1301	ug/l	2.60	#VALUE!		2870.35	2850.35	2767.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	492872.22	0.23	836165.38	58.9	60 - 125	IS F	492578.53	491929.69	494108.44
45 Sc # 1	520611.41	1.03	552676.25	94.2	60 - 125		514842.13	521620.72	525371.31
45 Sc # 3	519887.19	1.18	644433.94	80.7	60 - 125		524441.31	512895.56	522324.63
74 Ge # 1	144524.45	0.54	175321.88	82.4	60 - 125		143632.73	145114.38	144826.27
74 Ge # 2	21287.00	5.01	27172.50	78.3	60 - 125		20369.22	21035.52	22456.26
74 Ge # 3	115980.38	0.94	164913.13	70.3	60 - 125		115862.07	114954.41	117124.63
89 Y # 3	824135.56	1.56	1068488.30	77.1	60 - 125		837215.00	811509.13	823682.56
115 In # 3	741849.13	1.82	1083659.40	68.5	60 - 125		753433.31	726973.00	745141.19
159 Tb # 3	1137857.50	1.27	1651256.80	68.9	60 - 125		1152897.90	1124189.40	1136485.10
209 Bi # 3	567712.50	1.16	1054491.00	53.8	60 - 125	IS F	571262.31	560108.00	571767.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\171SMPL.D\171SMPL.D#
Date Acquired: Dec 25 2012 03:13 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85888-e-1-a
Misc Info: 3010 1/5
Vial Number: 3210
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01042	0.01042	ug/l	40.52	100.00		16.67	36.67	26.67
11 B	# 3	6.69	6.69	ug/l	4.19	1800.00		21265.52	21939.50	21642.63
23 Na	# 1	2739	2739	ug/l	1.47	81000.00		17938152.00	17769494.00	17940274.00
24 Mg	# 1	2510	2510	ug/l	1.11	81000.00		10794977.00	11172134.00	11086243.00
27 Al	# 1	191.9	191.9	ug/l	1.82	81000.00		934926.88	981298.75	964599.56
39 K	# 2	732	732	ug/l	3.30	81000.00		242188.83	247800.47	248278.72
40 Ca	# 1	5521	5521	ug/l	1.07	81000.00		55070272.00	55815052.00	55457864.00
45 Sc	# 2	----	--------		--------	#VALUE!		37225.63	37636.34	40979.95
47 Ti	# 3	20.19	20.19	ug/l	5.86	1620.00		19687.48	20067.83	18896.59
51 V	# 2	0.6356	0.6356	ug/l	1.92	1800.00		1558.97	1581.19	1638.98
52 Cr	# 2	0.4829	0.4829	ug/l	4.18	1800.00		1373.40	1416.73	1396.73
55 Mn	# 3	638.1	638.1	ug/l	2.64	1800.00		11234060.00	11231892.00	11062475.00
56 Fe	# 1	6327	6327	ug/l	0.46	81000.00		98370824.00	98481584.00	98489120.00
59 Co	# 3	2.618	2.618	ug/l	2.41	1800.00		35200.93	35311.06	34883.63
60 Ni	# 2	1.964	1.964	ug/l	3.79	1800.00		2214.60	2287.94	2257.93
63 Cu	# 2	0.4776	0.4776	ug/l	5.51	1800.00		1914.56	1844.56	1937.90
66 Zn	# 3	1.144	1.144	ug/l	5.16	1800.00		2010.17	2156.85	2060.18
75 As	# 2	0.2934	0.2934	ug/l	0.65	100.00		79.00	82.33	86.33
78 Se	# 1	0.01946	0.01946	ug/l	45.22	100.00		27.33	35.67	30.67
88 Sr	# 3	31.56	31.56	ug/l	2.70	1800.00		759232.06	750429.56	746111.44
95 Mo	# 3	1.047	1.047	ug/l	6.32	1800.00		3810.51	3630.47	3490.44
107 Ag	# 3	0.000489	0.000489	ug/l	107.36	100.00		30.00	20.00	30.00
111 Cd	# 3	0.002541	0.002541	ug/l	137.62	100.00		45.45	42.17	32.22
118 Sn	# 3	0.07559	0.07559	ug/l	15.65	1800.00		723.37	863.38	810.04
121 Sb	# 3	0.1665	0.1665	ug/l	1.41	100.00		1280.09	1270.08	1353.43
137 Ba	# 3	33.19	33.19	ug/l	3.17	1800.00		109287.55	109618.80	108660.06
202 Hg	# 3	0.0007468	0.0007468	ug/l	114.35	5.00		46.67	45.33	51.67
205 Tl	# 3	0.002516	0.002516	ug/l	39.44	20.00		93.34	96.67	136.67
208 Pb	# 3	0.03452	0.03452	ug/l	9.41	1800.00		1263.40	1296.73	1156.72
232 Th	# 3	0.06439	0.06439	ug/l	8.18	#VALUE!		2536.96	2290.25	2263.57
238 U	# 3	0.01409	0.01409	ug/l	3.85	#VALUE!		496.69	460.02	480.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	506599.94	3.46	836165.38	60.6	60 - 125		491880.00	501894.56	526025.31
45 Sc	# 1	534490.38	1.31	552676.25	96.7	60 - 125		527190.56	535101.63	541178.88
45 Sc	# 3	556517.56	2.87	644433.94	86.4	60 - 125		551422.25	543718.94	574411.38
74 Ge	# 1	172768.48	0.52	175321.88	98.5	60 - 125		171730.88	173366.59	173207.98
74 Ge	# 2	24291.89	4.27	27172.50	89.4	60 - 125		23363.89	24099.36	25412.40
74 Ge	# 3	143727.75	1.80	164913.13	87.2	60 - 125		142778.64	141756.05	146648.55
89 Y	# 3	964796.75	2.35	1068488.30	90.3	60 - 125		967070.94	941026.94	986292.25
115 In	# 3	961050.94	2.74	1083659.40	88.7	60 - 125		957187.25	936825.94	989139.38
159 Tb	# 3	1461186.30	2.17	1651256.80	88.5	60 - 125		1459667.60	1430223.30	1493667.80
209 Bi	# 3	873343.19	2.37	1054491.00	82.8	60 - 125		867785.63	855959.63	896284.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\172SMPL.D\172SMPL.D#
Date Acquired: Dec 25 2012 03:20 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85888-e-2-a
Misc Info: 3010 1/5
Vial Number: 3211
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00202	0.00202	ug/l	4.15	100.00		6.67	6.67	6.67
11 B	# 3	5.466	5.466	ug/l	3.02	1800.00		18028.86	18332.46	18325.98
23 Na	# 1	2261	2261	ug/l	3.67	81000.00		14830545.00	14998973.00	15018153.00
24 Mg	# 1	2015	2015	ug/l	2.94	81000.00		8712547.00	9036908.00	9095274.00
27 Al	# 1	44.95	44.95	ug/l	2.91	81000.00		224444.94	229095.95	231555.13
39 K	# 2	336.3	336.3	ug/l	3.93	81000.00		115931.76	115529.27	119818.67
40 Ca	# 1	4401	4401	ug/l	2.36	81000.00		44034028.00	44554820.00	45633644.00
45 Sc	# 2	----	--------		--------	#VALUE!		36996.22	39747.94	36809.31
47 Ti	# 3	3.564	3.564	ug/l	0.73	1620.00		3333.73	3357.07	3500.43
51 V	# 2	0.3292	0.3292	ug/l	10.21	1800.00		850.03	897.81	978.92
52 Cr	# 2	0.2633	0.2633	ug/l	0.80	1800.00		800.02	827.80	803.36
55 Mn	# 3	563.5	563.5	ug/l	2.03	1800.00		9683677.00	9921127.00	9666955.00
56 Fe	# 1	6362	6362	ug/l	0.98	81000.00		97931184.00	100294380.00	101735720.00
59 Co	# 3	4.156	4.156	ug/l	2.37	1800.00		55681.41	54922.47	54758.35
60 Ni	# 2	3.309	3.309	ug/l	4.07	1800.00		3733.75	3688.18	3857.11
63 Cu	# 2	1.497	1.497	ug/l	2.98	1800.00		4924.03	4841.79	4908.47
66 Zn	# 3	0.8318	0.8318	ug/l	9.17	1800.00		1573.44	1646.79	1433.44
75 As	# 2	0.5104	0.5104	ug/l	6.76	100.00		129.33	125.33	136.00
78 Se	# 1	0.01559	0.01559	ug/l	58.13	100.00		30.33	33.00	25.67
88 Sr	# 3	29.61	29.61	ug/l	1.85	1800.00		704685.00	705747.19	704737.50
95 Mo	# 3	0.8128	0.8128	ug/l	3.76	1800.00		2843.64	2846.97	2756.97
107 Ag	# 3	0.0008434	0.0008434	ug/l	97.36	100.00		23.33	26.67	40.00
111 Cd	# 3	0.006279	0.006279	ug/l	85.32	100.00		39.09	42.42	62.45
118 Sn	# 3	0.05447	0.05447	ug/l	6.09	1800.00		660.03	633.37	656.70
121 Sb	# 3	0.1344	0.1344	ug/l	3.95	100.00		1030.06	1123.41	1110.07
137 Ba	# 3	25.42	25.42	ug/l	2.32	1800.00		83177.71	82564.00	82969.87
202 Hg	# 3	0.002458	0.002458	ug/l	58.67	5.00		54.00	53.67	49.00
205 Tl	# 3	0.002153	0.002153	ug/l	17.40	20.00		90.00	100.00	110.00
208 Pb	# 3	0.02611	0.02611	ug/l	7.33	1800.00		1013.38	983.38	933.37
232 Th	# 3	0.04497	0.04497	ug/l	2.27	#VALUE!		1653.48	1716.81	1786.82
238 U	# 3	0.02003	0.02003	ug/l	0.68	#VALUE!		660.04	680.04	693.37

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	496540.97	2.92	836165.38	59.4	60 - 125	IS F	482841.72	495074.25	511706.91
45 Sc	# 1	541171.31	4.17	552676.25	97.9	60 - 125		525224.31	531280.13	567009.63
45 Sc	# 3	544106.50	2.02	644433.94	84.4	60 - 125		534919.19	541120.94	556279.44
74 Ge	# 1	174503.25	2.16	175321.88	99.5	60 - 125		171633.98	173093.41	178782.34
74 Ge	# 2	24173.89	1.87	27172.50	89.0	60 - 125		24034.77	24679.12	23807.77
74 Ge	# 3	142073.63	1.49	164913.13	86.2	60 - 125		139855.36	142293.47	144072.05
89 Y	# 3	963904.38	1.75	1068488.30	90.2	60 - 125		976317.81	944702.88	970692.38
115 In	# 3	952534.06	2.11	1083659.40	87.9	60 - 125		931287.88	955011.00	971303.13
159 Tb	# 3	1450803.50	1.80	1651256.80	87.9	60 - 125		1425796.10	1448600.60	1478013.90
209 Bi	# 3	873881.94	1.89	1054491.00	82.9	60 - 125		857662.13	873235.50	890748.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\173SMPL.D\173SMPL.D#
Date Acquired: Dec 25 2012 03:28 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85888-e-5-a
Misc Info: 3010 1/5
Vial Number: 3212
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0006353	0.0006353	ug/l	238.94	100.00		6.67	3.33	0.00
11 B # 3	3.594	3.594	ug/l	1.49	1800.00		12958.04	13364.98	13765.22
23 Na # 1	1478	1478	ug/l	1.40	81000.00		9404154.00	9380756.00	9660164.00
24 Mg # 1	1603	1603	ug/l	1.00	81000.00		6805440.00	6973835.50	6867464.00
27 Al # 1	35.24	35.24	ug/l	1.09	81000.00		170360.61	173887.34	175735.53
39 K # 2	225.7	225.7	ug/l	0.56	81000.00		78034.79	79642.27	80740.32
40 Ca # 1	3582	3582	ug/l	0.90	81000.00		34683956.00	35286168.00	35648924.00
45 Sc # 2	----	--------		--------	#VALUE!		36395.11	36330.45	37977.06
47 Ti # 3	2.105	2.105	ug/l	5.27	1620.00		2030.17	1866.82	1973.51
51 V # 2	0.247	0.247	ug/l	7.09	1800.00		661.13	717.80	755.58
52 Cr # 2	0.05345	0.05345	ug/l	10.43	1800.00		251.12	261.12	237.78
55 Mn # 3	459.9	459.9	ug/l	0.99	1800.00		7739915.00	7778276.50	7852789.00
56 Fe # 1	2471	2471	ug/l	0.35	81000.00		37887304.00	38087424.00	38421940.00
59 Co # 3	3.419	3.419	ug/l	0.62	1800.00		44280.40	44193.77	44634.69
60 Ni # 2	1.518	1.518	ug/l	1.92	1800.00		1696.76	1658.98	1746.77
63 Cu # 2	0.2154	0.2154	ug/l	9.14	1800.00		1135.60	1034.48	1108.93
66 Zn # 3	1.069	1.069	ug/l	5.23	1800.00		1900.16	1966.83	1803.47
75 As # 2	0.3458	0.3458	ug/l	6.10	100.00		95.33	90.33	89.00
78 Se # 1	0.006947	0.006947	ug/l	80.05	100.00		24.67	28.00	23.00
88 Sr # 3	23.7	23.7	ug/l	2.25	1800.00		549486.38	550142.56	551852.94
95 Mo # 3	0.2845	0.2845	ug/l	6.29	1800.00		963.39	1083.40	990.06
107 Ag # 3	0.003225	0.003225	ug/l	36.99	100.00		66.67	46.67	46.67
111 Cd # 3	0.005699	0.005699	ug/l	52.57	100.00		39.69	52.99	46.35
118 Sn # 3	0.05363	0.05363	ug/l	21.54	1800.00		570.02	726.71	626.70
121 Sb # 3	0.1253	0.1253	ug/l	4.10	100.00		1003.39	1063.40	1006.73
137 Ba # 3	20.18	20.18	ug/l	1.29	1800.00		65818.10	64670.63	65945.80
202 Hg # 3	0.0006972	0.0006972	ug/l	138.84	5.00		50.33	45.67	48.67
205 Tl # 3	0.0008786	0.0008786	ug/l	86.92	20.00		83.34	76.67	53.34
208 Pb # 3	0.01648	0.01648	ug/l	13.94	1800.00		753.37	633.36	650.03
232 Th # 3	0.02337	0.02337	ug/l	3.89	#VALUE!		1006.73	1033.40	983.39
238 U # 3	0.008607	0.008607	ug/l	2.96	#VALUE!		286.68	303.35	306.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	484208.84	2.29	836165.38	57.9	60 - 125	IS I	471918.28	487237.59	493470.78
45 Sc # 1	522734.66	0.50	552676.25	94.6	60 - 125		519768.19	523683.38	524752.44
45 Sc # 3	528364.00	1.16	644433.94	82.0	60 - 125		521268.16	531980.69	531843.19
74 Ge # 1	171300.64	0.50	175321.88	97.7	60 - 125		170333.55	171619.78	171948.56
74 Ge # 2	23610.26	1.46	27172.50	86.9	60 - 125		23303.03	23544.15	23983.61
74 Ge # 3	138960.80	0.51	164913.13	84.3	60 - 125		139624.88	138208.25	139049.25
89 Y # 3	940394.44	2.49	1068488.30	88.0	60 - 125		923908.13	930021.88	967253.44
115 In # 3	947244.06	0.50	1083659.40	87.4	60 - 125		941850.94	948973.50	950907.69
159 Tb # 3	1435393.90	1.31	1651256.80	86.9	60 - 125		1425700.40	1423377.50	1457103.90
209 Bi # 3	882492.81	0.85	1054491.00	83.7	60 - 125		875581.63	881361.94	890534.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\174SMPL.D\174SMPL.D#
Date Acquired: Dec 25 2012 03:35 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85888-e-6-a
Misc Info: 3010 1/5
Vial Number: 3301
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01897	0.01897	ug/l	3.69	100.00		43.33	43.33	46.67
11 B	# 3	3.307	3.307	ug/l	3.66	1800.00		12527.72	12781.28	12491.07
23 Na	# 1	1627	1627	ug/l	5.77	81000.00		10182757.00	10345740.00	10369202.00
24 Mg	# 1	1789	1789	ug/l	6.21	81000.00		7442871.50	7635040.50	7677279.00
27 Al	# 1	48.03	48.03	ug/l	5.13	81000.00		231889.89	232697.91	234460.98
39 K	# 2	241.8	241.8	ug/l	6.49	81000.00		82353.48	85711.20	87402.45
40 Ca	# 1	3956	3956	ug/l	5.85	81000.00		37985648.00	38674176.00	38575372.00
45 Sc	# 2	----	--------		--------	#VALUE!		38486.42	34561.75	37296.80
47 Ti	# 3	2.823	2.823	ug/l	1.49	1620.00		2506.91	2670.26	2590.24
51 V	# 2	0.3316	0.3316	ug/l	8.42	1800.00		857.81	896.70	944.48
52 Cr	# 2	0.1817	0.1817	ug/l	8.57	1800.00		585.57	605.57	563.35
55 Mn	# 3	497	497	ug/l	0.44	1800.00		8262504.00	8318961.50	8386267.50
56 Fe	# 1	2727	2727	ug/l	3.78	81000.00		41323344.00	41757060.00	41430104.00
59 Co	# 3	3.635	3.635	ug/l	1.76	1800.00		47130.80	46900.25	45854.27
60 Ni	# 2	1.365	1.365	ug/l	6.71	1800.00		1486.74	1573.42	1568.97
63 Cu	# 2	1.083	1.083	ug/l	5.87	1800.00		3561.48	3653.73	3624.83
66 Zn	# 3	1.258	1.258	ug/l	2.29	1800.00		2206.87	2133.52	2143.52
75 As	# 2	0.4012	0.4012	ug/l	12.47	100.00		95.67	102.00	115.33
78 Se	# 1	0.00827	0.00827	ug/l	107.47	100.00		27.67	20.33	28.67
88 Sr	# 3	25.35	25.35	ug/l	2.53	1800.00		585759.25	587993.75	575629.00
95 Mo	# 3	0.3279	0.3279	ug/l	11.54	1800.00		1286.76	1093.40	1086.73
107 Ag	# 3	0.0002	0.0002	ug/l	279.95	100.00		16.67	26.67	26.67
111 Cd	# 3	0.003158	0.003158	ug/l	21.70	100.00		39.59	42.98	39.65
118 Sn	# 3	0.06181	0.06181	ug/l	14.30	1800.00		626.70	703.37	753.37
121 Sb	# 3	0.1188	0.1188	ug/l	11.71	100.00		1066.73	956.72	920.05
137 Ba	# 3	21.75	21.75	ug/l	1.68	1800.00		70798.34	70490.25	69904.32
202 Hg	# 3	-0.002712	-0.002712	ug/l	29.12	5.00		37.00	41.33	40.00
205 Tl	# 3	0.001684	0.001684	ug/l	24.95	20.00		96.67	80.00	90.00
208 Pb	# 3	0.02045	0.02045	ug/l	8.47	1800.00		840.04	813.37	746.70
232 Th	# 3	0.02114	0.02114	ug/l	5.55	#VALUE!		930.06	903.39	966.73
238 U	# 3	0.01001	0.01001	ug/l	13.90	#VALUE!		386.68	360.02	293.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	481214.63	2.32	836165.38	57.6	60 - 125	IS F	468367.97	486793.28	488482.59
45 Sc	# 1	517432.00	4.94	552676.25	93.6	60 - 125		541923.75	490940.50	519431.72
45 Sc	# 3	522567.22	1.69	644433.94	81.1	60 - 125		514160.88	531795.00	521745.81
74 Ge	# 1	169097.58	3.26	175321.88	96.4	60 - 125		174738.05	163726.33	168828.36
74 Ge	# 2	23803.44	3.83	27172.50	87.6	60 - 125		24579.03	22798.78	24032.52
74 Ge	# 3	137380.22	0.31	164913.13	83.3	60 - 125		137006.67	137287.23	137846.77
89 Y	# 3	931365.94	1.69	1068488.30	87.2	60 - 125		913975.06	935513.19	944609.56
115 In	# 3	945065.63	1.33	1083659.40	87.2	60 - 125		932440.00	957658.94	945098.00
159 Tb	# 3	1439570.80	0.87	1651256.80	87.2	60 - 125		1425788.90	1450124.50	1442798.80
209 Bi	# 3	883129.75	0.89	1054491.00	83.7	60 - 125		880532.06	891928.94	876928.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\175SMPL.D\175SMPL.D#
Date Acquired: Dec 25 2012 03:42 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85278-b-1-a
Misc Info: 3010 1/5
Vial Number: 3302
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02318	0.02318	ug/l	32.17	100.00		43.33	43.33	73.34
11 B	# 3	21.44	21.44	ug/l	1.87	1800.00		53886.33	55212.84	54294.21
23 Na	# 1	3420	3420	ug/l	0.64	81000.00		20850748.00	21191340.00	21667216.00
24 Mg	# 1	1214	1214	ug/l	0.80	81000.00		5001493.50	5114776.00	5099286.00
27 Al	# 1	2.042	2.042	ug/l	2.17	81000.00		10803.88	10696.65	10816.86
39 K	# 2	1452	1452	ug/l	3.10	81000.00		456153.44	467620.72	472042.59
40 Ca	# 1	4311	4311	ug/l	0.57	81000.00		40688744.00	41337524.00	41653400.00
45 Sc	# 2	----	--------		--------	#VALUE!		35418.82	36595.43	40049.41
47 Ti	# 3	0.2834	0.2834	ug/l	8.26	1620.00		253.34	293.39	293.34
51 V	# 2	0.1396	0.1396	ug/l	8.40	1800.00		437.79	482.23	515.57
52 Cr	# 2	0.0374	0.0374	ug/l	14.78	1800.00		208.89	213.34	201.11
55 Mn	# 3	192.2	192.2	ug/l	0.84	1800.00		3227558.30	3197315.00	3205325.30
56 Fe	# 1	7072	7072	ug/l	0.65	81000.00		104901450.00	105617200.00	107189820.00
59 Co	# 3	5.481	5.481	ug/l	1.76	1800.00		69561.53	70893.48	69835.96
60 Ni	# 2	0.2913	0.2913	ug/l	7.70	1800.00		324.45	368.90	353.34
63 Cu	# 2	0.3761	0.3761	ug/l	4.17	1800.00		1487.85	1566.75	1597.86
66 Zn	# 3	0.5067	0.5067	ug/l	8.04	1800.00		1066.73	960.05	956.72
75 As	# 2	0.7232	0.7232	ug/l	10.67	100.00		163.33	187.33	167.33
78 Se	# 1	0.02016	0.02016	ug/l	38.72	100.00		29.67	34.00	27.33
88 Sr	# 3	29.83	29.83	ug/l	1.94	1800.00		703566.50	704180.38	695230.44
95 Mo	# 3	0.0118	0.0118	ug/l	39.01	1800.00		96.67	70.00	96.67
107 Ag	# 3	0.0005566	0.0005566	ug/l	58.43	100.00		23.33	26.67	30.00
111 Cd	# 3	0.001375	0.001375	ug/l	493.89	100.00		46.64	19.98	43.30
118 Sn	# 3	0.06564	0.06564	ug/l	18.18	1800.00		623.37	780.04	743.37
121 Sb	# 3	0.1308	0.1308	ug/l	6.61	100.00		1096.73	1053.41	1000.06
137 Ba	# 3	37.1	37.1	ug/l	0.78	1800.00		118115.71	120512.70	119414.20
202 Hg	# 3	-0.001294	-0.001294	ug/l	85.01	5.00		45.33	42.00	40.33
205 Tl	# 3	0.01427	0.01427	ug/l	6.76	20.00		356.68	386.68	346.68
208 Pb	# 3	0.005992	0.005992	ug/l	4.31	1800.00		373.35	366.68	363.35
232 Th	# 3	0.01678	0.01678	ug/l	2.08	#VALUE!		760.04	776.71	793.38
238 U	# 3	0.002853	0.002853	ug/l	16.65	#VALUE!		106.67	116.67	86.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	475169.88	1.44	836165.38	56.8	60 - 125	IS F	468808.22	474288.22	482413.28
45 Sc	# 1	508789.84	1.76	552676.25	92.1	60 - 125		498880.78	511246.72	516242.09
45 Sc	# 3	522279.78	0.69	644433.94	81.0	60 - 125		518115.63	524284.16	524439.50
74 Ge	# 1	166265.67	1.51	175321.88	94.8	60 - 125		163535.98	166778.81	168482.25
74 Ge	# 2	23547.88	4.15	27172.50	86.7	60 - 125		22956.70	23010.15	24676.81
74 Ge	# 3	136983.17	0.85	164913.13	83.1	60 - 125		137043.20	135790.05	138116.27
89 Y	# 3	951360.81	1.26	1068488.30	89.0	60 - 125		941615.00	947694.13	964773.44
115 In	# 3	939201.56	0.51	1083659.40	86.7	60 - 125		934092.88	939925.31	943586.44
159 Tb	# 3	1443802.30	0.72	1651256.80	87.4	60 - 125		1432432.00	1446192.60	1452782.10
209 Bi	# 3	872052.13	0.70	1054491.00	82.7	60 - 125		867338.00	869829.50	878988.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\176_CCV.D\176_CCV.D#
Date Acquired: Dec 25 2012 03:50 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	55.29 ug/l	2.86	50.00	90 - 110	Fail	133048.19	134532.06	134716.52
11 B	112.5 ug/l	2.38	100.00	90 - 110	Fail	288190.81	294778.50	290534.84
23 Na	5051 ug/l	1.21	5000.00	90 - 110		31675902.00	32114226.00	32193456.00
24 Mg	4892 ug/l	2.08	5000.00	90 - 110		20407710.00	20969710.00	21258860.00
27 Al	491.3 ug/l	0.84	500.00	90 - 110		2370494.50	2368119.50	2425441.30
39 K	4824 ug/l	4.09	5000.00	90 - 110		1545656.30	1605964.90	1600168.90
40 Ca	4902 ug/l	1.30	5000.00	90 - 110		47831304.00	46908112.00	48925824.00
45 Sc	--------	--------		--- ##### - #####		38374.58	38917.81	42803.35
47 Ti	50.98 ug/l	1.93	50.00	90 - 110		48005.41	48349.97	50117.84
51 V	48.55 ug/l	3.43	50.00	90 - 110		106717.85	108737.80	109891.30
52 Cr	49.11 ug/l	3.59	50.00	90 - 110		129809.63	131096.44	132413.13
55 Mn	495.8 ug/l	1.62	500.00	90 - 110		8550452.00	8742228.00	8701435.00
56 Fe	4924 ug/l	0.30	5000.00	90 - 110		75095568.00	75576528.00	75070576.00
59 Co	46.99 ug/l	0.92	50.00	90 - 110		627850.63	631987.94	627242.00
60 Ni	50.55 ug/l	3.42	50.00	90 - 110		57050.68	57469.90	58282.24
63 Cu	50.97 ug/l	3.72	50.00	90 - 110		150023.19	152746.70	153584.23
66 Zn	49.59 ug/l	0.56	50.00	90 - 110		80955.95	80138.20	79984.69
75 As	48.87 ug/l	3.39	50.00	90 - 110		10779.52	11018.33	11137.06
78 Se	49.98 ug/l	0.35	50.00	90 - 110		22683.41	22592.62	22685.74
88 Sr	51.66 ug/l	1.02	50.00	90 - 110		1213479.00	1239238.40	1215258.00
95 Mo	49.3 ug/l	1.30	50.00	90 - 110		166850.50	169420.34	167940.95
107 Ag	50.35 ug/l	0.38	50.00	90 - 110		504942.84	500421.97	503680.19
111 Cd	50.42 ug/l	1.01	50.00	90 - 110		110519.48	110621.95	108506.14
118 Sn	50.95 ug/l	0.61	50.00	90 - 110		344201.31	344779.22	342679.59
121 Sb	52.07 ug/l	0.71	50.00	90 - 110		328361.88	327217.03	329862.25
137 Ba	51.4 ug/l	0.54	50.00	90 - 110		169059.56	166257.16	168175.67
202 Hg	2.383 ug/l	0.07	2.50	90 - 110		6108.18	6117.52	6069.83
205 Tl	10.07 ug/l	0.51	10.00	90 - 110		219550.98	218783.02	219953.69
208 Pb	50.19 ug/l	1.07	50.00	90 - 110		1506761.90	1514750.50	1506335.80
232 Th	50.83 ug/l	0.43		--- ##### - #####		1683423.30	1681928.40	1680938.50
238 U	50.25 ug/l	0.89		--- ##### - #####		1673842.50	1655132.50	1668722.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	521366.91	3.42	836165.38	62.4	60 - 125		502905.31	538440.44	522755.00
45 Sc	519709.28	0.83	552676.25	94.0	60 - 125		520417.69	515077.31	523632.91
45 Sc	550356.00	0.42	644433.94	85.4	60 - 125		548118.13	550227.69	552722.06
74 Ge	169650.64	0.14	175321.88	96.8	60 - 125		169730.42	169837.70	169383.78
74 Ge	24440.95	4.50	27172.50	89.9	60 - 125		23826.75	23786.69	25709.40
74 Ge	143385.98	0.52	164913.13	86.9	60 - 125		143965.13	142546.34	143646.52
89 Y	957945.06	1.69	1068488.30	89.7	60 - 125		958811.25	973670.94	941353.31
115 In	953296.44	0.58	1083659.40	88.0	60 - 125		959673.44	949733.81	950482.06
159 Tb	1443987.50	0.78	1651256.80	87.4	60 - 125		1443868.90	1432799.50	1455294.00
209 Bi	866835.13	0.48	1054491.00	82.2	60 - 125		868532.06	869889.56	862083.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\177_CCB.D\177_CCB.D#
Date Acquired: Dec 25 2012 03:57 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02219	0.02219	ug/l	27.57	#VALUE!		63.34	66.67	40.00
11 B	# 3	2.362	2.362	ug/l	4.74	#VALUE!		11520.44	11283.56	11450.34
23 Na	# 1	35.63	35.63	ug/l	4.57	#VALUE!		302941.22	314618.06	328658.06
24 Mg	# 1	4.169	4.169	ug/l	19.80	#VALUE!		14672.60	18395.97	22086.51
27 Al	# 1	0.3054	0.3054	ug/l	34.68	#VALUE!		2080.17	2513.57	3160.36
39 K	# 2	3.898	3.898	ug/l	45.36	#VALUE!		9375.91	9736.11	10299.75
40 Ca	# 1	6.329	6.329	ug/l	15.90	#VALUE!		116935.94	126432.00	138888.03
45 Sc	# 2	----	--------		--------	#VALUE!		37130.95	40817.70	37064.31
47 Ti	# 3	0.03227	0.03227	ug/l	41.06	#VALUE!		60.00	63.34	40.00
51 V	# 2	0.0286	0.0286	ug/l	31.02	#VALUE!		223.34	267.78	258.89
52 Cr	# 2	0.03297	0.03297	ug/l	8.63	#VALUE!		195.56	210.00	210.00
55 Mn	# 3	0.2246	0.2246	ug/l	27.57	#VALUE!		5977.83	4510.68	3780.48
56 Fe	# 1	3.078	3.078	ug/l	27.90	#VALUE!		46990.70	59633.75	73492.63
59 Co	# 3	0.02023	0.02023	ug/l	28.19	#VALUE!		373.35	266.68	220.01
60 Ni	# 2	0.05296	0.05296	ug/l	12.47	#VALUE!		83.33	92.22	97.78
63 Cu	# 2	0.0955	0.0955	ug/l	10.41	#VALUE!		742.25	794.47	797.80
66 Zn	# 3	0.03019	0.03019	ug/l	29.59	#VALUE!		276.68	283.35	253.34
75 As	# 2	0.04534	0.04534	ug/l	34.25	#VALUE!		24.00	32.33	26.33
78 Se	# 1	0.05651	0.05651	ug/l	21.50	#VALUE!		42.33	48.33	53.33
88 Sr	# 3	0.03216	0.03216	ug/l	26.51	#VALUE!		1056.73	786.71	630.03
95 Mo	# 3	0.06301	0.06301	ug/l	20.46	#VALUE!		300.01	290.01	216.67
107 Ag	# 3	0.02273	0.02273	ug/l	19.97	#VALUE!		306.68	230.01	223.34
111 Cd	# 3	0.02377	0.02377	ug/l	63.36	#VALUE!		123.24	83.24	56.60
118 Sn	# 3	0.04751	0.04751	ug/l	23.28	#VALUE!		703.37	570.03	573.36
121 Sb	# 3	0.2615	0.2615	ug/l	5.53	#VALUE!		1933.50	2023.52	1823.49
137 Ba	# 3	0.02464	0.02464	ug/l	59.78	#VALUE!		153.34	90.00	56.67
202 Hg	# 3	0.01606	0.01606	ug/l	17.16	#VALUE!		98.67	84.67	86.33
205 Tl	# 3	0.005651	0.005651	ug/l	18.49	#VALUE!		196.68	186.67	150.01
208 Pb	# 3	0.02462	0.02462	ug/l	23.10	#VALUE!		1150.05	870.04	800.03
232 Th	# 3	0.1121	0.1121	ug/l	8.61	#VALUE!		4464.13	4003.99	3790.59
238 U	# 3	0.02583	0.02583	ug/l	27.60	#VALUE!		1170.08	850.05	680.04

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	529146.06	1.79	836165.38	63.3	60 - 125		518652.19	531806.69	536979.25
45 Sc	# 1	522421.16	1.14	552676.25	94.5	60 - 125		520377.00	517748.88	529137.63
45 Sc	# 3	548928.25	0.10	644433.94	85.2	60 - 125		549179.06	548294.69	549311.06
74 Ge	# 1	171737.06	0.62	175321.88	98.0	60 - 125		172555.27	170534.23	172121.66
74 Ge	# 2	24562.59	2.87	27172.50	90.4	60 - 125		24166.12	25377.79	24143.86
74 Ge	# 3	143442.63	0.74	164913.13	87.0	60 - 125		144522.59	143404.95	142400.34
89 Y	# 3	964493.44	1.58	1068488.30	90.3	60 - 125		981972.38	953652.19	957855.69
115 In	# 3	971852.69	0.37	1083659.40	89.7	60 - 125		971951.44	975438.13	968168.50
159 Tb	# 3	1460637.60	1.20	1651256.80	88.5	60 - 125		1480558.80	1453402.60	1447951.80
209 Bi	# 3	901779.38	0.44	1054491.00	85.5	60 - 125		905626.31	897641.63	902070.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\178SMPL.D\178SMPL.D#
Date Acquired: Dec 25 2012 04:05 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: mb 680-260349_1-a
Misc Info: 3050 1/5
Vial Number: 4101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.00427	0.00427	ug/l	48.95	100.00		13.33	6.67	16.67
11 B # 3	2.054	2.054	ug/l	4.74	1800.00		10159.63	10289.64	10299.69
23 Na # 1	18.99	18.99	ug/l	0.80	81000.00		208806.98	209786.88	211055.16
24 Mg # 1	0.9617	0.9617	ug/l	2.78	81000.00		4680.68	4490.66	4660.68
27 Al # 1	1.728	1.728	ug/l	2.13	81000.00		9649.34	9442.53	9509.26
39 K # 2	0.5007	0.5007	ug/l	36.73	81000.00		8455.46	8452.12	8772.25
40 Ca # 1	6.522	6.522	ug/l	1.45	81000.00		129100.18	129076.12	129831.22
45 Sc # 2	----	--------		--------	#VALUE!		37794.42	37943.62	38887.74
47 Ti # 3	0.06151	0.06151	ug/l	33.43	1620.00		73.34	103.34	70.00
51 V # 2	0.1211	0.1211	ug/l	10.93	1800.00		458.90	408.90	484.46
52 Cr # 2	0.09638	0.09638	ug/l	8.51	1800.00		367.78	382.23	357.78
55 Mn # 3	0.2091	0.2091	ug/l	9.30	1800.00		4350.64	4243.96	4954.12
56 Fe # 1	12.26	12.26	ug/l	1.17	81000.00		198987.20	199038.64	203223.92
59 Co # 3	0.005844	0.005844	ug/l	50.55	1800.00		50.00	126.67	106.67
60 Ni # 2	0.128	0.128	ug/l	1.44	1800.00		170.00	171.11	182.23
63 Cu # 2	0.07492	0.07492	ug/l	22.58	1800.00		657.80	675.58	786.69
66 Zn # 3	0.6612	0.6612	ug/l	1.63	1800.00		1276.75	1303.41	1323.42
75 As # 2	0.08809	0.08809	ug/l	11.72	100.00		38.67	34.33	36.67
78 Se # 1	0.01532	0.01532	ug/l	52.06	100.00		27.67	26.00	33.00
88 Sr # 3	0.01125	0.01125	ug/l	25.90	1800.00		250.01	336.68	396.68
95 Mo # 3	0.03748	0.03748	ug/l	17.30	1800.00		206.67	180.01	166.67
107 Ag # 3	0.004007	0.004007	ug/l	49.79	100.00		73.34	40.00	80.00
111 Cd # 3	0.006673	0.006673	ug/l	139.80	100.00		26.60	66.61	59.95
118 Sn # 3	2.19	2.19	ug/l	1.62	1800.00		15340.57	15864.31	16001.17
121 Sb # 3	0.2524	0.2524	ug/l	5.47	100.00		1793.48	1973.50	1980.18
137 Ba # 3	0.01478	0.01478	ug/l	11.31	1800.00		66.67	63.34	76.67
202 Hg # 3	0.01587	0.01587	ug/l	13.79	5.00		96.67	89.33	87.00
205 Tl # 3	0.0008139	0.0008139	ug/l	84.74	20.00		73.34	56.67	90.00
208 Pb # 3	0.009932	0.009932	ug/l	10.51	1800.00		536.69	466.68	516.69
232 Th # 3	0.05472	0.05472	ug/l	4.69	#VALUE!		2233.57	2070.21	2140.21
238 U # 3	0.003981	0.003981	ug/l	33.96	#VALUE!		106.67	136.67	203.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	510622.28	3.06	836165.38	61.1	60 - 125		494185.88	512403.31	525277.69
45 Sc # 1	522782.47	1.00	552676.25	94.6	60 - 125		517859.19	522227.97	528260.31
45 Sc # 3	549293.25	2.36	644433.94	85.2	60 - 125		542186.88	541452.00	564241.00
74 Ge # 1	170346.45	0.47	175321.88	97.2	60 - 125		169431.09	170890.52	170717.77
74 Ge # 2	24186.46	2.82	27172.50	89.0	60 - 125		23857.89	23731.04	24970.45
74 Ge # 3	144546.16	0.86	164913.13	87.6	60 - 125		144075.55	143600.11	145962.81
89 Y # 3	973358.81	1.49	1068488.30	91.1	60 - 125		966964.25	963126.44	989985.81
115 In # 3	996540.06	1.83	1083659.40	92.0	60 - 125		984778.81	987305.00	1017536.60
159 Tb # 3	1504062.00	1.39	1651256.80	91.1	60 - 125		1500708.90	1485072.50	1526404.80
209 Bi # 3	918487.06	1.20	1054491.00	87.1	60 - 125		911420.38	912815.06	931225.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\179SMPL.D\179SMPL.D#
Date Acquired: Dec 25 2012 04:12 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: lcs 680-260349_2-a
Misc Info: 3050 1/5
Vial Number: 4102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.45	11.45	ug/l	6.22	100.00		26548.66	27256.25	28107.44
11 B # 3	47.9	47.9	ug/l	5.51	1800.00		122732.17	125562.66	126485.66
23 Na # 1	1060	1060	ug/l	1.23	81000.00		6812614.50	6884348.00	6803228.00
24 Mg # 1	1075	1075	ug/l	1.57	81000.00		4496408.50	4687320.00	4695503.00
27 Al # 1	1041	1041	ug/l	1.17	81000.00		4977558.50	5148794.00	5168641.50
39 K # 2	1049	1049	ug/l	0.76	81000.00		340721.25	349252.66	353068.63
40 Ca # 1	1075	1075	ug/l	1.49	81000.00		10368949.00	10804560.00	10720706.00
45 Sc # 2	----	--------		--------	#VALUE!		37766.62	38854.34	39247.40
47 Ti # 3	21.84	21.84	ug/l	6.06	1620.00		20832.00	20878.74	20798.73
51 V # 2	21.26	21.26	ug/l	1.41	1800.00		45863.75	47662.57	47928.79
52 Cr # 2	21.68	21.68	ug/l	0.54	1800.00		56280.80	57486.83	58467.41
55 Mn # 3	112.8	112.8	ug/l	5.59	1800.00		1969298.80	1942682.00	1972107.50
56 Fe # 1	1049	1049	ug/l	0.86	81000.00		15916050.00	16132511.00	16332125.00
59 Co # 3	10.2	10.2	ug/l	5.42	1800.00		136393.94	134722.25	136299.58
60 Ni # 2	22.67	22.67	ug/l	1.26	1800.00		25340.73	25763.49	25688.98
63 Cu # 2	22.81	22.81	ug/l	1.48	1800.00		66407.39	68581.97	68145.82
66 Zn # 3	20.95	20.95	ug/l	6.17	1800.00		33561.50	33658.13	34459.71
75 As # 2	20.72	20.72	ug/l	1.58	100.00		4510.57	4686.28	4661.94
78 Se # 1	18.98	18.98	ug/l	0.52	100.00		8582.36	8640.73	8765.11
88 Sr # 3	20.27	20.27	ug/l	7.05	1800.00		485501.41	485618.22	486238.06
95 Mo # 3	20.48	20.48	ug/l	5.18	1800.00		71711.82	72648.99	72404.83
107 Ag # 3	10.77	10.77	ug/l	5.22	100.00		110883.52	111497.04	111346.98
111 Cd # 3	10.36	10.36	ug/l	6.75	100.00		23640.41	22909.03	23586.51
118 Sn # 3	23.87	23.87	ug/l	5.48	1800.00		167869.41	165885.86	166549.92
121 Sb # 3	11.42	11.42	ug/l	4.22	100.00		75083.25	75361.13	73764.31
137 Ba # 3	22.04	22.04	ug/l	6.07	1800.00		73425.78	74440.31	75374.23
202 Hg # 3	1.15	1.15	ug/l	5.94	5.00		3076.97	3063.97	3151.99
205 Tl # 3	8.496	8.496	ug/l	6.86	20.00		191256.84	189785.28	191004.09
208 Pb # 3	10.84	10.84	ug/l	7.23	1800.00		333409.47	334723.69	339338.56
232 Th # 3	22.16	22.16	ug/l	4.94	#VALUE!		768857.06	761244.44	769159.38
238 U # 3	23.54	23.54	ug/l	5.12	#VALUE!		813764.38	810461.81	822085.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	513533.78	5.84	836165.38	61.4	60 - 125		493329.72	548016.44	499255.09
45 Sc # 1	523700.06	1.02	552676.25	94.8	60 - 125		518152.19	524191.41	528756.56
45 Sc # 3	549193.81	6.28	644433.94	85.2	60 - 125		546190.69	585086.44	516304.38
74 Ge # 1	170517.16	0.97	175321.88	97.3	60 - 125		169870.59	169291.61	172389.27
74 Ge # 2	24184.60	1.63	27172.50	89.0	60 - 125		23843.43	24094.85	24615.53
74 Ge # 3	142898.06	4.85	164913.13	86.7	60 - 125		142800.48	149874.42	136019.28
89 Y # 3	973194.13	7.05	1068488.30	91.1	60 - 125		965976.63	1045165.00	908440.69
115 In # 3	987716.94	5.27	1083659.40	91.1	60 - 125		987218.00	1039988.10	935944.75
159 Tb # 3	1491892.80	6.59	1651256.80	90.3	60 - 125		1480006.60	1595668.30	1400003.30
209 Bi # 3	906831.25	4.43	1054491.00	86.0	60 - 125		903358.44	948655.19	868479.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\180SMPL.D\180SMPL.D#
Date Acquired: Dec 25 2012 04:20 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-8-a
Misc Info: 3050 1/5
Vial Number: 4103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.146	1.146	ug/l	1.86	100.00		2666.93	2593.57	2663.59
11 B	# 3	16.06	16.06	ug/l	0.33	1800.00		43252.65	43466.43	44462.21
23 Na	# 1	100.4	100.4	ug/l	11.45	81000.00		834913.81	842968.31	862726.25
24 Mg	# 1	4275	4275	ug/l	10.05	81000.00		21274206.00	21157134.00	21679880.00
27 Al	# 1	24340	24340	ug/l	10.86	81000.00		136614420.00	136627010.00	142146060.00
39 K	# 2	2678	2678	ug/l	3.92	81000.00		850834.13	864016.06	885897.38
40 Ca	# 1	4515	4515	ug/l	10.04	81000.00		51247952.00	51264928.00	52489836.00
45 Sc	# 2	----	--------		--------	#VALUE!		44379.94	47645.38	44034.62
47 Ti	# 3	388.9	388.9	ug/l	1.17	1620.00		432888.41	432995.22	435728.50
51 V	# 2	67.06	67.06	ug/l	3.40	1800.00		145172.59	146772.80	149051.83
52 Cr	# 2	35.21	35.21	ug/l	4.33	1800.00		91276.14	91248.50	94414.98
55 Mn	# 3	1074	1074	ug/l	0.24	1800.00		18232552.00	18413584.00	18379804.00
56 Fe	# 1	30400	30400	ug/l	8.56	81000.00		453371140.00	452714080.00	461276100.00
59 Co	# 3	12.29	12.29	ug/l	0.44	1800.00		160764.17	161151.09	160354.14
60 Ni	# 2	26.08	26.08	ug/l	4.17	1800.00		28819.03	28919.23	29828.45
63 Cu	# 2	21.35	21.35	ug/l	3.70	1800.00		62092.61	62544.11	63867.41
66 Zn	# 3	82.82	82.82	ug/l	0.97	1800.00		131784.17	130803.58	130357.04
75 As	# 2	11.51	11.51	ug/l	2.40	100.00		2514.85	2577.86	2565.85
78 Se	# 1	0.8142	0.8142	ug/l	11.12	100.00		382.34	372.00	394.34
88 Sr	# 3	15.89	15.89	ug/l	1.18	1800.00		553229.50	557392.19	558096.75
95 Mo	# 3	1.577	1.577	ug/l	1.10	1800.00		5404.32	5471.01	5360.96
107 Ag	# 3	0.08089	0.08089	ug/l	4.82	100.00		866.71	786.71	830.05
111 Cd	# 3	0.2104	0.2104	ug/l	5.59	100.00		504.96	461.60	508.31
118 Sn	# 3	3.189	3.189	ug/l	1.49	1800.00		22148.12	21523.90	21557.38
121 Sb	# 3	0.7556	0.7556	ug/l	0.62	100.00		5017.54	4954.19	5010.87
137 Ba	# 3	248	248	ug/l	0.59	1800.00		812797.19	801706.94	809856.06
202 Hg	# 3	0.0667	0.0667	ug/l	2.33	5.00		215.34	211.34	205.00
205 Tl	# 3	0.4422	0.4422	ug/l	2.29	20.00		10006.82	10073.47	9743.26
208 Pb	# 3	21.17	21.17	ug/l	0.48	1800.00		658866.56	649020.56	652724.25
232 Th	# 3	8.563	8.563	ug/l	0.67	#VALUE!		277611.69	278305.19	277151.78
238 U	# 3	2.007	2.007	ug/l	0.87	#VALUE!		65440.44	64673.54	65426.61

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	494675.50	1.27	836165.38	59.2	60 - 125	IS F	489261.13	493200.56	501564.88
45 Sc	# 1	612402.88	9.01	552676.25	110.8	60 - 125		603526.63	671483.88	562198.19
45 Sc	# 3	641382.31	0.90	644433.94	99.5	60 - 125		647958.56	638885.75	637302.81
74 Ge	# 1	167218.09	7.57	175321.88	95.4	60 - 125		166967.56	180006.42	154680.31
74 Ge	# 2	23987.02	2.99	27172.50	88.3	60 - 125		23596.41	24814.92	23549.75
74 Ge	# 3	140093.63	0.53	164913.13	84.9	60 - 125		139403.41	140882.02	139995.45
89 Y	# 3	1417169.50	0.74	1068488.30	132.6	60 - 125	IS F	1428634.50	1407961.30	1414912.50
115 In	# 3	951323.63	0.15	1083659.40	87.8	60 - 125		952871.25	950163.94	950935.69
159 Tb	# 3	1482313.60	0.70	1651256.80	89.8	60 - 125		1488269.50	1470354.10	1488317.00
209 Bi	# 3	848886.94	0.69	1054491.00	80.5	60 - 125		855230.63	847684.38	843745.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\181SMPL.D\181SMPL.D#
Date Acquired: Dec 25 2012 04:27 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-8-a SD
Misc Info: 3050 1/25
Vial Number: 4104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.1695	0.2339	ug/l	4.27	100.00		566.69	606.69	576.69
11 B	# 3	21.76	4.352	ug/l	0.95	1800.00		16480.74	16574.25	17057.95
23 Na	# 1	186.95	37.39	ug/l	1.71	81000.00		339947.09	351116.72	348772.09
24 Mg	# 1	5010	1002	ug/l	1.27	81000.00		4452500.50	4572351.00	4659305.50
27 Al	# 1	28095	5619	ug/l	2.03	81000.00		28170980.00	29401746.00	29826792.00
39 K	# 2	2637	527.4	ug/l	0.51	81000.00		183034.05	186181.55	190800.31
40 Ca	# 1	5220	1044	ug/l	0.91	81000.00		10719281.00	10978930.00	11120135.00
45 Sc	# 2	----	--------		--------	#VALUE!		40174.95	40747.23	43353.84
47 Ti	# 3	451.05	90.21	ug/l	1.14	1620.00		93609.91	92877.19	93466.70
51 V	# 2	66.5	13.3	ug/l	0.58	1800.00		30234.44	30872.14	31342.87
52 Cr	# 2	35.255	7.051	ug/l	1.30	1800.00		19235.55	19699.35	19697.14
55 Mn	# 3	1105.5	221.1	ug/l	1.31	1800.00		4068021.30	4042045.30	4019379.50
56 Fe	# 1	30610	6122	ug/l	0.32	81000.00		95910000.00	96761760.00	97582776.00
59 Co	# 3	12.265	2.453	ug/l	1.54	1800.00		34456.08	34429.67	34219.18
60 Ni	# 2	27.33	5.466	ug/l	2.96	1800.00		6454.51	6527.86	6391.15
63 Cu	# 2	22.435	4.487	ug/l	2.41	1800.00		14183.29	14445.74	14231.11
66 Zn	# 3	93.5	18.7	ug/l	1.94	1800.00		31644.57	31881.76	31981.79
75 As	# 2	12.035	2.407	ug/l	2.10	100.00		571.68	577.68	575.68
78 Se	# 1	0.945	0.189	ug/l	4.73	100.00		107.00	109.67	116.67
88 Sr	# 3	21.385	4.277	ug/l	1.29	1800.00		116732.30	118585.83	118079.34
95 Mo	# 3	1.666	0.3332	ug/l	3.95	1800.00		1226.74	1230.08	1316.76
107 Ag	# 3	0.07995	0.01599	ug/l	14.49	100.00		186.67	216.68	173.34
111 Cd	# 3	0.2781	0.05562	ug/l	13.65	100.00		179.61	142.94	172.92
118 Sn	# 3	3.2325	0.6465	ug/l	2.55	1800.00		4997.52	4734.11	5064.20
121 Sb	# 3	0.9175	0.1835	ug/l	3.31	100.00		1530.12	1476.78	1446.77
137 Ba	# 3	246.95	49.39	ug/l	1.29	1800.00		171370.14	171266.53	170997.22
202 Hg	# 3	0.0985	0.0197	ug/l	5.75	5.00		98.67	102.67	101.00
205 Tl	# 3	0.4724	0.09448	ug/l	7.62	20.00		2196.89	2363.59	2103.54
208 Pb	# 3	21.915	4.383	ug/l	2.32	1800.00		138374.72	139316.28	139186.08
232 Th	# 3	8.35	1.67	ug/l	1.58	#VALUE!		57862.66	58109.82	59398.32
238 U	# 3	1.885	0.377	ug/l	2.44	#VALUE!		12959.22	13336.19	13246.11

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	533826.38	1.33	836165.38	63.8	60 - 125		530388.38	529091.69	541999.25
45 Sc	# 1	554478.56	1.03	552676.25	100.3	60 - 125		549044.69	553913.81	560477.19
45 Sc	# 3	594651.56	1.53	644433.94	92.3	60 - 125		603657.94	585500.81	594796.00
74 Ge	# 1	175464.61	0.93	175321.88	100.1	60 - 125		173610.63	176136.36	176646.81
74 Ge	# 2	25217.55	2.38	27172.50	92.8	60 - 125		24596.63	25263.09	25792.92
74 Ge	# 3	150013.78	1.52	164913.13	91.0	60 - 125		152299.02	147731.28	150011.02
89 Y	# 3	1114477.60	1.73	1068488.30	104.3	60 - 125		1095267.50	1114276.10	1133889.00
115 In	# 3	1012334.10	1.26	1083659.40	93.4	60 - 125		1021382.60	997742.50	1017877.10
159 Tb	# 3	1520925.90	1.97	1651256.80	92.1	60 - 125		1550727.60	1490714.40	1521335.80
209 Bi	# 3	913541.13	1.08	1054491.00	86.6	60 - 125		920699.06	902286.88	917637.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\182SMPL.D\182SMPL.D#
Date Acquired: Dec 25 2012 04:34 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-8-a PDS
Misc Info: 3050 1/5
Vial Number: 4105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	24.3	24.3	ug/l	1.73	100.00		52611.83	54480.00	54740.78
11 B	# 3	62.95	62.95	ug/l	2.29	1800.00		148466.91	151952.48	153173.72
23 Na	# 1	1892	1892	ug/l	10.48	81000.00		13494918.00	13920805.00	14045415.00
24 Mg	# 1	5994	5994	ug/l	10.68	81000.00		28467862.00	29486470.00	30138852.00
27 Al	# 1	24290	24290	ug/l	10.68	81000.00		131418020.00	136157460.00	138861500.00
39 K	# 2	4821	4821	ug/l	3.30	81000.00		1476752.00	1506483.10	1526998.50
40 Ca	# 1	6280	6280	ug/l	10.35	81000.00		68588000.00	70595872.00	72045624.00
45 Sc	# 2	----	--------		--------	#VALUE!		44249.61	42752.69	45655.13
47 Ti	# 3	413	413	ug/l	3.06	1620.00		449378.06	445632.34	447203.91
51 V	# 2	88.79	88.79	ug/l	3.22	1800.00		184003.13	188212.98	192447.31
52 Cr	# 2	56.87	56.87	ug/l	3.06	1800.00		141703.61	144110.78	146809.42
55 Mn	# 3	1303	1303	ug/l	1.88	1800.00		21604040.00	21563368.00	21565794.00
56 Fe	# 1	31950	31950	ug/l	9.44	81000.00		459512670.00	475349920.00	471766180.00
59 Co	# 3	32.67	32.67	ug/l	2.33	1800.00		416879.84	413510.66	412464.78
60 Ni	# 2	47.46	47.46	ug/l	3.21	1800.00		50789.25	51432.13	51859.91
63 Cu	# 2	42.83	42.83	ug/l	3.21	1800.00		119862.23	121633.77	122912.23
66 Zn	# 3	102.1	102.1	ug/l	2.54	1800.00		157715.41	156529.30	155060.69
75 As	# 2	31.96	31.96	ug/l	2.77	100.00		6713.24	6796.28	6967.34
78 Se	# 1	19.68	19.68	ug/l	7.73	100.00		8580.36	8571.02	8619.38
88 Sr	# 3	30.24	30.24	ug/l	3.17	1800.00		1034380.70	1035007.50	1030986.60
95 Mo	# 3	23.03	23.03	ug/l	2.84	1800.00		76133.28	75494.43	76347.67
107 Ag	# 3	19.08	19.08	ug/l	3.32	100.00		185901.27	184818.33	182431.97
111 Cd	# 3	20.69	20.69	ug/l	3.90	100.00		44252.48	43069.77	43561.07
118 Sn	# 3	25.32	25.32	ug/l	2.97	1800.00		166136.84	166265.20	164000.14
121 Sb	# 3	23.47	23.47	ug/l	2.33	100.00		142933.31	144116.42	142953.92
137 Ba	# 3	273.7	273.7	ug/l	2.81	1800.00		866710.06	862819.00	863812.25
202 Hg	# 3	1.043	1.043	ug/l	2.92	5.00		2580.55	2544.88	2553.88
205 Tl	# 3	4.505	4.505	ug/l	3.42	20.00		100067.99	98511.84	99105.33
208 Pb	# 3	41.4	41.4	ug/l	3.18	1800.00		1265079.30	1255831.60	1254129.40
232 Th	# 3	30.59	30.59	ug/l	2.41	#VALUE!		964669.06	960078.50	960420.94
238 U	# 3	26.34	26.34	ug/l	2.45	#VALUE!		832294.38	826356.25	830043.63

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	476968.06	3.80	836165.38	57.0	60 - 125	IS F	456815.09	482138.59	491950.47
45 Sc	# 1	600342.25	8.89	552676.25	108.6	60 - 125		654529.56	547865.75	598631.56
45 Sc	# 3	623071.19	2.63	644433.94	96.7	60 - 125		604171.69	631787.56	633254.44
74 Ge	# 1	163776.50	7.79	175321.88	93.4	60 - 125		176753.34	151256.80	163319.39
74 Ge	# 2	23203.03	3.30	27172.50	85.4	60 - 125		23303.84	22392.85	23912.41
74 Ge	# 3	135869.50	1.76	164913.13	82.4	60 - 125		133115.91	137177.67	137314.94
89 Y	# 3	1384102.80	3.01	1068488.30	129.5	60 - 125	IS F	1336612.10	1401276.00	1414419.80
115 In	# 3	922550.81	2.54	1083659.40	85.1	60 - 125		895589.25	937947.25	934115.81
159 Tb	# 3	1460388.40	2.66	1651256.80	88.4	60 - 125		1416047.40	1476272.60	1488845.40
209 Bi	# 3	823805.13	2.12	1054491.00	78.1	60 - 125		803670.31	834608.13	833137.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
2 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\183SMPL.D\183SMPL.D#
Date Acquired: Dec 25 2012 04:42 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-8-d ms
Misc Info: 3050 1/5
Vial Number: 4106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	12.46	12.46	ug/l	0.97	100.00		27496.46	28047.51	28250.94
11 B	# 3	58.56	58.56	ug/l	0.81	1800.00		138620.13	142404.45	146179.97
23 Na	# 1	973.2	973.2	ug/l	2.84	81000.00		6967659.00	6902645.00	7130105.50
24 Mg	# 1	4736	4736	ug/l	0.61	81000.00		22038554.00	22819734.00	23238082.00
27 Al	# 1	24510	24510	ug/l	1.68	81000.00		131640850.00	133401730.00	136133680.00
39 K	# 2	3472	3472	ug/l	2.09	81000.00		1092294.50	1116551.00	1129264.40
40 Ca	# 1	5152	5152	ug/l	2.36	81000.00		56094292.00	56289120.00	57086904.00
45 Sc	# 2	----	--------		--------	#VALUE!		44219.59	42267.23	43986.68
47 Ti	# 3	459.2	459.2	ug/l	0.94	1620.00		494525.19	494421.81	496193.59
51 V	# 2	84.39	84.39	ug/l	1.98	1800.00		180250.39	184165.41	185943.25
52 Cr	# 2	52.41	52.41	ug/l	2.06	1800.00		133739.16	137269.17	137854.17
55 Mn	# 3	894.1	894.1	ug/l	0.77	1800.00		15278673.00	15235651.00	15333053.00
56 Fe	# 1	28840	28840	ug/l	1.55	81000.00		426932830.00	421077860.00	435535200.00
59 Co	# 3	21.23	21.23	ug/l	0.59	1800.00		277515.50	277730.78	278753.16
60 Ni	# 2	44.19	44.19	ug/l	2.19	1800.00		48053.17	49423.36	49654.05
63 Cu	# 2	40.04	40.04	ug/l	1.51	1800.00		115067.98	116762.94	117606.92
66 Zn	# 3	94.24	94.24	ug/l	0.96	1800.00		149397.42	148402.70	149682.19
75 As	# 2	31.29	31.29	ug/l	1.68	100.00		6754.93	6875.64	6923.65
78 Se	# 1	18.9	18.9	ug/l	0.58	100.00		8264.55	8336.92	8390.61
88 Sr	# 3	28.74	28.74	ug/l	0.94	1800.00		984952.06	976671.44	973409.44
95 Mo	# 3	22.36	22.36	ug/l	1.37	1800.00		76096.07	75524.04	74710.52
107 Ag	# 3	10.39	10.39	ug/l	1.50	100.00		103743.77	102720.40	101603.70
111 Cd	# 3	10.29	10.29	ug/l	1.11	100.00		22160.20	22494.23	22023.82
118 Sn	# 3	24.5	24.5	ug/l	1.47	1800.00		165588.17	162989.69	162711.91
121 Sb	# 3	11.37	11.37	ug/l	1.02	100.00		71598.73	70979.32	70949.39
137 Ba	# 3	238.2	238.2	ug/l	1.48	1800.00		778160.63	765510.50	764821.75
202 Hg	# 3	1.127	1.127	ug/l	0.82	5.00		2824.26	2846.60	2812.25
205 Tl	# 3	8.373	8.373	ug/l	1.45	20.00		187357.44	186851.45	185794.36
208 Pb	# 3	34.37	34.37	ug/l	1.67	1800.00		1067432.50	1051760.50	1053961.80
232 Th	# 3	27.57	27.57	ug/l	0.59	#VALUE!		889944.13	887920.38	884328.81
238 U	# 3	26	26	ug/l	0.66	#VALUE!		841001.94	839450.94	834675.19

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	481523.59	2.35	836165.38	57.6	60 - 125	IS F	468796.13	485309.88	490464.78
45 Sc	# 1	583638.13	2.94	552676.25	105.6	60 - 125		564044.06	590763.69	596106.50
45 Sc	# 3	619787.88	1.13	644433.94	96.2	60 - 125		613954.13	617810.94	627598.56
74 Ge	# 1	164707.20	1.34	175321.88	93.9	60 - 125		162375.44	164982.58	166763.53
74 Ge	# 2	23781.22	0.45	27172.50	87.5	60 - 125		23901.52	23695.48	23746.65
74 Ge	# 3	140239.88	0.65	164913.13	85.0	60 - 125		139205.67	140954.80	140559.17
89 Y	# 3	1377708.50	0.58	1068488.30	128.9	60 - 125	IS F	1377826.50	1369702.30	1385596.90
115 In	# 3	943182.88	0.50	1083659.40	87.0	60 - 125		937780.00	945594.75	946173.94
159 Tb	# 3	1477695.50	1.03	1651256.80	89.5	60 - 125		1464568.90	1474078.90	1494438.50
209 Bi	# 3	843094.88	0.27	1054491.00	80.0	60 - 125		841249.44	842372.88	845662.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
2 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\184SMPL.D\184SMPL.D#
Date Acquired: Dec 25 2012 04:49 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-8-e msd
Misc Info: 3050 1/5
Vial Number: 4107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	11.88	11.88	ug/l	0.45	100.00		27329.59	27933.87	28020.52
11 B	# 3	57.36	57.36	ug/l	1.75	1800.00		143461.19	144234.27	148854.17
23 Na	# 1	958.4	958.4	ug/l	2.71	81000.00		6895844.00	6903987.50	7242487.50
24 Mg	# 1	4642	4642	ug/l	0.61	81000.00		22239604.00	22832722.00	22788236.00
27 Al	# 1	24070	24070	ug/l	0.31	81000.00		132028050.00	134926290.00	133637440.00
39 K	# 2	3747	3747	ug/l	0.71	81000.00		1151437.80	1194490.90	1197746.60
40 Ca	# 1	5136	5136	ug/l	1.05	81000.00		56760344.00	58247664.00	56817360.00
45 Sc	# 2	----	--------		--------	#VALUE!		42361.89	44025.73	43904.29
47 Ti	# 3	526.1	526.1	ug/l	0.37	1620.00		576093.00	572853.25	576029.94
51 V	# 2	84.38	84.38	ug/l	0.06	1800.00		177028.91	181053.50	183500.33
52 Cr	# 2	53.62	53.62	ug/l	0.61	1800.00		135488.05	136983.78	139208.77
55 Mn	# 3	1300	1300	ug/l	0.98	1800.00		22384110.00	22268734.00	22188336.00
56 Fe	# 1	27450	27450	ug/l	1.42	81000.00		402736030.00	407637220.00	411613440.00
59 Co	# 3	23.68	23.68	ug/l	0.41	1800.00		311466.78	308543.50	312414.44
60 Ni	# 2	44.95	44.95	ug/l	0.43	1800.00		47987.48	49501.43	49802.17
63 Cu	# 2	39.58	39.58	ug/l	0.50	1800.00		111201.34	114289.99	114548.14
66 Zn	# 3	97.57	97.57	ug/l	0.60	1800.00		154200.55	155151.19	155122.34
75 As	# 2	30.3	30.3	ug/l	1.58	100.00		6481.49	6591.20	6515.18
78 Se	# 1	18.33	18.33	ug/l	0.78	100.00		8045.45	8096.47	8115.81
88 Sr	# 3	29.41	29.41	ug/l	0.39	1800.00		1013047.30	1008393.80	998149.38
95 Mo	# 3	21.87	21.87	ug/l	0.83	1800.00		74144.91	74108.06	72799.57
107 Ag	# 3	10.14	10.14	ug/l	0.39	100.00		100129.24	100279.91	99696.86
111 Cd	# 3	9.726	9.726	ug/l	0.98	100.00		21186.40	21052.88	20666.19
118 Sn	# 3	24.11	24.11	ug/l	0.67	1800.00		160520.50	161626.20	160645.25
121 Sb	# 3	11.13	11.13	ug/l	0.57	100.00		69463.20	69804.70	69460.01
137 Ba	# 3	255.4	255.4	ug/l	0.34	1800.00		825672.19	825635.75	819897.50
202 Hg	# 3	1.06	1.06	ug/l	1.45	5.00		2705.24	2670.90	2614.89
205 Tl	# 3	8.039	8.039	ug/l	1.81	20.00		180675.56	180001.00	181000.80
208 Pb	# 3	32.8	32.8	ug/l	1.92	1800.00		1018474.30	1012495.70	1019682.90
232 Th	# 3	27.19	27.19	ug/l	0.58	#VALUE!		876849.44	871164.38	878647.06
238 U	# 3	25.09	25.09	ug/l	1.20	#VALUE!		804138.50	809391.13	813948.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	502007.38	1.75	836165.38	60.0	60 - 125		491866.59	507245.09	506910.47
45 Sc	# 1	593402.56	0.88	552676.25	107.4	60 - 125		587531.19	597505.81	595170.81
45 Sc	# 3	628384.81	0.11	644433.94	97.5	60 - 125		627617.63	628641.94	628894.94
74 Ge	# 1	164775.16	0.33	175321.88	94.0	60 - 125		165365.44	164652.05	164307.97
74 Ge	# 2	23403.95	1.78	27172.50	86.1	60 - 125		22953.39	23485.17	23773.31
74 Ge	# 3	140601.73	0.62	164913.13	85.3	60 - 125		140240.59	139970.94	141593.64
89 Y	# 3	1385069.00	0.41	1068488.30	129.6	60 - 125	IS F	1390956.60	1384542.90	1379707.30
115 In	# 3	941779.88	0.41	1083659.40	86.9	60 - 125		946189.25	940275.31	938875.00
159 Tb	# 3	1488800.80	1.57	1651256.80	90.2	60 - 125		1473744.50	1515640.80	1477016.60
209 Bi	# 3	843356.31	0.69	1054491.00	80.0	60 - 125		849789.63	838511.44	841768.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\185_CCV.D\185_CCV.D#
Date Acquired: Dec 25 2012 04:57 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	56.32 ug/l	0.29	50.00	90 - 110	Fail	135440.38	137020.44	139434.84
11 B	114.4 ug/l	0.83	100.00	90 - 110	Fail	290978.94	296993.38	305021.38
23 Na	4994 ug/l	1.10	5000.00	90 - 110		31153980.00	32210776.00	32111936.00
24 Mg	4900 ug/l	1.02	5000.00	90 - 110		21098522.00	21018484.00	20992920.00
27 Al	509.7 ug/l	1.13	500.00	90 - 110		2493561.30	2477945.50	2505116.80
39 K	4919 ug/l	1.19	5000.00	90 - 110		1558182.50	1610716.60	1639040.30
40 Ca	4976 ug/l	0.50	5000.00	90 - 110		48696552.00	48973244.00	49014848.00
45 Sc	--------	--------		--- ##### - #####		37988.15	39478.96	39694.99
47 Ti	50.93 ug/l	0.69	50.00	90 - 110		49676.72	49512.98	50669.21
51 V	49.16 ug/l	1.10	50.00	90 - 110		107138.86	108688.72	111065.62
52 Cr	49.62 ug/l	0.84	50.00	90 - 110		128802.78	131691.34	133870.20
55 Mn	496.2 ug/l	1.54	500.00	90 - 110		8724897.00	8854260.00	8976712.00
56 Fe	4920 ug/l	0.92	5000.00	90 - 110		75286904.00	77158224.00	75692792.00
59 Co	47.79 ug/l	0.97	50.00	90 - 110		650760.94	656061.69	652295.13
60 Ni	51.2 ug/l	0.81	50.00	90 - 110		57149.84	57893.28	58604.36
63 Cu	51.76 ug/l	0.83	50.00	90 - 110		150641.45	153350.91	155874.88
66 Zn	50.3 ug/l	0.79	50.00	90 - 110		83781.76	83102.27	82716.74
75 As	50.15 ug/l	0.47	50.00	90 - 110		10976.97	11226.12	11330.18
78 Se	49.61 ug/l	0.19	50.00	90 - 110		22711.78	22840.60	22685.74
88 Sr	51.9 ug/l	1.29	50.00	90 - 110		1226775.30	1248983.10	1253195.30
95 Mo	49.59 ug/l	0.09	50.00	90 - 110		173475.83	172162.64	172379.03
107 Ag	50.26 ug/l	0.90	50.00	90 - 110		510348.13	512543.63	515378.22
111 Cd	50.43 ug/l	0.96	50.00	90 - 110		111842.02	111695.04	113191.14
118 Sn	50.78 ug/l	0.22	50.00	90 - 110		351335.44	348491.63	350333.50
121 Sb	51.99 ug/l	0.36	50.00	90 - 110		335716.09	334941.00	334139.78
137 Ba	51.06 ug/l	0.66	50.00	90 - 110		170164.02	169452.11	171166.83
202 Hg	2.432 ug/l	0.44	2.50	90 - 110		6252.23	6195.21	6245.90
205 Tl	9.981 ug/l	0.61	10.00	90 - 110		219644.19	218306.58	217447.30
208 Pb	49.77 ug/l	0.22	50.00	90 - 110		1505045.80	1501986.10	1503531.00
232 Th	50.55 ug/l	0.36		--- ##### - #####		1691090.00	1660112.00	1675232.90
238 U	50.4 ug/l	0.76		--- ##### - #####		1699434.30	1647656.00	1673697.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	523729.25	1.59	836165.38	62.6	60 - 125		515184.09	524226.19	531777.44
45 Sc	522814.38	0.79	552676.25	94.6	60 - 125		518348.09	526433.38	523661.72
45 Sc	563563.56	0.68	644433.94	87.5	60 - 125		563709.56	559654.44	567326.75
74 Ge	171605.00	0.38	175321.88	97.9	60 - 125		171028.41	172307.83	171478.75
74 Ge	24227.98	1.62	27172.50	89.2	60 - 125		23774.44	24456.41	24453.10
74 Ge	146363.69	0.56	164913.13	88.8	60 - 125		146841.61	145411.59	146837.84
89 Y	969291.88	0.20	1068488.30	90.7	60 - 125		971128.50	967262.06	969485.06
115 In	973608.81	0.49	1083659.40	89.8	60 - 125		978970.19	969868.75	971987.69
159 Tb	1450606.50	0.28	1651256.80	87.8	60 - 125		1451940.80	1445994.10	1453884.80
209 Bi	868181.00	0.93	1054491.00	82.3	60 - 125		873994.44	858959.56	871589.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\186_CCB.D\186_CCB.D#
Date Acquired: Dec 25 2012 05:04 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02941	0.02941	ug/l	4.47	#VALUE!		80.00	76.67	76.67
11 B	# 3	2.18	2.18	ug/l	2.72	#VALUE!		11370.26	11336.91	11567.07
23 Na	# 1	26.99	26.99	ug/l	2.97	#VALUE!		259248.36	262091.33	273439.53
24 Mg	# 1	4.922	4.922	ug/l	14.20	#VALUE!		18752.94	21892.91	25303.96
27 Al	# 1	2.747	2.747	ug/l	27.26	#VALUE!		11160.21	14305.63	18859.81
39 K	# 2	2.667	2.667	ug/l	89.84	#VALUE!		10002.91	9826.18	8895.65
40 Ca	# 1	7.021	7.021	ug/l	9.63	#VALUE!		128498.77	136054.77	144811.34
45 Sc	# 2	----	--------		--------	#VALUE!		39200.29	38508.14	39667.20
47 Ti	# 3	0.05671	0.05671	ug/l	34.95	#VALUE!		60.00	83.34	100.00
51 V	# 2	0.03862	0.03862	ug/l	11.55	#VALUE!		276.67	282.23	273.34
52 Cr	# 2	0.0441	0.0441	ug/l	20.75	#VALUE!		257.78	242.23	217.78
55 Mn	# 3	0.3027	0.3027	ug/l	4.96	#VALUE!		6071.16	6648.07	6547.99
56 Fe	# 1	5.492	5.492	ug/l	20.19	#VALUE!		81877.77	96863.33	118060.18
59 Co	# 3	0.02145	0.02145	ug/l	8.97	#VALUE!		310.01	296.68	346.68
60 Ni	# 2	0.05945	0.05945	ug/l	12.38	#VALUE!		107.78	98.89	94.45
63 Cu	# 2	0.06975	0.06975	ug/l	14.37	#VALUE!		695.58	738.91	708.91
66 Zn	# 3	0.05631	0.05631	ug/l	15.10	#VALUE!		343.35	320.01	323.34
75 As	# 2	0.04726	0.04726	ug/l	23.42	#VALUE!		31.00	26.67	27.67
78 Se	# 1	0.07066	0.07066	ug/l	10.60	#VALUE!		51.33	55.67	59.00
88 Sr	# 3	0.03375	0.03375	ug/l	2.47	#VALUE!		913.38	896.72	873.38
95 Mo	# 3	0.08806	0.08806	ug/l	16.56	#VALUE!		363.35	426.68	320.01
107 Ag	# 3	0.02555	0.02555	ug/l	15.88	#VALUE!		263.34	343.35	273.34
111 Cd	# 3	0.02129	0.02129	ug/l	40.67	#VALUE!		106.55	83.20	66.57
118 Sn	# 3	0.05297	0.05297	ug/l	13.85	#VALUE!		733.37	630.04	673.36
121 Sb	# 3	0.2661	0.2661	ug/l	4.27	#VALUE!		2096.86	2060.19	1943.50
137 Ba	# 3	0.0325	0.0325	ug/l	16.02	#VALUE!		130.00	150.00	113.34
202 Hg	# 3	0.01826	0.01826	ug/l	17.97	#VALUE!		88.00	99.67	105.33
205 Tl	# 3	0.02075	0.02075	ug/l	5.68	#VALUE!		543.36	523.36	490.02
208 Pb	# 3	0.02451	0.02451	ug/l	10.15	#VALUE!		876.70	1033.38	943.38
232 Th	# 3	0.1246	0.1246	ug/l	4.01	#VALUE!		4607.52	4790.91	4430.79
238 U	# 3	0.02854	0.02854	ug/l	6.36	#VALUE!		990.06	1086.74	963.40

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	552112.94	1.92	836165.38	66.0	60 - 125		540822.44	553658.06	561858.44
45 Sc	# 1	531225.38	1.07	552676.25	96.1	60 - 125		525085.00	532306.19	536285.06
45 Sc	# 3	571981.06	0.53	644433.94	88.8	60 - 125		570201.31	570228.31	575513.75
74 Ge	# 1	174338.84	0.80	175321.88	99.4	60 - 125		173544.45	173526.47	175945.63
74 Ge	# 2	25035.46	2.30	27172.50	92.1	60 - 125		24713.67	24693.45	25699.27
74 Ge	# 3	150609.91	0.68	164913.13	91.3	60 - 125		149808.63	151761.94	150259.14
89 Y	# 3	1002588.50	0.28	1068488.30	93.8	60 - 125		1000382.90	1005721.80	1001660.90
115 In	# 3	1010293.10	0.27	1083659.40	93.2	60 - 125		1010607.90	1012823.50	1007447.90
159 Tb	# 3	1485197.60	0.24	1651256.80	89.9	60 - 125		1484551.60	1489095.80	1481945.30
209 Bi	# 3	920412.38	0.10	1054491.00	87.3	60 - 125		920144.38	921415.69	919677.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\187SMPL.D\187SMPL.D#
Date Acquired: Dec 25 2012 05:12 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-9-a
Misc Info: 3050 1/5
Vial Number: 4108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.596	1.596	ug/l	3.41	100.00		3737.12	3807.15	3917.16
11 B	# 3	21.98	21.98	ug/l	3.18	1800.00		59294.98	60227.84	61334.75
23 Na	# 1	167.9	167.9	ug/l	0.97	81000.00		1396373.50	1404350.40	1420296.40
24 Mg	# 1	6017	6017	ug/l	0.20	81000.00		30968222.00	31274540.00	32076532.00
27 Al	# 1	33510	33510	ug/l	0.74	81000.00		194866530.00	198549680.00	204729360.00
39 K	# 2	4077	4077	ug/l	0.70	81000.00		1259373.50	1266070.00	1314757.60
40 Ca	# 1	4830	4830	ug/l	1.14	81000.00		56112512.00	57816204.00	59374420.00
45 Sc	# 2	----	--------		--------	#VALUE!		46163.04	46523.83	47334.68
47 Ti	# 3	500.4	500.4	ug/l	3.26	1620.00		593979.69	597016.69	596870.69
51 V	# 2	93.85	93.85	ug/l	0.50	1800.00		197404.95	199607.05	203112.22
52 Cr	# 2	50.86	50.86	ug/l	0.28	1800.00		127818.55	129002.02	132253.31
55 Mn	# 3	1004	1004	ug/l	2.95	1800.00		17151110.00	17072634.00	17101868.00
56 Fe	# 1	42690	42690	ug/l	0.26	81000.00		619923390.00	623760900.00	629902080.00
59 Co	# 3	14.86	14.86	ug/l	3.18	1800.00		195368.73	192759.63	193460.67
60 Ni	# 2	37.35	37.35	ug/l	1.05	1800.00		39621.08	40996.32	41337.07
63 Cu	# 2	29.66	29.66	ug/l	1.18	1800.00		84287.30	84328.44	85559.78
66 Zn	# 3	100.8	100.8	ug/l	3.28	1800.00		160003.28	158005.30	159078.36
75 As	# 2	16.49	16.49	ug/l	1.92	100.00		3450.33	3614.03	3579.36
78 Se	# 1	1.212	1.212	ug/l	0.56	100.00		537.68	547.68	554.34
88 Sr	# 3	17.07	17.07	ug/l	2.23	1800.00		621069.44	614896.38	615753.44
95 Mo	# 3	3.311	3.311	ug/l	5.57	1800.00		11243.94	10936.99	11207.24
107 Ag	# 3	0.08805	0.08805	ug/l	2.34	100.00		896.72	906.72	853.38
111 Cd	# 3	0.1415	0.1415	ug/l	4.48	100.00		326.41	343.18	339.76
118 Sn	# 3	3.585	3.585	ug/l	4.95	1800.00		24618.05	23770.16	23686.81
121 Sb	# 3	1.037	1.037	ug/l	5.29	100.00		6854.89	6578.10	6544.77
137 Ba	# 3	245.5	245.5	ug/l	4.06	1800.00		786789.63	788194.75	786410.69
202 Hg	# 3	0.08428	0.08428	ug/l	1.27	5.00		245.34	250.67	241.67
205 Tl	# 3	0.6025	0.6025	ug/l	5.24	20.00		13316.07	13262.60	13586.15
208 Pb	# 3	25.39	25.39	ug/l	4.21	1800.00		774141.13	775959.13	778224.75
232 Th	# 3	10.87	10.87	ug/l	2.96	#VALUE!		342375.00	339757.34	339906.66
238 U	# 3	2.906	2.906	ug/l	3.09	#VALUE!		92306.96	90714.40	90660.94

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	514277.81	2.73	836165.38	61.5	60 - 125		503243.94	530084.19	509505.25
45 Sc	# 1	636320.13	1.76	552676.25	115.1	60 - 125		626171.06	634452.88	648336.38
45 Sc	# 3	685165.81	3.30	644433.94	106.3	60 - 125		681870.50	709263.81	664363.06
74 Ge	# 1	162437.72	1.00	175321.88	92.7	60 - 125		160764.84	162525.52	164022.84
74 Ge	# 2	23319.40	1.94	27172.50	85.8	60 - 125		22909.99	23241.51	23806.69
74 Ge	# 3	139864.69	2.85	164913.13	84.8	60 - 125		138880.06	144250.06	136463.94
89 Y	# 3	1463628.50	2.19	1068488.30	137.0	60 - 125	IS F	1470601.10	1491681.90	1428602.60
115 In	# 3	937406.13	4.24	1083659.40	86.5	60 - 125		927100.63	981255.63	903862.25
159 Tb	# 3	1469316.50	4.17	1651256.80	89.0	60 - 125		1451939.80	1537376.40	1418633.30
209 Bi	# 3	821066.81	2.89	1054491.00	77.9	60 - 125		818282.25	846055.81	798862.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\188SMPL.D\188SMPL.D#
Date Acquired: Dec 25 2012 05:19 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-10-a
Misc Info: 3050 1/5
Vial Number: 4109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.145	1.145	ug/l	4.14	100.00		2390.21	2230.19	2340.20
11 B	# 3	37.02	37.02	ug/l	2.54	1800.00		83247.20	83580.95	81893.66
23 Na	# 1	10350	10350	ug/l	1.09	81000.00		71691504.00	73166680.00	74620920.00
24 Mg	# 1	37230	37230	ug/l	1.15	81000.00		173427900.00	178439920.00	180747620.00
27 Al	# 1	15240	15240	ug/l	0.85	81000.00		81375640.00	82598296.00	84203904.00
39 K	# 2	6073	6073	ug/l	0.18	81000.00		1696895.80	1717209.10	1741623.90
40 Ca	# 1	90980	90980	ug/l	0.33	81000.00		984425340.00	991038910.00	999580160.00
45 Sc	# 2	----	--------		--------	#VALUE!		40611.40	40954.27	42427.66
47 Ti	# 3	303.2	303.2	ug/l	0.90	1620.00		301840.53	304383.22	305571.00
51 V	# 2	43.43	43.43	ug/l	0.60	1800.00		82264.51	83406.52	85495.69
52 Cr	# 2	34.83	34.83	ug/l	0.55	1800.00		79235.31	79615.89	81915.47
55 Mn	# 3	536.7	536.7	ug/l	0.46	1800.00		8014763.00	7988575.00	7944670.00
56 Fe	# 1	35480	35480	ug/l	0.30	81000.00		468882110.00	473174110.00	476574750.00
59 Co	# 3	15.47	15.47	ug/l	1.05	1800.00		176377.91	177933.02	174207.53
60 Ni	# 2	42.41	42.41	ug/l	0.37	1800.00		41026.41	41705.61	42335.98
63 Cu	# 2	29.05	29.05	ug/l	0.48	1800.00		74367.35	74863.80	75674.88
66 Zn	# 3	102.9	102.9	ug/l	0.58	1800.00		142046.19	141643.78	141209.52
75 As	# 2	11.94	11.94	ug/l	1.67	100.00		2280.48	2362.16	2331.49
78 Se	# 1	0.5529	0.5529	ug/l	1.04	100.00		238.00	234.67	239.67
88 Sr	# 3	60.2	60.2	ug/l	2.45	1800.00		1847937.30	1887531.90	1848586.40
95 Mo	# 3	5.716	5.716	ug/l	2.33	1800.00		17435.67	17262.11	16865.11
107 Ag	# 3	0.07535	0.07535	ug/l	12.77	100.00		743.37	713.37	586.69
111 Cd	# 3	0.2838	0.2838	ug/l	2.83	100.00		584.45	547.83	591.30
118 Sn	# 3	2.882	2.882	ug/l	2.01	1800.00		17305.78	16932.05	17829.64
121 Sb	# 3	0.866	0.866	ug/l	1.91	100.00		5104.23	5004.20	4940.85
137 Ba	# 3	72.11	72.11	ug/l	1.58	1800.00		207214.00	207051.80	207246.92
202 Hg	# 3	0.04943	0.04943	ug/l	4.85	5.00		141.67	147.33	141.33
205 Tl	# 3	0.6476	0.6476	ug/l	0.60	20.00		13312.64	12985.73	13522.83
208 Pb	# 3	20.77	20.77	ug/l	1.90	1800.00		585797.94	585625.63	585015.13
232 Th	# 3	10.18	10.18	ug/l	2.03	#VALUE!		282754.00	285367.00	279919.63
238 U	# 3	2.172	2.172	ug/l	1.58	#VALUE!		60155.09	60596.50	60363.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	434953.84	1.46	836165.38	52.0	60 - 125	IS F	428970.88	434276.97	441613.69
45 Sc	# 1	580703.31	0.96	552676.25	105.1	60 - 125		574525.56	582213.19	585371.25
45 Sc	# 3	576354.00	1.02	644433.94	89.4	60 - 125		574969.00	571283.06	582809.88
74 Ge	# 1	147994.00	0.55	175321.88	84.4	60 - 125		147253.33	147869.05	148859.64
74 Ge	# 2	21064.07	1.36	27172.50	77.5	60 - 125		20813.02	21004.38	21374.81
74 Ge	# 3	122013.99	0.86	164913.13	74.0	60 - 125		123161.48	121789.96	121090.52
89 Y	# 3	1251650.30	1.21	1068488.30	117.1	60 - 125		1260988.50	1234145.60	1259816.60
115 In	# 3	839005.56	1.62	1083659.40	77.4	60 - 125		849980.81	823860.31	843175.50
159 Tb	# 3	1353729.00	1.85	1651256.80	82.0	60 - 125		1365620.00	1324966.90	1370600.30
209 Bi	# 3	726777.94	1.21	1054491.00	68.9	60 - 125		733789.06	716869.56	729675.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\189SMPL.D\189SMPL.D#
Date Acquired: Dec 25 2012 05:26 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-b-9-a
Misc Info: 3050 1/5
Vial Number: 4110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.4296	0.4296	ug/l	4.97	100.00		890.05	986.72	916.71
11 B	# 3	80.03	80.03	ug/l	0.91	1800.00		180520.72	187499.14	190359.55
23 Na	# 1	16690	16690	ug/l	1.93	81000.00		107750170.00	113362370.00	113946200.00
24 Mg	# 1	6083	6083	ug/l	0.88	81000.00		27075636.00	27685206.00	27669844.00
27 Al	# 1	9409	9409	ug/l	1.55	81000.00		47207964.00	49181684.00	48773900.00
39 K	# 2	2146	2146	ug/l	0.65	81000.00		622214.19	632863.94	648283.13
40 Ca	# 1	78300	78300	ug/l	1.13	81000.00		801816450.00	812814460.00	810512060.00
45 Sc	# 2	----	--------		--------	#VALUE!		37232.25	38705.21	38810.96
47 Ti	# 3	66.82	66.82	ug/l	1.01	1620.00		63384.61	64080.70	62859.39
51 V	# 2	20.98	20.98	ug/l	0.91	1800.00		40998.07	42167.32	42861.04
52 Cr	# 2	26.18	26.18	ug/l	0.60	1800.00		62065.68	62105.80	63494.84
55 Mn	# 3	18.16	18.16	ug/l	0.35	1800.00		288407.19	284998.22	283699.81
56 Fe	# 1	5951	5951	ug/l	0.58	81000.00		83527736.00	85760136.00	85047264.00
59 Co	# 3	0.892	0.892	ug/l	0.56	1800.00		10856.78	10716.69	10630.07
60 Ni	# 2	5.894	5.894	ug/l	1.21	1800.00		5932.10	6102.17	6054.37
63 Cu	# 2	6.552	6.552	ug/l	0.71	1800.00		17602.89	17741.93	18272.43
66 Zn	# 3	14.29	14.29	ug/l	1.91	1800.00		20965.77	20555.30	21259.46
75 As	# 2	3.611	3.611	ug/l	1.11	100.00		721.02	746.02	752.02
78 Se	# 1	1.311	1.311	ug/l	2.24	100.00		581.01	567.68	572.34
88 Sr	# 3	482	482	ug/l	0.76	1800.00		12868476.00	12773072.00	12658518.00
95 Mo	# 3	0.6704	0.6704	ug/l	1.97	1800.00		2216.87	2193.53	2130.19
107 Ag	# 3	0.1619	0.1619	ug/l	2.39	100.00		1490.11	1540.11	1560.11
111 Cd	# 3	0.1968	0.1968	ug/l	8.47	100.00		422.64	472.65	402.67
118 Sn	# 3	2.993	2.993	ug/l	2.96	1800.00		19668.38	18703.98	18977.55
121 Sb	# 3	0.5104	0.5104	ug/l	2.55	100.00		3187.06	3197.05	3307.08
137 Ba	# 3	15.23	15.23	ug/l	1.25	1800.00		46627.96	47099.48	45628.67
202 Hg	# 3	0.07678	0.07678	ug/l	8.82	5.00		220.00	227.00	197.00
205 Tl	# 3	0.1211	0.1211	ug/l	1.00	20.00		2613.63	2620.30	2613.63
208 Pb	# 3	13.32	13.32	ug/l	1.37	1800.00		389757.91	388287.06	390215.97
232 Th	# 3	2.58	2.58	ug/l	1.29	#VALUE!		76010.60	77642.07	75427.92
238 U	# 3	3.946	3.946	ug/l	0.98	#VALUE!		116624.83	118166.37	115421.78

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	464694.72	1.88	836165.38	55.6	60 - 125	IS F	455433.38	465808.38	472842.44
45 Sc	# 1	550059.06	1.51	552676.25	99.5	60 - 125		542175.13	549282.44	558719.63
45 Sc	# 3	545662.94	0.58	644433.94	84.7	60 - 125		542019.50	547947.25	547022.25
74 Ge	# 1	158165.53	1.03	175321.88	90.2	60 - 125		156299.44	158940.97	159256.17
74 Ge	# 2	21837.96	1.42	27172.50	80.4	60 - 125		21539.44	21814.23	22160.20
74 Ge	# 3	128746.56	0.51	164913.13	78.1	60 - 125		129455.05	128615.39	128169.24
89 Y	# 3	1072121.90	1.21	1068488.30	100.3	60 - 125		1086983.50	1063518.60	1065863.50
115 In	# 3	890401.75	0.49	1083659.40	82.2	60 - 125		888509.88	895348.50	887346.88
159 Tb	# 3	1403656.50	1.13	1651256.80	85.0	60 - 125		1392749.00	1421916.40	1396304.40
209 Bi	# 3	773354.75	0.21	1054491.00	73.3	60 - 125		772610.19	775255.81	772198.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\190SMPL.D\190SMPL.D#
Date Acquired: Dec 25 2012 05:34 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-b-10-a
Misc Info: 3050 1/5
Vial Number: 4111
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.1973	0.1973	ug/l	11.20	100.00		390.01	456.69	373.35
11 B	# 3	56.25	56.25	ug/l	0.35	1800.00		123507.63	125128.27	127751.91
23 Na	# 1	16050	16050	ug/l	0.45	81000.00		102255220.00	103159060.00	104005760.00
24 Mg	# 1	10480	10480	ug/l	0.30	81000.00		45058400.00	45514512.00	45754188.00
27 Al	# 1	5381	5381	ug/l	0.47	81000.00		26193350.00	26756966.00	26764852.00
39 K	# 2	1396	1396	ug/l	0.61	81000.00		374038.94	380174.00	385108.38
40 Ca	# 1	258600	258600	ug/l	0.44	81000.00		2545224700.00	2563063800.00	2582560800.00
45 Sc	# 2	----	--------		--------	#VALUE!		35506.73	36351.64	36183.53
47 Ti	# 3	73.59	73.59	ug/l	0.56	1620.00		64675.39	65013.25	64585.05
51 V	# 2	18.42	18.42	ug/l	0.19	1800.00		33226.09	34020.92	34000.85
52 Cr	# 2	31.39	31.39	ug/l	0.83	1800.00		67828.76	68469.93	69430.05
55 Mn	# 3	115.2	115.2	ug/l	1.82	1800.00		1625807.50	1633274.50	1646837.90
56 Fe	# 1	15630	15630	ug/l	1.01	81000.00		201517620.00	203852320.00	203014080.00
59 Co	# 3	2.289	2.289	ug/l	0.79	1800.00		25024.21	24800.49	24833.87
60 Ni	# 2	17.61	17.61	ug/l	0.69	1800.00		16180.47	16421.81	16663.12
63 Cu	# 2	161.8	161.8	ug/l	0.88	1800.00		389499.41	393166.16	399586.75
66 Zn	# 3	311.2	311.2	ug/l	1.34	1800.00		408260.34	407680.47	409659.22
75 As	# 2	9.277	9.277	ug/l	1.33	100.00		1662.41	1732.42	1752.76
78 Se	# 1	0.6252	0.6252	ug/l	0.59	100.00		260.34	259.34	257.00
88 Sr	# 3	1988	1988	ug/l	1.03	1800.00	Fail	46576520.00	46504972.00	45871444.00
95 Mo	# 3	8.875	8.875	ug/l	1.38	1800.00		25702.61	25749.21	25982.88
107 Ag	# 3	1.99	1.99	ug/l	1.62	100.00		17432.45	16604.94	16818.49
111 Cd	# 3	2.23	2.23	ug/l	3.73	100.00		4039.05	4269.05	4192.31
118 Sn	# 3	43.2	43.2	ug/l	0.45	1800.00		249866.58	247434.78	247943.41
121 Sb	# 3	5.528	5.528	ug/l	0.82	100.00		30490.86	29659.28	29532.43
137 Ba	# 3	52.7	52.7	ug/l	0.28	1800.00		148271.56	146113.11	145381.13
202 Hg	# 3	1.426	1.426	ug/l	0.35	5.00		2946.61	2939.28	2934.61
205 Tl	# 3	0.1013	0.1013	ug/l	1.69	20.00		1966.85	2010.20	1976.86
208 Pb	# 3	227.3	227.3	ug/l	1.85	1800.00		6033634.00	5967660.00	6004099.00
232 Th	# 3	1.189	1.189	ug/l	0.64	#VALUE!		32067.29	31720.14	31395.97
238 U	# 3	10.48	10.48	ug/l	0.15	#VALUE!		279979.09	279570.75	276639.75

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	441077.66	1.80	836165.38	52.8	60 - 125	IS F	432933.28	441552.50	448747.06
45 Sc	# 1	528146.81	0.77	552676.25	95.6	60 - 125		523453.50	530683.56	530303.44
45 Sc	# 3	505778.28	0.21	644433.94	78.5	60 - 125		506527.38	504543.13	506264.38
74 Ge	# 1	144019.14	0.43	175321.88	82.1	60 - 125		144720.05	143530.97	143806.42
74 Ge	# 2	19968.03	1.49	27172.50	73.5	60 - 125		19623.96	20124.49	20155.65
74 Ge	# 3	116430.39	1.19	164913.13	70.6	60 - 125		117942.91	116132.46	115215.80
89 Y	# 3	943065.31	0.86	1068488.30	88.3	60 - 125		951928.13	935976.31	941291.44
115 In	# 3	812118.19	0.95	1083659.40	74.9	60 - 125		821014.13	807455.38	807884.88
159 Tb	# 3	1268275.80	1.68	1651256.80	76.8	60 - 125		1278945.90	1282116.40	1243765.00
209 Bi	# 3	695048.75	0.50	1054491.00	65.9	60 - 125		697419.19	696661.06	691066.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\191SMPL.D\191SMPL.D#
Date Acquired: Dec 25 2012 05:41 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-b-11-a
Misc Info: 3050 1/5
Vial Number: 4112
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.1553	0.1553	ug/l	5.41	100.00		326.68	326.68	356.68
11 B	# 3	33.95	33.95	ug/l	1.92	1800.00		80837.44	81245.73	82032.14
23 Na	# 1	13670	13670	ug/l	2.03	81000.00		88430896.00	90642608.00	90937288.00
24 Mg	# 1	4880	4880	ug/l	2.35	81000.00		21451576.00	21766890.00	21808904.00
27 Al	# 1	3974	3974	ug/l	2.60	81000.00		19830404.00	20294640.00	20166994.00
39 K	# 2	1396	1396	ug/l	1.70	81000.00		391181.88	402347.38	412869.31
40 Ca	# 1	128600	128600	ug/l	2.70	81000.00		1289855900.00	1318993200.00	1308692500.00
45 Sc	# 2	----	--------		--------	#VALUE!		35463.37	36457.39	37415.97
47 Ti	# 3	38.39	38.39	ug/l	1.32	1620.00		35163.70	34532.55	34619.64
51 V	# 2	8.377	8.377	ug/l	1.88	1800.00		15854.56	16330.50	16805.39
52 Cr	# 2	13.98	13.98	ug/l	0.18	1800.00		32124.25	32272.29	32716.34
55 Mn	# 3	19.49	19.49	ug/l	0.23	1800.00		296823.72	296813.53	296637.72
56 Fe	# 1	2934	2934	ug/l	2.45	81000.00		41342780.00	41334488.00	40707472.00
59 Co	# 3	0.5889	0.5889	ug/l	2.02	1800.00		6721.43	6921.48	6944.85
60 Ni	# 2	4.241	4.241	ug/l	1.48	1800.00		4228.29	4126.05	4262.75
63 Cu	# 2	22.31	22.31	ug/l	0.70	1800.00		57449.93	57978.19	58148.76
66 Zn	# 3	42.08	42.08	ug/l	0.84	1800.00		59152.56	58898.43	59794.86
75 As	# 2	2.142	2.142	ug/l	5.27	100.00		403.34	448.34	440.67
78 Se	# 1	0.416	0.416	ug/l	8.14	100.00		201.67	196.00	180.33
88 Sr	# 3	844.3	844.3	ug/l	0.67	1800.00		20069844.00	20093026.00	19944530.00
95 Mo	# 3	0.693	0.693	ug/l	3.63	1800.00		2253.54	2233.54	2090.18
107 Ag	# 3	0.1477	0.1477	ug/l	5.24	100.00		1343.42	1306.75	1433.44
111 Cd	# 3	0.3374	0.3374	ug/l	4.19	100.00		685.98	725.99	686.03
118 Sn	# 3	3.469	3.469	ug/l	1.33	1800.00		21740.96	21694.12	21156.71
121 Sb	# 3	0.6149	0.6149	ug/l	0.56	100.00		3793.85	3737.17	3700.52
137 Ba	# 3	9.572	9.572	ug/l	1.41	1800.00		28370.95	28611.54	28297.53
202 Hg	# 3	0.09677	0.09677	ug/l	4.43	5.00		257.34	238.67	248.00
205 Tl	# 3	0.05102	0.05102	ug/l	6.07	20.00		1023.39	1106.74	1143.41
208 Pb	# 3	30.03	30.03	ug/l	1.25	1800.00		848473.50	844787.69	847335.38
232 Th	# 3	0.9749	0.9749	ug/l	0.73	#VALUE!		27795.72	27608.76	27528.44
238 U	# 3	3.219	3.219	ug/l	0.79	#VALUE!		91458.63	90633.82	90449.46

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	463327.19	1.96	836165.38	55.4	60 - 125	IS F	454002.44	472181.66	463797.38
45 Sc	# 1	541122.38	3.03	552676.25	97.9	60 - 125		527668.38	536344.38	559354.44
45 Sc	# 3	520370.81	0.34	644433.94	80.7	60 - 125		518363.00	521213.31	521536.13
74 Ge	# 1	155622.56	1.62	175321.88	88.8	60 - 125		153334.86	155217.14	158315.70
74 Ge	# 2	21131.95	1.13	27172.50	77.8	60 - 125		20945.43	21050.02	21400.41
74 Ge	# 3	124596.30	0.24	164913.13	75.6	60 - 125		124936.06	124383.15	124469.67
89 Y	# 3	960507.56	0.55	1068488.30	89.9	60 - 125		966293.81	955901.31	959327.56
115 In	# 3	866759.25	1.12	1083659.40	80.0	60 - 125		877977.25	860898.38	861402.19
159 Tb	# 3	1353976.90	1.06	1651256.80	82.0	60 - 125		1349542.30	1369998.10	1342390.10
209 Bi	# 3	737841.13	0.30	1054491.00	70.0	60 - 125		736884.38	736238.94	740400.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\192SMPL.D\192SMPL.D#
Date Acquired: Dec 25 2012 05:49 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-b-12-a
Misc Info: 3050 1/5
Vial Number: 4201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.2195	0.2195	ug/l	2.31	100.00		446.68	483.35	503.35
11	B	# 3	54.37	54.37	ug/l	2.39	1800.00		125853.52	128492.89	129787.63
23	Na	# 1	23570	23570	ug/l	2.18	81000.00		146376380.00	152052590.00	154387150.00
24	Mg	# 1	5686	5686	ug/l	0.88	81000.00		24239420.00	24569646.00	24933680.00
27	Al	# 1	5293	5293	ug/l	1.11	81000.00		25582526.00	26130912.00	26438370.00
39	K	# 2	1803	1803	ug/l	0.35	81000.00		524566.56	532410.19	540711.06
40	Ca	# 1	39270	39270	ug/l	0.46	81000.00		384935840.00	387330270.00	392076350.00
45	Sc	# 2	----	--------		--------	#VALUE!		36275.90	37137.64	37703.10
47	Ti	# 3	38.42	38.42	ug/l	1.09	1620.00		35237.13	35641.39	35380.89
51	V	# 2	9.265	9.265	ug/l	0.66	1800.00		18206.71	18573.72	18968.56
52	Cr	# 2	16.71	16.71	ug/l	0.60	1800.00		39056.32	39843.36	40588.36
55	Mn	# 3	15.42	15.42	ug/l	1.52	1800.00		246693.45	245580.23	247090.67
56	Fe	# 1	6187	6187	ug/l	0.74	81000.00		87878784.00	88455192.00	88985936.00
59	Co	# 3	0.7233	0.7233	ug/l	2.67	1800.00		8969.09	8752.29	8805.66
60	Ni	# 2	6.182	6.182	ug/l	0.55	1800.00		6262.22	6253.33	6392.26
63	Cu	# 2	57.72	57.72	ug/l	0.71	1800.00		151460.94	153982.66	155051.81
66	Zn	# 3	87.1	87.1	ug/l	1.98	1800.00		129323.97	128668.95	127648.73
75	As	# 2	3.59	3.59	ug/l	1.50	100.00		725.02	740.02	734.02
78	Se	# 1	0.6065	0.6065	ug/l	3.96	100.00		285.67	267.00	279.34
88	Sr	# 3	246.9	246.9	ug/l	1.54	1800.00		5975481.50	5961182.00	5922098.00
95	Mo	# 3	2.539	2.539	ug/l	1.26	1800.00		7978.68	8052.06	8325.50
107	Ag	# 3	0.8212	0.8212	ug/l	2.71	100.00		7798.61	7611.84	7598.54
111	Cd	# 3	0.7411	0.7411	ug/l	3.63	100.00		1574.23	1534.20	1504.11
118	Sn	# 3	7.826	7.826	ug/l	2.84	1800.00		50297.11	49381.20	48766.02
121	Sb	# 3	1.309	1.309	ug/l	5.18	100.00		8232.20	7571.89	7948.72
137	Ba	# 3	9.098	9.098	ug/l	1.72	1800.00		27823.56	27756.61	27566.41
202	Hg	# 3	0.3008	0.3008	ug/l	3.35	5.00		737.69	707.68	740.35
205	Tl	# 3	0.07018	0.07018	ug/l	5.94	20.00		1600.14	1463.45	1526.80
208	Pb	# 3	55.38	55.38	ug/l	1.84	1800.00		1611082.50	1610921.90	1614531.30
232	Th	# 3	1.187	1.187	ug/l	2.05	#VALUE!		35638.62	35468.39	35501.58
238	U	# 3	3.599	3.599	ug/l	2.85	#VALUE!		108085.44	108190.16	105907.72

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	465413.91	3.81	836165.38	55.7	60 - 125	IS F	445487.69	471308.63	479445.34
45	Sc	# 1	526441.81	0.56	552676.25	95.3	60 - 125		523257.56	527058.81	529009.13
45	Sc	# 3	529718.69	1.19	644433.94	82.2	60 - 125		523248.13	530065.00	535843.00
74	Ge	# 1	158698.45	0.29	175321.88	90.5	60 - 125		158538.72	159220.38	158336.25
74	Ge	# 2	21764.90	1.53	27172.50	80.1	60 - 125		21488.29	21672.92	22133.48
74	Ge	# 3	130776.84	1.39	164913.13	79.3	60 - 125		128671.60	131781.61	131877.28
89	Y	# 3	976001.88	1.09	1068488.30	91.3	60 - 125		968127.81	971829.75	988048.00
115	In	# 3	889157.69	1.26	1083659.40	82.1	60 - 125		877089.38	891096.13	899287.56
159	Tb	# 3	1398124.10	1.95	1651256.80	84.7	60 - 125		1371744.60	1396366.90	1426260.90
209	Bi	# 3	780259.56	1.82	1054491.00	74.0	60 - 125		765269.50	782023.44	793485.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\193SMPL.D\193SMPL.D#
Date Acquired: Dec 25 2012 05:56 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-b-13-a
Misc Info: 3050 1/5
Vial Number: 4202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02451	0.02451	ug/l	29.57	100.00		43.33	76.67	53.33
11 B	# 3	68.76	68.76	ug/l	0.97	1800.00		163599.22	169557.22	172861.70
23 Na	# 1	21440	21440	ug/l	0.72	81000.00		136350320.00	138006530.00	139637840.00
24 Mg	# 1	3960	3960	ug/l	0.28	81000.00		17073074.00	17231338.00	17330710.00
27 Al	# 1	622.6	622.6	ug/l	0.57	81000.00		3081435.00	3075361.50	3088819.50
39 K	# 2	1199	1199	ug/l	0.29	81000.00		358184.88	364049.69	371535.38
40 Ca	# 1	89430	89430	ug/l	0.70	81000.00		877529280.00	889374780.00	898725950.00
45 Sc	# 2	----	--------		--------	#VALUE!		36776.93	37127.63	38214.25
47 Ti	# 3	7.589	7.589	ug/l	1.82	1620.00		7188.27	7004.83	7021.51
51 V	# 2	4.169	4.169	ug/l	0.20	1800.00		8481.97	8628.71	8813.25
52 Cr	# 2	22.4	22.4	ug/l	0.39	1800.00		53681.06	54379.75	55635.57
55 Mn	# 3	2.527	2.527	ug/l	1.98	1800.00		42252.04	41039.44	41156.26
56 Fe	# 1	1001	1001	ug/l	0.91	81000.00		14236833.00	14471053.00	14523038.00
59 Co	# 3	0.187	0.187	ug/l	2.85	1800.00		2383.56	2273.54	2310.24
60 Ni	# 2	2.43	2.43	ug/l	0.61	1800.00		2493.52	2564.65	2590.21
63 Cu	# 2	23.91	23.91	ug/l	0.63	1800.00		63937.64	65622.33	66232.31
66 Zn	# 3	29.33	29.33	ug/l	1.13	1800.00		43274.99	44314.37	44120.66
75 As	# 2	8.994	8.994	ug/l	0.32	100.00		1818.43	1846.10	1897.77
78 Se	# 1	0.1311	0.1311	ug/l	6.23	100.00		73.33	80.33	75.67
88 Sr	# 3	1230	1230	ug/l	0.74	1800.00		28650770.00	28471600.00	28853480.00
95 Mo	# 3	0.8522	0.8522	ug/l	2.41	1800.00		2893.65	2780.30	2766.96
107 Ag	# 3	0.05309	0.05309	ug/l	4.43	100.00		503.35	530.02	543.36
111 Cd	# 3	0.04281	0.04281	ug/l	31.04	100.00		119.08	95.78	149.12
118 Sn	# 3	4.782	4.782	ug/l	0.68	1800.00		30861.41	31108.73	30995.21
121 Sb	# 3	0.3515	0.3515	ug/l	5.90	100.00		2403.58	2210.20	2406.92
137 Ba	# 3	2.8	2.8	ug/l	0.60	1800.00		8695.77	8755.83	8719.15
202 Hg	# 3	0.04992	0.04992	ug/l	10.37	5.00		146.00	146.67	165.67
205 Tl	# 3	0.01167	0.01167	ug/l	6.49	20.00		303.35	276.68	306.68
208 Pb	# 3	15.16	15.16	ug/l	0.07	1800.00		441644.56	438734.38	438444.69
232 Th	# 3	0.1514	0.1514	ug/l	1.33	#VALUE!		4574.17	4657.55	4664.19
238 U	# 3	2.593	2.593	ug/l	0.77	#VALUE!		75757.46	76319.98	76527.62

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	488156.41	1.96	836165.38	58.4	60 - 125	IS F	477267.75	492021.03	495180.41
45 Sc	# 1	529311.06	0.56	552676.25	95.8	60 - 125		525905.63	530753.50	531274.00
45 Sc	# 3	534035.19	0.51	644433.94	82.9	60 - 125		532134.00	537148.88	532822.75
74 Ge	# 1	159706.09	0.15	175321.88	91.1	60 - 125		159424.77	159837.75	159855.72
74 Ge	# 2	22252.90	2.10	27172.50	81.9	60 - 125		21793.14	22238.06	22727.51
74 Ge	# 3	132202.69	0.64	164913.13	80.2	60 - 125		131908.56	133156.97	131542.52
89 Y	# 3	943372.88	0.10	1068488.30	88.3	60 - 125		942598.00	944443.13	943077.56
115 In	# 3	908121.94	0.67	1083659.40	83.8	60 - 125		909466.44	913379.38	901520.00
159 Tb	# 3	1391616.50	0.44	1651256.80	84.3	60 - 125		1398607.80	1387687.80	1388554.40
209 Bi	# 3	768366.13	0.30	1054491.00	72.9	60 - 125		769672.69	769731.31	765694.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\194_CCV.D\194_CCV.D#
Date Acquired: Dec 25 2012 06:04 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	56.12 ug/l	1.52	50.00	90 - 110	Fail	134435.31	137236.75	138082.48
11 B	112.9 ug/l	1.81	100.00	90 - 110	Fail	289166.25	292972.94	297619.47
23 Na	5057 ug/l	0.96	5000.00	90 - 110		32485322.00	33058552.00	32687966.00
24 Mg	4967 ug/l	0.70	5000.00	90 - 110		21338864.00	21766518.00	21910520.00
27 Al	501.8 ug/l	0.65	500.00	90 - 110		2463969.00	2485454.80	2531434.30
39 K	5016 ug/l	2.77	5000.00	90 - 110		1529281.50	1618464.90	1634563.10
40 Ca	5034 ug/l	0.66	5000.00	90 - 110		49646196.00	50118992.00	51022100.00
45 Sc	--------	--------		--- ##### - #####		38355.63	38677.33	39298.61
47 Ti	51.45 ug/l	2.03	50.00	90 - 110		48961.46	49168.67	50799.48
51 V	50.03 ug/l	0.95	50.00	90 - 110		106077.30	108706.45	109747.08
52 Cr	50.38 ug/l	0.68	50.00	90 - 110		127978.43	130257.09	132395.33
55 Mn	500.4 ug/l	1.28	500.00	90 - 110		8684407.00	8770160.00	8895668.00
56 Fe	4971 ug/l	0.50	5000.00	90 - 110		77258656.00	76940960.00	77342576.00
59 Co	47.69 ug/l	1.30	50.00	90 - 110		640601.06	638800.25	643723.88
60 Ni	51.69 ug/l	0.14	50.00	90 - 110		56538.03	56710.73	57771.71
63 Cu	52.52 ug/l	0.05	50.00	90 - 110		150231.81	151219.30	153629.95
66 Zn	49.81 ug/l	1.90	50.00	90 - 110		81725.84	80450.56	80999.17
75 As	49.85 ug/l	0.66	50.00	90 - 110		10655.78	10838.88	11021.33
78 Se	49.99 ug/l	0.19	50.00	90 - 110		22938.06	23021.16	23117.28
88 Sr	52.63 ug/l	1.00	50.00	90 - 110		1216564.50	1242071.50	1240483.40
95 Mo	50.2 ug/l	0.74	50.00	90 - 110		170910.97	168058.56	169471.75
107 Ag	50.8 ug/l	0.32	50.00	90 - 110		504395.50	500378.28	502695.78
111 Cd	50.32 ug/l	0.65	50.00	90 - 110		109582.80	108057.47	108127.16
118 Sn	51.22 ug/l	0.46	50.00	90 - 110		341071.19	343243.06	342650.78
121 Sb	52.51 ug/l	0.14	50.00	90 - 110		328172.94	327520.38	328114.19
137 Ba	51.52 ug/l	1.28	50.00	90 - 110		165600.05	165238.16	168845.97
202 Hg	2.414 ug/l	0.30	2.50	90 - 110		5977.13	6012.47	5935.78
205 Tl	9.896 ug/l	1.37	10.00	90 - 110		210140.02	212293.69	211391.06
208 Pb	49.47 ug/l	1.45	50.00	90 - 110		1454538.60	1452165.80	1466285.40
232 Th	50.74 ug/l	0.73		--- ##### - #####		1627060.80	1640417.10	1605861.40
238 U	50.29 ug/l	0.27		--- ##### - #####		1607260.40	1620439.40	1611372.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	522982.66	2.87	836165.38	62.5	60 - 125		505723.63	530518.00	532706.31
45 Sc	531281.50	0.75	552676.25	96.1	60 - 125		527389.75	531114.81	535339.94
45 Sc	554487.06	0.59	644433.94	86.0	60 - 125		551103.94	557695.56	554661.69
74 Ge	172379.22	0.35	175321.88	98.3	60 - 125		171673.83	172701.00	172762.78
74 Ge	23633.15	1.16	27172.50	87.0	60 - 125		23412.89	23546.36	23940.21
74 Ge	144005.27	1.11	164913.13	87.3	60 - 125		142427.50	145622.98	143965.31
89 Y	948272.81	0.26	1068488.30	88.7	60 - 125		946480.06	951098.81	947239.44
115 In	943878.00	0.14	1083659.40	87.1	60 - 125		945418.31	943386.00	942829.56
159 Tb	1415090.50	1.70	1651256.80	85.7	60 - 125		1388545.30	1421187.10	1435538.90
209 Bi	838534.63	0.36	1054491.00	79.5	60 - 125		838065.81	841736.31	835801.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\195_CCB.D\195_CCB.D#
Date Acquired: Dec 25 2012 06:11 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 24 2012 07:44 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01937	0.01937	ug/l	47.56	#VALUE!		76.67	53.33	30.00
11 B # 3	2.06	2.06	ug/l	4.71	#VALUE!		11213.57	11617.10	11410.39
23 Na # 1	29.24	29.24	ug/l	8.35	#VALUE!		268451.19	283799.06	303057.34
24 Mg # 1	5.256	5.256	ug/l	17.80	#VALUE!		19647.26	23878.88	28184.62
27 Al # 1	0.6989	0.6989	ug/l	21.25	#VALUE!		3813.81	4900.77	5307.52
39 K # 2	2.181	2.181	ug/l	45.16	#VALUE!		9432.60	9105.73	9225.85
40 Ca # 1	16.15	16.15	ug/l	23.51	#VALUE!		193043.05	230970.09	272292.34
45 Sc # 2	----	--------		--------	#VALUE!		37664.25	39399.93	39713.98
47 Ti # 3	0.0257	0.0257	ug/l	57.74	#VALUE!		50.00	36.67	63.34
51 V # 2	0.03176	0.03176	ug/l	33.34	#VALUE!		276.67	236.67	257.78
52 Cr # 2	0.03081	0.03081	ug/l	16.25	#VALUE!		205.56	185.56	207.78
55 Mn # 3	0.1697	0.1697	ug/l	4.03	#VALUE!		4113.92	3930.53	3867.18
56 Fe # 1	3.908	3.908	ug/l	19.56	#VALUE!		62272.04	75257.13	87402.90
59 Co # 3	0.01784	0.01784	ug/l	10.31	#VALUE!		260.01	300.01	240.01
60 Ni # 2	0.03991	0.03991	ug/l	10.68	#VALUE!		73.33	82.22	73.33
63 Cu # 2	0.07518	0.07518	ug/l	12.60	#VALUE!		731.13	723.35	700.02
66 Zn # 3	0.02136	0.02136	ug/l	37.93	#VALUE!		283.34	260.01	263.34
75 As # 2	0.061	0.061	ug/l	40.44	#VALUE!		36.00	31.00	26.00
78 Se # 1	0.07036	0.07036	ug/l	10.13	#VALUE!		55.33	52.67	59.67
88 Sr # 3	0.04868	0.04868	ug/l	11.28	#VALUE!		1360.09	1360.09	1073.40
95 Mo # 3	0.07234	0.07234	ug/l	13.67	#VALUE!		290.01	363.35	276.68
107 Ag # 3	0.01766	0.01766	ug/l	11.90	#VALUE!		223.34	190.01	206.67
111 Cd # 3	0.02384	0.02384	ug/l	35.10	#VALUE!		109.91	76.55	83.25
118 Sn # 3	0.04726	0.04726	ug/l	16.59	#VALUE!		666.70	590.03	630.03
121 Sb # 3	0.2843	0.2843	ug/l	7.70	#VALUE!		2263.54	2173.54	1946.83
137 Ba # 3	0.01482	0.01482	ug/l	16.32	#VALUE!		76.67	63.34	66.67
202 Hg # 3	0.01796	0.01796	ug/l	6.06	#VALUE!		90.67	94.00	94.00
205 Tl # 3	0.004179	0.004179	ug/l	16.05	#VALUE!		126.67	153.34	153.34
208 Pb # 3	0.02031	0.02031	ug/l	13.53	#VALUE!		873.37	833.37	703.36
232 Th # 3	0.1163	0.1163	ug/l	5.05	#VALUE!		4374.11	4090.65	3960.62
238 U # 3	0.0215	0.0215	ug/l	1.78	#VALUE!		723.37	763.37	716.71

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	567896.94	4.00	836165.38	67.9	60 - 125		551103.00	593757.81	558830.00
45 Sc # 1	541936.00	0.45	552676.25	98.1	60 - 125		539286.56	542394.75	544126.69
45 Sc # 3	573058.81	3.07	644433.94	88.9	60 - 125		568851.44	592389.81	557935.13
74 Ge # 1	176562.84	0.56	175321.88	100.7	60 - 125		175532.28	176647.94	177508.31
74 Ge # 2	24595.18	1.85	27172.50	90.5	60 - 125		24086.01	24741.27	24958.26
74 Ge # 3	150239.91	1.81	164913.13	91.1	60 - 125		150437.42	152858.33	147423.95
89 Y # 3	1001145.70	4.15	1068488.30	93.7	60 - 125		989773.75	1047200.60	966462.88
115 In # 3	997491.75	3.52	1083659.40	92.0	60 - 125		987302.06	1036563.80	968609.44
159 Tb # 3	1452631.60	2.50	1651256.80	88.0	60 - 125		1438026.00	1493932.00	1425936.90
209 Bi # 3	882968.44	2.08	1054491.00	83.7	60 - 125		883860.69	900837.69	864207.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\196_CCV.D\196_CCV.D#
Date Acquired: Dec 26 2012 09:16 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.54 ug/l	1.32	50.00	90 - 110		162649.30	165543.81	168593.55
11 B	103.9 ug/l	2.00	100.00	90 - 110		352752.91	356385.13	360879.56
23 Na	5124 ug/l	1.28	5000.00	90 - 110		32408210.00	32566722.00	33517320.00
24 Mg	5066 ug/l	1.11	5000.00	90 - 110		21477160.00	21858300.00	22267020.00
27 Al	519.7 ug/l	0.16	500.00	90 - 110		2531054.30	2563025.30	2571519.00
39 K	5069 ug/l	1.59	5000.00	90 - 110		1714040.10	1767793.80	1797079.50
40 Ca	5198 ug/l	0.26	5000.00	90 - 110		50910356.00	51573216.00	51559156.00
45 Sc	--------	--------		--- ##### - #####		41269.45	42525.57	42508.93
47 Ti	52.73 ug/l	1.98	50.00	90 - 110		58120.82	58639.53	57117.67
51 V	49.52 ug/l	0.70	50.00	90 - 110		115450.93	116941.15	118516.49
52 Cr	49.4 ug/l	0.56	50.00	90 - 110		137662.73	139184.14	141553.95
55 Mn	504.9 ug/l	0.55	500.00	90 - 110		9950131.00	9954788.00	9768887.00
56 Fe	4957 ug/l	0.07	5000.00	90 - 110		75980936.00	75989120.00	76582152.00
59 Co	48.58 ug/l	0.80	50.00	90 - 110		734345.06	734962.19	717638.75
60 Ni	49.86 ug/l	0.35	50.00	90 - 110		59347.83	59603.02	61273.12
63 Cu	50.35 ug/l	1.40	50.00	90 - 110		157534.02	159808.22	159308.81
66 Zn	50.5 ug/l	0.70	50.00	90 - 110		91511.90	91830.40	91799.69
75 As	50.87 ug/l	0.71	50.00	90 - 110		11977.26	12070.66	12199.74
78 Se	50.84 ug/l	0.13	50.00	90 - 110		23070.57	23106.61	23345.24
88 Sr	53 ug/l	0.73	50.00	90 - 110		1371673.50	1378219.00	1353356.60
95 Mo	51.3 ug/l	0.53	50.00	90 - 110		188240.75	189353.19	189091.81
107 Ag	52.19 ug/l	0.52	50.00	90 - 110		564619.38	567173.81	557475.88
111 Cd	51.6 ug/l	0.93	50.00	90 - 110		121810.00	122992.70	119591.72
118 Sn	52.09 ug/l	0.54	50.00	90 - 110		379121.31	380272.66	379821.09
121 Sb	53.34 ug/l	0.85	50.00	90 - 110		360480.16	364526.19	365261.59
137 Ba	52.57 ug/l	2.00	50.00	90 - 110		187279.55	182382.03	186403.61
202 Hg	2.392 ug/l	0.39	2.50	90 - 110		6455.65	6445.31	6457.65
205 Tl	10.46 ug/l	0.35	10.00	90 - 110		234722.42	234612.05	233977.16
208 Pb	52.12 ug/l	0.78	50.00	90 - 110		1622192.90	1613235.60	1602843.00
232 Th	49.64 ug/l	0.49		--- ##### - #####		1729497.60	1729705.60	1735658.90
238 U	49.35 ug/l	0.27		--- ##### - #####		1720677.90	1731582.50	1722320.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	690432.94	3.04	836165.38	82.6	60 - 125		667875.44	693965.88	709457.38
45 Sc	525639.44	0.72	552676.25	95.1	60 - 125		521512.28	526419.13	528986.88
45 Sc	631713.69	0.72	644433.94	98.0	60 - 125		628389.00	629887.56	636864.50
74 Ge	170611.34	0.52	175321.88	97.3	60 - 125		170043.08	170153.98	171636.97
74 Ge	25819.43	1.44	27172.50	95.0	60 - 125		25602.47	25605.80	26250.02
74 Ge	160725.58	0.68	164913.13	97.5	60 - 125		160781.53	161783.59	159611.63
89 Y	1044513.00	0.36	1068488.30	97.8	60 - 125		1042421.40	1048858.50	1042258.90
115 In	1029605.20	0.63	1083659.40	95.0	60 - 125		1027120.30	1036951.10	1024744.10
159 Tb	1485928.90	0.18	1651256.80	90.0	60 - 125		1483688.40	1485130.00	1488968.10
209 Bi	913726.25	0.29	1054491.00	86.7	60 - 125		914403.13	916008.75	910766.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\197_CCB.D\197_CCB.D#
Date Acquired: Dec 26 2012 09:23 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0231	0.0231	ug/l	11.40	#VALUE!		80.00	90.00	70.00
11 B	# 3	1.165	1.165	ug/l	14.20	#VALUE!		11560.42	11120.20	11123.50
23 Na	# 1	10.13	10.13	ug/l	26.56	#VALUE!		153663.98	156331.59	158653.19
24 Mg	# 1	1.976	1.976	ug/l	16.68	#VALUE!		8558.77	8942.29	9792.75
27 Al	# 1	0.1911	0.1911	ug/l	14.68	#VALUE!		2010.16	2173.52	2016.82
39 K	# 2	-0.3875	-0.3875	ug/l	397.68	#VALUE!		9312.54	9049.10	9259.20
40 Ca	# 1	5.108	5.108	ug/l	25.02	#VALUE!		115420.09	118022.70	119103.09
45 Sc	# 2	----	--------		--------	#VALUE!		40057.97	41499.93	45453.31
47 Ti	# 3	0.02164	0.02164	ug/l	30.85	#VALUE!		43.33	60.00	53.33
51 V	# 2	0.01718	0.01718	ug/l	43.88	#VALUE!		252.23	241.11	243.34
52 Cr	# 2	0.01627	0.01627	ug/l	9.72	#VALUE!		166.67	170.00	192.23
55 Mn	# 3	0.1942	0.1942	ug/l	1.74	#VALUE!		4784.08	5164.20	4774.08
56 Fe	# 1	1.374	1.374	ug/l	20.07	#VALUE!		32121.76	33480.90	36165.82
59 Co	# 3	0.01964	0.01964	ug/l	11.68	#VALUE!		290.01	376.68	306.68
60 Ni	# 2	0.01649	0.01649	ug/l	28.94	#VALUE!		57.78	48.89	55.56
63 Cu	# 2	-0.02837	-0.02837	ug/l	6.99	#VALUE!		417.79	448.90	476.68
66 Zn	# 3	0.008528	0.008528	ug/l	31.88	#VALUE!		276.68	283.34	263.34
75 As	# 2	0.01829	0.01829	ug/l	29.01	#VALUE!		23.00	24.00	23.33
78 Se	# 1	0.03864	0.03864	ug/l	45.29	#VALUE!		42.33	34.00	43.33
88 Sr	# 3	0.03054	0.03054	ug/l	6.57	#VALUE!		866.72	846.71	890.05
95 Mo	# 3	0.0665	0.0665	ug/l	26.08	#VALUE!		363.35	240.01	313.35
107 Ag	# 3	0.02205	0.02205	ug/l	3.75	#VALUE!		266.68	286.68	253.34
111 Cd	# 3	0.02486	0.02486	ug/l	48.43	#VALUE!		93.22	133.26	69.90
118 Sn	# 3	0.05435	0.05435	ug/l	15.62	#VALUE!		680.03	816.71	673.37
121 Sb	# 3	0.2265	0.2265	ug/l	5.02	#VALUE!		1776.82	1976.84	1813.48
137 Ba	# 3	0.02217	0.02217	ug/l	14.17	#VALUE!		113.34	93.34	93.34
202 Hg	# 3	0.00615	0.00615	ug/l	14.59	#VALUE!		66.00	67.00	67.67
205 Tl	# 3	0.00277	0.00277	ug/l	12.89	#VALUE!		123.34	113.34	113.34
208 Pb	# 3	0.02098	0.02098	ug/l	3.12	#VALUE!		850.04	860.04	830.04
232 Th	# 3	0.1242	0.1242	ug/l	3.91	#VALUE!		4914.29	4704.20	4574.14
238 U	# 3	0.02256	0.02256	ug/l	1.47	#VALUE!		840.05	846.72	793.38

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	716530.88	3.08	836165.38	85.7	60 - 125		695461.25	739457.50	714673.81
45 Sc	# 1	536073.81	10.66	552676.25	97.0	60 - 125		524541.00	598123.38	485557.03
45 Sc	# 3	646413.06	4.43	644433.94	100.3	60 - 125		642983.56	676613.88	619641.69
74 Ge	# 1	173982.70	8.28	175321.88	99.2	60 - 125		170876.41	189691.91	161379.80
74 Ge	# 2	26974.52	5.75	27172.50	99.3	60 - 125		25576.86	26702.91	28643.80
74 Ge	# 3	166778.20	3.28	164913.13	101.1	60 - 125		164753.52	172968.86	162612.23
89 Y	# 3	1069079.90	3.62	1068488.30	100.1	60 - 125		1065705.60	1109354.40	1032179.80
115 In	# 3	1059697.00	2.97	1083659.40	97.8	60 - 125		1064763.30	1088360.40	1025967.20
159 Tb	# 3	1494550.40	3.99	1651256.80	90.5	60 - 125		1479110.10	1560458.10	1444082.90
209 Bi	# 3	947752.50	3.01	1054491.00	89.9	60 - 125		947443.44	976446.44	919367.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\198_CCV.D\198_CCV.D#
Date Acquired: Dec 26 2012 09:31 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	52.49 ug/l	0.91	50.00	90 - 110		172129.67	175822.75	176225.00
11 B	105.5 ug/l	0.53	100.00	90 - 110		371620.19	376999.69	377569.47
23 Na	5196 ug/l	0.24	5000.00	90 - 110		33139700.00	33497216.00	33991784.00
24 Mg	5054 ug/l	0.74	5000.00	90 - 110		21848164.00	21788154.00	22312470.00
27 Al	517.4 ug/l	0.60	500.00	90 - 110		2519164.30	2573247.00	2597584.30
39 K	5052 ug/l	1.11	5000.00	90 - 110		1756952.90	1814014.40	1848880.00
40 Ca	5189 ug/l	0.29	5000.00	90 - 110		51149524.00	51473596.00	52340484.00
45 Sc	--------	--------		--- ##### - #####		42348.58	42964.32	46350.57
47 Ti	52.8 ug/l	0.29	50.00	90 - 110		59217.71	59445.02	58909.95
51 V	49.24 ug/l	1.92	50.00	90 - 110		117686.16	120453.03	121237.22
52 Cr	49.04 ug/l	2.53	50.00	90 - 110		141868.61	142342.84	143539.69
55 Mn	509.4 ug/l	0.86	500.00	90 - 110		10200418.00	10054110.00	10106562.00
56 Fe	5015 ug/l	0.29	5000.00	90 - 110		77041360.00	77171512.00	77502792.00
59 Co	49.84 ug/l	0.36	50.00	90 - 110		759872.88	756108.75	758878.75
60 Ni	49.79 ug/l	2.10	50.00	90 - 110		61063.40	61877.08	62418.85
63 Cu	50.12 ug/l	2.45	50.00	90 - 110		161437.19	163303.44	163917.77
66 Zn	51.01 ug/l	0.84	50.00	90 - 110		93002.35	94637.80	94211.49
75 As	50.46 ug/l	1.49	50.00	90 - 110		12215.75	12169.38	12651.39
78 Se	50.7 ug/l	0.96	50.00	90 - 110		22955.74	23120.28	23407.66
88 Sr	52.13 ug/l	1.95	50.00	90 - 110		1373514.80	1360721.80	1366794.30
95 Mo	52.6 ug/l	0.37	50.00	90 - 110		192064.86	191644.66	192883.84
107 Ag	53.13 ug/l	0.67	50.00	90 - 110		566906.88	566174.56	573291.81
111 Cd	51.59 ug/l	0.85	50.00	90 - 110		119760.73	120386.61	121362.05
118 Sn	52.26 ug/l	0.25	50.00	90 - 110		379345.50	375117.44	379466.75
121 Sb	53.31 ug/l	0.29	50.00	90 - 110		362607.09	358804.69	359800.13
137 Ba	52.37 ug/l	0.67	50.00	90 - 110		184893.84	182693.13	182146.50
202 Hg	2.405 ug/l	1.62	2.50	90 - 110		6271.57	6195.88	6317.59
205 Tl	10.27 ug/l	1.63	10.00	90 - 110		229296.53	227367.23	227974.22
208 Pb	50.83 ug/l	1.25	50.00	90 - 110		1563098.50	1562965.50	1551790.10
232 Th	50.03 ug/l	0.61		--- ##### - #####		1678090.40	1687622.60	1689474.60
238 U	49.64 ug/l	0.42		--- ##### - #####		1675483.80	1684770.00	1664390.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	715088.88	0.50	836165.38	85.5	60 - 125		711397.63	718547.19	715321.88
45 Sc	529701.63	1.05	552676.25	95.8	60 - 125		524211.50	529536.38	535357.00
45 Sc	644272.63	0.55	644433.94	100.0	60 - 125		646727.75	645863.50	640226.75
74 Ge	170982.38	0.06	175321.88	97.5	60 - 125		170875.63	171074.94	170996.59
74 Ge	26600.95	3.16	27172.50	97.9	60 - 125		25871.74	26412.49	27518.63
74 Ge	162987.39	0.29	164913.13	98.8	60 - 125		162654.83	162778.56	163528.80
89 Y	1061630.30	1.58	1068488.30	99.4	60 - 125		1054085.60	1080846.10	1049959.40
115 In	1021618.90	0.45	1083659.40	94.3	60 - 125		1025287.30	1016446.00	1023123.50
159 Tb	1473262.40	1.22	1651256.80	89.2	60 - 125		1456564.50	1492273.90	1470948.60
209 Bi	882128.81	0.67	1054491.00	83.7	60 - 125		878265.00	888936.75	879185.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\199_CCB.D\199_CCB.D#
Date Acquired: Dec 26 2012 09:38 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01317	0.01317	ug/l	57.19	#VALUE!		23.33	46.67	76.67
11 B	# 3	1.251	1.251	ug/l	6.43	#VALUE!		12057.39	12200.87	11840.59
23 Na	# 1	8.606	8.606	ug/l	16.71	#VALUE!		152632.69	153304.44	155162.31
24 Mg	# 1	2.273	2.273	ug/l	6.22	#VALUE!		11160.18	10263.00	11437.05
27 Al	# 1	0.216	0.216	ug/l	4.08	#VALUE!		2240.20	2180.19	2476.90
39 K	# 2	-0.4218	-0.4218	ug/l	102.42	#VALUE!		9099.16	9039.07	9155.81
40 Ca	# 1	5.109	5.109	ug/l	9.75	#VALUE!		119951.04	122664.67	127892.59
45 Sc	# 2	----	--------		--------	#VALUE!		42355.34	40386.39	42371.90
47 Ti	# 3	0.03119	0.03119	ug/l	16.21	#VALUE!		70.00	60.00	60.00
51 V	# 2	0.02804	0.02804	ug/l	10.80	#VALUE!		264.45	262.23	282.23
52 Cr	# 2	0.01714	0.01714	ug/l	38.55	#VALUE!		157.78	190.00	181.11
55 Mn	# 3	0.1908	0.1908	ug/l	5.96	#VALUE!		5104.18	4790.73	4680.72
56 Fe	# 1	1.685	1.685	ug/l	6.67	#VALUE!		40555.09	39653.07	40872.43
59 Co	# 3	0.02036	0.02036	ug/l	4.74	#VALUE!		346.68	346.68	316.68
60 Ni	# 2	0.01634	0.01634	ug/l	25.72	#VALUE!		58.89	52.22	48.89
63 Cu	# 2	-0.0273	-0.0273	ug/l	6.66	#VALUE!		455.57	432.23	448.90
66 Zn	# 3	0.00257	0.00257	ug/l	419.07	#VALUE!		286.68	256.67	250.01
75 As	# 2	0.0359	0.0359	ug/l	37.49	#VALUE!		28.33	23.33	31.00
78 Se	# 1	0.04971	0.04971	ug/l	28.26	#VALUE!		51.33	47.00	42.33
88 Sr	# 3	0.02899	0.02899	ug/l	5.77	#VALUE!		856.71	790.04	846.71
95 Mo	# 3	0.07933	0.07933	ug/l	12.21	#VALUE!		320.01	340.01	390.02
107 Ag	# 3	0.02535	0.02535	ug/l	6.01	#VALUE!		303.34	316.68	283.34
111 Cd	# 3	0.0131	0.0131	ug/l	6.19	#VALUE!		69.90	66.56	69.88
118 Sn	# 3	0.05357	0.05357	ug/l	3.92	#VALUE!		703.37	693.37	723.37
121 Sb	# 3	0.2746	0.2746	ug/l	8.16	#VALUE!		2266.88	2236.89	1983.50
137 Ba	# 3	0.01976	0.01976	ug/l	38.59	#VALUE!		113.34	60.00	96.67
202 Hg	# 3	0.01369	0.01369	ug/l	9.47	#VALUE!		89.00	83.00	84.33
205 Tl	# 3	0.003201	0.003201	ug/l	19.52	#VALUE!		116.67	116.67	140.01
208 Pb	# 3	0.0195	0.0195	ug/l	8.01	#VALUE!		736.70	800.03	826.70
232 Th	# 3	0.126	0.126	ug/l	3.28	#VALUE!		4810.90	4634.15	4547.49
238 U	# 3	0.02204	0.02204	ug/l	4.95	#VALUE!		813.38	746.71	796.71

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	744560.13	1.49	836165.38	89.0	60 - 125		732001.50	748582.88	753096.00
45 Sc	# 1	560231.25	7.45	552676.25	101.4	60 - 125		533444.00	538905.75	608344.06
45 Sc	# 3	650826.63	0.29	644433.94	101.0	60 - 125		651413.00	652343.38	648723.31
74 Ge	# 1	180286.17	5.60	175321.88	102.8	60 - 125		174429.00	174490.95	191938.56
74 Ge	# 2	26638.87	2.28	27172.50	98.0	60 - 125		26837.59	25956.61	27122.41
74 Ge	# 3	167568.30	1.20	164913.13	101.6	60 - 125		166802.58	169856.58	166045.70
89 Y	# 3	1073224.30	1.15	1068488.30	100.4	60 - 125		1070812.10	1086595.10	1062265.90
115 In	# 3	1045042.60	0.04	1083659.40	96.4	60 - 125		1045233.00	1045298.50	1044596.00
159 Tb	# 3	1470126.50	0.29	1651256.80	89.0	60 - 125		1472250.00	1472926.50	1465202.90
209 Bi	# 3	921755.50	0.50	1054491.00	87.4	60 - 125		918239.13	926920.94	920106.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\200_ICV.D\200_ICV.D#
Date Acquired: Dec 26 2012 09:46 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: ICSA
Misc Info:
Vial Number: 4510
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: ICV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	0.002011 ug/l	72.45		--- ##### - #####		3.33	10.00	10.00
11 B	0.3598 ug/l	29.99		--- ##### - #####		6901.41	7031.46	6778.05
23 Na	94000 ug/l	0.80	##########	80 - 120		535637540.00	555848320.00	555302780.00
24 Mg	91820 ug/l	0.51	##########	80 - 120		355337980.00	366007390.00	365269920.00
27 Al	91110 ug/l	0.38	##########	80 - 120		404037250.00	409581760.00	413735140.00
39 K	105200 ug/l	0.20	##########	80 - 120		28240880.00	29198486.00	29206866.00
40 Ca	95630 ug/l	0.12	##########	80 - 120		847072580.00	866138880.00	873537090.00
45 Sc	--------	--------		--- ##### - #####		36166.86	37008.52	37180.00
47 Ti	2129 ug/l	6.10	2000.00	80 - 120		2062551.90	2069135.80	2057056.60
51 V	0.2372 ug/l	2.15		--- ##### - #####		576.68	616.68	605.57
52 Cr	1.216 ug/l	6.07		--- ##### - #####		2930.26	2701.33	2833.57
55 Mn	0.2109 ug/l	2.55		--- ##### - #####		4047.24	3843.84	3993.89
56 Fe	95970 ug/l	0.66	##########	80 - 120		##########	##########	##########
59 Co	0.1132 ug/l	8.45		--- ##### - #####		1280.08	1396.76	1350.09
60 Ni	0.8206 ug/l	2.65		--- ##### - #####		772.24	821.14	838.92
63 Cu	0.1867 ug/l	10.20		--- ##### - #####		901.14	837.80	893.37
66 Zn	3.308 ug/l	8.51		--- ##### - #####		4680.74	5090.86	4877.45
75 As	0.4507 ug/l	10.58		--- ##### - #####		106.33	92.00	99.33
78 Se	0.05152 ug/l	25.41		--- ##### - #####		35.00	41.00	31.67
88 Sr	0.3181 ug/l	4.95		--- ##### - #####		7021.56	6951.56	7024.90
95 Mo	2166 ug/l	5.56	2000.00	80 - 120		6132308.00	6193035.00	6165987.00
107 Ag	0.05587 ug/l	9.81		--- ##### - #####		473.36	510.02	466.69
111 Cd	0.5739 ug/l	12.31		--- ##### - #####		1001.34	1148.62	1060.57
118 Sn	0.1235 ug/l	7.76		--- ##### - #####		916.72	913.39	966.72
121 Sb	0.4293 ug/l	2.82		--- ##### - #####		2536.94	2410.25	2443.57
137 Ba	0.1992 ug/l	11.83		--- ##### - #####		513.36	583.36	573.36
202 Hg	0.01429 ug/l	28.22		--- ##### - #####		67.33	60.33	51.00
205 Tl	0.01159 ug/l	8.99		--- ##### - #####		280.01	243.34	230.01
208 Pb	0.1241 ug/l	8.13		--- ##### - #####		3163.57	3300.25	3183.57
232 Th	0.1449 ug/l	1.62		--- ##### - #####		3743.91	3530.51	3647.21
238 U	0.00558 ug/l	10.98		--- ##### - #####		130.00	146.67	143.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	584724.19	2.85	836165.38	69.9	60 - 125		597839.88	566012.13	590320.56
45 Sc	480350.47	1.47	552676.25	86.9	60 - 125		472463.25	482544.84	486043.31
45 Sc	558466.06	5.82	644433.94	86.7	60 - 125		588765.81	524115.41	562517.00
74 Ge	134804.80	0.44	175321.88	76.9	60 - 125		134119.11	135092.75	135202.52
74 Ge	20513.10	1.92	27172.50	75.5	60 - 125		20060.02	20777.46	20701.83
74 Ge	126032.73	4.10	164913.13	76.4	60 - 125		131718.77	121607.48	124771.96
89 Y	885744.25	5.43	1068488.30	82.9	60 - 125		936611.94	840982.25	879638.63
115 In	797417.94	5.08	1083659.40	73.6	60 - 125		838751.94	757791.13	795710.81
159 Tb	1188107.90	5.49	1651256.80	72.0	60 - 125		1253096.80	1122556.40	1188670.60
209 Bi	630151.50	4.48	1054491.00	59.8	60 - 125	IS Fail	658199.81	601785.13	630469.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\201SMPL.D\201SMPL.D#
Date Acquired: Dec 26 2012 09:53 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: ICSAB
Misc Info:
Vial Number: 4511
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.000838	0.000838	ug/l	176.13	100.00		6.67	6.67	0.00
11 B # 3	0.09767	0.09767	ug/l	97.66	1800.00		6091.14	5967.76	5984.41
23 Na # 1	92260	92260	ug/l	2.43	81000.00		507956350.00	522484900.00	533631620.00
24 Mg # 1	90330	90330	ug/l	0.74	81000.00		341936900.00	345781020.00	346658400.00
27 Al # 1	89920	89920	ug/l	0.07	81000.00	Fail	391105340.00	389796960.00	391315900.00
39 K # 2	107200	107200	ug/l	3.19	81000.00		26820360.00	27491950.00	28253506.00
40 Ca # 1	94910	94910	ug/l	0.31	81000.00		825452220.00	829010880.00	829704320.00
45 Sc # 2	----	--------		--------	#VALUE!		31549.78	34760.90	35525.61
47 Ti # 3	2104	2104	ug/l	0.57	1620.00	Fail	1983568.80	1985355.80	1973870.80
51 V # 2	0.2345	0.2345	ug/l	7.71	1800.00		534.46	592.24	541.12
52 Cr # 2	22.18	22.18	ug/l	4.60	1800.00		46109.92	46438.56	47097.93
55 Mn # 3	21.42	21.42	ug/l	0.47	1800.00		319334.25	320516.81	318721.84
56 Fe # 1	96470	96470	ug/l	0.32	81000.00	Fail	1144611300.00	1140583700.00	1137057000.00
59 Co # 3	20.07	20.07	ug/l	0.54	1800.00		229604.16	229003.75	227891.48
60 Ni # 2	20.93	20.93	ug/l	4.15	1800.00		18465.95	18620.55	19138.86
63 Cu # 2	18.79	18.79	ug/l	4.02	1800.00		43577.91	44370.81	44946.67
66 Zn # 3	20.86	20.86	ug/l	0.72	1800.00		28676.42	29056.94	28943.45
75 As # 2	21.28	21.28	ug/l	5.18	100.00		3748.73	3728.05	3803.74
78 Se # 1	0.06117	0.06117	ug/l	8.71	100.00		37.33	37.33	40.33
88 Sr # 3	0.3233	0.3233	ug/l	1.44	1800.00		6874.85	6934.89	7034.93
95 Mo # 3	2163	2163	ug/l	0.49	1800.00	Fail	6048874.50	6021925.00	5995457.50
107 Ag # 3	17.62	17.62	ug/l	0.88	100.00		145394.20	143389.31	142561.16
111 Cd # 3	17.87	17.87	ug/l	1.59	100.00		31824.21	31515.54	32101.97
118 Sn # 3	0.1258	0.1258	ug/l	7.93	1800.00		983.39	876.71	913.39
121 Sb # 3	0.4117	0.4117	ug/l	7.66	100.00		2503.59	2276.88	2170.20
137 Ba # 3	0.1905	0.1905	ug/l	5.25	1800.00		493.36	546.69	526.69
202 Hg # 3	0.01302	0.01302	ug/l	20.00	5.00		53.67	53.00	61.67
205 Tl # 3	0.01068	0.01068	ug/l	8.42	20.00		210.01	236.68	243.34
208 Pb # 3	0.1252	0.1252	ug/l	4.18	1800.00		3236.90	3253.57	3060.22
232 Th # 3	0.08363	0.08363	ug/l	4.27	#VALUE!		2223.56	2083.54	2076.88
238 U # 3	0.002526	0.002526	ug/l	18.12	#VALUE!		70.00	73.34	53.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	571360.94	3.58	836165.38	68.3	60 - 125		552991.88	567712.63	593378.38
45 Sc # 1	464820.19	0.15	552676.25	84.1	60 - 125		464932.47	464062.97	465465.13
45 Sc # 3	541160.63	0.68	644433.94	84.0	60 - 125		538756.00	545372.00	539353.94
74 Ge # 1	131305.00	0.37	175321.88	74.9	60 - 125		131385.25	131743.34	130786.39
74 Ge # 2	19205.39	5.35	27172.50	70.7	60 - 125		18037.89	19609.50	19968.78
74 Ge # 3	122118.48	0.19	164913.13	74.1	60 - 125		122059.44	121918.46	122377.50
89 Y # 3	863604.00	0.41	1068488.30	80.8	60 - 125		863255.94	867293.19	860262.88
115 In # 3	778517.44	0.68	1083659.40	71.8	60 - 125		780081.25	782889.44	772581.63
159 Tb # 3	1163818.10	0.84	1651256.80	70.5	60 - 125		1153113.00	1166110.90	1172230.50
209 Bi # 3	618156.13	0.18	1054491.00	58.6	60 - 125	IS F	617755.44	617283.88	619429.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

4 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\202SMPL.D\202SMPL.D#
Date Acquired: Dec 26 2012 10:01 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.003142	0.003142	ug/l	33.61	100.00		10.00	16.67	10.00
11 B	# 3	0.2204	0.2204	ug/l	56.85	1800.00		7091.49	7148.17	7434.94
23 Na	# 1	58.34	58.34	ug/l	3.57	81000.00		448728.22	445381.88	444156.44
24 Mg	# 1	10.91	10.91	ug/l	7.22	81000.00		48134.31	46059.34	43376.24
27 Al	# 1	3.596	3.596	ug/l	14.73	81000.00		20031.01	18516.15	15700.16
39 K	# 2	17.21	17.21	ug/l	40.63	81000.00		11730.64	14372.44	16641.13
40 Ca	# 1	10.88	10.88	ug/l	8.58	81000.00		172120.45	167395.64	161054.53
45 Sc	# 2	----	--------		--------	#VALUE!		37356.98	38203.09	38330.06
47 Ti	# 3	0.5535	0.5535	ug/l	6.72	1620.00		570.03	636.70	646.70
51 V	# 2	0.005877	0.005877	ug/l	151.71	1800.00		191.11	183.34	224.45
52 Cr	# 2	0.006846	0.006846	ug/l	19.22	1800.00		134.45	138.89	133.34
55 Mn	# 3	0.04718	0.04718	ug/l	12.22	1800.00		1920.15	1740.13	1793.47
56 Fe	# 1	5.226	5.226	ug/l	10.43	81000.00		98707.12	91577.07	83012.21
59 Co	# 3	0.01148	0.01148	ug/l	9.77	1800.00		180.01	173.34	206.67
60 Ni	# 2	0.0156	0.0156	ug/l	6.66	1800.00		46.67	48.89	50.00
63 Cu	# 2	-0.02415	-0.02415	ug/l	35.33	1800.00		423.34	443.34	397.79
66 Zn	# 3	-0.003225	-0.003225	ug/l	1214.00	1800.00		313.35	183.34	220.01
75 As	# 2	-0.001477	-0.001477	ug/l	727.83	100.00		15.67	15.33	20.00
78 Se	# 1	0.01927	0.01927	ug/l	10.21	100.00		29.33	31.33	30.00
88 Sr	# 3	0.05138	0.05138	ug/l	4.30	1800.00		1406.77	1350.09	1386.77
95 Mo	# 3	1.209	1.209	ug/l	1.03	1800.00		4524.04	4484.02	4457.36
107 Ag	# 3	0.009124	0.009124	ug/l	29.89	100.00		146.67	90.00	126.67
111 Cd	# 3	0.003592	0.003592	ug/l	221.24	100.00		28.55	41.90	65.24
118 Sn	# 3	0.01704	0.01704	ug/l	42.79	1800.00		376.68	486.69	423.35
121 Sb	# 3	0.059	0.059	ug/l	2.53	100.00		663.37	670.04	646.70
137 Ba	# 3	0.01234	0.01234	ug/l	54.51	1800.00		60.00	40.00	86.67
202 Hg	# 3	-0.003577	-0.003577	ug/l	12.83	5.00		38.33	36.00	38.33
205 Tl	# 3	0.0007849	0.0007849	ug/l	140.65	20.00		56.67	53.33	96.67
208 Pb	# 3	0.005202	0.005202	ug/l	23.01	1800.00		373.35	343.35	303.34
232 Th	# 3	0.01749	0.01749	ug/l	16.27	#VALUE!		723.37	910.06	820.05
238 U	# 3	0.003827	0.003827	ug/l	12.90	#VALUE!		120.00	146.67	150.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	649870.44	5.15	836165.38	77.7	60 - 125		618717.00	685269.50	645625.00
45 Sc	# 1	507313.28	2.35	552676.25	91.8	60 - 125		493773.72	516194.66	511971.41
45 Sc	# 3	614203.81	0.47	644433.94	95.3	60 - 125		611529.81	617266.63	613814.88
74 Ge	# 1	167771.41	0.54	175321.88	95.7	60 - 125		166745.52	168452.00	168116.69
74 Ge	# 2	24643.10	1.08	27172.50	90.7	60 - 125		24380.83	24633.61	24914.87
74 Ge	# 3	158182.03	1.10	164913.13	95.9	60 - 125		156215.28	158803.33	159527.45
89 Y	# 3	1040867.70	2.20	1068488.30	97.4	60 - 125		1030535.30	1067163.40	1024904.40
115 In	# 3	1025936.60	0.54	1083659.40	94.7	60 - 125		1022111.90	1032339.10	1023358.30
159 Tb	# 3	1427037.40	0.66	1651256.80	86.4	60 - 125		1430973.60	1416363.10	1433775.60
209 Bi	# 3	891451.63	0.43	1054491.00	84.5	60 - 125		894852.38	887268.31	892234.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\203SMPL.D\203SMPL.D#
Date Acquired: Dec 26 2012 10:08 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001938	0.001938	ug/l	81.94	100.00		3.33	13.33	10.00
11 B	# 3	0.1244	0.1244	ug/l	16.34	1800.00		6994.80	7314.88	7334.92
23 Na	# 1	57.46	57.46	ug/l	11.96	81000.00		447670.97	450100.31	456341.97
24 Mg	# 1	9.945	9.945	ug/l	11.01	81000.00		41348.43	41929.64	45391.07
27 Al	# 1	2.845	2.845	ug/l	12.17	81000.00		14360.47	14037.90	16334.27
39 K	# 2	1.818	1.818	ug/l	16.89	81000.00		9269.19	9279.19	9802.82
40 Ca	# 1	9.889	9.889	ug/l	14.92	81000.00		160150.33	158164.09	165934.30
45 Sc	# 2	----	--------		--------	#VALUE!		38242.10	39161.77	41883.42
47 Ti	# 3	0.1161	0.1161	ug/l	32.97	1620.00		200.01	136.67	126.67
51 V	# 2	-0.0001179	-0.0001179	ug/l	6302.80	1800.00		167.78	202.23	206.67
52 Cr	# 2	0.001406	0.001406	ug/l	477.60	1800.00		137.78	127.78	107.78
55 Mn	# 3	0.03877	0.03877	ug/l	8.16	1800.00		1636.80	1743.47	1693.46
56 Fe	# 1	3.564	3.564	ug/l	12.75	81000.00		64623.05	62730.07	74499.36
59 Co	# 3	0.007316	0.007316	ug/l	13.85	1800.00		110.00	140.00	133.34
60 Ni	# 2	0.008766	0.008766	ug/l	103.27	1800.00		52.22	32.22	41.11
63 Cu	# 2	-0.02173	-0.02173	ug/l	48.97	1800.00		435.56	405.56	487.79
66 Zn	# 3	-0.008056	-0.008056	ug/l	83.17	1800.00		246.67	226.67	233.34
75 As	# 2	0.001357	0.001357	ug/l	1366.20	100.00		22.00	18.00	14.33
78 Se	# 1	0.009601	0.009601	ug/l	109.57	100.00		23.33	29.00	26.33
88 Sr	# 3	0.04894	0.04894	ug/l	4.71	1800.00		1336.75	1383.43	1320.09
95 Mo	# 3	0.3488	0.3488	ug/l	6.91	1800.00		1433.44	1340.09	1286.75
107 Ag	# 3	0.003834	0.003834	ug/l	45.07	100.00		73.34	43.33	80.00
111 Cd	# 3	-0.0009545	-0.0009545	ug/l	106.65	100.00		36.21	36.24	32.92
118 Sn	# 3	0.01867	0.01867	ug/l	6.46	1800.00		453.35	443.35	446.69
121 Sb	# 3	0.03136	0.03136	ug/l	29.10	100.00		433.35	546.69	460.02
137 Ba	# 3	0.01548	0.01548	ug/l	20.17	1800.00		83.34	76.67	63.34
202 Hg	# 3	-0.003779	-0.003779	ug/l	34.98	5.00		40.67	38.00	35.33
205 Tl	# 3	0.0002827	0.0002827	ug/l	460.91	20.00		26.67	80.00	73.34
208 Pb	# 3	0.006428	0.006428	ug/l	24.88	1800.00		430.02	383.35	350.01
232 Th	# 3	0.01456	0.01456	ug/l	5.95	#VALUE!		756.72	726.71	730.04
238 U	# 3	0.004193	0.004193	ug/l	2.44	#VALUE!		156.67	153.34	156.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	676338.88	2.56	836165.38	80.9	60 - 125		658009.69	678551.69	692455.44
45 Sc	# 1	522524.59	9.38	552676.25	94.5	60 - 125		572394.69	474461.09	520718.03
45 Sc	# 3	632239.69	2.70	644433.94	98.1	60 - 125		624267.75	620577.19	651874.00
74 Ge	# 1	171457.97	7.42	175321.88	97.8	60 - 125		183897.25	158472.13	172004.53
74 Ge	# 2	25432.26	2.83	27172.50	93.6	60 - 125		24790.21	25295.39	26211.18
74 Ge	# 3	161550.17	2.04	164913.13	98.0	60 - 125		159578.77	159708.39	165363.33
89 Y	# 3	1063286.50	2.05	1068488.30	99.5	60 - 125		1066086.50	1040261.90	1083511.00
115 In	# 3	1042975.50	1.55	1083659.40	96.2	60 - 125		1035319.10	1032107.90	1061499.50
159 Tb	# 3	1472973.40	3.07	1651256.80	89.2	60 - 125		1452575.80	1441476.40	1524868.10
209 Bi	# 3	916342.19	2.66	1054491.00	86.9	60 - 125		901834.38	902716.63	944475.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\204SMPL.D\204SMPL.D#
Date Acquired: Dec 26 2012 10:16 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.003994	0.003994	ug/l	39.94	100.00		10.00	20.00	16.67
11 B	# 3	0.01773	0.01773	ug/l	688.10	1800.00		7034.81	7028.14	6814.72
23 Na	# 1	58.04	58.04	ug/l	1.59	81000.00		463428.63	472066.34	473376.66
24 Mg	# 1	11.67	11.67	ug/l	5.85	81000.00		47863.32	54106.63	53755.77
27 Al	# 1	4.426	4.426	ug/l	13.21	81000.00		19680.56	25344.03	24936.89
39 K	# 2	1.356	1.356	ug/l	68.78	81000.00		9015.74	9726.10	9536.02
40 Ca	# 1	11.14	11.14	ug/l	4.68	81000.00		172190.64	183684.45	181346.14
45 Sc	# 2	----	--------		--------	#VALUE!		39004.73	42657.88	38466.99
47 Ti	# 3	0.08551	0.08551	ug/l	24.31	1620.00		113.34	143.34	106.67
51 V	# 2	0.01091	0.01091	ug/l	21.82	1800.00		212.23	228.89	221.11
52 Cr	# 2	0.00551	0.00551	ug/l	15.65	1800.00		135.56	142.22	136.67
55 Mn	# 3	0.04043	0.04043	ug/l	10.83	1800.00		1823.47	1700.12	1730.13
56 Fe	# 1	5.02	5.02	ug/l	13.40	81000.00		78878.45	99614.91	96665.26
59 Co	# 3	0.009351	0.009351	ug/l	18.17	1800.00		130.00	180.01	173.34
60 Ni	# 2	0.01471	0.01471	ug/l	64.58	1800.00		37.78	64.45	47.78
63 Cu	# 2	-0.01679	-0.01679	ug/l	77.90	1800.00		411.12	495.57	487.79
66 Zn	# 3	-0.001404	-0.001404	ug/l	1143.90	1800.00		236.67	226.67	293.34
75 As	# 2	0.004027	0.004027	ug/l	182.29	100.00		20.00	20.67	16.67
78 Se	# 1	0.007957	0.007957	ug/l	72.97	100.00		25.00	24.00	29.67
88 Sr	# 3	0.04776	0.04776	ug/l	8.19	1800.00		1236.75	1403.43	1350.10
95 Mo	# 3	0.2077	0.2077	ug/l	3.18	1800.00		826.71	850.05	833.38
107 Ag	# 3	0.002343	0.002343	ug/l	83.53	100.00		36.67	36.67	76.67
111 Cd	# 3	-0.00021	-0.00021	ug/l	3172.40	100.00		39.74	19.73	53.07
118 Sn	# 3	0.01572	0.01572	ug/l	43.98	1800.00		423.35	476.69	390.02
121 Sb	# 3	0.02031	0.02031	ug/l	21.18	100.00		403.35	373.35	450.02
137 Ba	# 3	0.01066	0.01066	ug/l	44.87	1800.00		50.00	76.67	46.67
202 Hg	# 3	-0.005485	-0.005485	ug/l	35.75	5.00		28.67	38.67	34.00
205 Tl	# 3	0.0004779	0.0004779	ug/l	118.94	20.00		76.67	53.33	63.34
208 Pb	# 3	0.006341	0.006341	ug/l	7.86	1800.00		383.35	396.68	383.35
232 Th	# 3	0.01159	0.01159	ug/l	10.05	#VALUE!		633.37	666.70	620.03
238 U	# 3	0.0038	0.0038	ug/l	34.92	#VALUE!		190.01	96.67	143.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	686943.81	4.21	836165.38	82.2	60 - 125		668843.75	671692.69	720294.88
45 Sc	# 1	536114.63	1.92	552676.25	97.0	60 - 125		528097.50	532514.44	547731.88
45 Sc	# 3	633827.94	3.95	644433.94	98.4	60 - 125		619877.94	618902.81	662703.00
74 Ge	# 1	174753.66	1.28	175321.88	99.7	60 - 125		172868.67	174167.91	177224.38
74 Ge	# 2	25808.04	4.22	27172.50	95.0	60 - 125		25249.73	27062.61	25111.77
74 Ge	# 3	164161.73	2.37	164913.13	99.5	60 - 125		161716.59	162112.84	168655.75
89 Y	# 3	1075141.10	3.00	1068488.30	100.6	60 - 125		1072049.00	1044566.40	1108808.00
115 In	# 3	1054273.00	2.37	1083659.40	97.3	60 - 125		1038645.30	1041069.70	1083104.00
159 Tb	# 3	1480979.50	3.01	1651256.80	89.7	60 - 125		1444897.50	1467175.80	1530865.10
209 Bi	# 3	925448.44	3.02	1054491.00	87.8	60 - 125		913910.94	905075.31	957358.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\205SMPL.D\205SMPL.D#
Date Acquired: Dec 26 2012 10:23 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

	Tune Step
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0005194	0.0005194	ug/l	114.98	100.00		3.33	3.33	6.67
11 B	# 3	0.01221	0.01221	ug/l	469.04	1800.00		7114.87	6948.08	6844.71
23 Na	# 1	29.98	29.98	ug/l	3.08	81000.00		289210.25	285984.72	288420.59
24 Mg	# 1	4.987	4.987	ug/l	4.86	81000.00		21796.27	22967.56	22807.41
27 Al	# 1	1.341	1.341	ug/l	2.43	81000.00		7858.45	7921.86	7825.17
39 K	# 2	-0.8615	-0.8615	ug/l	50.26	81000.00		8828.95	8688.88	9032.41
40 Ca	# 1	7.197	7.197	ug/l	5.36	81000.00		138865.00	140466.83	140469.94
45 Sc	# 2	----	--------		--------	#VALUE!		38866.62	40226.07	44290.18
47 Ti	# 3	0.05067	0.05067	ug/l	43.52	1620.00		60.00	80.00	106.67
51 V	# 2	0.004861	0.004861	ug/l	115.94	1800.00		214.45	214.45	203.34
52 Cr	# 2	-0.004958	-0.004958	ug/l	64.42	1800.00		117.78	98.89	116.67
55 Mn	# 3	0.02451	0.02451	ug/l	5.11	1800.00		1453.43	1423.42	1380.09
56 Fe	# 1	1.754	1.754	ug/l	2.20	81000.00		40728.90	40551.69	40351.38
59 Co	# 3	0.003105	0.003105	ug/l	40.71	1800.00		63.34	46.67	83.34
60 Ni	# 2	0.007142	0.007142	ug/l	17.54	1800.00		40.00	42.22	42.22
63 Cu	# 2	-0.007724	-0.007724	ug/l	134.52	1800.00		486.68	527.79	495.57
66 Zn	# 3	0.00631	0.00631	ug/l	117.08	1800.00		280.01	260.01	250.01
75 As	# 2	0.01019	0.01019	ug/l	114.72	100.00		23.67	18.00	21.33
78 Se	# 1	0.00599	0.00599	ug/l	41.72	100.00		24.67	25.67	26.00
88 Sr	# 3	0.03158	0.03158	ug/l	11.88	1800.00		806.71	923.38	983.39
95 Mo	# 3	0.1099	0.1099	ug/l	2.10	1800.00		456.69	470.02	466.68
107 Ag	# 3	0.002322	0.002322	ug/l	63.52	100.00		40.00	40.00	66.67
111 Cd	# 3	-0.0008502	-0.0008502	ug/l	500.24	100.00		29.85	29.85	46.52
118 Sn	# 3	0.01366	0.01366	ug/l	41.47	1800.00		366.68	456.69	413.35
121 Sb	# 3	0.01636	0.01636	ug/l	31.93	100.00		413.35	346.68	373.35
137 Ba	# 3	0.01074	0.01074	ug/l	17.53	1800.00		50.00	63.34	60.00
202 Hg	# 3	-0.006554	-0.006554	ug/l	18.25	5.00		31.33	34.00	26.33
205 Tl	# 3	-0.0008027	-0.0008027	ug/l	64.56	20.00		40.00	23.33	43.33
208 Pb	# 3	0.00343	0.00343	ug/l	26.01	1800.00		323.35	300.01	266.68
232 Th	# 3	0.00892	0.00892	ug/l	12.59	#VALUE!		576.70	513.36	526.70
238 U	# 3	0.002867	0.002867	ug/l	8.54	#VALUE!		113.34	116.67	96.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	688735.19	0.96	836165.38	82.4	60 - 125		681556.13	694508.25	690141.25
45 Sc	# 1	538252.06	2.19	552676.25	97.4	60 - 125		550455.19	537362.50	526938.50
45 Sc	# 3	627349.06	1.97	644433.94	97.3	60 - 125		621769.31	641492.50	618785.31
74 Ge	# 1	175963.19	1.94	175321.88	100.4	60 - 125		179859.94	174470.63	173559.03
74 Ge	# 2	26370.30	3.53	27172.50	97.0	60 - 125		25949.64	25723.76	27437.48
74 Ge	# 3	162461.77	1.21	164913.13	98.5	60 - 125		163210.47	163942.38	160232.45
89 Y	# 3	1079489.60	1.55	1068488.30	101.0	60 - 125		1086547.50	1091539.40	1060382.10
115 In	# 3	1045963.80	1.54	1083659.40	96.5	60 - 125		1045456.80	1062353.90	1030080.60
159 Tb	# 3	1472969.40	2.66	1651256.80	89.2	60 - 125		1459653.30	1517013.50	1442241.40
209 Bi	# 3	913291.25	2.45	1054491.00	86.6	60 - 125		910242.69	937023.50	892607.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\206_CCV.D\206_CCV.D#
Date Acquired: Dec 26 2012 10:31 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	52.18 ug/l	3.05	50.00	90 - 110		161246.58	164328.05	165209.36
11 B	105.4 ug/l	2.54	100.00	90 - 110		352637.88	349922.41	356281.88
23 Na	5182 ug/l	0.17	5000.00	90 - 110		33669636.00	33543402.00	33615728.00
24 Mg	5077 ug/l	0.64	5000.00	90 - 110		22033640.00	22198306.00	22340304.00
27 Al	517 ug/l	1.28	500.00	90 - 110		2585200.50	2533898.30	2601591.50
39 K	5146 ug/l	1.71	5000.00	90 - 110		1717351.00	1734420.40	1792616.30
40 Ca	5176 ug/l	0.91	5000.00	90 - 110		52250612.00	51272584.00	51781820.00
45 Sc	--------	--------		--- ##### - #####		38580.65	41464.27	42619.11
47 Ti	52.49 ug/l	4.94	50.00	90 - 110		56355.43	56773.13	57124.55
51 V	50.86 ug/l	2.24	50.00	90 - 110		115971.07	117446.27	119198.55
52 Cr	50.7 ug/l	2.22	50.00	90 - 110		138061.06	140260.73	141903.98
55 Mn	508.2 ug/l	4.02	500.00	90 - 110		9798871.00	9879248.00	9898362.00
56 Fe	5087 ug/l	0.42	5000.00	90 - 110		78603904.00	78795232.00	78650096.00
59 Co	49.62 ug/l	3.61	50.00	90 - 110		735336.56	735040.75	741755.31
60 Ni	52.13 ug/l	2.04	50.00	90 - 110		60582.93	61240.43	62584.92
63 Cu	52.28 ug/l	2.90	50.00	90 - 110		160034.73	161951.05	162259.30
66 Zn	50.58 ug/l	4.13	50.00	90 - 110		90406.38	91316.83	91220.06
75 As	52.15 ug/l	2.47	50.00	90 - 110		11976.93	12134.03	12248.11
78 Se	51.34 ug/l	0.52	50.00	90 - 110		23710.39	23498.09	23466.07
88 Sr	53.86 ug/l	5.54	50.00	90 - 110		1363809.60	1372688.00	1364068.30
95 Mo	52.35 ug/l	4.23	50.00	90 - 110		190885.13	189152.55	188890.30
107 Ag	52.81 ug/l	4.26	50.00	90 - 110		562787.00	558434.06	560062.31
111 Cd	51.51 ug/l	4.91	50.00	90 - 110		119124.34	119708.91	118913.13
118 Sn	52.19 ug/l	4.83	50.00	90 - 110		375353.47	375924.09	371209.06
121 Sb	52.84 ug/l	5.13	50.00	90 - 110		352717.25	356041.63	353299.41
137 Ba	52.39 ug/l	5.43	50.00	90 - 110		180588.30	183363.38	181079.84
202 Hg	2.426 ug/l	4.32	2.50	90 - 110		6236.56	6199.21	6125.85
205 Tl	10.25 ug/l	4.49	10.00	90 - 110		225362.58	222760.80	221493.69
208 Pb	51.12 ug/l	5.38	50.00	90 - 110		1532939.80	1544787.90	1530209.50
232 Th	50.36 ug/l	4.69		--- ##### - #####		1660915.60	1667037.60	1655418.90
238 U	49.94 ug/l	5.03		--- ##### - #####		1644220.10	1661597.00	1644541.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	673881.44	3.41	836165.38	80.6	60 - 125		667107.94	655033.81	699502.69
45 Sc	532200.94	0.10	552676.25	96.3	60 - 125		532115.13	531708.44	532779.31
45 Sc	622282.31	4.59	644433.94	96.6	60 - 125		648183.31	591654.13	627009.38
74 Ge	171743.53	0.45	175321.88	98.0	60 - 125		172086.33	172291.34	170852.91
74 Ge	25278.32	3.58	27172.50	93.0	60 - 125		24347.44	25330.96	26156.56
74 Ge	159320.03	3.62	164913.13	96.6	60 - 125		164980.42	153461.95	159517.69
89 Y	1029076.00	5.17	1068488.30	96.3	60 - 125		1080741.60	974533.44	1031953.20
115 In	1014100.40	4.62	1083659.40	93.6	60 - 125		1059889.60	966256.56	1016155.10
159 Tb	1445268.30	4.92	1651256.80	87.5	60 - 125		1514216.60	1372189.80	1449398.30
209 Bi	865214.06	4.49	1054491.00	82.1	60 - 125		904625.00	826970.31	864046.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\207_CCB.D\207_CCB.D#
Date Acquired: Dec 26 2012 10:38 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01356	0.01356	ug/l	53.92	#VALUE!		66.67	46.67	23.33
11 B	# 3	1.116	1.116	ug/l	15.56	#VALUE!		10603.19	10419.71	10743.24
23 Na	# 1	8.471	8.471	ug/l	2.78	#VALUE!		140081.66	142472.69	146912.56
24 Mg	# 1	2.215	2.215	ug/l	9.64	#VALUE!		8905.68	10119.62	10993.43
27 Al	# 1	0.2332	0.2332	ug/l	12.84	#VALUE!		2056.84	2233.52	2410.21
39 K	# 2	-0.8123	-0.8123	ug/l	46.31	#VALUE!		8402.12	8572.20	8818.97
40 Ca	# 1	5.321	5.321	ug/l	3.92	#VALUE!		113900.67	118312.03	120810.27
45 Sc	# 2	----	--------		--------	#VALUE!		38425.73	40434.32	41120.24
47 Ti	# 3	0.03481	0.03481	ug/l	15.10	#VALUE!		60.00	66.67	70.00
51 V	# 2	0.01626	0.01626	ug/l	38.27	#VALUE!		207.78	238.89	247.78
52 Cr	# 2	0.01253	0.01253	ug/l	38.87	#VALUE!		143.34	151.11	175.56
55 Mn	# 3	0.1156	0.1156	ug/l	23.98	#VALUE!		3810.53	3080.34	2773.61
56 Fe	# 1	1.605	1.605	ug/l	7.69	#VALUE!		34566.18	37448.73	39529.64
59 Co	# 3	0.0109	0.0109	ug/l	43.20	#VALUE!		260.01	126.67	160.01
60 Ni	# 2	0.0133	0.0133	ug/l	55.71	#VALUE!		55.56	41.11	45.56
63 Cu	# 2	-0.003123	-0.003123	ug/l	247.26	#VALUE!		482.23	487.79	538.90
66 Zn	# 3	-0.01003	-0.01003	ug/l	136.29	#VALUE!		256.68	236.67	206.67
75 As	# 2	0.02068	0.02068	ug/l	70.46	#VALUE!		18.33	24.33	26.00
78 Se	# 1	0.04677	0.04677	ug/l	16.39	#VALUE!		42.67	40.00	47.67
88 Sr	# 3	0.01987	0.01987	ug/l	16.62	#VALUE!		676.71	573.36	496.69
95 Mo	# 3	0.1236	0.1236	ug/l	15.14	#VALUE!		546.69	443.35	553.36
107 Ag	# 3	0.01236	0.01236	ug/l	13.96	#VALUE!		180.01	150.01	146.67
111 Cd	# 3	0.01782	0.01782	ug/l	57.18	#VALUE!		66.49	66.53	106.49
118 Sn	# 3	0.04158	0.04158	ug/l	20.58	#VALUE!		686.70	580.03	586.70
121 Sb	# 3	0.218	0.218	ug/l	3.04	#VALUE!		1816.82	1780.15	1716.81
137 Ba	# 3	0.01572	0.01572	ug/l	23.80	#VALUE!		90.00	73.34	63.34
202 Hg	# 3	0.007919	0.007919	ug/l	32.01	#VALUE!		63.00	78.00	67.00
205 Tl	# 3	0.002132	0.002132	ug/l	65.48	#VALUE!		123.34	66.67	110.00
208 Pb	# 3	0.01502	0.01502	ug/l	25.79	#VALUE!		780.03	606.69	556.69
232 Th	# 3	0.105	0.105	ug/l	6.99	#VALUE!		4157.37	3877.29	3640.53
238 U	# 3	0.0152	0.0152	ug/l	16.09	#VALUE!		623.37	546.70	450.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	683980.25	4.51	836165.38	81.8	60 - 125		652994.25	714739.06	684207.50
45 Sc	# 1	523211.56	1.37	552676.25	94.7	60 - 125		516836.84	521810.59	530987.25
45 Sc	# 3	633251.31	2.84	644433.94	98.3	60 - 125		629669.94	652763.88	617320.13
74 Ge	# 1	171277.97	1.60	175321.88	97.7	60 - 125		168422.38	171527.41	173884.11
74 Ge	# 2	25562.79	2.92	27172.50	94.1	60 - 125		24704.56	25924.05	26059.74
74 Ge	# 3	162448.69	1.72	164913.13	98.5	60 - 125		161011.08	165664.80	160670.16
89 Y	# 3	1059357.00	1.94	1068488.30	99.1	60 - 125		1060005.30	1079559.60	1038506.00
115 In	# 3	1045035.30	1.78	1083659.40	96.4	60 - 125		1040829.40	1065336.10	1028940.50
159 Tb	# 3	1463556.50	1.76	1651256.80	88.6	60 - 125		1457861.60	1491614.30	1441193.80
209 Bi	# 3	913824.56	1.55	1054491.00	86.7	60 - 125		909181.00	929737.06	902555.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\208SMPL.D\208SMPL.D#
Date Acquired: Dec 26 2012 10:46 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: mb 680-260349_1-a
Misc Info: 3050 1/5
Vial Number: 4101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005658	0.005658	ug/l	51.15	100.00		30.00	13.33	16.67
11 B	# 3	0.852	0.852	ug/l	12.83	1800.00		8995.62	9635.96	9502.57
23 Na	# 1	5.095	5.095	ug/l	33.27	81000.00		122121.14	121660.70	123825.36
24 Mg	# 1	1.436	1.436	ug/l	10.76	81000.00		6557.98	6688.00	6834.76
27 Al	# 1	2.116	2.116	ug/l	10.39	81000.00		11290.30	11360.29	11910.95
39 K	# 2	-0.06783	-0.06783	ug/l	825.89	81000.00		8642.20	8615.53	8945.74
40 Ca	# 1	8.182	8.182	ug/l	17.45	81000.00		145493.70	147062.50	147602.38
45 Sc	# 2	----	--------		--------	#VALUE!		37290.26	40248.48	40992.22
47 Ti	# 3	0.08828	0.08828	ug/l	13.22	1620.00		136.67	120.00	106.67
51 V	# 2	0.146	0.146	ug/l	12.85	1800.00		558.90	501.12	518.90
52 Cr	# 2	0.1066	0.1066	ug/l	7.21	1800.00		424.45	408.90	406.68
55 Mn	# 3	0.239	0.239	ug/l	4.44	1800.00		5607.68	5410.94	5484.29
56 Fe	# 1	12.82	12.82	ug/l	7.53	81000.00		205726.03	210366.47	211784.31
59 Co	# 3	0.0091	0.0091	ug/l	21.67	1800.00		120.00	180.01	153.34
60 Ni	# 2	0.1259	0.1259	ug/l	10.19	1800.00		183.34	188.89	165.56
63 Cu	# 2	0.03397	0.03397	ug/l	52.11	1800.00		544.46	605.57	683.35
66 Zn	# 3	0.6718	0.6718	ug/l	7.47	1800.00		1390.09	1433.43	1490.10
75 As	# 2	0.1282	0.1282	ug/l	12.41	100.00		45.00	52.00	45.33
78 Se	# 1	0.01501	0.01501	ug/l	70.89	100.00		26.00	32.00	28.00
88 Sr	# 3	0.0196	0.0196	ug/l	6.21	1800.00		593.36	543.36	563.36
95 Mo	# 3	0.1024	0.1024	ug/l	7.14	1800.00		456.69	410.02	433.35
107 Ag	# 3	0.005908	0.005908	ug/l	9.96	100.00		83.34	96.67	83.34
111 Cd	# 3	0.003519	0.003519	ug/l	177.29	100.00		49.86	29.87	56.53
118 Sn	# 3	2.237	2.237	ug/l	1.69	1800.00		17102.33	16738.56	16394.80
121 Sb	# 3	0.2587	0.2587	ug/l	4.23	100.00		2083.52	1993.51	2040.18
137 Ba	# 3	0.01891	0.01891	ug/l	27.48	1800.00		106.67	86.67	66.67
202 Hg	# 3	0.01231	0.01231	ug/l	21.69	5.00		73.00	80.67	83.00
205 Tl	# 3	0.0003759	0.0003759	ug/l	163.87	20.00		50.00	60.00	73.34
208 Pb	# 3	0.01279	0.01279	ug/l	7.07	1800.00		556.69	593.36	583.36
232 Th	# 3	0.06612	0.06612	ug/l	6.41	#VALUE!		2660.30	2500.30	2260.26
238 U	# 3	0.005759	0.005759	ug/l	19.15	#VALUE!		163.34	233.34	216.68

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	659740.69	2.16	836165.38	78.9	60 - 125		658921.88	674380.75	645919.25
45 Sc	# 1	529748.06	9.02	552676.25	95.9	60 - 125		575177.94	479931.66	534134.44
45 Sc	# 3	615191.13	3.21	644433.94	95.5	60 - 125		623388.25	629546.00	592639.19
74 Ge	# 1	171005.03	5.99	175321.88	97.5	60 - 125		180544.95	160186.42	172283.70
74 Ge	# 2	25224.91	2.72	27172.50	92.8	60 - 125		24454.22	25453.34	25767.16
74 Ge	# 3	157833.39	3.03	164913.13	95.7	60 - 125		159169.27	161806.34	152524.58
89 Y	# 3	1044837.60	2.79	1068488.30	97.8	60 - 125		1052942.50	1069105.30	1012465.10
115 In	# 3	1038833.80	2.58	1083659.40	95.9	60 - 125		1049630.50	1058496.10	1008374.60
159 Tb	# 3	1459006.10	3.23	1651256.80	88.4	60 - 125		1475524.80	1495677.00	1405816.40
209 Bi	# 3	890983.44	3.09	1054491.00	84.5	60 - 125		902176.94	911190.06	859583.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\209SMPL.D\209SMPL.D#
Date Acquired: Dec 26 2012 10:53 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: lcs 680-260349_2-a
Misc Info: 3050 1/5
Vial Number: 4102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.27	10.27	ug/l	1.12	100.00		31699.69	32681.25	32884.83
11 B # 3	44.2	44.2	ug/l	1.68	1800.00		148269.97	155565.59	155315.05
23 Na # 1	1108	1108	ug/l	6.70	81000.00		7077855.50	7042635.50	7064353.00
24 Mg # 1	1115	1115	ug/l	6.98	81000.00		4767434.00	4741171.00	4712895.00
27 Al # 1	1093	1093	ug/l	5.80	81000.00		5257831.00	5313573.50	5316344.50
39 K # 2	1087	1087	ug/l	0.84	81000.00		368602.88	377929.94	381572.69
40 Ca # 1	1117	1117	ug/l	6.63	81000.00		10942822.00	10866088.00	10948245.00
45 Sc # 2	----	--------		--------	#VALUE!		38390.20	41433.22	41893.02
47 Ti # 3	21.58	21.58	ug/l	1.95	1620.00		23645.41	24055.96	23244.97
51 V # 2	21.25	21.25	ug/l	1.48	1800.00		48597.18	49298.04	49681.10
52 Cr # 2	21.66	21.66	ug/l	1.45	1800.00		59121.71	59948.77	60566.44
55 Mn # 3	110.4	110.4	ug/l	0.64	1800.00		2168598.80	2159485.00	2173628.80
56 Fe # 1	1069	1069	ug/l	4.46	81000.00		16300433.00	16118026.00	16308028.00
59 Co # 3	10.45	10.45	ug/l	0.37	1800.00		157715.73	156486.19	157042.45
60 Ni # 2	22.32	22.32	ug/l	2.11	1800.00		26152.94	26144.05	26650.32
63 Cu # 2	22.49	22.49	ug/l	2.13	1800.00		69351.46	69492.19	70257.06
66 Zn # 3	20.5	20.5	ug/l	1.48	1800.00		37141.59	37362.13	37876.43
75 As # 2	20.88	20.88	ug/l	1.88	100.00		4815.65	4832.65	4938.01
78 Se # 1	19.56	19.56	ug/l	4.38	100.00		8853.16	8843.83	8789.80
88 Sr # 3	20.07	20.07	ug/l	1.72	1800.00		533749.19	531131.06	533344.69
95 Mo # 3	21.33	21.33	ug/l	0.75	1800.00		80053.69	79554.47	78651.02
107 Ag # 3	11.07	11.07	ug/l	0.50	100.00		120430.65	120915.80	120963.29
111 Cd # 3	10.32	10.32	ug/l	0.95	100.00		24388.63	24635.80	24722.96
118 Sn # 3	23.8	23.8	ug/l	1.01	1800.00		177417.08	175831.14	173356.05
121 Sb # 3	11.35	11.35	ug/l	0.59	100.00		78447.69	78769.86	77972.62
137 Ba # 3	21.73	21.73	ug/l	0.39	1800.00		77547.64	77657.74	77169.08
202 Hg # 3	1.121	1.121	ug/l	1.37	5.00		3049.63	3039.96	2997.62
205 Tl # 3	8.332	8.332	ug/l	0.35	20.00		190075.28	188307.94	189433.67
208 Pb # 3	10.7	10.7	ug/l	0.62	1800.00		335931.03	336222.09	334833.03
232 Th # 3	21.75	21.75	ug/l	0.73	#VALUE!		756686.63	753398.19	751783.44
238 U # 3	23.03	23.03	ug/l	0.48	#VALUE!		798696.31	800965.94	799749.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	678204.31	2.58	836165.38	81.1	60 - 125		661430.81	676892.94	696289.19
45 Sc # 1	519305.50	6.23	552676.25	94.0	60 - 125		482429.03	532679.38	542808.13
45 Sc # 3	629298.38	0.45	644433.94	97.7	60 - 125		626400.25	629490.00	632004.88
74 Ge # 1	168858.17	4.02	175321.88	96.3	60 - 125		161026.45	172632.83	172915.20
74 Ge # 2	25259.03	2.52	27172.50	93.0	60 - 125		24529.91	25551.26	25695.92
74 Ge # 3	161039.80	0.49	164913.13	97.7	60 - 125		161897.42	160886.75	160335.20
89 Y # 3	1074624.80	1.82	1068488.30	100.6	60 - 125		1063791.80	1062849.50	1097233.10
115 In # 3	1040770.30	0.26	1083659.40	96.0	60 - 125		1043850.40	1038809.10	1039651.30
159 Tb # 3	1505535.10	0.42	1651256.80	91.2	60 - 125		1506245.60	1498956.00	1511403.50
209 Bi # 3	907932.25	0.45	1054491.00	86.1	60 - 125		905710.50	905441.00	912645.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\210SMPL.D\210SMPL.D#
Date Acquired: Dec 26 2012 11:01 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-8-a
Misc Info: 3050 1/5
Vial Number: 4103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.172	1.172	ug/l	3.55	100.00		3123.67	3450.40	3377.07
11 B	# 3	14.58	14.58	ug/l	0.58	1800.00		48444.97	49383.55	50055.49
23 Na	# 1	88.07	88.07	ug/l	6.71	81000.00		784906.88	802778.31	808490.38
24 Mg	# 1	4111	4111	ug/l	5.93	81000.00		21439830.00	21777914.00	21956184.00
27 Al	# 1	23690	23690	ug/l	5.36	81000.00		139773470.00	142898510.00	145040690.00
39 K	# 2	2747	2747	ug/l	0.20	81000.00		895988.75	913457.25	927970.81
40 Ca	# 1	4385	4385	ug/l	5.86	81000.00		52211364.00	53280912.00	53654040.00
45 Sc	# 2	----	--------		--------	#VALUE!		46064.97	46912.53	47600.89
47 Ti	# 3	392	392	ug/l	0.68	1620.00		487995.94	493799.84	493002.38
51 V	# 2	67.36	67.36	ug/l	0.25	1800.00		148896.70	151712.61	154027.31
52 Cr	# 2	35.1	35.1	ug/l	0.77	1800.00		91873.64	94631.56	96881.84
55 Mn	# 3	1081	1081	ug/l	0.42	1800.00		20176828.00	20373896.00	20222640.00
56 Fe	# 1	28760	28760	ug/l	5.10	81000.00		442670590.00	451362400.00	449037120.00
59 Co	# 3	12.55	12.55	ug/l	0.53	1800.00		179456.84	181581.50	179654.94
60 Ni	# 2	25.92	25.92	ug/l	0.53	1800.00		29343.30	29749.46	30214.66
63 Cu	# 2	21.02	21.02	ug/l	1.41	1800.00		62903.04	63952.13	63589.84
66 Zn	# 3	82.53	82.53	ug/l	0.35	1800.00		142764.48	143826.19	143251.83
75 As	# 2	12.02	12.02	ug/l	0.65	100.00		2667.20	2732.88	2802.56
78 Se	# 1	0.8007	0.8007	ug/l	9.25	100.00		394.67	403.34	375.34
88 Sr	# 3	15.9	15.9	ug/l	0.18	1800.00		593679.38	598535.50	598887.63
95 Mo	# 3	1.715	1.715	ug/l	2.01	1800.00		6131.24	6234.60	6087.89
107 Ag	# 3	0.08466	0.08466	ug/l	9.34	100.00		913.39	976.73	823.38
111 Cd	# 3	0.2297	0.2297	ug/l	13.12	100.00		531.40	504.69	638.08
118 Sn	# 3	3.184	3.184	ug/l	0.89	1800.00		22688.68	22715.38	22705.30
121 Sb	# 3	0.7359	0.7359	ug/l	2.99	100.00		5170.94	5160.91	4944.18
137 Ba	# 3	244.8	244.8	ug/l	1.35	1800.00		835033.50	838971.00	827822.38
202 Hg	# 3	0.06253	0.06253	ug/l	4.67	5.00		197.34	204.00	189.67
205 Tl	# 3	0.4306	0.4306	ug/l	1.86	20.00		9703.26	9509.84	9719.95
208 Pb	# 3	20.77	20.77	ug/l	1.61	1800.00		642898.13	634546.38	638790.56
232 Th	# 3	8.444	8.444	ug/l	0.21	#VALUE!		268894.28	270435.97	269216.41
238 U	# 3	1.972	1.972	ug/l	0.51	#VALUE!		63254.00	62883.06	62966.39

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	607379.56	2.09	836165.38	72.6	60 - 125		593415.88	610536.38	618186.44
45 Sc	# 1	645355.94	7.16	552676.25	116.8	60 - 125		611929.13	626048.25	698090.31
45 Sc	# 3	720968.19	0.98	644433.94	111.9	60 - 125		714433.50	720005.63	728465.31
74 Ge	# 1	173147.72	5.51	175321.88	98.8	60 - 125		166881.00	168426.92	184135.27
74 Ge	# 2	24602.56	1.91	27172.50	90.5	60 - 125		24103.73	24670.06	25033.90
74 Ge	# 3	153780.11	0.19	164913.13	93.2	60 - 125		153838.69	154040.19	153461.42
89 Y	# 3	1519639.90	0.65	1068488.30	142.2	60 - 125	IS F	1508200.10	1525951.60	1524767.60
115 In	# 3	994754.69	0.82	1083659.40	91.8	60 - 125		1001100.60	985588.13	997575.31
159 Tb	# 3	1476448.90	1.02	1651256.80	89.4	60 - 125		1459173.50	1483984.10	1486189.30
209 Bi	# 3	835463.38	0.21	1054491.00	79.2	60 - 125		833493.50	836609.69	836286.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\211SMPL.D\211SMPL.D#
Date Acquired: Dec 26 2012 11:08 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-8-a SD
Misc Info: 3050 1/25
Vial Number: 4104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.1565	0.2313	ug/l	7.41	100.00		626.69	690.03	783.37
11 B	# 3	16.89	3.378	ug/l	6.47	1800.00		17271.57	16547.47	17621.81
23 Na	# 1	104.75	20.95	ug/l	2.43	81000.00		237061.66	235106.56	234336.92
24 Mg	# 1	4966	993.2	ug/l	0.66	81000.00		4514037.50	4493229.50	4544391.00
27 Al	# 1	28285	5657	ug/l	1.03	81000.00		28782342.00	29204420.00	29890282.00
39 K	# 2	2692.5	538.5	ug/l	0.54	81000.00		191020.17	195548.17	198724.70
40 Ca	# 1	5220	1044	ug/l	0.96	81000.00		10736455.00	11020215.00	11008897.00
45 Sc	# 2	----	--------		--------	#VALUE!		41554.60	42464.36	42920.88
47 Ti	# 3	455.55	91.11	ug/l	0.65	1620.00		102741.05	105057.15	103897.30
51 V	# 2	65.75	13.15	ug/l	0.41	1800.00		30667.29	31217.12	31761.40
52 Cr	# 2	34.7	6.94	ug/l	0.86	1800.00		19451.33	19447.98	20244.37
55 Mn	# 3	1089.5	217.9	ug/l	1.32	1800.00		4289517.50	4284863.00	4360113.50
56 Fe	# 1	30365	6073	ug/l	1.16	81000.00		93758824.00	94857920.00	95597272.00
59 Co	# 3	12.605	2.521	ug/l	0.21	1800.00		38273.75	38223.56	38153.51
60 Ni	# 2	26.725	5.345	ug/l	0.25	1800.00		6356.70	6464.51	6597.88
63 Cu	# 2	21.83	4.366	ug/l	1.61	1800.00		13994.27	14434.61	14353.42
66 Zn	# 3	93	18.6	ug/l	1.48	1800.00		33878.52	34262.80	34679.89
75 As	# 2	12.665	2.533	ug/l	2.01	100.00		621.01	614.35	622.35
78 Se	# 1	0.994	0.1988	ug/l	14.30	100.00		124.67	99.33	118.67
88 Sr	# 3	21.375	4.275	ug/l	1.05	1800.00		124816.77	123934.91	124965.22
95 Mo	# 3	1.7425	0.3485	ug/l	5.65	1800.00		1293.42	1433.43	1330.09
107 Ag	# 3	0.09405	0.01881	ug/l	7.17	100.00		216.67	226.68	243.34
111 Cd	# 3	0.24245	0.04849	ug/l	9.36	100.00		142.92	152.88	162.91
118 Sn	# 3	3.203	0.6406	ug/l	4.77	1800.00		4857.49	5284.30	4960.87
121 Sb	# 3	0.9075	0.1815	ug/l	9.52	100.00		1660.13	1436.77	1450.11
137 Ba	# 3	242.75	48.55	ug/l	1.39	1800.00		172882.78	172034.89	175098.64
202 Hg	# 3	0.0691	0.01382	ug/l	20.07	5.00		74.00	87.67	87.00
205 Tl	# 3	0.4714	0.09428	ug/l	0.90	20.00		2150.21	2110.20	2160.22
208 Pb	# 3	21.84	4.368	ug/l	0.67	1800.00		132729.92	134025.52	134181.03
232 Th	# 3	8.24	1.648	ug/l	1.14	#VALUE!		56269.93	56493.91	55868.43
238 U	# 3	1.874	0.3748	ug/l	1.52	#VALUE!		12792.39	12548.81	12965.86

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	646513.94	3.85	836165.38	77.3	60 - 125		622789.81	644326.94	672425.13
45 Sc	# 1	553800.69	0.88	552676.25	100.2	60 - 125		549241.31	553202.81	558957.94
45 Sc	# 3	655449.19	0.79	644433.94	101.7	60 - 125		649472.38	657959.56	658915.50
74 Ge	# 1	173210.78	0.18	175321.88	98.8	60 - 125		173560.41	173116.34	172955.55
74 Ge	# 2	25838.36	2.04	27172.50	95.1	60 - 125		25363.26	25744.89	26406.94
74 Ge	# 3	162308.36	0.34	164913.13	98.4	60 - 125		162601.06	162644.58	161679.41
89 Y	# 3	1178966.60	0.65	1068488.30	110.3	60 - 125		1180835.10	1185533.10	1170531.50
115 In	# 3	1042480.50	0.54	1083659.40	96.2	60 - 125		1047438.60	1043631.90	1036371.00
159 Tb	# 3	1467237.60	0.40	1651256.80	88.9	60 - 125		1466956.90	1461470.10	1473285.60
209 Bi	# 3	890121.56	0.71	1054491.00	84.4	60 - 125		883713.75	890390.50	896260.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\212SMPL.D\212SMPL.D#
Date Acquired: Dec 26 2012 11:15 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-8-a PDS
Misc Info: 3050 1/5
Vial Number: 4105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	22.67	22.67	ug/l	3.12	100.00		61670.91	63787.87	64212.67
11 B	# 3	57.58	57.58	ug/l	4.53	1800.00		171949.77	176297.59	174555.75
23 Na	# 1	1832	1832	ug/l	0.98	81000.00		13504793.00	13494053.00	13934844.00
24 Mg	# 1	5891	5891	ug/l	0.46	81000.00		29060876.00	29389352.00	29795706.00
27 Al	# 1	24080	24080	ug/l	1.13	81000.00		133099170.00	138510670.00	139183870.00
39 K	# 2	4807	4807	ug/l	1.12	81000.00		1515920.10	1569085.80	1577849.10
40 Ca	# 1	6230	6230	ug/l	1.25	81000.00		69466176.00	72216096.00	71875536.00
45 Sc	# 2	----	--------		--------	#VALUE!		44379.82	46194.16	46617.35
47 Ti	# 3	411.1	411.1	ug/l	0.84	1620.00		501551.75	498828.13	503573.44
51 V	# 2	87.32	87.32	ug/l	0.35	1800.00		188256.47	191446.98	196041.77
52 Cr	# 2	55.32	55.32	ug/l	0.29	1800.00		142957.05	145509.06	147785.47
55 Mn	# 3	1287	1287	ug/l	0.39	1800.00		23412412.00	23453002.00	23580370.00
56 Fe	# 1	31410	31410	ug/l	1.12	81000.00		456288190.00	463799870.00	472170110.00
59 Co	# 3	33.03	33.03	ug/l	0.64	1800.00		464501.97	457874.53	462703.84
60 Ni	# 2	46.57	46.57	ug/l	0.29	1800.00		51595.91	51969.14	53169.21
63 Cu	# 2	41.66	41.66	ug/l	1.11	1800.00		122146.07	121617.10	123763.52
66 Zn	# 3	101	101	ug/l	0.95	1800.00		169711.14	171559.72	170780.27
75 As	# 2	31.92	31.92	ug/l	1.50	100.00		7008.02	7117.39	7070.71
78 Se	# 1	19.28	19.28	ug/l	0.40	100.00		8451.64	8457.98	8487.65
88 Sr	# 3	30.01	30.01	ug/l	0.17	1800.00		1106097.80	1100701.10	1096072.00
95 Mo	# 3	23.13	23.13	ug/l	0.27	1800.00		80599.11	81065.92	80910.69
107 Ag	# 3	18.96	18.96	ug/l	0.43	100.00		193715.55	194016.44	194576.00
111 Cd	# 3	19.92	19.92	ug/l	0.87	100.00		44130.55	44371.29	45056.46
118 Sn	# 3	24.45	24.45	ug/l	0.91	1800.00		169902.14	168626.33	169330.39
121 Sb	# 3	22.53	22.53	ug/l	1.02	100.00		146389.41	144909.39	146141.95
137 Ba	# 3	264	264	ug/l	0.65	1800.00		883904.88	881673.81	884390.00
202 Hg	# 3	1.009	1.009	ug/l	0.14	5.00		2464.20	2466.20	2470.87
205 Tl	# 3	4.357	4.357	ug/l	0.78	20.00		95949.92	96108.13	96239.05
208 Pb	# 3	40.07	40.07	ug/l	1.10	1800.00		1221872.50	1215883.50	1220758.90
232 Th	# 3	29.41	29.41	ug/l	0.34	#VALUE!		917488.13	920229.13	925044.69
238 U	# 3	25.15	25.15	ug/l	0.36	#VALUE!		787960.50	790365.44	787810.38

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	599764.69	5.00	836165.38	71.7	60 - 125		571059.25	597333.75	630901.00
45 Sc	# 1	608095.88	1.70	552676.25	110.0	60 - 125		597718.31	608142.94	618426.38
45 Sc	# 3	701072.25	0.44	644433.94	108.8	60 - 125		698308.56	704410.69	700497.50
74 Ge	# 1	164060.95	0.60	175321.88	93.6	60 - 125		163072.55	164084.78	165025.50
74 Ge	# 2	24040.35	1.70	27172.50	88.5	60 - 125		23668.73	23975.83	24476.50
74 Ge	# 3	149719.23	0.64	164913.13	90.8	60 - 125		149540.72	148867.53	150749.47
89 Y	# 3	1485070.50	0.31	1068488.30	139.0	60 - 125	IS F	1490236.30	1483617.90	1481357.30
115 In	# 3	977023.63	0.55	1083659.40	90.2	60 - 125		970869.25	980853.13	979348.44
159 Tb	# 3	1461503.40	0.90	1651256.80	88.5	60 - 125		1446460.00	1470271.30	1467778.90
209 Bi	# 3	820032.81	0.18	1054491.00	77.8	60 - 125		820103.81	818506.00	821488.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\213SMPL.D\213SMPL.D#
Date Acquired: Dec 26 2012 11:23 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-8-d ms
Misc Info: 3050 1/5
Vial Number: 4106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	11.49	11.49	ug/l	2.95	100.00		31282.32	31933.37	32260.45
11 B	# 3	53.43	53.43	ug/l	3.56	1800.00		156989.19	162722.28	163511.77
23 Na	# 1	972	972	ug/l	0.86	81000.00		7023010.00	7078245.00	7164846.50
24 Mg	# 1	4611	4611	ug/l	1.03	81000.00		22003996.00	22632006.00	22555510.00
27 Al	# 1	23820	23820	ug/l	1.06	81000.00		129390050.00	133406920.00	132367660.00
39 K	# 2	3547	3547	ug/l	1.73	81000.00		1115036.40	1131814.30	1154117.30
40 Ca	# 1	5018	5018	ug/l	0.97	81000.00		54840664.00	56336152.00	56165432.00
45 Sc	# 2	----	--------		--------	#VALUE!		41701.28	43832.02	44844.19
47 Ti	# 3	457.4	457.4	ug/l	0.84	1620.00		542246.38	542835.31	546147.38
51 V	# 2	84.77	84.77	ug/l	1.93	1800.00		181542.44	183633.44	186165.91
52 Cr	# 2	52.48	52.48	ug/l	1.15	1800.00		133321.97	136988.66	138000.83
55 Mn	# 3	896.8	896.8	ug/l	1.31	1800.00		16288598.00	16240423.00	16393785.00
56 Fe	# 1	28700	28700	ug/l	0.85	81000.00		421162660.00	419870560.00	425805570.00
59 Co	# 3	21.64	21.64	ug/l	0.62	1800.00		303987.34	299597.47	300579.22
60 Ni	# 2	44.11	44.11	ug/l	2.21	1800.00		48398.52	48749.31	49281.90
63 Cu	# 2	39.98	39.98	ug/l	1.78	1800.00		114414.02	116124.63	117491.83
66 Zn	# 3	94.79	94.79	ug/l	0.57	1800.00		160217.47	159598.00	159023.28
75 As	# 2	31.97	31.97	ug/l	1.65	100.00		6877.31	7001.35	7063.04
78 Se	# 1	18.71	18.71	ug/l	0.28	100.00		8183.85	8173.84	8190.18
88 Sr	# 3	29.08	29.08	ug/l	0.60	1800.00		1029877.20	1035677.50	1028099.60
95 Mo	# 3	22.62	22.62	ug/l	2.29	1800.00		78088.49	78497.36	79374.43
107 Ag	# 3	10.57	10.57	ug/l	1.63	100.00		108216.98	107813.37	107049.20
111 Cd	# 3	10.11	10.11	ug/l	1.25	100.00		22900.62	22419.74	22169.20
118 Sn	# 3	24.32	24.32	ug/l	0.78	1800.00		169330.36	165866.48	167345.08
121 Sb	# 3	11.15	11.15	ug/l	1.75	100.00		71872.86	71681.95	72157.52
137 Ba	# 3	235.5	235.5	ug/l	1.49	1800.00		788283.44	783350.31	780004.44
202 Hg	# 3	1.113	1.113	ug/l	0.51	5.00		2754.58	2724.91	2697.23
205 Tl	# 3	8.165	8.165	ug/l	1.26	20.00		178314.55	180584.48	179365.11
208 Pb	# 3	33.61	33.61	ug/l	0.91	1800.00		1018013.80	1022953.60	1016749.10
232 Th	# 3	27	27	ug/l	0.67	#VALUE!		846375.06	849760.81	846439.19
238 U	# 3	25.44	25.44	ug/l	0.77	#VALUE!		797948.19	801917.69	799949.38

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	595229.63	1.50	836165.38	71.2	60 - 125		601536.19	599107.50	585045.19
45 Sc	# 1	591452.69	0.52	552676.25	107.0	60 - 125		588080.94	594195.00	592082.19
45 Sc	# 3	683452.00	0.71	644433.94	106.1	60 - 125		688237.00	678542.69	683576.38
74 Ge	# 1	163393.50	0.19	175321.88	93.2	60 - 125		163148.08	163746.78	163285.67
74 Ge	# 2	23722.56	2.86	27172.50	87.3	60 - 125		22940.20	24097.08	24130.42
74 Ge	# 3	149199.70	0.94	164913.13	90.5	60 - 125		150623.00	149163.48	147812.61
89 Y	# 3	1435474.90	0.37	1068488.30	134.3	60 - 125	IS F	1441658.90	1432482.30	1432283.50
115 In	# 3	972240.31	1.82	1083659.40	89.7	60 - 125		991194.88	956251.13	969275.00
159 Tb	# 3	1456358.10	0.62	1651256.80	88.2	60 - 125		1464896.90	1446830.80	1457346.80
209 Bi	# 3	822154.44	0.58	1054491.00	78.0	60 - 125		827408.00	820905.38	818149.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\214SMPL.D\214SMPL.D#
Date Acquired: Dec 26 2012 11:30 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-8-e msd
Misc Info: 3050 1/5
Vial Number: 4107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	11.27	11.27	ug/l	3.70	100.00		31913.26	31833.02	32013.40
11 B	# 3	53.48	53.48	ug/l	2.84	1800.00		162990.50	165069.86	166517.72
23 Na	# 1	937	937	ug/l	0.88	81000.00		6752843.50	6923402.00	6986053.00
24 Mg	# 1	4585	4585	ug/l	0.26	81000.00		22103344.00	22390150.00	22816202.00
27 Al	# 1	23880	23880	ug/l	0.60	81000.00		131846960.00	131575180.00	135724800.00
39 K	# 2	3773	3773	ug/l	2.95	81000.00		1185024.00	1219725.30	1255509.50
40 Ca	# 1	5082	5082	ug/l	0.43	81000.00		55946880.00	56781180.00	58000984.00
45 Sc	# 2	----	--------		--------	#VALUE!		44308.52	44844.31	44918.87
47 Ti	# 3	522.8	522.8	ug/l	0.20	1620.00		624645.06	627324.13	634303.63
51 V	# 2	82.48	82.48	ug/l	1.78	1800.00		178243.53	181531.11	183270.03
52 Cr	# 2	52.33	52.33	ug/l	2.06	1800.00		134760.02	137750.19	139643.86
55 Mn	# 3	1301	1301	ug/l	0.88	1800.00		23662408.00	23645522.00	23894120.00
56 Fe	# 1	26820	26820	ug/l	0.34	81000.00		389428740.00	397304350.00	399382980.00
59 Co	# 3	24.17	24.17	ug/l	0.78	1800.00		337512.56	334143.84	341362.41
60 Ni	# 2	43.72	43.72	ug/l	1.12	1800.00		48604.59	48881.95	49464.61
63 Cu	# 2	38.51	38.51	ug/l	1.86	1800.00		111230.70	112918.19	115261.79
66 Zn	# 3	97.17	97.17	ug/l	0.80	1800.00		165382.50	163772.08	163227.58
75 As	# 2	30.29	30.29	ug/l	2.03	100.00		6577.19	6732.92	6778.26
78 Se	# 1	18.31	18.31	ug/l	0.45	100.00		7940.07	8060.12	8060.12
88 Sr	# 3	29.27	29.27	ug/l	0.21	1800.00		1054896.50	1047407.70	1052756.00
95 Mo	# 3	22.15	22.15	ug/l	0.42	1800.00		76940.34	76521.54	77301.97
107 Ag	# 3	10.3	10.3	ug/l	0.97	100.00		104129.34	104639.05	105517.24
111 Cd	# 3	9.798	9.798	ug/l	1.57	100.00		21529.25	21929.74	21842.78
118 Sn	# 3	23.8	23.8	ug/l	0.18	1800.00		164629.91	162049.16	164312.70
121 Sb	# 3	10.87	10.87	ug/l	0.27	100.00		70279.77	69316.05	70403.40
137 Ba	# 3	252.2	252.2	ug/l	0.26	1800.00		840395.69	831673.69	842785.81
202 Hg	# 3	1.034	1.034	ug/l	1.21	5.00		2516.87	2510.54	2568.88
205 Tl	# 3	8.093	8.093	ug/l	1.46	20.00		173937.08	174283.75	175476.13
208 Pb	# 3	33.18	33.18	ug/l	1.38	1800.00		989299.56	985396.31	989104.06
232 Th	# 3	26.79	26.79	ug/l	0.10	#VALUE!		840133.38	840966.75	840291.50
238 U	# 3	24.65	24.65	ug/l	0.52	#VALUE!		778112.88	774514.88	771697.19

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	608850.13	3.63	836165.38	72.8	60 - 125		583325.94	621289.75	621934.69
45 Sc	# 1	595838.88	1.46	552676.25	107.8	60 - 125		588675.25	593315.69	605525.69
45 Sc	# 3	691430.88	0.59	644433.94	107.3	60 - 125		687899.63	690446.13	695946.88
74 Ge	# 1	163662.73	1.09	175321.88	93.3	60 - 125		161763.39	163915.48	165309.33
74 Ge	# 2	24008.84	0.99	27172.50	88.4	60 - 125		24119.34	23735.55	24171.65
74 Ge	# 3	149658.86	0.88	164913.13	90.8	60 - 125		150715.97	148182.97	150077.61
89 Y	# 3	1454388.90	0.26	1068488.30	136.1	60 - 125	IS F	1455256.40	1450234.50	1457676.00
115 In	# 3	970493.31	0.69	1083659.40	89.6	60 - 125		975459.44	962871.63	973148.63
159 Tb	# 3	1429623.10	1.59	1651256.80	86.6	60 - 125		1439357.60	1403639.30	1445872.30
209 Bi	# 3	821774.13	0.11	1054491.00	77.9	60 - 125		820790.50	821991.00	822540.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\215_CCV.D\215_CCV.D#
Date Acquired: Dec 26 2012 11:38 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	52.58 ug/l	2.99	50.00	90 - 110		156493.44	157274.27	160158.00
11 B	105.9 ug/l	2.76	100.00	90 - 110		335007.19	341633.75	343185.94
23 Na	5141 ug/l	0.47	5000.00	90 - 110		32181572.00	32578552.00	32892740.00
24 Mg	5011 ug/l	0.82	5000.00	90 - 110		21046222.00	21474466.00	21611116.00
27 Al	509.3 ug/l	0.75	500.00	90 - 110		2452851.00	2494094.80	2477447.50
39 K	5091 ug/l	1.75	5000.00	90 - 110		1626788.90	1693106.30	1732495.40
40 Ca	5164 ug/l	0.76	5000.00	90 - 110		50073128.00	50789444.00	50397628.00
45 Sc	--------	--------		--- ##### - #####		39285.37	39808.65	40509.00
47 Ti	52.69 ug/l	0.26	50.00	90 - 110		56154.80	55880.81	56047.64
51 V	50.31 ug/l	0.23	50.00	90 - 110		111530.89	113334.96	114726.32
52 Cr	50.35 ug/l	0.81	50.00	90 - 110		134220.34	134770.89	137288.00
55 Mn	508.9 ug/l	0.74	500.00	90 - 110		9650892.00	9701207.00	9733854.00
56 Fe	5095 ug/l	0.61	5000.00	90 - 110		76890784.00	76499944.00	77615824.00
59 Co	49.62 ug/l	0.40	50.00	90 - 110		722163.50	728111.31	721758.81
60 Ni	52.14 ug/l	0.51	50.00	90 - 110		59108.11	60213.90	60221.52
63 Cu	52.47 ug/l	0.66	50.00	90 - 110		156253.92	157314.81	159690.55
66 Zn	50.81 ug/l	1.02	50.00	90 - 110		90942.04	89635.20	88671.28
75 As	51.68 ug/l	0.60	50.00	90 - 110		11523.97	11661.06	11894.53
78 Se	51.81 ug/l	0.50	50.00	90 - 110		23130.64	23213.06	23335.90
88 Sr	53.02 ug/l	1.26	50.00	90 - 110		1325436.80	1338543.60	1353548.10
95 Mo	52.23 ug/l	0.64	50.00	90 - 110		187667.05	184942.89	186257.91
107 Ag	52.76 ug/l	0.67	50.00	90 - 110		552364.81	548425.88	553411.63
111 Cd	51.46 ug/l	1.00	50.00	90 - 110		116629.30	117260.01	118111.73
118 Sn	51.93 ug/l	0.28	50.00	90 - 110		367324.53	367951.81	364773.00
121 Sb	53.03 ug/l	0.13	50.00	90 - 110		350988.94	349620.66	349140.41
137 Ba	52.39 ug/l	0.05	50.00	90 - 110		179705.31	178953.89	178240.14
202 Hg	2.427 ug/l	1.60	2.50	90 - 110		6023.15	6096.84	6173.87
205 Tl	10.25 ug/l	1.35	10.00	90 - 110		220101.34	220918.17	220225.59
208 Pb	50.93 ug/l	1.18	50.00	90 - 110		1519264.40	1512261.00	1503292.60
232 Th	50.72 ug/l	0.28		--- ##### - #####		1647149.10	1654238.90	1643535.30
238 U	50.12 ug/l	0.87		--- ##### - #####		1627094.90	1627122.00	1640989.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	645900.81	3.94	836165.38	77.2	60 - 125		618109.88	651630.13	667962.44
45 Sc	519521.81	0.64	552676.25	94.0	60 - 125		516362.59	519173.13	523029.78
45 Sc	611095.75	0.25	644433.94	94.8	60 - 125		610730.25	609799.13	612757.81
74 Ge	167793.48	0.22	175321.88	95.7	60 - 125		168062.67	167362.84	167954.94
74 Ge	24597.74	1.45	27172.50	90.5	60 - 125		24203.91	24693.41	24895.90
74 Ge	156290.00	0.36	164913.13	94.8	60 - 125		156582.80	156639.70	155647.48
89 Y	1022272.80	0.22	1068488.30	95.7	60 - 125		1024883.90	1021263.20	1020671.30
115 In	997296.56	0.36	1083659.40	92.0	60 - 125		1000825.60	997488.13	993575.81
159 Tb	1425338.10	1.14	1651256.80	86.3	60 - 125		1438575.80	1407137.30	1430301.10
209 Bi	851173.75	0.38	1054491.00	80.7	60 - 125		853370.06	852648.56	847502.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\216_CCB.D\216_CCB.D#
Date Acquired: Dec 26 2012 11:45 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01354	0.01354	ug/l	54.04	#VALUE!		23.33	66.67	40.00
11 B	# 3	1.671	1.671	ug/l	4.51	#VALUE!		11967.33	11643.76	11700.59
23 Na	# 1	5.842	5.842	ug/l	3.87	#VALUE!		121976.45	126388.02	128216.84
24 Mg	# 1	2.085	2.085	ug/l	8.11	#VALUE!		8602.17	9272.50	10263.03
27 Al	# 1	0.4822	0.4822	ug/l	28.97	#VALUE!		2846.97	3213.70	4230.59
39 K	# 2	-1.855	-1.855	ug/l	31.63	#VALUE!		7948.58	7905.20	8398.77
40 Ca	# 1	5.282	5.282	ug/l	4.75	#VALUE!		113424.48	115574.20	120347.00
45 Sc	# 2	----	--------		--------	#VALUE!		38833.21	38974.63	40250.61
47 Ti	# 3	0.02541	0.02541	ug/l	43.68	#VALUE!		66.67	50.00	43.33
51 V	# 2	0.01577	0.01577	ug/l	22.74	#VALUE!		232.23	222.23	222.23
52 Cr	# 2	0.009529	0.009529	ug/l	59.41	#VALUE!		160.00	131.11	144.45
55 Mn	# 3	0.1451	0.1451	ug/l	18.66	#VALUE!		3110.35	3957.22	4080.56
56 Fe	# 1	1.774	1.774	ug/l	14.93	#VALUE!		36386.42	38146.77	44387.70
59 Co	# 3	0.01176	0.01176	ug/l	23.30	#VALUE!		176.67	160.01	236.67
60 Ni	# 2	0.01402	0.01402	ug/l	110.20	#VALUE!		66.67	32.22	43.33
63 Cu	# 2	0.01843	0.01843	ug/l	21.73	#VALUE!		565.57	547.79	563.35
66 Zn	# 3	-0.008782	-0.008782	ug/l	223.07	#VALUE!		193.34	233.34	263.34
75 As	# 2	0.02139	0.02139	ug/l	41.09	#VALUE!		20.00	24.00	23.67
78 Se	# 1	0.05255	0.05255	ug/l	14.51	#VALUE!		49.33	43.33	45.00
88 Sr	# 3	0.0229	0.0229	ug/l	18.05	#VALUE!		523.36	706.70	703.37
95 Mo	# 3	0.08817	0.08817	ug/l	13.32	#VALUE!		413.35	326.68	386.68
107 Ag	# 3	0.01451	0.01451	ug/l	14.00	#VALUE!		190.01	153.34	193.34
111 Cd	# 3	0.01225	0.01225	ug/l	24.39	#VALUE!		63.20	59.90	73.21
118 Sn	# 3	0.05273	0.05273	ug/l	6.66	#VALUE!		716.71	660.03	683.37
121 Sb	# 3	0.234	0.234	ug/l	5.37	#VALUE!		1946.83	1763.48	1823.48
137 Ba	# 3	0.02313	0.02313	ug/l	22.05	#VALUE!		86.67	93.34	120.01
202 Hg	# 3	0.01741	0.01741	ug/l	8.10	#VALUE!		96.33	91.67	88.00
205 Tl	# 3	0.01705	0.01705	ug/l	4.42	#VALUE!		413.35	416.68	436.68
208 Pb	# 3	0.0173	0.0173	ug/l	16.97	#VALUE!		633.36	686.70	793.37
232 Th	# 3	0.1228	0.1228	ug/l	3.09	#VALUE!		4294.06	4357.41	4497.49
238 U	# 3	0.0157	0.0157	ug/l	16.52	#VALUE!		456.69	540.03	626.70

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	646274.50	0.93	836165.38	77.3	60 - 125		642580.13	643037.69	653205.81
45 Sc	# 1	519467.78	1.54	552676.25	94.0	60 - 125		510255.75	523785.06	524362.63
45 Sc	# 3	610782.81	0.85	644433.94	94.8	60 - 125		612520.06	614871.94	604956.38
74 Ge	# 1	170683.30	0.80	175321.88	97.4	60 - 125		169168.86	171793.84	171087.16
74 Ge	# 2	25068.40	1.20	27172.50	92.3	60 - 125		24776.87	25052.83	25375.51
74 Ge	# 3	158555.58	0.25	164913.13	96.1	60 - 125		158243.78	159002.36	158420.63
89 Y	# 3	1032640.90	0.41	1068488.30	96.6	60 - 125		1033819.40	1036164.10	1027939.60
115 In	# 3	1024310.20	0.46	1083659.40	94.5	60 - 125		1029676.80	1020992.70	1022261.10
159 Tb	# 3	1438259.50	0.88	1651256.80	87.1	60 - 125		1448993.90	1441392.00	1424393.00
209 Bi	# 3	887691.00	0.56	1054491.00	84.2	60 - 125		892384.56	888170.81	882517.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\217SMPL.D\217SMPL.D#
Date Acquired: Dec 26 2012 11:53 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-9-a
Misc Info: 3050 1/5
Vial Number: 4108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.569	1.569	ug/l	4.01	100.00		4230.57	4570.65	4537.32
11 B	# 3	20.53	20.53	ug/l	2.00	1800.00		65491.66	66946.96	68752.90
23 Na	# 1	156.5	156.5	ug/l	0.99	81000.00		1284474.90	1312635.90	1308101.50
24 Mg	# 1	5976	5976	ug/l	0.37	81000.00		30563212.00	30777440.00	31139120.00
27 Al	# 1	33850	33850	ug/l	0.43	81000.00		196282320.00	197683540.00	202343360.00
39 K	# 2	4062	4062	ug/l	0.99	81000.00		1254632.50	1295230.40	1314212.80
40 Ca	# 1	4926	4926	ug/l	0.22	81000.00		57285404.00	58181832.00	58985652.00
45 Sc	# 2	----	--------		--------	#VALUE!		46630.89	47537.51	48180.30
47 Ti	# 3	497.3	497.3	ug/l	0.60	1620.00		642038.69	646437.81	646782.50
51 V	# 2	92.92	92.92	ug/l	0.95	1800.00		197785.44	199674.14	202617.47
52 Cr	# 2	50.04	50.04	ug/l	1.14	1800.00		127816.31	128438.45	130298.73
55 Mn	# 3	993.1	993.1	ug/l	2.01	1800.00		18028220.00	18220020.00	18455180.00
56 Fe	# 1	41580	41580	ug/l	0.08	81000.00		596370750.00	597583230.00	600909890.00
59 Co	# 3	15.04	15.04	ug/l	1.15	1800.00		212060.25	210239.97	212461.64
60 Ni	# 2	36.88	36.88	ug/l	2.16	1800.00		40682.28	40052.10	40851.57
63 Cu	# 2	29.09	29.09	ug/l	1.17	1800.00		83048.56	83555.26	85182.29
66 Zn	# 3	98.99	98.99	ug/l	1.00	1800.00		167831.05	168688.25	168406.09
75 As	# 2	16.45	16.45	ug/l	1.66	100.00		3563.02	3543.68	3617.37
78 Se	# 1	1.239	1.239	ug/l	2.61	100.00		531.34	552.34	563.01
88 Sr	# 3	17.3	17.3	ug/l	1.10	1800.00		647461.13	640195.31	645450.06
95 Mo	# 3	3.297	3.297	ug/l	0.18	1800.00		11574.10	11557.35	11527.35
107 Ag	# 3	0.09153	0.09153	ug/l	4.56	100.00		1003.40	956.72	913.38
111 Cd	# 3	0.1565	0.1565	ug/l	8.55	100.00		419.65	362.98	369.66
118 Sn	# 3	3.56	3.56	ug/l	0.47	1800.00		24981.93	24911.79	24691.62
121 Sb	# 3	1.002	1.002	ug/l	2.44	100.00		6618.15	6878.24	6631.44
137 Ba	# 3	238.9	238.9	ug/l	0.66	1800.00		795853.50	802418.13	796615.00
202 Hg	# 3	0.07543	0.07543	ug/l	3.52	5.00		224.00	213.00	225.67
205 Tl	# 3	0.5966	0.5966	ug/l	1.20	20.00		12902.30	12878.89	13262.61
208 Pb	# 3	25.42	25.42	ug/l	0.67	1800.00		757588.69	764346.56	765370.00
232 Th	# 3	10.69	10.69	ug/l	0.37	#VALUE!		329595.84	328258.78	331123.56
238 U	# 3	2.886	2.886	ug/l	0.54	#VALUE!		89597.81	89141.90	88599.37

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	608622.88	3.96	836165.38	72.8	60 - 125		591894.13	597748.19	636226.31
45 Sc	# 1	628155.19	1.31	552676.25	113.7	60 - 125		620347.50	627406.69	636711.38
45 Sc	# 3	745789.00	0.34	644433.94	115.7	60 - 125		746823.88	742904.13	747638.94
74 Ge	# 1	159779.23	0.45	175321.88	91.1	60 - 125		159117.77	159677.61	160542.27
74 Ge	# 2	23550.81	1.58	27172.50	86.7	60 - 125		23121.36	23763.27	23767.78
74 Ge	# 3	150659.13	0.84	164913.13	91.4	60 - 125		151792.03	150887.45	149297.91
89 Y	# 3	1507587.80	1.68	1068488.30	141.1	60 - 125	IS F	1529485.80	1479908.60	1513369.00
115 In	# 3	975711.56	0.28	1083659.40	90.0	60 - 125		978907.38	974101.88	974125.50
159 Tb	# 3	1440280.00	0.50	1651256.80	87.2	60 - 125		1439543.80	1433467.00	1447829.10
209 Bi	# 3	807312.31	0.33	1054491.00	76.6	60 - 125		809763.81	804525.31	807647.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\218SMPL.D\218SMPL.D#
Date Acquired: Dec 26 2012 12:00 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-10-a
Misc Info: 3050 1/5
Vial Number: 4109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.089	1.089	ug/l	3.17	100.00		2476.89	2680.27	2623.58
11 B # 3	35.33	35.33	ug/l	1.41	1800.00		90505.34	94163.10	95150.56
23 Na # 1	10180	10180	ug/l	1.09	81000.00		70445976.00	70523760.00	71933048.00
24 Mg # 1	36820	36820	ug/l	0.90	81000.00		171705680.00	173211220.00	174494130.00
27 Al # 1	15240	15240	ug/l	1.02	81000.00		80815968.00	81566616.00	82380112.00
39 K # 2	6106	6106	ug/l	1.56	81000.00		1649779.60	1697410.10	1751536.00
40 Ca # 1	91460	91460	ug/l	1.11	81000.00		973675520.00	980578560.00	994996480.00
45 Sc # 2	----	--------		--------	#VALUE!		40372.04	41056.77	42587.95
47 Ti # 3	297.3	297.3	ug/l	0.31	1620.00		323278.53	326072.19	328101.59
51 V # 2	43.75	43.75	ug/l	1.05	1800.00		81119.86	83209.02	84473.50
52 Cr # 2	34.64	34.64	ug/l	0.79	1800.00		76909.13	78471.04	80114.50
55 Mn # 3	529.5	529.5	ug/l	0.48	1800.00		8341771.50	8372558.00	8471747.00
56 Fe # 1	34990	34990	ug/l	0.78	81000.00		456843390.00	455011870.00	455923680.00
59 Co # 3	15.56	15.56	ug/l	0.39	1800.00		189496.22	188074.73	189268.64
60 Ni # 2	42.21	42.21	ug/l	0.86	1800.00		40577.65	40677.92	41180.07
63 Cu # 2	28.85	28.85	ug/l	0.67	1800.00		72364.03	73204.96	74140.82
66 Zn # 3	101.1	101.1	ug/l	0.36	1800.00		147725.81	148540.11	148757.84
75 As # 2	12.19	12.19	ug/l	0.77	100.00		2326.15	2316.49	2362.16
78 Se # 1	0.5707	0.5707	ug/l	0.81	100.00		240.00	237.34	239.67
88 Sr # 3	59.87	59.87	ug/l	1.37	1800.00		1938581.90	1895457.00	1926142.00
95 Mo # 3	5.796	5.796	ug/l	1.78	1800.00		17882.71	17592.51	18229.81
107 Ag # 3	0.08203	0.08203	ug/l	8.48	100.00		710.03	740.04	830.05
111 Cd # 3	0.2979	0.2979	ug/l	5.47	100.00		614.31	651.07	587.53
118 Sn # 3	2.86	2.86	ug/l	1.78	1800.00		17522.63	17499.23	18039.86
121 Sb # 3	0.8394	0.8394	ug/l	3.44	100.00		5157.62	5020.86	4824.16
137 Ba # 3	70.19	70.19	ug/l	0.25	1800.00		207450.44	207491.95	206529.55
202 Hg # 3	0.04134	0.04134	ug/l	3.14	5.00		123.67	120.33	124.67
205 Tl # 3	0.6412	0.6412	ug/l	2.06	20.00		12828.86	12782.19	12628.68
208 Pb # 3	20.57	20.57	ug/l	1.11	1800.00		561938.94	561282.00	564395.50
232 Th # 3	9.938	9.938	ug/l	0.68	#VALUE!		269635.22	267526.31	268422.59
238 U # 3	2.123	2.123	ug/l	0.24	#VALUE!		57317.71	57562.02	57448.05

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	511210.78	1.38	836165.38	61.1	60 - 125		503848.94	511815.03	517968.31
45 Sc # 1	572623.06	0.31	552676.25	103.6	60 - 125		573777.31	570567.88	573523.88
45 Sc # 3	630022.19	0.43	644433.94	97.8	60 - 125		627293.56	630013.50	632759.50
74 Ge # 1	144669.94	0.96	175321.88	82.5	60 - 125		146266.39	143821.75	143921.67
74 Ge # 2	20716.65	1.66	27172.50	76.2	60 - 125		20473.78	20566.09	21110.08
74 Ge # 3	130074.96	0.38	164913.13	78.9	60 - 125		129873.25	129712.86	130638.76
89 Y # 3	1298105.40	0.39	1068488.30	121.5	60 - 125		1299926.90	1301994.00	1292395.40
115 In # 3	861692.81	0.09	1083659.40	79.5	60 - 125		862567.13	861096.31	861414.88
159 Tb # 3	1313025.30	1.27	1651256.80	79.5	60 - 125		1295251.90	1315486.40	1328337.60
209 Bi # 3	707393.19	0.35	1054491.00	67.1	60 - 125		706467.88	710194.88	705516.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\219SMPL.D\219SMPL.D#
Date Acquired: Dec 26 2012 12:07 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-b-9-a
Misc Info: 3050 1/5
Vial Number: 4110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.4416	0.4416	ug/l	5.20	100.00		1050.06	1180.07	1076.72
11 B	# 3	77.45	77.45	ug/l	0.56	1800.00		202507.70	208813.95	211325.78
23 Na	# 1	16390	16390	ug/l	1.08	81000.00		103641620.00	106366890.00	107292690.00
24 Mg	# 1	6052	6052	ug/l	0.31	81000.00		26020812.00	26523524.00	26525516.00
27 Al	# 1	9370	9370	ug/l	0.41	81000.00		45830084.00	46934464.00	46599964.00
39 K	# 2	2172	2172	ug/l	0.52	81000.00		618978.25	639625.13	642946.56
40 Ca	# 1	77760	77760	ug/l	0.39	81000.00		769484350.00	775439100.00	777094140.00
45 Sc	# 2	----	--------		--------	#VALUE!		37084.30	38009.36	38916.82
47 Ti	# 3	66.39	66.39	ug/l	1.15	1620.00		68690.20	67756.31	68569.84
51 V	# 2	21.01	21.01	ug/l	1.25	1800.00		40400.13	41538.23	42648.39
52 Cr	# 2	25.88	25.88	ug/l	0.73	1800.00		60230.88	60851.66	62099.02
55 Mn	# 3	18.24	18.24	ug/l	0.59	1800.00		306003.91	305027.03	302817.28
56 Fe	# 1	5895	5895	ug/l	0.78	81000.00		79738384.00	80737808.00	81374216.00
59 Co	# 3	0.9121	0.9121	ug/l	0.92	1800.00		11557.24	11767.40	11627.29
60 Ni	# 2	5.766	5.766	ug/l	1.89	1800.00		5708.71	5968.78	5794.28
63 Cu	# 2	6.371	6.371	ug/l	1.84	1800.00		17208.11	17106.90	17176.93
66 Zn	# 3	14.56	14.56	ug/l	0.68	1800.00		22457.58	22751.34	22707.86
75 As	# 2	3.617	3.617	ug/l	1.55	100.00		731.02	729.35	733.68
78 Se	# 1	1.274	1.274	ug/l	0.99	100.00		538.34	531.01	538.68
88 Sr	# 3	470.7	470.7	ug/l	1.62	1800.00		13046733.00	12964436.00	13034616.00
95 Mo	# 3	0.6797	0.6797	ug/l	5.93	1800.00		2193.54	2166.86	2410.24
107 Ag	# 3	0.1713	0.1713	ug/l	8.85	100.00		1803.48	1526.78	1626.79
111 Cd	# 3	0.1962	0.1962	ug/l	4.14	100.00		435.98	459.33	425.91
118 Sn	# 3	2.996	2.996	ug/l	2.20	1800.00		19941.94	19201.17	19484.77
121 Sb	# 3	0.4915	0.4915	ug/l	0.25	100.00		3183.72	3190.39	3183.72
137 Ba	# 3	14.92	14.92	ug/l	0.65	1800.00		46678.15	46451.32	46313.97
202 Hg	# 3	0.07572	0.07572	ug/l	4.86	5.00		199.34	216.34	204.00
205 Tl	# 3	0.1162	0.1162	ug/l	3.85	20.00		2513.62	2413.59	2406.93
208 Pb	# 3	13.18	13.18	ug/l	1.27	1800.00		373806.00	377135.81	374705.66
232 Th	# 3	2.541	2.541	ug/l	0.51	#VALUE!		73388.52	73073.88	73120.21
238 U	# 3	3.837	3.837	ug/l	0.33	#VALUE!		110687.84	110536.66	110154.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	535042.19	1.96	836165.38	64.0	60 - 125		522949.84	540685.69	541491.06
45 Sc	# 1	530291.63	0.84	552676.25	95.9	60 - 125		525234.50	533475.88	532164.56
45 Sc	# 3	591582.69	0.70	644433.94	91.8	60 - 125		587163.00	592288.25	595296.81
74 Ge	# 1	151837.58	0.26	175321.88	86.6	60 - 125		151376.81	152047.64	152088.30
74 Ge	# 2	21558.75	1.59	27172.50	79.3	60 - 125		21174.59	21667.40	21834.26
74 Ge	# 3	136662.27	0.05	164913.13	82.9	60 - 125		136606.41	136636.02	136744.38
89 Y	# 3	1119389.50	1.29	1068488.30	104.8	60 - 125		1108701.00	1135775.00	1113692.50
115 In	# 3	909446.63	0.27	1083659.40	83.9	60 - 125		906617.50	910890.50	910832.06
159 Tb	# 3	1366888.00	1.37	1651256.80	82.8	60 - 125		1347155.50	1369263.90	1384244.60
209 Bi	# 3	752562.88	0.39	1054491.00	71.4	60 - 125		751918.00	755764.25	750006.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\220SMPL.D\220SMPL.D#
Date Acquired: Dec 26 2012 12:15 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-b-10-a
Misc Info: 3050 1/5
Vial Number: 4111
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.2079	0.2079	ug/l	9.34	100.00		520.02	453.35	530.02
11 B # 3	54.28	54.28	ug/l	0.68	1800.00		138937.33	143697.00	142852.86
23 Na # 1	15760	15760	ug/l	0.71	81000.00		97107536.00	98638648.00	99130312.00
24 Mg # 1	10320	10320	ug/l	0.79	81000.00		43136540.00	43244412.00	43901328.00
27 Al # 1	5375	5375	ug/l	0.78	81000.00		25441932.00	25814344.00	26008672.00
39 K # 2	1417	1417	ug/l	0.50	81000.00		374585.00	383844.88	394050.25
40 Ca # 1	257200	257200	ug/l	0.26	81000.00		2456766500.00	2480587800.00	2485643000.00
45 Sc # 2	----	--------		--------	#VALUE!		35089.31	36133.42	36946.15
47 Ti # 3	73.57	73.57	ug/l	0.19	1620.00		68592.41	69345.38	68903.79
51 V # 2	18.26	18.26	ug/l	0.08	1800.00		32567.19	33438.75	34015.31
52 Cr # 2	30.94	30.94	ug/l	0.51	1800.00		65488.41	67776.38	68865.88
55 Mn # 3	114.4	114.4	ug/l	0.66	1800.00		1711524.60	1706518.10	1730588.30
56 Fe # 1	15360	15360	ug/l	0.88	81000.00		190284080.00	192033340.00	191195840.00
59 Co # 3	2.355	2.355	ug/l	1.87	1800.00		26663.25	27631.55	26870.14
60 Ni # 2	17.24	17.24	ug/l	0.41	1800.00		15737.86	16058.18	16287.25
63 Cu # 2	159.1	159.1	ug/l	0.93	1800.00		381109.84	387262.38	390274.69
66 Zn # 3	306.1	306.1	ug/l	0.28	1800.00		424718.09	425068.91	423577.41
75 As # 2	9.291	9.291	ug/l	2.72	100.00		1721.42	1672.75	1741.42
78 Se # 1	0.6015	0.6015	ug/l	4.72	100.00		252.67	230.34	236.34
88 Sr # 3	1966	1966	ug/l	0.34	1800.00	Fail	47288700.00	47262972.00	47473308.00
95 Mo # 3	8.975	8.975	ug/l	1.59	1800.00		26370.12	26847.52	26239.98
107 Ag # 3	2.014	2.014	ug/l	2.45	100.00		17469.06	17732.71	17018.72
111 Cd # 3	2.294	2.294	ug/l	2.24	100.00		4432.27	4225.38	4392.28
118 Sn # 3	42.62	42.62	ug/l	0.65	1800.00		249484.42	248860.25	247716.69
121 Sb # 3	5.481	5.481	ug/l	1.13	100.00		30010.00	30320.57	29886.44
137 Ba # 3	52.29	52.29	ug/l	0.60	1800.00		147673.64	147838.14	147191.36
202 Hg # 3	1.402	1.402	ug/l	1.38	5.00		2788.58	2737.24	2782.92
205 Tl # 3	0.1032	0.1032	ug/l	3.11	20.00		1933.52	1900.18	2010.19
208 Pb # 3	223.6	223.6	ug/l	0.34	1800.00		5708027.50	5672061.50	5702945.00
232 Th # 3	1.19	1.19	ug/l	1.52	#VALUE!		30497.34	30009.66	30707.83
238 U # 3	10.43	10.43	ug/l	0.44	#VALUE!		263732.19	267278.81	265758.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	515978.47	1.33	836165.38	61.7	60 - 125		508893.38	522586.72	516455.34
45 Sc # 1	512506.88	0.38	552676.25	92.7	60 - 125		510247.69	513689.22	513583.81
45 Sc # 3	538622.69	0.53	644433.94	83.6	60 - 125		536747.63	541932.63	537187.94
74 Ge # 1	138236.58	0.45	175321.88	78.8	60 - 125		138948.23	137833.34	137928.17
74 Ge # 2	19900.56	2.13	27172.50	73.2	60 - 125		19456.01	19946.53	20299.15
74 Ge # 3	122997.60	0.11	164913.13	74.6	60 - 125		122865.39	122989.92	123137.48
89 Y # 3	974550.63	0.22	1068488.30	91.2	60 - 125		972401.88	976598.75	974651.25
115 In # 3	824042.06	0.38	1083659.40	76.0	60 - 125		824448.63	820698.13	826979.44
159 Tb # 3	1222712.60	0.31	1651256.80	74.0	60 - 125		1226975.60	1221302.10	1219859.90
209 Bi # 3	665960.38	0.35	1054491.00	63.2	60 - 125		664700.94	668644.31	664535.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

1 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\221SMPL.D\221SMPL.D#
Date Acquired: Dec 26 2012 12:22 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-b-11-a
Misc Info: 3050 1/5
Vial Number: 4112
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.1629	0.1629	ug/l	12.33	100.00		393.35	353.35	433.35
11 B # 3	33.2	33.2	ug/l	3.18	1800.00		87840.05	88777.98	90029.83
23 Na # 1	13770	13770	ug/l	1.24	81000.00		82652040.00	83753880.00	85354720.00
24 Mg # 1	4882	4882	ug/l	0.34	81000.00		19884084.00	20141656.00	20213244.00
27 Al # 1	4026	4026	ug/l	0.52	81000.00		18775020.00	18818702.00	18962234.00
39 K # 2	1407	1407	ug/l	1.22	81000.00		389793.91	395508.03	403206.53
40 Ca # 1	130000	130000	ug/l	0.64	81000.00		1218005900.00	1217801200.00	1229206500.00
45 Sc # 2	----	--------		--------	#VALUE!		35009.12	35482.25	36583.22
47 Ti # 3	38.88	38.88	ug/l	5.13	1620.00		36452.88	36138.81	36613.25
51 V # 2	8.245	8.245	ug/l	0.84	1800.00		15399.74	15824.54	15924.62
52 Cr # 2	13.68	13.68	ug/l	1.11	1800.00		30611.75	30895.53	31467.56
55 Mn # 3	19.56	19.56	ug/l	2.22	1800.00		306624.97	306189.19	306563.19
56 Fe # 1	2914	2914	ug/l	0.45	81000.00		38223692.00	37999480.00	38336900.00
59 Co # 3	0.6034	0.6034	ug/l	1.69	1800.00		7178.28	7545.22	7001.52
60 Ni # 2	4.128	4.128	ug/l	1.98	1800.00		4036.03	3963.79	4010.47
63 Cu # 2	21.99	21.99	ug/l	1.19	1800.00		55531.95	55476.16	56298.62
66 Zn # 3	41.94	41.94	ug/l	1.71	1800.00		60991.92	61098.73	60373.07
75 As # 2	2.179	2.179	ug/l	5.58	100.00		447.67	426.34	410.01
78 Se # 1	0.4262	0.4262	ug/l	9.02	100.00		201.67	174.00	177.00
88 Sr # 3	835.4	835.4	ug/l	4.32	1800.00		20087834.00	20138528.00	20006196.00
95 Mo # 3	0.7464	0.7464	ug/l	4.12	1800.00		2360.23	2343.55	2276.88
107 Ag # 3	0.1477	0.1477	ug/l	4.33	100.00		1286.75	1356.76	1386.76
111 Cd # 3	0.2901	0.2901	ug/l	14.87	100.00		675.95	572.61	542.63
118 Sn # 3	3.526	3.526	ug/l	3.65	1800.00		21724.21	21734.16	21320.33
121 Sb # 3	0.6388	0.6388	ug/l	6.73	100.00		3907.22	3717.18	3857.21
137 Ba # 3	9.588	9.588	ug/l	4.04	1800.00		27973.66	28010.45	28317.65
202 Hg # 3	0.08953	0.08953	ug/l	1.91	5.00		217.34	230.00	213.67
205 Tl # 3	0.05388	0.05388	ug/l	9.58	20.00		1090.07	1013.40	1080.07
208 Pb # 3	31.15	31.15	ug/l	5.86	1800.00		813616.00	807481.75	813809.75
232 Th # 3	0.9778	0.9778	ug/l	3.61	#VALUE!		26122.81	26062.59	26623.52
238 U # 3	3.172	3.172	ug/l	4.37	#VALUE!		85662.52	83400.14	85390.84

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	516930.47	3.04	836165.38	61.8	60 - 125		503914.38	534351.69	512525.41
45 Sc # 1	500802.88	0.62	552676.25	90.6	60 - 125		497255.63	502923.25	502229.78
45 Sc # 3	538781.69	4.63	644433.94	83.6	60 - 125		523981.25	567606.31	524757.44
74 Ge # 1	145463.39	0.13	175321.88	83.0	60 - 125		145686.59	145363.92	145339.67
74 Ge # 2	20662.89	1.11	27172.50	76.0	60 - 125		20401.49	20833.07	20754.11
74 Ge # 3	128276.63	2.17	164913.13	77.8	60 - 125		127303.09	131414.88	126111.92
89 Y # 3	974164.56	4.71	1068488.30	91.2	60 - 125		949577.25	1027099.10	945817.50
115 In # 3	856257.63	3.90	1083659.40	79.0	60 - 125		831632.81	894280.63	842859.44
159 Tb # 3	1253987.00	5.60	1651256.80	75.9	60 - 125		1219578.40	1334798.90	1207583.80
209 Bi # 3	699583.31	2.98	1054491.00	66.3	60 - 125		684270.63	723322.56	691156.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\222SMPL.D\222SMPL.D#
Date Acquired: Dec 26 2012 12:30 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-b-12-a
Misc Info: 3050 1/5
Vial Number: 4201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.1986	0.1986	ug/l	4.82	100.00		476.68	510.02	480.02
11 B	# 3	51.91	51.91	ug/l	1.08	1800.00		136610.73	138403.95	141174.23
23 Na	# 1	23260	23260	ug/l	0.47	81000.00		139682670.00	140733200.00	140725220.00
24 Mg	# 1	5547	5547	ug/l	0.99	81000.00		22150084.00	22756318.00	22901666.00
27 Al	# 1	5283	5283	ug/l	0.82	81000.00		24141866.00	24755412.00	24626714.00
39 K	# 2	1775	1775	ug/l	0.19	81000.00		506143.00	519369.53	523972.53
40 Ca	# 1	38960	38960	ug/l	0.41	81000.00		358341600.00	364788740.00	365639300.00
45 Sc	# 2	----	--------		--------	#VALUE!		34936.79	35691.55	36368.34
47 Ti	# 3	37.92	37.92	ug/l	0.80	1620.00		36803.36	37464.92	36833.74
51 V	# 2	9.066	9.066	ug/l	1.02	1800.00		17686.20	18026.53	18010.98
52 Cr	# 2	16.28	16.28	ug/l	0.91	1800.00		37301.59	38156.57	39237.78
55 Mn	# 3	15.42	15.42	ug/l	0.50	1800.00		255090.31	256182.73	257135.28
56 Fe	# 1	6046	6046	ug/l	0.22	81000.00		81345424.00	81116104.00	81868640.00
59 Co	# 3	0.7389	0.7389	ug/l	2.37	1800.00		9456.01	9085.76	9616.11
60 Ni	# 2	6.034	6.034	ug/l	0.92	1800.00		5943.22	6032.14	6202.19
63 Cu	# 2	56.29	56.29	ug/l	1.04	1800.00		145872.28	147116.64	149317.19
66 Zn	# 3	85.96	85.96	ug/l	0.25	1800.00		132142.47	130831.88	132488.41
75 As	# 2	3.61	3.61	ug/l	2.73	100.00		697.68	720.35	760.35
78 Se	# 1	0.5721	0.5721	ug/l	2.26	100.00		242.00	246.00	255.00
88 Sr	# 3	239.9	239.9	ug/l	1.69	1800.00		5964889.00	5969212.50	6081971.50
95 Mo	# 3	2.592	2.592	ug/l	0.77	1800.00		8535.59	8428.89	8358.86
107 Ag	# 3	0.8241	0.8241	ug/l	2.09	100.00		7761.99	7985.38	7778.63
111 Cd	# 3	0.7102	0.7102	ug/l	2.49	100.00		1540.71	1454.07	1514.10
118 Sn	# 3	7.577	7.577	ug/l	1.11	1800.00		48495.41	48859.50	49113.83
121 Sb	# 3	1.268	1.268	ug/l	2.42	100.00		7708.62	7745.29	8015.42
137 Ba	# 3	8.795	8.795	ug/l	1.69	1800.00		27356.14	27663.22	26875.24
202 Hg	# 3	0.2899	0.2899	ug/l	2.74	5.00		658.35	678.68	696.02
205 Tl	# 3	0.06961	0.06961	ug/l	0.75	20.00		1460.11	1450.12	1450.12
208 Pb	# 3	54.97	54.97	ug/l	1.27	1800.00		1525448.50	1541820.00	1527011.60
232 Th	# 3	1.162	1.162	ug/l	0.29	#VALUE!		33526.93	33420.28	33607.34
238 U	# 3	3.508	3.508	ug/l	1.05	#VALUE!		101783.59	100463.98	100233.29

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	526957.13	2.69	836165.38	63.0	60 - 125		514669.69	523704.38	542497.31
45 Sc	# 1	496200.38	0.83	552676.25	89.8	60 - 125		491888.00	496642.75	500070.25
45 Sc	# 3	561191.50	0.31	644433.94	87.1	60 - 125		559232.38	562658.56	561683.56
74 Ge	# 1	149553.94	0.65	175321.88	85.3	60 - 125		149045.69	148936.17	150679.95
74 Ge	# 2	21435.24	1.98	27172.50	78.9	60 - 125		20962.08	21561.72	21781.92
74 Ge	# 3	135856.27	0.57	164913.13	82.4	60 - 125		135806.36	135112.92	136649.50
89 Y	# 3	1013360.20	0.94	1068488.30	94.8	60 - 125		1006807.90	1024285.00	1008987.80
115 In	# 3	905833.94	0.57	1083659.40	83.6	60 - 125		911363.50	901200.50	904937.81
159 Tb	# 3	1337862.80	1.05	1651256.80	81.0	60 - 125		1352429.80	1336891.60	1324266.60
209 Bi	# 3	751340.88	0.57	1054491.00	71.3	60 - 125		751476.94	747019.88	755525.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\223SMPL.D\223SMPL.D#
Date Acquired: Dec 26 2012 12:37 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-b-13-a
Misc Info: 3050 1/5
Vial Number: 4202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02622	0.02622	ug/l	29.58	100.00		76.67	46.67	83.34
11 B # 3	66.16	66.16	ug/l	0.83	1800.00		177536.92	183446.25	185224.45
23 Na # 1	21170	21170	ug/l	0.89	81000.00		126895300.00	127139090.00	129961560.00
24 Mg # 1	3912	3912	ug/l	0.25	81000.00		15824020.00	15973450.00	16106081.00
27 Al # 1	627.6	627.6	ug/l	0.44	81000.00		2908847.00	2909529.50	2932953.30
39 K # 2	1209	1209	ug/l	1.24	81000.00		346652.88	357591.59	359540.00
40 Ca # 1	88820	88820	ug/l	0.21	81000.00		821731330.00	828662720.00	835446460.00
45 Sc # 2	----	--------		--------	#VALUE!		34993.56	36407.29	36321.65
47 Ti # 3	7.452	7.452	ug/l	2.10	1620.00		7128.22	7425.01	7194.91
51 V # 2	4.231	4.231	ug/l	1.66	1800.00		8262.99	8603.14	8505.34
52 Cr # 2	22.06	22.06	ug/l	1.10	1800.00		50749.66	52050.90	52715.05
55 Mn # 3	2.521	2.521	ug/l	2.17	1800.00		42044.74	43742.23	43147.39
56 Fe # 1	981.2	981.2	ug/l	0.77	81000.00		13274611.00	13263873.00	13372256.00
59 Co # 3	0.1945	0.1945	ug/l	7.98	1800.00		2286.87	2663.60	2573.59
60 Ni # 2	2.465	2.465	ug/l	3.25	1800.00		2404.62	2581.31	2496.86
63 Cu # 2	23.78	23.78	ug/l	1.00	1800.00		61363.57	62968.77	63515.06
66 Zn # 3	29.23	29.23	ug/l	0.29	1800.00		45386.79	45493.89	45466.87
75 As # 2	9.218	9.218	ug/l	1.73	100.00		1780.76	1850.10	1866.77
78 Se # 1	0.1402	0.1402	ug/l	10.33	100.00		82.33	71.00	73.67
88 Sr # 3	1202	1202	ug/l	0.74	1800.00		28463812.00	28622546.00	28849552.00
95 Mo # 3	0.8435	0.8435	ug/l	4.66	1800.00		2920.33	2723.62	2700.28
107 Ag # 3	0.05878	0.05878	ug/l	8.39	100.00		603.36	606.70	526.69
111 Cd # 3	0.04656	0.04656	ug/l	36.13	100.00		102.40	115.80	169.14
118 Sn # 3	4.737	4.737	ug/l	2.20	1800.00		31325.76	30440.81	30210.26
121 Sb # 3	0.3603	0.3603	ug/l	3.41	100.00		2416.92	2303.55	2450.24
137 Ba # 3	2.779	2.779	ug/l	2.48	1800.00		8378.99	8775.86	8785.85
202 Hg # 3	0.04808	0.04808	ug/l	9.40	5.00		154.33	135.67	140.00
205 Tl # 3	0.01166	0.01166	ug/l	6.80	20.00		273.34	306.68	276.68
208 Pb # 3	14.94	14.94	ug/l	1.48	1800.00		419786.34	416429.81	419669.84
232 Th # 3	0.1521	0.1521	ug/l	2.41	#VALUE!		4544.16	4534.14	4380.79
238 U # 3	2.527	2.527	ug/l	0.26	#VALUE!		71734.44	71436.12	71657.48

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	547000.88	1.47	836165.38	65.4	60 - 125		537703.56	551230.88	552068.19
45 Sc # 1	497028.69	0.67	552676.25	89.9	60 - 125		493366.69	497804.78	499914.63
45 Sc # 3	557404.63	0.33	644433.94	86.5	60 - 125		555568.63	557441.88	559203.31
74 Ge # 1	150439.08	0.32	175321.88	85.8	60 - 125		150788.47	150646.31	149882.42
74 Ge # 2	21463.42	0.88	27172.50	79.0	60 - 125		21279.13	21454.91	21656.23
74 Ge # 3	137303.58	0.21	164913.13	83.3	60 - 125		137368.94	136981.53	137560.28
89 Y # 3	964342.19	0.09	1068488.30	90.3	60 - 125		964455.31	965147.38	963423.75
115 In # 3	906884.75	0.30	1083659.40	83.7	60 - 125		904655.63	906034.25	909964.44
159 Tb # 3	1345146.90	1.09	1651256.80	81.5	60 - 125		1347164.10	1358712.10	1329564.40
209 Bi # 3	740848.38	0.29	1054491.00	70.3	60 - 125		740156.13	739140.31	743248.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\224_CCV.D\224_CCV.D#
Date Acquired: Dec 26 2012 12:45 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	54.05 ug/l	3.28	50.00	90 - 110		147771.58	151123.27	152306.91
11 B	110.2 ug/l	3.89	100.00	90 - 110	Fail	323651.78	330025.84	328462.44
23 Na	5210 ug/l	0.87	5000.00	90 - 110		30922360.00	31848706.00	31381966.00
24 Mg	5061 ug/l	1.20	5000.00	90 - 110		20359816.00	20430254.00	20831264.00
27 Al	516.1 ug/l	0.57	500.00	90 - 110		2359366.30	2393520.30	2404126.30
39 K	5134 ug/l	1.92	5000.00	90 - 110		1567617.90	1582057.10	1616614.50
40 Ca	5164 ug/l	0.79	5000.00	90 - 110		47665352.00	47841452.00	48396424.00
45 Sc	--------	--------	--------	--- ##### - #####		37333.50	37640.93	38392.37
47 Ti	51.56 ug/l	0.53	50.00	90 - 110		51862.50	51645.45	52106.81
51 V	50.81 ug/l	1.15	50.00	90 - 110		105298.60	107482.80	108212.68
52 Cr	50.64 ug/l	1.71	50.00	90 - 110		126410.55	127293.82	128627.16
55 Mn	504.9 ug/l	1.14	500.00	90 - 110		9109162.00	9043702.00	9056903.00
56 Fe	5110 ug/l	0.48	5000.00	90 - 110		73173656.00	74159096.00	73673656.00
59 Co	49.24 ug/l	0.54	50.00	90 - 110		675399.56	675605.38	681699.31
60 Ni	52.13 ug/l	1.97	50.00	90 - 110		55242.94	55727.75	57019.45
63 Cu	53.09 ug/l	1.56	50.00	90 - 110		148080.31	149504.53	150514.77
66 Zn	51.05 ug/l	2.13	50.00	90 - 110		85235.03	85820.66	83996.19
75 As	52.07 ug/l	1.85	50.00	90 - 110		10981.97	11018.33	11074.69
78 Se	51.42 ug/l	0.37	50.00	90 - 110		21914.14	22026.94	22032.29
88 Sr	53.73 ug/l	0.26	50.00	90 - 110		1267561.50	1276401.60	1285368.90
95 Mo	52.27 ug/l	0.96	50.00	90 - 110		176165.47	174135.75	175024.31
107 Ag	53.09 ug/l	0.84	50.00	90 - 110		523444.47	518432.34	521448.47
111 Cd	51.61 ug/l	0.80	50.00	90 - 110		110566.33	111125.31	109871.98
118 Sn	52.47 ug/l	1.06	50.00	90 - 110		350551.25	346507.03	346924.44
121 Sb	53.23 ug/l	0.35	50.00	90 - 110		329618.06	330062.66	330113.72
137 Ba	52.56 ug/l	0.80	50.00	90 - 110		169317.81	167859.63	168687.44
202 Hg	2.438 ug/l	0.80	2.50	90 - 110		5713.36	5845.41	5825.74
205 Tl	10.13 ug/l	1.41	10.00	90 - 110		206343.56	208855.67	206356.53
208 Pb	50.69 ug/l	0.91	50.00	90 - 110		1430266.00	1433736.40	1429780.10
232 Th	50.56 ug/l	0.23		--- ##### - #####		1545374.50	1550803.50	1566922.50
238 U	50.44 ug/l	0.55		--- ##### - #####		1534579.60	1562613.90	1564060.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	598171.25	3.70	836165.38	71.5	60 - 125		592149.75	579690.94	622673.13
45 Sc	494256.94	0.62	552676.25	89.4	60 - 125		490918.72	496997.06	494854.97
45 Sc	578177.94	0.48	644433.94	89.7	60 - 125		575143.00	578861.81	580528.94
74 Ge	160071.05	0.67	175321.88	91.3	60 - 125		158870.03	160428.67	160914.47
74 Ge	23021.64	2.04	27172.50	84.7	60 - 125		22509.48	23435.12	23120.32
74 Ge	147392.78	1.04	164913.13	89.4	60 - 125		146834.16	146220.25	149123.97
89 Y	961550.31	0.63	1068488.30	90.0	60 - 125		957224.13	958981.25	968445.63
115 In	936723.13	0.43	1083659.40	86.4	60 - 125		932138.50	938132.50	939898.19
159 Tb	1355824.60	0.77	1651256.80	82.1	60 - 125		1354911.40	1345840.00	1366722.80
209 Bi	805280.38	0.65	1054491.00	76.4	60 - 125		799865.50	805586.94	810388.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\225_CCB.D\225_CCB.D#
Date Acquired: Dec 26 2012 12:52 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01365	0.01365	ug/l	17.70	#VALUE!		40.00	36.67	50.00
11 B # 3	2.034	2.034	ug/l	4.10	#VALUE!		12307.57	12557.74	12597.72
23 Na # 1	6.911	6.911	ug/l	5.18	#VALUE!		125311.27	129414.23	129123.59
24 Mg # 1	1.939	1.939	ug/l	3.25	#VALUE!		8171.97	8448.73	8778.90
27 Al # 1	0.2513	0.2513	ug/l	3.72	#VALUE!		2180.18	2263.53	2243.53
39 K # 2	-1.27	-1.27	ug/l	61.50	#VALUE!		7438.28	7978.59	8168.68
40 Ca # 1	5.832	5.832	ug/l	2.74	#VALUE!		115815.77	117695.13	119965.00
45 Sc # 2	----	--------		--------	#VALUE!		37212.21	37421.49	38214.23
47 Ti # 3	0.02793	0.02793	ug/l	8.32	#VALUE!		56.67	53.34	53.33
51 V # 2	0.02435	0.02435	ug/l	29.30	#VALUE!		211.11	243.34	244.45
52 Cr # 2	0.02215	0.02215	ug/l	20.97	#VALUE!		170.00	157.78	184.45
55 Mn # 3	0.1224	0.1224	ug/l	6.60	#VALUE!		3000.33	3203.71	3300.39
56 Fe # 1	1.469	1.469	ug/l	2.71	#VALUE!		33166.97	33000.10	34456.33
59 Co # 3	0.01445	0.01445	ug/l	7.76	#VALUE!		210.01	220.01	240.01
60 Ni # 2	0.02679	0.02679	ug/l	31.09	#VALUE!		53.33	70.00	54.45
63 Cu # 2	-0.001726	-0.001726	ug/l	224.74	#VALUE!		462.23	462.23	492.23
66 Zn # 3	0.01188	0.01188	ug/l	184.85	#VALUE!		263.34	220.01	290.01
75 As # 2	0.0272	0.0272	ug/l	14.63	#VALUE!		22.00	23.67	22.33
78 Se # 1	0.04551	0.04551	ug/l	17.81	#VALUE!		40.67	37.33	45.00
88 Sr # 3	0.02441	0.02441	ug/l	6.94	#VALUE!		656.70	623.36	706.72
95 Mo # 3	0.0804	0.0804	ug/l	16.85	#VALUE!		376.68	336.68	286.68
107 Ag # 3	0.01346	0.01346	ug/l	6.66	#VALUE!		153.34	156.67	173.34
111 Cd # 3	0.00841	0.00841	ug/l	68.36	#VALUE!		46.55	46.56	69.91
118 Sn # 3	0.0562	0.0562	ug/l	21.05	#VALUE!		586.70	740.04	726.70
121 Sb # 3	0.2632	0.2632	ug/l	8.30	#VALUE!		2096.85	1946.84	1843.48
137 Ba # 3	0.01669	0.01669	ug/l	9.88	#VALUE!		73.34	80.00	70.00
202 Hg # 3	0.01694	0.01694	ug/l	16.13	#VALUE!		91.67	80.00	90.33
205 Tl # 3	0.003372	0.003372	ug/l	44.51	#VALUE!		153.34	93.34	116.67
208 Pb # 3	0.01442	0.01442	ug/l	11.30	#VALUE!		643.36	576.69	573.36
232 Th # 3	0.117	0.117	ug/l	1.13	#VALUE!		4110.68	4064.02	3920.61
238 U # 3	0.01811	0.01811	ug/l	9.81	#VALUE!		656.70	540.03	603.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	625196.38	3.08	836165.38	74.8	60 - 125		604269.81	642136.06	629183.31
45 Sc # 1	502530.78	0.66	552676.25	90.9	60 - 125		501102.38	500163.44	506326.50
45 Sc # 3	594245.50	0.92	644433.94	92.2	60 - 125		588465.19	599369.56	594901.75
74 Ge # 1	163819.13	0.73	175321.88	93.4	60 - 125		163890.03	162585.34	164981.98
74 Ge # 2	23795.93	1.74	27172.50	87.6	60 - 125		23368.33	23822.25	24197.20
74 Ge # 3	153301.17	1.17	164913.13	93.0	60 - 125		152258.75	155369.64	152275.14
89 Y # 3	1001068.90	0.58	1068488.30	93.7	60 - 125		994402.69	1004954.40	1003849.90
115 In # 3	984764.25	0.88	1083659.40	90.9	60 - 125		979043.75	980456.00	994793.13
159 Tb # 3	1389980.30	1.42	1651256.80	84.2	60 - 125		1371171.60	1388217.50	1410551.60
209 Bi # 3	854493.13	1.42	1054491.00	81.0	60 - 125		862873.75	860014.13	840591.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\226SMPL.D\226SMPL.D#
Date Acquired: Dec 26 2012 01:01 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85886-b-10-a
Misc Info: 3050 1/10
Vial Number: 4312
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.15	0.575	ug/l	5.38	100.00		1333.41	1546.77	1476.77
11 B # 3	37.98	18.99	ug/l	0.45	1800.00		54113.60	56035.22	56657.07
23 Na # 1	11644	5822	ug/l	1.24	81000.00		36379248.00	37523268.00	38028408.00
24 Mg # 1	42420	21210	ug/l	1.07	81000.00		90202096.00	91860024.00	92759992.00
27 Al # 1	17622	8811	ug/l	1.24	81000.00		42794012.00	43431688.00	43732088.00
39 K # 2	6240	3120	ug/l	1.50	81000.00		900484.38	909400.38	930975.81
40 Ca # 1	102500	51250	ug/l	0.80	81000.00		498938080.00	505471620.00	513355390.00
45 Sc # 2	----	--------		--------	#VALUE!		37417.04	37895.75	41642.70
47 Ti # 3	357	178.5	ug/l	1.29	1620.00		185594.42	185980.02	186135.08
51 V # 2	43.84	21.92	ug/l	1.88	1800.00		43055.97	43559.37	44215.34
52 Cr # 2	34.7	17.35	ug/l	1.78	1800.00		40589.45	41313.18	41839.92
55 Mn # 3	546.4	273.2	ug/l	1.22	1800.00		4527063.00	4483675.00	4529151.00
56 Fe # 1	36620	18310	ug/l	0.81	81000.00		240928740.00	243665010.00	244978050.00
59 Co # 3	16.056	8.028	ug/l	2.02	1800.00		102266.56	99926.33	102520.65
60 Ni # 2	43.38	21.69	ug/l	1.83	1800.00		21792.87	21804.02	22374.69
63 Cu # 2	29.56	14.78	ug/l	2.25	1800.00		39165.79	39456.45	39920.84
66 Zn # 3	113.6	56.8	ug/l	0.63	1800.00		85810.48	87498.03	87565.56
75 As # 2	12.93	6.465	ug/l	1.96	100.00		1296.38	1284.38	1332.05
78 Se # 1	0.5996	0.2998	ug/l	6.42	100.00		131.00	144.67	135.33
88 Sr # 3	71.12	35.56	ug/l	0.81	1800.00		974230.69	976866.63	975229.88
95 Mo # 3	5.526	2.763	ug/l	0.74	1800.00		8765.75	8799.14	8999.22
107 Ag # 3	0.08012	0.04006	ug/l	4.27	100.00		373.35	410.02	400.02
111 Cd # 3	0.2944	0.1472	ug/l	18.30	100.00		373.88	347.20	273.80
118 Sn # 3	2.908	1.454	ug/l	0.99	1800.00		9309.44	9372.83	9626.29
121 Sb # 3	0.8044	0.4022	ug/l	8.32	100.00		2793.64	2483.59	2510.25
137 Ba # 3	71.7	35.85	ug/l	1.41	1800.00		109985.48	108462.37	109944.36
202 Hg # 3	0.04354	0.02177	ug/l	3.48	5.00		87.33	85.67	86.67
205 Tl # 3	0.6326	0.3163	ug/l	1.50	20.00		6334.79	6351.48	6401.50
208 Pb # 3	21.28	10.64	ug/l	1.98	1800.00		293510.34	293220.44	293560.41
232 Th # 3	9.648	4.824	ug/l	0.87	#VALUE!		136869.25	137067.42	137491.72
238 U # 3	2.086	1.043	ug/l	1.38	#VALUE!		29799.78	29695.99	29539.08

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	541433.56	2.78	836165.38	64.8	60 - 125		524476.69	546610.19	553213.88
45 Sc # 1	525965.75	2.06	552676.25	95.2	60 - 125		517892.69	521732.03	538272.56
45 Sc # 3	598933.69	1.43	644433.94	92.9	60 - 125		589413.88	601417.44	605969.75
74 Ge # 1	147510.58	1.18	175321.88	84.1	60 - 125		146575.06	146443.66	149513.02
74 Ge # 2	21714.86	3.21	27172.50	79.9	60 - 125		21108.93	21559.47	22476.18
74 Ge # 3	135521.23	0.72	164913.13	82.2	60 - 125		134531.13	136467.78	135564.81
89 Y # 3	1110312.10	0.88	1068488.30	103.9	60 - 125		1099473.40	1113036.00	1118427.10
115 In # 3	891626.31	1.04	1083659.40	82.3	60 - 125		881731.56	893072.25	900075.38
159 Tb # 3	1323667.80	1.96	1651256.80	80.2	60 - 125		1295830.00	1327960.60	1347212.90
209 Bi # 3	743729.38	1.01	1054491.00	70.5	60 - 125		735089.25	748526.63	747572.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\227SMPL.D\227SMPL.D#
Date Acquired: Dec 26 2012 01:08 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: mb 680-260764_1-a
Misc Info: 3010 1/5
Vial Number: 3101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.005707	0.005707	ug/l	58.51	100.00		26.67	10.00	16.67
11 B # 3	1.446	1.446	ug/l	10.01	1800.00		10019.52	10139.53	9959.51
23 Na # 1	0.7115	0.7115	ug/l	35.35	81000.00		92276.25	92172.82	92487.74
24 Mg # 1	0.812	0.812	ug/l	15.44	81000.00		3680.46	4537.34	3513.77
27 Al # 1	3.762	3.762	ug/l	1.94	81000.00		18425.98	19453.61	19707.23
39 K # 2	-3.574	-3.574	ug/l	12.11	81000.00		6994.82	7321.68	7488.35
40 Ca # 1	6.964	6.964	ug/l	2.89	81000.00		129774.80	134303.39	131003.44
45 Sc # 2	----	--------		--------	#VALUE!		36818.09	38255.38	38886.66
47 Ti # 3	0.04541	0.04541	ug/l	31.05	1620.00		53.34	83.34	80.00
51 V # 2	0.1513	0.1513	ug/l	5.66	1800.00		516.68	530.01	508.90
52 Cr # 2	0.03807	0.03807	ug/l	27.98	1800.00		200.00	195.56	254.45
55 Mn # 3	0.033	0.033	ug/l	5.94	1800.00		1496.77	1510.11	1500.10
56 Fe # 1	1.44	1.44	ug/l	5.48	81000.00		33173.64	35264.10	32836.38
59 Co # 3	0.002503	0.002503	ug/l	56.85	1800.00		73.34	36.67	46.67
60 Ni # 2	0.02729	0.02729	ug/l	48.74	1800.00		43.33	72.22	67.78
63 Cu # 2	0.3522	0.3522	ug/l	3.46	1800.00		1473.41	1556.75	1554.53
66 Zn # 3	0.2361	0.2361	ug/l	10.21	1800.00		636.70	606.70	700.03
75 As # 2	0.09693	0.09693	ug/l	28.19	100.00		43.00	31.67	41.33
78 Se # 1	0.01308	0.01308	ug/l	43.36	100.00		26.33	30.33	25.33
88 Sr # 3	0.006178	0.006178	ug/l	5.67	1800.00		206.67	223.34	206.67
95 Mo # 3	0.02813	0.02813	ug/l	28.98	1800.00		163.34	170.01	120.00
107 Ag # 3	0.002008	0.002008	ug/l	85.11	100.00		50.00	23.33	56.67
111 Cd # 3	0.004142	0.004142	ug/l	225.45	100.00		26.62	69.95	39.96
118 Sn # 3	0.06345	0.06345	ug/l	11.30	1800.00		693.37	723.37	816.71
121 Sb # 3	0.172	0.172	ug/l	6.48	100.00		1390.10	1323.42	1443.44
137 Ba # 3	0.006333	0.006333	ug/l	45.98	1800.00		40.00	50.00	30.00
202 Hg # 3	0.0001098	0.0001098	ug/l	714.66	5.00		45.33	43.33	45.67
205 Tl # 3	0.002139	0.002139	ug/l	23.47	20.00		100.00	100.00	86.67
208 Pb # 3	0.002965	0.002965	ug/l	39.36	1800.00		293.34	256.68	250.01
232 Th # 3	0.05824	0.05824	ug/l	8.23	#VALUE!		2100.21	2233.57	1943.51
238 U # 3	0.002831	0.002831	ug/l	27.00	#VALUE!		73.34	100.00	126.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	587266.50	3.91	836165.38	70.2	60 - 125		561843.06	593443.25	606513.19
45 Sc # 1	515050.94	1.73	552676.25	93.2	60 - 125		504809.00	519318.44	521025.41
45 Sc # 3	589263.69	3.36	644433.94	91.4	60 - 125		566964.25	595932.06	604894.75
74 Ge # 1	167022.39	1.04	175321.88	95.3	60 - 125		165027.45	168173.09	167866.64
74 Ge # 2	24269.17	2.04	27172.50	89.3	60 - 125		23882.38	24097.05	24828.09
74 Ge # 3	153852.27	2.61	164913.13	93.3	60 - 125		149416.13	154913.97	157226.67
89 Y # 3	1005786.30	2.53	1068488.30	94.1	60 - 125		976545.50	1018104.90	1022708.80
115 In # 3	997139.69	2.94	1083659.40	92.0	60 - 125		963254.75	1013113.80	1015050.40
159 Tb # 3	1395425.30	3.77	1651256.80	84.5	60 - 125		1337397.10	1408743.10	1440135.60
209 Bi # 3	846479.75	2.40	1054491.00	80.3	60 - 125		822993.44	857946.25	858499.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\228SMPL.D\228SMPL.D#
Date Acquired: Dec 26 2012 01:15 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: lcs 680-260764_2-a
Misc Info: 3010 1/5
Vial Number: 3102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.72	10.72	ug/l	2.99	100.00		28975.39	28678.37	28521.33
11 B # 3	45	45	ug/l	1.64	1800.00		130396.53	133293.03	132790.69
23 Na # 1	998.8	998.8	ug/l	0.98	81000.00		6325474.00	6390244.00	6409187.50
24 Mg # 1	1009	1009	ug/l	1.05	81000.00		4263292.50	4336945.50	4279756.00
27 Al # 1	980.5	980.5	ug/l	1.58	81000.00		4704549.50	4829361.00	4710391.00
39 K # 2	999.2	999.2	ug/l	1.84	81000.00		318362.13	326666.03	333658.19
40 Ca # 1	1013	1013	ug/l	0.67	81000.00		9890059.00	9978916.00	9867644.00
45 Sc # 2	----	--------		--------	#VALUE!		36938.34	37948.13	38886.68
47 Ti # 3	20.26	20.26	ug/l	2.84	1620.00		20945.47	20845.44	20031.20
51 V # 2	19.69	19.69	ug/l	0.65	1800.00		42393.36	43124.98	43362.27
52 Cr # 2	19.98	19.98	ug/l	0.96	1800.00		51149.57	52215.93	52722.84
55 Mn # 3	103.4	103.4	ug/l	0.67	1800.00		1914073.90	1890019.40	1899351.90
56 Fe # 1	963.7	963.7	ug/l	0.94	81000.00		14493375.00	14765903.00	14493426.00
59 Co # 3	9.755	9.755	ug/l	0.38	1800.00		138046.98	136038.59	137810.27
60 Ni # 2	20.97	20.97	ug/l	1.58	1800.00		23062.24	23122.29	23691.86
63 Cu # 2	21.22	21.22	ug/l	0.69	1800.00		61229.88	62166.16	62571.98
66 Zn # 3	20.24	20.24	ug/l	1.12	1800.00		34840.42	34613.37	34392.85
75 As # 2	20.24	20.24	ug/l	1.23	100.00		4327.19	4503.23	4490.56
78 Se # 1	18.9	18.9	ug/l	0.42	100.00		8494.32	8546.68	8436.63
88 Sr # 3	19.12	19.12	ug/l	0.46	1800.00		470895.72	469209.69	471250.00
95 Mo # 3	19.73	19.73	ug/l	0.72	1800.00		70700.92	69379.23	69727.15
107 Ag # 3	10.39	10.39	ug/l	0.72	100.00		107465.87	108505.67	107780.88
111 Cd # 3	9.889	9.889	ug/l	0.60	100.00		22422.29	22566.31	22292.46
118 Sn # 3	20.18	20.18	ug/l	0.39	1800.00		141884.05	141404.48	141957.92
121 Sb # 3	10.78	10.78	ug/l	0.13	100.00		71193.36	70868.72	70547.81
137 Ba # 3	20.35	20.35	ug/l	0.49	1800.00		69703.43	68957.27	68565.40
202 Hg # 3	0.9416	0.9416	ug/l	0.72	5.00		2380.52	2399.52	2391.18
205 Tl # 3	7.807	7.807	ug/l	1.47	20.00		163601.23	167366.30	168845.70
208 Pb # 3	9.979	9.979	ug/l	1.58	1800.00		294623.88	294246.41	293195.16
232 Th # 3	20.43	20.43	ug/l	0.18	#VALUE!		665395.00	663644.81	661206.88
238 U # 3	21.36	21.36	ug/l	0.29	#VALUE!		695138.44	695165.50	693737.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	575760.44	2.21	836165.38	68.9	60 - 125		563723.25	574525.06	589032.94
45 Sc # 1	517855.38	0.28	552676.25	93.7	60 - 125		519453.66	517453.53	516658.91
45 Sc # 3	584151.38	0.44	644433.94	90.6	60 - 125		583542.00	581932.31	586979.88
74 Ge # 1	167897.75	0.26	175321.88	95.8	60 - 125		168076.20	168211.06	167405.97
74 Ge # 2	23787.81	1.07	27172.50	87.5	60 - 125		23510.80	24012.51	23840.10
74 Ge # 3	150759.41	0.70	164913.13	91.4	60 - 125		150915.58	149641.42	151721.22
89 Y # 3	995665.50	0.66	1068488.30	93.2	60 - 125		1000691.80	988163.31	998141.63
115 In # 3	990679.88	0.34	1083659.40	91.4	60 - 125		994395.38	989951.94	987692.25
159 Tb # 3	1414246.50	1.36	1651256.80	85.6	60 - 125		1407971.60	1398941.30	1435826.80
209 Bi # 3	850249.00	0.34	1054491.00	80.6	60 - 125		853568.50	848795.06	848383.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\229SMPL.D\229SMPL.D#
Date Acquired: Dec 26 2012 01:23 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-1-a
Misc Info: 3010 1/5
Vial Number: 3103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01065	0.01065	ug/l	13.73	100.00		33.33	26.67	33.33
11 B # 3	4.139	4.139	ug/l	2.54	1800.00		17027.88	17902.03	17751.95
23 Na # 1	12410	12410	ug/l	0.29	81000.00		76831416.00	77405128.00	77792432.00
24 Mg # 1	3579	3579	ug/l	0.62	81000.00		14923251.00	15126598.00	15120296.00
27 Al # 1	3.213	3.213	ug/l	1.32	81000.00		16154.57	16504.24	16714.48
39 K # 2	177.5	177.5	ug/l	1.64	81000.00		62721.49	64754.98	64146.18
40 Ca # 1	23720	23720	ug/l	0.92	81000.00		225010500.00	227651570.00	231694640.00
45 Sc # 2	----	--------		--------	#VALUE!		36893.86	36887.10	38469.13
47 Ti # 3	0.1369	0.1369	ug/l	34.13	1620.00		116.67	213.34	163.34
51 V # 2	0.2406	0.2406	ug/l	7.87	1800.00		652.24	684.46	743.36
52 Cr # 2	0.1401	0.1401	ug/l	8.21	1800.00		501.12	457.79	453.34
55 Mn # 3	0.2364	0.2364	ug/l	6.57	1800.00		5420.93	5194.20	4850.76
56 Fe # 1	7.429	7.429	ug/l	1.12	81000.00		120456.41	121480.13	121281.92
59 Co # 3	0.03571	0.03571	ug/l	2.38	1800.00		506.69	510.02	523.36
60 Ni # 2	0.3684	0.3684	ug/l	6.52	1800.00		426.68	458.90	411.12
63 Cu # 2	0.6287	0.6287	ug/l	4.39	1800.00		2315.72	2289.05	2199.04
66 Zn # 3	1.121	1.121	ug/l	4.21	1800.00		2196.86	2086.86	2063.52
75 As # 2	0.1646	0.1646	ug/l	21.60	100.00		43.00	54.67	58.33
78 Se # 1	0.05426	0.05426	ug/l	2.36	100.00		45.33	44.00	44.67
88 Sr # 3	76.52	76.52	ug/l	0.62	1800.00		1868467.50	1872687.60	1873202.50
95 Mo # 3	0.1043	0.1043	ug/l	14.09	1800.00		403.35	463.35	366.68
107 Ag # 3	0.003535	0.003535	ug/l	11.58	100.00		60.00	60.00	53.34
111 Cd # 3	0.02032	0.02032	ug/l	21.24	100.00		79.87	69.86	89.89
118 Sn # 3	0.08235	0.08235	ug/l	5.54	1800.00		870.05	813.38	876.72
121 Sb # 3	0.3009	0.3009	ug/l	4.09	100.00		2250.21	2163.54	2110.20
137 Ba # 3	15.4	15.4	ug/l	0.23	1800.00		50960.36	51050.73	51535.31
202 Hg # 3	0.01655	0.01655	ug/l	3.76	5.00		80.00	81.33	82.67
205 Tl # 3	0.02961	0.02961	ug/l	10.61	20.00		730.04	670.04	610.03
208 Pb # 3	0.02252	0.02252	ug/l	4.39	1800.00		813.37	866.71	813.37
232 Th # 3	0.1079	0.1079	ug/l	0.92	#VALUE!		3547.18	3460.49	3537.20
238 U # 3	0.208	0.208	ug/l	2.80	#VALUE!		6341.52	6261.48	6628.31

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	580517.88	2.44	836165.38	69.4	60 - 125		566269.56	580638.69	594645.31
45 Sc # 1	512326.34	0.59	552676.25	92.7	60 - 125		510121.66	511111.47	515745.81
45 Sc # 3	584089.75	0.63	644433.94	90.6	60 - 125		579850.44	586576.06	585842.81
74 Ge # 1	163299.28	0.80	175321.88	93.1	60 - 125		163382.34	161948.38	164567.11
74 Ge # 2	23467.40	0.80	27172.50	86.4	60 - 125		23310.52	23416.25	23675.44
74 Ge # 3	149186.11	0.98	164913.13	90.5	60 - 125		148474.73	150870.27	148213.31
89 Y # 3	989959.69	0.50	1068488.30	92.7	60 - 125		994303.31	991066.00	984509.75
115 In # 3	969832.38	0.58	1083659.40	89.5	60 - 125		968054.13	965332.88	976110.19
159 Tb # 3	1387948.40	0.90	1651256.80	84.1	60 - 125		1373590.40	1393621.30	1396633.40
209 Bi # 3	804612.94	0.49	1054491.00	76.3	60 - 125		807687.88	800186.63	805964.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\230SMPL.D\230SMPL.D#
Date Acquired: Dec 26 2012 01:30 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-2-a
Misc Info: 3010 1/5
Vial Number: 3104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.000497	-0.000497	ug/l	128.65	100.00		0.00	0.00	3.33
11 B # 3	3.144	3.144	ug/l	4.09	1800.00		15206.38	15836.93	15963.61
23 Na # 1	3484	3484	ug/l	0.70	81000.00		21928838.00	22363004.00	22269616.00
24 Mg # 1	2228	2228	ug/l	1.13	81000.00		9379951.00	9662443.00	9603803.00
27 Al # 1	3.596	3.596	ug/l	7.61	81000.00		17221.71	20010.41	18674.34
39 K # 2	398.2	398.2	ug/l	0.59	81000.00		133420.23	137461.28	140658.78
40 Ca # 1	20020	20020	ug/l	0.86	81000.00		194302500.00	198068060.00	196288110.00
45 Sc # 2	----	--------		--------	#VALUE!		37728.81	38794.23	39644.97
47 Ti # 3	0.09354	0.09354	ug/l	32.14	1620.00		90.00	130.01	156.67
51 V # 2	0.1982	0.1982	ug/l	10.38	1800.00		638.91	574.46	646.68
52 Cr # 2	0.03333	0.03333	ug/l	2.41	1800.00		197.78	202.23	208.89
55 Mn # 3	0.1632	0.1632	ug/l	8.64	1800.00		3633.78	4037.24	4213.93
56 Fe # 1	4.808	4.808	ug/l	2.19	81000.00		81905.29	84517.46	85724.47
59 Co # 3	0.02567	0.02567	ug/l	3.28	1800.00		396.68	383.35	380.02
60 Ni # 2	0.3897	0.3897	ug/l	5.48	1800.00		461.12	494.46	452.23
63 Cu # 2	0.9838	0.9838	ug/l	0.81	1800.00		3261.43	3431.47	3455.91
66 Zn # 3	1.771	1.771	ug/l	2.59	1800.00		3337.06	3357.08	3270.39
75 As # 2	0.1478	0.1478	ug/l	7.56	100.00		51.00	48.00	50.33
78 Se # 1	0.05066	0.05066	ug/l	3.94	100.00		44.33	43.00	44.33
88 Sr # 3	100.8	100.8	ug/l	1.22	1800.00		2534590.30	2546431.00	2575336.50
95 Mo # 3	0.1403	0.1403	ug/l	6.96	1800.00		573.36	556.69	523.35
107 Ag # 3	0.004116	0.004116	ug/l	23.37	100.00		70.00	53.34	73.34
111 Cd # 3	-0.001132	-0.001132	ug/l	237.01	100.00		39.82	29.82	29.83
118 Sn # 3	0.05643	0.05643	ug/l	3.00	1800.00		700.03	676.70	706.70
121 Sb # 3	1.347	1.347	ug/l	1.21	100.00		9156.04	9015.92	9232.72
137 Ba # 3	12.12	12.12	ug/l	1.74	1800.00		41471.33	41324.30	41454.60
202 Hg # 3	0.01164	0.01164	ug/l	5.24	5.00		72.67	73.00	71.00
205 Tl # 3	0.009565	0.009565	ug/l	17.01	20.00		250.01	293.35	223.34
208 Pb # 3	0.1423	0.1423	ug/l	4.29	1800.00		4190.35	4560.41	4370.38
232 Th # 3	0.04784	0.04784	ug/l	5.00	#VALUE!		1756.82	1776.82	1653.47
238 U # 3	0.222	0.222	ug/l	0.91	#VALUE!		7115.23	7068.52	7058.47

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	617254.44	4.41	836165.38	73.8	60 - 125		592851.56	612285.19	646626.44
45 Sc # 1	521882.66	0.75	552676.25	94.4	60 - 125		518017.97	521793.66	525836.31
45 Sc # 3	608823.06	1.53	644433.94	94.5	60 - 125		601835.75	605252.25	619381.19
74 Ge # 1	166290.25	0.48	175321.88	94.8	60 - 125		165375.38	166716.31	166779.08
74 Ge # 2	24175.33	2.56	27172.50	89.0	60 - 125		23482.93	24371.88	24671.19
74 Ge # 3	154438.23	1.08	164913.13	93.6	60 - 125		153345.39	153607.58	156361.70
89 Y # 3	1024993.00	1.94	1068488.30	95.9	60 - 125		1015958.90	1011261.60	1047758.80
115 In # 3	997162.25	1.83	1083659.40	92.0	60 - 125		986678.94	986617.50	1018190.40
159 Tb # 3	1414247.60	0.24	1651256.80	85.6	60 - 125		1414343.90	1417586.60	1410812.40
209 Bi # 3	832933.31	0.59	1054491.00	79.0	60 - 125		830384.13	829842.19	838573.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\231SMPL.D\231SMPL.D#
Date Acquired: Dec 26 2012 01:38 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-3-a
Misc Info: 3010 1/5
Vial Number: 3105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0007537	0.0007537	ug/l	97.12	100.00		6.67	3.33	3.33
11 B # 3	5.802	5.802	ug/l	3.38	1800.00		22857.33	22873.98	22430.10
23 Na # 1	61010	61010	ug/l	0.66	81000.00		373387040.00	382100990.00	382088990.00
24 Mg # 1	6039	6039	ug/l	2.10	81000.00		24557002.00	25677226.00	25830872.00
27 Al # 1	2.374	2.374	ug/l	11.62	81000.00		11224.00	13938.60	12085.07
39 K # 2	592.1	592.1	ug/l	1.69	81000.00		185776.34	190959.70	197255.39
40 Ca # 1	41860	41860	ug/l	1.25	81000.00		399005220.00	398370020.00	407779390.00
45 Sc # 2	----	--------		--------	#VALUE!		37683.19	38386.72	39240.73
47 Ti # 3	0.1739	0.1739	ug/l	32.54	1620.00		166.67	173.34	273.35
51 V # 2	0.2854	0.2854	ug/l	10.70	1800.00		820.03	794.47	717.80
52 Cr # 2	0.02426	0.02426	ug/l	33.75	1800.00		182.22	181.11	150.00
55 Mn # 3	26.99	26.99	ug/l	0.92	1800.00		473252.19	478229.78	481809.88
56 Fe # 1	26.6	26.6	ug/l	1.09	81000.00		380915.94	391657.91	391188.16
59 Co # 3	0.3683	0.3683	ug/l	3.12	1800.00		4917.45	5134.17	4947.48
60 Ni # 2	0.6404	0.6404	ug/l	2.33	1800.00		708.91	701.13	750.02
63 Cu # 2	2	2	ug/l	1.64	1800.00		6011.03	6167.74	6129.95
66 Zn # 3	2.21	2.21	ug/l	2.55	1800.00		3743.82	3897.18	3867.19
75 As # 2	0.292	0.292	ug/l	3.77	100.00		75.33	80.33	79.33
78 Se # 1	0.05295	0.05295	ug/l	10.05	100.00		41.67	45.00	40.67
88 Sr # 3	171.1	171.1	ug/l	0.86	1800.00		4153710.30	4122497.00	4144466.30
95 Mo # 3	0.2106	0.2106	ug/l	8.75	1800.00		666.70	796.71	756.71
107 Ag # 3	0.005351	0.005351	ug/l	38.01	100.00		83.34	50.00	83.34
111 Cd # 3	0.044	0.044	ug/l	37.16	100.00		159.79	123.08	93.09
118 Sn # 3	0.07496	0.07496	ug/l	7.09	1800.00		736.71	743.37	803.37
121 Sb # 3	0.7502	0.7502	ug/l	1.79	100.00		4790.79	4730.79	4860.82
137 Ba # 3	45.03	45.03	ug/l	1.38	1800.00		142685.55	142026.44	140793.64
202 Hg # 3	0.02429	0.02429	ug/l	15.26	5.00		88.00	99.33	83.67
205 Tl # 3	0.008837	0.008837	ug/l	11.01	20.00		243.35	213.34	220.01
208 Pb # 3	0.6571	0.6571	ug/l	2.28	1800.00		18441.44	18204.62	18474.77
232 Th # 3	0.03653	0.03653	ug/l	4.35	#VALUE!		1170.09	1173.42	1256.76
238 U # 3	0.4686	0.4686	ug/l	1.46	#VALUE!		13105.97	13216.01	12932.55

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	592385.81	1.68	836165.38	70.8	60 - 125		580969.63	596941.75	599246.06
45 Sc # 1	511227.97	0.68	552676.25	92.5	60 - 125		507253.94	513630.84	512799.13
45 Sc # 3	591043.25	0.81	644433.94	91.7	60 - 125		586032.88	591586.88	595510.13
74 Ge # 1	157168.45	0.52	175321.88	89.6	60 - 125		156223.36	157543.50	157738.50
74 Ge # 2	23138.43	1.52	27172.50	85.2	60 - 125		22879.99	22996.75	23538.57
74 Ge # 3	144994.56	0.94	164913.13	87.9	60 - 125		144833.11	143726.61	146423.94
89 Y # 3	979440.69	0.59	1068488.30	91.7	60 - 125		972965.19	981176.88	984180.00
115 In # 3	919644.06	0.84	1083659.40	84.9	60 - 125		910857.38	925591.25	922483.31
159 Tb # 3	1330468.00	1.63	1651256.80	80.6	60 - 125		1306965.90	1349767.30	1334670.90
209 Bi # 3	729760.44	0.82	1054491.00	69.2	60 - 125		722867.56	733035.69	733378.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\232SMPL.D\232SMPL.D#
Date Acquired: Dec 26 2012 01:45 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-4-a
Misc Info: 3010 1/5
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.006837	0.006837	ug/l	18.55	100.00		16.67	23.33	23.33
11 B	# 3	1.788	1.788	ug/l	5.23	1800.00		10789.96	11366.95	10943.34
23 Na	# 1	302	302	ug/l	1.23	81000.00		1970709.80	1914373.90	1964603.10
24 Mg	# 1	1737	1737	ug/l	0.95	81000.00		7322265.50	7123921.50	7270271.50
27 Al	# 1	4.571	4.571	ug/l	6.20	81000.00		21676.88	24079.08	22480.77
39 K	# 2	383.3	383.3	ug/l	1.45	81000.00		128268.09	127227.76	133225.67
40 Ca	# 1	17200	17200	ug/l	0.91	81000.00		163245420.00	163798350.00	164673460.00
45 Sc	# 2	----	--------		--------	#VALUE!		37130.91	37808.93	38332.28
47 Ti	# 3	0.1781	0.1781	ug/l	17.59	1620.00		190.01	186.67	243.35
51 V	# 2	0.3663	0.3663	ug/l	5.80	1800.00		1007.82	950.03	952.26
52 Cr	# 2	0.1054	0.1054	ug/l	9.37	1800.00		351.12	392.23	412.23
55 Mn	# 3	25	25	ug/l	0.67	1800.00		461405.47	456184.00	460843.63
56 Fe	# 1	232.9	232.9	ug/l	0.56	81000.00		3451854.00	3441775.80	3460327.80
59 Co	# 3	0.05142	0.05142	ug/l	9.25	1800.00		660.03	780.04	776.71
60 Ni	# 2	0.3869	0.3869	ug/l	2.47	1800.00		453.34	463.34	452.23
63 Cu	# 2	0.4778	0.4778	ug/l	3.11	1800.00		1794.55	1895.67	1866.78
66 Zn	# 3	0.8331	0.8331	ug/l	5.07	1800.00		1560.11	1693.46	1686.80
75 As	# 2	0.473	0.473	ug/l	6.41	100.00		122.67	111.67	124.00
78 Se	# 1	0.03631	0.03631	ug/l	26.94	100.00		37.00	32.67	41.33
88 Sr	# 3	77.61	77.61	ug/l	1.01	1800.00		1885177.60	1904558.30	1895117.50
95 Mo	# 3	0.1571	0.1571	ug/l	4.83	1800.00		613.36	560.03	603.36
107 Ag	# 3	0.0001545	0.0001545	ug/l	566.93	100.00		13.33	30.00	26.67
111 Cd	# 3	0.004351	0.004351	ug/l	100.69	100.00		33.14	49.82	49.81
118 Sn	# 3	0.07783	0.07783	ug/l	8.06	1800.00		853.38	830.05	773.38
121 Sb	# 3	0.366	0.366	ug/l	6.25	100.00		2753.63	2473.59	2520.25
137 Ba	# 3	7.144	7.144	ug/l	1.21	1800.00		23667.08	23827.36	23450.15
202 Hg	# 3	0.003	0.003	ug/l	77.33	5.00		53.00	43.67	54.00
205 Tl	# 3	0.003852	0.003852	ug/l	29.60	20.00		150.01	103.34	133.34
208 Pb	# 3	0.04887	0.04887	ug/l	3.43	1800.00		1550.08	1603.42	1540.08
232 Th	# 3	0.02744	0.02744	ug/l	0.78	#VALUE!		1056.74	1053.41	1073.41
238 U	# 3	0.219	0.219	ug/l	2.17	#VALUE!		6691.66	6865.06	7021.82

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	587455.50	2.09	836165.38	70.3	60 - 125		573746.63	591151.06	597468.88
45 Sc	# 1	507541.06	0.58	552676.25	91.8	60 - 125		510790.81	505037.41	506794.94
45 Sc	# 3	585869.81	0.07	644433.94	90.9	60 - 125		585739.44	586355.06	585515.00
74 Ge	# 1	163962.27	0.60	175321.88	93.5	60 - 125		165047.31	163103.05	163736.42
74 Ge	# 2	23664.68	1.61	27172.50	87.1	60 - 125		23321.68	23597.57	24074.81
74 Ge	# 3	150532.31	0.30	164913.13	91.3	60 - 125		150135.50	150442.50	151018.92
89 Y	# 3	988269.13	0.53	1068488.30	92.5	60 - 125		991231.94	982185.38	991390.06
115 In	# 3	965917.88	0.42	1083659.40	89.1	60 - 125		967074.69	961368.94	969309.88
159 Tb	# 3	1363557.80	1.09	1651256.80	82.6	60 - 125		1356755.30	1353354.40	1380563.50
209 Bi	# 3	817818.06	0.38	1054491.00	77.6	60 - 125		816917.00	815228.06	821309.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\233SMPL.D\233SMPL.D#
Date Acquired: Dec 26 2012 01:52 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-5-a
Misc Info: 3010 1/5
Vial Number: 3107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01134	0.01134	ug/l	29.78	100.00		40.00	36.67	23.33
11 B # 3	1.79	1.79	ug/l	5.55	1800.00		10823.30	11430.32	10903.36
23 Na # 1	1599	1599	ug/l	0.84	81000.00		9665989.00	9874621.00	9880422.00
24 Mg # 1	1285	1285	ug/l	0.94	81000.00		5170518.50	5296523.00	5365643.50
27 Al # 1	53.05	53.05	ug/l	0.56	81000.00		247420.00	249288.44	250513.91
39 K # 2	447.3	447.3	ug/l	0.38	81000.00		144943.70	146882.13	151406.83
40 Ca # 1	12930	12930	ug/l	1.09	81000.00		120197810.00	122440730.00	121615490.00
45 Sc # 2	----	--------		--------	#VALUE!		36484.15	36919.44	37754.52
47 Ti # 3	0.3682	0.3682	ug/l	11.31	1620.00		396.68	353.35	436.69
51 V # 2	0.329	0.329	ug/l	2.10	1800.00		878.92	870.03	883.36
52 Cr # 2	0.144	0.144	ug/l	5.39	1800.00		491.12	472.23	470.01
55 Mn # 3	4.582	4.582	ug/l	0.80	1800.00		83243.89	84013.69	84626.24
56 Fe # 1	132.8	132.8	ug/l	0.64	81000.00		1965205.10	1938557.60	1966790.60
59 Co # 3	0.07299	0.07299	ug/l	4.37	1800.00		993.39	1016.72	1080.06
60 Ni # 2	0.3928	0.3928	ug/l	9.07	1800.00		424.45	496.68	447.79
63 Cu # 2	0.7029	0.7029	ug/l	0.83	1800.00		2414.63	2462.41	2522.42
66 Zn # 3	0.9828	0.9828	ug/l	3.24	1800.00		1886.82	1926.83	1823.48
75 As # 2	0.2716	0.2716	ug/l	11.52	100.00		71.67	81.33	70.67
78 Se # 1	0.03551	0.03551	ug/l	9.36	100.00		36.33	37.67	35.00
88 Sr # 3	57.25	57.25	ug/l	0.73	1800.00		1399083.50	1375412.10	1369661.50
95 Mo # 3	0.3021	0.3021	ug/l	6.79	1800.00		1110.07	1020.06	1156.74
107 Ag # 3	-0.0001815	-0.0001815	ug/l	179.45	100.00		20.00	23.33	16.67
111 Cd # 3	0.009243	0.009243	ug/l	52.40	100.00		59.65	43.01	62.96
118 Sn # 3	0.06652	0.06652	ug/l	23.93	1800.00		623.37	826.71	780.04
121 Sb # 3	0.2216	0.2216	ug/l	3.67	100.00		1646.80	1723.48	1623.46
137 Ba # 3	7.977	7.977	ug/l	1.34	1800.00		26197.45	26694.96	26527.98
202 Hg # 3	0.002414	0.002414	ug/l	86.83	5.00		45.00	54.67	47.00
205 Tl # 3	0.00393	0.00393	ug/l	39.36	20.00		170.01	120.00	106.67
208 Pb # 3	0.06315	0.06315	ug/l	1.84	1800.00		2030.12	1943.44	2010.12
232 Th # 3	0.03403	0.03403	ug/l	6.80	#VALUE!		1233.43	1353.44	1220.09
238 U # 3	0.1618	0.1618	ug/l	2.76	#VALUE!		5141.02	5167.69	4924.26

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	588113.00	1.74	836165.38	70.3	60 - 125		576378.00	592689.50	595271.56
45 Sc # 1	500102.72	1.12	552676.25	90.5	60 - 125		495320.19	498732.97	506254.97
45 Sc # 3	578783.56	0.67	644433.94	89.8	60 - 125		574296.75	581419.81	580633.88
74 Ge # 1	162597.44	0.32	175321.88	92.7	60 - 125		162392.61	162212.34	163187.39
74 Ge # 2	23336.85	2.08	27172.50	85.9	60 - 125		22986.78	23132.48	23891.29
74 Ge # 3	148820.56	0.07	164913.13	90.2	60 - 125		148810.36	148716.61	148934.72
89 Y # 3	976550.31	0.64	1068488.30	91.4	60 - 125		981340.63	978857.69	969452.56
115 In # 3	968468.00	0.47	1083659.40	89.4	60 - 125		973341.00	967846.25	964216.63
159 Tb # 3	1380356.10	0.84	1651256.80	83.6	60 - 125		1393539.30	1371419.90	1376109.10
209 Bi # 3	819101.88	0.25	1054491.00	77.7	60 - 125		816759.56	820116.31	820429.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\234SMPL.D\234SMPL.D#
Date Acquired: Dec 26 2012 02:00 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-6-a
Misc Info: 3010 1/5
Vial Number: 3108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01842	0.01842	ug/l	28.80	100.00		36.67	66.67	56.67
11 B # 3	13.41	13.41	ug/l	1.11	1800.00		43827.09	45223.78	45093.43
23 Na # 1	6498	6498	ug/l	1.31	81000.00		38741096.00	39839668.00	40369016.00
24 Mg # 1	3833	3833	ug/l	0.58	81000.00		15610453.00	15648238.00	16037950.00
27 Al # 1	1.282	1.282	ug/l	0.70	81000.00		6948.12	7064.85	7138.22
39 K # 2	1036	1036	ug/l	0.40	81000.00		320941.97	328329.28	337316.94
40 Ca # 1	19610	19610	ug/l	1.41	81000.00		180444960.00	186547140.00	186155120.00
45 Sc # 2	----	--------		--------	#VALUE!		36875.95	37301.28	37977.07
47 Ti # 3	0.1788	0.1788	ug/l	19.79	1620.00		226.67	226.68	166.67
51 V # 2	0.2353	0.2353	ug/l	5.03	1800.00		662.24	644.46	711.13
52 Cr # 2	0.1134	0.1134	ug/l	10.57	1800.00		357.79	424.45	408.90
55 Mn # 3	17.43	17.43	ug/l	0.63	1800.00		318257.00	317598.94	316424.69
56 Fe # 1	2.488	2.488	ug/l	1.36	81000.00		46563.01	47889.26	47872.87
59 Co # 3	0.04779	0.04779	ug/l	10.38	1800.00		640.03	640.03	763.37
60 Ni # 2	0.4342	0.4342	ug/l	6.19	1800.00		511.12	504.46	475.57
63 Cu # 2	1.473	1.473	ug/l	0.40	1800.00		4543.93	4592.83	4719.53
66 Zn # 3	0.8405	0.8405	ug/l	9.30	1800.00		1520.11	1770.14	1636.79
75 As # 2	0.1927	0.1927	ug/l	8.50	100.00		55.00	61.00	55.67
78 Se # 1	0.0476	0.0476	ug/l	21.20	100.00		45.33	39.33	38.00
88 Sr # 3	277.5	277.5	ug/l	0.99	1800.00		6621020.00	6762722.50	6717879.50
95 Mo # 3	0.3298	0.3298	ug/l	3.58	1800.00		1213.41	1166.75	1156.74
107 Ag # 3	0.0008325	0.0008325	ug/l	118.37	100.00		20.00	40.00	30.00
111 Cd # 3	0.006428	0.006428	ug/l	56.71	100.00		39.61	49.63	56.30
118 Sn # 3	0.06319	0.06319	ug/l	4.84	1800.00		693.37	703.37	743.37
121 Sb # 3	2.436	2.436	ug/l	1.65	100.00		15724.17	15790.94	15520.63
137 Ba # 3	19.3	19.3	ug/l	0.14	1800.00		62693.59	63502.86	63921.13
202 Hg # 3	0.003756	0.003756	ug/l	53.30	5.00		47.00	56.00	50.00
205 Tl # 3	0.003635	0.003635	ug/l	21.39	20.00		126.67	143.34	110.00
208 Pb # 3	0.4566	0.4566	ug/l	1.22	1800.00		13432.63	13399.29	13309.31
232 Th # 3	0.01977	0.01977	ug/l	9.82	#VALUE!		870.05	750.04	796.71
238 U # 3	0.2024	0.2024	ug/l	1.31	#VALUE!		6128.06	6214.84	6301.52

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	592335.81	2.09	836165.38	70.8	60 - 125		579109.50	594207.31	603690.63
45 Sc # 1	500872.56	0.97	552676.25	90.6	60 - 125		496891.09	499465.13	506261.41
45 Sc # 3	584327.94	0.87	644433.94	90.7	60 - 125		584921.06	578999.81	589063.00
74 Ge # 1	159984.72	1.07	175321.88	91.3	60 - 125		158431.17	159692.38	161830.63
74 Ge # 2	23145.14	2.12	27172.50	85.2	60 - 125		22684.17	23091.37	23659.89
74 Ge # 3	149036.84	0.46	164913.13	90.4	60 - 125		149281.02	148256.14	149573.39
89 Y # 3	977292.81	0.23	1068488.30	91.5	60 - 125		975368.44	976744.88	979765.19
115 In # 3	958312.06	0.88	1083659.40	88.4	60 - 125		949503.94	959035.19	966397.06
159 Tb # 3	1388394.60	0.90	1651256.80	84.1	60 - 125		1374646.60	1399060.80	1391476.60
209 Bi # 3	801855.06	0.30	1054491.00	76.0	60 - 125		802169.31	799315.88	804079.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\235SMPL.D\235SMPL.D#
Date Acquired: Dec 26 2012 02:07 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-6-a SD
Misc Info: 3010 1/25
Vial Number: 3109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0373	0.00746	ug/l	32.51	100.00		26.67	16.67	30.00
11 B # 3	14.85	2.97	ug/l	4.97	1800.00		15423.17	15299.70	15823.58
23 Na # 1	6730	1346	ug/l	0.35	81000.00		8332686.50	8380735.50	8486287.00
24 Mg # 1	4048	809.6	ug/l	0.91	81000.00		3329707.00	3419910.00	3386378.30
27 Al # 1	4.097	0.8194	ug/l	4.26	81000.00		5000.80	5054.14	4800.71
39 K # 2	1042.5	208.5	ug/l	2.21	81000.00		74176.46	74715.27	78350.00
40 Ca # 1	20435	4087	ug/l	1.41	81000.00		38910112.00	38472748.00	39732996.00
45 Sc # 2	----	--------		--------	#VALUE!		37627.47	38490.32	38844.38
47 Ti # 3	0.1514	0.03028	ug/l	46.66	1620.00		56.67	73.34	43.33
51 V # 2	0.3446	0.06892	ug/l	29.09	1800.00		312.23	302.23	390.01
52 Cr # 2	0.11145	0.02229	ug/l	16.71	1800.00		160.00	175.56	185.56
55 Mn # 3	17.76	3.552	ug/l	3.32	1800.00		66797.58	67286.47	69537.65
56 Fe # 1	3.4645	0.6929	ug/l	2.22	81000.00		22200.54	22080.44	22464.28
59 Co # 3	0.043875	0.008775	ug/l	12.59	1800.00		136.67	133.34	160.01
60 Ni # 2	0.873	0.1746	ug/l	5.03	1800.00		218.89	220.00	241.11
63 Cu # 2	1.244	0.2488	ug/l	6.54	1800.00		1144.49	1223.39	1282.28
66 Zn # 3	1.0905	0.2181	ug/l	6.26	1800.00		600.03	633.36	626.70
75 As # 2	0.276	0.0552	ug/l	13.63	100.00		27.67	31.33	28.67
78 Se # 1	0.053	0.0106	ug/l	45.23	100.00		28.00	24.33	25.33
88 Sr # 3	291.05	58.21	ug/l	0.80	1800.00		1441828.30	1432882.30	1444506.50
95 Mo # 3	0.2979	0.05958	ug/l	3.52	1800.00		253.34	266.68	260.01
107 Ag # 3	-0.0021355	-0.0004271	ug/l	231.73	100.00		20.00	6.67	26.67
111 Cd # 3	0.017695	0.003539	ug/l	41.68	100.00		43.25	46.58	39.92
118 Sn # 3	0.10365	0.02073	ug/l	11.80	1800.00		436.69	420.02	453.35
121 Sb # 3	2.52	0.504	ug/l	4.15	100.00		3667.19	3540.46	3373.77
137 Ba # 3	19.275	3.855	ug/l	0.51	1800.00		13128.79	12931.99	12948.58
202 Hg # 3	-0.007575	-0.001515	ug/l	174.19	5.00		40.00	34.33	47.00
205 Tl # 3	0.011885	0.002377	ug/l	12.40	20.00		96.67	106.67	93.34
208 Pb # 3	0.4967	0.09934	ug/l	2.93	1800.00		2923.53	3033.55	3066.88
232 Th # 3	0.04749	0.009498	ug/l	8.84	#VALUE!		526.69	486.69	530.03
238 U # 3	0.19815	0.03963	ug/l	1.36	#VALUE!		1293.43	1273.43	1276.76

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	632271.75	2.63	836165.38	75.6	60 - 125		613242.69	644153.63	639418.94
45 Sc # 1	508131.53	0.93	552676.25	91.9	60 - 125		503043.81	509001.56	512349.28
45 Sc # 3	603371.50	1.27	644433.94	93.6	60 - 125		594528.75	608490.19	607095.63
74 Ge # 1	164989.66	0.84	175321.88	94.1	60 - 125		163391.34	165678.98	165898.67
74 Ge # 2	24147.91	1.82	27172.50	88.9	60 - 125		23654.27	24295.16	24494.31
74 Ge # 3	154745.19	1.19	164913.13	93.8	60 - 125		156659.27	154590.97	152985.34
89 Y # 3	1001056.10	0.38	1068488.30	93.7	60 - 125		999601.13	1005336.30	998231.00
115 In # 3	983638.50	0.35	1083659.40	90.8	60 - 125		987500.94	982285.19	981129.44
159 Tb # 3	1368293.30	0.86	1651256.80	82.9	60 - 125		1367044.00	1380702.90	1357132.80
209 Bi # 3	840029.94	0.59	1054491.00	79.7	60 - 125		836034.31	845595.44	838460.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\236_CCV.D\236_CCV.D#
Date Acquired: Dec 26 2012 02:15 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	52.78 ug/l	3.38	50.00	90 - 110		156001.44	154573.14	154402.09
11 B	106.2 ug/l	3.72	100.00	90 - 110		334488.81	329969.78	335127.25
23 Na	5232 ug/l	0.72	5000.00	90 - 110		30768766.00	31231382.00	31473756.00
24 Mg	5109 ug/l	0.53	5000.00	90 - 110		20294876.00	20513082.00	20699062.00
27 Al	519.1 ug/l	1.60	500.00	90 - 110		2364717.00	2392602.50	2360254.80
39 K	5251 ug/l	1.15	5000.00	90 - 110		1606471.00	1640564.80	1681184.10
40 Ca	5180 ug/l	0.41	5000.00	90 - 110		47096820.00	47522732.00	48102104.00
45 Sc	--------	--------		--- ##### - #####		37702.02	38564.88	39044.77
47 Ti	52.73 ug/l	0.46	50.00	90 - 110		53680.93	53607.45	53560.63
51 V	51.27 ug/l	1.38	50.00	90 - 110		106988.03	109929.04	110495.99
52 Cr	50.71 ug/l	1.33	50.00	90 - 110		126865.50	129968.33	130310.22
55 Mn	515.5 ug/l	1.08	500.00	90 - 110		9294475.00	9306378.00	9222746.00
56 Fe	5152 ug/l	1.50	5000.00	90 - 110		72229736.00	72488600.00	74314088.00
59 Co	49.97 ug/l	0.71	50.00	90 - 110		692277.19	687065.13	686246.00
60 Ni	52.16 ug/l	1.95	50.00	90 - 110		56242.60	57220.02	56431.04
63 Cu	52.39 ug/l	1.06	50.00	90 - 110		148035.88	149193.03	149822.56
66 Zn	50.74 ug/l	0.29	50.00	90 - 110		85174.84	83784.35	84973.31
75 As	52.14 ug/l	0.69	50.00	90 - 110		11013.99	11158.74	11312.84
78 Se	51.65 ug/l	0.29	50.00	90 - 110		21710.23	21621.80	21814.68
88 Sr	53.45 ug/l	1.74	50.00	90 - 110		1265892.60	1287708.50	1271110.90
95 Mo	52.21 ug/l	0.93	50.00	90 - 110		177235.44	176353.19	173725.42
107 Ag	52.78 ug/l	0.26	50.00	90 - 110		525008.25	516892.53	519743.91
111 Cd	51.77 ug/l	0.49	50.00	90 - 110		111887.47	110462.82	111856.09
118 Sn	52.2 ug/l	1.02	50.00	90 - 110		351102.19	349031.38	343361.19
121 Sb	52.87 ug/l	0.29	50.00	90 - 110		331835.47	328282.81	327736.47
137 Ba	52.3 ug/l	0.85	50.00	90 - 110		168021.36	168111.28	169599.53
202 Hg	2.447 ug/l	1.03	2.50	90 - 110		5733.70	5765.72	5801.73
205 Tl	10.31 ug/l	0.81	10.00	90 - 110		208347.45	206295.31	206780.52
208 Pb	51.33 ug/l	0.99	50.00	90 - 110		1428369.90	1415293.60	1425118.30
232 Th	50.62 ug/l	1.18		--- ##### - #####		1539518.30	1561262.10	1528696.90
238 U	49.91 ug/l	1.09		--- ##### - #####		1515858.00	1538614.90	1518333.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	631213.63	2.93	836165.38	75.5	60 - 125		613716.44	650582.38	629342.06
45 Sc	488669.56	1.07	552676.25	88.4	60 - 125		485399.00	485924.44	494685.25
45 Sc	584381.81	0.44	644433.94	90.7	60 - 125		585510.25	581437.69	586197.50
74 Ge	157349.14	0.37	175321.88	89.7	60 - 125		157761.16	156681.75	157604.55
74 Ge	23271.56	1.48	27172.50	85.6	60 - 125		23063.55	23082.45	23668.70
74 Ge	147605.50	0.67	164913.13	89.5	60 - 125		148054.70	146464.95	148296.86
89 Y	965565.50	0.84	1068488.30	90.4	60 - 125		972965.50	956817.88	966913.19
115 In	941206.00	0.54	1083659.40	86.9	60 - 125		946788.81	936944.75	939884.25
159 Tb	1331110.90	1.33	1651256.80	80.6	60 - 125		1351366.90	1318321.80	1323643.80
209 Bi	798497.94	0.45	1054491.00	75.7	60 - 125		802613.44	797056.88	795823.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\237_CCB.D\237_CCB.D#
Date Acquired: Dec 26 2012 02:22 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01587	0.01587	ug/l	34.91	#VALUE!		30.00	60.00	56.67
11 B # 3	1.492	1.492	ug/l	4.07	#VALUE!		10866.68	10606.53	11123.51
23 Na # 1	7.078	7.078	ug/l	2.29	#VALUE!		126378.66	129499.53	129656.82
24 Mg # 1	1.893	1.893	ug/l	6.29	#VALUE!		7905.20	7935.18	8905.65
27 Al # 1	0.2231	0.2231	ug/l	13.27	#VALUE!		2170.19	1930.16	2166.86
39 K # 2	-0.7564	-0.7564	ug/l	103.90	#VALUE!		7975.22	8015.26	8475.49
40 Ca # 1	5.988	5.988	ug/l	0.60	#VALUE!		117891.43	118389.09	120326.82
45 Sc # 2	----	--------		--------	#VALUE!		37335.81	38313.23	38736.32
47 Ti # 3	0.02658	0.02658	ug/l	21.43	#VALUE!		56.67	46.67	56.67
51 V # 2	0.03359	0.03359	ug/l	8.52	#VALUE!		256.67	252.23	262.23
52 Cr # 2	0.01766	0.01766	ug/l	47.51	#VALUE!		184.45	152.22	147.78
55 Mn # 3	0.165	0.165	ug/l	13.04	#VALUE!		4447.32	3727.16	3723.81
56 Fe # 1	1.37	1.37	ug/l	5.14	#VALUE!		30669.45	32111.66	32910.05
59 Co # 3	0.01313	0.01313	ug/l	21.64	#VALUE!		166.67	246.68	200.01
60 Ni # 2	0.01319	0.01319	ug/l	63.61	#VALUE!		53.33	35.56	45.56
63 Cu # 2	-0.07648	-0.07648	ug/l	0.88	#VALUE!		257.78	262.23	258.89
66 Zn # 3	-0.01081	-0.01081	ug/l	169.20	#VALUE!		220.01	250.01	186.67
75 As # 2	0.03785	0.03785	ug/l	46.58	#VALUE!		20.67	28.67	27.00
78 Se # 1	0.05097	0.05097	ug/l	16.25	#VALUE!		47.00	42.00	40.33
88 Sr # 3	0.02765	0.02765	ug/l	11.11	#VALUE!		820.04	680.03	703.37
95 Mo # 3	0.07066	0.07066	ug/l	17.01	#VALUE!		346.68	270.01	276.68
107 Ag # 3	0.01787	0.01787	ug/l	34.98	#VALUE!		280.01	166.67	170.01
111 Cd # 3	0.01653	0.01653	ug/l	36.96	#VALUE!		79.89	56.58	79.91
118 Sn # 3	0.06202	0.06202	ug/l	16.46	#VALUE!		803.38	673.37	686.70
121 Sb # 3	0.2276	0.2276	ug/l	4.30	#VALUE!		1756.81	1770.15	1640.13
137 Ba # 3	0.02244	0.02244	ug/l	16.48	#VALUE!		96.67	80.00	103.34
202 Hg # 3	0.01877	0.01877	ug/l	20.55	#VALUE!		90.67	80.67	99.00
205 Tl # 3	0.004515	0.004515	ug/l	29.50	#VALUE!		173.34	126.67	123.34
208 Pb # 3	0.01788	0.01788	ug/l	16.48	#VALUE!		733.36	716.70	583.36
232 Th # 3	0.1126	0.1126	ug/l	7.17	#VALUE!		4110.67	3590.56	3733.92
238 U # 3	0.01719	0.01719	ug/l	11.45	#VALUE!		633.37	513.36	530.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	626631.38	1.31	836165.38	74.9	60 - 125		620045.13	624004.50	635844.50
45 Sc # 1	500721.78	1.05	552676.25	90.6	60 - 125		495654.63	500344.56	506166.13
45 Sc # 3	597362.31	0.41	644433.94	92.7	60 - 125		594598.88	599323.25	598164.88
74 Ge # 1	162861.53	0.43	175321.88	92.9	60 - 125		162454.27	162463.00	163667.34
74 Ge # 2	24189.42	1.29	27172.50	89.0	60 - 125		23835.63	24426.40	24306.23
74 Ge # 3	153317.13	0.36	164913.13	93.0	60 - 125		153938.94	153092.92	152919.48
89 Y # 3	990337.88	0.36	1068488.30	92.7	60 - 125		989671.25	987173.31	994169.25
115 In # 3	979687.81	0.49	1083659.40	90.4	60 - 125		981357.69	983388.94	974316.88
159 Tb # 3	1349504.30	0.75	1651256.80	81.7	60 - 125		1358295.00	1338376.00	1351841.80
209 Bi # 3	837608.06	0.48	1054491.00	79.4	60 - 125		841151.56	838424.88	833247.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\238SMPL.D\238SMPL.D#
Date Acquired: Dec 26 2012 02:30 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-6-a PDS
Misc Info: 3010 1/5
Vial Number: 3110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	21.79	21.79	ug/l	3.21	100.00		56495.43	58173.77	57200.78
11 B # 3	58.73	58.73	ug/l	4.13	1800.00		164362.98	169363.59	168710.34
23 Na # 1	8521	8521	ug/l	1.77	81000.00		48849236.00	49883540.00	50644752.00
24 Mg # 1	5859	5859	ug/l	2.45	81000.00		22758452.00	23248492.00	23257234.00
27 Al # 1	210.8	210.8	ug/l	0.59	81000.00		917112.81	950757.06	972976.00
39 K # 2	3040	3040	ug/l	1.53	81000.00		935712.88	947169.13	989675.19
40 Ca # 1	21810	21810	ug/l	2.78	81000.00		194075700.00	198362370.00	197079600.00
45 Sc # 2	----	--------		--------	#VALUE!		37056.34	37682.07	38998.03
47 Ti # 3	21.03	21.03	ug/l	8.25	1620.00		20955.62	20855.42	21699.80
51 V # 2	20.17	20.17	ug/l	0.30	1800.00		42691.82	42867.86	43967.05
52 Cr # 2	20.05	20.05	ug/l	0.56	1800.00		50336.34	51339.04	52041.00
55 Mn # 3	220.6	220.6	ug/l	5.43	1800.00		3913702.00	3989191.50	4014352.80
56 Fe # 1	2016	2016	ug/l	1.16	81000.00		27927096.00	28319926.00	28642336.00
59 Co # 3	19.59	19.59	ug/l	5.05	1800.00		269230.94	269678.25	271520.97
60 Ni # 2	20.73	20.73	ug/l	1.05	1800.00		22176.65	22784.06	22828.55
63 Cu # 2	21.49	21.49	ug/l	0.77	1800.00		60364.56	61820.66	62550.84
66 Zn # 3	19.36	19.36	ug/l	6.33	1800.00		32736.52	31704.68	32886.67
75 As # 2	20.46	20.46	ug/l	0.65	100.00		4322.85	4416.54	4469.89
78 Se # 1	19.19	19.19	ug/l	2.28	100.00		7992.10	7921.73	8075.13
88 Sr # 3	295.4	295.4	ug/l	6.63	1800.00		7079935.50	7002498.00	7091068.00
95 Mo # 3	21.07	21.07	ug/l	6.30	1800.00		70199.73	71115.95	70939.00
107 Ag # 3	17.49	17.49	ug/l	6.55	100.00		170065.03	172904.09	172953.70
111 Cd # 3	19.94	19.94	ug/l	6.80	100.00		43449.24	42062.06	42914.15
118 Sn # 3	20.86	20.86	ug/l	6.78	1800.00		138321.88	138167.91	139726.75
121 Sb # 3	24.15	24.15	ug/l	6.39	100.00		149810.98	150026.33	150563.19
137 Ba # 3	40.34	40.34	ug/l	6.85	1800.00		129316.95	128943.56	130656.23
202 Hg # 3	0.9726	0.9726	ug/l	5.55	5.00		2257.50	2263.17	2258.17
205 Tl # 3	3.993	3.993	ug/l	8.58	20.00		81023.61	80417.83	81979.05
208 Pb # 3	20.49	20.49	ug/l	8.21	1800.00		576183.06	570130.19	578126.25
232 Th # 3	22.08	22.08	ug/l	6.38	#VALUE!		655448.44	650831.06	662150.19
238 U # 3	22.6	22.6	ug/l	5.37	#VALUE!		671942.94	675085.44	672108.44

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	565248.56	3.74	836165.38	67.6	60 - 125		565625.38	586205.50	543914.81
45 Sc # 1	480143.25	3.55	552676.25	86.9	60 - 125		461927.06	482746.97	495755.75
45 Sc # 3	580028.25	5.81	644433.94	90.0	60 - 125		594370.31	604188.25	541526.13
74 Ge # 1	155789.97	2.38	175321.88	88.9	60 - 125		151707.25	156740.31	158922.36
74 Ge # 2	23342.79	1.46	27172.50	85.9	60 - 125		23054.64	23254.88	23718.84
74 Ge # 3	147917.38	4.54	164913.13	89.7	60 - 125		149861.81	153442.22	140448.13
89 Y # 3	969444.38	5.94	1068488.30	90.7	60 - 125		987061.31	1016116.90	905154.69
115 In # 3	940902.88	5.96	1083659.40	86.8	60 - 125		961469.56	983756.13	877482.81
159 Tb # 3	1352059.00	7.34	1651256.80	81.9	60 - 125		1384525.90	1431050.50	1240600.90
209 Bi # 3	780079.44	5.37	1054491.00	74.0	60 - 125		797466.63	810470.63	732301.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\239SMPL.D\239SMPL.D#
Date Acquired: Dec 26 2012 02:37 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-6-b ms
Misc Info: 3010 1/5
Vial Number: 3111
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.36	10.36	ug/l	1.17	100.00		27109.44	27206.15	27513.25
11 B # 3	56.74	56.74	ug/l	0.78	1800.00		158682.23	164065.20	164024.84
23 Na # 1	7600	7600	ug/l	0.22	81000.00		44867944.00	45228160.00	45598104.00
24 Mg # 1	4875	4875	ug/l	0.57	81000.00		19398848.00	19498982.00	19799590.00
27 Al # 1	951.5	951.5	ug/l	0.37	81000.00		4307886.00	4346662.50	4392049.00
39 K # 2	2035	2035	ug/l	1.36	81000.00		615696.38	629245.06	643406.69
40 Ca # 1	21290	21290	ug/l	0.33	81000.00		193387040.00	195480340.00	197171250.00
45 Sc # 2	----	--------		--------	#VALUE!		35687.09	36170.18	37110.92
47 Ti # 3	20.06	20.06	ug/l	2.03	1620.00		20384.82	19684.10	19587.37
51 V # 2	19.5	19.5	ug/l	0.56	1800.00		40363.38	40600.55	41533.67
52 Cr # 2	19.2	19.2	ug/l	0.98	1800.00		47135.80	47923.31	48901.42
55 Mn # 3	118.8	118.8	ug/l	0.90	1800.00		2098550.30	2109243.80	2093128.90
56 Fe # 1	938.1	938.1	ug/l	1.05	81000.00		13120285.00	13110308.00	13312053.00
59 Co # 3	9.357	9.357	ug/l	0.63	1800.00		127299.34	126278.71	126323.50
60 Ni # 2	19.78	19.78	ug/l	0.85	1800.00		21108.74	21033.11	21127.68
63 Cu # 2	20.08	20.08	ug/l	0.99	1800.00		55270.02	56428.99	57194.70
66 Zn # 3	19.76	19.76	ug/l	0.06	1800.00		32826.61	32485.93	32198.83
75 As # 2	20.06	20.06	ug/l	1.21	100.00		4145.15	4258.84	4260.17
78 Se # 1	18.57	18.57	ug/l	0.41	100.00		7737.65	7734.65	7763.00
88 Sr # 3	300	300	ug/l	0.68	1800.00		7154090.00	7115233.00	7120808.00
95 Mo # 3	20.27	20.27	ug/l	1.73	1800.00		67094.13	68555.80	67896.68
107 Ag # 3	9.993	9.993	ug/l	0.90	100.00		98942.59	97256.48	97712.38
111 Cd # 3	9.624	9.624	ug/l	1.25	100.00		20681.19	20664.20	20484.08
118 Sn # 3	20.03	20.03	ug/l	0.58	1800.00		133941.97	131424.80	133149.69
121 Sb # 3	13.02	13.02	ug/l	0.29	100.00		80752.01	80313.34	81267.42
137 Ba # 3	40.38	40.38	ug/l	0.79	1800.00		128554.83	128305.12	131261.09
202 Hg # 3	0.9716	0.9716	ug/l	1.53	5.00		2295.17	2271.17	2342.85
205 Tl # 3	7.604	7.604	ug/l	0.75	20.00		156701.59	154931.20	155304.22
208 Pb # 3	10.12	10.12	ug/l	0.65	1800.00		286974.88	285421.94	285472.03
232 Th # 3	20.87	20.87	ug/l	0.27	#VALUE!		631278.69	634502.50	633813.31
238 U # 3	22.13	22.13	ug/l	0.71	#VALUE!		670785.75	677499.06	669347.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	565591.00	1.30	836165.38	67.6	60 - 125		557448.56	571706.69	567617.81
45 Sc # 1	488762.38	0.66	552676.25	88.4	60 - 125		485237.69	489526.47	491522.97
45 Sc # 3	569267.13	0.19	644433.94	88.3	60 - 125		570380.19	568182.31	569238.94
74 Ge # 1	155884.80	0.24	175321.88	88.9	60 - 125		156306.36	155778.70	155569.33
74 Ge # 2	22827.31	0.95	27172.50	84.0	60 - 125		22668.58	22737.60	23075.76
74 Ge # 3	144967.58	0.96	164913.13	87.9	60 - 125		146340.95	144993.17	143568.63
89 Y # 3	961967.69	0.38	1068488.30	90.0	60 - 125		957776.13	964600.31	963526.56
115 In # 3	935478.81	0.82	1083659.40	86.3	60 - 125		937270.94	927023.44	942142.06
159 Tb # 3	1356449.00	0.57	1651256.80	82.1	60 - 125		1356252.80	1348784.90	1364309.60
209 Bi # 3	794371.94	0.09	1054491.00	75.3	60 - 125		794106.56	793863.00	795146.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\240SMPL.D\240SMPL.D#
Date Acquired: Dec 26 2012 02:44 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-6-c msd
Misc Info: 3010 1/5
Vial Number: 3112
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.51	10.51	ug/l	0.64	100.00		26969.18	27025.81	27783.65
11 B # 3	57.76	57.76	ug/l	1.38	1800.00		157946.34	162272.30	167838.17
23 Na # 1	7475	7475	ug/l	1.16	81000.00		42779796.00	43473028.00	44546068.00
24 Mg # 1	4838	4838	ug/l	0.29	81000.00		18834062.00	18986704.00	19271704.00
27 Al # 1	960.1	960.1	ug/l	1.38	81000.00		4199898.50	4310108.50	4391455.00
39 K # 2	2033	2033	ug/l	2.97	81000.00		607350.63	615331.56	630985.13
40 Ca # 1	20850	20850	ug/l	0.73	81000.00		184349330.00	187817790.00	190212480.00
45 Sc # 2	----	--------		--------	#VALUE!		35300.82	36175.85	36200.24
47 Ti # 3	20.11	20.11	ug/l	1.14	1620.00		19237.02	19727.52	19750.87
51 V # 2	19.46	19.46	ug/l	2.80	1800.00		39361.37	39952.55	40848.84
52 Cr # 2	19.38	19.38	ug/l	2.42	1800.00		46856.31	47624.70	48324.35
55 Mn # 3	119.8	119.8	ug/l	1.16	1800.00		2055568.10	2099375.50	2088541.00
56 Fe # 1	943.2	943.2	ug/l	0.52	81000.00		13022255.00	13087534.00	13022930.00
59 Co # 3	9.474	9.474	ug/l	1.03	1800.00		124638.09	127470.88	125876.45
60 Ni # 2	19.93	19.93	ug/l	3.18	1800.00		20561.50	20730.57	21359.04
63 Cu # 2	20.71	20.71	ug/l	2.40	1800.00		56013.39	57179.27	57979.35
66 Zn # 3	19.48	19.48	ug/l	0.72	1800.00		31310.80	31604.48	31577.81
75 As # 2	19.95	19.95	ug/l	2.40	100.00		4077.46	4122.47	4179.15
78 Se # 1	18.37	18.37	ug/l	0.77	100.00		7463.21	7553.24	7615.27
88 Sr # 3	298.5	298.5	ug/l	0.44	1800.00		6914756.50	6978660.00	6949528.00
95 Mo # 3	20.17	20.17	ug/l	0.47	1800.00		66846.23	66411.06	66621.84
107 Ag # 3	9.99	9.99	ug/l	1.46	100.00		96887.94	95375.95	97701.92
111 Cd # 3	9.707	9.707	ug/l	0.85	100.00		20427.72	20761.64	20357.85
118 Sn # 3	20.21	20.21	ug/l	0.55	1800.00		132757.92	132981.03	131062.66
121 Sb # 3	13.09	13.09	ug/l	0.34	100.00		79984.66	80263.08	80236.15
137 Ba # 3	40.29	40.29	ug/l	1.11	1800.00		126347.16	127261.05	128631.04
202 Hg # 3	0.9774	0.9774	ug/l	1.26	5.00		2303.51	2260.17	2319.51
205 Tl # 3	7.667	7.667	ug/l	0.20	20.00		155262.00	156247.16	155171.14
208 Pb # 3	10.16	10.16	ug/l	0.47	1800.00		284284.41	285093.47	284789.56
232 Th # 3	21.01	21.01	ug/l	0.76	#VALUE!		627339.50	635810.50	630093.44
238 U # 3	22.27	22.27	ug/l	0.45	#VALUE!		663817.50	670475.81	676360.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	557381.44	1.71	836165.38	66.7	60 - 125		548341.13	556445.75	567357.56
45 Sc # 1	478943.81	0.88	552676.25	86.7	60 - 125		474992.09	478441.66	483397.69
45 Sc # 3	558991.81	0.74	644433.94	86.7	60 - 125		555953.56	557348.94	563672.94
74 Ge # 1	153429.08	0.32	175321.88	87.5	60 - 125		153114.97	153175.81	153996.42
74 Ge # 2	22441.66	2.24	27172.50	82.6	60 - 125		22063.39	23011.26	22250.33
74 Ge # 3	142441.55	0.45	164913.13	86.4	60 - 125		142571.92	143008.25	141744.47
89 Y # 3	941991.00	0.12	1068488.30	88.2	60 - 125		942172.38	942993.13	940807.56
115 In # 3	923215.81	0.25	1083659.40	85.2	60 - 125		923776.13	925203.31	920667.88
159 Tb # 3	1344675.90	0.52	1651256.80	81.4	60 - 125		1343765.10	1352050.30	1338212.30
209 Bi # 3	786726.13	0.50	1054491.00	74.6	60 - 125		783124.69	786178.63	790875.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\241SMPL.D\241SMPL.D#
Date Acquired: Dec 26 2012 02:52 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-7-a
Misc Info: 3010 1/5
Vial Number: 3201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01245	0.01245	ug/l	9.98	100.00		33.33	33.33	40.00
11 B # 3	14.27	14.27	ug/l	1.22	1800.00		43994.42	46185.71	46814.06
23 Na # 1	6377	6377	ug/l	0.82	81000.00		36984736.00	36833840.00	37335096.00
24 Mg # 1	3875	3875	ug/l	0.72	81000.00		14971605.00	15291163.00	15276235.00
27 Al # 1	1.568	1.568	ug/l	1.03	81000.00		7898.53	8098.61	7965.21
39 K # 2	1014	1014	ug/l	1.62	81000.00		306198.81	309890.13	320500.69
40 Ca # 1	19640	19640	ug/l	0.96	81000.00		173047060.00	177568210.00	177187780.00
45 Sc # 2	----	--------		--------	#VALUE!		34911.19	36103.41	36304.85
47 Ti # 3	0.1641	0.1641	ug/l	11.65	1620.00		190.01	203.34	166.67
51 V # 2	0.1783	0.1783	ug/l	6.91	1800.00		507.79	570.02	527.79
52 Cr # 2	0.04906	0.04906	ug/l	7.93	1800.00		215.56	224.45	241.11
55 Mn # 3	17.09	17.09	ug/l	1.25	1800.00		300395.16	302490.38	299135.22
56 Fe # 1	2.202	2.202	ug/l	1.25	81000.00		41032.85	41326.88	41671.43
59 Co # 3	0.04737	0.04737	ug/l	3.41	1800.00		660.03	626.70	670.03
60 Ni # 2	0.5363	0.5363	ug/l	2.69	1800.00		564.46	588.90	614.46
63 Cu # 2	0.8925	0.8925	ug/l	0.60	1800.00		2819.13	2906.92	2944.71
66 Zn # 3	0.9535	0.9535	ug/l	5.33	1800.00		1840.15	1690.12	1780.13
75 As # 2	0.1608	0.1608	ug/l	18.51	100.00		42.00	49.00	56.00
78 Se # 1	0.07066	0.07066	ug/l	17.93	100.00		54.00	44.00	47.33
88 Sr # 3	277.8	277.8	ug/l	0.71	1800.00		6500233.00	6614765.50	6506123.00
95 Mo # 3	0.3272	0.3272	ug/l	3.66	1800.00		1103.40	1156.74	1183.41
107 Ag # 3	0.005067	0.005067	ug/l	16.65	100.00		70.00	80.00	63.34
111 Cd # 3	0.01154	0.01154	ug/l	27.65	100.00		52.98	66.30	56.29
118 Sn # 3	0.07527	0.07527	ug/l	16.02	1800.00		703.37	773.38	863.38
121 Sb # 3	2.51	2.51	ug/l	1.85	100.00		16154.60	15690.83	15664.19
137 Ba # 3	19.12	19.12	ug/l	0.69	1800.00		61007.09	61899.93	61762.89
202 Hg # 3	0.01808	0.01808	ug/l	28.22	5.00		79.33	96.33	74.33
205 Tl # 3	0.03567	0.03567	ug/l	8.82	20.00		846.72	733.37	753.38
208 Pb # 3	0.483	0.483	ug/l	1.98	1800.00		13812.79	14036.18	13536.01
232 Th # 3	0.1231	0.1231	ug/l	3.99	#VALUE!		4023.99	3950.63	3747.23
238 U # 3	0.2044	0.2044	ug/l	3.23	#VALUE!		6078.07	6041.38	6424.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	573007.94	2.19	836165.38	68.5	60 - 125		558969.75	576947.69	583106.25
45 Sc # 1	477000.69	0.47	552676.25	86.3	60 - 125		474437.13	478674.91	477889.97
45 Sc # 3	568401.31	0.62	644433.94	88.2	60 - 125		564368.56	569850.44	570985.00
74 Ge # 1	152689.48	0.29	175321.88	87.1	60 - 125		152575.55	153184.03	152308.92
74 Ge # 2	22440.55	2.05	27172.50	82.6	60 - 125		21909.89	22671.92	22739.83
74 Ge # 3	143986.56	0.90	164913.13	87.3	60 - 125		142758.63	143871.98	145329.06
89 Y # 3	953083.81	0.48	1068488.30	89.2	60 - 125		947946.88	956777.38	954527.25
115 In # 3	940024.69	0.13	1083659.40	86.7	60 - 125		939148.50	941402.06	939523.31
159 Tb # 3	1354144.00	0.48	1651256.80	82.0	60 - 125		1346737.00	1357120.00	1358574.80
209 Bi # 3	789542.88	0.30	1054491.00	74.9	60 - 125		790662.94	786791.56	791174.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\242SMPL.D\242SMPL.D#
Date Acquired: Dec 26 2012 02:59 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-8-a
Misc Info: 3010 1/5
Vial Number: 3202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.003598	0.003598	ug/l	52.31	100.00		16.67	6.67	13.33
11	B	# 3	1.588	1.588	ug/l	2.06	1800.00		10393.01	10546.48	10516.44
23	Na	# 1	502.4	502.4	ug/l	1.01	81000.00		2976510.00	3052004.30	3084401.00
24	Mg	# 1	1485	1485	ug/l	1.01	81000.00		5795689.00	5942856.50	5960684.50
27	Al	# 1	6.155	6.155	ug/l	0.62	81000.00		28401.64	28902.56	29256.28
39	K	# 2	77.73	77.73	ug/l	2.04	81000.00		31239.67	31890.92	32208.05
40	Ca	# 1	10700	10700	ug/l	0.20	81000.00		96487528.00	96647496.00	98560504.00
45	Sc	# 2	----	--------		--------	#VALUE!		35795.06	35865.17	37231.19
47	Ti	# 3	0.2054	0.2054	ug/l	10.92	1620.00		206.68	226.68	253.34
51	V	# 2	0.3092	0.3092	ug/l	9.97	1800.00		756.69	816.69	887.81
52	Cr	# 2	0.03994	0.03994	ug/l	12.33	1800.00		195.56	218.89	212.23
55	Mn	# 3	1.563	1.563	ug/l	0.57	1800.00		28475.73	28876.31	29080.15
56	Fe	# 1	17.02	17.02	ug/l	0.64	81000.00		249969.55	251922.05	254107.03
59	Co	# 3	0.07767	0.07767	ug/l	5.68	1800.00		1063.39	1143.41	1033.39
60	Ni	# 2	0.3955	0.3955	ug/l	2.79	1800.00		456.68	457.79	438.90
63	Cu	# 2	0.8724	0.8724	ug/l	5.18	1800.00		2773.57	2879.14	3032.50
66	Zn	# 3	1.328	1.328	ug/l	2.04	1800.00		2363.55	2460.24	2450.23
75	As	# 2	0.2493	0.2493	ug/l	14.05	100.00		71.67	73.67	60.33
78	Se	# 1	0.05201	0.05201	ug/l	12.06	100.00		39.67	41.33	45.00
88	Sr	# 3	46.02	46.02	ug/l	0.57	1800.00		1082863.80	1095004.00	1105987.60
95	Mo	# 3	0.1752	0.1752	ug/l	7.03	1800.00		676.70	600.03	656.70
107	Ag	# 3	0.001523	0.001523	ug/l	99.87	100.00		23.33	53.34	33.33
111	Cd	# 3	0.0875	0.0875	ug/l	20.22	100.00		266.46	209.82	196.46
118	Sn	# 3	0.07799	0.07799	ug/l	9.02	1800.00		763.37	796.71	863.38
121	Sb	# 3	0.5185	0.5185	ug/l	2.09	100.00		3403.76	3540.48	3563.83
137	Ba	# 3	5.426	5.426	ug/l	0.27	1800.00		17586.23	17682.93	17809.73
202	Hg	# 3	0.01605	0.01605	ug/l	16.59	5.00		87.33	74.67	83.33
205	Tl	# 3	0.01627	0.01627	ug/l	11.29	20.00		420.02	346.68	386.68
208	Pb	# 3	0.201	0.201	ug/l	3.57	1800.00		5933.95	5660.56	6064.00
232	Th	# 3	0.0586	0.0586	ug/l	6.26	#VALUE!		2143.55	2060.22	1920.19
238	U	# 3	0.1055	0.1055	ug/l	6.91	#VALUE!		3337.15	3077.08	3543.86

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	588785.13	1.25	836165.38	70.4	60 - 125		581835.69	588010.63	596509.00
45	Sc	# 1	483880.38	1.21	552676.25	87.6	60 - 125		479244.16	481941.56	490455.31
45	Sc	# 3	571684.56	0.52	644433.94	88.7	60 - 125		569924.69	570014.13	575115.00
74	Ge	# 1	156982.53	0.48	175321.88	89.5	60 - 125		156143.36	157608.86	157195.36
74	Ge	# 2	22912.61	0.32	27172.50	84.3	60 - 125		22925.57	22834.39	22977.88
74	Ge	# 3	146802.27	0.64	164913.13	89.0	60 - 125		146014.66	146542.06	147850.08
89	Y	# 3	962632.19	0.80	1068488.30	90.1	60 - 125		953741.25	967621.88	966533.31
115	In	# 3	951293.63	0.53	1083659.40	87.8	60 - 125		945540.81	953378.00	954962.19
159	Tb	# 3	1364267.60	0.41	1651256.80	82.6	60 - 125		1358149.60	1365517.90	1369135.30
209	Bi	# 3	820823.50	0.15	1054491.00	77.8	60 - 125		820718.06	819629.94	822122.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\243SMPL.D\243SMPL.D#
Date Acquired: Dec 26 2012 03:07 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-9-a
Misc Info: 3010 1/5
Vial Number: 3203
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.007958	0.007958	ug/l	19.00	100.00		26.67	26.67	20.00
11 B # 3	6.144	6.144	ug/l	0.57	1800.00		23314.50	23891.98	24395.87
23 Na # 1	1686	1686	ug/l	1.10	81000.00		9886331.00	9961678.00	10268924.00
24 Mg # 1	2364	2364	ug/l	0.64	81000.00		9383084.00	9336143.00	9583277.00
27 Al # 1	4.461	4.461	ug/l	10.36	81000.00		20721.83	19347.87	23796.08
39 K # 2	514.4	514.4	ug/l	0.65	81000.00		163428.08	166211.59	169735.27
40 Ca # 1	23420	23420	ug/l	0.78	81000.00		210470740.00	214581230.00	215908660.00
45 Sc # 2	----	--------		--------	#VALUE!		35837.35	36265.94	37494.96
47 Ti # 3	0.1788	0.1788	ug/l	17.41	1620.00		200.01	176.67	243.34
51 V # 2	0.244	0.244	ug/l	6.20	1800.00		643.35	705.58	713.35
52 Cr # 2	0.04517	0.04517	ug/l	13.33	1800.00		235.56	222.23	211.11
55 Mn # 3	2.761	2.761	ug/l	1.92	1800.00		51482.01	50800.24	50626.52
56 Fe # 1	6.539	6.539	ug/l	1.74	81000.00		102725.87	100899.95	104864.87
59 Co # 3	0.08754	0.08754	ug/l	8.96	1800.00		1123.40	1353.43	1223.41
60 Ni # 2	0.3207	0.3207	ug/l	6.00	1800.00		350.01	393.34	375.56
63 Cu # 2	1.435	1.435	ug/l	1.06	1800.00		4391.67	4482.80	4592.83
66 Zn # 3	4.954	4.954	ug/l	2.37	1800.00		8298.76	8495.56	8845.74
75 As # 2	0.2347	0.2347	ug/l	15.33	100.00		58.67	63.67	75.33
78 Se # 1	0.03958	0.03958	ug/l	12.35	100.00		34.00	37.00	38.33
88 Sr # 3	315.9	315.9	ug/l	0.83	1800.00		7541838.00	7675035.00	7717745.50
95 Mo # 3	0.1566	0.1566	ug/l	4.24	1800.00		586.69	560.02	603.36
107 Ag # 3	0.01629	0.01629	ug/l	5.73	100.00		173.34	186.67	193.34
111 Cd # 3	0.01728	0.01728	ug/l	76.51	100.00		39.81	79.82	96.48
118 Sn # 3	0.07169	0.07169	ug/l	2.54	1800.00		776.71	760.04	766.71
121 Sb # 3	0.8674	0.8674	ug/l	1.79	100.00		5767.80	5754.44	5624.41
137 Ba # 3	13.46	13.46	ug/l	0.81	1800.00		43376.15	44498.89	44188.42
202 Hg # 3	0.02002	0.02002	ug/l	10.60	5.00		90.33	84.33	94.67
205 Tl # 3	0.01138	0.01138	ug/l	25.11	20.00		333.35	293.35	220.01
208 Pb # 3	0.1921	0.1921	ug/l	2.14	1800.00		5697.25	5603.92	5510.56
232 Th # 3	0.04078	0.04078	ug/l	6.65	#VALUE!		1380.11	1543.46	1450.11
238 U # 3	0.2918	0.2918	ug/l	1.56	#VALUE!		9012.92	9136.36	8889.51

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	596191.94	1.95	836165.38	71.3	60 - 125		583535.13	598576.88	606463.75
45 Sc # 1	485912.03	0.92	552676.25	87.9	60 - 125		482462.41	484296.84	490976.84
45 Sc # 3	583244.19	1.45	644433.94	90.5	60 - 125		575200.75	582488.19	592043.56
74 Ge # 1	155475.98	0.60	175321.88	88.7	60 - 125		154702.53	155219.53	156505.89
74 Ge # 2	23026.07	1.37	27172.50	84.7	60 - 125		22768.71	22931.14	23378.35
74 Ge # 3	148915.30	1.00	164913.13	90.3	60 - 125		147305.09	149189.59	150251.22
89 Y # 3	979604.75	1.94	1068488.30	91.7	60 - 125		957658.44	990489.88	990666.00
115 In # 3	954473.75	0.52	1083659.40	88.1	60 - 125		948719.13	957759.13	956943.00
159 Tb # 3	1357028.50	0.45	1651256.80	82.2	60 - 125		1349971.30	1360469.60	1360644.80
209 Bi # 3	806941.19	0.19	1054491.00	76.5	60 - 125		806845.25	805438.19	808540.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\244SMPL.D\244SMPL.D#
Date Acquired: Dec 26 2012 03:14 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-10-a
Misc Info: 3010 1/5
Vial Number: 3204
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001119	0.001119	ug/l	62.35	100.00		6.67	3.33	6.67
11 B	# 3	3.267	3.267	ug/l	4.20	1800.00		15816.89	15786.92	15353.07
23 Na	# 1	619.3	619.3	ug/l	1.63	81000.00		3734545.00	3825558.80	3772227.50
24 Mg	# 1	1164	1164	ug/l	0.89	81000.00		4685951.00	4719111.00	4673136.00
27 Al	# 1	7.523	7.523	ug/l	3.03	81000.00		34426.15	35886.68	36289.11
39 K	# 2	359.7	359.7	ug/l	1.18	81000.00		117437.27	120299.96	122153.89
40 Ca	# 1	13510	13510	ug/l	0.76	81000.00		124130770.00	124983720.00	124314500.00
45 Sc	# 2	----	--------		--------	#VALUE!		36536.36	36747.98	37806.68
47 Ti	# 3	0.1798	0.1798	ug/l	18.40	1620.00		170.01	213.34	236.69
51 V	# 2	0.22	0.22	ug/l	5.23	1800.00		662.24	615.57	651.13
52 Cr	# 2	0.02899	0.02899	ug/l	18.47	1800.00		182.22	196.67	173.34
55 Mn	# 3	0.1062	0.1062	ug/l	4.59	1800.00		2690.28	2836.96	2833.63
56 Fe	# 1	8.672	8.672	ug/l	0.83	81000.00		135993.55	135292.77	135987.25
59 Co	# 3	0.02336	0.02336	ug/l	10.65	1800.00		303.35	370.01	350.01
60 Ni	# 2	0.2403	0.2403	ug/l	7.58	1800.00		264.45	296.67	307.78
63 Cu	# 2	0.513	0.513	ug/l	2.46	1800.00		1900.12	1873.45	1986.79
66 Zn	# 3	5.315	5.315	ug/l	3.09	1800.00		8865.73	9372.69	9242.58
75 As	# 2	0.1816	0.1816	ug/l	11.77	100.00		51.67	60.00	53.67
78 Se	# 1	0.03522	0.03522	ug/l	33.39	100.00		35.33	40.67	30.33
88 Sr	# 3	86.12	86.12	ug/l	0.83	1800.00		2061696.90	2073144.10	2100864.30
95 Mo	# 3	0.08803	0.08803	ug/l	20.45	1800.00		283.34	366.68	403.35
107 Ag	# 3	0.006799	0.006799	ug/l	29.34	100.00		113.34	80.00	76.67
111 Cd	# 3	0.005543	0.005543	ug/l	49.52	100.00		43.24	53.22	43.21
118 Sn	# 3	0.07157	0.07157	ug/l	16.50	1800.00		773.37	686.70	853.38
121 Sb	# 3	0.2665	0.2665	ug/l	5.43	100.00		1860.16	1900.16	2040.19
137 Ba	# 3	7.149	7.149	ug/l	2.06	1800.00		23246.42	23136.21	24130.95
202 Hg	# 3	0.005027	0.005027	ug/l	33.62	5.00		54.33	52.33	60.33
205 Tl	# 3	0.01155	0.01155	ug/l	13.25	20.00		270.01	323.35	273.34
208 Pb	# 3	0.1564	0.1564	ug/l	3.87	1800.00		4470.39	4647.08	4827.11
232 Th	# 3	0.03126	0.03126	ug/l	6.34	#VALUE!		1240.09	1116.75	1223.42
238 U	# 3	0.1192	0.1192	ug/l	0.58	#VALUE!		3817.28	3750.58	3767.26

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	602214.56	1.27	836165.38	72.0	60 - 125		593370.06	606829.19	606444.63
45 Sc	# 1	490705.31	0.40	552676.25	88.8	60 - 125		492026.09	488469.97	491619.91
45 Sc	# 3	580795.88	0.81	644433.94	90.1	60 - 125		581563.69	575732.00	585092.06
74 Ge	# 1	159083.05	0.51	175321.88	90.7	60 - 125		159212.75	159814.58	158221.80
74 Ge	# 2	23253.03	1.34	27172.50	85.6	60 - 125		23043.52	23105.78	23609.77
74 Ge	# 3	149079.59	0.22	164913.13	90.4	60 - 125		149379.42	149122.92	148736.44
89 Y	# 3	976868.81	0.50	1068488.30	91.4	60 - 125		971388.13	980901.13	978317.38
115 In	# 3	959328.44	0.50	1083659.40	88.5	60 - 125		962059.75	953815.19	962110.31
159 Tb	# 3	1372689.10	0.61	1651256.80	83.1	60 - 125		1375401.90	1363268.10	1379397.50
209 Bi	# 3	826674.31	0.39	1054491.00	78.4	60 - 125		829625.31	823246.75	827150.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\245SMPL.D\245SMPL.D#
Date Acquired: Dec 26 2012 03:21 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-11-a
Misc Info: 3010 1/5
Vial Number: 3205
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.007552	0.007552	ug/l	26.36	100.00		20.00	30.00	20.00
11 B	# 3	2.737	2.737	ug/l	2.35	1800.00		13695.13	13871.96	14188.89
23 Na	# 1	1721	1721	ug/l	1.01	81000.00		10062851.00	10224167.00	10430235.00
24 Mg	# 1	2823	2823	ug/l	0.29	81000.00		11184839.00	11208380.00	11380321.00
27 Al	# 1	4.084	4.084	ug/l	3.97	81000.00		19913.56	18690.04	20064.77
39 K	# 2	150.2	150.2	ug/l	0.92	81000.00		52868.15	54566.38	55849.76
40 Ca	# 1	16130	16130	ug/l	0.29	81000.00		145565330.00	147303920.00	148491200.00
45 Sc	# 2	----	--------		--------	#VALUE!		35585.77	36704.54	37530.68
47 Ti	# 3	0.1694	0.1694	ug/l	7.51	1620.00		183.34	193.34	210.01
51 V	# 2	0.3208	0.3208	ug/l	6.85	1800.00		782.25	863.36	911.14
52 Cr	# 2	0.06607	0.06607	ug/l	4.12	1800.00		263.34	277.78	288.89
55 Mn	# 3	2.199	2.199	ug/l	1.88	1800.00		39769.98	40742.14	40428.30
56 Fe	# 1	13.29	13.29	ug/l	1.13	81000.00		195291.81	200455.55	198047.44
59 Co	# 3	0.05001	0.05001	ug/l	4.08	1800.00		696.70	683.36	730.03
60 Ni	# 2	0.4513	0.4513	ug/l	6.80	1800.00		534.46	517.79	491.12
63 Cu	# 2	0.7802	0.7802	ug/l	4.87	1800.00		2557.98	2803.57	2616.87
66 Zn	# 3	0.7973	0.7973	ug/l	9.76	1800.00		1416.77	1650.12	1586.78
75 As	# 2	0.1967	0.1967	ug/l	13.25	100.00		62.67	55.00	56.00
78 Se	# 1	0.03457	0.03457	ug/l	14.95	100.00		35.67	32.00	35.67
88 Sr	# 3	56.21	56.21	ug/l	0.47	1800.00		1343352.80	1337724.40	1344016.00
95 Mo	# 3	0.2799	0.2799	ug/l	2.48	1800.00		980.06	1033.40	993.39
107 Ag	# 3	0.001966	0.001966	ug/l	102.54	100.00		60.00	43.33	20.00
111 Cd	# 3	0.008142	0.008142	ug/l	22.40	100.00		56.36	49.67	49.68
118 Sn	# 3	0.07685	0.07685	ug/l	11.13	1800.00		840.05	830.05	733.37
121 Sb	# 3	0.3745	0.3745	ug/l	1.72	100.00		2640.29	2583.60	2576.93
137 Ba	# 3	12.5	12.5	ug/l	1.04	1800.00		41173.91	40786.52	40395.46
202 Hg	# 3	0.007172	0.007172	ug/l	16.10	5.00		62.67	57.33	59.67
205 Tl	# 3	0.00671	0.00671	ug/l	6.03	20.00		183.34	183.34	196.67
208 Pb	# 3	0.05862	0.05862	ug/l	0.49	1800.00		1846.77	1840.10	1843.44
232 Th	# 3	0.02404	0.02404	ug/l	5.92	#VALUE!		916.72	1000.06	933.39
238 U	# 3	0.5377	0.5377	ug/l	1.63	#VALUE!		16722.96	16442.53	17049.91

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	594553.19	1.74	836165.38	71.1	60 - 125		582636.38	601515.00	599508.25
45 Sc	# 1	485605.13	0.80	552676.25	87.9	60 - 125		482050.91	485030.16	489734.25
45 Sc	# 3	579078.56	0.40	644433.94	89.9	60 - 125		576418.25	580116.25	580701.19
74 Ge	# 1	155878.67	0.39	175321.88	88.9	60 - 125		155207.94	156033.22	156394.86
74 Ge	# 2	23101.71	2.30	27172.50	85.0	60 - 125		22497.23	23307.17	23500.74
74 Ge	# 3	147288.86	0.77	164913.13	89.3	60 - 125		148451.25	147235.63	146179.67
89 Y	# 3	966049.38	0.22	1068488.30	90.4	60 - 125		965462.50	968395.38	964290.19
115 In	# 3	952602.56	0.42	1083659.40	87.9	60 - 125		950315.38	957261.13	950231.25
159 Tb	# 3	1364858.40	0.59	1651256.80	82.7	60 - 125		1374157.80	1360305.30	1360112.50
209 Bi	# 3	813523.13	0.29	1054491.00	77.1	60 - 125		811436.81	813027.19	816105.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\246SMPL.D\246SMPL.D#
Date Acquired: Dec 26 2012 03:29 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85871-a-12-a
Misc Info: 3010 1/5
Vial Number: 3206
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	-0.0004586	-0.0004586	ug/l	153.92	100.00		3.33	0.00	0.00
11	B	# 3	2.679	2.679	ug/l	2.46	1800.00		13718.49	13788.55	14105.54
23	Na	# 1	1820	1820	ug/l	2.00	81000.00		10806387.00	10893810.00	11256196.00
24	Mg	# 1	1996	1996	ug/l	0.32	81000.00		8016485.50	8091558.00	8118334.00
27	Al	# 1	5.994	5.994	ug/l	3.49	81000.00		29430.18	28740.98	27739.38
39	K	# 2	91.43	91.43	ug/l	1.56	81000.00		36141.97	36676.51	37307.54
40	Ca	# 1	14120	14120	ug/l	0.81	81000.00		128622000.00	131825720.00	131575930.00
45	Sc	# 2	----	--------		--------	#VALUE!		36464.08	36743.53	37565.18
47	Ti	# 3	0.2073	0.2073	ug/l	4.06	1620.00		240.02	236.68	226.68
51	V	# 2	0.2249	0.2249	ug/l	5.50	1800.00		672.24	651.13	646.68
52	Cr	# 2	0.02688	0.02688	ug/l	20.84	1800.00		191.11	178.89	168.89
55	Mn	# 3	11.6	11.6	ug/l	0.56	1800.00		211725.50	213957.91	212949.25
56	Fe	# 1	30.36	30.36	ug/l	0.48	81000.00		442808.53	448275.66	446973.94
59	Co	# 3	0.06408	0.06408	ug/l	5.60	1800.00		960.05	906.72	873.38
60	Ni	# 2	0.3825	0.3825	ug/l	6.84	1800.00		418.90	436.68	483.35
63	Cu	# 2	0.2792	0.2792	ug/l	6.25	1800.00		1291.17	1261.17	1237.83
66	Zn	# 3	0.6947	0.6947	ug/l	2.75	1800.00		1426.76	1393.43	1400.09
75	As	# 2	0.1897	0.1897	ug/l	10.73	100.00		60.00	53.33	58.00
78	Se	# 1	0.02148	0.02148	ug/l	22.03	100.00		31.67	28.67	28.33
88	Sr	# 3	53.33	53.33	ug/l	0.40	1800.00		1280848.10	1287763.00	1276436.80
95	Mo	# 3	0.2804	0.2804	ug/l	2.43	1800.00		1033.39	1023.39	983.39
107	Ag	# 3	-5.798E-005	-5.798E-005	ug/l	1179.90	100.00		26.67	23.33	13.33
111	Cd	# 3	0.02059	0.02059	ug/l	39.31	100.00		69.67	69.68	99.69
118	Sn	# 3	0.06935	0.06935	ug/l	12.28	1800.00		733.37	830.05	710.04
121	Sb	# 3	0.2927	0.2927	ug/l	5.46	100.00		2166.86	2003.50	2140.19
137	Ba	# 3	4.978	4.978	ug/l	0.69	1800.00		16358.29	16658.70	16204.78
202	Hg	# 3	-0.0007317	-0.0007317	ug/l	236.44	5.00		46.00	39.33	38.67
205	Tl	# 3	0.004334	0.004334	ug/l	26.07	20.00		143.34	160.01	113.34
208	Pb	# 3	0.06733	0.06733	ug/l	7.90	1800.00		1973.44	2040.11	2256.81
232	Th	# 3	0.02156	0.02156	ug/l	8.64	#VALUE!		940.06	826.72	870.06
238	U	# 3	0.3257	0.3257	ug/l	0.96	#VALUE!		10083.67	10220.40	10337.09

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	599775.38	2.05	836165.38	71.7	60 - 125		585678.44	605134.19	608513.44
45	Sc	# 1	492730.94	0.57	552676.25	89.2	60 - 125		489593.53	495019.38	493579.97
45	Sc	# 3	581067.38	0.89	644433.94	90.2	60 - 125		575079.44	584201.31	583921.38
74	Ge	# 1	158913.95	0.85	175321.88	90.6	60 - 125		157843.44	160421.05	158477.36
74	Ge	# 2	23378.76	1.93	27172.50	86.0	60 - 125		22859.97	23688.78	23587.53
74	Ge	# 3	150017.61	1.08	164913.13	91.0	60 - 125		148451.67	151681.53	149919.64
89	Y	# 3	972722.25	0.06	1068488.30	91.0	60 - 125		972204.75	973408.31	972553.81
115	In	# 3	961421.13	0.73	1083659.40	88.7	60 - 125		959150.38	969269.88	955842.88
159	Tb	# 3	1364370.90	0.34	1651256.80	82.6	60 - 125		1361962.80	1369777.80	1361372.10
209	Bi	# 3	819212.56	0.32	1054491.00	77.7	60 - 125		817260.00	818235.63	822142.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\247SMPL.D\247SMPL.D#
Date Acquired: Dec 26 2012 03:36 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85888-e-1-a
Misc Info: 3010 1/5
Vial Number: 3210
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006248	0.006248	ug/l	25.21	100.00		23.33	16.67	16.67
11 B # 3	3.132	3.132	ug/l	4.53	1800.00		14128.86	14972.80	14355.68
23 Na # 1	2612	2612	ug/l	0.70	81000.00		15547446.00	15569195.00	15762430.00
24 Mg # 1	2280	2280	ug/l	0.71	81000.00		9103312.00	9148698.00	9239167.00
27 Al # 1	178.2	178.2	ug/l	1.19	81000.00		807676.63	826249.13	816102.81
39 K # 2	709.3	709.3	ug/l	0.20	81000.00		222462.28	229560.88	233955.83
40 Ca # 1	5032	5032	ug/l	0.69	81000.00		45992984.00	46220420.00	46663864.00
45 Sc # 2	----	--------		--------	#VALUE!		35565.74	37069.68	36891.58
47 Ti # 3	18.95	18.95	ug/l	2.94	1620.00		19717.54	19207.00	18943.43
51 V # 2	0.5831	0.5831	ug/l	6.68	1800.00		1355.62	1350.06	1537.86
52 Cr # 2	0.4348	0.4348	ug/l	3.37	1800.00		1140.05	1233.39	1273.39
55 Mn # 3	598.7	598.7	ug/l	0.72	1800.00		10756990.00	10874992.00	10846275.00
56 Fe # 1	5690	5690	ug/l	0.87	81000.00		79273456.00	81106272.00	80113408.00
59 Co # 3	2.562	2.562	ug/l	1.94	1800.00		35969.06	35254.32	35280.98
60 Ni # 2	1.765	1.765	ug/l	4.69	1800.00		1974.57	1864.55	1986.79
63 Cu # 2	0.3145	0.3145	ug/l	0.81	1800.00		1318.95	1357.84	1394.51
66 Zn # 3	1.021	1.021	ug/l	3.69	1800.00		1853.48	1943.49	2013.50
75 As # 2	0.3087	0.3087	ug/l	8.34	100.00		74.33	88.00	84.67
78 Se # 1	0.01249	0.01249	ug/l	79.30	100.00		29.67	24.67	21.67
88 Sr # 3	30.3	30.3	ug/l	0.39	1800.00		731543.44	735817.19	731579.56
95 Mo # 3	0.9908	0.9908	ug/l	2.64	1800.00		3410.43	3537.13	3403.75
107 Ag # 3	0.001165	0.001165	ug/l	86.61	100.00		33.33	43.33	23.33
111 Cd # 3	0.003553	0.003553	ug/l	196.88	100.00		25.58	55.54	45.58
118 Sn # 3	0.08069	0.08069	ug/l	7.49	1800.00		806.71	876.71	816.71
121 Sb # 3	0.1186	0.1186	ug/l	9.85	100.00		1020.06	1050.07	916.72
137 Ba # 3	31.47	31.47	ug/l	0.21	1800.00		103546.30	102783.33	104141.91
202 Hg # 3	0.0007303	0.0007303	ug/l	242.50	5.00		45.00	49.67	41.33
205 Tl # 3	0.005066	0.005066	ug/l	26.04	20.00		163.34	180.01	126.67
208 Pb # 3	0.02967	0.02967	ug/l	5.31	1800.00		1083.38	990.04	1043.38
232 Th # 3	0.04807	0.04807	ug/l	3.69	#VALUE!		1773.49	1660.14	1746.83
238 U # 3	0.01354	0.01354	ug/l	5.99	#VALUE!		410.02	460.02	440.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	571692.81	1.69	836165.38	68.4	60 - 125		561163.50	573693.31	580221.50
45 Sc # 1	489501.66	0.08	552676.25	88.6	60 - 125		489514.06	489097.41	489893.44
45 Sc # 3	584442.44	0.93	644433.94	90.7	60 - 125		579468.75	583596.25	590262.38
74 Ge # 1	156404.66	0.37	175321.88	89.2	60 - 125		155743.98	156714.72	156755.31
74 Ge # 2	23247.10	2.60	27172.50	85.6	60 - 125		22584.04	23389.50	23767.77
74 Ge # 3	148363.92	0.92	164913.13	90.0	60 - 125		147127.22	148132.11	149832.45
89 Y # 3	979163.13	0.13	1068488.30	91.6	60 - 125		978059.13	978826.00	980604.13
115 In # 3	960094.06	0.46	1083659.40	88.6	60 - 125		960138.19	955696.00	964448.00
159 Tb # 3	1389346.30	0.24	1651256.80	84.1	60 - 125		1389140.80	1386065.40	1392832.50
209 Bi # 3	828200.88	0.26	1054491.00	78.5	60 - 125		828258.75	825992.19	830351.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\248_CCV.D\248_CCV.D#
Date Acquired: Dec 26 2012 03:44 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	52.53 ug/l	4.15	50.00	90 - 110		148956.45	151766.14	155223.13
11 B	105.3 ug/l	3.94	100.00	90 - 110		320097.78	325489.09	331281.97
23 Na	5209 ug/l	0.25	5000.00	90 - 110		30208122.00	30841132.00	30831576.00
24 Mg	5103 ug/l	0.45	5000.00	90 - 110		19811654.00	20510396.00	20333640.00
27 Al	518.9 ug/l	0.23	500.00	90 - 110		2308404.80	2358008.00	2358793.80
39 K	5221 ug/l	1.55	5000.00	90 - 110		1564604.50	1624742.90	1648215.10
40 Ca	5175 ug/l	0.19	5000.00	90 - 110		46071932.00	47363700.00	47326048.00
45 Sc	--------	--------		--- ##### - #####		37751.02	37562.98	38499.19
47 Ti	52.49 ug/l	5.78	50.00	90 - 110		52614.30	51912.61	52814.98
51 V	50.64 ug/l	1.13	50.00	90 - 110		105126.52	106666.38	107409.23
52 Cr	50.61 ug/l	1.50	50.00	90 - 110		125517.25	127951.47	127867.62
55 Mn	507.2 ug/l	5.30	500.00	90 - 110		9108212.00	9137786.00	9052765.00
56 Fe	5145 ug/l	0.31	5000.00	90 - 110		71048024.00	72254016.00	72009776.00
59 Co	48.88 ug/l	5.32	50.00	90 - 110		671294.81	673488.44	670001.38
60 Ni	51.85 ug/l	1.58	50.00	90 - 110		55212.88	55735.62	55773.43
63 Cu	52.14 ug/l	1.35	50.00	90 - 110		145722.66	146093.95	147333.92
66 Zn	50.22 ug/l	6.27	50.00	90 - 110		82662.77	84528.03	83336.41
75 As	51.99 ug/l	0.92	50.00	90 - 110		10873.24	10974.64	11109.04
78 Se	51.88 ug/l	0.22	50.00	90 - 110		21213.33	21520.01	21666.20
88 Sr	53.22 ug/l	6.32	50.00	90 - 110		1254842.50	1266847.30	1250823.40
95 Mo	51.55 ug/l	7.24	50.00	90 - 110		171253.20	174284.11	172987.22
107 Ag	52.45 ug/l	7.15	50.00	90 - 110		510896.75	518921.59	515957.44
111 Cd	51.17 ug/l	6.27	50.00	90 - 110		109678.40	109365.96	110111.65
118 Sn	51.49 ug/l	7.41	50.00	90 - 110		338079.13	345180.31	341971.88
121 Sb	52.84 ug/l	7.31	50.00	90 - 110		324474.47	330644.75	328167.81
137 Ba	52.68 ug/l	5.85	50.00	90 - 110		169509.17	166981.41	171313.52
202 Hg	2.458 ug/l	4.64	2.50	90 - 110		5861.76	5804.73	5776.05
205 Tl	10.24 ug/l	6.31	10.00	90 - 110		208492.19	208171.03	205522.08
208 Pb	50.86 ug/l	6.93	50.00	90 - 110		1412286.50	1429575.10	1424093.10
232 Th	50.71 ug/l	5.94		--- ##### - #####		1530508.90	1551600.80	1570532.00
238 U	49.76 ug/l	6.32		--- ##### - #####		1499547.00	1534184.10	1538980.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	621889.69	2.46	836165.38	74.4	60 - 125		639309.38	610522.00	615837.69
45 Sc	482482.50	1.41	552676.25	87.3	60 - 125		474672.38	487064.31	485710.88
45 Sc	575629.19	6.44	644433.94	89.3	60 - 125		614748.63	540958.69	571180.31
74 Ge	154872.66	0.99	175321.88	88.3	60 - 125		153120.06	155564.44	155933.47
74 Ge	22972.68	1.93	27172.50	84.5	60 - 125		22641.90	22799.83	23476.29
74 Ge	147462.92	5.26	164913.13	89.4	60 - 125		155898.61	140659.47	145830.66
89 Y	958673.44	5.95	1068488.30	89.7	60 - 125		1019939.10	907123.13	948957.88
115 In	940457.50	6.47	1083659.40	86.8	60 - 125		1005953.80	885678.75	929740.00
159 Tb	1346508.40	6.35	1651256.80	81.5	60 - 125		1434698.50	1263855.30	1340971.30
209 Bi	802652.06	5.15	1054491.00	76.1	60 - 125		846647.44	764555.88	796752.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\249_CCB.D\249_CCB.D#
Date Acquired: Dec 26 2012 03:51 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02015	0.02015	ug/l	21.13	#VALUE!		46.67	63.33	73.34
11 B # 3	1.361	1.361	ug/l	8.37	#VALUE!		10446.37	10416.44	10329.68
23 Na # 1	6.399	6.399	ug/l	1.43	#VALUE!		119712.30	122262.19	122828.71
24 Mg # 1	1.765	1.765	ug/l	1.94	#VALUE!		7481.67	7691.77	7468.31
27 Al # 1	0.1835	0.1835	ug/l	3.60	#VALUE!		1873.48	1836.81	1873.47
39 K # 2	-0.3854	-0.3854	ug/l	54.57	#VALUE!		7968.56	8105.30	8225.34
40 Ca # 1	5.376	5.376	ug/l	0.54	#VALUE!		109385.13	110554.93	111849.14
45 Sc # 2	----	--------		--------	#VALUE!		36432.93	37068.59	37615.25
47 Ti # 3	0.02132	0.02132	ug/l	91.32	#VALUE!		26.67	46.67	66.67
51 V # 2	0.02329	0.02329	ug/l	22.65	#VALUE!		223.34	240.00	224.45
52 Cr # 2	0.0142	0.0142	ug/l	19.42	#VALUE!		155.56	142.22	150.00
55 Mn # 3	0.1946	0.1946	ug/l	9.54	#VALUE!		4170.60	4817.43	4260.61
56 Fe # 1	1.263	1.263	ug/l	1.82	#VALUE!		29647.71	29370.38	29814.39
59 Co # 3	0.01672	0.01672	ug/l	16.50	#VALUE!		293.34	230.01	226.67
60 Ni # 2	0.002922	0.002922	ug/l	91.96	#VALUE!		35.56	30.00	32.22
63 Cu # 2	-0.08606	-0.08606	ug/l	7.68	#VALUE!		241.12	227.78	210.00
66 Zn # 3	-0.02434	-0.02434	ug/l	24.86	#VALUE!		183.34	203.34	186.67
75 As # 2	0.03646	0.03646	ug/l	29.46	#VALUE!		23.33	27.00	23.33
78 Se # 1	0.04627	0.04627	ug/l	14.17	#VALUE!		38.67	43.33	38.33
88 Sr # 3	0.02882	0.02882	ug/l	9.49	#VALUE!		810.04	763.37	683.37
95 Mo # 3	0.0743	0.0743	ug/l	18.69	#VALUE!		360.01	276.68	280.01
107 Ag # 3	0.01885	0.01885	ug/l	0.86	#VALUE!		213.34	213.34	210.01
111 Cd # 3	0.01551	0.01551	ug/l	102.58	#VALUE!		103.22	69.91	33.24
118 Sn # 3	0.05295	0.05295	ug/l	13.01	#VALUE!		700.03	630.03	613.37
121 Sb # 3	0.2331	0.2331	ug/l	4.15	#VALUE!		1656.80	1760.14	1773.47
137 Ba # 3	0.01953	0.01953	ug/l	51.31	#VALUE!		120.00	60.00	66.67
202 Hg # 3	0.01921	0.01921	ug/l	19.15	#VALUE!		93.00	100.00	82.67
205 Tl # 3	0.005816	0.005816	ug/l	19.09	#VALUE!		163.34	190.01	146.67
208 Pb # 3	0.01997	0.01997	ug/l	3.80	#VALUE!		710.03	753.36	736.70
232 Th # 3	0.1087	0.1087	ug/l	2.06	#VALUE!		3780.57	3697.24	3657.22
238 U # 3	0.01875	0.01875	ug/l	2.51	#VALUE!		626.70	613.37	600.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	622998.44	3.00	836165.38	74.5	60 - 125		602711.50	639558.69	626725.13
45 Sc # 1	489550.63	0.98	552676.25	88.6	60 - 125		484387.88	490438.69	493825.41
45 Sc # 3	580973.00	0.83	644433.94	90.2	60 - 125		575478.31	583023.19	584417.63
74 Ge # 1	159046.98	1.00	175321.88	90.7	60 - 125		157339.55	159307.56	160493.84
74 Ge # 2	23676.90	1.69	27172.50	87.1	60 - 125		23422.88	23470.72	24137.09
74 Ge # 3	149862.55	0.38	164913.13	90.9	60 - 125		149213.70	150235.42	150138.55
89 Y # 3	976675.19	0.27	1068488.30	91.4	60 - 125		974687.50	975711.13	979626.88
115 In # 3	964229.38	0.42	1083659.40	89.0	60 - 125		962016.56	968938.94	961732.69
159 Tb # 3	1343382.50	0.55	1651256.80	81.4	60 - 125		1338211.40	1340097.90	1351838.40
209 Bi # 3	844013.69	0.42	1054491.00	80.0	60 - 125		843087.88	840983.00	847970.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\250SMPL.D\250SMPL.D#
Date Acquired: Dec 26 2012 03:59 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85888-e-2-a
Misc Info: 3010 1/5
Vial Number: 3211
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.004927	0.004927	ug/l	37.65	100.00		10.00	20.00	16.67
11 B # 3	3.313	3.313	ug/l	2.59	1800.00		14612.50	15319.83	15356.52
23 Na # 1	2279	2279	ug/l	0.98	81000.00		13314956.00	13822615.00	13765250.00
24 Mg # 1	2062	2062	ug/l	1.08	81000.00		8166053.00	8226646.50	8456521.00
27 Al # 1	47.39	47.39	ug/l	0.37	81000.00		215269.56	217699.11	220336.30
39 K # 2	352.1	352.1	ug/l	0.74	81000.00		114191.64	117733.52	121204.67
40 Ca # 1	4548	4548	ug/l	1.35	81000.00		41165092.00	41453128.00	42840060.00
45 Sc # 2	----	--------		--------	#VALUE!		35898.56	36356.12	37683.15
47 Ti # 3	3.6	3.6	ug/l	3.23	1620.00		3677.13	3837.18	3587.12
51 V # 2	0.349	0.349	ug/l	2.29	1800.00		912.25	915.59	924.48
52 Cr # 2	0.2655	0.2655	ug/l	1.89	1800.00		754.47	792.25	811.14
55 Mn # 3	565	565	ug/l	0.16	1800.00		10243795.00	10380904.00	10361312.00
56 Fe # 1	6343	6343	ug/l	0.48	81000.00		88516456.00	90494144.00	90340968.00
59 Co # 3	4.246	4.246	ug/l	0.82	1800.00		59386.05	59891.45	59118.52
60 Ni # 2	3.245	3.245	ug/l	0.61	1800.00		3481.47	3508.14	3665.95
63 Cu # 2	1.351	1.351	ug/l	2.97	1800.00		4308.32	4288.32	4296.09
66 Zn # 3	0.7684	0.7684	ug/l	3.74	1800.00		1516.77	1586.78	1490.10
75 As # 2	0.5169	0.5169	ug/l	5.28	100.00		130.33	124.67	125.33
78 Se # 1	0.02777	0.02777	ug/l	42.10	100.00		27.33	37.33	31.00
88 Sr # 3	30.21	30.21	ug/l	1.15	1800.00		738150.31	734768.63	744495.06
95 Mo # 3	0.8747	0.8747	ug/l	1.99	1800.00		3153.70	3097.03	3057.01
107 Ag # 3	0.002624	0.002624	ug/l	60.63	100.00		30.00	56.67	60.00
111 Cd # 3	0.003779	0.003779	ug/l	22.40	100.00		42.33	42.34	45.69
118 Sn # 3	0.07416	0.07416	ug/l	6.60	1800.00		786.71	843.38	776.71
121 Sb # 3	0.2148	0.2148	ug/l	4.01	100.00		1600.11	1703.46	1596.79
137 Ba # 3	24.79	24.79	ug/l	0.86	1800.00		83123.80	83237.50	82262.91
202 Hg # 3	0.008114	0.008114	ug/l	28.95	5.00		58.33	70.00	64.00
205 Tl # 3	0.002738	0.002738	ug/l	55.26	20.00		90.00	146.67	90.00
208 Pb # 3	0.0277	0.0277	ug/l	8.20	1800.00		993.38	1063.38	913.37
232 Th # 3	0.08023	0.08023	ug/l	3.71	#VALUE!		2670.31	2830.36	2840.34
238 U # 3	0.02087	0.02087	ug/l	7.50	#VALUE!		620.03	713.38	700.04

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	575592.50	1.29	836165.38	68.8	60 - 125		567474.50	577232.06	582070.88
45 Sc # 1	489193.03	1.25	552676.25	88.5	60 - 125		482367.56	491119.28	494092.25
45 Sc # 3	586841.88	0.31	644433.94	91.1	60 - 125		585086.38	588750.38	586688.88
74 Ge # 1	157154.34	0.86	175321.88	89.6	60 - 125		155642.23	157598.63	158222.19
74 Ge # 2	23274.54	2.55	27172.50	85.7	60 - 125		22754.23	23149.20	23920.18
74 Ge # 3	149981.45	0.60	164913.13	90.9	60 - 125		148941.67	150478.23	150524.48
89 Y # 3	990159.25	0.60	1068488.30	92.7	60 - 125		986030.50	996910.38	987537.06
115 In # 3	976020.38	0.47	1083659.40	90.1	60 - 125		970885.81	979698.75	977476.75
159 Tb # 3	1400041.40	0.96	1651256.80	84.8	60 - 125		1405531.00	1409938.10	1384655.10
209 Bi # 3	839352.94	0.15	1054491.00	79.6	60 - 125		839250.38	840661.63	838146.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\251SMPL.D\251SMPL.D#
Date Acquired: Dec 26 2012 04:06 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85888-e-5-a
Misc Info: 3010 1/5
Vial Number: 3212
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.005075	0.005075	ug/l	54.31	100.00		23.33	10.00	13.33
11 B # 3	1.944	1.944	ug/l	3.71	1800.00		10920.03	10819.92	11390.31
23 Na # 1	1457	1457	ug/l	0.32	81000.00		8684843.00	8821842.00	8822473.00
24 Mg # 1	1597	1597	ug/l	0.61	81000.00		6333096.00	6444695.00	6537076.50
27 Al # 1	35.56	35.56	ug/l	0.61	81000.00		161091.30	164939.95	166686.13
39 K # 2	231.3	231.3	ug/l	0.65	81000.00		77630.21	79778.69	81526.91
40 Ca # 1	3640	3640	ug/l	0.65	81000.00		32992372.00	33680332.00	34135808.00
45 Sc # 2	----	--------		--------	#VALUE!		35709.33	36553.17	36847.06
47 Ti # 3	2.041	2.041	ug/l	1.97	1620.00		2106.85	2063.51	2050.16
51 V # 2	0.2975	0.2975	ug/l	4.46	1800.00		752.24	817.80	842.25
52 Cr # 2	0.06553	0.06553	ug/l	5.53	1800.00		274.45	282.23	270.00
55 Mn # 3	451	451	ug/l	0.92	1800.00		8061534.00	8176880.50	8315029.00
56 Fe # 1	2438	2438	ug/l	0.52	81000.00		34261172.00	34770684.00	34901620.00
59 Co # 3	3.474	3.474	ug/l	1.11	1800.00		47999.63	48818.51	48073.36
60 Ni # 2	1.437	1.437	ug/l	5.07	1800.00		1625.64	1556.75	1552.30
63 Cu # 2	0.09857	0.09857	ug/l	14.15	1800.00		706.69	718.91	801.14
66 Zn # 3	0.9705	0.9705	ug/l	6.49	1800.00		1793.47	1980.17	1803.47
75 As # 2	0.414	0.414	ug/l	7.24	100.00		105.00	97.67	110.00
78 Se # 1	0.02435	0.02435	ug/l	9.48	100.00		30.33	29.67	31.67
88 Sr # 3	23.75	23.75	ug/l	0.25	1800.00		574352.19	575214.56	574331.06
95 Mo # 3	0.3136	0.3136	ug/l	6.94	1800.00		1203.41	1063.40	1150.07
107 Ag # 3	0.004946	0.004946	ug/l	23.92	100.00		83.34	60.00	73.34
111 Cd # 3	0.01116	0.01116	ug/l	14.64	100.00		62.95	59.66	56.30
118 Sn # 3	0.07775	0.07775	ug/l	10.07	1800.00		760.04	873.38	836.71
121 Sb # 3	0.1595	0.1595	ug/l	6.90	100.00		1343.43	1233.41	1233.42
137 Ba # 3	19.69	19.69	ug/l	0.50	1800.00		65466.85	65603.96	65487.27
202 Hg # 3	0.00373	0.00373	ug/l	28.31	5.00		53.00	51.00	56.33
205 Tl # 3	0.00124	0.00124	ug/l	72.05	20.00		56.67	93.34	80.00
208 Pb # 3	0.01549	0.01549	ug/l	2.66	1800.00		633.36	616.69	640.03
232 Th # 3	0.03944	0.03944	ug/l	12.04	#VALUE!		1646.81	1430.12	1353.44
238 U # 3	0.009353	0.009353	ug/l	9.78	#VALUE!		290.01	293.34	343.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	564995.44	1.96	836165.38	67.6	60 - 125		553792.31	565273.06	575920.81
45 Sc # 1	490914.34	1.20	552676.25	88.8	60 - 125		484182.28	493554.28	495006.50
45 Sc # 3	577066.75	0.55	644433.94	89.5	60 - 125		573502.31	579637.44	578060.44
74 Ge # 1	157746.66	0.46	175321.88	90.0	60 - 125		156924.28	158018.00	158297.70
74 Ge # 2	23139.18	2.34	27172.50	85.2	60 - 125		22530.63	23323.88	23563.04
74 Ge # 3	148878.77	0.63	164913.13	90.3	60 - 125		147971.45	148821.84	149842.98
89 Y # 3	979120.50	0.25	1068488.30	91.6	60 - 125		976350.50	979894.44	981116.63
115 In # 3	971542.25	0.55	1083659.40	89.7	60 - 125		965375.00	974268.00	974983.81
159 Tb # 3	1392554.30	0.35	1651256.80	84.3	60 - 125		1398110.40	1390271.60	1389280.80
209 Bi # 3	841151.75	0.18	1054491.00	79.8	60 - 125		841367.25	839564.88	842523.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\252SMPL.D\252SMPL.D#
Date Acquired: Dec 26 2012 04:13 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85888-e-6-a
Misc Info: 3010 1/5
Vial Number: 3301
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02304	0.02304	ug/l	20.16	100.00		50.00	76.67	63.34
11 B	# 3	1.795	1.795	ug/l	4.68	1800.00		10599.84	10546.50	10896.66
23 Na	# 1	1453	1453	ug/l	0.70	81000.00		8532456.00	8723145.00	8788492.00
24 Mg	# 1	1614	1614	ug/l	1.62	81000.00		6316824.00	6568145.50	6473176.50
27 Al	# 1	43.64	43.64	ug/l	0.36	81000.00		198108.09	200054.42	200833.80
39 K	# 2	228.5	228.5	ug/l	1.08	81000.00		77897.73	79159.78	81282.24
40 Ca	# 1	3598	3598	ug/l	0.96	81000.00		32508686.00	32686900.00	33626648.00
45 Sc	# 2	----	--------		--------	#VALUE!		35664.78	36401.74	36735.77
47 Ti	# 3	2.527	2.527	ug/l	2.96	1620.00		2500.23	2670.27	2550.25
51 V	# 2	0.3334	0.3334	ug/l	4.26	1800.00		848.91	882.25	931.14
52 Cr	# 2	0.1476	0.1476	ug/l	7.34	1800.00		493.34	456.68	512.23
55 Mn	# 3	450.4	450.4	ug/l	1.08	1800.00		8124984.00	8223535.50	8168346.50
56 Fe	# 1	2389	2389	ug/l	0.87	81000.00		33441050.00	34139448.00	34141464.00
59 Co	# 3	3.425	3.425	ug/l	1.04	1800.00		47468.48	48053.25	47294.72
60 Ni	# 2	1.226	1.226	ug/l	0.18	1800.00		1343.39	1364.51	1382.29
63 Cu	# 2	0.8308	0.8308	ug/l	1.94	1800.00		2742.45	2844.69	2905.81
66 Zn	# 3	1.077	1.077	ug/l	3.15	1800.00		2036.84	2096.85	1980.17
75 As	# 2	0.4258	0.4258	ug/l	2.78	100.00		108.00	105.00	110.00
78 Se	# 1	0.01942	0.01942	ug/l	30.10	100.00		30.33	25.67	29.33
88 Sr	# 3	23.5	23.5	ug/l	0.38	1800.00		568239.81	569605.50	574167.75
95 Mo	# 3	0.2938	0.2938	ug/l	3.13	1800.00		1043.40	1103.40	1070.07
107 Ag	# 3	-0.0001907	-0.0001907	ug/l	515.15	100.00		20.00	30.00	10.00
111 Cd	# 3	0.004122	0.004122	ug/l	110.46	100.00		53.00	46.31	32.99
118 Sn	# 3	0.07222	0.07222	ug/l	12.83	1800.00		853.38	783.38	723.37
121 Sb	# 3	0.1364	0.1364	ug/l	5.44	100.00		1090.07	1176.74	1106.74
137 Ba	# 3	19.92	19.92	ug/l	0.56	1800.00		67002.71	66055.63	66216.91
202 Hg	# 3	0.0005545	0.0005545	ug/l	344.45	5.00		51.00	41.67	45.67
205 Tl	# 3	0.001896	0.001896	ug/l	47.56	20.00		96.67	106.67	70.00
208 Pb	# 3	0.01968	0.01968	ug/l	9.56	1800.00		710.03	810.04	750.03
232 Th	# 3	0.03042	0.03042	ug/l	7.90	#VALUE!		1290.10	1156.75	1153.41
238 U	# 3	0.009456	0.009456	ug/l	4.74	#VALUE!		323.35	300.01	323.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	567838.25	2.56	836165.38	67.9	60 - 125		551404.00	573046.88	579064.06
45 Sc	# 1	486854.78	0.96	552676.25	88.1	60 - 125		482308.53	486572.38	491683.38
45 Sc	# 3	579851.69	0.54	644433.94	90.0	60 - 125		576319.38	582355.75	580880.00
74 Ge	# 1	157558.75	0.68	175321.88	89.9	60 - 125		156694.02	157220.31	158761.89
74 Ge	# 2	23338.33	1.30	27172.50	85.9	60 - 125		23013.46	23387.28	23614.25
74 Ge	# 3	148867.86	0.59	164913.13	90.3	60 - 125		149845.59	148595.97	148162.02
89 Y	# 3	982699.75	0.48	1068488.30	92.0	60 - 125		977305.06	985077.25	985716.94
115 In	# 3	973323.19	0.20	1083659.40	89.8	60 - 125		975511.88	971867.56	972590.00
159 Tb	# 3	1402170.60	0.63	1651256.80	84.9	60 - 125		1411670.40	1394278.40	1400563.10
209 Bi	# 3	850377.13	0.41	1054491.00	80.6	60 - 125		850344.13	853841.56	846945.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\253SMPL.D\253SMPL.D#
Date Acquired: Dec 26 2012 04:21 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85278-b-1-a
Misc Info: 3010 1/5
Vial Number: 3302
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02488	0.02488	ug/l	29.77	100.00		60.00	90.00	53.33
11 B	# 3	18.05	18.05	ug/l	0.36	1800.00		54788.55	55631.09	56045.43
23 Na	# 1	3044	3044	ug/l	1.30	81000.00		17652700.00	17940784.00	18384302.00
24 Mg	# 1	1075	1075	ug/l	1.11	81000.00		4157940.30	4316471.00	4343506.50
27 Al	# 1	2.376	2.376	ug/l	2.15	81000.00		11403.68	12110.84	11771.06
39 K	# 2	1369	1369	ug/l	1.69	81000.00		418289.56	433378.75	439797.75
40 Ca	# 1	3870	3870	ug/l	0.56	81000.00		34815304.00	35609360.00	35245108.00
45 Sc	# 2	----	--------		--------	#VALUE!		35535.72	36156.79	36923.91
47 Ti	# 3	0.2657	0.2657	ug/l	17.15	1620.00		263.34	343.35	260.01
51 V	# 2	0.1542	0.1542	ug/l	11.91	1800.00		465.57	540.01	492.23
52 Cr	# 2	0.03158	0.03158	ug/l	44.46	1800.00		162.22	173.34	233.34
55 Mn	# 3	176.3	176.3	ug/l	1.23	1800.00		3143354.50	3203945.30	3122890.30
56 Fe	# 1	6175	6175	ug/l	0.93	81000.00		85060288.00	86502056.00	87270280.00
59 Co	# 3	5.135	5.135	ug/l	1.01	1800.00		70658.73	70642.16	69946.78
60 Ni	# 2	0.338	0.338	ug/l	6.99	1800.00		361.12	395.56	421.12
63 Cu	# 2	0.217	0.217	ug/l	5.34	1800.00		1062.26	1098.93	1056.71
66 Zn	# 3	0.4444	0.4444	ug/l	4.82	1800.00		923.39	963.39	1003.39
75 As	# 2	0.7481	0.7481	ug/l	2.48	100.00		172.33	178.00	174.00
78 Se	# 1	0.02371	0.02371	ug/l	31.32	100.00		29.33	27.00	33.00
88 Sr	# 3	27.48	27.48	ug/l	0.88	1800.00		686891.88	677606.19	676078.06
95 Mo	# 3	0.01566	0.01566	ug/l	61.96	1800.00		136.67	70.00	103.34
107 Ag	# 3	0.00027	0.00027	ug/l	187.33	100.00		30.00	23.33	20.00
111 Cd	# 3	-0.002589	-0.002589	ug/l	236.58	100.00		43.29	16.64	26.63
118 Sn	# 3	0.07424	0.07424	ug/l	6.24	1800.00		816.71	803.38	756.71
121 Sb	# 3	0.1315	0.1315	ug/l	4.67	100.00		1040.07	1120.07	1083.40
137 Ba	# 3	33.9	33.9	ug/l	0.83	1800.00		112648.85	111987.54	110860.47
202 Hg	# 3	0.002918	0.002918	ug/l	82.83	5.00		56.00	44.67	51.33
205 Tl	# 3	0.01446	0.01446	ug/l	17.96	20.00		350.02	410.02	303.35
208 Pb	# 3	0.005633	0.005633	ug/l	9.46	1800.00		340.01	330.01	363.35
232 Th	# 3	0.01972	0.01972	ug/l	1.20	#VALUE!		823.38	833.38	836.72
238 U	# 3	0.002031	0.002031	ug/l	18.28	#VALUE!		60.00	73.34	83.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	565567.19	1.47	836165.38	67.6	60 - 125		556696.44	566895.06	573110.13
45 Sc	# 1	484051.22	1.28	552676.25	87.6	60 - 125		476912.91	487731.03	487509.78
45 Sc	# 3	571429.81	0.75	644433.94	88.7	60 - 125		566940.19	575519.25	571829.88
74 Ge	# 1	155120.55	0.67	175321.88	88.5	60 - 125		154012.09	156084.72	155264.84
74 Ge	# 2	23076.52	1.37	27172.50	84.9	60 - 125		22852.14	22938.98	23438.45
74 Ge	# 3	146874.02	0.62	164913.13	89.1	60 - 125		145826.88	147516.69	147278.45
89 Y	# 3	1001640.00	0.66	1068488.30	93.7	60 - 125		1005243.10	994039.38	1005637.50
115 In	# 3	963276.44	0.09	1083659.40	88.9	60 - 125		962544.13	964162.69	963122.50
159 Tb	# 3	1392765.60	0.64	1651256.80	84.3	60 - 125		1384367.10	1391699.10	1402230.60
209 Bi	# 3	828736.63	0.43	1054491.00	78.6	60 - 125		827305.94	832820.63	826083.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\254_CCV.D\254_CCV.D#
Date Acquired: Dec 26 2012 04:28 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	54.35 ug/l	4.28	50.00	90 - 110		152135.05	155029.25	156841.70
11 B	108.4 ug/l	4.01	100.00	90 - 110		323324.28	329135.47	336392.09
23 Na	5225 ug/l	1.44	5000.00	90 - 110		30219816.00	31264506.00	31039296.00
24 Mg	5136 ug/l	0.97	5000.00	90 - 110		20034362.00	20529616.00	20722964.00
27 Al	522.5 ug/l	0.92	500.00	90 - 110		2322491.80	2374270.50	2404592.00
39 K	5218 ug/l	1.07	5000.00	90 - 110		1589077.00	1654447.30	1648452.60
40 Ca	5214 ug/l	0.73	5000.00	90 - 110		46673524.00	47490404.00	48213572.00
45 Sc	--------	--------		--- ##### - #####		37156.58	38194.16	38527.01
47 Ti	53.05 ug/l	0.88	50.00	90 - 110		53403.79	54102.02	53791.33
51 V	50.66 ug/l	1.05	50.00	90 - 110		106184.38	107402.64	109551.54
52 Cr	50.67 ug/l	0.26	50.00	90 - 110		127373.16	129353.36	129587.13
55 Mn	510.5 ug/l	0.88	500.00	90 - 110		9100257.00	9229367.00	9288170.00
56 Fe	5121 ug/l	1.94	5000.00	90 - 110		70152144.00	71962960.00	73353096.00
59 Co	49.48 ug/l	0.60	50.00	90 - 110		678224.50	680812.38	690947.81
60 Ni	51.64 ug/l	0.75	50.00	90 - 110		55531.62	55917.14	56554.60
63 Cu	51.9 ug/l	0.61	50.00	90 - 110		146284.63	147537.39	148445.95
66 Zn	50.66 ug/l	0.56	50.00	90 - 110		85083.88	83952.81	85043.81
75 As	51.94 ug/l	0.90	50.00	90 - 110		11064.69	11099.71	11147.07
78 Se	52.12 ug/l	0.24	50.00	90 - 110		21642.16	21602.79	21798.66
88 Sr	54.21 ug/l	1.86	50.00	90 - 110		1288887.50	1281537.80	1318535.50
95 Mo	52.24 ug/l	0.96	50.00	90 - 110		175317.08	177464.92	176637.22
107 Ag	53.13 ug/l	0.95	50.00	90 - 110		522727.97	528878.75	525878.13
111 Cd	51.66 ug/l	1.00	50.00	90 - 110		110916.23	112274.19	111465.73
118 Sn	52.7 ug/l	0.46	50.00	90 - 110		353130.78	352395.47	351825.81
121 Sb	53.35 ug/l	0.80	50.00	90 - 110		331278.84	334324.72	334704.63
137 Ba	52.96 ug/l	0.55	50.00	90 - 110		170566.34	171124.22	172307.55
202 Hg	2.501 ug/l	0.21	2.50	90 - 110		5952.45	5958.79	5945.12
205 Tl	10.42 ug/l	0.26	10.00	90 - 110		212043.41	213512.81	211990.86
208 Pb	51.46 ug/l	0.45	50.00	90 - 110		1449601.10	1450429.80	1445380.10
232 Th	51.09 ug/l	0.79		--- ##### - #####		1566905.00	1569169.60	1583264.80
238 U	50.32 ug/l	1.21		--- ##### - #####		1535556.40	1552128.30	1569573.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	612336.00	5.72	836165.38	73.2	60 - 125		574148.56	619863.56	642995.88
45 Sc	484351.69	0.96	552676.25	87.6	60 - 125		480330.41	483270.69	489453.94
45 Sc	582425.25	0.90	644433.94	90.4	60 - 125		577879.88	581237.06	588158.88
74 Ge	155695.20	0.32	175321.88	88.8	60 - 125		155290.31	155550.16	156245.13
74 Ge	23241.55	1.16	27172.50	85.5	60 - 125		22931.15	23408.42	23385.07
74 Ge	147930.75	0.46	164913.13	89.7	60 - 125		147719.05	147379.42	148693.78
89 Y	967905.94	0.42	1068488.30	90.6	60 - 125		966247.50	972581.88	964888.44
115 In	944571.25	0.42	1083659.40	87.2	60 - 125		946389.44	940054.38	947269.88
159 Tb	1351702.80	0.42	1651256.80	81.9	60 - 125		1345784.10	1357060.60	1352263.80
209 Bi	806547.19	0.32	1054491.00	76.5	60 - 125		805684.19	809417.81	804539.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\255_CCB.D\255_CCB.D#
Date Acquired: Dec 26 2012 04:36 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006438	0.006438	ug/l	25.68	#VALUE!		16.67	26.67	20.00
11 B # 3	1.446	1.446	ug/l	5.99	#VALUE!		10609.82	10659.83	10529.80
23 Na # 1	6.616	6.616	ug/l	1.69	#VALUE!		121436.77	122440.44	124433.01
24 Mg # 1	1.787	1.787	ug/l	2.29	#VALUE!		7651.74	7451.65	7778.44
27 Al # 1	0.1998	0.1998	ug/l	8.86	#VALUE!		1823.47	1990.15	1990.16
39 K # 2	-1.166	-1.166	ug/l	34.16	#VALUE!		7758.50	7758.48	8035.26
40 Ca # 1	5.698	5.698	ug/l	1.86	#VALUE!		111967.27	112945.48	115412.95
45 Sc # 2	----	--------		--------	#VALUE!		36616.62	37133.17	37761.07
47 Ti # 3	0.02103	0.02103	ug/l	62.20	#VALUE!		46.67	60.00	33.33
51 V # 2	0.02147	0.02147	ug/l	47.79	#VALUE!		242.23	204.45	228.89
52 Cr # 2	0.005296	0.005296	ug/l	46.11	#VALUE!		116.67	132.22	130.00
55 Mn # 3	0.09513	0.09513	ug/l	7.63	#VALUE!		2490.24	2573.58	2776.96
56 Fe # 1	1.34	1.34	ug/l	6.25	#VALUE!		29961.51	29954.78	32105.39
59 Co # 3	0.007764	0.007764	ug/l	35.77	#VALUE!		80.00	146.67	150.00
60 Ni # 2	0.006542	0.006542	ug/l	83.74	#VALUE!		30.00	36.67	43.33
63 Cu # 2	-0.09637	-0.09637	ug/l	9.49	#VALUE!		203.34	167.78	218.89
66 Zn # 3	-0.04459	-0.04459	ug/l	13.14	#VALUE!		153.34	150.00	170.00
75 As # 2	0.02919	0.02919	ug/l	21.96	#VALUE!		21.00	24.33	23.67
78 Se # 1	0.04195	0.04195	ug/l	0.71	#VALUE!		38.33	38.00	38.33
88 Sr # 3	0.01812	0.01812	ug/l	11.71	#VALUE!		500.02	546.69	446.69
95 Mo # 3	0.07081	0.07081	ug/l	9.04	#VALUE!		276.68	283.34	320.01
107 Ag # 3	0.009417	0.009417	ug/l	22.24	#VALUE!		106.67	140.00	103.34
111 Cd # 3	0.005435	0.005435	ug/l	208.46	#VALUE!		23.25	43.24	73.23
118 Sn # 3	0.05807	0.05807	ug/l	24.54	#VALUE!		793.37	603.36	650.03
121 Sb # 3	0.2238	0.2238	ug/l	7.15	#VALUE!		1780.15	1643.46	1583.46
137 Ba # 3	0.01583	0.01583	ug/l	23.02	#VALUE!		83.34	66.67	60.00
202 Hg # 3	0.02003	0.02003	ug/l	10.28	#VALUE!		98.00	95.33	88.33
205 Tl # 3	0.001898	0.001898	ug/l	65.23	#VALUE!		80.00	66.67	116.67
208 Pb # 3	0.01261	0.01261	ug/l	6.49	#VALUE!		540.02	540.02	506.69
232 Th # 3	0.09975	0.09975	ug/l	7.67	#VALUE!		3723.91	3250.44	3297.14
238 U # 3	0.01211	0.01211	ug/l	8.87	#VALUE!		440.02	383.35	373.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	619508.81	2.25	836165.38	74.1	60 - 125		603425.56	626815.88	628284.88
45 Sc # 1	489063.22	0.87	552676.25	88.5	60 - 125		484426.38	490002.06	492761.22
45 Sc # 3	585948.50	0.23	644433.94	90.9	60 - 125		584411.69	586607.88	586825.81
74 Ge # 1	158817.63	0.18	175321.88	90.6	60 - 125		158898.75	158491.83	159062.30
74 Ge # 2	23673.19	1.85	27172.50	87.1	60 - 125		23178.13	23835.61	24005.83
74 Ge # 3	150687.53	0.53	164913.13	91.4	60 - 125		149997.39	150500.86	151564.33
89 Y # 3	984056.31	0.42	1068488.30	92.1	60 - 125		987353.63	979449.44	985366.00
115 In # 3	963249.06	0.68	1083659.40	88.9	60 - 125		964927.81	955979.38	968840.06
159 Tb # 3	1347975.00	1.18	1651256.80	81.6	60 - 125		1357382.10	1329533.80	1357009.10
209 Bi # 3	843639.63	0.63	1054491.00	80.0	60 - 125		847401.56	837533.13	845984.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\256SMPL.D\256SMPL.D#
Date Acquired: Dec 26 2012 04:43 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 400-71359-d-1-a
Misc Info: 3010 1/20
Vial Number: 4210
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 4.00
Autodil Factor: Undiluted
Final Dil Factor: 4.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.007596	0.001899	ug/l	31.82	100.00		6.67	10.00	10.00
11 B # 3	627.2	156.8	ug/l	4.29	1800.00		528057.50	536853.56	540272.88
23 Na # 1	1650000	412500	ug/l	0.77	81000.00		2369238800.00	2428865300.00	2470072800.00
24 Mg # 1	195840	48960	ug/l	0.64	81000.00		189500020.00	195330740.00	197977360.00
27 Al # 1	22.012	5.503	ug/l	1.44	81000.00		25180.64	25844.68	26576.54
39 K # 2	66960	16740	ug/l	0.62	81000.00		4733912.50	4810935.50	4936562.00
40 Ca # 1	65520	16380	ug/l	0.98	81000.00		146915810.00	149010990.00	149770530.00
45 Sc # 2	----	--------		--------	#VALUE!		37525.06	38991.31	40278.45
47 Ti # 3	0.9128	0.2282	ug/l	9.27	1620.00		286.68	280.01	250.01
51 V # 2	0.6756	0.1689	ug/l	3.03	1800.00		472.23	500.01	512.24
52 Cr # 2	0.13772	0.03443	ug/l	12.88	1800.00		168.89	194.45	186.67
55 Mn # 3	4.628	1.157	ug/l	2.98	1800.00		20378.39	20007.94	19490.71
56 Fe # 1	25.364	6.341	ug/l	7.33	81000.00		81616.77	94236.27	87289.16
59 Co # 3	0.16308	0.04077	ug/l	13.48	1800.00		506.69	610.03	480.02
60 Ni # 2	0.654	0.1635	ug/l	1.17	1800.00		187.78	192.22	192.23
63 Cu # 2	0.36568	0.09142	ug/l	13.91	1800.00		693.35	655.57	663.35
66 Zn # 3	1.9232	0.4808	ug/l	1.74	1800.00		956.72	936.72	950.05
75 As # 2	1.1936	0.2984	ug/l	6.19	100.00		73.33	70.33	78.67
78 Se # 1	0.24956	0.06239	ug/l	6.19	100.00		41.33	39.33	40.00
88 Sr # 3	1071.2	267.8	ug/l	1.19	1800.00		6162069.00	6201883.00	6165541.50
95 Mo # 3	2.0956	0.5239	ug/l	4.21	1800.00		1616.79	1506.77	1570.11
107 Ag # 3	0.01018	0.002545	ug/l	55.52	100.00		36.67	53.33	30.00
111 Cd # 3	-0.006348	-0.001587	ug/l	396.41	100.00		32.82	32.85	12.83
118 Sn # 3	0.13024	0.03256	ug/l	18.93	1800.00		433.35	460.02	393.35
121 Sb # 3	0.4752	0.1188	ug/l	1.10	100.00		840.05	850.04	843.38
137 Ba # 3	4.248	1.062	ug/l	5.80	1800.00		3133.72	2836.99	2943.67
202 Hg # 3	0.06	0.015	ug/l	14.68	5.00		52.67	60.33	58.67
205 Tl # 3	0.006812	0.001703	ug/l	45.26	20.00		60.00	86.67	70.00
208 Pb # 3	0.015404	0.003851	ug/l	43.55	1800.00		290.01	226.68	216.67
232 Th # 3	0.24428	0.06107	ug/l	7.74	#VALUE!		1640.14	1480.12	1466.79
238 U # 3	0.6496	0.1624	ug/l	3.17	#VALUE!		3720.55	3747.25	3587.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	691179.88	4.53	836165.38	82.7	60 - 125		686691.25	662362.38	724486.00
45 Sc # 1	483192.44	1.92	552676.25	87.4	60 - 125		472508.03	488177.31	488892.00
45 Sc # 3	619060.75	1.25	644433.94	96.1	60 - 125		612294.94	617366.56	627520.81
74 Ge # 1	136262.63	1.03	175321.88	77.7	60 - 125		134659.84	136825.78	137302.27
74 Ge # 2	21519.06	2.14	27172.50	79.2	60 - 125		21023.29	21599.52	21934.36
74 Ge # 3	136035.95	0.63	164913.13	82.5	60 - 125		135255.81	135893.69	136958.36
89 Y # 3	933664.75	1.06	1068488.30	87.4	60 - 125		926076.00	930025.38	944892.88
115 In # 3	813059.44	0.90	1083659.40	75.0	60 - 125		805298.94	814042.56	819836.88
159 Tb # 3	1163590.40	0.49	1651256.80	70.5	60 - 125		1159744.40	1160854.50	1170172.50
209 Bi # 3	592544.69	0.90	1054491.00	56.2	60 - 125	IS F	588450.75	590613.69	598569.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\257SMPL.D\257SMPL.D#
Date Acquired: Dec 26 2012 04:51 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 400-71359-d-2-a
Misc Info: 3010 1/20
Vial Number: 4211
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 4.00
Autodil Factor: Undiluted
Final Dil Factor: 4.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.009776	0.002444	ug/l	23.80	100.00		13.33	10.00	10.00
11 B	# 3	386.52	96.63	ug/l	1.63	1800.00		344405.91	350528.41	346741.81
23 Na	# 1	954800	238700	ug/l	9.82	81000.00		1478728300.00	1509730400.00	1522960400.00
24 Mg	# 1	111440	27860	ug/l	10.95	81000.00		117125500.00	117344980.00	121042720.00
27 Al	# 1	28.316	7.079	ug/l	12.22	81000.00		35350.52	34525.23	36127.09
39 K	# 2	41280	10320	ug/l	0.30	81000.00		3091447.80	3145910.30	3189426.30
40 Ca	# 1	41400	10350	ug/l	10.78	81000.00		100224900.00	99696536.00	102149530.00
45 Sc	# 2	----	--------		--------	#VALUE!		39250.79	39611.59	40726.15
47 Ti	# 3	0.6692	0.1673	ug/l	21.81	1620.00		240.01	230.01	166.67
51 V	# 2	0.6792	0.1698	ug/l	8.97	1800.00		515.57	554.46	501.12
52 Cr	# 2	0.22488	0.05622	ug/l	5.25	1800.00		247.78	251.12	243.34
55 Mn	# 3	18.212	4.553	ug/l	1.10	1800.00		82478.87	81395.26	80715.34
56 Fe	# 1	81.12	20.28	ug/l	9.29	81000.00		287078.72	283539.94	289412.56
59 Co	# 3	0.09196	0.02299	ug/l	4.88	1800.00		310.01	340.01	333.35
60 Ni	# 2	0.5552	0.1388	ug/l	8.63	1800.00		183.34	161.11	181.11
63 Cu	# 2	0.37928	0.09482	ug/l	7.13	1800.00		698.91	737.80	716.69
66 Zn	# 3	2.336	0.584	ug/l	12.92	1800.00		1323.42	1106.73	1116.73
75 As	# 2	0.6572	0.1643	ug/l	22.62	100.00		43.33	47.67	60.00
78 Se	# 1	0.15732	0.03933	ug/l	19.30	100.00		32.67	36.67	36.67
88 Sr	# 3	642.8	160.7	ug/l	0.67	1800.00		3859070.00	3869980.00	3821369.00
95 Mo	# 3	0.4972	0.1243	ug/l	1.94	1800.00		436.68	423.35	426.68
107 Ag	# 3	0.004632	0.001158	ug/l	83.96	100.00		26.67	40.00	23.33
111 Cd	# 3	-0.00010732	-2.683E-005	ug/l	15896.00	100.00		39.86	29.87	23.20
118 Sn	# 3	0.10864	0.02716	ug/l	23.48	1800.00		413.35	390.02	466.69
121 Sb	# 3	0.27504	0.06876	ug/l	6.22	100.00		583.36	623.36	630.03
137 Ba	# 3	6.516	1.629	ug/l	3.93	1800.00		5037.59	4814.16	4674.12
202 Hg	# 3	0.034148	0.008537	ug/l	35.41	5.00		44.00	49.67	55.33
205 Tl	# 3	0.0012368	0.0003092	ug/l	500.65	20.00		80.00	23.33	46.67
208 Pb	# 3	0.026236	0.006559	ug/l	15.31	1800.00		353.35	303.35	316.68
232 Th	# 3	0.14668	0.03667	ug/l	2.35	#VALUE!		1066.74	1070.07	1030.07
238 U	# 3	0.12704	0.03176	ug/l	12.03	#VALUE!		680.04	806.72	863.38

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	721285.13	1.00	836165.38	86.3	60 - 125		719471.25	715152.38	729231.88
45 Sc	# 1	521812.19	10.36	552676.25	94.4	60 - 125		496396.66	583916.81	485123.19
45 Sc	# 3	635697.00	0.45	644433.94	98.6	60 - 125		636166.25	632651.63	638272.94
74 Ge	# 1	151696.36	8.31	175321.88	86.5	60 - 125		146328.22	166100.47	142660.45
74 Ge	# 2	22712.71	1.72	27172.50	83.6	60 - 125		22344.83	22671.91	23121.38
74 Ge	# 3	145401.45	0.47	164913.13	88.2	60 - 125		145261.22	146147.92	144795.20
89 Y	# 3	969743.50	0.42	1068488.30	90.8	60 - 125		965920.06	973975.06	969335.50
115 In	# 3	864930.50	0.13	1083659.40	79.8	60 - 125		863645.50	865296.56	865849.44
159 Tb	# 3	1217098.30	0.39	1651256.80	73.7	60 - 125		1217902.00	1212050.30	1221342.60
209 Bi	# 3	639872.00	0.24	1054491.00	60.7	60 - 125		638889.81	641639.50	639086.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\258SMPL.D\258SMPL.D#
Date Acquired: Dec 26 2012 04:58 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 400-71359-d-3-a
Misc Info: 3010 1/20
Vial Number: 4212
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 4.00
Autodil Factor: Undiluted
Final Dil Factor: 4.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0026752	0.0006688	ug/l	75.94	100.00		3.33	6.67	6.67
11 B # 3	232.08	58.02	ug/l	1.90	1800.00		224236.69	229520.56	226608.02
23 Na # 1	552800	138200	ug/l	0.27	81000.00		903135360.00	914668030.00	914973310.00
24 Mg # 1	67680	16920	ug/l	0.64	81000.00		74238672.00	75756752.00	75936816.00
27 Al # 1	27.036	6.759	ug/l	4.55	81000.00		34101.19	37214.56	34849.06
39 K # 2	23340	5835	ug/l	0.48	81000.00		1878570.00	1903630.40	1930030.00
40 Ca # 1	25836	6459	ug/l	0.48	81000.00		65061624.00	66192360.00	66098440.00
45 Sc # 2	----	--------		--------	#VALUE!		40468.93	41269.48	41968.84
47 Ti # 3	0.3652	0.0913	ug/l	31.15	1620.00		103.34	170.01	133.34
51 V # 2	0.7308	0.1827	ug/l	10.22	1800.00		616.68	596.68	552.24
52 Cr # 2	0.18216	0.04554	ug/l	11.39	1800.00		225.56	253.34	230.00
55 Mn # 3	9.636	2.409	ug/l	0.94	1800.00		46863.10	45974.19	46993.58
56 Fe # 1	44.8	11.2	ug/l	1.11	81000.00		173999.75	176098.64	176879.22
59 Co # 3	0.08012	0.02003	ug/l	19.96	1800.00		373.35	273.34	276.68
60 Ni # 2	0.886	0.2215	ug/l	5.53	1800.00		261.12	285.56	296.67
63 Cu # 2	0.33596	0.08399	ug/l	2.71	1800.00		716.69	737.80	752.24
66 Zn # 3	1.732	0.433	ug/l	4.47	1800.00		963.39	1030.06	1010.06
75 As # 2	0.8888	0.2222	ug/l	7.41	100.00		62.00	66.67	71.33
78 Se # 1	0.11656	0.02914	ug/l	33.20	100.00		36.67	35.33	28.67
88 Sr # 3	418.4	104.6	ug/l	1.34	1800.00		2662354.30	2663803.30	2653265.80
95 Mo # 3	0.39508	0.09877	ug/l	4.34	1800.00		386.68	366.68	370.01
107 Ag # 3	-0.0017312	-0.0004328	ug/l	82.30	100.00		20.00	13.33	16.67
111 Cd # 3	0.0021528	0.0005382	ug/l	761.98	100.00		43.21	26.55	33.22
118 Sn # 3	0.05588	0.01397	ug/l	54.46	1800.00		406.68	313.35	380.02
121 Sb # 3	0.16264	0.04066	ug/l	5.93	100.00		493.35	470.02	486.69
137 Ba # 3	9.784	2.446	ug/l	1.44	1800.00		7728.68	7875.41	7721.96
202 Hg # 3	0.02708	0.00677	ug/l	41.43	5.00		55.00	44.00	52.67
205 Tl # 3	0.00462	0.001155	ug/l	35.52	20.00		70.00	76.67	63.34
208 Pb # 3	0.014168	0.003542	ug/l	23.96	1800.00		280.01	236.68	280.01
232 Th # 3	0.08816	0.02204	ug/l	9.43	#VALUE!		806.72	760.05	716.71
238 U # 3	0.1024	0.0256	ug/l	4.59	#VALUE!		706.70	650.03	713.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	773888.25	2.28	836165.38	92.6	60 - 125		754749.38	777315.50	789600.00
45 Sc # 1	542078.75	0.66	552676.25	98.1	60 - 125		538283.44	542594.06	545358.75
45 Sc # 3	671293.81	0.75	644433.94	104.2	60 - 125		666721.38	670424.06	676735.94
74 Ge # 1	162463.08	0.34	175321.88	92.7	60 - 125		162553.25	162972.89	161863.06
74 Ge # 2	24285.08	1.57	27172.50	89.4	60 - 125		23857.88	24404.08	24593.29
74 Ge # 3	155701.70	0.86	164913.13	94.4	60 - 125		155000.98	154863.48	157240.66
89 Y # 3	1029055.30	1.15	1068488.30	96.3	60 - 125		1018143.40	1027392.50	1041630.00
115 In # 3	926057.38	1.02	1083659.40	85.5	60 - 125		916000.94	927436.63	934734.75
159 Tb # 3	1303007.60	2.40	1651256.80	78.9	60 - 125		1283773.50	1286154.50	1339095.00
209 Bi # 3	697830.56	1.50	1054491.00	66.2	60 - 125		690602.19	693074.81	709814.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\259_CCV.D\259_CCV.D#
Date Acquired: Dec 26 2012 05:06 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.86 ug/l	1.60	50.00	90 - 110		161027.13	162614.16	166528.63
11 B	101.3 ug/l	1.31	100.00	90 - 110		349355.00	358072.97	357689.78
23 Na	4954 ug/l	0.78	5000.00	90 - 110		31787252.00	32254280.00	31786190.00
24 Mg	4914 ug/l	0.61	5000.00	90 - 110		21224854.00	21440534.00	21377470.00
27 Al	502.6 ug/l	0.43	500.00	90 - 110		2481540.00	2500896.30	2477383.80
39 K	5091 ug/l	0.50	5000.00	90 - 110		1650104.50	1695630.30	1711537.10
40 Ca	4976 ug/l	0.25	5000.00	90 - 110		49446432.00	49660996.00	49317904.00
45 Sc	--------	--------		--- ##### - #####		40706.05	40904.25	41630.19
47 Ti	50.36 ug/l	0.93	50.00	90 - 110		55462.74	55171.79	56475.68
51 V	48.52 ug/l	0.12	50.00	90 - 110		107673.95	109323.64	110964.13
52 Cr	48.33 ug/l	0.39	50.00	90 - 110		128391.00	130503.50	131603.16
55 Mn	491.3 ug/l	0.74	500.00	90 - 110		9425802.00	9393317.00	9486257.00
56 Fe	4839 ug/l	0.97	5000.00	90 - 110		73835672.00	73969736.00	72501192.00
59 Co	47.99 ug/l	0.89	50.00	90 - 110		706413.31	704229.94	706834.88
60 Ni	49.63 ug/l	0.56	50.00	90 - 110		56466.70	56940.40	57710.58
63 Cu	50.3 ug/l	1.00	50.00	90 - 110		150593.81	151110.45	152522.08
66 Zn	48.69 ug/l	1.88	50.00	90 - 110		85576.41	87258.10	87241.25
75 As	50.11 ug/l	1.12	50.00	90 - 110		11310.51	11301.84	11441.25
78 Se	49.57 ug/l	1.02	50.00	90 - 110		22392.40	22518.20	22030.28
88 Sr	50.93 ug/l	0.92	50.00	90 - 110		1288184.00	1286299.10	1273960.50
95 Mo	50.79 ug/l	0.61	50.00	90 - 110		176387.78	175697.91	176162.45
107 Ag	50.89 ug/l	0.40	50.00	90 - 110		518499.25	516465.34	515925.31
111 Cd	48.87 ug/l	1.04	50.00	90 - 110		107882.82	108273.13	108762.17
118 Sn	49.73 ug/l	0.77	50.00	90 - 110		342187.03	339754.72	342135.91
121 Sb	51.8 ug/l	0.33	50.00	90 - 110		334009.19	331506.03	331333.81
137 Ba	49.7 ug/l	0.88	50.00	90 - 110		164353.52	165591.48	165063.31
202 Hg	2.412 ug/l	0.78	2.50	90 - 110		5717.37	5662.02	5722.70
205 Tl	9.574 ug/l	1.03	10.00	90 - 110		196077.98	196895.94	195454.78
208 Pb	47.89 ug/l	0.96	50.00	90 - 110		1358463.10	1351407.10	1352691.60
232 Th	47.87 ug/l	0.12		--- ##### - #####		1458021.80	1467908.10	1464813.80
238 U	47.12 ug/l	0.67		--- ##### - #####		1430931.00	1456702.80	1442555.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	704153.38	2.62	836165.38	84.2	60 - 125		683069.63	712296.00	717094.56
45 Sc	529018.81	0.20	552676.25	95.7	60 - 125		529725.44	529528.50	527802.63
45 Sc	635558.63	0.60	644433.94	98.6	60 - 125		631534.50	635959.19	639182.13
74 Ge	168468.06	0.15	175321.88	96.1	60 - 125		168692.23	168521.44	168190.53
74 Ge	24627.43	1.60	27172.50	90.6	60 - 125		24223.91	24647.86	25010.53
74 Ge	157554.39	1.08	164913.13	95.5	60 - 125		158431.77	155589.59	158641.81
89 Y	1019432.60	1.07	1068488.30	95.4	60 - 125		1031930.40	1012063.00	1014304.40
115 In	969418.31	0.63	1083659.40	89.5	60 - 125		975250.63	969900.94	963103.31
159 Tb	1357802.80	0.77	1651256.80	82.2	60 - 125		1348947.10	1355215.00	1369246.00
209 Bi	800866.63	0.23	1054491.00	75.9	60 - 125		798880.13	802584.00	801135.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\260_CCB.D\260_CCB.D#
Date Acquired: Dec 26 2012 05:13 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.008489	0.008489	ug/l	32.88	#VALUE!		40.00	23.33	30.00
11 B	# 3	2.021	2.021	ug/l	5.70	#VALUE!		14215.58	14272.30	14395.72
23 Na	# 1	13.66	13.66	ug/l	1.35	#VALUE!		172050.66	172743.78	175450.36
24 Mg	# 1	1.921	1.921	ug/l	7.57	#VALUE!		8085.26	8282.03	9449.31
27 Al	# 1	0.2184	0.2184	ug/l	7.57	#VALUE!		2023.50	2213.54	2143.52
39 K	# 2	1.845	1.845	ug/l	34.33	#VALUE!		9562.70	9182.47	9522.68
40 Ca	# 1	6.598	6.598	ug/l	1.85	#VALUE!		125042.16	128182.74	131316.89
45 Sc	# 2	----	--------		--------	#VALUE!		39296.41	39877.68	40839.72
47 Ti	# 3	0.0214	0.0214	ug/l	117.66	#VALUE!		83.34	33.33	36.67
51 V	# 2	0.03825	0.03825	ug/l	4.19	#VALUE!		276.67	283.34	280.00
52 Cr	# 2	0.0254	0.0254	ug/l	12.57	#VALUE!		194.45	180.00	197.78
55 Mn	# 3	0.1133	0.1133	ug/l	14.10	#VALUE!		3530.45	3047.01	2896.96
56 Fe	# 1	1.439	1.439	ug/l	7.37	#VALUE!		32779.72	33217.02	35868.76
59 Co	# 3	0.009239	0.009239	ug/l	13.00	#VALUE!		173.34	160.01	136.67
60 Ni	# 2	0.02477	0.02477	ug/l	27.23	#VALUE!		58.89	53.33	70.00
63 Cu	# 2	-0.06833	-0.06833	ug/l	5.71	#VALUE!		293.34	308.89	288.89
66 Zn	# 3	-0.05377	-0.05377	ug/l	26.02	#VALUE!		133.34	180.01	143.34
75 As	# 2	0.07149	0.07149	ug/l	12.22	#VALUE!		35.33	32.00	36.00
78 Se	# 1	0.04246	0.04246	ug/l	17.57	#VALUE!		42.33	37.00	42.67
88 Sr	# 3	0.01756	0.01756	ug/l	23.10	#VALUE!		633.36	446.69	460.02
95 Mo	# 3	0.07177	0.07177	ug/l	4.87	#VALUE!		323.35	306.68	300.01
107 Ag	# 3	0.01238	0.01238	ug/l	20.99	#VALUE!		183.34	130.00	146.67
111 Cd	# 3	0.01226	0.01226	ug/l	13.38	#VALUE!		59.90	66.57	66.57
118 Sn	# 3	0.05096	0.05096	ug/l	9.56	#VALUE!		696.70	660.03	630.03
121 Sb	# 3	0.1141	0.1141	ug/l	4.36	#VALUE!		1050.06	986.72	1006.73
137 Ba	# 3	0.01588	0.01588	ug/l	22.15	#VALUE!		70.00	86.67	63.34
202 Hg	# 3	0.01726	0.01726	ug/l	4.22	#VALUE!		89.67	85.67	87.67
205 Tl	# 3	0.01597	0.01597	ug/l	16.71	#VALUE!		446.69	336.68	356.68
208 Pb	# 3	0.0134	0.0134	ug/l	4.63	#VALUE!		546.69	573.36	560.02
232 Th	# 3	0.1043	0.1043	ug/l	8.55	#VALUE!		3750.58	3780.59	3253.77
238 U	# 3	0.01384	0.01384	ug/l	14.97	#VALUE!		536.69	426.69	410.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	718002.63	3.39	836165.38	85.9	60 - 125		692148.00	721329.44	740530.50
45 Sc	# 1	515072.03	1.53	552676.25	93.2	60 - 125		507097.72	515298.22	522820.19
45 Sc	# 3	636187.44	0.55	644433.94	98.7	60 - 125		637120.44	632300.88	639141.06
74 Ge	# 1	168066.30	0.61	175321.88	95.9	60 - 125		166929.75	168919.42	168349.72
74 Ge	# 2	25334.30	0.96	27172.50	93.2	60 - 125		25135.15	25260.86	25606.89
74 Ge	# 3	161449.45	0.61	164913.13	97.9	60 - 125		162499.45	160539.33	161309.58
89 Y	# 3	1043066.30	0.31	1068488.30	97.6	60 - 125		1042136.60	1040373.90	1046688.30
115 In	# 3	1006816.30	0.23	1083659.40	92.9	60 - 125		1005312.90	1005652.70	1009483.20
159 Tb	# 3	1369161.50	0.86	1651256.80	82.9	60 - 125		1382770.00	1361933.30	1362781.30
209 Bi	# 3	849522.25	0.31	1054491.00	80.6	60 - 125		852453.81	848640.75	847472.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\261SMPL.D\261SMPL.D#
Date Acquired: Dec 26 2012 05:21 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: mb 680-260571_1-a
Misc Info: 3010 1/5
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001683	0.001683	ug/l	100.42	100.00		3.33	13.33	6.67
11 B	# 3	1.535	1.535	ug/l	1.80	1800.00		11040.08	11467.04	11967.38
23 Na	# 1	7.336	7.336	ug/l	5.36	81000.00		133840.86	130777.42	135243.27
24 Mg	# 1	0.4187	0.4187	ug/l	12.15	81000.00		2160.17	2063.50	2490.24
27 Al	# 1	0.4286	0.4286	ug/l	8.29	81000.00		2963.66	3080.34	3337.05
39 K	# 2	-2.511	-2.511	ug/l	21.83	81000.00		7685.07	7681.77	8178.64
40 Ca	# 1	6.225	6.225	ug/l	1.18	81000.00		122641.41	123964.07	125664.92
45 Sc	# 2	----	--------		--------	#VALUE!		38532.64	39833.22	41168.22
47 Ti	# 3	0.02595	0.02595	ug/l	6.87	1620.00		53.33	56.67	53.33
51 V	# 2	0.1154	0.1154	ug/l	10.82	1800.00		415.56	466.68	476.68
52 Cr	# 2	0.01486	0.01486	ug/l	31.19	1800.00		152.22	150.00	176.67
55 Mn	# 3	0.004816	0.004816	ug/l	46.97	1800.00		1033.39	956.72	1036.73
56 Fe	# 1	0.9323	0.9323	ug/l	3.31	81000.00		25524.79	25935.43	26699.84
59 Co	# 3	0.0003398	0.0003398	ug/l	100.82	1800.00		23.33	26.67	16.67
60 Ni	# 2	0.002312	0.002312	ug/l	252.21	1800.00		41.11	28.89	31.11
63 Cu	# 2	0.1241	0.1241	ug/l	5.60	1800.00		877.81	892.25	868.92
66 Zn	# 3	0.1379	0.1379	ug/l	11.45	1800.00		463.35	506.69	513.36
75 As	# 2	0.1035	0.1035	ug/l	17.38	100.00		44.33	42.33	37.33
78 Se	# 1	0.02453	0.02453	ug/l	35.70	100.00		36.67	29.67	30.67
88 Sr	# 3	0.003986	0.003986	ug/l	23.29	1800.00		136.67	163.34	183.34
95 Mo	# 3	0.02727	0.02727	ug/l	19.07	1800.00		160.01	126.67	160.00
107 Ag	# 3	0.002407	0.002407	ug/l	8.57	100.00		46.67	50.00	46.67
111 Cd	# 3	-0.0001598	-0.0001598	ug/l	1447.40	100.00		36.62	39.96	29.95
118 Sn	# 3	0.3398	0.3398	ug/l	3.71	1800.00		2800.32	2613.60	2693.63
121 Sb	# 3	0.1342	0.1342	ug/l	6.06	100.00		1106.74	1106.73	1210.08
137 Ba	# 3	0.01897	0.01897	ug/l	49.62	1800.00		86.67	113.34	50.00
202 Hg	# 3	0.005784	0.005784	ug/l	39.75	5.00		57.00	54.00	64.67
205 Tl	# 3	0.005089	0.005089	ug/l	33.86	20.00		186.67	120.00	160.01
208 Pb	# 3	0.0007444	0.0007444	ug/l	213.86	1800.00		246.68	163.34	190.01
232 Th	# 3	0.05077	0.05077	ug/l	9.46	#VALUE!		2003.53	1830.16	1693.48
238 U	# 3	0.001236	0.001236	ug/l	21.29	#VALUE!		56.67	40.00	46.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	654726.31	3.78	836165.38	78.3	60 - 125		633821.06	648327.00	682030.81
45 Sc	# 1	513079.03	0.75	552676.25	92.8	60 - 125		508782.19	514261.09	516193.88
45 Sc	# 3	617244.19	0.67	644433.94	95.8	60 - 125		612881.69	617790.94	621060.00
74 Ge	# 1	166555.69	0.51	175321.88	95.0	60 - 125		165882.53	166264.34	167520.20
74 Ge	# 2	25017.37	1.33	27172.50	92.1	60 - 125		24760.17	24897.29	25394.65
74 Ge	# 3	159296.70	0.26	164913.13	96.6	60 - 125		159766.41	159019.94	159103.75
89 Y	# 3	1027142.80	0.36	1068488.30	96.1	60 - 125		1030149.90	1022956.60	1028321.60
115 In	# 3	1000350.20	0.57	1083659.40	92.3	60 - 125		1000014.10	994855.69	1006180.60
159 Tb	# 3	1377848.30	1.49	1651256.80	83.4	60 - 125		1356799.40	1397830.60	1378914.60
209 Bi	# 3	842051.31	0.32	1054491.00	79.9	60 - 125		841315.94	845054.94	839783.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\262SMPL.D\262SMPL.D#
Date Acquired: Dec 26 2012 05:28 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: lcs 680-260571_2-a
Misc Info: 3010 1/5
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.28	10.28	ug/l	3.45	100.00		30067.31	30200.50	30791.48
11 B # 3	42.66	42.66	ug/l	3.29	1800.00		136819.16	137474.36	140974.56
23 Na # 1	1022	1022	ug/l	0.35	81000.00		6308983.00	6364798.00	6418559.50
24 Mg # 1	1014	1014	ug/l	0.63	81000.00		4159136.50	4210455.00	4258770.50
27 Al # 1	991.2	991.2	ug/l	0.66	81000.00		4628536.00	4693501.00	4736292.50
39 K # 2	1012	1012	ug/l	0.55	81000.00		329066.00	330874.63	342130.69
40 Ca # 1	1016	1016	ug/l	0.94	81000.00		9579244.00	9779893.00	9762936.00
45 Sc # 2	----	--------		--------	#VALUE!		37827.89	38452.45	39180.68
47 Ti # 3	19.93	19.93	ug/l	2.38	1620.00		21285.98	21172.45	20922.23
51 V # 2	19.72	19.72	ug/l	0.65	1800.00		43005.96	43480.31	44069.47
52 Cr # 2	19.89	19.89	ug/l	0.43	1800.00		51790.25	52165.68	53282.26
55 Mn # 3	102.5	102.5	ug/l	1.36	1800.00		1949421.30	1929630.10	1922612.60
56 Fe # 1	984.8	984.8	ug/l	0.22	81000.00		14302840.00	14439228.00	14488290.00
59 Co # 3	9.605	9.605	ug/l	1.54	1800.00		140692.05	137380.75	138243.56
60 Ni # 2	20.49	20.49	ug/l	1.06	1800.00		22819.69	23054.41	23209.03
63 Cu # 2	20.74	20.74	ug/l	1.09	1800.00		60676.81	61440.43	61738.10
66 Zn # 3	20.05	20.05	ug/l	1.36	1800.00		35618.57	34883.78	35121.10
75 As # 2	20.34	20.34	ug/l	1.38	100.00		4504.23	4482.89	4548.24
78 Se # 1	19.12	19.12	ug/l	1.09	100.00		8344.59	8208.19	8368.26
88 Sr # 3	18.79	18.79	ug/l	1.11	1800.00		472425.81	468095.09	472428.94
95 Mo # 3	19.64	19.64	ug/l	1.67	1800.00		68783.67	70095.60	70583.91
107 Ag # 3	10.26	10.26	ug/l	1.50	100.00		107499.07	106308.91	106626.69
111 Cd # 3	9.669	9.669	ug/l	1.05	100.00		21708.70	21845.15	22429.13
118 Sn # 3	19.93	19.93	ug/l	1.08	1800.00		141023.64	139251.55	140795.03
121 Sb # 3	10.48	10.48	ug/l	2.22	100.00		70306.68	68479.27	68459.63
137 Ba # 3	20.2	20.2	ug/l	2.19	1800.00		68853.95	69127.49	68201.14
202 Hg # 3	0.9163	0.9163	ug/l	0.91	5.00		2297.17	2287.50	2352.85
205 Tl # 3	7.685	7.685	ug/l	0.91	20.00		163325.41	162425.67	163274.17
208 Pb # 3	9.755	9.755	ug/l	1.09	1800.00		283657.56	287625.19	285871.94
232 Th # 3	20.08	20.08	ug/l	1.26	#VALUE!		650278.25	645841.38	647218.31
238 U # 3	21.02	21.02	ug/l	0.66	#VALUE!		676253.44	679812.56	681198.31

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	635111.94	4.73	836165.38	76.0	60 - 125		608751.31	628773.75	667810.75
45 Sc # 1	505559.84	0.63	552676.25	91.5	60 - 125		503169.03	504319.38	509191.13
45 Sc # 3	608806.88	1.51	644433.94	94.5	60 - 125		599571.25	608834.56	618014.81
74 Ge # 1	162355.63	0.57	175321.88	92.6	60 - 125		161457.63	162290.72	163318.50
74 Ge # 2	24066.67	1.86	27172.50	88.6	60 - 125		23665.41	23985.80	24548.79
74 Ge # 3	154763.34	0.83	164913.13	93.8	60 - 125		154286.06	153788.89	156215.11
89 Y # 3	1014227.20	1.40	1068488.30	94.9	60 - 125		1009156.90	1003253.80	1030270.80
115 In # 3	993647.50	1.51	1083659.40	91.7	60 - 125		992539.13	979244.75	1009158.40
159 Tb # 3	1405747.00	0.97	1651256.80	85.1	60 - 125		1396313.50	1399486.90	1421440.60
209 Bi # 3	844832.25	1.00	1054491.00	80.1	60 - 125		836655.00	844239.19	853602.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\263SMPL.D\263SMPL.D#
Date Acquired: Dec 26 2012 05:36 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85792-a-16-a
Misc Info: 3010 1/5
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001042	0.001042	ug/l	167.37	100.00		0.00	6.67	10.00
11 B	# 3	10.8	10.8	ug/l	0.29	1800.00		38225.23	38959.73	39340.81
23 Na	# 1	5281	5281	ug/l	0.14	81000.00		32163472.00	32254292.00	32637786.00
24 Mg	# 1	2194	2194	ug/l	2.25	81000.00		8783095.00	9106278.00	9285650.00
27 Al	# 1	27.03	27.03	ug/l	1.34	81000.00		125734.63	129137.43	129308.50
39 K	# 2	5080	5080	ug/l	0.48	81000.00		1619602.60	1644861.60	1673154.40
40 Ca	# 1	3406	3406	ug/l	1.31	81000.00		32531852.00	31767342.00	32304300.00
45 Sc	# 2	----	--------		--------	#VALUE!		37044.09	38187.44	39021.48
47 Ti	# 3	0.1214	0.1214	ug/l	13.28	1620.00		146.67	140.00	173.34
51 V	# 2	0.249	0.249	ug/l	2.57	1800.00		727.80	735.58	726.69
52 Cr	# 2	0.03255	0.03255	ug/l	12.08	1800.00		184.45	206.67	210.00
55 Mn	# 3	41.96	41.96	ug/l	0.25	1800.00		796994.19	789782.56	793194.56
56 Fe	# 1	657.4	657.4	ug/l	0.79	81000.00		9575830.00	9551414.00	9738016.00
59 Co	# 3	0.06891	0.06891	ug/l	5.99	1800.00		1040.06	1053.40	946.72
60 Ni	# 2	0.2561	0.2561	ug/l	8.20	1800.00		337.78	303.34	311.12
63 Cu	# 2	0.1315	0.1315	ug/l	9.54	1800.00		882.25	832.25	892.25
66 Zn	# 3	0.7954	0.7954	ug/l	4.86	1800.00		1566.78	1693.46	1626.78
75 As	# 2	0.5183	0.5183	ug/l	3.60	100.00		126.33	137.00	131.67
78 Se	# 1	0.1262	0.1262	ug/l	4.42	100.00		73.00	76.00	77.67
88 Sr	# 3	14.46	14.46	ug/l	1.92	1800.00		391601.91	389504.59	396191.44
95 Mo	# 3	0.09985	0.09985	ug/l	9.17	1800.00		410.02	426.69	363.35
107 Ag	# 3	0.003589	0.003589	ug/l	28.45	100.00		50.00	56.67	70.00
111 Cd	# 3	0.09245	0.09245	ug/l	32.44	100.00		246.54	173.20	306.56
118 Sn	# 3	0.198	0.198	ug/l	2.66	1800.00		1673.47	1623.46	1693.47
121 Sb	# 3	0.1798	0.1798	ug/l	8.16	100.00		1333.43	1396.77	1506.78
137 Ba	# 3	22.34	22.34	ug/l	1.27	1800.00		74547.48	74684.87	75612.41
202 Hg	# 3	0.01506	0.01506	ug/l	9.33	5.00		78.67	77.33	83.67
205 Tl	# 3	0.05413	0.05413	ug/l	9.39	20.00		1286.76	1173.41	1086.74
208 Pb	# 3	0.04106	0.04106	ug/l	3.06	1800.00		1360.07	1393.40	1343.40
232 Th	# 3	0.1006	0.1006	ug/l	3.83	#VALUE!		3447.16	3450.50	3233.78
238 U	# 3	0.04056	0.04056	ug/l	7.35	#VALUE!		1253.43	1390.10	1223.42

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	618958.00	1.69	836165.38	74.0	60 - 125		607752.31	620594.63	628527.25
45 Sc	# 1	502677.00	0.80	552676.25	91.0	60 - 125		500334.28	500386.31	507310.38
45 Sc	# 3	602856.75	0.47	644433.94	93.5	60 - 125		602586.69	600148.31	605835.38
74 Ge	# 1	162324.30	0.53	175321.88	92.6	60 - 125		162726.33	161342.92	162903.63
74 Ge	# 2	24096.72	1.87	27172.50	88.7	60 - 125		23603.09	24200.57	24486.48
74 Ge	# 3	154951.98	0.28	164913.13	94.0	60 - 125		155223.98	154459.02	155172.97
89 Y	# 3	1098194.60	1.06	1068488.30	102.8	60 - 125		1098623.00	1109569.50	1086391.30
115 In	# 3	979604.69	0.60	1083659.40	90.4	60 - 125		986322.88	977056.13	975434.88
159 Tb	# 3	1386550.10	0.84	1651256.80	84.0	60 - 125		1383651.30	1376615.30	1399383.90
209 Bi	# 3	826020.44	0.63	1054491.00	78.3	60 - 125		831831.94	821649.31	824580.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\264SMPL.D\264SMPL.D#
Date Acquired: Dec 26 2012 05:43 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85792-a-17-a
Misc Info: 3010 1/5
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.05345	0.05345	ug/l	3.77	100.00		136.67	150.00	146.67
11 B # 3	3.835	3.835	ug/l	3.28	1800.00		16537.48	16383.95	16363.96
23 Na # 1	2922	2922	ug/l	1.37	81000.00		17209754.00	17655978.00	17548112.00
24 Mg # 1	1788	1788	ug/l	0.86	81000.00		7147818.00	7088820.50	7330550.00
27 Al # 1	2.301	2.301	ug/l	1.47	81000.00		11590.47	11410.37	11657.13
39 K # 2	781.9	781.9	ug/l	0.43	81000.00		249503.98	251553.28	256249.69
40 Ca # 1	4736	4736	ug/l	1.42	81000.00		43256896.00	43882352.00	43593108.00
45 Sc # 2	----	--------		--------	#VALUE!		35851.85	36507.61	36848.26
47 Ti # 3	0.4346	0.4346	ug/l	7.34	1620.00		493.36	450.02	430.02
51 V # 2	0.134	0.134	ug/l	13.37	1800.00		432.23	440.01	516.68
52 Cr # 2	0.0248	0.0248	ug/l	25.38	1800.00		176.67	155.56	191.11
55 Mn # 3	54.98	54.98	ug/l	0.35	1800.00		978006.88	979119.38	979862.50
56 Fe # 1	513.6	513.6	ug/l	0.55	81000.00		7216160.50	7309679.00	7374153.00
59 Co # 3	0.194	0.194	ug/l	6.44	1800.00		2720.28	2460.23	2800.28
60 Ni # 2	0.3711	0.3711	ug/l	8.00	1800.00		410.01	411.12	480.01
63 Cu # 2	-0.04073	-0.04073	ug/l	12.96	1800.00		331.12	363.34	363.34
66 Zn # 3	9.421	9.421	ug/l	0.88	1800.00		15590.30	15840.57	15740.51
75 As # 2	0.1904	0.1904	ug/l	14.73	100.00		56.33	63.00	52.33
78 Se # 1	0.03132	0.03132	ug/l	13.96	100.00		35.33	32.00	33.00
88 Sr # 3	51.57	51.57	ug/l	0.91	1800.00		1219068.10	1222214.60	1213050.30
95 Mo # 3	0.01453	0.01453	ug/l	39.11	1800.00		86.67	120.00	86.67
107 Ag # 3	0.003112	0.003112	ug/l	63.37	100.00		66.67	30.00	60.00
111 Cd # 3	0.03305	0.03305	ug/l	30.77	100.00		99.98	86.63	129.98
118 Sn # 3	0.1424	0.1424	ug/l	11.29	1800.00		1356.76	1176.74	1173.41
121 Sb # 3	0.1402	0.1402	ug/l	10.32	100.00		1123.41	1023.39	1206.75
137 Ba # 3	47.1	47.1	ug/l	0.59	1800.00		153179.13	152957.39	152131.34
202 Hg # 3	0.007317	0.007317	ug/l	20.98	5.00		59.00	58.00	64.33
205 Tl # 3	0.02035	0.02035	ug/l	7.18	20.00		426.69	476.69	486.69
208 Pb # 3	0.08562	0.08562	ug/l	0.58	1800.00		2566.84	2570.17	2606.83
232 Th # 3	0.04362	0.04362	ug/l	6.57	#VALUE!		1660.15	1490.12	1540.13
238 U # 3	0.001604	0.001604	ug/l	28.25	#VALUE!		53.34	46.67	73.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	571189.38	1.56	836165.38	68.3	60 - 125		561736.31	572385.50	579446.19
45 Sc # 1	489578.84	1.47	552676.25	88.6	60 - 125		483643.25	487492.28	497601.00
45 Sc # 3	573002.38	0.30	644433.94	88.9	60 - 125		573339.38	574546.19	571121.56
74 Ge # 1	157563.78	0.56	175321.88	89.9	60 - 125		156724.72	157487.03	158479.61
74 Ge # 2	23361.70	1.78	27172.50	86.0	60 - 125		23023.49	23234.85	23826.75
74 Ge # 3	145969.08	0.42	164913.13	88.5	60 - 125		145631.25	145601.33	146674.66
89 Y # 3	956134.38	0.70	1068488.30	89.5	60 - 125		948548.81	958761.44	961092.56
115 In # 3	946962.81	0.24	1083659.40	87.4	60 - 125		944672.25	947034.75	949181.44
159 Tb # 3	1349411.80	0.54	1651256.80	81.7	60 - 125		1341403.40	1351177.50	1355654.60
209 Bi # 3	816455.06	0.45	1054491.00	77.4	60 - 125		816609.13	820088.81	812667.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\265SMPL.D\265SMPL.D#
Date Acquired: Dec 26 2012 05:50 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85792-a-18-a
Misc Info: 3010 1/5
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.1087	0.1087	ug/l	6.62	100.00		303.34	296.68	270.01
11 B	# 3	7.449	7.449	ug/l	0.34	1800.00		26061.51	26752.44	26335.01
23 Na	# 1	4897	4897	ug/l	1.44	81000.00		28511370.00	29262400.00	28787866.00
24 Mg	# 1	1953	1953	ug/l	2.01	81000.00		7685797.50	7588105.50	7988926.50
27 Al	# 1	15.26	15.26	ug/l	1.81	81000.00		70438.53	69179.32	70349.91
39 K	# 2	911	911	ug/l	0.68	81000.00		280417.16	289538.31	295748.34
40 Ca	# 1	9020	9020	ug/l	0.28	81000.00		81019080.00	81785720.00	82896040.00
45 Sc	# 2	----	--------		--------	#VALUE!		35436.59	36106.74	36872.67
47 Ti	# 3	1.061	1.061	ug/l	2.06	1620.00		1060.06	1113.40	1096.73
51 V	# 2	0.1663	0.1663	ug/l	12.58	1800.00		552.24	491.12	525.57
52 Cr	# 2	0.07911	0.07911	ug/l	17.80	1800.00		336.67	285.56	301.12
55 Mn	# 3	16.65	16.65	ug/l	0.61	1800.00		293038.09	294847.75	298819.03
56 Fe	# 1	1957	1957	ug/l	1.22	81000.00		26865662.00	27526202.00	26927590.00
59 Co	# 3	0.254	0.254	ug/l	3.45	1800.00		3413.74	3583.78	3383.74
60 Ni	# 2	0.4371	0.4371	ug/l	6.12	1800.00		503.35	511.12	477.79
63 Cu	# 2	0.3361	0.3361	ug/l	5.48	1800.00		1331.17	1383.40	1501.19
66 Zn	# 3	1.02	1.02	ug/l	3.72	1800.00		1820.14	1920.16	1946.83
75 As	# 2	0.4511	0.4511	ug/l	5.44	100.00		108.67	117.33	108.67
78 Se	# 1	0.04357	0.04357	ug/l	9.38	100.00		36.00	37.33	39.67
88 Sr	# 3	61.35	61.35	ug/l	1.59	1800.00		1489060.10	1477068.50	1511480.10
95 Mo	# 3	0.07969	0.07969	ug/l	6.33	1800.00		333.35	323.35	300.01
107 Ag	# 3	0.005115	0.005115	ug/l	9.92	100.00		73.34	66.67	76.67
111 Cd	# 3	0.1524	0.1524	ug/l	2.94	100.00		369.91	369.91	353.25
118 Sn	# 3	0.2404	0.2404	ug/l	2.97	1800.00		1843.49	1903.50	1936.84
121 Sb	# 3	0.1433	0.1433	ug/l	6.61	100.00		1136.74	1080.07	1200.08
137 Ba	# 3	46.2	46.2	ug/l	0.74	1800.00		149489.56	151212.20	149513.48
202 Hg	# 3	0.004004	0.004004	ug/l	12.41	5.00		54.00	52.00	51.67
205 Tl	# 3	0.02193	0.02193	ug/l	7.51	20.00		466.69	496.69	536.69
208 Pb	# 3	0.5646	0.5646	ug/l	1.17	1800.00		15970.38	16157.09	16420.55
232 Th	# 3	0.03322	0.03322	ug/l	6.61	#VALUE!		1316.76	1223.42	1180.09
238 U	# 3	0.04247	0.04247	ug/l	4.09	#VALUE!		1393.44	1326.77	1283.43

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	568616.69	1.27	836165.38	68.0	60 - 125		561089.81	575459.25	569300.94
45 Sc	# 1	483441.88	1.35	552676.25	87.5	60 - 125		476746.50	483809.50	489769.69
45 Sc	# 3	577191.38	0.73	644433.94	89.6	60 - 125		574687.63	582080.88	574805.56
74 Ge	# 1	153714.31	0.55	175321.88	87.7	60 - 125		152758.20	154042.05	154342.69
74 Ge	# 2	23025.33	3.13	27172.50	84.7	60 - 125		22219.13	23247.08	23609.78
74 Ge	# 3	145274.95	0.45	164913.13	88.1	60 - 125		144954.11	144848.92	146021.84
89 Y	# 3	984669.06	0.44	1068488.30	92.2	60 - 125		983905.00	989341.75	980760.50
115 In	# 3	948402.50	0.08	1083659.40	87.5	60 - 125		948986.25	947520.69	948700.50
159 Tb	# 3	1361503.80	0.33	1651256.80	82.5	60 - 125		1356282.40	1364319.80	1363909.10
209 Bi	# 3	816862.63	0.24	1054491.00	77.5	60 - 125		818451.31	814644.81	817491.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\266SMPL.D\266SMPL.D#
Date Acquired: Dec 26 2012 05:58 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85852-b-4-a
Misc Info: 3010 1/5
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.09854	0.09854	ug/l	6.13	100.00		240.01	263.34	283.34
11 B # 3	7.568	7.568	ug/l	1.09	1800.00		26114.80	26675.48	26999.32
23 Na # 1	8777	8777	ug/l	0.98	81000.00		49885016.00	50999944.00	50574380.00
24 Mg # 1	568.7	568.7	ug/l	1.14	81000.00		2160830.50	2231763.50	2228726.80
27 Al # 1	40.37	40.37	ug/l	0.73	81000.00		176354.89	180604.08	180990.56
39 K # 2	425.1	425.1	ug/l	0.73	81000.00		133952.83	136058.58	138157.92
40 Ca # 1	1383	1383	ug/l	1.28	81000.00		12379015.00	12201531.00	12391703.00
45 Sc # 2	----	--------		--------	#VALUE!		34925.63	35260.71	36566.47
47 Ti # 3	0.5602	0.5602	ug/l	5.79	1620.00		556.69	540.02	606.70
51 V # 2	0.203	0.203	ug/l	4.52	1800.00		590.02	603.35	572.24
52 Cr # 2	0.1311	0.1311	ug/l	8.02	1800.00		446.68	438.90	404.45
55 Mn # 3	39.43	39.43	ug/l	0.96	1800.00		696412.19	691885.38	699178.06
56 Fe # 1	1743	1743	ug/l	1.19	81000.00		24218812.00	24061922.00	24117852.00
59 Co # 3	1.848	1.848	ug/l	1.73	1800.00		24606.97	24997.34	25284.60
60 Ni # 2	0.8973	0.8973	ug/l	3.62	1800.00		932.26	966.70	1016.70
63 Cu # 2	0.3342	0.3342	ug/l	2.69	1800.00		1351.17	1350.06	1410.07
66 Zn # 3	4.93	4.93	ug/l	2.73	1800.00		8032.01	8342.11	8398.81
75 As # 2	0.2758	0.2758	ug/l	10.99	100.00		65.67	74.00	79.33
78 Se # 1	0.03169	0.03169	ug/l	10.77	100.00		31.00	34.00	33.33
88 Sr # 3	9.074	9.074	ug/l	0.11	1800.00		219819.58	219342.89	218840.44
95 Mo # 3	0.01591	0.01591	ug/l	46.85	1800.00		103.34	126.67	76.67
107 Ag # 3	0.005027	0.005027	ug/l	16.61	100.00		70.00	63.34	80.00
111 Cd # 3	0.02699	0.02699	ug/l	37.01	100.00		83.30	116.63	76.64
118 Sn # 3	0.1591	0.1591	ug/l	2.15	1800.00		1323.43	1366.76	1343.42
121 Sb # 3	0.1518	0.1518	ug/l	7.08	100.00		1193.41	1250.09	1120.07
137 Ba # 3	11.25	11.25	ug/l	1.83	1800.00		35865.36	36222.75	37235.01
202 Hg # 3	0.002405	0.002405	ug/l	73.10	5.00		48.67	53.00	44.33
205 Tl # 3	0.02402	0.02402	ug/l	5.45	20.00		540.03	513.36	563.36
208 Pb # 3	0.02483	0.02483	ug/l	3.90	1800.00		870.04	853.37	900.04
232 Th # 3	0.0372	0.0372	ug/l	5.41	#VALUE!		1433.45	1316.77	1336.77
238 U # 3	0.03405	0.03405	ug/l	5.49	#VALUE!		1123.41	1010.07	1076.74

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	566195.56	2.40	836165.38	67.7	60 - 125		550656.69	571957.31	575972.75
45 Sc # 1	472480.34	1.02	552676.25	85.5	60 - 125		467797.22	472261.72	477382.06
45 Sc # 3	557936.00	0.57	644433.94	86.6	60 - 125		557693.69	554881.38	561232.94
74 Ge # 1	153653.50	0.99	175321.88	87.6	60 - 125		152276.70	153399.02	155284.78
74 Ge # 2	22549.18	0.85	27172.50	83.0	60 - 125		22359.33	22543.98	22744.23
74 Ge # 3	144603.88	0.46	164913.13	87.7	60 - 125		144893.25	145074.39	143843.98
89 Y # 3	978175.63	0.33	1068488.30	91.5	60 - 125		981448.50	978060.63	975017.81
115 In # 3	945181.56	0.17	1083659.40	87.2	60 - 125		945082.25	943648.13	946814.25
159 Tb # 3	1351515.90	0.59	1651256.80	81.8	60 - 125		1359599.50	1351382.60	1343565.40
209 Bi # 3	815707.88	0.27	1054491.00	77.4	60 - 125		815960.81	817793.81	813368.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\267SMPL.D\267SMPL.D#
Date Acquired: Dec 26 2012 06:05 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85828-e-1-a
Misc Info: 3010 1/5
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.002946	0.002946	ug/l	87.92	100.00		16.67	3.33	10.00
11 B # 3	1.775	1.775	ug/l	3.37	1800.00		10346.39	10729.90	10829.94
23 Na # 1	2252	2252	ug/l	0.28	81000.00		13243391.00	13432176.00	13487943.00
24 Mg # 1	2109	2109	ug/l	0.46	81000.00		8355353.00	8377285.00	8523741.00
27 Al # 1	39.74	39.74	ug/l	0.94	81000.00		179093.48	183579.50	182098.41
39 K # 2	343.5	343.5	ug/l	0.94	81000.00		112965.00	114808.75	116847.16
40 Ca # 1	5161	5161	ug/l	0.97	81000.00		46386424.00	47680864.00	47346380.00
45 Sc # 2	----	--------		--------	#VALUE!		36023.23	36327.23	37167.73
47 Ti # 3	3.384	3.384	ug/l	3.01	1620.00		3407.09	3410.40	3533.78
51 V # 2	0.287	0.287	ug/l	7.28	1800.00		731.13	777.80	847.81
52 Cr # 2	0.3243	0.3243	ug/l	6.45	1800.00		898.92	984.48	917.81
55 Mn # 3	676.4	676.4	ug/l	1.76	1800.00		12191133.00	12132399.00	12349256.00
56 Fe # 1	7428	7428	ug/l	0.14	81000.00		104199140.00	103981940.00	104012990.00
59 Co # 3	2.06	2.06	ug/l	1.96	1800.00		28616.29	28218.89	28733.02
60 Ni # 2	1.863	1.863	ug/l	0.83	1800.00		2041.24	2023.46	2080.14
63 Cu # 2	1.351	1.351	ug/l	2.53	1800.00		4220.52	4349.44	4301.65
66 Zn # 3	0.9067	0.9067	ug/l	4.49	1800.00		1766.80	1686.80	1780.15
75 As # 2	0.3415	0.3415	ug/l	20.20	100.00		77.00	83.00	108.33
78 Se # 1	0.01975	0.01975	ug/l	32.63	100.00		26.67	31.33	26.67
88 Sr # 3	33.18	33.18	ug/l	0.71	1800.00		803359.06	801577.75	811423.44
95 Mo # 3	0.3073	0.3073	ug/l	6.28	1800.00		1093.40	1186.75	1056.73
107 Ag # 3	0.006508	0.006508	ug/l	28.44	100.00		103.34	66.67	93.34
111 Cd # 3	0.00728	0.00728	ug/l	64.79	100.00		39.65	52.96	59.66
118 Sn # 3	0.1023	0.1023	ug/l	11.25	1800.00		1083.40	930.05	950.06
121 Sb # 3	0.1278	0.1278	ug/l	5.09	100.00		1090.07	1013.40	1083.40
137 Ba # 3	24.56	24.56	ug/l	1.15	1800.00		80718.92	81774.04	81580.12
202 Hg # 3	0.01345	0.01345	ug/l	8.03	5.00		78.67	74.33	78.33
205 Tl # 3	0.003357	0.003357	ug/l	6.71	20.00		120.00	116.67	126.67
208 Pb # 3	0.02152	0.02152	ug/l	3.95	1800.00		786.70	830.04	796.70
232 Th # 3	0.03187	0.03187	ug/l	7.31	#VALUE!		1256.76	1150.08	1280.09
238 U # 3	0.01452	0.01452	ug/l	9.32	#VALUE!		426.69	510.03	483.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	568087.31	1.80	836165.38	67.9	60 - 125		557802.81	578208.38	568250.69
45 Sc # 1	485979.66	1.01	552676.25	87.9	60 - 125		480984.03	486143.31	490811.72
45 Sc # 3	581998.69	1.21	644433.94	90.3	60 - 125		579035.94	590051.75	576908.31
74 Ge # 1	155554.09	0.07	175321.88	88.7	60 - 125		155554.55	155667.31	155440.41
74 Ge # 2	23245.26	1.98	27172.50	85.5	60 - 125		22961.19	22997.91	23776.68
74 Ge # 3	148282.53	1.06	164913.13	89.9	60 - 125		147141.05	150084.95	147621.61
89 Y # 3	982355.81	0.52	1068488.30	91.9	60 - 125		976422.88	985630.06	985014.69
115 In # 3	967094.38	0.51	1083659.40	89.2	60 - 125		972364.13	966199.88	962718.81
159 Tb # 3	1391568.90	0.31	1651256.80	84.3	60 - 125		1391598.40	1387300.40	1395807.90
209 Bi # 3	838067.81	0.68	1054491.00	79.5	60 - 125		841736.88	840968.31	831498.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\268SMPL.D\268SMPL.D#
Date Acquired: Dec 26 2012 06:13 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85852-b-1-a
Misc Info: 3010 1/5
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.08698	0.08698	ug/l	9.86	100.00		250.01	223.34	216.67
11 B # 3	7.232	7.232	ug/l	2.51	1800.00		25393.87	25230.34	25971.45
23 Na # 1	4793	4793	ug/l	14.22	81000.00		27898590.00	28164096.00	28396752.00
24 Mg # 1	566.8	566.8	ug/l	16.07	81000.00		2147309.30	2263602.00	2306975.00
27 Al # 1	37.75	37.75	ug/l	16.14	81000.00		165301.28	173621.36	173428.16
39 K # 2	423	423	ug/l	0.69	81000.00		135458.05	137464.88	142209.50
40 Ca # 1	1311	1311	ug/l	14.01	81000.00		11895080.00	11922115.00	11931370.00
45 Sc # 2	-----	--------		--------	#VALUE!		35372.01	35780.56	36894.96
47 Ti # 3	0.1004	0.1004	ug/l	29.56	1620.00		110.00	156.67	103.34
51 V # 2	0.1283	0.1283	ug/l	10.30	1800.00		417.79	430.01	485.57
52 Cr # 2	0.01725	0.01725	ug/l	44.60	1800.00		133.34	173.34	152.22
55 Mn # 3	41.96	41.96	ug/l	1.15	1800.00		748964.13	759010.94	755737.75
56 Fe # 1	2027	2027	ug/l	11.82	81000.00		28659872.00	28851720.00	28917600.00
59 Co # 3	1.688	1.688	ug/l	0.90	1800.00		23245.11	23532.16	22951.52
60 Ni # 2	0.9078	0.9078	ug/l	4.33	1800.00		945.59	1043.37	1023.37
63 Cu # 2	0.08796	0.08796	ug/l	9.91	1800.00		723.35	700.02	702.24
66 Zn # 3	5.081	5.081	ug/l	1.11	1800.00		8608.97	8752.33	8645.59
75 As # 2	0.2829	0.2829	ug/l	10.97	100.00		74.67	69.33	84.33
78 Se # 1	0.02313	0.02313	ug/l	59.66	100.00		26.33	31.00	32.33
88 Sr # 3	8.323	8.323	ug/l	0.32	1800.00		204038.92	203135.41	205124.84
95 Mo # 3	0.006323	0.006323	ug/l	85.02	1800.00		53.33	90.00	70.00
107 Ag # 3	0.0008235	0.0008235	ug/l	106.78	100.00		40.00	23.33	26.67
111 Cd # 3	0.02824	0.02824	ug/l	14.64	100.00		89.99	106.64	93.31
118 Sn # 3	0.152	0.152	ug/l	2.14	1800.00		1293.42	1333.42	1336.76
121 Sb # 3	0.1183	0.1183	ug/l	4.68	100.00		973.39	1033.40	983.39
137 Ba # 3	11.41	11.41	ug/l	0.95	1800.00		37675.93	37759.51	37458.72
202 Hg # 3	0.01189	0.01189	ug/l	16.08	5.00		68.00	77.67	72.67
205 Tl # 3	0.01951	0.01951	ug/l	13.71	20.00		516.69	406.68	460.02
208 Pb # 3	0.013	0.013	ug/l	9.38	1800.00		586.69	573.36	516.69
232 Th # 3	0.01829	0.01829	ug/l	6.63	#VALUE!		820.05	796.71	750.04
238 U # 3	0.01448	0.01448	ug/l	4.37	#VALUE!		473.35	446.69	486.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	563213.50	2.01	836165.38	67.4	60 - 125		550262.88	568318.25	571059.31
45 Sc # 1	488051.97	13.46	552676.25	88.3	60 - 125		550010.25	419189.47	494956.19
45 Sc # 3	566528.31	0.80	644433.94	87.9	60 - 125		562238.06	566085.13	571261.88
74 Ge # 1	159134.80	11.29	175321.88	90.8	60 - 125		176179.23	140376.78	160848.39
74 Ge # 2	23036.84	1.88	27172.50	84.8	60 - 125		22643.02	22967.87	23499.62
74 Ge # 3	147395.66	0.68	164913.13	89.4	60 - 125		148211.78	147705.38	146269.78
89 Y # 3	992345.94	0.40	1068488.30	92.9	60 - 125		989170.69	991111.25	996755.81
115 In # 3	962438.00	0.54	1083659.40	88.8	60 - 125		960303.94	958677.88	968332.19
159 Tb # 3	1394919.90	0.50	1651256.80	84.5	60 - 125		1393995.90	1402346.40	1388417.50
209 Bi # 3	832216.75	0.40	1054491.00	78.9	60 - 125		828624.75	832941.31	835084.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\269SMPL.D\269SMPL.D#
Date Acquired: Dec 26 2012 06:20 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85814-a-1-b
Misc Info: 3010 1/5
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0002593	0.0002593	ug/l	432.70	100.00		6.67	3.33	0.00
11 B	# 3	1.442	1.442	ug/l	6.40	1800.00		10579.80	10993.41	11246.86
23 Na	# 1	1167	1167	ug/l	0.83	81000.00		7428410.00	7667327.50	7606971.50
24 Mg	# 1	132	132	ug/l	0.40	81000.00		565625.31	571717.25	578648.13
27 Al	# 1	7.462	7.462	ug/l	1.66	81000.00		37266.86	37523.99	38873.50
39 K	# 2	8.168	8.168	ug/l	14.31	81000.00		10910.11	11450.46	12080.82
40 Ca	# 1	18.61	18.61	ug/l	0.21	81000.00		247465.72	250974.14	251727.63
45 Sc	# 2	----	--------		--------	#VALUE!		38550.47	39602.64	40588.04
47 Ti	# 3	6.906	6.906	ug/l	0.06	1620.00		7531.69	7595.09	7651.81
51 V	# 2	0.1518	0.1518	ug/l	12.42	1800.00		481.12	577.79	557.79
52 Cr	# 2	1.38	1.38	ug/l	2.17	1800.00		3794.86	3873.77	4064.92
55 Mn	# 3	0.199	0.199	ug/l	2.66	1800.00		4700.74	4760.74	4997.48
56 Fe	# 1	20.66	20.66	ug/l	0.57	81000.00		322313.06	326478.88	327866.78
59 Co	# 3	0.0127	0.0127	ug/l	3.82	1800.00		213.34	200.01	210.01
60 Ni	# 2	1.413	1.413	ug/l	0.77	1800.00		1641.20	1706.76	1716.76
63 Cu	# 2	-0.0298	-0.0298	ug/l	24.55	1800.00		383.34	437.79	417.79
66 Zn	# 3	0.6882	0.6882	ug/l	7.03	1800.00		1580.11	1423.43	1480.10
75 As	# 2	0.1506	0.1506	ug/l	5.43	100.00		49.67	54.67	53.00
78 Se	# 1	0.03504	0.03504	ug/l	18.45	100.00		34.00	40.00	38.33
88 Sr	# 3	0.03129	0.03129	ug/l	5.35	1800.00		923.38	850.04	870.05
95 Mo	# 3	0.2759	0.2759	ug/l	9.25	1800.00		1053.39	1206.75	1023.40
107 Ag	# 3	5.974E-005	5.974E-005	ug/l	762.30	100.00		20.00	30.00	23.33
111 Cd	# 3	-0.002473	-0.002473	ug/l	32.03	100.00		33.00	32.95	29.67
118 Sn	# 3	1.311	1.311	ug/l	2.43	1800.00		10056.49	10356.74	9856.37
121 Sb	# 3	0.2958	0.2958	ug/l	5.28	100.00		2380.24	2403.57	2203.55
137 Ba	# 3	0.1257	0.1257	ug/l	9.10	1800.00		433.35	470.03	516.69
202 Hg	# 3	0.05652	0.05652	ug/l	2.63	5.00		204.67	198.67	200.67
205 Tl	# 3	0.001253	0.001253	ug/l	86.19	20.00		103.34	86.67	56.67
208 Pb	# 3	0.2777	0.2777	ug/l	3.84	1800.00		8661.23	9111.31	8647.85
232 Th	# 3	0.01493	0.01493	ug/l	8.25	#VALUE!		726.71	810.05	733.38
238 U	# 3	0.003248	0.003248	ug/l	5.16	#VALUE!		126.67	126.67	116.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	639910.69	1.34	836165.38	76.5	60 - 125		638216.56	632302.38	649213.00
45 Sc	# 1	527311.50	1.06	552676.25	95.4	60 - 125		520955.88	529392.56	531586.00
45 Sc	# 3	629854.75	0.82	644433.94	97.7	60 - 125		624437.88	630406.88	634719.50
74 Ge	# 1	168451.53	0.53	175321.88	96.1	60 - 125		167497.63	169247.97	168609.00
74 Ge	# 2	25138.12	1.77	27172.50	92.5	60 - 125		24645.57	25254.19	25514.59
74 Ge	# 3	160635.63	1.09	164913.13	97.4	60 - 125		159224.06	160078.44	162604.38
89 Y	# 3	1059989.60	0.75	1068488.30	99.2	60 - 125		1051255.30	1062072.00	1066641.60
115 In	# 3	1054434.80	0.24	1083659.40	97.3	60 - 125		1051841.80	1056977.60	1054485.00
159 Tb	# 3	1489975.80	1.04	1651256.80	90.2	60 - 125		1483457.30	1478852.00	1507618.10
209 Bi	# 3	922732.69	0.48	1054491.00	87.5	60 - 125		917936.00	926592.25	923669.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\270_CCV.D\270_CCV.D#
Date Acquired: Dec 26 2012 06:27 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.21 ug/l	0.83	50.00	90 - 110		144093.91	148030.81	150302.88
11 B	100.2 ug/l	1.37	100.00	90 - 110		308655.28	313356.19	322278.81
23 Na	4847 ug/l	0.62	5000.00	90 - 110		28734302.00	29172226.00	29147762.00
24 Mg	4781 ug/l	0.88	5000.00	90 - 110		18937154.00	19204842.00	19703884.00
27 Al	490.5 ug/l	0.74	500.00	90 - 110		2213619.30	2247541.80	2298830.00
39 K	4985 ug/l	1.06	5000.00	90 - 110		1567011.90	1562651.30	1613501.80
40 Ca	4874 ug/l	1.19	5000.00	90 - 110		44079148.00	44769772.00	46142280.00
45 Sc	--------	--------		--- ##### - #####		38414.64	38807.60	39474.52
47 Ti	49.93 ug/l	1.57	50.00	90 - 110		51989.35	51464.98	50211.41
51 V	48.08 ug/l	0.64	50.00	90 - 110		102624.91	103919.93	104676.13
52 Cr	47.86 ug/l	0.13	50.00	90 - 110		121599.88	123372.69	125336.07
55 Mn	484.9 ug/l	0.45	500.00	90 - 110		8739018.00	8934249.00	8798412.00
56 Fe	4849 ug/l	0.87	5000.00	90 - 110		68382696.00	69858728.00	69650816.00
59 Co	47.21 ug/l	1.06	50.00	90 - 110		653906.75	658636.50	661127.81
60 Ni	49.04 ug/l	0.27	50.00	90 - 110		52973.20	54162.18	54809.50
63 Cu	50.06 ug/l	0.49	50.00	90 - 110		142678.14	144343.92	145945.63
66 Zn	48.68 ug/l	1.67	50.00	90 - 110		81283.71	81967.23	83145.25
75 As	50.54 ug/l	0.66	50.00	90 - 110		10866.23	10913.94	11115.05
78 Se	49.72 ug/l	0.23	50.00	90 - 110		20942.34	20985.73	21308.08
88 Sr	51.13 ug/l	0.47	50.00	90 - 110		1220606.60	1237479.30	1231446.10
95 Mo	49.9 ug/l	0.78	50.00	90 - 110		168041.44	170958.64	170234.11
107 Ag	50.2 ug/l	0.46	50.00	90 - 110		498914.38	501623.69	500354.63
111 Cd	48.92 ug/l	0.42	50.00	90 - 110		106463.66	106148.19	106499.52
118 Sn	49.57 ug/l	1.01	50.00	90 - 110		336246.69	332736.25	332438.13
121 Sb	52.23 ug/l	0.51	50.00	90 - 110		328081.38	329531.31	328467.75
137 Ba	50.16 ug/l	0.77	50.00	90 - 110		163952.67	163416.56	162876.02
202 Hg	2.445 ug/l	1.59	2.50	90 - 110		5840.74	5732.37	5886.43
205 Tl	9.644 ug/l	0.72	10.00	90 - 110		197219.14	197718.38	198017.44
208 Pb	48.28 ug/l	0.63	50.00	90 - 110		1364060.90	1365829.50	1367005.90
232 Th	48.51 ug/l	0.38		--- ##### - #####		1485892.10	1502918.40	1493428.10
238 U	47.64 ug/l	0.54		--- ##### - #####		1474799.10	1465072.00	1470138.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	630931.38	1.54	836165.38	75.5	60 - 125		619727.63	636107.63	636958.88
45 Sc	491126.69	1.23	552676.25	88.9	60 - 125		484855.81	491664.34	496859.84
45 Sc	589518.94	0.24	644433.94	91.5	60 - 125		591104.44	589171.88	588280.63
74 Ge	158663.66	0.81	175321.88	90.5	60 - 125		157555.33	158367.84	160067.78
74 Ge	23586.04	1.62	27172.50	86.8	60 - 125		23200.38	23595.30	23962.46
74 Ge	149279.39	0.95	164913.13	90.5	60 - 125		148598.91	150911.89	148327.39
89 Y	973619.06	0.23	1068488.30	91.1	60 - 125		971017.25	975151.56	974688.50
115 In	951135.50	0.45	1083659.40	87.8	60 - 125		947763.81	949724.06	955918.50
159 Tb	1358363.40	0.53	1651256.80	82.3	60 - 125		1366720.00	1354185.50	1354184.60
209 Bi	806690.81	0.23	1054491.00	76.5	60 - 125		805590.38	808832.50	805649.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\271_CCB.D\271_CCB.D#
Date Acquired: Dec 26 2012 06:35 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01841	0.01841	ug/l	48.61	#VALUE!		66.67	73.34	26.67
11 B # 3	1.382	1.382	ug/l	8.24	#VALUE!		10496.43	10596.54	10266.30
23 Na # 1	8.692	8.692	ug/l	1.74	#VALUE!		136586.59	137581.11	139715.78
24 Mg # 1	1.959	1.959	ug/l	1.78	#VALUE!		8342.02	8442.06	8705.49
27 Al # 1	0.2199	0.2199	ug/l	9.07	#VALUE!		1970.16	2056.85	2180.20
39 K # 2	2.141	2.141	ug/l	19.92	#VALUE!		8822.32	9169.15	9389.24
40 Ca # 1	6.088	6.088	ug/l	2.01	#VALUE!		117966.09	119059.67	121430.73
45 Sc # 2	----	--------		--------	#VALUE!		37248.93	38235.28	39025.88
47 Ti # 3	0.02345	0.02345	ug/l	36.73	#VALUE!		60.00	46.67	43.33
51 V # 2	0.02871	0.02871	ug/l	36.19	#VALUE!		216.67	264.45	261.12
52 Cr # 2	0.02157	0.02157	ug/l	32.28	#VALUE!		166.67	193.34	157.78
55 Mn # 3	0.1774	0.1774	ug/l	23.82	#VALUE!		4924.12	4330.63	3393.75
56 Fe # 1	1.447	1.447	ug/l	2.48	#VALUE!		33360.40	32836.29	32632.83
59 Co # 3	0.01871	0.01871	ug/l	33.45	#VALUE!		370.02	293.35	193.34
60 Ni # 2	0.02082	0.02082	ug/l	13.22	#VALUE!		52.22	51.11	57.78
63 Cu # 2	-0.07495	-0.07495	ug/l	3.61	#VALUE!		251.12	271.12	273.34
66 Zn # 3	-0.02363	-0.02363	ug/l	117.86	#VALUE!		170.01	253.34	170.01
75 As # 2	0.04594	0.04594	ug/l	59.38	#VALUE!		25.67	22.00	34.33
78 Se # 1	0.04375	0.04375	ug/l	19.62	#VALUE!		42.67	35.67	41.33
88 Sr # 3	0.02673	0.02673	ug/l	10.72	#VALUE!		743.37	780.04	643.36
95 Mo # 3	0.07253	0.07253	ug/l	9.02	#VALUE!		280.01	310.01	326.68
107 Ag # 3	0.02244	0.02244	ug/l	15.56	#VALUE!		280.01	266.68	213.34
111 Cd # 3	0.01936	0.01936	ug/l	32.44	#VALUE!		83.25	89.90	63.23
118 Sn # 3	0.06337	0.06337	ug/l	6.42	#VALUE!		750.04	746.70	703.37
121 Sb # 3	0.1164	0.1164	ug/l	15.44	#VALUE!		1093.40	1046.73	876.72
137 Ba # 3	0.02333	0.02333	ug/l	38.00	#VALUE!		120.00	106.67	63.34
202 Hg # 3	0.01778	0.01778	ug/l	30.65	#VALUE!		104.33	79.67	83.33
205 Tl # 3	0.01416	0.01416	ug/l	5.65	#VALUE!		330.01	336.68	366.68
208 Pb # 3	0.02009	0.02009	ug/l	23.71	#VALUE!		876.71	763.37	623.36
232 Th # 3	0.1083	0.1083	ug/l	10.07	#VALUE!		4017.33	3840.60	3340.47
238 U # 3	0.02149	0.02149	ug/l	23.37	#VALUE!		816.72	786.71	520.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	622383.19	1.85	836165.38	74.4	60 - 125		613224.81	618651.44	635273.25
45 Sc # 1	499375.56	0.66	552676.25	90.4	60 - 125		495649.63	500528.06	501949.00
45 Sc # 3	596400.56	0.23	644433.94	92.5	60 - 125		594878.00	597429.25	596894.50
74 Ge # 1	162498.14	0.49	175321.88	92.7	60 - 125		161812.92	162312.70	163368.78
74 Ge # 2	24276.22	1.66	27172.50	89.3	60 - 125		23825.64	24404.17	24598.85
74 Ge # 3	154176.17	0.57	164913.13	93.5	60 - 125		153432.28	153959.64	155136.59
89 Y # 3	1004915.30	0.17	1068488.30	94.1	60 - 125		1006624.10	1003157.10	1004964.60
115 In # 3	983639.25	0.33	1083659.40	90.8	60 - 125		982422.25	981184.06	987311.56
159 Tb # 3	1377945.00	1.43	1651256.80	83.4	60 - 125		1355229.40	1388907.50	1389698.10
209 Bi # 3	851411.88	0.33	1054491.00	80.7	60 - 125		848700.81	854248.94	851285.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\272SMPL.D\272SMPL.D#
Date Acquired: Dec 26 2012 06:42 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-14-a
Misc Info: 3010 1/100
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02986	0.001493	ug/l	41.65	100.00		10.00	6.67	6.67
11 B	# 3	858	42.9	ug/l	1.06	1800.00		151598.67	157099.72	158558.39
23 Na	# 1	2150000	107500	ug/l	1.43	81000.00		651152450.00	653999490.00	677888130.00
24 Mg	# 1	255400	12770	ug/l	1.82	81000.00		51799684.00	52592224.00	54764240.00
27 Al	# 1	49.42	2.471	ug/l	1.26	81000.00		12537.78	12644.49	13034.81
39 K	# 2	83680	4184	ug/l	1.51	81000.00		1324736.30	1348466.30	1390074.50
40 Ca	# 1	93500	4675	ug/l	1.48	81000.00		43297188.00	45363000.00	44668048.00
45 Sc	# 2	-----	--------		--------	#VALUE!		39299.76	40151.53	41240.52
47 Ti	# 3	1.1332	0.05666	ug/l	58.38	1620.00		103.34	120.00	50.00
51 V	# 2	0.4956	0.02478	ug/l	15.56	1800.00		228.89	230.00	250.00
52 Cr	# 2	0.2366	0.01183	ug/l	50.96	1800.00		136.67	133.34	166.67
55 Mn	# 3	21.44	1.072	ug/l	1.14	1800.00		21466.27	20975.63	21339.36
56 Fe	# 1	290.4	14.52	ug/l	0.79	81000.00		212539.52	213715.44	218764.38
59 Co	# 3	0.2318	0.01159	ug/l	3.50	1800.00		183.34	180.01	193.34
60 Ni	# 2	5.906	0.2953	ug/l	11.50	1800.00		360.01	322.23	401.12
63 Cu	# 2	-0.4964	-0.02482	ug/l	25.94	1800.00		414.45	396.68	416.68
66 Zn	# 3	10.61	0.5305	ug/l	5.36	1800.00		1180.07	1213.41	1126.74
75 As	# 2	0.4706	0.02353	ug/l	6.18	100.00		21.00	22.67	22.67
78 Se	# 1	0.4576	0.02288	ug/l	18.62	100.00		31.33	29.00	28.33
88 Sr	# 3	1653.6	82.68	ug/l	0.99	1800.00		2057902.00	2096391.00	2054798.10
95 Mo	# 3	2.074	0.1037	ug/l	10.32	1800.00		376.68	373.35	436.68
107 Ag	# 3	0.06332	0.003166	ug/l	27.53	100.00		60.00	43.33	53.34
111 Cd	# 3	0.006198	0.0003099	ug/l	2761.50	100.00		16.55	33.21	53.20
118 Sn	# 3	0.436	0.0218	ug/l	1.90	1800.00		423.35	426.68	420.02
121 Sb	# 3	1.0878	0.05439	ug/l	12.25	100.00		620.03	556.69	546.69
137 Ba	# 3	6.254	0.3127	ug/l	2.19	1800.00		1016.73	1003.40	1043.40
202 Hg	# 3	0.209	0.01045	ug/l	27.77	5.00		59.33	54.67	66.00
205 Tl	# 3	0.0871	0.004355	ug/l	8.93	20.00		133.34	143.34	126.67
208 Pb	# 3	1.742	0.0871	ug/l	4.72	1800.00		2520.16	2540.16	2613.50
232 Th	# 3	0.9076	0.04538	ug/l	2.50	#VALUE!		1400.12	1473.46	1416.78
238 U	# 3	0.5556	0.02778	ug/l	5.99	#VALUE!		723.37	820.05	776.71

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	710109.06	1.75	836165.38	84.9	60 - 125		698229.94	709040.88	723056.31
45 Sc	# 1	505796.41	1.36	552676.25	91.5	60 - 125		498176.09	507726.41	511486.78
45 Sc	# 3	644581.75	0.71	644433.94	100.0	60 - 125		642536.13	641378.38	649830.69
74 Ge	# 1	155784.91	0.79	175321.88	88.9	60 - 125		154834.38	155348.81	157171.52
74 Ge	# 2	24054.07	3.11	27172.50	88.5	60 - 125		23205.91	24332.95	24623.35
74 Ge	# 3	155894.56	0.55	164913.13	94.5	60 - 125		155539.00	155270.34	156874.34
89 Y	# 3	1013220.60	0.66	1068488.30	94.8	60 - 125		1005555.60	1017351.90	1016754.30
115 In	# 3	937527.56	0.34	1083659.40	86.5	60 - 125		934547.88	940887.38	937147.25
159 Tb	# 3	1317023.40	2.52	1651256.80	79.8	60 - 125		1350358.60	1316728.30	1283983.10
209 Bi	# 3	721430.06	0.73	1054491.00	68.4	60 - 125		721284.88	726761.88	716243.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File:	C:\ICPCHEM\1\DATA\12L24s00.B\273SMPL.D\273SMPL.D#
Date Acquired:	Dec 26 2012 06:50 pm
Acq. Method:	EPA2002C.M
Operator:	BR
Sample Name:	680-85793-a-15-a
Misc Info:	3010 1/100
Vial Number:	2111
Current Method:	C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File:	C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update:	Dec 26 2012 09:15 am
Sample Type:	Sample
Dilution Factor:	20.00
Autodil Factor:	Undiluted
Final Dil Factor:	20.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0016206	8.103E-005	ug/l	1157.30	100.00		0.00	6.67	3.33
11 B	# 3	990.8	49.54	ug/l	1.82	1800.00		183242.19	191346.45	190125.55
23 Na	# 1	2396000	119800	ug/l	3.66	81000.00		721690300.00	749534660.00	754919360.00
24 Mg	# 1	283000	14150	ug/l	4.37	81000.00		57865920.00	58759412.00	60860644.00
27 Al	# 1	28.8	1.44	ug/l	2.24	81000.00		7555.01	8085.27	8131.95
39 K	# 2	90380	4519	ug/l	0.21	81000.00		1507143.80	1532642.30	1566487.00
40 Ca	# 1	96600	4830	ug/l	4.53	81000.00		45314464.00	47113864.00	46240648.00
45 Sc	# 2	----	--------		--------	#VALUE!		41436.56	42295.17	42618.02
47 Ti	# 3	0.543	0.02715	ug/l	28.67	1620.00		66.67	66.67	50.00
51 V	# 2	0.2826	0.01413	ug/l	83.09	1800.00		244.45	195.56	230.00
52 Cr	# 2	0.08922	0.004461	ug/l	165.43	1800.00		106.67	143.34	147.78
55 Mn	# 3	4.604	0.2302	ug/l	2.43	1800.00		5380.95	5580.97	5444.27
56 Fe	# 1	50.42	2.521	ug/l	5.70	81000.00		47374.75	47521.57	47427.84
59 Co	# 3	0.14906	0.007453	ug/l	4.78	1800.00		133.34	133.34	123.34
60 Ni	# 2	3.97	0.1985	ug/l	11.93	1800.00		278.89	277.78	237.78
63 Cu	# 2	-1.5744	-0.07872	ug/l	3.31	1800.00		264.45	267.78	260.00
66 Zn	# 3	5.258	0.2629	ug/l	8.07	1800.00		720.03	773.37	696.70
75 As	# 2	0.854	0.0427	ug/l	10.01	100.00		26.33	27.33	29.33
78 Se	# 1	0.3614	0.01807	ug/l	46.10	100.00		28.67	30.67	24.67
88 Sr	# 3	1640	82	ug/l	2.44	1800.00		2118204.50	2146569.80	2165133.50
95 Mo	# 3	2.166	0.1083	ug/l	5.91	1800.00		400.02	416.68	443.35
107 Ag	# 3	0.04112	0.002056	ug/l	47.02	100.00		36.67	36.67	53.34
111 Cd	# 3	-0.0209	-0.001045	ug/l	334.83	100.00		36.54	36.53	23.19
118 Sn	# 3	0.4222	0.02111	ug/l	33.23	1800.00		476.69	423.35	383.35
121 Sb	# 3	0.4624	0.02312	ug/l	15.97	100.00		383.35	370.02	413.35
137 Ba	# 3	3.842	0.1921	ug/l	13.94	1800.00		720.04	673.37	550.03
202 Hg	# 3	0.15822	0.007911	ug/l	22.91	5.00		50.67	57.67	55.67
205 Tl	# 3	0.05868	0.002934	ug/l	45.13	20.00		136.67	86.67	100.00
208 Pb	# 3	0.4368	0.02184	ug/l	6.83	1800.00		766.70	826.70	753.36
232 Th	# 3	0.5338	0.02669	ug/l	7.43	#VALUE!		960.06	936.73	850.05
238 U	# 3	0.5298	0.02649	ug/l	3.00	#VALUE!		756.71	746.71	710.04

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	747835.38	1.85	836165.38	89.4	60 - 125		738822.88	763728.50	740954.69
45 Sc	# 1	510108.03	5.91	552676.25	92.3	60 - 125		475341.59	525594.13	529388.38
45 Sc	# 3	676332.50	1.14	644433.94	104.9	60 - 125		674670.00	684723.00	669604.44
74 Ge	# 1	158590.17	4.33	175321.88	90.5	60 - 125		150690.23	162003.16	163077.13
74 Ge	# 2	25254.19	1.99	27172.50	92.9	60 - 125		24745.75	25267.52	25749.31
74 Ge	# 3	161773.39	0.37	164913.13	98.1	60 - 125		162372.14	161759.69	161188.39
89 Y	# 3	1058226.30	1.84	1068488.30	99.0	60 - 125		1056275.10	1078587.40	1039816.30
115 In	# 3	957877.06	0.49	1083659.40	88.4	60 - 125		954417.06	963188.63	956025.50
159 Tb	# 3	1337924.80	0.97	1651256.80	81.0	60 - 125		1325715.50	1336590.00	1351469.00
209 Bi	# 3	721494.63	0.48	1054491.00	68.4	60 - 125		725402.19	720155.38	718926.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\274SMPL.D\274SMPL.D#
Date Acquired: Dec 26 2012 06:57 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-16-a
Misc Info: 3010 1/100
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.017322	-0.0008661	ug/l	0.00	100.00		0.00	0.00	0.00
11 B	# 3	999.4	49.97	ug/l	2.60	1800.00		196082.67	198795.75	198941.88
23 Na	# 1	2406000	120300	ug/l	0.45	81000.00		768149950.00	792666110.00	798505150.00
24 Mg	# 1	285600	14280	ug/l	1.25	81000.00		61399164.00	62986872.00	64844800.00
27 Al	# 1	18.294	0.9147	ug/l	5.34	81000.00		5794.39	5844.42	5514.27
39 K	# 2	95680	4784	ug/l	1.21	81000.00		1578253.30	1607393.80	1682357.50
40 Ca	# 1	95440	4772	ug/l	0.26	81000.00		47418184.00	48305040.00	48955544.00
45 Sc	# 2	----	--------		--------	#VALUE!		41373.06	42311.77	43116.98
47 Ti	# 3	0.4984	0.02492	ug/l	61.60	1620.00		40.00	63.34	76.67
51 V	# 2	0.2916	0.01458	ug/l	59.44	1800.00		200.00	224.45	248.89
52 Cr	# 2	0.07466	0.003733	ug/l	196.57	1800.00		124.45	111.11	155.56
55 Mn	# 3	4.08	0.204	ug/l	0.89	1800.00		4967.47	4910.79	5020.81
56 Fe	# 1	36.86	1.843	ug/l	1.85	81000.00		38891.66	38654.32	39432.90
59 Co	# 3	0.2236	0.01118	ug/l	7.72	1800.00		173.34	193.34	193.34
60 Ni	# 2	2.204	0.1102	ug/l	14.06	1800.00		137.78	167.78	177.78
63 Cu	# 2	-1.82	-0.091	ug/l	3.85	1800.00		234.45	216.67	226.67
66 Zn	# 3	3.288	0.1644	ug/l	15.17	1800.00		536.69	510.02	610.03
75 As	# 2	0.675	0.03375	ug/l	22.39	100.00		25.00	23.67	28.00
78 Se	# 1	0.2614	0.01307	ug/l	87.68	100.00		21.67	26.67	32.00
88 Sr	# 3	1662.8	83.14	ug/l	1.83	1800.00		2211023.30	2185494.30	2169355.80
95 Mo	# 3	2.148	0.1074	ug/l	19.17	1800.00		440.02	470.02	343.35
107 Ag	# 3	0.009674	0.0004837	ug/l	230.10	100.00		33.33	13.33	33.33
111 Cd	# 3	0.0301	0.001505	ug/l	425.18	100.00		23.19	49.85	39.89
118 Sn	# 3	0.2428	0.01214	ug/l	62.14	1800.00		313.35	396.68	393.35
121 Sb	# 3	0.3006	0.01503	ug/l	11.51	100.00		346.68	320.01	350.01
137 Ba	# 3	4.054	0.2027	ug/l	6.16	1800.00		706.71	703.37	643.36
202 Hg	# 3	0.06636	0.003318	ug/l	42.92	5.00		48.67	44.00	42.67
205 Tl	# 3	0.02218	0.001109	ug/l	42.18	20.00		83.34	63.34	66.67
208 Pb	# 3	0.19914	0.009957	ug/l	20.23	1800.00		400.02	486.69	463.35
232 Th	# 3	0.349	0.01745	ug/l	11.04	#VALUE!		713.37	596.70	680.04
238 U	# 3	0.527	0.02635	ug/l	12.54	#VALUE!		700.04	830.05	676.70

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	780242.44	3.13	836165.38	93.3	60 - 125		758709.44	775252.81	806765.06
45 Sc	# 1	537683.81	1.64	552676.25	97.3	60 - 125		527899.19	540183.75	544968.50
45 Sc	# 3	694739.88	1.47	644433.94	107.8	60 - 125		700256.56	682980.94	700982.19
74 Ge	# 1	163558.61	0.87	175321.88	93.3	60 - 125		161940.19	164576.69	164158.95
74 Ge	# 2	25212.65	2.12	27172.50	92.8	60 - 125		24803.58	25017.20	25817.18
74 Ge	# 3	162233.05	1.55	164913.13	98.4	60 - 125		163515.22	159339.42	163844.50
89 Y	# 3	1065740.40	1.89	1068488.30	99.7	60 - 125		1081277.00	1042990.70	1072953.50
115 In	# 3	960984.38	1.72	1083659.40	88.7	60 - 125		972722.50	942127.69	968103.00
159 Tb	# 3	1336964.50	3.16	1651256.80	81.0	60 - 125		1360155.30	1288145.80	1362592.50
209 Bi	# 3	723708.19	1.13	1054491.00	68.6	60 - 125		728374.75	714226.31	728523.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\275SMPL.D\275SMPL.D#
Date Acquired: Dec 26 2012 07:05 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-17-a
Misc Info: 3010 1/100
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.011074	-0.0005537	ug/l	97.72	100.00		3.33	0.00	0.00
11 B # 3	923.2	46.16	ug/l	0.60	1800.00		180911.48	184575.48	183201.42
23 Na # 1	2204000	110200	ug/l	2.81	81000.00		689581120.00	730340030.00	739852030.00
24 Mg # 1	261800	13090	ug/l	1.13	81000.00		56448592.00	58222880.00	58662000.00
27 Al # 1	16.992	0.8496	ug/l	1.72	81000.00		5347.56	5474.25	5347.56
39 K # 2	87320	4366	ug/l	1.33	81000.00		1444072.80	1484752.30	1520448.40
40 Ca # 1	90040	4502	ug/l	1.05	81000.00		45142152.00	45098324.00	46194364.00
45 Sc # 2	----	--------		--------	#VALUE!		40997.84	42867.50	42812.82
47 Ti # 3	0.6312	0.03156	ug/l	24.16	1620.00		56.67	73.34	70.00
51 V # 2	0.4398	0.02199	ug/l	18.62	1800.00		237.78	251.12	235.56
52 Cr # 2	0.05372	0.002686	ug/l	125.06	1800.00		130.00	116.67	135.56
55 Mn # 3	9.526	0.4763	ug/l	1.14	1800.00		10206.43	10096.34	10386.57
56 Fe # 1	60.22	3.011	ug/l	0.70	81000.00		55771.06	56409.78	57155.45
59 Co # 3	0.1847	0.009235	ug/l	17.98	1800.00		166.67	126.67	173.34
60 Ni # 2	5.318	0.2659	ug/l	7.24	1800.00		346.67	318.89	367.79
63 Cu # 2	-1.8576	-0.09288	ug/l	5.48	1800.00		232.23	222.23	206.67
66 Zn # 3	5.576	0.2788	ug/l	5.67	1800.00		783.38	733.37	740.04
75 As # 2	0.558	0.0279	ug/l	24.55	100.00		22.67	23.67	26.33
78 Se # 1	0.3944	0.01972	ug/l	19.84	100.00		30.67	30.67	28.00
88 Sr # 3	1587.2	79.36	ug/l	0.20	1800.00		2056177.90	2049114.40	2051543.80
95 Mo # 3	1.744	0.0872	ug/l	17.56	1800.00		336.68	400.02	296.68
107 Ag # 3	0.0218	0.00109	ug/l	35.84	100.00		30.00	36.67	30.00
111 Cd # 3	0.03356	0.001678	ug/l	212.28	100.00		33.23	46.54	33.24
118 Sn # 3	0.1926	0.00963	ug/l	34.59	1800.00		356.68	363.35	320.01
121 Sb # 3	0.10952	0.005476	ug/l	56.81	100.00		253.34	286.68	283.35
137 Ba # 3	3.38	0.169	ug/l	7.16	1800.00		600.03	580.03	520.02
202 Hg # 3	0.05614	0.002807	ug/l	6.85	5.00		44.00	43.33	43.00
205 Tl # 3	0.014966	0.0007483	ug/l	25.15	20.00		66.67	60.00	60.00
208 Pb # 3	0.2594	0.01297	ug/l	1.71	1800.00		526.69	510.02	530.02
232 Th # 3	0.253	0.01265	ug/l	15.38	#VALUE!		463.35	556.69	550.03
238 U # 3	0.3864	0.01932	ug/l	4.45	#VALUE!		523.36	520.02	560.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	777558.19	1.54	836165.38	93.0	60 - 125		764053.75	786885.00	781735.69
45 Sc # 1	537434.44	0.91	552676.25	97.2	60 - 125		531909.00	539238.69	541155.63
45 Sc # 3	680753.38	0.48	644433.94	105.6	60 - 125		682610.81	676966.38	682682.88
74 Ge # 1	164255.91	0.91	175321.88	93.7	60 - 125		162549.88	164902.08	165315.81
74 Ge # 2	25242.31	1.27	27172.50	92.9	60 - 125		24933.72	25219.68	25573.51
74 Ge # 3	160345.58	0.43	164913.13	97.2	60 - 125		159953.89	159933.39	161149.45
89 Y # 3	1046748.50	0.13	1068488.30	98.0	60 - 125		1047533.40	1047499.70	1045212.60
115 In # 3	948575.31	0.48	1083659.40	87.5	60 - 125		953524.25	947564.25	944637.25
159 Tb # 3	1305125.30	0.90	1651256.80	79.0	60 - 125		1309305.10	1291810.40	1314260.10
209 Bi # 3	714166.00	0.26	1054491.00	67.7	60 - 125		715893.31	714412.75	712192.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\276SMPL.D\276SMPL.D#
Date Acquired: Dec 26 2012 07:12 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a
Misc Info: 3010 1/100
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.004592	-0.0002296	ug/l	479.97	100.00		6.67	0.00	0.00
11 B # 3	1041	52.05	ug/l	2.20	1800.00		201680.16	203907.20	203502.83
23 Na # 1	2178000	108900	ug/l	2.38	81000.00		664884670.00	701570370.00	695554050.00
24 Mg # 1	257600	12880	ug/l	2.15	81000.00		53242700.00	55586104.00	55873304.00
27 Al # 1	15.172	0.7586	ug/l	6.40	81000.00		4644.03	4974.13	4670.69
39 K # 2	85060	4253	ug/l	1.69	81000.00		1385257.80	1461348.90	1476624.50
40 Ca # 1	78140	3907	ug/l	3.00	81000.00		37428968.00	38108548.00	38826448.00
45 Sc # 2	----	--------		--------	#VALUE!		41953.23	42571.26	42829.57
47 Ti # 3	0.6454	0.03227	ug/l	24.85	1620.00		73.34	73.34	56.67
51 V # 2	0.4494	0.02247	ug/l	51.09	1800.00		261.12	242.23	221.11
52 Cr # 2	0.01773	0.0008865	ug/l	312.46	1800.00		113.33	118.89	134.45
55 Mn # 3	16.434	0.8217	ug/l	2.38	1800.00		16971.46	17492.06	16771.39
56 Fe # 1	60.08	3.004	ug/l	4.63	81000.00		54845.02	55319.61	54915.20
59 Co # 3	0.1452	0.00726	ug/l	21.47	1800.00		116.67	153.34	110.00
60 Ni # 2	6.488	0.3244	ug/l	4.80	1800.00		382.23	425.56	428.90
63 Cu # 2	-1.8218	-0.09109	ug/l	4.67	1800.00		234.45	215.56	225.56
66 Zn # 3	5.32	0.266	ug/l	3.57	1800.00		740.03	713.37	746.70
75 As # 2	0.4232	0.02116	ug/l	41.78	100.00		24.33	21.33	22.00
78 Se # 1	0.2622	0.01311	ug/l	46.26	100.00		28.00	25.00	25.67
88 Sr # 3	1321.4	66.07	ug/l	0.42	1800.00		1725338.80	1711832.80	1698858.10
95 Mo # 3	0.6118	0.03059	ug/l	16.86	1800.00		163.34	133.34	160.01
107 Ag # 3	0.010656	0.0005328	ug/l	108.90	100.00		33.33	23.33	23.33
111 Cd # 3	-0.007212	-0.0003606	ug/l	2121.70	100.00		49.95	33.29	16.62
118 Sn # 3	0.1139	0.005695	ug/l	83.64	1800.00		283.34	343.35	333.35
121 Sb # 3	0.013966	0.0006983	ug/l	311.61	100.00		250.01	256.68	226.67
137 Ba # 3	12.43	0.6215	ug/l	6.14	1800.00		2150.20	1920.17	2033.52
202 Hg # 3	0.05866	0.002933	ug/l	70.58	5.00		45.67	39.00	47.00
205 Tl # 3	0.0321	0.001605	ug/l	28.17	20.00		80.00	86.67	70.00
208 Pb # 3	0.19306	0.009653	ug/l	4.83	1800.00		443.35	413.35	436.68
232 Th # 3	0.2254	0.01127	ug/l	10.72	#VALUE!		466.69	526.69	470.02
238 U # 3	0.5298	0.02649	ug/l	1.90	#VALUE!		746.71	720.04	733.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	769315.69	2.54	836165.38	92.0	60 - 125		750002.88	768892.38	789051.88
45 Sc # 1	519466.25	4.66	552676.25	94.0	60 - 125		492625.41	526122.25	539651.13
45 Sc # 3	683250.75	0.51	644433.94	106.0	60 - 125		680577.25	687186.06	681988.81
74 Ge # 1	160598.22	3.80	175321.88	91.6	60 - 125		153590.33	163426.78	164777.58
74 Ge # 2	25171.48	2.69	27172.50	92.6	60 - 125		24554.34	25065.05	25895.05
74 Ge # 3	161277.95	0.30	164913.13	97.8	60 - 125		161840.39	161040.63	160952.84
89 Y # 3	1048788.90	0.40	1068488.30	98.2	60 - 125		1051955.40	1050429.80	1043981.40
115 In # 3	947918.19	0.92	1083659.40	87.5	60 - 125		948410.06	956398.81	938945.81
159 Tb # 3	1302355.60	0.75	1651256.80	78.9	60 - 125		1308158.40	1291057.40	1307851.00
209 Bi # 3	717205.63	0.17	1054491.00	68.0	60 - 125		717393.06	718316.13	715907.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\277SMPL.D\277SMPL.D#
Date Acquired: Dec 26 2012 07:19 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a SD
Misc Info: 3010 1/500
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.02636	-0.0002636	ug/l	198.14	100.00		0.00	3.33	3.33
11 B	# 3	1102	11.02	ug/l	2.08	1800.00		49690.96	50791.12	49881.82
23 Na	# 1	2076000	20760	ug/l	0.71	81000.00		138726110.00	138567220.00	139086270.00
24 Mg	# 1	248200	2482	ug/l	1.80	81000.00		10908268.00	11411180.00	11287504.00
27 Al	# 1	50.55	0.5055	ug/l	5.04	81000.00		3640.45	3897.17	3693.81
39 K	# 2	77610	776.1	ug/l	4.50	81000.00		285472.72	293302.81	294273.63
40 Ca	# 1	74190	741.9	ug/l	0.84	81000.00		7629500.00	7799773.00	7735132.50
45 Sc	# 2	----	--------		--------	#VALUE!		41953.22	42846.30	47590.65
47 Ti	# 3	1.801	0.01801	ug/l	38.07	1620.00		43.33	60.00	50.00
51 V	# 2	2.328	0.02328	ug/l	26.55	1800.00		264.45	260.00	263.34
52 Cr	# 2	-0.4948	-0.004948	ug/l	66.01	1800.00		98.89	114.45	131.11
55 Mn	# 3	15.25	0.1525	ug/l	0.81	1800.00		4117.25	4103.91	4150.58
56 Fe	# 1	69.45	0.6945	ug/l	3.09	81000.00		23752.46	23358.56	23702.34
59 Co	# 3	0.1163	0.001163	ug/l	17.87	1800.00		40.00	36.67	33.33
60 Ni	# 2	18.58	0.1858	ug/l	8.88	1800.00		275.56	245.56	285.56
63 Cu	# 2	-10.42	-0.1042	ug/l	0.96	1800.00		187.78	201.11	210.00
66 Zn	# 3	8.182	0.08182	ug/l	15.88	1800.00		446.69	396.68	413.35
75 As	# 2	0.01741	0.0001741	ug/l	8414.70	100.00		21.00	20.00	16.00
78 Se	# 1	0.4843	0.004843	ug/l	219.29	100.00		25.67	29.33	19.33
88 Sr	# 3	1251	12.51	ug/l	0.43	1800.00		335520.53	331112.44	334545.94
95 Mo	# 3	0.5736	0.005736	ug/l	39.24	1800.00		73.34	80.00	63.34
107 Ag	# 3	-0.05679	-0.0005679	ug/l	97.80	100.00		10.00	20.00	20.00
111 Cd	# 3	0.0262	0.000262	ug/l	2015.30	100.00		23.31	46.64	39.98
118 Sn	# 3	-0.1416	-0.001416	ug/l	270.20	1800.00		280.01	320.01	266.68
121 Sb	# 3	-0.84	-0.0084	ug/l	66.20	100.00		236.68	200.01	160.01
137 Ba	# 3	12.4	0.124	ug/l	7.87	1800.00		453.35	476.69	406.68
202 Hg	# 3	0.1539	0.001539	ug/l	66.28	5.00		47.67	47.33	43.33
205 Tl	# 3	0.0153	0.000153	ug/l	109.80	20.00		50.00	56.67	53.34
208 Pb	# 3	0.04556	0.0004556	ug/l	120.81	1800.00		193.34	206.67	176.67
232 Th	# 3	0.5529	0.005529	ug/l	39.27	#VALUE!		353.35	446.69	316.68
238 U	# 3	0.4503	0.004503	ug/l	21.30	#VALUE!		123.34	136.67	180.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	785392.06	2.94	836165.38	93.9	60 - 125		770713.13	811999.75	773463.25
45 Sc	# 1	549601.88	0.81	552676.25	99.4	60 - 125		544983.81	549939.81	553881.94
45 Sc	# 3	686731.50	0.42	644433.94	106.6	60 - 125		685468.94	690042.69	684682.81
74 Ge	# 1	174860.69	0.53	175321.88	99.7	60 - 125		174295.44	175925.70	174360.89
74 Ge	# 2	27170.04	5.74	27172.50	100.0	60 - 125		25793.83	26852.04	28864.24
74 Ge	# 3	169471.58	0.15	164913.13	102.8	60 - 125		169768.80	169288.38	169357.53
89 Y	# 3	1079210.90	0.45	1068488.30	101.0	60 - 125		1084678.50	1075572.30	1077381.80
115 In	# 3	1005510.20	0.70	1083659.40	92.8	60 - 125		1012251.60	1006147.70	998131.56
159 Tb	# 3	1378565.50	0.41	1651256.80	83.5	60 - 125		1380012.50	1372282.30	1383401.60
209 Bi	# 3	807327.56	0.04	1054491.00	76.6	60 - 125		807002.13	807664.13	807316.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\278SMPL.D\278SMPL.D#
Date Acquired: Dec 26 2012 07:27 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a PDS
Misc Info: 3010 1/100
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	410.4	20.52	ug/l	2.61	100.00		66677.41	66202.35	66235.73
11 B	# 3	1883.8	94.19	ug/l	2.07	1800.00		325048.34	327768.06	326011.41
23 Na	# 1	2296000	114800	ug/l	0.95	81000.00		713296450.00	731781760.00	726155200.00
24 Mg	# 1	304000	15200	ug/l	1.13	81000.00		65015704.00	64216000.00	64887960.00
27 Al	# 1	4478	223.9	ug/l	1.50	81000.00		1064069.40	1101331.10	1094439.00
39 K	# 2	133300	6665	ug/l	1.11	81000.00		2084924.80	2164713.80	2196403.00
40 Ca	# 1	124840	6242	ug/l	0.82	81000.00		61080044.00	60621340.00	60726860.00
45 Sc	# 2	----	--------		--------	#VALUE!		39574.77	40777.38	41904.12
47 Ti	# 3	433	21.65	ug/l	1.26	1620.00		23969.18	23859.05	23715.53
51 V	# 2	454.2	22.71	ug/l	1.14	1800.00		49740.18	49809.24	50338.49
52 Cr	# 2	437.2	21.86	ug/l	0.42	1800.00		56589.56	57619.27	58106.54
55 Mn	# 3	4298	214.9	ug/l	2.73	1800.00		4067935.80	4003358.30	3872221.50
56 Fe	# 1	43780	2189	ug/l	0.73	81000.00		30756520.00	31455272.00	31117272.00
59 Co	# 3	409.6	20.48	ug/l	2.16	1800.00		296562.88	289921.69	285273.59
60 Ni	# 2	428.2	21.41	ug/l	0.64	1800.00		23737.48	24026.76	24235.91
63 Cu	# 2	424.8	21.24	ug/l	0.95	1800.00		61979.98	62831.66	62953.23
66 Zn	# 3	392.2	19.61	ug/l	1.95	1800.00		34386.09	33855.28	33224.01
75 As	# 2	451.6	22.58	ug/l	1.35	100.00		4877.66	5075.72	5033.04
78 Se	# 1	420	21	ug/l	0.86	100.00		8920.19	8882.51	8782.46
88 Sr	# 3	1820.6	91.03	ug/l	3.38	1800.00		2296009.80	2221583.00	2157786.80
95 Mo	# 3	455.4	22.77	ug/l	2.31	1800.00		74854.82	74105.43	72046.23
107 Ag	# 3	355.6	17.78	ug/l	1.71	100.00		171008.84	168482.58	166028.52
111 Cd	# 3	400.4	20.02	ug/l	2.79	100.00		42375.05	41523.45	40287.55
118 Sn	# 3	422.6	21.13	ug/l	3.04	1800.00		139330.91	135297.92	131634.88
121 Sb	# 3	431.4	21.57	ug/l	2.32	100.00		131197.70	129999.36	126301.31
137 Ba	# 3	442	22.1	ug/l	3.78	1800.00		70587.40	68900.33	65841.26
202 Hg	# 3	21.36	1.068	ug/l	2.95	5.00		2254.50	2277.50	2167.49
205 Tl	# 3	78.52	3.926	ug/l	1.38	20.00		76045.79	75874.86	73678.34
208 Pb	# 3	393	19.65	ug/l	2.01	1800.00		529266.38	519575.50	509703.75
232 Th	# 3	474.4	23.72	ug/l	2.99	#VALUE!		650803.56	638925.94	617926.25
238 U	# 3	479.2	23.96	ug/l	3.03	#VALUE!		658429.13	646561.13	624694.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	695072.94	2.42	836165.38	83.1	60 - 125		686657.81	714476.94	684083.94
45 Sc	# 1	518501.72	0.47	552676.25	93.8	60 - 125		516696.03	521261.88	517547.31
45 Sc	# 3	632497.31	0.83	644433.94	98.1	60 - 125		626601.31	636669.88	634220.56
74 Ge	# 1	157755.88	0.49	175321.88	90.0	60 - 125		157270.23	158641.83	157355.55
74 Ge	# 2	24003.27	1.68	27172.50	88.3	60 - 125		23593.11	24018.08	24398.61
74 Ge	# 3	151977.09	0.23	164913.13	92.2	60 - 125		151719.67	151835.30	152376.30
89 Y	# 3	989403.13	0.35	1068488.30	92.6	60 - 125		985505.19	992263.19	990440.94
115 In	# 3	904206.31	0.54	1083659.40	83.4	60 - 125		905424.38	898786.00	908408.75
159 Tb	# 3	1269084.10	1.24	1651256.80	76.9	60 - 125		1263676.90	1286836.50	1256739.10
209 Bi	# 3	702061.56	0.38	1054491.00	66.6	60 - 125		699488.19	701901.38	704795.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\279SMPL.D\279SMPL.D#
Date Acquired: Dec 26 2012 07:34 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-b ms
Misc Info: 3010 1/100
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	9.96	0.498	ug/l	6.20	100.00		1700.13	1860.14	1676.79
11 B	# 3	1061.2	53.06	ug/l	1.75	1800.00		198202.39	203524.45	204912.59
23 Na	# 1	2050000	102500	ug/l	0.24	81000.00		655542080.00	669588800.00	672484860.00
24 Mg	# 1	239000	11950	ug/l	2.49	81000.00		50268332.00	53407344.00	53635748.00
27 Al	# 1	1052.6	52.63	ug/l	1.36	81000.00		256638.30	267670.22	267910.53
39 K	# 2	81240	4062	ug/l	3.24	81000.00		1362564.60	1370472.90	1431618.40
40 Ca	# 1	74140	3707	ug/l	1.59	81000.00		36204976.00	37985424.00	37543272.00
45 Sc	# 2	-----	--------		--------	#VALUE!		43219.75	40896.76	41779.48
47 Ti	# 3	22.46	1.123	ug/l	9.32	1620.00		1453.44	1276.76	1316.75
51 V	# 2	21.64	1.082	ug/l	3.84	1800.00		2637.99	2711.33	2752.45
52 Cr	# 2	20.52	1.026	ug/l	3.95	1800.00		2891.36	2990.26	3013.60
55 Mn	# 3	120.74	6.037	ug/l	0.73	1800.00		120183.38	120734.05	120019.71
56 Fe	# 1	1077	53.85	ug/l	0.82	81000.00		798897.25	817773.13	818392.25
59 Co	# 3	10.356	0.5178	ug/l	2.60	1800.00		7608.42	8062.01	7911.91
60 Ni	# 2	24.56	1.228	ug/l	1.78	1800.00		1502.29	1482.30	1473.41
63 Cu	# 2	18.506	0.9253	ug/l	2.49	1800.00		3373.68	3375.89	3363.67
66 Zn	# 3	23.04	1.152	ug/l	7.75	1800.00		2273.54	2243.54	2560.25
75 As	# 2	22.58	1.129	ug/l	6.92	100.00		265.00	283.34	295.00
78 Se	# 1	21.28	1.064	ug/l	1.98	100.00		496.01	482.01	491.01
88 Sr	# 3	1321	66.05	ug/l	1.85	1800.00		1709307.00	1698601.80	1726392.60
95 Mo	# 3	24.4	1.22	ug/l	2.28	1800.00		4243.97	4197.30	4103.95
107 Ag	# 3	10.118	0.5059	ug/l	2.34	100.00		5120.91	5067.54	4940.82
111 Cd	# 3	10.466	0.5233	ug/l	4.13	100.00		1112.04	1232.07	1158.76
118 Sn	# 3	21.6	1.08	ug/l	1.32	1800.00		7498.52	7665.27	7395.12
121 Sb	# 3	13.696	0.6848	ug/l	1.87	100.00		4560.72	4587.40	4440.70
137 Ba	# 3	33.78	1.689	ug/l	1.38	1800.00		5507.73	5484.38	5497.70
202 Hg	# 3	1.2464	0.06232	ug/l	3.56	5.00		164.67	171.67	176.00
205 Tl	# 3	7.742	0.3871	ug/l	3.79	20.00		7778.81	7988.95	7572.00
208 Pb	# 3	9.974	0.4987	ug/l	2.14	1800.00		13932.89	13972.89	13856.16
232 Th	# 3	24.04	1.202	ug/l	2.35	#VALUE!		33493.61	34195.45	32758.81
238 U	# 3	24.78	1.239	ug/l	1.71	#VALUE!		34786.98	34419.18	34011.74

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	751923.94	0.52	836165.38	89.9	60 - 125		751498.63	748208.63	756064.63
45 Sc	# 1	534367.13	1.15	552676.25	96.7	60 - 125		527513.25	536255.13	539332.88
45 Sc	# 3	676588.75	2.38	644433.94	105.0	60 - 125		658873.38	680556.31	690336.56
74 Ge	# 1	164918.16	0.56	175321.88	94.1	60 - 125		163851.13	165363.63	165539.70
74 Ge	# 2	25393.80	2.02	27172.50	93.5	60 - 125		25845.08	24833.96	25502.36
74 Ge	# 3	162234.72	0.59	164913.13	98.4	60 - 125		161272.61	162247.00	163184.56
89 Y	# 3	1048905.90	1.76	1068488.30	98.2	60 - 125		1027595.00	1059506.30	1059616.60
115 In	# 3	947476.00	1.17	1083659.40	87.4	60 - 125		937432.88	959327.81	945667.38
159 Tb	# 3	1324397.40	1.85	1651256.80	80.2	60 - 125		1298382.10	1327822.60	1346987.40
209 Bi	# 3	726046.63	0.60	1054491.00	68.9	60 - 125		721100.31	727668.31	729371.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\280SMPL.D\280SMPL.D#
Date Acquired: Dec 26 2012 07:42 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-c msd
Misc Info: 3010 1/100
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	11.404	0.5702	ug/l	4.82	100.00		1993.49	1966.82	2036.84
11 B	# 3	1178	58.9	ug/l	5.16	1800.00		224141.84	224911.97	221703.48
23 Na	# 1	2318000	115900	ug/l	1.41	81000.00		747713860.00	764671940.00	774616190.00
24 Mg	# 1	275800	13790	ug/l	0.54	81000.00		60911560.00	60471960.00	62420532.00
27 Al	# 1	1216.6	60.83	ug/l	1.13	81000.00		304483.34	309732.06	312424.53
39 K	# 2	94520	4726	ug/l	3.60	81000.00		1539898.90	1595981.90	1603721.00
40 Ca	# 1	84260	4213	ug/l	0.68	81000.00		42785816.00	42707708.00	43071820.00
45 Sc	# 2	----	--------		--------	#VALUE!		37888.18	42232.66	43510.04
47 Ti	# 3	25.34	1.267	ug/l	3.13	1620.00		1476.77	1533.44	1483.44
51 V	# 2	26.18	1.309	ug/l	4.39	1800.00		3099.17	3179.18	3196.96
52 Cr	# 2	24.52	1.226	ug/l	5.81	1800.00		3442.57	3401.45	3489.24
55 Mn	# 3	138.68	6.934	ug/l	3.61	1800.00		136801.77	136488.39	132379.56
56 Fe	# 1	1241.8	62.09	ug/l	0.09	81000.00		931780.00	941734.06	948090.94
59 Co	# 3	12.044	0.6022	ug/l	3.59	1800.00		9075.83	8929.11	8849.00
60 Ni	# 2	27.06	1.353	ug/l	5.35	1800.00		1590.08	1566.75	1638.98
63 Cu	# 2	21.8	1.09	ug/l	7.50	1800.00		3799.31	3865.99	3724.86
66 Zn	# 3	29.02	1.451	ug/l	5.05	1800.00		2873.64	2933.66	2726.95
75 As	# 2	26.92	1.346	ug/l	4.13	100.00		318.00	320.67	335.34
78 Se	# 1	22.9	1.145	ug/l	2.27	100.00		524.34	540.68	521.34
88 Sr	# 3	1462.6	73.13	ug/l	3.22	1800.00		1907059.50	1897107.00	1826600.60
95 Mo	# 3	27.5	1.375	ug/l	6.98	1800.00		4837.47	4577.41	4460.67
107 Ag	# 3	11.616	0.5808	ug/l	5.81	100.00		5711.09	5967.86	5391.00
111 Cd	# 3	10.91	0.5455	ug/l	1.08	100.00		1171.86	1208.61	1205.32
118 Sn	# 3	24.66	1.233	ug/l	5.73	1800.00		8562.41	8615.75	8032.08
121 Sb	# 3	14.254	0.7127	ug/l	3.82	100.00		4617.42	4754.13	4507.39
137 Ba	# 3	37.74	1.887	ug/l	4.92	1800.00		6171.34	5901.20	6031.24
202 Hg	# 3	1.3784	0.06892	ug/l	4.43	5.00		166.33	188.34	181.67
205 Tl	# 3	8.82	0.441	ug/l	8.98	20.00		8859.43	8372.50	8535.86
208 Pb	# 3	11.018	0.5509	ug/l	8.38	1800.00		15333.44	14839.82	14539.76
232 Th	# 3	27.02	1.351	ug/l	3.43	#VALUE!		36456.96	36507.26	36096.42
238 U	# 3	28.38	1.419	ug/l	4.90	#VALUE!		38793.24	38121.65	37302.92

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	752975.56	4.60	836165.38	90.1	60 - 125		712975.75	773378.19	772572.81
45 Sc	# 1	541192.69	1.12	552676.25	97.9	60 - 125		539180.13	536366.25	548031.69
45 Sc	# 3	667141.19	3.36	644433.94	103.5	60 - 125		641694.31	675857.00	683872.38
74 Ge	# 1	166055.47	0.80	175321.88	94.7	60 - 125		164674.42	166153.20	167338.75
74 Ge	# 2	24887.47	5.67	27172.50	91.6	60 - 125		23312.82	25308.71	26040.89
74 Ge	# 3	159002.86	2.35	164913.13	96.4	60 - 125		154722.38	161669.72	160616.52
89 Y	# 3	1039000.40	1.17	1068488.30	97.2	60 - 125		1024969.40	1045282.40	1046749.70
115 In	# 3	932072.88	2.73	1083659.40	86.0	60 - 125		902692.19	947709.69	945816.94
159 Tb	# 3	1288727.80	5.90	1651256.80	78.0	60 - 125		1207049.00	1357601.60	1301532.40
209 Bi	# 3	701940.06	3.07	1054491.00	66.6	60 - 125		677063.50	714622.25	714134.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\281SMPL.D\281SMPL.D#
Date Acquired: Dec 26 2012 07:49 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-19-a
Misc Info: 3010 1/100
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.010938	-0.0005469	ug/l	101.12	100.00		0.00	3.33	0.00
11 B	# 3	1089.4	54.47	ug/l	4.47	1800.00		210316.47	216451.30	217163.06
23 Na	# 1	2202000	110100	ug/l	5.85	81000.00		719736190.00	738346300.00	741611580.00
24 Mg	# 1	260400	13020	ug/l	6.20	81000.00		57219684.00	59098512.00	59350120.00
27 Al	# 1	11.004	0.5502	ug/l	4.75	81000.00		4047.20	3930.51	3913.84
39 K	# 2	89080	4454	ug/l	0.46	81000.00		1491440.10	1529397.60	1548520.80
40 Ca	# 1	78740	3937	ug/l	5.54	81000.00		39886012.00	40634128.00	41127820.00
45 Sc	# 2	----	--------		--------	#VALUE!		42095.77	43091.38	43447.68
47 Ti	# 3	0.7202	0.03601	ug/l	27.62	1620.00		73.34	83.34	60.00
51 V	# 2	0.3972	0.01986	ug/l	24.86	1800.00		242.23	244.45	227.78
52 Cr	# 2	0.09324	0.004662	ug/l	64.93	1800.00		135.56	140.00	125.56
55 Mn	# 3	20.3	1.015	ug/l	0.90	1800.00		20792.09	21062.45	20938.99
56 Fe	# 1	52.4	2.62	ug/l	4.28	81000.00		51672.79	51983.63	51706.16
59 Co	# 3	0.19334	0.009667	ug/l	5.79	1800.00		166.67	153.34	170.01
60 Ni	# 2	4.122	0.2061	ug/l	5.50	1800.00		261.12	272.23	294.45
63 Cu	# 2	-2.102	-0.1051	ug/l	6.67	1800.00		176.67	165.56	210.00
66 Zn	# 3	4.47	0.2235	ug/l	9.12	1800.00		676.70	613.36	683.37
75 As	# 2	0.4036	0.02018	ug/l	91.82	100.00		23.33	26.33	18.00
78 Se	# 1	0.3118	0.01559	ug/l	39.01	100.00		32.67	25.67	27.67
88 Sr	# 3	1393.4	69.67	ug/l	3.10	1800.00		1769577.90	1865357.50	1783278.50
95 Mo	# 3	0.8562	0.04281	ug/l	27.03	1800.00		173.34	170.01	236.68
107 Ag	# 3	-0.002634	-0.0001317	ug/l	1031.90	100.00		6.67	20.00	33.33
111 Cd	# 3	0.07516	0.003758	ug/l	121.47	100.00		39.95	53.28	33.26
118 Sn	# 3	0.2508	0.01254	ug/l	16.90	1800.00		380.02	353.35	363.35
121 Sb	# 3	0.5404	0.02702	ug/l	4.32	100.00		403.35	410.02	413.35
137 Ba	# 3	13.07	0.6535	ug/l	1.73	1800.00		2136.87	2116.87	2156.88
202 Hg	# 3	0.07116	0.003558	ug/l	26.35	5.00		45.33	47.00	43.00
205 Tl	# 3	0.04016	0.002008	ug/l	8.17	20.00		90.00	90.00	83.34
208 Pb	# 3	0.0251	0.001255	ug/l	69.41	1800.00		233.34	196.67	186.67
232 Th	# 3	0.68	0.034	ug/l	15.22	#VALUE!		1233.43	953.40	1136.76
238 U	# 3	0.548	0.0274	ug/l	8.66	#VALUE!		716.71	723.37	830.05

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	779046.63	3.90	836165.38	93.2	60 - 125		781199.44	747619.13	808321.31
45 Sc	# 1	548743.06	4.55	552676.25	99.3	60 - 125		573332.06	523371.88	549525.13
45 Sc	# 3	683476.75	0.61	644433.94	106.1	60 - 125		678805.63	684717.19	686907.50
74 Ge	# 1	168010.47	3.00	175321.88	95.8	60 - 125		173352.00	163331.83	167347.56
74 Ge	# 2	25415.53	1.48	27172.50	93.5	60 - 125		24993.84	25536.81	25715.92
74 Ge	# 3	161676.00	0.24	164913.13	98.0	60 - 125		161901.47	161234.67	161891.88
89 Y	# 3	1049335.80	0.27	1068488.30	98.2	60 - 125		1052387.80	1046900.40	1048719.10
115 In	# 3	947012.19	0.78	1083659.40	87.4	60 - 125		948745.81	953408.44	938882.50
159 Tb	# 3	1316351.00	0.71	1651256.80	79.7	60 - 125		1319716.10	1323519.10	1305817.80
209 Bi	# 3	715674.75	0.19	1054491.00	67.9	60 - 125		717075.50	715604.75	714344.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\282_CCV.D\282_CCV.D#
Date Acquired: Dec 26 2012 07:56 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.67 ug/l	0.90	50.00	90 - 110		157281.22	161550.67	161892.06
11 B	98.47 ug/l	1.91	100.00	90 - 110		334947.09	337799.16	346876.13
23 Na	4936 ug/l	0.68	5000.00	90 - 110		30387262.00	31245396.00	31503000.00
24 Mg	4799 ug/l	1.65	5000.00	90 - 110		20428496.00	20151474.00	20404834.00
27 Al	492.3 ug/l	0.56	500.00	90 - 110		2354061.50	2370225.00	2402675.50
39 K	5005 ug/l	1.42	5000.00	90 - 110		1628936.90	1683782.90	1697470.40
40 Ca	4951 ug/l	0.98	5000.00	90 - 110		46874812.00	48248164.00	48914224.00
45 Sc	--------	--------		--- ##### - #####		40415.42	41282.94	41528.97
47 Ti	50.18 ug/l	0.80	50.00	90 - 110		54690.12	55375.95	56084.58
51 V	48.47 ug/l	0.67	50.00	90 - 110		108108.92	110024.55	111956.49
52 Cr	48.06 ug/l	1.56	50.00	90 - 110		128567.76	131452.25	131231.70
55 Mn	490.1 ug/l	1.20	500.00	90 - 110		9353057.00	9552597.00	9524873.00
56 Fe	4862 ug/l	2.01	5000.00	90 - 110		70748976.00	72356672.00	74017496.00
59 Co	47.7 ug/l	0.77	50.00	90 - 110		700532.69	709422.56	709283.19
60 Ni	49.21 ug/l	1.12	50.00	90 - 110		56473.31	56978.35	57483.06
63 Cu	50.41 ug/l	1.52	50.00	90 - 110		151481.80	153581.27	153606.17
66 Zn	48.63 ug/l	0.76	50.00	90 - 110		86377.11	87257.52	87933.68
75 As	50.2 ug/l	1.03	50.00	90 - 110		11395.23	11402.57	11576.67
78 Se	48.77 ug/l	0.38	50.00	90 - 110		21529.36	21584.40	21492.31
88 Sr	50.75 ug/l	1.34	50.00	90 - 110		1257530.90	1287314.60	1280862.10
95 Mo	50.85 ug/l	0.14	50.00	90 - 110		176719.86	176443.98	175928.14
107 Ag	50.93 ug/l	0.17	50.00	90 - 110		518496.88	517294.00	516874.16
111 Cd	48.79 ug/l	0.85	50.00	90 - 110		107500.71	108704.80	108308.80
118 Sn	49.44 ug/l	0.06	50.00	90 - 110		340420.84	339352.34	338490.75
121 Sb	52.26 ug/l	0.65	50.00	90 - 110		334144.28	337037.19	334822.88
137 Ba	49.5 ug/l	0.75	50.00	90 - 110		163846.78	164130.27	165210.70
202 Hg	2.474 ug/l	0.80	2.50	90 - 110		5744.04	5810.73	5816.07
205 Tl	9.614 ug/l	0.97	10.00	90 - 110		194963.05	196394.06	192447.36
208 Pb	48.09 ug/l	0.51	50.00	90 - 110		1341243.40	1347166.30	1342172.50
232 Th	48.26 ug/l	0.80		--- ##### - #####		1468109.10	1452636.60	1462258.50
238 U	47.34 ug/l	0.52		--- ##### - #####		1433634.40	1434805.50	1439246.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	693050.25	1.10	836165.38	82.9	60 - 125		685337.19	700534.88	693278.63
45 Sc	515907.88	1.21	552676.25	93.3	60 - 125		508909.44	517983.19	520831.03
45 Sc	634200.44	0.46	644433.94	98.4	60 - 125		631114.88	634511.69	636974.63
74 Ge	165247.34	0.42	175321.88	94.3	60 - 125		164494.33	165840.72	165406.97
74 Ge	24815.80	1.92	27172.50	91.3	60 - 125		24466.41	24623.33	25357.66
74 Ge	158627.73	0.37	164913.13	96.2	60 - 125		158536.56	158091.80	159254.84
89 Y	1016950.00	0.16	1068488.30	95.2	60 - 125		1017841.60	1015081.60	1017926.90
115 In	969723.50	0.34	1083659.40	89.5	60 - 125		973224.25	969144.44	966801.75
159 Tb	1341493.40	0.74	1651256.80	81.2	60 - 125		1332179.80	1351885.30	1340415.40
209 Bi	793014.63	0.35	1054491.00	75.2	60 - 125		792919.13	795846.19	790278.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\283_CCB.D\283_CCB.D#
Date Acquired: Dec 26 2012 08:04 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01466	0.01466	ug/l	34.70	#VALUE!		66.67	36.67	46.67
11 B	# 3	1.783	1.783	ug/l	7.06	#VALUE!		12897.94	13365.04	12811.28
23 Na	# 1	22.6	22.6	ug/l	2.49	#VALUE!		224769.77	232136.48	230634.08
24 Mg	# 1	3.416	3.416	ug/l	2.43	#VALUE!		14492.54	15223.11	15022.90
27 Al	# 1	0.4068	0.4068	ug/l	5.13	#VALUE!		3067.01	2903.63	3123.68
39 K	# 2	1.041	1.041	ug/l	20.01	#VALUE!		8849.03	9155.79	9165.81
40 Ca	# 1	8.483	8.483	ug/l	0.78	#VALUE!		144765.80	145588.28	148491.14
45 Sc	# 2	----	--------		--------	#VALUE!		39089.41	39398.88	40453.31
47 Ti	# 3	0.02431	0.02431	ug/l	90.62	#VALUE!		80.00	33.33	46.67
51 V	# 2	0.02637	0.02637	ug/l	12.85	#VALUE!		237.78	257.78	254.45
52 Cr	# 2	0.01533	0.01533	ug/l	35.75	#VALUE!		162.22	174.45	146.67
55 Mn	# 3	0.1123	0.1123	ug/l	3.67	#VALUE!		2996.99	3147.02	3053.67
56 Fe	# 1	1.848	1.848	ug/l	3.05	#VALUE!		38874.91	40127.65	40515.02
59 Co	# 3	0.009481	0.009481	ug/l	12.63	#VALUE!		153.34	140.01	176.67
60 Ni	# 2	0.006729	0.006729	ug/l	122.41	#VALUE!		46.67	41.11	28.89
63 Cu	# 2	-0.09132	-0.09132	ug/l	7.72	#VALUE!		236.67	200.00	234.45
66 Zn	# 3	-0.03442	-0.03442	ug/l	52.67	#VALUE!		150.01	183.34	216.67
75 As	# 2	0.03316	0.03316	ug/l	94.15	#VALUE!		17.33	26.33	32.33
78 Se	# 1	0.04614	0.04614	ug/l	5.77	#VALUE!		40.67	42.33	43.00
88 Sr	# 3	0.01953	0.01953	ug/l	11.69	#VALUE!		623.36	506.69	536.69
95 Mo	# 3	0.07988	0.07988	ug/l	10.70	#VALUE!		370.01	316.68	313.35
107 Ag	# 3	0.012	0.012	ug/l	16.30	#VALUE!		133.34	136.67	170.01
111 Cd	# 3	0.008822	0.008822	ug/l	33.61	#VALUE!		63.22	53.23	49.90
118 Sn	# 3	0.05311	0.05311	ug/l	22.39	#VALUE!		683.37	736.70	576.69
121 Sb	# 3	0.1141	0.1141	ug/l	9.75	#VALUE!		1050.06	1026.73	913.38
137 Ba	# 3	0.01004	0.01004	ug/l	30.86	#VALUE!		43.33	63.34	50.00
202 Hg	# 3	0.01313	0.01313	ug/l	20.23	#VALUE!		83.33	71.67	72.00
205 Tl	# 3	0.01181	0.01181	ug/l	13.82	#VALUE!		286.68	256.68	323.35
208 Pb	# 3	0.01358	0.01358	ug/l	16.49	#VALUE!		616.69	556.69	493.35
232 Th	# 3	0.101	0.101	ug/l	7.70	#VALUE!		3663.89	3400.49	3163.75
238 U	# 3	0.01419	0.01419	ug/l	11.54	#VALUE!		516.69	446.69	413.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	694580.44	2.42	836165.38	83.1	60 - 125		676476.06	697568.50	709696.75
45 Sc	# 1	514670.78	0.91	552676.25	93.1	60 - 125		511374.22	512618.09	520020.00
45 Sc	# 3	624395.44	0.49	644433.94	96.9	60 - 125		625275.25	620971.00	626940.13
74 Ge	# 1	166763.25	0.25	175321.88	95.1	60 - 125		166801.00	166328.25	167160.53
74 Ge	# 2	25074.31	1.52	27172.50	92.3	60 - 125		24665.61	25137.35	25419.97
74 Ge	# 3	157736.23	0.64	164913.13	95.6	60 - 125		157063.61	157257.41	158887.69
89 Y	# 3	1026752.50	0.52	1068488.30	96.1	60 - 125		1031587.60	1021043.10	1027626.60
115 In	# 3	989118.00	0.57	1083659.40	91.3	60 - 125		994456.31	983277.50	989620.31
159 Tb	# 3	1346197.60	0.20	1651256.80	81.5	60 - 125		1343338.00	1346745.60	1348509.00
209 Bi	# 3	830743.06	0.31	1054491.00	78.8	60 - 125		832861.00	827928.50	831439.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\284SMPL.D\284SMPL.D#
Date Acquired: Dec 26 2012 08:11 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-20-a
Misc Info: 3010 1/100
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.004246	-0.0002123	ug/l	266.75	100.00		0.00	3.33	3.33
11 B	# 3	1098.8	54.94	ug/l	1.75	1800.00		197584.11	201240.80	206161.48
23 Na	# 1	2644000	132200	ug/l	1.16	81000.00		800309820.00	832569920.00	834068220.00
24 Mg	# 1	319400	15970	ug/l	0.82	81000.00		65721132.00	67209216.00	68459296.00
27 Al	# 1	13.262	0.6631	ug/l	0.49	81000.00		4163.90	4263.92	4293.93
39 K	# 2	106420	5321	ug/l	0.21	81000.00		1718715.80	1772633.10	1779131.00
40 Ca	# 1	146460	7323	ug/l	0.47	81000.00		69060528.00	70726600.00	71440096.00
45 Sc	# 2	----	--------		--------	#VALUE!		40165.98	41320.76	41726.00
47 Ti	# 3	0.7324	0.03662	ug/l	39.87	1620.00		53.34	86.67	70.00
51 V	# 2	0.4438	0.02219	ug/l	42.11	1800.00		223.34	221.11	262.23
52 Cr	# 2	1.7426	0.08713	ug/l	6.58	1800.00		361.12	345.56	344.45
55 Mn	# 3	6.62	0.331	ug/l	2.66	1800.00		6981.51	7171.56	7375.02
56 Fe	# 1	27.02	1.351	ug/l	1.65	81000.00		30025.06	30238.67	30705.96
59 Co	# 3	0.249	0.01245	ug/l	9.42	1800.00		183.34	216.67	193.34
60 Ni	# 2	6.212	0.3106	ug/l	11.14	1800.00		408.90	403.34	345.56
63 Cu	# 2	-2.186	-0.1093	ug/l	4.74	1800.00		157.78	153.34	184.45
66 Zn	# 3	4.976	0.2488	ug/l	10.14	1800.00		706.70	626.69	700.03
75 As	# 2	41.94	2.097	ug/l	2.70	100.00		468.67	493.34	509.34
78 Se	# 1	0.4696	0.02348	ug/l	39.37	100.00		28.00	27.33	34.33
88 Sr	# 3	2436	121.8	ug/l	0.55	1800.00		3070085.80	3068326.80	3103406.00
95 Mo	# 3	3.892	0.1946	ug/l	5.42	1800.00		646.70	703.37	710.04
107 Ag	# 3	0.03546	0.001773	ug/l	88.27	100.00		53.34	36.67	23.33
111 Cd	# 3	-0.019726	-0.0009863	ug/l	249.62	100.00		26.46	36.44	29.77
118 Sn	# 3	0.5132	0.02566	ug/l	27.79	1800.00		390.02	446.69	483.36
121 Sb	# 3	0.9386	0.04693	ug/l	8.54	100.00		543.36	513.36	496.69
137 Ba	# 3	8.84	0.442	ug/l	5.09	1800.00		1340.10	1396.77	1486.78
202 Hg	# 3	0.16512	0.008256	ug/l	17.19	5.00		51.00	53.00	56.33
205 Tl	# 3	0.05934	0.002967	ug/l	37.98	20.00		80.00	120.00	106.67
208 Pb	# 3	0.010492	0.0005246	ug/l	58.65	1800.00		173.34	173.34	186.67
232 Th	# 3	0.886	0.0443	ug/l	5.08	#VALUE!		1423.45	1336.76	1293.43
238 U	# 3	0.15364	0.007682	ug/l	5.94	#VALUE!		216.68	196.67	220.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	725166.19	1.24	836165.38	86.7	60 - 125		715274.44	732833.50	727390.63
45 Sc	# 1	511797.94	1.26	552676.25	92.6	60 - 125		504681.72	513375.88	517336.16
45 Sc	# 3	655604.50	0.14	644433.94	101.7	60 - 125		654801.94	655365.88	656645.81
74 Ge	# 1	156173.09	0.50	175321.88	89.1	60 - 125		155342.77	156879.02	156297.53
74 Ge	# 2	24560.30	1.69	27172.50	90.4	60 - 125		24084.86	24746.81	24849.23
74 Ge	# 3	155698.31	0.41	164913.13	94.4	60 - 125		155122.39	155575.59	156396.95
89 Y	# 3	1023805.50	0.09	1068488.30	95.8	60 - 125		1023453.60	1023115.30	1024847.60
115 In	# 3	918916.56	0.37	1083659.40	84.8	60 - 125		918917.69	915533.75	922298.31
159 Tb	# 3	1261840.50	1.13	1651256.80	76.4	60 - 125		1276710.00	1248254.00	1260557.80
209 Bi	# 3	696031.81	0.52	1054491.00	66.0	60 - 125		700207.19	693505.13	694383.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\285SMPL.D\285SMPL.D#
Date Acquired: Dec 26 2012 08:19 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-21-a
Misc Info: 3010 1/100
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02288	0.001144	ug/l	91.52	100.00		10.00	6.67	3.33
11 B	# 3	21.86	1.093	ug/l	7.66	1800.00		11036.79	10853.33	11260.23
23 Na	# 1	649.6	32.48	ug/l	10.19	81000.00		286040.00	296636.16	304072.16
24 Mg	# 1	70.52	3.526	ug/l	5.89	81000.00		15469.92	15700.20	15713.43
27 Al	# 1	10.824	0.5412	ug/l	8.99	81000.00		3653.78	3743.81	3813.82
39 K	# 2	2.842	0.1421	ug/l	304.29	81000.00		8732.23	8885.70	9022.37
40 Ca	# 1	168.9	8.445	ug/l	9.60	81000.00		146955.23	147967.27	149979.23
45 Sc	# 2	----	--------		--------	#VALUE!		39633.92	41138.34	39934.81
47 Ti	# 3	0.7012	0.03506	ug/l	16.09	1620.00		66.67	73.34	60.00
51 V	# 2	0.4546	0.02273	ug/l	17.89	1800.00		231.11	257.78	246.67
52 Cr	# 2	0.04128	0.002064	ug/l	162.16	1800.00		116.67	126.67	136.67
55 Mn	# 3	-0.03936	-0.001968	ug/l	164.99	1800.00		963.39	920.05	816.70
56 Fe	# 1	7.35	0.3675	ug/l	11.85	81000.00		17675.56	17779.06	18025.88
59 Co	# 3	-0.004162	-0.0002081	ug/l	159.35	1800.00		13.33	20.00	10.00
60 Ni	# 2	5.07	0.2535	ug/l	2.66	1800.00		322.23	333.34	341.12
63 Cu	# 2	-1.3322	-0.06661	ug/l	11.39	1800.00		323.34	286.67	300.01
66 Zn	# 3	1.4844	0.07422	ug/l	26.70	1800.00		413.35	413.35	343.35
75 As	# 2	0.3712	0.01856	ug/l	54.53	100.00		19.67	22.33	24.67
78 Se	# 1	0.249	0.01245	ug/l	34.85	100.00		27.00	28.67	26.33
88 Sr	# 3	0.7028	0.03514	ug/l	11.70	1800.00		1090.06	966.72	873.38
95 Mo	# 3	0.228	0.0114	ug/l	34.40	1800.00		76.67	103.34	96.67
107 Ag	# 3	-0.0006946	-3.473E-005	ug/l	2298.30	100.00		13.33	30.00	23.33
111 Cd	# 3	-0.09052	-0.004526	ug/l	131.97	100.00		13.31	23.30	39.97
118 Sn	# 3	0.2724	0.01362	ug/l	7.86	1800.00		403.35	396.69	383.35
121 Sb	# 3	0.2842	0.01421	ug/l	5.79	100.00		350.01	343.35	350.01
137 Ba	# 3	0.8446	0.04223	ug/l	24.27	1800.00		186.67	123.34	180.01
202 Hg	# 3	0.04024	0.002012	ug/l	74.85	5.00		45.00	50.33	51.67
205 Tl	# 3	0.05094	0.002547	ug/l	22.34	20.00		110.00	86.67	106.67
208 Pb	# 3	0.009492	0.0004746	ug/l	223.77	1800.00		216.67	193.34	156.67
232 Th	# 3	0.3902	0.01951	ug/l	4.54	#VALUE!		820.05	816.71	863.39
238 U	# 3	0.01171	0.0005855	ug/l	64.49	#VALUE!		23.33	16.67	40.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	718053.06	2.34	836165.38	85.9	60 - 125		698930.25	724741.56	730487.38
45 Sc	# 1	524014.19	4.97	552676.25	94.8	60 - 125		550560.38	498476.78	523005.41
45 Sc	# 3	640474.50	0.58	644433.94	99.4	60 - 125		639702.00	644520.13	637201.50
74 Ge	# 1	169029.14	3.31	175321.88	96.4	60 - 125		174729.45	163546.83	168811.14
74 Ge	# 2	25434.94	1.65	27172.50	93.6	60 - 125		25029.43	25866.21	25409.19
74 Ge	# 3	163352.03	1.26	164913.13	99.1	60 - 125		165405.39	163354.25	161296.45
89 Y	# 3	1054063.90	2.52	1068488.30	98.7	60 - 125		1047231.40	1083383.40	1031576.60
115 In	# 3	1001973.80	0.70	1083659.40	92.5	60 - 125		1006296.90	1005795.20	993829.06
159 Tb	# 3	1350414.10	1.09	1651256.80	81.8	60 - 125		1362665.90	1334019.50	1354557.00
209 Bi	# 3	837740.13	0.36	1054491.00	79.4	60 - 125		840979.44	837191.63	835049.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\286SMPL.D\286SMPL.D#
Date Acquired: Dec 26 2012 08:26 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-22-a
Misc Info: 3010 1/100
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.017322	-0.0008661	ug/l	0.00	100.00		0.00	0.00	0.00
11 B	# 3	1490.2	74.51	ug/l	0.81	1800.00		261411.92	269826.91	274251.06
23 Na	# 1	3526000	176300	ug/l	0.99	81000.00		1073770900.00	1099183500.00	1118067800.00
24 Mg	# 1	418800	20940	ug/l	1.02	81000.00		85944040.00	88673264.00	89433480.00
27 Al	# 1	22.08	1.104	ug/l	2.94	81000.00		6107.81	6401.25	6544.61
39 K	# 2	141280	7064	ug/l	1.30	81000.00		2208406.30	2274656.80	2326248.50
40 Ca	# 1	141800	7090	ug/l	0.64	81000.00		67398264.00	67946352.00	69205968.00
45 Sc	# 2	----	--------		--------	#VALUE!		39818.62	40784.01	41909.77
47 Ti	# 3	0.8208	0.04104	ug/l	48.32	1620.00		80.00	93.34	50.00
51 V	# 2	0.4312	0.02156	ug/l	32.73	1800.00		207.78	233.34	243.34
52 Cr	# 2	0.07978	0.003989	ug/l	102.31	1800.00		134.45	120.00	117.78
55 Mn	# 3	8.736	0.4368	ug/l	3.08	1800.00		8965.74	9059.10	8752.30
56 Fe	# 1	84.06	4.203	ug/l	0.65	81000.00		68553.77	69892.40	69293.48
59 Co	# 3	0.271	0.01355	ug/l	1.32	1800.00		203.34	206.67	213.34
60 Ni	# 2	2.552	0.1276	ug/l	6.77	1800.00		165.56	164.45	186.67
63 Cu	# 2	-1.584	-0.0792	ug/l	6.86	1800.00		261.12	231.11	254.45
66 Zn	# 3	6.304	0.3152	ug/l	2.05	1800.00		750.03	780.04	786.71
75 As	# 2	1.1766	0.05883	ug/l	24.09	100.00		29.00	26.67	33.67
78 Se	# 1	0.4782	0.02391	ug/l	8.47	100.00		30.00	29.67	29.00
88 Sr	# 3	2484	124.2	ug/l	1.43	1800.00		3104566.30	3047388.30	3067752.80
95 Mo	# 3	3.056	0.1528	ug/l	6.40	1800.00		566.69	510.02	523.36
107 Ag	# 3	0.02348	0.001174	ug/l	106.22	100.00		20.00	30.00	43.33
111 Cd	# 3	-0.02162	-0.001081	ug/l	656.06	100.00		23.15	46.51	19.83
118 Sn	# 3	0.2648	0.01324	ug/l	36.04	1800.00		336.68	326.68	383.35
121 Sb	# 3	0.3904	0.01952	ug/l	20.05	100.00		320.01	336.68	366.68
137 Ba	# 3	7.354	0.3677	ug/l	5.01	1800.00		1200.08	1100.07	1120.07
202 Hg	# 3	0.08114	0.004057	ug/l	35.57	5.00		42.67	45.67	40.33
205 Tl	# 3	0.02062	0.001031	ug/l	64.94	20.00		50.00	70.00	73.34
208 Pb	# 3	0.3774	0.01887	ug/l	23.83	1800.00		536.69	640.02	770.03
232 Th	# 3	0.3898	0.01949	ug/l	3.79	#VALUE!		666.71	673.37	643.37
238 U	# 3	0.7158	0.03579	ug/l	12.32	#VALUE!		866.72	1043.40	840.05

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	718815.00	2.89	836165.38	86.0	60 - 125		694996.25	728527.88	732920.81
45 Sc	# 1	511876.25	1.07	552676.25	92.6	60 - 125		505754.31	513486.94	516387.56
45 Sc	# 3	651146.00	1.13	644433.94	101.0	60 - 125		642967.50	653303.38	657167.06
74 Ge	# 1	153556.27	1.29	175321.88	87.6	60 - 125		151276.94	154818.55	154573.33
74 Ge	# 2	23928.73	1.67	27172.50	88.1	60 - 125		23635.39	23767.79	24383.02
74 Ge	# 3	151353.55	1.27	164913.13	91.8	60 - 125		149443.11	151320.81	153296.75
89 Y	# 3	1001620.30	0.54	1068488.30	93.7	60 - 125		997688.75	1007753.50	999418.50
115 In	# 3	892331.31	0.29	1083659.40	82.3	60 - 125		889457.50	894382.81	893153.50
159 Tb	# 3	1240627.10	0.16	1651256.80	75.1	60 - 125		1238330.10	1241891.80	1241659.30
209 Bi	# 3	665103.56	0.52	1054491.00	63.1	60 - 125		662218.88	664194.06	668897.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\287SMPL.D\287SMPL.D#
Date Acquired: Dec 26 2012 08:34 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-23-a
Misc Info: 3010 1/100
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 20.00
Autodil Factor: Undiluted
Final Dil Factor: 20.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.007788	0.0003894	ug/l	140.01	100.00		3.33	6.67	3.33
11	B	# 3	1020.4	51.02	ug/l	2.24	1800.00		194675.55	197604.89	198627.56
23	Na	# 1	2446000	122300	ug/l	0.86	81000.00		779751810.00	788037180.00	808532160.00
24	Mg	# 1	291000	14550	ug/l	0.24	81000.00		62344660.00	64092984.00	64586520.00
27	Al	# 1	17.536	0.8768	ug/l	3.34	81000.00		5214.19	5577.63	5651.01
39	K	# 2	96200	4810	ug/l	0.77	81000.00		1596049.40	1636321.30	1642405.00
40	Ca	# 1	98520	4926	ug/l	0.51	81000.00		48188120.00	49816704.00	49992260.00
45	Sc	# 2	----	--------		--------	#VALUE!		41142.53	41748.32	42742.77
47	Ti	# 3	0.643	0.03215	ug/l	36.86	1620.00		80.00	66.67	53.34
51	V	# 2	0.3708	0.01854	ug/l	38.11	1800.00		213.34	231.11	253.34
52	Cr	# 2	0.05266	0.002633	ug/l	105.89	1800.00		124.45	118.89	136.67
55	Mn	# 3	6.246	0.3123	ug/l	3.24	1800.00		6748.07	7078.22	7084.87
56	Fe	# 1	58.92	2.946	ug/l	2.26	81000.00		55159.53	55142.72	54249.88
59	Co	# 3	0.1835	0.009175	ug/l	20.46	1800.00		130.00	146.67	183.34
60	Ni	# 2	2.538	0.1269	ug/l	10.76	1800.00		158.89	188.89	192.22
63	Cu	# 2	-2.006	-0.1003	ug/l	4.39	1800.00		182.22	211.11	196.67
66	Zn	# 3	4.748	0.2374	ug/l	6.86	1800.00		680.03	700.03	636.69
75	As	# 2	0.4144	0.02072	ug/l	27.84	100.00		21.67	21.33	24.33
78	Se	# 1	0.3074	0.01537	ug/l	36.33	100.00		28.67	29.00	25.00
88	Sr	# 3	1717	85.85	ug/l	1.47	1800.00		2225264.30	2225766.80	2168765.00
95	Mo	# 3	1.9066	0.09533	ug/l	6.55	1800.00		343.35	376.68	380.02
107	Ag	# 3	0.015976	0.0007988	ug/l	173.26	100.00		16.67	26.67	43.34
111	Cd	# 3	-0.02416	-0.001208	ug/l	753.97	100.00		23.22	53.21	16.55
118	Sn	# 3	0.2378	0.01189	ug/l	77.31	1800.00		303.35	423.35	343.35
121	Sb	# 3	0.1041	0.005205	ug/l	95.91	100.00		236.68	273.34	296.68
137	Ba	# 3	5.472	0.2736	ug/l	10.10	1800.00		956.72	793.38	930.05
202	Hg	# 3	0.03062	0.001531	ug/l	112.67	5.00		43.00	40.00	36.33
205	Tl	# 3	0.016076	0.0008038	ug/l	30.84	20.00		63.34	66.67	56.67
208	Pb	# 3	0.2396	0.01198	ug/l	13.36	1800.00		516.69	510.02	433.35
232	Th	# 3	0.2634	0.01317	ug/l	8.72	#VALUE!		546.70	533.36	493.36
238	U	# 3	0.503	0.02515	ug/l	7.35	#VALUE!		716.71	686.71	626.70

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	760997.63	3.13	836165.38	91.0	60 - 125		737610.94	760099.31	785282.81
45	Sc	# 1	532848.25	1.65	552676.25	96.4	60 - 125		523081.25	535278.31	540185.25
45	Sc	# 3	674186.69	1.03	644433.94	104.6	60 - 125		666434.38	679857.69	676268.13
74	Ge	# 1	162417.89	0.87	175321.88	92.6	60 - 125		161071.47	162278.98	163903.22
74	Ge	# 2	25117.34	1.64	27172.50	92.4	60 - 125		24726.81	25078.40	25546.82
74	Ge	# 3	159087.31	0.49	164913.13	96.5	60 - 125		159086.16	159869.41	158306.36
89	Y	# 3	1040311.90	0.48	1068488.30	97.4	60 - 125		1035925.20	1045803.90	1039206.90
115	In	# 3	935134.38	0.28	1083659.40	86.3	60 - 125		936620.50	936721.44	932061.00
159	Tb	# 3	1282348.90	0.90	1651256.80	77.7	60 - 125		1294312.10	1281548.10	1271186.00
209	Bi	# 3	696936.75	0.60	1054491.00	66.1	60 - 125		695324.50	693782.81	701703.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\288_CCV.D\288_CCV.D#
Date Acquired: Dec 26 2012 08:41 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.02 ug/l	1.91	50.00	90 - 110		156828.31	161280.84	161246.59
11 B	98.55 ug/l	1.98	100.00	90 - 110		334035.94	337542.88	338816.50
23 Na	4908 ug/l	1.37	5000.00	90 - 110		30442016.00	31281266.00	31027500.00
24 Mg	4772 ug/l	1.19	5000.00	90 - 110		20226900.00	20104484.00	20412834.00
27 Al	488.6 ug/l	0.73	500.00	90 - 110		2344681.80	2356045.00	2384346.50
39 K	4940 ug/l	1.59	5000.00	90 - 110		1624193.50	1641295.10	1715135.40
40 Ca	4917 ug/l	0.30	5000.00	90 - 110		47119892.00	47484392.00	48679080.00
45 Sc	--------	--------		--- ##### - #####		40647.11	41489.98	41814.03
47 Ti	50 ug/l	1.36	50.00	90 - 110		54914.38	55613.07	54647.06
51 V	48.14 ug/l	0.13	50.00	90 - 110		108939.10	109723.78	111557.59
52 Cr	48.35 ug/l	0.55	50.00	90 - 110		130051.55	132311.34	134061.69
55 Mn	485.8 ug/l	0.06	500.00	90 - 110		9397963.00	9379888.00	9500358.00
56 Fe	4837 ug/l	0.96	5000.00	90 - 110		71187056.00	72111416.00	73564760.00
59 Co	47.38 ug/l	0.46	50.00	90 - 110		702875.69	703145.00	706126.44
60 Ni	48.92 ug/l	0.18	50.00	90 - 110		56338.37	56859.99	57970.09
63 Cu	50.16 ug/l	0.82	50.00	90 - 110		152420.34	153220.00	154050.13
66 Zn	48.74 ug/l	0.95	50.00	90 - 110		86986.34	88225.54	87830.40
75 As	50.32 ug/l	0.14	50.00	90 - 110		11442.92	11503.29	11757.45
78 Se	48.44 ug/l	0.55	50.00	90 - 110		21407.23	21521.34	21489.63
88 Sr	51.4 ug/l	0.50	50.00	90 - 110		1301271.50	1279813.40	1286491.90
95 Mo	50.96 ug/l	0.68	50.00	90 - 110		177028.30	174130.03	176670.78
107 Ag	50.73 ug/l	0.68	50.00	90 - 110		516980.78	509780.56	512460.47
111 Cd	49.12 ug/l	0.82	50.00	90 - 110		108644.26	107048.85	109479.28
118 Sn	49.32 ug/l	0.71	50.00	90 - 110		339728.69	334337.13	337009.31
121 Sb	51.88 ug/l	0.23	50.00	90 - 110		332123.59	329621.16	332296.47
137 Ba	49.27 ug/l	0.48	50.00	90 - 110		163629.27	162391.02	162639.27
202 Hg	2.491 ug/l	0.58	2.50	90 - 110		5787.06	5812.73	5806.73
205 Tl	9.642 ug/l	1.14	10.00	90 - 110		193240.70	192437.31	191506.19
208 Pb	48.32 ug/l	1.13	50.00	90 - 110		1335508.50	1320327.90	1335978.00
232 Th	47.48 ug/l	0.40		--- ##### - #####		1427636.00	1418865.10	1445295.60
238 U	47.02 ug/l	0.67		--- ##### - #####		1416765.10	1422805.60	1418784.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	686418.06	2.52	836165.38	82.1	60 - 125		673398.31	679770.81	706085.00
45 Sc	516792.16	1.58	552676.25	93.5	60 - 125		509318.59	515540.56	525517.31
45 Sc	632745.94	0.46	644433.94	98.2	60 - 125		634637.19	629368.25	634232.31
74 Ge	165918.34	0.73	175321.88	94.6	60 - 125		164648.05	166050.06	167056.92
74 Ge	24990.47	1.32	27172.50	92.0	60 - 125		24726.79	24882.53	25362.08
74 Ge	159165.20	0.72	164913.13	96.5	60 - 125		158578.58	158435.05	160481.98
89 Y	1015183.90	0.37	1068488.30	95.0	60 - 125		1018875.10	1011306.80	1015370.00
115 In	965209.75	0.33	1083659.40	89.1	60 - 125		965036.56	962130.50	968462.38
159 Tb	1322466.10	0.70	1651256.80	80.1	60 - 125		1311834.80	1326377.50	1329186.00
209 Bi	789192.56	0.57	1054491.00	74.8	60 - 125		787183.63	786057.75	794336.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\289_CCB.D\289_CCB.D#
Date Acquired: Dec 26 2012 08:49 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01575	0.01575	ug/l	19.91	#VALUE!		50.00	66.67	46.67
11 B	# 3	1.68	1.68	ug/l	5.92	#VALUE!		12844.51	13038.04	12631.12
23 Na	# 1	14.14	14.14	ug/l	2.59	#VALUE!		177869.08	178985.73	176970.72
24 Mg	# 1	2.103	2.103	ug/l	0.93	#VALUE!		9322.50	9515.91	9519.26
27 Al	# 1	0.253	0.253	ug/l	6.66	#VALUE!		2213.52	2383.55	2343.55
39 K	# 2	-1.263	-1.263	ug/l	10.26	#VALUE!		8298.74	8432.12	8582.15
40 Ca	# 1	7.438	7.438	ug/l	0.78	#VALUE!		135989.66	137221.69	139299.30
45 Sc	# 2	----	--------		--------	#VALUE!		39074.89	40606.99	40727.20
47 Ti	# 3	0.02717	0.02717	ug/l	53.48	#VALUE!		50.00	46.67	76.67
51 V	# 2	0.01997	0.01997	ug/l	32.51	#VALUE!		242.23	223.34	253.34
52 Cr	# 2	0.008671	0.008671	ug/l	33.49	#VALUE!		144.45	153.34	138.89
55 Mn	# 3	0.1366	0.1366	ug/l	8.35	#VALUE!		3353.75	3833.84	3650.46
56 Fe	# 1	1.526	1.526	ug/l	0.65	#VALUE!		35153.99	35120.73	35591.64
59 Co	# 3	0.01339	0.01339	ug/l	13.27	#VALUE!		226.67	240.01	190.01
60 Ni	# 2	0.00162	0.00162	ug/l	340.56	#VALUE!		25.56	36.67	38.89
63 Cu	# 2	-0.09335	-0.09335	ug/l	18.79	#VALUE!		214.45	278.89	171.11
66 Zn	# 3	-0.03524	-0.03524	ug/l	110.02	#VALUE!		260.01	123.34	173.34
75 As	# 2	0.02245	0.02245	ug/l	35.51	#VALUE!		23.00	21.33	25.33
78 Se	# 1	0.05032	0.05032	ug/l	6.74	#VALUE!		44.00	45.67	43.00
88 Sr	# 3	0.02368	0.02368	ug/l	3.13	#VALUE!		693.37	660.03	660.03
95 Mo	# 3	0.07401	0.07401	ug/l	5.84	#VALUE!		333.35	306.68	306.68
107 Ag	# 3	0.01408	0.01408	ug/l	19.84	#VALUE!		170.01	140.00	200.01
111 Cd	# 3	0.01783	0.01783	ug/l	27.59	#VALUE!		69.90	69.90	89.90
118 Sn	# 3	0.05562	0.05562	ug/l	9.64	#VALUE!		646.70	703.37	720.04
121 Sb	# 3	0.1017	0.1017	ug/l	3.48	#VALUE!		950.06	900.05	923.39
137 Ba	# 3	0.01929	0.01929	ug/l	10.14	#VALUE!		90.00	76.67	86.67
202 Hg	# 3	0.01573	0.01573	ug/l	6.50	#VALUE!		83.00	79.67	84.67
205 Tl	# 3	0.01299	0.01299	ug/l	9.43	#VALUE!		316.68	330.02	293.35
208 Pb	# 3	0.0178	0.0178	ug/l	14.21	#VALUE!		600.02	730.03	696.69
232 Th	# 3	0.09573	0.09573	ug/l	0.91	#VALUE!		3220.44	3277.14	3287.12
238 U	# 3	0.01689	0.01689	ug/l	14.90	#VALUE!		456.69	613.37	573.36

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	703434.63	2.07	836165.38	84.1	60 - 125		686596.88	711784.75	711922.25
45 Sc	# 1	519643.53	0.84	552676.25	94.0	60 - 125		516290.19	518034.19	524606.19
45 Sc	# 3	639217.06	0.59	644433.94	99.2	60 - 125		635161.56	639928.88	642560.81
74 Ge	# 1	168145.33	0.40	175321.88	95.9	60 - 125		168145.52	167479.70	168810.75
74 Ge	# 2	25541.27	1.90	27172.50	94.0	60 - 125		25004.97	25670.33	25948.52
74 Ge	# 3	161257.92	0.74	164913.13	97.8	60 - 125		159968.19	161490.50	162315.06
89 Y	# 3	1043165.40	0.42	1068488.30	97.6	60 - 125		1043800.70	1038523.00	1047172.60
115 In	# 3	998920.63	0.45	1083659.40	92.2	60 - 125		998965.81	994444.38	1003351.80
159 Tb	# 3	1349892.10	2.08	1651256.80	81.7	60 - 125		1345075.00	1324569.60	1380031.50
209 Bi	# 3	835388.00	0.27	1054491.00	79.2	60 - 125		833044.25	835638.75	837481.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\290SMPL.D\290SMPL.D#
Date Acquired: Dec 26 2012 08:56 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-14-a
Misc Info: 3010 1/10
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.007646	0.003823	ug/l	135.78	100.00		0.00	10.00	26.67
11	B	# 3	786	393	ug/l	0.70	1800.00		1080009.10	1081433.40	1082387.80
23	Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24	Mg	# 1	247800	123900	ug/l	1.43	81000.00		451879870.00	473989150.00	467441470.00
27	Al	# 1	38.6	19.3	ug/l	0.95	81000.00		81401.47	83800.88	84667.21
39	K	# 2	98600	49300	ug/l	1.08	81000.00		12175923.00	12190493.00	12507517.00
40	Ca	# 1	95560	47780	ug/l	2.22	81000.00		394095940.00	413668640.00	420261150.00
45	Sc	# 2	----	--------		--------	#VALUE!		36054.48	36605.47	37466.02
47	Ti	# 3	2.05	1.025	ug/l	3.21	1620.00		1023.40	986.72	946.73
51	V	# 2	0.54	0.27	ug/l	10.64	1800.00		588.90	642.24	567.79
52	Cr	# 2	0.2566	0.1283	ug/l	11.19	1800.00		310.01	361.12	378.90
55	Mn	# 3	23.84	11.92	ug/l	0.89	1800.00		160812.77	160904.42	159121.28
56	Fe	# 1	306.6	153.3	ug/l	0.54	81000.00		1629595.00	1652757.90	1658257.60
59	Co	# 3	0.2736	0.1368	ug/l	3.76	1800.00		1366.76	1443.43	1433.44
60	Ni	# 2	0.9802	0.4901	ug/l	1.81	1800.00		443.34	450.01	453.34
63	Cu	# 2	1.3856	0.6928	ug/l	0.82	1800.00		1924.56	1917.90	1996.79
66	Zn	# 3	9.304	4.652	ug/l	1.53	1800.00		6071.16	5907.77	5807.73
75	As	# 2	0.637	0.3185	ug/l	13.02	100.00		58.33	71.67	73.00
78	Se	# 1	0.3196	0.1598	ug/l	11.06	100.00		71.67	61.00	65.00
88	Sr	# 3	1572.4	786.2	ug/l	0.33	1800.00		15097873.00	15078103.00	14862113.00
95	Mo	# 3	1.6844	0.8422	ug/l	8.94	1800.00		1960.18	1860.16	2196.88
107	Ag	# 3	0.06726	0.03363	ug/l	10.66	100.00		260.01	260.01	216.68
111	Cd	# 3	0.02862	0.01431	ug/l	39.29	100.00		36.04	52.74	45.97
118	Sn	# 3	0.316	0.158	ug/l	4.96	1800.00		963.39	890.05	926.72
121	Sb	# 3	0.4408	0.2204	ug/l	5.65	100.00		1060.06	1143.40	1156.74
137	Ba	# 3	6.934	3.467	ug/l	1.40	1800.00		7915.38	7778.66	7671.94
202	Hg	# 3	0.03578	0.01789	ug/l	27.03	5.00		40.00	49.33	51.67
205	Tl	# 3	0.004734	0.002367	ug/l	29.59	20.00		73.34	76.67	56.67
208	Pb	# 3	1.5646	0.7823	ug/l	0.99	1800.00		15880.30	15840.23	15306.64
232	Th	# 3	0.15766	0.07883	ug/l	4.71	#VALUE!		1496.79	1496.79	1383.44
238	U	# 3	0.6182	0.3091	ug/l	2.47	#VALUE!		5264.41	5431.14	5194.37

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	561106.19	0.67	836165.38	67.1	60 - 125		560024.75	565302.19	557991.69
45	Sc	# 1	456344.53	1.14	552676.25	82.6	60 - 125		450333.72	459047.91	459652.00
45	Sc	# 3	539554.00	0.80	644433.94	83.7	60 - 125		542899.56	541079.69	534682.69
74	Ge	# 1	118680.66	0.69	175321.88	67.7	60 - 125		118021.53	118426.36	119594.10
74	Ge	# 2	18632.93	2.59	27172.50	68.6	60 - 125		18282.56	18431.63	19184.59
74	Ge	# 3	109846.22	1.50	164913.13	66.6	60 - 125		110694.58	110899.11	107944.98
89	Y	# 3	772872.13	0.56	1068488.30	72.3	60 - 125		776128.38	774495.69	767992.19
115	In	# 3	654933.88	0.18	1083659.40	60.4	60 - 125		655865.50	655351.88	653584.25
159	Tb	# 3	954585.06	1.16	1651256.80	57.8	60 - 125	IS F	964320.94	956928.94	942505.31
209	Bi	# 3	447630.56	0.41	1054491.00	42.4	60 - 125	IS F	449727.19	446361.56	446802.91

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
2 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\291SMPL.D\291SMPL.D#
Date Acquired: Dec 26 2012 09:03 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-a-15-a
Misc Info: 3010 1/10
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.00341	0.001705	ug/l	74.96	100.00		10.00	3.33	6.67
11 B # 3	869.6	434.8	ug/l	1.75	1800.00		1167677.60	1200150.00	1188797.80
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	245200	122600	ug/l	0.31	81000.00		483457220.00	495250980.00	496391040.00
27 Al # 1	17.934	8.967	ug/l	0.63	81000.00		41164.89	42254.32	42517.77
39 K # 2	98500	49250	ug/l	0.81	81000.00		12400292.00	12613206.00	12853523.00
40 Ca # 1	85200	42600	ug/l	0.62	81000.00		382593500.00	394472320.00	394977280.00
45 Sc # 2	----	--------		--------	#VALUE!		37734.31	38729.70	39007.94
47 Ti # 3	1.418	0.709	ug/l	6.97	1620.00		733.38	720.05	636.70
51 V # 2	0.4894	0.2447	ug/l	3.93	1800.00		564.46	551.13	603.35
52 Cr # 2	0.10006	0.05003	ug/l	9.23	1800.00		198.89	197.78	190.00
55 Mn # 3	4.932	2.466	ug/l	0.87	1800.00		34048.42	33487.59	33550.73
56 Fe # 1	44.74	22.37	ug/l	0.49	81000.00		260182.63	263699.41	263874.63
59 Co # 3	0.18144	0.09072	ug/l	5.13	1800.00		943.38	903.38	983.39
60 Ni # 2	0.4006	0.2003	ug/l	10.14	1800.00		190.00	222.23	195.56
63 Cu # 2	0.3602	0.1801	ug/l	10.08	1800.00		744.47	841.14	827.80
66 Zn # 3	3.602	1.801	ug/l	8.85	1800.00		2303.55	2310.21	2593.59
75 As # 2	0.5548	0.2774	ug/l	5.51	100.00		60.67	64.67	61.33
78 Se # 1	0.22	0.11	ug/l	14.77	100.00		51.00	49.00	59.33
88 Sr # 3	1494.6	747.3	ug/l	0.75	1800.00		14554336.00	14193530.00	14087445.00
95 Mo # 3	2.136	1.068	ug/l	3.12	1800.00		2506.92	2596.93	2420.25
107 Ag # 3	0.018296	0.009148	ug/l	20.27	100.00		73.34	66.67	90.00
111 Cd # 3	0.04108	0.02054	ug/l	23.56	100.00		45.87	59.17	55.89
118 Sn # 3	0.2994	0.1497	ug/l	10.05	1800.00		843.38	960.05	833.38
121 Sb # 3	0.2232	0.1116	ug/l	8.06	100.00		603.36	656.70	666.70
137 Ba # 3	3.742	1.871	ug/l	5.26	1800.00		4110.63	4007.26	4374.01
202 Hg # 3	0.02752	0.01376	ug/l	20.66	5.00		43.00	37.00	43.33
205 Tl # 3	0.004854	0.002427	ug/l	19.75	20.00		66.67	76.67	63.34
208 Pb # 3	0.3762	0.1881	ug/l	2.28	1800.00		3816.96	3760.29	3876.97
232 Th # 3	0.10172	0.05086	ug/l	10.07	#VALUE!		1013.40	1033.40	863.39
238 U # 3	0.5942	0.2971	ug/l	2.59	#VALUE!		5064.32	4914.28	5117.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	556357.13	0.37	836165.38	66.5	60 - 125		558137.63	554126.44	556807.31
45 Sc # 1	488562.34	1.19	552676.25	88.4	60 - 125		481866.31	492143.91	491676.81
45 Sc # 3	545734.38	0.83	644433.94	84.7	60 - 125		548193.94	548476.50	540532.75
74 Ge # 1	125789.64	0.35	175321.88	71.7	60 - 125		125298.59	126139.69	125930.64
74 Ge # 2	19150.50	2.54	27172.50	70.5	60 - 125		18727.47	19041.12	19682.91
74 Ge # 3	110031.61	1.55	164913.13	66.7	60 - 125		111858.24	109745.52	108491.10
89 Y # 3	773323.50	1.14	1068488.30	72.4	60 - 125		781897.81	773825.31	764247.44
115 In # 3	648004.63	0.82	1083659.40	59.8	60 - 125	IS F	652687.81	649059.38	642266.69
159 Tb # 3	943591.63	0.97	1651256.80	57.1	60 - 125	IS F	952806.25	943551.44	934417.25
209 Bi # 3	442457.69	0.74	1054491.00	42.0	60 - 125	IS F	444944.53	443676.97	438751.72

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
3 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\292SMPL.D\292SMPL.D#
Date Acquired: Dec 26 2012 09:11 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-16-a
Misc Info: 3010 1/10
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0017322	-0.0008661	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	857.2	428.6	ug/l	1.11	1800.00		1180703.40	1168452.10	1160162.80
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	248200	124100	ug/l	0.64	81000.00		519551040.00	519621860.00	521018240.00
27 Al # 1	9.094	4.547	ug/l	0.66	81000.00		22493.68	22657.28	23117.97
39 K # 2	100940	50470	ug/l	3.33	81000.00		12602471.00	12738121.00	12899756.00
40 Ca # 1	85960	42980	ug/l	0.94	81000.00		404802270.00	414191490.00	416240260.00
45 Sc # 2	----	--------		--------	#VALUE!		34984.87	38135.10	39306.42
47 Ti # 3	1.01	0.505	ug/l	8.54	1620.00		543.36	463.35	510.03
51 V # 2	0.5102	0.2551	ug/l	5.21	1800.00		580.01	575.57	591.13
52 Cr # 2	0.0599	0.02995	ug/l	21.86	1800.00		137.78	144.45	173.34
55 Mn # 3	4.118	2.059	ug/l	0.07	1800.00		28499.14	28465.57	27995.04
56 Fe # 1	34.02	17.01	ug/l	0.43	81000.00		208693.05	207827.13	209181.41
59 Co # 3	0.17552	0.08776	ug/l	1.90	1800.00		933.38	900.05	913.38
60 Ni # 2	0.498	0.249	ug/l	8.57	1800.00		231.11	264.45	232.23
63 Cu # 2	0.1891	0.09455	ug/l	13.92	1800.00		547.79	588.90	654.46
66 Zn # 3	3.332	1.666	ug/l	5.50	1800.00		2226.87	2156.86	2340.22
75 As # 2	0.5564	0.2782	ug/l	8.51	100.00		56.67	67.00	61.00
78 Se # 1	0.2352	0.1176	ug/l	5.33	100.00		55.00	59.00	58.67
88 Sr # 3	1465.6	732.8	ug/l	1.26	1800.00		14225678.00	14049595.00	13902501.00
95 Mo # 3	2.016	1.008	ug/l	7.70	1800.00		2566.92	2463.59	2160.19
107 Ag # 3	0.016992	0.008496	ug/l	39.90	100.00		93.34	80.00	46.67
111 Cd # 3	0.01789	0.008945	ug/l	67.88	100.00		42.51	42.55	25.98
118 Sn # 3	0.19976	0.09988	ug/l	6.39	1800.00		660.03	636.70	676.70
121 Sb # 3	0.17198	0.08599	ug/l	24.61	100.00		496.69	483.36	633.37
137 Ba # 3	3.54	1.77	ug/l	2.57	1800.00		4107.28	3930.56	3917.24
202 Hg # 3	0.0303	0.01515	ug/l	13.89	5.00		45.00	45.00	39.33
205 Tl # 3	0.00453	0.002265	ug/l	81.85	20.00		80.00	36.67	83.34
208 Pb # 3	0.19034	0.09517	ug/l	3.75	1800.00		2100.12	1990.11	1910.11
232 Th # 3	0.06792	0.03396	ug/l	12.06	#VALUE!		620.03	693.37	746.71
238 U # 3	0.551	0.2755	ug/l	2.57	#VALUE!		4727.54	4617.51	4707.56

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	556828.88	1.59	836165.38	66.6	60 - 125		561055.25	562759.19	546672.19
45 Sc # 1	510266.88	0.79	552676.25	92.3	60 - 125		506887.69	509168.09	514744.91
45 Sc # 3	548791.69	0.72	644433.94	85.2	60 - 125		550288.69	551762.56	544323.88
74 Ge # 1	130020.20	0.10	175321.88	74.2	60 - 125		129905.77	130168.63	129986.20
74 Ge # 2	18887.64	4.37	27172.50	69.5	60 - 125		17977.85	19097.85	19587.23
74 Ge # 3	110318.71	1.03	164913.13	66.9	60 - 125		111106.77	110834.89	109014.46
89 Y # 3	776731.19	2.11	1068488.30	72.7	60 - 125		787113.63	785258.75	757821.25
115 In # 3	655538.56	1.50	1083659.40	60.5	60 - 125		658627.00	663453.63	644535.06
159 Tb # 3	946929.38	1.53	1651256.80	57.3	60 - 125	IS F	956610.31	953883.81	930293.94
209 Bi # 3	444308.31	1.50	1054491.00	42.1	60 - 125	IS F	444591.88	450846.81	437486.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\293SMPL.D\293SMPL.D#
Date Acquired: Dec 26 2012 09:18 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-17-a
Misc Info: 3010 1/10
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0017322	-0.0008661	ug/l	0.00	100.00		0.00	0.00	0.00
11 B	# 3	859.8	429.9	ug/l	0.65	1800.00		1149301.50	1156805.30	1141547.90
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	246200	123100	ug/l	0.92	81000.00		506179200.00	519117310.00	520499520.00
27 Al	# 1	6.25	3.125	ug/l	1.95	81000.00		15653.41	16220.61	15973.71
39 K	# 2	100680	50340	ug/l	0.21	81000.00		12569173.00	12670638.00	12816508.00
40 Ca	# 1	86320	43160	ug/l	0.11	81000.00		406396580.00	412226110.00	419896190.00
45 Sc	# 2	----	--------		--------	#VALUE!		38231.98	39062.63	39276.34
47 Ti	# 3	0.9714	0.4857	ug/l	5.07	1620.00		470.02	470.02	510.02
51 V	# 2	0.4572	0.2286	ug/l	3.14	1800.00		517.79	535.57	553.35
52 Cr	# 2	0.07656	0.03828	ug/l	27.93	1800.00		163.34	191.11	150.00
55 Mn	# 3	9.698	4.849	ug/l	0.82	1800.00		65365.25	65903.56	64418.75
56 Fe	# 1	58.4	29.2	ug/l	0.29	81000.00		349652.53	351839.09	355584.97
59 Co	# 3	0.18388	0.09194	ug/l	6.92	1800.00		973.39	1003.39	873.38
60 Ni	# 2	0.4648	0.2324	ug/l	6.99	1800.00		237.78	211.11	233.34
63 Cu	# 2	0.07874	0.03937	ug/l	44.09	1800.00		443.34	441.12	520.01
66 Zn	# 3	3.472	1.736	ug/l	4.36	1800.00		2400.23	2216.86	2306.89
75 As	# 2	0.5368	0.2684	ug/l	4.16	100.00		57.00	61.00	61.00
78 Se	# 1	0.1794	0.0897	ug/l	3.65	100.00		48.33	48.67	47.00
88 Sr	# 3	1482.4	741.2	ug/l	0.52	1800.00		14251815.00	14043665.00	13909350.00
95 Mo	# 3	1.6554	0.8277	ug/l	1.01	1800.00		1990.17	1953.50	1920.15
107 Ag	# 3	0.0143	0.00715	ug/l	26.43	100.00		76.67	50.00	63.34
111 Cd	# 3	0.0202	0.0101	ug/l	15.12	100.00		36.03	39.38	39.39
118 Sn	# 3	0.1613	0.08065	ug/l	13.79	1800.00		570.03	510.03	610.03
121 Sb	# 3	0.1639	0.08195	ug/l	26.14	100.00		626.70	480.02	443.35
137 Ba	# 3	3.64	1.82	ug/l	5.34	1800.00		4027.26	3873.92	4274.00
202 Hg	# 3	0.0286	0.0143	ug/l	14.97	5.00		44.33	38.33	42.00
205 Tl	# 3	0.002088	0.001044	ug/l	70.99	20.00		40.00	60.00	46.67
208 Pb	# 3	0.2548	0.1274	ug/l	3.93	1800.00		2683.52	2490.16	2663.51
232 Th	# 3	0.05552	0.02776	ug/l	18.07	#VALUE!		563.37	663.37	500.02
238 U	# 3	0.4314	0.2157	ug/l	2.60	#VALUE!		3770.61	3550.52	3573.87

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	545388.88	0.53	836165.38	65.2	60 - 125		548422.69	545099.94	542644.06
45 Sc	# 1	509540.59	1.66	552676.25	92.2	60 - 125		501878.38	508111.22	518632.19
45 Sc	# 3	544438.69	0.54	644433.94	84.5	60 - 125		547445.94	541535.25	544334.88
74 Ge	# 1	130393.98	0.75	175321.88	74.4	60 - 125		129329.39	130599.49	131253.05
74 Ge	# 2	18828.70	1.08	27172.50	69.3	60 - 125		18666.30	18763.08	19056.70
74 Ge	# 3	109306.06	0.35	164913.13	66.3	60 - 125		109446.88	109594.41	108876.88
89 Y	# 3	768276.31	0.73	1068488.30	71.9	60 - 125		774611.69	766318.19	763898.94
115 In	# 3	649174.94	0.90	1083659.40	59.9	60 - 125	IS F	655872.31	646729.13	644923.44
159 Tb	# 3	938709.69	1.04	1651256.80	56.8	60 - 125	IS F	949817.06	934716.31	931595.81
209 Bi	# 3	439627.66	0.73	1054491.00	41.7	60 - 125	IS F	443243.63	437179.38	438460.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
3 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\294SMPL.D\294SMPL.D#
Date Acquired: Dec 26 2012 09:26 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a
Misc Info: 3010 1/10
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.0017844	0.0008922	ug/l	226.52	100.00		10.00	3.33	0.00
11	B	# 3	899	449.5	ug/l	0.29	1800.00		1191134.50	1208912.40	1196919.40
23	Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24	Mg	# 1	219000	109500	ug/l	0.81	81000.00		455263840.00	466900800.00	467813920.00
27	Al	# 1	1.8658	0.9329	ug/l	0.35	81000.00		5537.62	5557.62	5617.63
39	K	# 2	88240	44120	ug/l	0.59	81000.00		11459866.00	11548538.00	11956299.00
40	Ca	# 1	67760	33880	ug/l	0.31	81000.00		323851970.00	327783170.00	331856990.00
45	Sc	# 2	----	--------		--------	#VALUE!		38759.83	39023.59	39723.94
47	Ti	# 3	0.8486	0.4243	ug/l	4.54	1620.00		443.35	443.35	410.02
51	V	# 2	0.4146	0.2073	ug/l	4.22	1800.00		495.57	534.46	538.90
52	Cr	# 2	0.08158	0.04079	ug/l	8.41	1800.00		171.11	181.11	193.34
55	Mn	# 3	16.116	8.058	ug/l	0.54	1800.00		112821.48	111238.52	111620.74
56	Fe	# 1	52.72	26.36	ug/l	0.49	81000.00		324687.03	328065.53	331245.84
59	Co	# 3	0.14946	0.07473	ug/l	6.31	1800.00		806.70	753.37	846.71
60	Ni	# 2	0.07986	0.03993	ug/l	24.53	1800.00		68.89	61.11	53.33
63	Cu	# 2	0.0487	0.02435	ug/l	25.34	1800.00		452.23	463.34	446.68
66	Zn	# 3	3.258	1.629	ug/l	2.98	1800.00		2310.21	2183.53	2273.54
75	As	# 2	0.3924	0.1962	ug/l	9.02	100.00		46.33	53.00	49.00
78	Se	# 1	0.17682	0.08841	ug/l	11.52	100.00		52.00	45.00	49.67
88	Sr	# 3	1162.6	581.3	ug/l	0.46	1800.00		11454610.00	11283340.00	11267148.00
95	Mo	# 3	0.585	0.2925	ug/l	2.04	1800.00		720.04	743.37	730.04
107	Ag	# 3	0.006514	0.003257	ug/l	30.33	100.00		43.33	30.00	40.00
111	Cd	# 3	0.014948	0.007474	ug/l	42.57	100.00		39.77	36.43	29.77
118	Sn	# 3	0.13224	0.06612	ug/l	6.55	1800.00		530.02	516.69	483.35
121	Sb	# 3	0.09282	0.04641	ug/l	9.18	100.00		380.02	390.02	350.01
137	Ba	# 3	11.628	5.814	ug/l	1.34	1800.00		13575.82	13175.46	13095.41
202	Hg	# 3	0.02786	0.01393	ug/l	14.30	5.00		44.00	43.33	39.00
205	Tl	# 3	0.002356	0.001178	ug/l	78.44	20.00		40.00	66.67	50.00
208	Pb	# 3	0.02802	0.01401	ug/l	13.03	1800.00		396.68	376.68	446.68
232	Th	# 3	0.0356	0.0178	ug/l	3.26	#VALUE!		410.02	420.02	426.69
238	U	# 3	0.5478	0.2739	ug/l	4.34	#VALUE!		4930.95	4754.24	4494.14

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	544282.50	0.49	836165.38	65.1	60 - 125		541659.56	546997.31	544190.69
45	Sc	# 1	515469.88	0.92	552676.25	93.3	60 - 125		510771.94	515424.84	520212.81
45	Sc	# 3	553340.25	0.19	644433.94	85.9	60 - 125		554393.06	553339.63	552288.13
74	Ge	# 1	134066.30	0.53	175321.88	76.5	60 - 125		133393.81	133991.09	134813.98
74	Ge	# 2	19734.09	2.05	27172.50	72.6	60 - 125		19354.81	19687.37	20160.09
74	Ge	# 3	113271.29	0.78	164913.13	68.7	60 - 125		114173.23	113235.45	112405.16
89	Y	# 3	789314.75	0.46	1068488.30	73.9	60 - 125		793451.19	787888.13	786604.94
115	In	# 3	666484.44	0.73	1083659.40	61.5	60 - 125		670940.19	667202.56	661310.50
159	Tb	# 3	964383.44	0.15	1651256.80	58.4	60 - 125	IS F	965041.75	965358.13	962750.19
209	Bi	# 3	450675.41	0.44	1054491.00	42.7	60 - 125	IS F	452940.63	449295.19	449790.47

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\295SMPL.D\295SMPL.D#
Date Acquired: Dec 26 2012 09:33 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a SD
Misc Info: 3010 1/50
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 10.00
Autodil Factor: Undiluted
Final Dil Factor: 10.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	-0.002123	-0.0002123	ug/l	533.68	100.00		0.00	6.67	0.00
11	B	# 3	1005	100.5	ug/l	4.00	1800.00		355370.78	361724.06	356640.19
23	Na	# 1	1938000	193800	ug/l	0.67	81000.00		1424082900.00	1447646200.00	1497745300.00
24	Mg	# 1	228600	22860	ug/l	0.63	81000.00		113455090.00	116860930.00	117819410.00
27	Al	# 1	6.83	0.683	ug/l	2.14	81000.00		5187.52	5147.52	5374.37
39	K	# 2	79670	7967	ug/l	4.71	81000.00		2691269.50	2738195.50	2727191.80
40	Ca	# 1	67930	6793	ug/l	0.61	81000.00		77460136.00	79132088.00	80052640.00
45	Sc	# 2	----	--------		--------	#VALUE!		44658.23	48566.09	42637.00
47	Ti	# 3	0.4096	0.04096	ug/l	36.77	1620.00		86.67	86.67	56.67
51	V	# 2	0.3403	0.03403	ug/l	9.33	1800.00		264.45	281.12	268.89
52	Cr	# 2	0.09332	0.009332	ug/l	25.55	1800.00		151.11	154.45	135.56
55	Mn	# 3	15.3	1.53	ug/l	1.20	1800.00		29099.94	29644.24	29223.60
56	Fe	# 1	52.63	5.263	ug/l	0.64	81000.00		97754.35	99282.80	98809.19
59	Co	# 3	0.1547	0.01547	ug/l	3.77	1800.00		226.67	243.34	240.01
60	Ni	# 2	1.638	0.1638	ug/l	9.32	1800.00		222.23	220.00	234.45
63	Cu	# 2	-0.7677	-0.07677	ug/l	4.79	1800.00		260.00	282.23	274.45
66	Zn	# 3	3.828	0.3828	ug/l	10.84	1800.00		893.38	820.04	970.06
75	As	# 2	0.3107	0.03107	ug/l	54.55	100.00		28.00	27.67	20.00
78	Se	# 1	0.241	0.0241	ug/l	74.86	100.00		44.33	30.33	29.67
88	Sr	# 3	1224	122.4	ug/l	0.71	1800.00		3023082.00	2965782.30	2992832.00
95	Mo	# 3	0.6063	0.06063	ug/l	13.19	1800.00		210.01	236.68	256.68
107	Ag	# 3	0.0148	0.00148	ug/l	87.43	100.00		43.33	20.00	36.67
111	Cd	# 3	0.02603	0.002603	ug/l	170.96	100.00		33.27	46.59	29.92
118	Sn	# 3	0.1522	0.01522	ug/l	64.45	1800.00		393.35	283.34	386.68
121	Sb	# 3	0.03803	0.003803	ug/l	196.06	100.00		196.67	276.68	256.68
137	Ba	# 3	11.34	1.134	ug/l	2.80	1800.00		3337.10	3433.78	3473.78
202	Hg	# 3	0.02759	0.002759	ug/l	58.50	5.00		37.33	41.33	36.00
205	Tl	# 3	0.0084	0.00084	ug/l	17.17	20.00		56.67	60.00	60.00
208	Pb	# 3	0.03394	0.003394	ug/l	49.41	1800.00		253.34	193.34	276.68
232	Th	# 3	0.08515	0.008515	ug/l	22.24	#VALUE!		346.68	326.68	413.35
238	U	# 3	0.4684	0.04684	ug/l	6.26	#VALUE!		1110.08	1080.07	1213.42

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	716037.25	4.30	836165.38	85.6	60 - 125		680751.88	730088.75	737271.13
45	Sc	# 1	618133.81	2.23	552676.25	111.8	60 - 125		604120.00	618659.13	631622.19
45	Sc	# 3	671072.63	0.89	644433.94	104.1	60 - 125		675078.50	664212.63	673926.69
74	Ge	# 1	180490.55	1.05	175321.88	102.9	60 - 125		178365.44	181105.16	182001.02
74	Ge	# 2	25468.71	5.20	27172.50	93.7	60 - 125		24961.56	26972.55	24472.04
74	Ge	# 3	152520.89	0.52	164913.13	92.5	60 - 125		151930.94	152206.66	153425.08
89	Y	# 3	990414.69	1.18	1068488.30	92.7	60 - 125		1003709.60	985576.25	981958.31
115	In	# 3	875006.88	0.74	1083659.40	80.7	60 - 125		882423.19	872245.50	870351.94
159	Tb	# 3	1200847.80	1.23	1651256.80	72.7	60 - 125		1217266.90	1188825.10	1196451.30
209	Bi	# 3	629963.63	0.83	1054491.00	59.7	60 - 125	IS F	635711.25	625475.06	628704.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\296SMPL.D\296SMPL.D#
Date Acquired: Dec 26 2012 09:41 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a PDS
Misc Info: 3010 1/10
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	38.84	19.42	ug/l	1.69	100.00		45944.46	45209.44	45079.04
11 B	# 3	977.8	488.9	ug/l	3.50	1800.00		1204042.00	1170749.00	1232984.90
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	236000	118000	ug/l	4.04	81000.00		461508800.00	477542400.00	462404580.00
27 Al	# 1	429.6	214.8	ug/l	2.86	81000.00		955102.50	980672.38	972601.44
39 K	# 2	93860	46930	ug/l	0.56	81000.00		11677033.00	11953776.00	12139620.00
40 Ca	# 1	76720	38360	ug/l	2.00	81000.00		342180480.00	348443740.00	351569950.00
45 Sc	# 2	----	--------		--------	#VALUE!		37140.95	37552.90	38553.77
47 Ti	# 3	43.04	21.52	ug/l	1.68	1620.00		19861.00	19187.00	19911.11
51 V	# 2	50.8	25.4	ug/l	0.97	1800.00		43990.30	44162.91	44381.18
52 Cr	# 2	46.9	23.45	ug/l	0.40	1800.00		48224.08	48749.97	49201.11
55 Mn	# 3	465.4	232.7	ug/l	1.09	1800.00		3093707.00	3118560.00	3055849.50
56 Fe	# 1	4462	2231	ug/l	0.70	81000.00		25354038.00	25549314.00	26179652.00
59 Co	# 3	41.4	20.7	ug/l	0.35	1800.00		212317.44	209868.30	209262.14
60 Ni	# 2	41.54	20.77	ug/l	0.69	1800.00		18114.49	18573.80	18544.91
63 Cu	# 2	40.36	20.18	ug/l	1.24	1800.00		47008.38	46713.25	47389.36
66 Zn	# 3	32.82	16.41	ug/l	2.33	1800.00		20465.22	20698.79	19774.47
75 As	# 2	40.58	20.29	ug/l	0.49	100.00		3506.34	3536.02	3611.70
78 Se	# 1	36.92	18.46	ug/l	2.52	100.00		6367.46	6323.11	6256.75
88 Sr	# 3	1215.4	607.7	ug/l	0.96	1800.00		11552601.00	11434178.00	11276303.00
95 Mo	# 3	47.62	23.81	ug/l	0.09	1800.00		55533.92	55132.66	54858.50
107 Ag	# 3	28.48	14.24	ug/l	1.36	100.00		98445.28	96970.54	94621.02
111 Cd	# 3	31.58	15.79	ug/l	0.84	100.00		23748.83	23208.17	23231.71
118 Sn	# 3	39.86	19.93	ug/l	1.31	1800.00		93464.11	90995.14	90053.29
121 Sb	# 3	40.96	20.48	ug/l	0.49	100.00		87952.98	88184.09	87514.20
137 Ba	# 3	54.16	27.08	ug/l	0.62	1800.00		60615.19	60364.45	59267.25
202 Hg	# 3	2.242	1.121	ug/l	1.15	5.00		1482.41	1508.41	1495.41
205 Tl	# 3	7.258	3.629	ug/l	1.19	20.00		52179.95	50755.30	51206.65
208 Pb	# 3	35.26	17.63	ug/l	0.62	1800.00		347737.56	342125.38	343248.19
232 Th	# 3	52.66	26.33	ug/l	0.11	#VALUE!		453178.75	451693.22	447016.59
238 U	# 3	53.66	26.83	ug/l	0.34	#VALUE!		463342.22	461631.09	454930.88

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	502198.53	1.00	836165.38	60.1	60 - 125		499216.13	507986.81	499392.75
45 Sc	# 1	482563.22	2.70	552676.25	87.3	60 - 125		476290.97	473880.19	497518.44
45 Sc	# 3	524509.00	0.70	644433.94	81.4	60 - 125		528588.94	521474.38	523463.63
74 Ge	# 1	127855.64	1.75	175321.88	72.9	60 - 125		126975.52	126190.96	130400.42
74 Ge	# 2	18981.06	1.40	27172.50	69.9	60 - 125		18704.11	19005.54	19233.53
74 Ge	# 3	108920.56	0.45	164913.13	66.0	60 - 125		109483.97	108619.19	108658.52
89 Y	# 3	760729.69	0.71	1068488.30	71.2	60 - 125		766646.56	756154.94	759387.56
115 In	# 3	647628.06	0.65	1083659.40	59.8	60 - 125	IS F	651769.06	647717.19	643397.94
159 Tb	# 3	937977.06	0.31	1651256.80	56.8	60 - 125	IS F	941113.31	937438.13	935379.88
209 Bi	# 3	448254.22	0.64	1054491.00	42.5	60 - 125	IS F	450239.53	449536.88	444986.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\297SMPL.D\297SMPL.D#
Date Acquired: Dec 26 2012 09:48 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-b ms
Misc Info: 3010 1/10
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	9.826	4.913	ug/l	3.22	100.00		11877.22	11403.59	11380.23
11 B	# 3	967.6	483.8	ug/l	2.06	1800.00		1179263.80	1230956.00	1181816.50
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	224400	112200	ug/l	2.78	81000.00		445376670.00	452744670.00	477918180.00
27 Al	# 1	995.4	497.7	ug/l	3.68	81000.00		2212310.50	2310914.80	2428715.50
39 K	# 2	89500	44750	ug/l	4.92	81000.00		11463180.00	11852462.00	11611703.00
40 Ca	# 1	71040	35520	ug/l	3.20	81000.00		317140450.00	333833980.00	344675420.00
45 Sc	# 2	----	--------		--------	#VALUE!		36992.90	37757.70	41469.12
47 Ti	# 3	21.78	10.89	ug/l	3.93	1620.00		10399.83	9762.77	9766.13
51 V	# 2	24.8	12.4	ug/l	3.21	1800.00		21862.82	22048.58	22582.54
52 Cr	# 2	22.98	11.49	ug/l	4.52	1800.00		24265.79	24656.28	24545.03
55 Mn	# 3	128.22	64.11	ug/l	1.50	1800.00		857728.81	837678.19	836105.31
56 Fe	# 1	1102.8	551.4	ug/l	1.66	81000.00		6435851.50	6559086.50	6392694.00
59 Co	# 3	10.558	5.279	ug/l	1.34	1800.00		53742.00	52889.17	52943.10
60 Ni	# 2	20.36	10.18	ug/l	4.62	1800.00		9261.27	9205.69	9290.17
63 Cu	# 2	19.428	9.714	ug/l	4.29	1800.00		23185.73	23468.25	23538.39
66 Zn	# 3	18.936	9.468	ug/l	2.37	1800.00		11467.16	11787.39	11790.75
75 As	# 2	20.06	10.03	ug/l	4.85	100.00		1788.09	1823.76	1801.76
78 Se	# 1	17.756	8.878	ug/l	0.50	100.00		3060.60	3106.27	3123.28
88 Sr	# 3	1220.4	610.2	ug/l	0.32	1800.00		11586470.00	11449722.00	11334431.00
95 Mo	# 3	24.18	12.09	ug/l	0.21	1800.00		28069.40	27885.71	27458.52
107 Ag	# 3	8.514	4.257	ug/l	1.54	100.00		29348.40	28760.86	27929.43
111 Cd	# 3	8.032	4.016	ug/l	0.87	100.00		5932.20	5912.23	5919.07
118 Sn	# 3	19.938	9.969	ug/l	0.65	1800.00		46195.55	45593.82	44748.53
121 Sb	# 3	10.43	5.215	ug/l	1.55	100.00		22331.54	22138.03	22488.38
137 Ba	# 3	33.2	16.6	ug/l	0.64	1800.00		37057.88	36319.37	36229.16
202 Hg	# 3	1.228	0.614	ug/l	0.64	5.00		820.36	816.36	820.36
205 Tl	# 3	7.016	3.508	ug/l	0.62	20.00		49508.15	49601.35	49410.81
208 Pb	# 3	8.738	4.369	ug/l	0.74	1800.00		85976.74	85649.43	83892.87
232 Th	# 3	26.26	13.13	ug/l	0.74	#VALUE!		224736.38	220995.94	220000.16
238 U	# 3	27.98	13.99	ug/l	0.48	#VALUE!		238537.75	237475.25	234156.84

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	505149.53	0.78	836165.38	60.4	60 - 125		500597.38	507760.81	507090.41
45 Sc	# 1	497638.63	0.99	552676.25	90.0	60 - 125		492658.34	497700.94	502556.66
45 Sc	# 3	525443.25	0.97	644433.94	81.5	60 - 125		524655.69	530902.00	520771.97
74 Ge	# 1	129964.61	0.64	175321.88	74.1	60 - 125		129183.98	129875.41	130834.44
74 Ge	# 2	19465.30	4.94	27172.50	71.6	60 - 125		18697.41	19153.45	20545.03
74 Ge	# 3	107920.59	1.26	164913.13	65.4	60 - 125		108414.88	108961.03	106385.89
89 Y	# 3	759920.69	0.93	1068488.30	71.1	60 - 125		765942.69	761707.63	752111.75
115 In	# 3	642604.13	0.95	1083659.40	59.3	60 - 125	IS F	648301.81	643372.63	636137.94
159 Tb	# 3	934911.25	0.81	1651256.80	56.6	60 - 125	IS F	936186.31	941756.44	926790.69
209 Bi	# 3	442344.09	0.49	1054491.00	41.9	60 - 125	IS F	444206.25	442886.66	439939.41

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
3 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\298SMPL.D\298SMPL.D#
Date Acquired: Dec 26 2012 09:55 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-c msd
Misc Info: 3010 1/10
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.626	4.813	ug/l	1.33	100.00		11363.57	11206.80	11156.80
11 B # 3	957.2	478.6	ug/l	1.29	1800.00		1167996.60	1176260.00	1184820.90
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	222400	111200	ug/l	9.28	81000.00		444429060.00	461309470.00	449978400.00
27 Al # 1	984.8	492.4	ug/l	9.39	81000.00		2250699.30	2336251.80	2251001.80
39 K # 2	88880	44440	ug/l	2.92	81000.00		11262498.00	11197842.00	11111282.00
40 Ca # 1	69820	34910	ug/l	8.22	81000.00		323618270.00	328464700.00	321415330.00
45 Sc # 2	----	--------		--------	#VALUE!		37042.96	37462.65	38031.54
47 Ti # 3	21.42	10.71	ug/l	0.94	1620.00		9822.83	9792.84	9916.17
51 V # 2	25.28	12.64	ug/l	2.12	1800.00		21912.87	21710.46	21988.52
52 Cr # 2	23.2	11.6	ug/l	1.43	1800.00		23612.75	24092.24	24115.58
55 Mn # 3	125.08	62.54	ug/l	0.72	1800.00		835037.19	828414.19	822225.50
56 Fe # 1	1076.8	538.4	ug/l	7.82	81000.00		6157229.50	6363570.00	6452979.00
59 Co # 3	10.338	5.169	ug/l	2.01	1800.00		52210.75	52291.22	52742.50
60 Ni # 2	21.02	10.51	ug/l	0.60	1800.00		9051.17	9283.50	9421.35
63 Cu # 2	20.18	10.09	ug/l	1.33	1800.00		23362.58	23387.08	23814.30
66 Zn # 3	18.408	9.204	ug/l	0.99	1800.00		11467.22	11473.87	11363.84
75 As # 2	20.4	10.2	ug/l	0.67	100.00		1739.09	1782.09	1806.09
78 Se # 1	17.524	8.762	ug/l	6.79	100.00		3034.93	3075.27	3082.60
88 Sr # 3	1206.4	603.2	ug/l	0.51	1800.00		11483960.00	11246351.00	11223308.00
95 Mo # 3	23.8	11.9	ug/l	1.70	1800.00		27154.66	27832.32	27004.39
107 Ag # 3	8.336	4.168	ug/l	0.07	100.00		28213.30	27996.27	27926.25
111 Cd # 3	8.042	4.021	ug/l	2.21	100.00		6092.55	5895.63	5779.18
118 Sn # 3	19.712	9.856	ug/l	1.78	1800.00		45711.13	45269.71	43849.30
121 Sb # 3	10.376	5.188	ug/l	1.11	100.00		22558.58	21934.46	22044.55
137 Ba # 3	32.76	16.38	ug/l	0.46	1800.00		36175.86	36135.81	35704.90
202 Hg # 3	1.165	0.5825	ug/l	2.33	5.00		792.36	781.02	756.02
205 Tl # 3	6.956	3.478	ug/l	0.63	20.00		49380.98	49330.65	48517.98
208 Pb # 3	8.578	4.289	ug/l	1.10	1800.00		84303.57	84553.49	81945.81
232 Th # 3	26.02	13.01	ug/l	0.35	#VALUE!		220245.67	219438.25	218280.08
238 U # 3	27.52	13.76	ug/l	0.65	#VALUE!		233691.72	232768.75	230343.56

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	501744.31	0.90	836165.38	60.0	60 - 125		500342.19	506774.94	498115.94
45 Sc # 1	497174.97	7.39	552676.25	90.0	60 - 125		534515.38	461044.63	495964.94
45 Sc # 3	527275.75	0.31	644433.94	81.8	60 - 125		526866.56	529101.75	525858.88
74 Ge # 1	130658.20	6.10	175321.88	74.5	60 - 125		138595.66	122655.26	130723.70
74 Ge # 2	18822.39	2.25	27172.50	69.3	60 - 125		18429.39	18765.30	19272.47
74 Ge # 3	108623.41	1.46	164913.13	65.9	60 - 125		109996.77	108977.68	106895.77
89 Y # 3	759479.19	0.77	1068488.30	71.1	60 - 125		766205.69	756163.63	756068.25
115 In # 3	641808.00	0.47	1083659.40	59.2	60 - 125	IS F	645127.31	641084.63	639212.13
159 Tb # 3	934680.00	1.23	1651256.80	56.6	60 - 125	IS F	946588.75	933732.69	923718.63
209 Bi # 3	441322.69	0.26	1054491.00	41.9	60 - 125	IS F	442620.03	440397.81	440950.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\299SMPL.D\299SMPL.D#
Date Acquired: Dec 26 2012 10:03 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-19-a
Misc Info: 3010 1/10
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0008188	-0.0004094	ug/l	193.23	100.00		0.00	3.33	0.00
11 B	# 3	936.6	468.3	ug/l	1.11	1800.00		1177894.10	1184808.90	1192662.30
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	226600	113300	ug/l	1.12	81000.00		457173760.00	471450020.00	471613700.00
27 Al	# 1	2.104	1.052	ug/l	4.69	81000.00		5701.01	6211.16	6037.78
39 K	# 2	90960	45480	ug/l	1.26	81000.00		11237164.00	11545216.00	11448851.00
40 Ca	# 1	70260	35130	ug/l	0.47	81000.00		329421700.00	329106980.00	333928740.00
45 Sc	# 2	----	--------		--------	#VALUE!		36442.98	37191.03	37742.16
47 Ti	# 3	0.7872	0.3936	ug/l	7.46	1620.00		396.68	363.35	416.68
51 V	# 2	0.433	0.2165	ug/l	9.13	1800.00		474.46	548.90	514.46
52 Cr	# 2	0.07954	0.03977	ug/l	19.32	1800.00		151.11	173.34	187.78
55 Mn	# 3	19.468	9.734	ug/l	0.76	1800.00		131484.73	131787.44	130128.41
56 Fe	# 1	46.28	23.14	ug/l	0.41	81000.00		280215.56	279965.72	282821.00
59 Co	# 3	0.14922	0.07461	ug/l	8.97	1800.00		853.38	736.70	743.37
60 Ni	# 2	0.486	0.243	ug/l	9.44	1800.00		210.00	241.12	256.67
63 Cu	# 2	-0.17796	-0.08898	ug/l	9.87	1800.00		187.78	151.11	178.89
66 Zn	# 3	2.75	1.375	ug/l	2.77	1800.00		1916.82	1853.48	1853.49
75 As	# 2	0.4392	0.2196	ug/l	1.88	100.00		49.67	50.67	52.67
78 Se	# 1	0.2146	0.1073	ug/l	0.29	100.00		54.00	54.00	54.33
88 Sr	# 3	1204.2	602.1	ug/l	1.10	1800.00		11476373.00	11525913.00	11523366.00
95 Mo	# 3	0.757	0.3785	ug/l	6.73	1800.00		963.39	940.05	843.38
107 Ag	# 3	0.005784	0.002892	ug/l	98.69	100.00		56.67	20.00	26.67
111 Cd	# 3	0.014414	0.007207	ug/l	124.31	100.00		46.36	36.37	19.73
118 Sn	# 3	0.2258	0.1129	ug/l	8.14	1800.00		693.37	766.71	683.37
121 Sb	# 3	0.07974	0.03987	ug/l	26.24	100.00		370.01	286.68	353.35
137 Ba	# 3	11.914	5.957	ug/l	0.73	1800.00		13235.48	13469.01	13208.86
202 Hg	# 3	0.03224	0.01612	ug/l	5.99	5.00		44.67	42.67	45.00
205 Tl	# 3	0.03326	0.01663	ug/l	0.83	20.00		273.34	270.01	266.68
208 Pb	# 3	0.00466	0.00233	ug/l	19.48	1800.00		166.67	160.01	176.67
232 Th	# 3	0.2024	0.1012	ug/l	5.33	#VALUE!		1923.52	1800.17	1730.15
238 U	# 3	0.5414	0.2707	ug/l	3.22	#VALUE!		4524.15	4477.46	4734.21

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	516473.28	1.06	836165.38	61.8	60 - 125		512086.25	522597.91	514735.72
45 Sc	# 1	501666.00	0.92	552676.25	90.8	60 - 125		497194.94	501389.13	506413.88
45 Sc	# 3	539071.25	0.28	644433.94	83.7	60 - 125		537494.19	540539.38	539180.13
74 Ge	# 1	130311.83	0.23	175321.88	74.3	60 - 125		130005.20	130319.65	130610.62
74 Ge	# 2	18747.85	1.64	27172.50	69.0	60 - 125		18442.73	18741.91	19058.91
74 Ge	# 3	110003.97	1.23	164913.13	66.7	60 - 125		109651.78	111503.46	108856.64
89 Y	# 3	773745.88	0.91	1068488.30	72.4	60 - 125		780122.38	774869.88	766245.38
115 In	# 3	651615.44	0.55	1083659.40	60.1	60 - 125		652594.06	654612.88	647639.50
159 Tb	# 3	940020.69	0.52	1651256.80	56.9	60 - 125	IS I	945170.31	939393.94	935498.13
209 Bi	# 3	441792.84	0.38	1054491.00	41.9	60 - 125	IS I	443690.19	441238.69	440449.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
2 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\300_CCV.D\300_CCV.D#
Date Acquired: Dec 26 2012 10:10 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.67 ug/l	1.92	50.00	90 - 110		152252.31	154196.86	156350.52
11 B	106.3 ug/l	1.99	100.00	90 - 110		347755.41	354035.78	356388.84
23 Na	5031 ug/l	4.22	5000.00	90 - 110		35247664.00	36317540.00	39144888.00
24 Mg	4826 ug/l	1.64	5000.00	90 - 110		24061776.00	23592822.00	23861680.00
27 Al	485.1 ug/l	1.64	500.00	90 - 110		2749465.00	2715758.30	2723022.50
39 K	5129 ug/l	0.43	5000.00	90 - 110		1757030.80	1778102.90	1779073.90
40 Ca	4846 ug/l	1.42	5000.00	90 - 110		54868148.00	54808604.00	54671100.00
45 Sc	--------	--------	---	##### - #####		43609.16	44187.25	44810.87
47 Ti	50.01 ug/l	0.58	50.00	90 - 110		56502.72	55696.82	56422.67
51 V	51.4 ug/l	0.31	50.00	90 - 110		119780.43	120995.46	121606.09
52 Cr	50.76 ug/l	0.97	50.00	90 - 110		142302.59	142863.66	142553.36
55 Mn	500.1 ug/l	0.62	500.00	90 - 110		9598882.00	9481163.00	9691577.00
56 Fe	4915 ug/l	1.70	5000.00	90 - 110		82571976.00	84587824.00	86527448.00
59 Co	47.9 ug/l	0.32	50.00	90 - 110		700454.88	703100.50	707091.88
60 Ni	52.79 ug/l	0.98	50.00	90 - 110		63207.18	63266.19	63348.66
63 Cu	53.46 ug/l	1.26	50.00	90 - 110		168131.59	167807.56	167533.64
66 Zn	48.15 ug/l	0.69	50.00	90 - 110		86072.18	84716.93	86085.68
75 As	50.98 ug/l	0.58	50.00	90 - 110		11982.26	12057.31	12103.02
78 Se	48.12 ug/l	0.76	50.00	90 - 110		24570.16	24572.84	24529.79
88 Sr	50.62 ug/l	1.66	50.00	90 - 110		1272409.60	1247239.80	1273323.80
95 Mo	51.32 ug/l	1.46	50.00	90 - 110		173139.66	169822.00	173669.47
107 Ag	50.68 ug/l	1.22	50.00	90 - 110		501400.19	495627.19	497671.03
111 Cd	48.56 ug/l	0.22	50.00	90 - 110		103611.52	104217.20	104615.63
118 Sn	49.61 ug/l	1.62	50.00	90 - 110		333123.59	326912.75	328546.97
121 Sb	52.1 ug/l	1.59	50.00	90 - 110		326820.41	321723.72	321720.00
137 Ba	49.36 ug/l	1.03	50.00	90 - 110		159248.31	158141.72	158407.00
202 Hg	2.486 ug/l	1.36	2.50	90 - 110		5529.30	5535.97	5469.61
205 Tl	9.504 ug/l	1.92	10.00	90 - 110		182825.05	184918.78	182404.66
208 Pb	47.49 ug/l	1.33	50.00	90 - 110		1268058.80	1263811.00	1262653.50
232 Th	48.16 ug/l	0.54	---	##### - #####		1367209.10	1386581.10	1390154.40
238 U	47.37 ug/l	0.73	---	##### - #####		1364370.90	1353147.00	1365079.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	667491.06	3.19	836165.38	79.8	60 - 125		644638.44	671035.00	686799.69
45 Sc	601576.44	1.24	552676.25	108.8	60 - 125		596218.44	598401.63	610109.31
45 Sc	645893.06	0.75	644433.94	100.2	60 - 125		644997.63	641571.88	651109.75
74 Ge	191016.73	0.67	175321.88	109.0	60 - 125		189958.63	190644.72	192446.89
74 Ge	25688.87	1.08	27172.50	94.5	60 - 125		25382.13	25763.83	25920.66
74 Ge	157327.16	0.57	164913.13	95.4	60 - 125		157002.34	156645.81	158333.33
89 Y	1011051.10	1.94	1068488.30	94.6	60 - 125		999625.94	999826.25	1033701.40
115 In	938167.56	0.69	1083659.40	86.6	60 - 125		930989.88	939977.25	943535.81
159 Tb	1278946.30	1.24	1651256.80	77.5	60 - 125		1276154.60	1264616.90	1296067.40
209 Bi	751173.94	0.71	1054491.00	71.2	60 - 125		746819.13	749578.06	757124.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\301_CCB.D\301_CCB.D#
Date Acquired: Dec 26 2012 10:18 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01315	0.01315	ug/l	53.06	#VALUE!		63.34	20.00	43.33
11 B	# 3	6.919	6.919	ug/l	2.70	#VALUE!		28331.29	28438.15	27763.85
23 Na	# 1	71	71	ug/l	1.51	#VALUE!		601429.25	601268.81	601231.13
24 Mg	# 1	2.386	2.386	ug/l	1.62	#VALUE!		11710.55	11830.61	12277.52
27 Al	# 1	0.2592	0.2592	ug/l	11.52	#VALUE!		2670.27	2443.57	2756.94
39 K	# 2	6.034	6.034	ug/l	29.07	#VALUE!		10473.12	11877.39	11200.29
40 Ca	# 1	10.05	10.05	ug/l	0.81	#VALUE!		180749.05	183290.23	183445.23
45 Sc	# 2	----	--------		--------	#VALUE!		41107.91	42122.53	42647.02
47 Ti	# 3	0.0189	0.0189	ug/l	93.70	#VALUE!		36.67	70.00	36.67
51 V	# 2	0.03252	0.03252	ug/l	17.56	#VALUE!		256.67	287.78	281.12
52 Cr	# 2	0.01555	0.01555	ug/l	13.32	#VALUE!		172.22	163.34	170.00
55 Mn	# 3	0.157	0.157	ug/l	10.54	#VALUE!		4297.30	3907.18	3590.46
56 Fe	# 1	1.677	1.677	ug/l	1.11	#VALUE!		41827.78	41297.03	42218.80
59 Co	# 3	0.01322	0.01322	ug/l	24.07	#VALUE!		256.68	160.00	220.01
60 Ni	# 2	0.01837	0.01837	ug/l	7.94	#VALUE!		52.22	56.67	55.56
63 Cu	# 2	-0.06908	-0.06908	ug/l	8.24	#VALUE!		284.45	301.12	326.67
66 Zn	# 3	-0.007128	-0.007128	ug/l	273.99	#VALUE!		266.68	193.34	236.67
75 As	# 2	0.03747	0.03747	ug/l	34.96	#VALUE!		29.33	28.67	24.00
78 Se	# 1	0.06085	0.06085	ug/l	12.22	#VALUE!		56.67	50.00	56.67
88 Sr	# 3	0.04122	0.04122	ug/l	50.10	#VALUE!		1750.15	863.38	723.37
95 Mo	# 3	0.08321	0.08321	ug/l	14.31	#VALUE!		323.35	383.35	306.68
107 Ag	# 3	0.01601	0.01601	ug/l	17.90	#VALUE!		203.34	200.01	150.01
111 Cd	# 3	0.01435	0.01435	ug/l	44.73	#VALUE!		76.57	73.21	49.90
118 Sn	# 3	0.05362	0.05362	ug/l	13.28	#VALUE!		710.04	603.36	653.36
121 Sb	# 3	0.1071	0.1071	ug/l	2.06	#VALUE!		933.39	943.39	916.72
137 Ba	# 3	0.01937	0.01937	ug/l	22.82	#VALUE!		100.00	73.34	73.34
202 Hg	# 3	0.01236	0.01236	ug/l	14.52	#VALUE!		75.67	67.00	69.33
205 Tl	# 3	0.01418	0.01418	ug/l	17.65	#VALUE!		380.02	316.68	270.01
208 Pb	# 3	0.01725	0.01725	ug/l	12.99	#VALUE!		683.36	650.03	553.36
232 Th	# 3	0.108	0.108	ug/l	5.74	#VALUE!		3577.21	3617.22	3247.10
238 U	# 3	0.01779	0.01779	ug/l	11.27	#VALUE!		600.03	480.02	566.69

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	643282.00	1.94	836165.38	76.9	60 - 125		657504.19	634258.44	638083.19
45 Sc	# 1	581802.56	1.23	552676.25	105.3	60 - 125		573934.13	583462.75	588010.81
45 Sc	# 3	629641.69	1.29	644433.94	97.7	60 - 125		638510.63	627853.00	622561.56
74 Ge	# 1	186995.09	0.81	175321.88	106.7	60 - 125		185942.83	186320.63	188721.83
74 Ge	# 2	26124.31	1.16	27172.50	96.1	60 - 125		25783.86	26230.01	26359.08
74 Ge	# 3	157928.91	1.05	164913.13	95.8	60 - 125		159839.95	156816.34	157130.42
89 Y	# 3	1025023.40	2.45	1068488.30	95.9	60 - 125		1053945.60	1011958.30	1009166.30
115 In	# 3	968597.56	0.81	1083659.40	89.4	60 - 125		977675.81	964514.38	963602.50
159 Tb	# 3	1284864.00	2.39	1651256.80	77.8	60 - 125		1319987.50	1263461.00	1271143.60
209 Bi	# 3	795509.56	0.57	1054491.00	75.4	60 - 125		800176.13	795310.94	791041.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\302SMPL.D\302SMPL.D#
Date Acquired: Dec 26 2012 10:25 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-20-a
Misc Info: 3010 1/10
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.002216	0.001108	ug/l	204.33	100.00		10.00	3.33	0.00
11 B	# 3	729.2	364.6	ug/l	0.72	1800.00		865711.63	872368.75	864044.00
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	212600	106300	ug/l	0.29	81000.00		419618750.00	428206270.00	428788350.00
27 Al	# 1	3.28	1.64	ug/l	2.26	81000.00		8325.38	8385.40	8758.86
39 K	# 2	83820	41910	ug/l	2.09	81000.00		10544251.00	10373300.00	10463562.00
40 Ca	# 1	100000	50000	ug/l	0.07	81000.00		452062660.00	459182910.00	461320000.00
45 Sc	# 2	----	--------		--------	#VALUE!		35931.89	36555.39	37215.50
47 Ti	# 3	0.811	0.4055	ug/l	5.61	1620.00		366.68	396.69	403.35
51 V	# 2	0.3762	0.1881	ug/l	2.26	1800.00		447.79	460.01	476.68
52 Cr	# 2	1.5044	0.7522	ug/l	4.75	1800.00		1536.74	1681.20	1646.76
55 Mn	# 3	4.73	2.365	ug/l	0.53	1800.00		32425.47	31564.06	31544.04
56 Fe	# 1	18.086	9.043	ug/l	0.53	81000.00		114220.35	115925.12	114341.02
59 Co	# 3	0.18976	0.09488	ug/l	5.74	1800.00		1046.73	940.05	926.72
60 Ni	# 2	0.9444	0.4722	ug/l	3.19	1800.00		415.56	430.01	456.68
63 Cu	# 2	-0.17038	-0.08519	ug/l	2.47	1800.00		183.34	177.78	180.00
66 Zn	# 3	2.624	1.312	ug/l	5.37	1800.00		1780.14	1680.12	1846.82
75 As	# 2	27.3	13.65	ug/l	1.08	100.00		2330.15	2348.82	2377.16
78 Se	# 1	0.2262	0.1131	ug/l	20.31	100.00		48.67	64.67	54.00
88 Sr	# 3	1624.6	812.3	ug/l	0.46	1800.00		15530406.00	15155366.00	15243086.00
95 Mo	# 3	2.558	1.279	ug/l	4.29	1800.00		3070.35	2860.31	3137.04
107 Ag	# 3	0.011906	0.005953	ug/l	29.57	100.00		70.00	46.67	50.00
111 Cd	# 3	0.019382	0.009691	ug/l	34.25	100.00		42.35	39.09	32.33
118 Sn	# 3	0.18818	0.09409	ug/l	5.84	1800.00		606.70	643.36	636.70
121 Sb	# 3	0.275	0.1375	ug/l	7.05	100.00		720.03	786.71	770.04
137 Ba	# 3	6.026	3.013	ug/l	1.19	1800.00		6891.63	6604.81	6764.86
202 Hg	# 3	0.0314	0.0157	ug/l	8.75	5.00		42.67	44.67	45.67
205 Tl	# 3	0.009998	0.004999	ug/l	10.40	20.00		100.00	113.34	103.34
208 Pb	# 3	0.01487	0.007435	ug/l	10.55	1800.00		256.68	266.68	283.34
232 Th	# 3	0.16218	0.08109	ug/l	5.91	#VALUE!		1600.13	1496.78	1416.78
238 U	# 3	0.10856	0.05428	ug/l	6.54	#VALUE!		1013.41	906.72	893.39

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	484978.78	0.37	836165.38	58.0	60 - 125	IS F	483319.25	484730.50	486886.66
45 Sc	# 1	487487.44	1.08	552676.25	88.2	60 - 125		481642.75	488913.28	491906.22
45 Sc	# 3	519769.53	0.27	644433.94	80.7	60 - 125		521364.22	519251.44	518693.00
74 Ge	# 1	129484.60	0.35	175321.88	73.9	60 - 125		129116.95	129996.31	129340.53
74 Ge	# 2	18652.95	1.95	27172.50	68.6	60 - 125		18433.85	18452.73	19072.26
74 Ge	# 3	108290.16	1.07	164913.13	65.7	60 - 125		109621.27	107727.03	107522.20
89 Y	# 3	762857.31	0.85	1068488.30	71.4	60 - 125		770325.06	758592.63	759654.38
115 In	# 3	653302.31	0.97	1083659.40	60.3	60 - 125		660009.50	647404.25	652493.13
159 Tb	# 3	944427.19	0.80	1651256.80	57.2	60 - 125	IS F	952944.13	941782.38	938554.88
209 Bi	# 3	449619.88	0.72	1054491.00	42.6	60 - 125	IS F	451990.94	450962.81	445905.97

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
3 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\303SMPL.D\303SMPL.D#
Date Acquired: Dec 26 2012 10:32 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-21-a
Misc Info: 3010 1/10
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.007092	0.003546	ug/l	35.67	100.00		16.67	13.33	10.00
11 B	# 3	12.83	6.415	ug/l	3.16	1800.00		26612.18	27112.79	27356.58
23 Na	# 1	420.2	210.1	ug/l	1.23	81000.00		1574503.90	1590990.80	1629851.50
24 Mg	# 1	39.46	19.73	ug/l	0.96	81000.00		94387.89	95212.37	97218.33
27 Al	# 1	1.7548	0.8774	ug/l	1.79	81000.00		6061.12	5997.75	6051.12
39 K	# 2	12.632	6.316	ug/l	18.71	81000.00		11377.32	10663.27	11170.27
40 Ca	# 1	36.86	18.43	ug/l	1.10	81000.00		273266.03	275357.88	280323.69
45 Sc	# 2	----	--------		--------	#VALUE!		41238.38	41788.39	42661.49
47 Ti	# 3	0.3138	0.1569	ug/l	18.73	1620.00		236.68	196.67	170.01
51 V	# 2	0.234	0.117	ug/l	11.15	1800.00		448.90	446.68	508.90
52 Cr	# 2	0.111	0.0555	ug/l	2.83	1800.00		273.34	273.34	285.56
55 Mn	# 3	0.03782	0.01891	ug/l	23.78	1800.00		1366.75	1196.74	1246.74
56 Fe	# 1	2.898	1.449	ug/l	1.54	81000.00		38146.52	38627.49	37765.82
59 Co	# 3	0.00267	0.001335	ug/l	73.58	1800.00		53.33	30.00	26.67
60 Ni	# 2	0.782	0.391	ug/l	5.90	1800.00		521.12	500.01	476.68
63 Cu	# 2	0.3228	0.1614	ug/l	2.68	1800.00		994.48	1017.82	1043.37
66 Zn	# 3	0.7364	0.3682	ug/l	5.35	1800.00		933.38	863.38	900.05
75 As	# 2	0.0953	0.04765	ug/l	36.98	100.00		33.67	27.33	26.67
78 Se	# 1	0.03192	0.01596	ug/l	19.36	100.00		30.33	33.33	33.00
88 Sr	# 3	0.2456	0.1228	ug/l	7.38	1800.00		3403.77	2936.98	3090.35
95 Mo	# 3	0.04956	0.02478	ug/l	22.51	1800.00		156.67	123.34	123.34
107 Ag	# 3	0.005632	0.002816	ug/l	54.19	100.00		46.67	66.67	36.67
111 Cd	# 3	-0.00411	-0.002055	ug/l	196.11	100.00		33.28	36.63	19.96
118 Sn	# 3	0.1268	0.0634	ug/l	5.22	1800.00		706.71	700.03	743.37
121 Sb	# 3	0.08708	0.04354	ug/l	26.16	100.00		536.69	440.02	583.37
137 Ba	# 3	0.5058	0.2529	ug/l	9.24	1800.00		936.72	786.71	826.71
202 Hg	# 3	0.004522	0.002261	ug/l	74.17	5.00		45.00	50.33	43.00
205 Tl	# 3	0.008054	0.004027	ug/l	6.15	20.00		123.34	120.00	130.00
208 Pb	# 3	0.006164	0.003082	ug/l	39.39	1800.00		273.34	210.01	263.34
232 Th	# 3	0.04738	0.02369	ug/l	13.50	#VALUE!		1010.07	830.05	856.72
238 U	# 3	0.0017446	0.0008723	ug/l	34.07	#VALUE!		30.00	26.67	43.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	653958.88	3.77	836165.38	78.2	60 - 125		628109.75	656503.44	677263.50
45 Sc	# 1	586764.94	1.03	552676.25	106.2	60 - 125		579817.44	589714.00	590763.19
45 Sc	# 3	636061.44	0.52	644433.94	98.7	60 - 125		639188.44	636376.38	632619.63
74 Ge	# 1	188094.64	0.33	175321.88	107.3	60 - 125		187480.00	188707.08	188096.84
74 Ge	# 2	25643.62	1.08	27172.50	94.4	60 - 125		25389.93	25600.22	25940.70
74 Ge	# 3	157737.97	0.26	164913.13	95.6	60 - 125		157985.22	157961.88	157266.83
89 Y	# 3	1016639.90	0.80	1068488.30	95.1	60 - 125		1023130.70	1019327.10	1007461.80
115 In	# 3	960910.63	0.16	1083659.40	88.7	60 - 125		961558.13	959164.38	962009.44
159 Tb	# 3	1281094.00	0.74	1651256.80	77.6	60 - 125		1290055.10	1271084.90	1282142.00
209 Bi	# 3	778522.31	0.22	1054491.00	73.8	60 - 125		780501.56	777461.56	777603.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\304SMPL.D\304SMPL.D#
Date Acquired: Dec 26 2012 10:40 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-22-a
Misc Info: 3010 1/10
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0017322	-0.0008661	ug/l	0.00	100.00		0.00	0.00	0.00
11 B	# 3	955.4	477.7	ug/l	1.47	1800.00		1056732.40	1095299.50	1066975.50
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	275000	137500	ug/l	0.61	81000.00		513068670.00	522283520.00	527516640.00
27 Al	# 1	9.364	4.682	ug/l	2.24	81000.00		21338.44	20765.06	21345.67
39 K	# 2	108040	54020	ug/l	0.22	81000.00		12542191.00	12919717.00	12932930.00
40 Ca	# 1	96860	48430	ug/l	0.62	81000.00		411951230.00	422532700.00	423390590.00
45 Sc	# 2	----	--------		--------	#VALUE!		34147.56	35366.43	35253.95
47 Ti	# 3	1.098	0.549	ug/l	10.37	1620.00		446.69	546.69	486.69
51 V	# 2	0.5192	0.2596	ug/l	5.84	1800.00		523.35	550.01	587.79
52 Cr	# 2	0.09376	0.04688	ug/l	10.94	1800.00		171.11	166.67	186.67
55 Mn	# 3	6.382	3.191	ug/l	0.53	1800.00		40701.86	40351.07	40083.86
56 Fe	# 1	60.46	30.23	ug/l	1.23	81000.00		333942.19	336304.13	339576.72
59 Co	# 3	0.2086	0.1043	ug/l	4.80	1800.00		956.72	1050.06	1013.39
60 Ni	# 2	0.4772	0.2386	ug/l	5.91	1800.00		224.45	208.89	223.34
63 Cu	# 2	0.298	0.149	ug/l	7.62	1800.00		674.46	655.57	698.91
66 Zn	# 3	3.974	1.987	ug/l	3.63	1800.00		2440.23	2376.89	2530.24
75 As	# 2	0.5986	0.2993	ug/l	12.18	100.00		60.00	67.67	55.67
78 Se	# 1	0.239	0.1195	ug/l	14.70	100.00		47.67	56.67	57.33
88 Sr	# 3	1650	825	ug/l	1.18	1800.00		14890353.00	14487851.00	14499408.00
95 Mo	# 3	2.126	1.063	ug/l	4.12	1800.00		2236.87	2383.56	2350.23
107 Ag	# 3	0.02666	0.01333	ug/l	20.35	100.00		86.67	116.67	90.00
111 Cd	# 3	0.01584	0.00792	ug/l	51.36	100.00		35.95	25.90	35.92
118 Sn	# 3	0.15708	0.07854	ug/l	9.73	1800.00		510.02	546.69	486.69
121 Sb	# 3	0.2052	0.1026	ug/l	9.67	100.00		596.70	573.36	516.69
137 Ba	# 3	5.016	2.508	ug/l	5.75	1800.00		5404.36	5331.02	4844.15
202 Hg	# 3	0.02756	0.01378	ug/l	23.57	5.00		39.33	34.00	41.33
205 Tl	# 3	0.006208	0.003104	ug/l	15.47	20.00		80.00	73.34	66.67
208 Pb	# 3	0.2268	0.1134	ug/l	3.58	1800.00		2240.13	2113.46	2230.13
232 Th	# 3	0.0822	0.0411	ug/l	10.66	#VALUE!		800.05	670.03	773.38
238 U	# 3	0.5848	0.2924	ug/l	2.49	#VALUE!		4750.87	4590.82	4467.47

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	458434.06	0.72	836165.38	54.8	60 - 125	IS F	458555.41	461660.88	455085.97
45 Sc	# 1	461240.22	0.90	552676.25	83.5	60 - 125		456437.34	463393.88	463889.47
45 Sc	# 3	494242.22	0.41	644433.94	76.7	60 - 125		494024.94	496345.66	492356.13
74 Ge	# 1	120435.04	0.65	175321.88	68.7	60 - 125		121144.13	119604.01	120556.97
74 Ge	# 2	17703.11	1.94	27172.50	65.2	60 - 125		17306.07	17904.40	17898.87
74 Ge	# 3	102305.16	0.29	164913.13	62.0	60 - 125		102521.15	102426.91	101967.43
89 Y	# 3	717583.44	0.59	1068488.30	67.2	60 - 125		721218.56	712959.13	718572.56
115 In	# 3	603285.63	0.78	1083659.40	55.7	60 - 125	IS F	608280.94	598930.19	602645.69
159 Tb	# 3	881086.44	0.45	1651256.80	53.4	60 - 125	IS F	883619.38	883077.06	876562.88
209 Bi	# 3	411134.56	0.63	1054491.00	39.0	60 - 125	IS F	413380.88	411739.69	408283.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
4 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\305SMPL.D\305SMPL.D#
Date Acquired: Dec 26 2012 10:47 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-23-a
Misc Info: 3010 1/10
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0013662	0.0006831	ug/l	3.38	100.00		3.33	3.33	3.33
11 B	# 3	927	463.5	ug/l	1.35	1800.00		1044086.10	1058086.00	1047053.90
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	263200	131600	ug/l	0.98	81000.00		512322110.00	520596740.00	529751230.00
27 Al	# 1	9.67	4.835	ug/l	9.61	81000.00		22019.84	21058.76	25340.85
39 K	# 2	105800	52900	ug/l	0.75	81000.00		12550855.00	12739837.00	12883333.00
40 Ca	# 1	92540	46270	ug/l	0.76	81000.00		413659100.00	421336030.00	421112000.00
45 Sc	# 2	----	--------		--------	#VALUE!		35644.69	36245.84	36616.60
47 Ti	# 3	1.1376	0.5688	ug/l	15.47	1620.00		493.35	610.04	463.35
51 V	# 2	0.4884	0.2442	ug/l	8.88	1800.00		503.35	583.35	524.46
52 Cr	# 2	0.07096	0.03548	ug/l	19.20	1800.00		145.56	172.22	147.78
55 Mn	# 3	6.494	3.247	ug/l	1.79	1800.00		42144.91	40681.88	41453.56
56 Fe	# 1	56.42	28.21	ug/l	0.65	81000.00		327834.00	326857.31	328925.69
59 Co	# 3	0.2042	0.1021	ug/l	11.85	1800.00		1130.07	896.72	956.72
60 Ni	# 2	0.4818	0.2409	ug/l	9.25	1800.00		200.00	242.23	231.12
63 Cu	# 2	0.215	0.1075	ug/l	9.65	1800.00		576.68	627.79	583.35
66 Zn	# 3	3.996	1.998	ug/l	1.87	1800.00		2516.91	2440.24	2493.58
75 As	# 2	0.592	0.296	ug/l	14.06	100.00		67.00	55.00	62.33
78 Se	# 1	0.252	0.126	ug/l	14.67	100.00		65.00	54.33	55.67
88 Sr	# 3	1586.6	793.3	ug/l	0.80	1800.00		14480691.00	14242326.00	14102463.00
95 Mo	# 3	1.9676	0.9838	ug/l	2.76	1800.00		2163.53	2256.87	2130.19
107 Ag	# 3	0.018894	0.009447	ug/l	60.96	100.00		60.00	116.67	46.67
111 Cd	# 3	0.018456	0.009228	ug/l	39.12	100.00		39.31	29.28	35.99
118 Sn	# 3	0.1651	0.08255	ug/l	9.74	1800.00		513.36	533.36	570.03
121 Sb	# 3	0.2216	0.1108	ug/l	12.22	100.00		600.03	663.37	546.69
137 Ba	# 3	5.516	2.758	ug/l	3.02	1800.00		5931.24	5917.87	5521.05
202 Hg	# 3	0.0358	0.0179	ug/l	14.27	5.00		47.33	42.00	41.00
205 Tl	# 3	0.00381	0.001905	ug/l	32.74	20.00		56.67	66.67	50.00
208 Pb	# 3	0.19768	0.09884	ug/l	1.81	1800.00		1970.11	1900.10	1953.44
232 Th	# 3	0.06324	0.03162	ug/l	7.93	#VALUE!		576.70	646.70	583.37
238 U	# 3	0.5484	0.2742	ug/l	1.42	#VALUE!		4310.73	4337.41	4370.77

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	462261.75	1.48	836165.38	55.3	60 - 125	IS F	465358.13	466996.34	454430.88
45 Sc	# 1	482087.16	0.72	552676.25	87.2	60 - 125		479241.53	481037.19	485982.75
45 Sc	# 3	505849.56	0.21	644433.94	78.5	60 - 125		506937.06	505743.13	504868.47
74 Ge	# 1	125479.98	0.66	175321.88	71.6	60 - 125		124566.90	125687.60	126185.45
74 Ge	# 2	17974.86	1.52	27172.50	66.2	60 - 125		17660.83	18152.45	18111.31
74 Ge	# 3	103181.88	0.83	164913.13	62.6	60 - 125		103887.90	103425.67	102232.04
89 Y	# 3	728351.63	0.76	1068488.30	68.2	60 - 125		734663.13	724150.69	726241.25
115 In	# 3	611791.50	1.10	1083659.40	56.5	60 - 125	IS F	617703.13	613220.75	604450.75
159 Tb	# 3	887138.44	0.95	1651256.80	53.7	60 - 125	IS F	896434.44	884922.25	880058.50
209 Bi	# 3	413372.22	0.73	1054491.00	39.2	60 - 125	IS F	416520.94	413064.53	410531.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
4 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\306_CCV.D\306_CCV.D#
Date Acquired: Dec 26 2012 10:55 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.64 ug/l	2.00	50.00	90 - 110		145202.55	146657.34	147360.25
11 B	107.5 ug/l	2.87	100.00	90 - 110		325854.94	335911.56	334512.50
23 Na	5020 ug/l	1.92	5000.00	90 - 110		35002388.00	34750800.00	35930940.00
24 Mg	4854 ug/l	1.35	5000.00	90 - 110		22687236.00	23349572.00	22814486.00
27 Al	483.2 ug/l	1.13	500.00	90 - 110		2566128.80	2621541.80	2617929.30
39 K	5088 ug/l	1.51	5000.00	90 - 110		1665120.40	1695552.50	1737366.40
40 Ca	4838 ug/l	2.05	5000.00	90 - 110		51324620.00	52324492.00	53415672.00
45 Sc	--------	--------	---	##### - #####		41738.25	41927.57	42567.85
47 Ti	49.54 ug/l	2.05	50.00	90 - 110		53323.66	53928.37	53697.97
51 V	50.58 ug/l	1.23	50.00	90 - 110		113807.85	115388.70	115552.84
52 Cr	49.98 ug/l	1.45	50.00	90 - 110		134805.36	136219.28	136188.95
55 Mn	485.6 ug/l	0.43	500.00	90 - 110		9178700.00	9076409.00	9011198.00
56 Fe	4855 ug/l	2.07	5000.00	90 - 110		79924696.00	78969984.00	82524544.00
59 Co	47.1 ug/l	1.47	50.00	90 - 110		673507.38	675460.56	676633.06
60 Ni	51.96 ug/l	2.87	50.00	90 - 110		60788.06	60043.32	59798.07
63 Cu	53.24 ug/l	1.59	50.00	90 - 110		160769.88	162160.91	161870.44
66 Zn	47.68 ug/l	1.09	50.00	90 - 110		82981.27	83142.05	82151.17
75 As	50.39 ug/l	0.90	50.00	90 - 110		11324.51	11559.33	11658.72
78 Se	48.29 ug/l	0.25	50.00	90 - 110		23659.65	23731.42	23834.88
88 Sr	50.04 ug/l	0.71	50.00	90 - 110		1224628.80	1201730.60	1203482.00
95 Mo	50.78 ug/l	1.80	50.00	90 - 110		165437.89	166530.53	165649.42
107 Ag	50.18 ug/l	0.78	50.00	90 - 110		485722.59	475157.91	479955.34
111 Cd	48.62 ug/l	0.19	50.00	90 - 110		103258.50	100542.00	100834.28
118 Sn	48.85 ug/l	1.76	50.00	90 - 110		315185.81	316499.28	316003.66
121 Sb	51.11 ug/l	1.65	50.00	90 - 110		308819.22	310366.25	307484.47
137 Ba	48.31 ug/l	0.80	50.00	90 - 110		152466.75	150478.75	150458.22
202 Hg	2.473 ug/l	1.44	2.50	90 - 110		5296.89	5374.58	5351.24
205 Tl	9.625 ug/l	2.27	10.00	90 - 110		177464.59	178040.47	178289.05
208 Pb	47.85 ug/l	1.38	50.00	90 - 110		1230455.90	1216349.00	1215989.00
232 Th	47.49 ug/l	2.01	---	##### - #####		1307095.40	1332503.00	1340704.10
238 U	46.4 ug/l	2.02	---	##### - #####		1287146.30	1286345.30	1322200.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	621256.88	2.14	836165.38	74.3	60 - 125		620373.19	608430.69	634966.81
45 Sc	575744.25	0.19	552676.25	104.2	60 - 125		575309.13	576984.63	574939.06
45 Sc	622445.13	1.58	644433.94	96.6	60 - 125		633451.25	619417.63	614466.38
74 Ge	184007.45	0.55	175321.88	105.0	60 - 125		182879.27	184321.34	184821.78
74 Ge	24841.05	2.02	27172.50	91.4	60 - 125		24267.33	25195.20	25060.61
74 Ge	153561.33	1.25	164913.13	93.1	60 - 125		155759.02	152712.77	152212.22
89 Y	978645.00	1.71	1068488.30	91.6	60 - 125		997850.81	971182.25	966901.75
115 In	913511.44	1.57	1083659.40	84.3	60 - 125		930107.50	905318.75	905108.13
159 Tb	1225530.90	2.07	1651256.80	74.2	60 - 125		1254804.90	1211595.90	1210192.00
209 Bi	731766.31	0.71	1054491.00	69.4	60 - 125		737734.19	728794.88	728769.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\307_CCB.D\307_CCB.D#
Date Acquired: Dec 26 2012 11:02 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01411	0.01411	ug/l	6.93	#VALUE!		43.33	40.00	40.00
11 B	# 3	6.363	6.363	ug/l	1.67	#VALUE!		24098.87	24269.15	24402.70
23 Na	# 1	91.15	91.15	ug/l	1.98	#VALUE!		709082.19	710263.31	741621.50
24 Mg	# 1	4.539	4.539	ug/l	6.25	#VALUE!		20644.89	20674.89	23257.99
27 Al	# 1	0.2882	0.2882	ug/l	10.33	#VALUE!		2703.61	2516.90	2860.30
39 K	# 2	7.35	7.35	ug/l	20.44	#VALUE!		10633.24	11657.27	11313.70
40 Ca	# 1	11.02	11.02	ug/l	1.63	#VALUE!		183565.72	186728.67	190493.17
45 Sc	# 2	-----	--------		--------	#VALUE!		39514.66	40128.14	40644.77
47 Ti	# 3	0.03793	0.03793	ug/l	7.90	#VALUE!		63.34	66.67	70.00
51 V	# 2	0.03855	0.03855	ug/l	15.44	#VALUE!		270.00	293.34	272.23
52 Cr	# 2	0.02366	0.02366	ug/l	11.86	#VALUE!		192.23	181.11	180.00
55 Mn	# 3	0.1491	0.1491	ug/l	0.98	#VALUE!		3740.50	3637.11	3680.46
56 Fe	# 1	1.77	1.77	ug/l	2.64	#VALUE!		42021.95	42910.21	42011.67
59 Co	# 3	0.01446	0.01446	ug/l	8.22	#VALUE!		210.01	223.34	240.01
60 Ni	# 2	0.02615	0.02615	ug/l	1.70	#VALUE!		61.11	62.22	62.22
63 Cu	# 2	-0.06154	-0.06154	ug/l	7.25	#VALUE!		327.78	301.12	317.78
66 Zn	# 3	-0.01148	-0.01148	ug/l	56.48	#VALUE!		233.34	216.67	206.67
75 As	# 2	0.03749	0.03749	ug/l	24.92	#VALUE!		24.00	26.33	28.67
78 Se	# 1	0.05442	0.05442	ug/l	15.85	#VALUE!		46.00	49.67	54.33
88 Sr	# 3	0.02645	0.02645	ug/l	2.98	#VALUE!		716.71	703.37	680.03
95 Mo	# 3	0.06891	0.06891	ug/l	10.67	#VALUE!		266.68	310.01	270.01
107 Ag	# 3	0.01709	0.01709	ug/l	31.63	#VALUE!		246.68	186.67	140.00
111 Cd	# 3	0.0181	0.0181	ug/l	39.16	#VALUE!		56.58	86.57	76.58
118 Sn	# 3	0.05771	0.05771	ug/l	9.88	#VALUE!		703.37	673.37	630.03
121 Sb	# 3	0.09976	0.09976	ug/l	8.85	#VALUE!		906.72	800.04	890.05
137 Ba	# 3	0.01582	0.01582	ug/l	29.52	#VALUE!		60.00	60.00	86.67
202 Hg	# 3	0.01231	0.01231	ug/l	29.97	#VALUE!		63.00	63.00	76.67
205 Tl	# 3	0.01083	0.01083	ug/l	14.58	#VALUE!		280.01	253.34	216.68
208 Pb	# 3	0.01738	0.01738	ug/l	3.81	#VALUE!		633.36	623.36	590.02
232 Th	# 3	0.1003	0.1003	ug/l	3.58	#VALUE!		3233.78	3030.43	3060.40
238 U	# 3	0.01816	0.01816	ug/l	7.04	#VALUE!		540.02	500.02	570.03

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	590238.06	1.79	836165.38	70.6	60 - 125		578066.44	596151.69	596496.06
45 Sc	# 1	563368.75	0.87	552676.25	101.9	60 - 125		559342.81	561909.69	568853.75
45 Sc	# 3	611387.00	0.23	644433.94	94.9	60 - 125		609811.06	611835.19	612514.81
74 Ge	# 1	182516.03	0.60	175321.88	104.1	60 - 125		183321.92	181271.09	182955.08
74 Ge	# 2	25137.76	0.72	27172.50	92.5	60 - 125		25012.77	25055.08	25345.44
74 Ge	# 3	154086.36	1.04	164913.13	93.4	60 - 125		155923.39	153342.78	152992.92
89 Y	# 3	983316.88	0.09	1068488.30	92.0	60 - 125		982317.50	983621.13	984011.75
115 In	# 3	948186.94	0.34	1083659.40	87.5	60 - 125		948023.50	945081.44	951456.00
159 Tb	# 3	1251029.30	0.92	1651256.80	75.8	60 - 125		1257855.60	1257535.10	1237697.10
209 Bi	# 3	762230.75	0.48	1054491.00	72.3	60 - 125		764435.38	764255.19	758001.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\308SMPL.D\308SMPL.D#
Date Acquired: Dec 26 2012 11:10 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-14-a
Misc Info: 3010 1/5
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.00587	0.00587	ug/l	53.27	100.00		10.00	6.67	16.67
11 B # 3	751.3	751.3	ug/l	0.29	1800.00		1311320.00	1302026.10	1299318.90
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	235900	235900	ug/l	0.86	81000.00		770719740.00	786306820.00	789932350.00
27 Al # 1	35.73	35.73	ug/l	0.90	81000.00		133723.56	136558.75	136962.67
39 K # 2	99410	99410	ug/l	0.26	81000.00		18986740.00	19262724.00	19624638.00
40 Ca # 1	89180	89180	ug/l	0.63	81000.00		671051710.00	679264830.00	677712640.00
45 Sc # 2	----	--------		--------	#VALUE!		29625.48	30370.04	30220.84
47 Ti # 3	1.715	1.715	ug/l	3.51	1620.00		1283.47	1190.07	1226.74
51 V # 2	0.6009	0.6009	ug/l	7.81	1800.00		950.03	904.47	860.03
52 Cr # 2	0.2594	0.2594	ug/l	1.10	1800.00		474.46	481.12	484.46
55 Mn # 3	23.7	23.7	ug/l	1.00	1800.00		234550.88	233135.83	231044.69
56 Fe # 1	292.8	292.8	ug/l	0.08	81000.00		2656618.00	2670452.50	2673059.50
59 Co # 3	0.2771	0.2771	ug/l	7.44	1800.00		1950.16	2126.85	2190.20
60 Ni # 2	0.7875	0.7875	ug/l	6.63	1800.00		553.35	576.68	521.12
63 Cu # 2	1.5	1.5	ug/l	2.67	1800.00		2933.59	2853.58	3038.05
66 Zn # 3	8.943	8.943	ug/l	0.78	1800.00		8352.09	8225.38	8132.01
75 As # 2	0.5405	0.5405	ug/l	11.78	100.00		84.33	72.33	90.00
78 Se # 1	0.2647	0.2647	ug/l	15.01	100.00		95.67	81.67	75.33
88 Sr # 3	1535	1535	ug/l	0.61	1800.00		22394116.00	22133028.00	21874230.00
95 Mo # 3	1.596	1.596	ug/l	4.18	1800.00		2840.31	2853.65	2656.95
107 Ag # 3	0.05269	0.05269	ug/l	5.14	100.00		273.34	266.68	293.35
111 Cd # 3	0.04374	0.04374	ug/l	42.34	100.00		72.43	42.42	82.49
118 Sn # 3	0.2736	0.2736	ug/l	4.21	1800.00		1046.73	1086.73	1103.40
121 Sb # 3	0.385	0.385	ug/l	8.80	100.00		1243.42	1396.76	1416.76
137 Ba # 3	6.874	6.874	ug/l	1.09	1800.00		11647.64	11270.70	11247.32
202 Hg # 3	0.04738	0.04738	ug/l	6.14	5.00		65.67	59.33	61.33
205 Tl # 3	0.007416	0.007416	ug/l	22.44	20.00		120.00	116.67	86.67
208 Pb # 3	1.497	1.497	ug/l	1.52	1800.00		22740.47	23050.68	22453.54
232 Th # 3	0.1083	0.1083	ug/l	5.66	#VALUE!		1520.12	1380.10	1366.77
238 U # 3	0.6246	0.6246	ug/l	0.68	#VALUE!		7792.22	7652.12	7815.58

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	354883.78	0.68	836165.38	42.4	60 - 125	IS F	357222.84	355048.94	352379.56
45 Sc # 1	403866.84	0.68	552676.25	73.1	60 - 125		401679.25	402970.84	406950.47
45 Sc # 3	407639.72	0.35	644433.94	63.3	60 - 125		409186.91	406354.56	407377.69
74 Ge # 1	100859.04	0.34	175321.88	57.5	60 - 125	IS F	100495.83	100914.94	101166.38
74 Ge # 2	14503.98	1.91	27172.50	53.4	60 - 125	IS F	14244.52	14471.34	14796.08
74 Ge # 3	80490.66	1.70	164913.13	48.8	60 - 125	IS F	81495.28	81049.87	78926.84
89 Y # 3	583616.06	0.78	1068488.30	54.6	60 - 125	IS F	588845.13	581161.06	580842.06
115 In # 3	483395.03	1.21	1083659.40	44.6	60 - 125	IS F	489437.81	477805.03	482942.19
159 Tb # 3	726929.56	0.42	1651256.80	44.0	60 - 125	IS F	730289.44	724236.56	726262.75
209 Bi # 3	324418.41	0.78	1054491.00	30.8	60 - 125	IS F	326903.28	321844.06	324507.91

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
8 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\309SMPL.D\309SMPL.D#
Date Acquired: Dec 26 2012 11:17 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-a-15-a
Misc Info: 3010 1/5
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.002526	0.002526	ug/l	45.49	100.00		6.67	6.67	3.33
11 B	# 3	815.5	815.5	ug/l	1.02	1800.00		1430749.40	1377646.50	1390659.40
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	237400	237400	ug/l	1.32	81000.00		800545410.00	821500540.00	820265150.00
27 Al	# 1	16.95	16.95	ug/l	2.24	81000.00		65302.02	67137.84	68714.16
39 K	# 2	101800	101800	ug/l	1.24	81000.00		19759484.00	20213770.00	20513300.00
40 Ca	# 1	82090	82090	ug/l	0.38	81000.00		639277250.00	643826560.00	647218050.00
45 Sc	# 2	----	--------		--------	#VALUE!		30571.49	30727.21	31443.96
47 Ti	# 3	1.357	1.357	ug/l	2.36	1620.00		970.05	1010.06	963.39
51 V	# 2	0.4954	0.4954	ug/l	4.55	1800.00		742.24	818.91	783.36
52 Cr	# 2	0.1052	0.1052	ug/l	4.76	1800.00		244.45	244.45	232.23
55 Mn	# 3	4.857	4.857	ug/l	2.28	1800.00		49205.57	48363.67	47116.67
56 Fe	# 1	44	44	ug/l	0.37	81000.00		415868.44	419791.59	421842.97
59 Co	# 3	0.1881	0.1881	ug/l	6.72	1800.00		1523.44	1416.75	1336.75
60 Ni	# 2	0.4312	0.4312	ug/l	2.68	1800.00		317.78	322.23	307.78
63 Cu	# 2	0.4823	0.4823	ug/l	2.80	1800.00		1127.82	1200.05	1171.16
66 Zn	# 3	3.67	3.67	ug/l	2.26	1800.00		3443.75	3400.42	3543.77
75 As	# 2	0.451	0.451	ug/l	9.32	100.00		74.33	65.67	75.00
78 Se	# 1	0.2278	0.2278	ug/l	5.93	100.00		72.33	76.67	80.67
88 Sr	# 3	1455	1455	ug/l	0.30	1800.00		21150836.00	20954760.00	20616472.00
95 Mo	# 3	2.16	2.16	ug/l	6.92	1800.00		4013.90	3760.53	3420.43
107 Ag	# 3	0.02368	0.02368	ug/l	19.37	100.00		136.67	150.01	103.34
111 Cd	# 3	0.0369	0.0369	ug/l	28.27	100.00		68.72	45.46	58.91
118 Sn	# 3	0.2899	0.2899	ug/l	9.30	1800.00		1226.75	1033.40	1120.07
121 Sb	# 3	0.2017	0.2017	ug/l	7.23	100.00		786.71	710.03	786.71
137 Ba	# 3	3.662	3.662	ug/l	1.88	1800.00		6074.60	6154.62	5847.82
202 Hg	# 3	0.03765	0.03765	ug/l	5.34	5.00		51.00	50.67	54.00
205 Tl	# 3	0.005625	0.005625	ug/l	30.31	20.00		80.00	73.34	106.67
208 Pb	# 3	0.382	0.382	ug/l	3.26	1800.00		5790.60	5637.26	5923.94
232 Th	# 3	0.05669	0.05669	ug/l	6.52	#VALUE!		800.05	790.05	716.70
238 U	# 3	0.6095	0.6095	ug/l	0.89	#VALUE!		7515.43	7418.68	7352.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	350943.91	1.51	836165.38	42.0	60 - 125	IS F	356804.16	349534.69	346492.88
45 Sc	# 1	417575.38	0.42	552676.25	75.6	60 - 125		416622.41	416524.72	419578.94
45 Sc	# 3	408066.88	0.40	644433.94	63.3	60 - 125		408881.72	409130.63	406188.28
74 Ge	# 1	103889.10	0.59	175321.88	59.3	60 - 125	IS F	103427.63	103656.66	104583.01
74 Ge	# 2	14795.69	1.05	27172.50	54.5	60 - 125	IS F	14622.59	14922.83	14841.65
74 Ge	# 3	80688.31	0.18	164913.13	48.9	60 - 125	IS F	80544.58	80832.16	80688.18
89 Y	# 3	581545.50	1.04	1068488.30	54.4	60 - 125	IS F	586328.06	583597.56	574710.94
115 In	# 3	479776.50	1.12	1083659.40	44.3	60 - 125	IS F	484710.81	480589.38	474029.31
159 Tb	# 3	715638.25	0.81	1651256.80	43.3	60 - 125	IS F	718726.13	719205.50	708983.13
209 Bi	# 3	318531.41	0.91	1054491.00	30.2	60 - 125	IS F	321499.78	315735.03	318359.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
8 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\310SMPL.D\310SMPL.D#
Date Acquired: Dec 26 2012 11:24 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-16-a
Misc Info: 3010 1/5
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0001726	-0.0001726	ug/l	695.83	100.00		3.33	0.00	0.00
11 B # 3	808.9	808.9	ug/l	0.56	1800.00		1353986.30	1345919.40	1348751.50
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	235100	235100	ug/l	0.22	81000.00		810589440.00	815780030.00	821445500.00
27 Al # 1	7.337	7.337	ug/l	0.09	81000.00		29723.64	29817.15	30084.06
39 K # 2	99850	99850	ug/l	0.74	81000.00		19506640.00	19943324.00	19880574.00
40 Ca # 1	81140	81140	ug/l	0.33	81000.00		642664830.00	643284220.00	645286400.00
45 Sc # 2	----	--------		--------	#VALUE!		30444.58	30995.50	31177.99
47 Ti # 3	1.242	1.242	ug/l	4.65	1620.00		900.05	850.05	916.72
51 V # 2	0.4895	0.4895	ug/l	7.52	1800.00		718.91	824.47	777.80
52 Cr # 2	0.0708	0.0708	ug/l	10.85	1800.00		197.78	175.56	181.11
55 Mn # 3	4.068	4.068	ug/l	0.98	1800.00		40170.65	39439.06	39606.10
56 Fe # 1	30.54	30.54	ug/l	0.36	81000.00		296774.09	295356.03	297439.69
59 Co # 3	0.1962	0.1962	ug/l	4.71	1800.00		1433.43	1423.43	1520.11
60 Ni # 2	0.321	0.321	ug/l	4.98	1800.00		231.11	253.34	235.56
63 Cu # 2	0.2774	0.2774	ug/l	7.72	1800.00		825.58	756.69	808.91
66 Zn # 3	3.362	3.362	ug/l	1.98	1800.00		3083.69	3173.70	3117.02
75 As # 2	0.4392	0.4392	ug/l	14.05	100.00		72.00	61.00	77.33
78 Se # 1	0.2078	0.2078	ug/l	7.13	100.00		76.33	68.67	70.33
88 Sr # 3	1435	1435	ug/l	1.10	1800.00		20701230.00	20466430.00	20154386.00
95 Mo # 3	2.018	2.018	ug/l	4.69	1800.00		3630.45	3340.43	3383.74
107 Ag # 3	0.01571	0.01571	ug/l	17.26	100.00		96.67	73.34	96.67
111 Cd # 3	0.02322	0.02322	ug/l	45.87	100.00		55.51	35.60	35.58
118 Sn # 3	0.1865	0.1865	ug/l	4.86	1800.00		770.05	796.71	736.70
121 Sb # 3	0.1737	0.1737	ug/l	4.04	100.00		666.70	686.70	643.36
137 Ba # 3	3.679	3.679	ug/l	0.71	1800.00		5981.24	5951.23	6041.23
202 Hg # 3	0.04144	0.04144	ug/l	5.58	5.00		55.00	57.67	53.00
205 Tl # 3	0.003618	0.003618	ug/l	35.30	20.00		66.67	76.67	50.00
208 Pb # 3	0.1803	0.1803	ug/l	1.89	1800.00		2813.52	2693.51	2753.52
232 Th # 3	0.04176	0.04176	ug/l	13.30	#VALUE!		653.37	593.36	510.02
238 U # 3	0.5709	0.5709	ug/l	1.49	#VALUE!		6885.09	7045.16	6865.11

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	341137.22	0.79	836165.38	40.8	60 - 125	IS F	344180.31	340221.34	339010.00
45 Sc # 1	422676.66	0.54	552676.25	76.5	60 - 125		420929.13	421837.88	425262.94
45 Sc # 3	403381.53	0.86	644433.94	62.6	60 - 125		405260.63	405491.44	399392.53
74 Ge # 1	105055.59	0.22	175321.88	59.9	60 - 125	IS F	104829.95	105045.48	105291.34
74 Ge # 2	14801.64	0.46	27172.50	54.5	60 - 125	IS F	14723.81	14842.77	14838.33
74 Ge # 3	79226.64	1.07	164913.13	48.0	60 - 125	IS F	79925.28	79466.43	78288.21
89 Y # 3	576638.25	0.55	1068488.30	54.0	60 - 125	IS F	576831.69	579711.38	573371.63
115 In # 3	474871.44	0.13	1083659.40	43.8	60 - 125	IS F	474193.31	474994.38	475426.66
159 Tb # 3	708749.25	0.38	1651256.80	42.9	60 - 125	IS F	710757.25	705698.25	709792.19
209 Bi # 3	317309.44	0.82	1054491.00	30.1	60 - 125	IS F	319760.06	317603.91	314564.41

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
8 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\311SMPL.D\311SMPL.D#
Date Acquired: Dec 26 2012 11:32 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-c-17-a
Misc Info: 3010 1/5
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0005744	0.0005744	ug/l	434.37	100.00		0.00	6.67	0.00
11 B	# 3	815.2	815.2	ug/l	1.16	1800.00		1313866.90	1321847.50	1331864.10
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	237900	237900	ug/l	0.46	81000.00		803952700.00	818328060.00	830062080.00
27 Al	# 1	5.553	5.553	ug/l	2.02	81000.00		22807.31	22363.45	22620.46
39 K	# 2	99890	99890	ug/l	3.84	81000.00		19447474.00	19665064.00	19539114.00
40 Ca	# 1	83610	83610	ug/l	0.60	81000.00		650683070.00	660673470.00	658947010.00
45 Sc	# 2	----	--------		--------	#VALUE!		30087.32	32428.45	29622.24
47 Ti	# 3	1.359	1.359	ug/l	6.00	1620.00		1010.06	976.73	896.72
51 V	# 2	0.4263	0.4263	ug/l	11.44	1800.00		700.02	636.68	700.02
52 Cr	# 2	0.05747	0.05747	ug/l	9.11	1800.00		151.11	165.56	167.78
55 Mn	# 3	9.517	9.517	ug/l	0.94	1800.00		93417.20	92558.96	91620.81
56 Fe	# 1	57.13	57.13	ug/l	0.66	81000.00		542485.81	542471.94	548061.06
59 Co	# 3	0.2077	0.2077	ug/l	1.10	1800.00		1566.78	1546.78	1530.11
60 Ni	# 2	0.3248	0.3248	ug/l	5.87	1800.00		237.78	236.67	244.45
63 Cu	# 2	0.1713	0.1713	ug/l	7.57	1800.00		570.01	613.35	613.35
66 Zn	# 3	3.405	3.405	ug/l	2.54	1800.00		3093.68	3207.05	3207.03
75 As	# 2	0.478	0.478	ug/l	3.86	100.00		75.00	77.33	71.33
78 Se	# 1	0.2311	0.2311	ug/l	7.25	100.00		81.33	72.67	79.33
88 Sr	# 3	1458	1458	ug/l	0.84	1800.00		20796288.00	20536746.00	20340094.00
95 Mo	# 3	1.649	1.649	ug/l	3.41	1800.00		2876.99	2673.63	2843.63
107 Ag	# 3	0.01679	0.01679	ug/l	7.89	100.00		86.67	96.67	96.67
111 Cd	# 3	0.02484	0.02484	ug/l	15.80	100.00		39.08	45.81	45.76
118 Sn	# 3	0.131	0.131	ug/l	15.59	1800.00		550.02	650.03	526.69
121 Sb	# 3	0.175	0.175	ug/l	13.39	100.00		690.04	720.04	580.03
137 Ba	# 3	3.672	3.672	ug/l	1.73	1800.00		5891.19	6001.26	5874.51
202 Hg	# 3	0.0423	0.0423	ug/l	18.45	5.00		48.33	62.00	55.33
205 Tl	# 3	0.002827	0.002827	ug/l	35.37	20.00		63.34	43.33	60.00
208 Pb	# 3	0.2429	0.2429	ug/l	1.80	1800.00		3620.28	3626.96	3690.29
232 Th	# 3	0.03326	0.03326	ug/l	17.20	#VALUE!		516.69	513.36	396.69
238 U	# 3	0.4596	0.4596	ug/l	1.08	#VALUE!		5527.82	5417.82	5567.85

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	331729.16	0.49	836165.38	39.7	60 - 125	IS F	333484.94	331394.63	330307.88
45 Sc	# 1	418487.84	1.18	552676.25	75.7	60 - 125		413124.75	419534.53	422804.19
45 Sc	# 3	399365.59	0.39	644433.94	62.0	60 - 125		401060.34	398003.44	399032.97
74 Ge	# 1	104345.80	1.18	175321.88	59.5	60 - 125	IS F	103288.13	104046.55	105702.72
74 Ge	# 2	14644.14	4.47	27172.50	53.9	60 - 125	IS F	14186.70	15393.33	14352.40
74 Ge	# 3	79378.34	0.47	164913.13	48.1	60 - 125	IS F	79707.25	78971.23	79456.53
89 Y	# 3	570660.94	0.44	1068488.30	53.4	60 - 125	IS F	573452.31	568544.06	569986.50
115 In	# 3	470328.47	0.85	1083659.40	43.4	60 - 125	IS F	474904.88	467711.91	468368.63
159 Tb	# 3	702816.81	0.76	1651256.80	42.6	60 - 125	IS F	708485.00	702081.00	697884.38
209 Bi	# 3	312946.28	0.59	1054491.00	29.7	60 - 125	IS F	314772.25	311104.88	312961.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
8 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\312SMPL.D\312SMPL.D#
Date Acquired: Dec 26 2012 11:39 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a
Misc Info: 3010 1/5
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01037	0.01037	ug/l	23.66	100.00		20.00	13.33	20.00
11 B # 3	863.3	863.3	ug/l	0.29	1800.00		1447729.50	1434173.10	1423442.60
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	210600	210600	ug/l	0.39	81000.00		733700800.00	744300030.00	751755330.00
27 Al # 1	2.224	2.224	ug/l	1.06	81000.00		9642.70	9909.46	9942.83
39 K # 2	90580	90580	ug/l	2.93	81000.00		17971060.00	17804454.00	18540172.00
40 Ca # 1	65790	65790	ug/l	0.43	81000.00		524546400.00	529878180.00	537696770.00
45 Sc # 2	----	--------		--------	#VALUE!		30364.45	31003.24	31205.77
47 Ti # 3	1.183	1.183	ug/l	2.86	1620.00		886.72	833.38	866.71
51 V # 2	0.4124	0.4124	ug/l	9.64	1800.00		697.80	621.13	706.69
52 Cr # 2	0.08082	0.08082	ug/l	8.63	1800.00		208.89	211.11	188.89
55 Mn # 3	16.16	16.16	ug/l	0.32	1800.00		163090.86	161702.61	160607.08
56 Fe # 1	52.31	52.31	ug/l	0.27	81000.00		521092.81	519107.75	522010.50
59 Co # 3	0.1551	0.1551	ug/l	3.42	1800.00		1206.74	1150.07	1226.74
60 Ni # 2	0.2506	0.2506	ug/l	15.02	1800.00		171.11	225.56	183.34
63 Cu # 2	0.1512	0.1512	ug/l	2.06	1800.00		567.79	588.90	567.79
66 Zn # 3	3.323	3.323	ug/l	0.75	1800.00		3203.71	3187.04	3190.38
75 As # 2	0.4038	0.4038	ug/l	8.69	100.00		70.67	62.67	64.33
78 Se # 1	0.2007	0.2007	ug/l	8.55	100.00		69.00	70.00	78.00
88 Sr # 3	1150	1150	ug/l	0.42	1800.00		16849288.00	16663016.00	16616773.00
95 Mo # 3	0.6053	0.6053	ug/l	6.77	1800.00		1143.40	993.39	1103.40
107 Ag # 3	0.007416	0.007416	ug/l	27.83	100.00		53.34	56.67	36.67
111 Cd # 3	0.007954	0.007954	ug/l	40.47	100.00		22.97	26.35	29.65
118 Sn # 3	0.1236	0.1236	ug/l	4.79	1800.00		600.03	550.03	563.36
121 Sb # 3	0.1145	0.1145	ug/l	16.25	100.00		473.36	446.68	556.69
137 Ba # 3	11.74	11.74	ug/l	0.06	1800.00		19818.66	19511.61	19461.65
202 Hg # 3	0.03587	0.03587	ug/l	11.32	5.00		51.33	47.00	54.33
205 Tl # 3	0.002693	0.002693	ug/l	19.24	20.00		50.00	56.67	60.00
208 Pb # 3	0.02983	0.02983	ug/l	3.03	1800.00		540.02	533.35	553.36
232 Th # 3	0.02818	0.02818	ug/l	6.13	#VALUE!		450.02	406.69	426.69
238 U # 3	0.5628	0.5628	ug/l	1.29	#VALUE!		6968.46	7051.81	6828.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	339962.53	0.72	836165.38	40.7	60 - 125	IS F	341949.75	340717.19	337220.63
45 Sc # 1	429724.28	0.84	552676.25	77.8	60 - 125		426070.69	429815.66	433286.50
45 Sc # 3	410513.03	1.09	644433.94	63.7	60 - 125		415231.19	410023.16	406284.78
74 Ge # 1	108866.97	0.15	175321.88	62.1	60 - 125		109055.53	108745.89	108799.49
74 Ge # 2	14940.26	1.15	27172.50	55.0	60 - 125	IS F	14820.53	15136.35	14863.89
74 Ge # 3	81891.42	0.97	164913.13	49.7	60 - 125	IS F	82797.63	81575.57	81301.07
89 Y # 3	588314.06	1.15	1068488.30	55.1	60 - 125	IS F	595839.88	586360.25	582742.00
115 In # 3	487325.09	1.04	1083659.40	45.0	60 - 125	IS F	493141.56	485049.06	483784.72
159 Tb # 3	721927.88	1.03	1651256.80	43.7	60 - 125	IS F	730275.19	719575.56	715932.75
209 Bi # 3	322709.63	0.42	1054491.00	30.6	60 - 125	IS F	323736.47	323219.16	321173.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
7 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\313SMPL.D\313SMPL.D#
Date Acquired: Dec 26 2012 11:47 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a SD
Misc Info: 3010 1/25
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.007175	0.001435	ug/l	54.80	100.00		3.33	6.67	6.67
11 B # 3	1043	208.6	ug/l	1.25	1800.00		533239.56	536879.69	526028.88
23 Na # 1	1986500	397300	ug/l	1.83	81000.00		2681787400.00	2796616700.00	2765692700.00
24 Mg # 1	232750	46550	ug/l	1.07	81000.00		214367920.00	219517650.00	218788210.00
27 Al # 1	4.008	0.8016	ug/l	0.86	81000.00		5430.94	5430.91	5494.28
39 K # 2	80250	16050	ug/l	0.69	81000.00		4728551.50	4669906.00	4812907.50
40 Ca # 1	69150	13830	ug/l	0.96	81000.00		145069680.00	148954340.00	149486620.00
45 Sc # 2	----	--------		--------	#VALUE!		40510.34	39453.41	41412.36
47 Ti # 3	0.5705	0.1141	ug/l	8.90	1620.00		143.34	133.34	153.34
51 V # 2	0.4226	0.08452	ug/l	5.50	1800.00		347.78	324.45	337.78
52 Cr # 2	0.07695	0.01539	ug/l	38.21	1800.00		126.67	141.11	157.78
55 Mn # 3	15.32	3.064	ug/l	2.90	1800.00		49550.03	49590.38	47290.83
56 Fe # 1	54	10.8	ug/l	1.62	81000.00		171873.98	168488.23	171935.75
59 Co # 3	0.16295	0.03259	ug/l	4.47	1800.00		386.68	406.68	423.35
60 Ni # 2	0.6595	0.1319	ug/l	10.20	1800.00		150.00	157.78	181.11
63 Cu # 2	-0.2493	-0.04986	ug/l	17.94	1800.00		333.34	278.89	312.23
66 Zn # 3	3.712	0.7424	ug/l	7.57	1800.00		1260.08	1203.41	1366.76
75 As # 2	0.38575	0.07715	ug/l	10.79	100.00		29.33	30.67	33.33
78 Se # 1	0.26655	0.05331	ug/l	25.92	100.00		38.00	44.00	51.00
88 Sr # 3	1159.5	231.9	ug/l	0.38	1800.00		4958515.00	4982104.00	4984936.50
95 Mo # 3	0.6195	0.1239	ug/l	7.22	1800.00		350.01	393.35	363.35
107 Ag # 3	0.015455	0.003091	ug/l	96.57	100.00		36.67	20.00	66.67
111 Cd # 3	0.0026485	0.0005297	ug/l	785.35	100.00		29.89	33.21	19.88
118 Sn # 3	0.1486	0.02972	ug/l	17.49	1800.00		410.02	356.68	370.01
121 Sb # 3	0.05385	0.01077	ug/l	45.69	100.00		220.01	236.68	270.01
137 Ba # 3	11.1	2.22	ug/l	3.29	1800.00		5811.18	5741.15	5511.06
202 Hg # 3	0.01412	0.002824	ug/l	139.98	5.00		25.00	34.00	36.00
205 Tl # 3	0.0021915	0.0004383	ug/l	98.84	20.00		46.67	36.67	50.00
208 Pb # 3	0.0225	0.0045	ug/l	37.64	1800.00		266.68	233.34	193.34
232 Th # 3	0.036055	0.007211	ug/l	13.10	#VALUE!		253.34	283.35	283.34
238 U # 3	0.501	0.1002	ug/l	5.70	#VALUE!		1990.19	2120.21	1886.85

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	517834.69	0.66	836165.38	61.9	60 - 125		513947.75	520384.72	519171.50
45 Sc # 1	569103.19	1.28	552676.25	103.0	60 - 125		562858.38	567352.81	577098.38
45 Sc # 3	593614.94	0.39	644433.94	92.1	60 - 125		595185.13	594712.25	590947.56
74 Ge # 1	163438.70	1.06	175321.88	93.2	60 - 125		161779.11	163298.39	165238.63
74 Ge # 2	22035.42	2.15	27172.50	81.1	60 - 125		22055.91	21551.68	22498.67
74 Ge # 3	128741.55	0.21	164913.13	78.1	60 - 125		128450.78	128796.35	128977.52
89 Y # 3	868428.88	0.14	1068488.30	81.3	60 - 125		869282.38	867047.00	868957.38
115 In # 3	746535.81	0.66	1083659.40	68.9	60 - 125		746215.38	741810.81	751581.25
159 Tb # 3	1033182.20	0.52	1651256.80	62.6	60 - 125		1037300.50	1027133.10	1035112.90
209 Bi # 3	520517.66	0.60	1054491.00	49.4	60 - 125	IS F	523817.44	520096.56	517639.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\314SMPL.D\314SMPL.D#
Date Acquired: Dec 26 2012 11:54 pm
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-a PDS
Misc Info: 3010 1/5
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	20.34	20.34	ug/l	1.28	100.00		31004.92	31068.42	30213.71
11 B	# 3	942.4	942.4	ug/l	1.55	1800.00		1512885.40	1477109.00	1499750.80
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	231000	231000	ug/l	0.38	81000.00		752158460.00	756464000.00	762646140.00
27 Al	# 1	209.2	209.2	ug/l	0.84	81000.00		773514.56	784667.88	785273.75
39 K	# 2	98930	98930	ug/l	1.62	81000.00		18283554.00	18446960.00	19104484.00
40 Ca	# 1	73400	73400	ug/l	0.60	81000.00		544932030.00	550561220.00	553808830.00
45 Sc	# 2	----	--------		--------	#VALUE!		29086.93	29586.53	29993.80
47 Ti	# 3	23.73	23.73	ug/l	2.43	1620.00		16797.97	16230.75	16110.62
51 V	# 2	28.43	28.43	ug/l	1.38	1800.00		36274.98	36699.22	36840.66
52 Cr	# 2	25.96	25.96	ug/l	1.14	1800.00		39492.70	39863.40	40472.56
55 Mn	# 3	256.7	256.7	ug/l	1.30	1800.00		2505707.50	2468514.30	2428415.00
56 Fe	# 1	2325	2325	ug/l	0.76	81000.00		20960184.00	21137314.00	21145182.00
59 Co	# 3	21.56	21.56	ug/l	0.28	1800.00		159598.39	158652.77	158077.47
60 Ni	# 2	21.97	21.97	ug/l	1.37	1800.00		14446.83	14420.13	14400.12
63 Cu	# 2	21.2	21.2	ug/l	0.86	1800.00		36451.43	36472.57	36854.41
66 Zn	# 3	17.59	17.59	ug/l	1.21	1800.00		15974.01	15767.13	15516.92
75 As	# 2	19.85	19.85	ug/l	1.28	100.00		2537.52	2566.19	2616.86
78 Se	# 1	17.87	17.87	ug/l	1.84	100.00		4858.66	4807.65	4773.30
88 Sr	# 3	1248	1248	ug/l	0.41	1800.00		17644294.00	17394714.00	17213804.00
95 Mo	# 3	25.65	25.65	ug/l	1.59	1800.00		43911.44	42624.90	42040.27
107 Ag	# 3	14.32	14.32	ug/l	0.60	100.00		70899.75	70076.32	69363.83
111 Cd	# 3	15.06	15.06	ug/l	0.39	100.00		16150.48	16037.46	16081.04
118 Sn	# 3	20.56	20.56	ug/l	0.91	1800.00		69318.68	67642.37	67294.50
121 Sb	# 3	20.54	20.54	ug/l	1.58	100.00		63955.37	64313.25	62356.02
137 Ba	# 3	35.37	35.37	ug/l	1.19	1800.00		57240.24	56882.36	55614.80
202 Hg	# 3	1.215	1.215	ug/l	0.56	5.00		1123.71	1128.71	1112.04
205 Tl	# 3	3.695	3.695	ug/l	2.05	20.00		39643.44	39052.00	37785.57
208 Pb	# 3	17.89	17.89	ug/l	0.39	1800.00		261016.50	259859.94	257147.75
232 Th	# 3	29.42	29.42	ug/l	0.25	#VALUE!		349395.47	349548.13	347191.81
238 U	# 3	30.43	30.43	ug/l	0.17	#VALUE!		361148.06	361685.47	361044.22

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	324828.88	0.40	836165.38	38.8	60 - 125	IS F	324423.81	326274.31	323788.50
45 Sc	# 1	399041.91	0.73	552676.25	72.2	60 - 125		397691.34	397060.03	402374.34
45 Sc	# 3	396407.09	0.48	644433.94	61.5	60 - 125		396087.44	394684.88	398449.00
74 Ge	# 1	100649.81	1.00	175321.88	57.4	60 - 125	IS F	99907.25	100248.99	101793.21
74 Ge	# 2	14059.20	1.29	27172.50	51.7	60 - 125	IS F	14063.29	13875.35	14238.98
74 Ge	# 3	78862.83	0.42	164913.13	47.8	60 - 125	IS F	79232.11	78606.09	78750.27
89 Y	# 3	564668.50	1.14	1068488.30	52.8	60 - 125	IS F	572036.75	561593.75	560374.88
115 In	# 3	467048.28	0.70	1083659.40	43.1	60 - 125	IS F	470841.13	465017.19	465286.50
159 Tb	# 3	696016.63	0.41	1651256.80	42.2	60 - 125	IS F	698957.13	695842.63	693250.13
209 Bi	# 3	310401.00	0.26	1054491.00	29.4	60 - 125	IS F	310155.31	311305.78	309741.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
8 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\315SMPL.D\315SMPL.D#
Date Acquired: Dec 27 2012 12:01 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-b ms
Misc Info: 3010 1/5
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.219	9.219	ug/l	2.42	100.00		14158.78	14372.23	13481.62
11 B # 3	898.2	898.2	ug/l	0.95	1800.00		1434147.60	1433926.60	1430069.50
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	211400	211400	ug/l	5.55	81000.00		717922750.00	735054980.00	716501310.00
27 Al # 1	924.9	924.9	ug/l	5.82	81000.00		3600872.00	3649476.30	3555325.80
39 K # 2	90720	90720	ug/l	3.13	81000.00		17612422.00	17382394.00	18073384.00
40 Ca # 1	66980	66980	ug/l	5.05	81000.00		523257600.00	526148260.00	521798270.00
45 Sc # 2	----	--------		--------	#VALUE!		28935.54	29091.34	32970.41
47 Ti # 3	21.42	21.42	ug/l	2.93	1620.00		15393.35	14649.44	14469.22
51 V # 2	25.75	25.75	ug/l	4.73	1800.00		33965.16	34649.79	34480.57
52 Cr # 2	23.18	23.18	ug/l	4.87	1800.00		36939.67	36968.64	36967.52
55 Mn # 3	129.6	129.6	ug/l	0.76	1800.00		1275958.50	1246157.50	1254632.30
56 Fe # 1	1039	1039	ug/l	2.58	81000.00		9756520.00	9749539.00	9895276.00
59 Co # 3	10.11	10.11	ug/l	0.39	1800.00		75587.54	74974.93	74864.68
60 Ni # 2	20.01	20.01	ug/l	4.23	1800.00		13426.03	13675.11	13736.27
63 Cu # 2	19.17	19.17	ug/l	5.88	1800.00		34361.90	34599.01	33906.64
66 Zn # 3	17.15	17.15	ug/l	1.41	1800.00		15830.47	15386.82	15340.09
75 As # 2	18.28	18.28	ug/l	4.90	100.00		2429.17	2479.17	2459.50
78 Se # 1	16.19	16.19	ug/l	3.86	100.00		4565.92	4526.24	4515.57
88 Sr # 3	1179	1179	ug/l	1.20	1800.00		16787756.00	16614791.00	16345106.00
95 Mo # 3	23.89	23.89	ug/l	1.02	1800.00		40934.33	40296.46	39781.75
107 Ag # 3	7.759	7.759	ug/l	0.71	100.00		38737.01	38035.16	38385.70
111 Cd # 3	7.325	7.325	ug/l	4.15	100.00		8319.10	7635.68	7805.91
118 Sn # 3	18.89	18.89	ug/l	0.90	1800.00		63289.16	62724.19	63626.85
121 Sb # 3	9.65	9.65	ug/l	0.72	100.00		30530.87	30303.84	29882.87
137 Ba # 3	32.76	32.76	ug/l	0.82	1800.00		53695.32	52585.03	52591.88
202 Hg # 3	1.184	1.184	ug/l	1.17	5.00		1126.71	1095.04	1107.71
205 Tl # 3	6.82	6.82	ug/l	0.72	20.00		73185.62	71839.45	71554.77
208 Pb # 3	8.354	8.354	ug/l	0.52	1800.00		122917.91	122474.32	120971.96
232 Th # 3	26.92	26.92	ug/l	0.92	#VALUE!		327516.03	322191.00	321580.25
238 U # 3	28.45	28.45	ug/l	1.22	#VALUE!		345226.03	344341.81	338802.72

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	326245.06	1.06	836165.38	39.0	60 - 125	IS F	325612.75	329991.75	323130.69
45 Sc # 1	417241.72	4.89	552676.25	75.5	60 - 125		403488.88	407555.81	440680.47
45 Sc # 3	397796.19	0.56	644433.94	61.7	60 - 125		399246.59	398901.00	395240.97
74 Ge # 1	104754.29	3.39	175321.88	59.7	60 - 125	IS F	101825.37	103737.15	108700.36
74 Ge # 2	14587.05	5.02	27172.50	53.7	60 - 125	IS F	14165.57	14162.24	15433.35
74 Ge # 3	79647.54	0.51	164913.13	48.3	60 - 125	IS F	80022.05	79220.21	79700.35
89 Y # 3	569508.31	0.41	1068488.30	53.3	60 - 125	IS F	571981.75	567299.69	569243.56
115 In # 3	472012.38	0.42	1083659.40	43.6	60 - 125	IS F	474157.59	471571.88	470307.69
159 Tb # 3	701498.19	0.48	1651256.80	42.5	60 - 125	IS F	705316.94	700324.13	698853.63
209 Bi # 3	315023.69	0.39	1054491.00	29.9	60 - 125	IS F	315718.56	313603.06	315749.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
8 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\316SMPL.D\316SMPL.D#
Date Acquired: Dec 27 2012 12:09 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-18-c msd
Misc Info: 3010 1/5
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.411	9.411	ug/l	5.16	100.00		14065.38	13775.19	14445.64
11 B # 3	885	885	ug/l	2.35	1800.00		1395199.00	1397396.80	1385839.40
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	206700	206700	ug/l	8.59	81000.00		656322110.00	675614850.00	688296130.00
27 Al # 1	915.6	915.6	ug/l	8.58	81000.00		3308872.80	3399196.50	3480557.50
39 K # 2	88290	88290	ug/l	3.61	81000.00		16673210.00	16936274.00	17215318.00
40 Ca # 1	65810	65810	ug/l	7.95	81000.00		481483620.00	489724000.00	499263200.00
45 Sc # 2	----	--------		--------	#VALUE!		28697.45	29432.93	32440.84
47 Ti # 3	21.57	21.57	ug/l	6.37	1620.00		14852.90	14542.70	15143.22
51 V # 2	24.95	24.95	ug/l	4.99	1800.00		32456.94	33094.77	32777.50
52 Cr # 2	22.7	22.7	ug/l	4.26	1800.00		35494.70	35509.17	35873.15
55 Mn # 3	126.5	126.5	ug/l	2.96	1800.00		1238345.10	1211540.60	1209695.10
56 Fe # 1	1024	1024	ug/l	5.85	81000.00		9324962.00	9476253.00	9334600.00
59 Co # 3	10.01	10.01	ug/l	3.09	1800.00		75165.71	73288.29	73265.18
60 Ni # 2	19.63	19.63	ug/l	2.83	1800.00		12815.62	13121.39	13520.58
63 Cu # 2	19.09	19.09	ug/l	4.27	1800.00		33145.25	33825.35	33953.36
66 Zn # 3	16.76	16.76	ug/l	4.47	1800.00		15380.10	14692.92	15089.91
75 As # 2	18.2	18.2	ug/l	3.26	100.00		2362.49	2403.16	2458.51
78 Se # 1	15.87	15.87	ug/l	5.33	100.00		4306.19	4328.86	4329.86
88 Sr # 3	1158	1158	ug/l	4.39	1800.00		16320905.00	16185930.00	16168478.00
95 Mo # 3	23.56	23.56	ug/l	4.78	1800.00		40109.18	38776.26	39290.86
107 Ag # 3	7.753	7.753	ug/l	3.54	100.00		38035.38	38172.21	37744.47
111 Cd # 3	7.193	7.193	ug/l	4.46	100.00		7945.86	7586.14	7572.64
118 Sn # 3	18.79	18.79	ug/l	4.43	1800.00		62543.17	61917.54	62355.76
121 Sb # 3	9.54	9.54	ug/l	3.21	100.00		29809.54	29762.80	29251.99
137 Ba # 3	32.55	32.55	ug/l	4.27	1800.00		52882.75	51625.96	51809.93
202 Hg # 3	1.156	1.156	ug/l	2.87	5.00		1091.71	1077.04	1064.04
205 Tl # 3	6.703	6.703	ug/l	4.83	20.00		71477.93	69971.23	70228.97
208 Pb # 3	8.175	8.175	ug/l	5.05	1800.00		119772.91	117813.75	118877.27
232 Th # 3	26.6	26.6	ug/l	3.30	#VALUE!		320255.28	317268.66	316908.97
238 U # 3	27.91	27.91	ug/l	3.78	#VALUE!		338650.63	330976.09	333494.84

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	322013.19	2.76	836165.38	38.5	60 - 125	IS F	322701.66	330528.81	312809.06
45 Sc # 1	398202.84	6.91	552676.25	72.0	60 - 125		428665.97	375123.22	390819.31
45 Sc # 3	396043.69	4.33	644433.94	61.5	60 - 125		396182.88	413135.16	378813.06
74 Ge # 1	101855.64	5.08	175321.88	58.1	60 - 125	IS F	107277.63	96976.75	101312.53
74 Ge # 2	14357.62	4.98	27172.50	52.8	60 - 125	IS F	13967.65	13923.16	15182.06
74 Ge # 3	79104.39	2.66	164913.13	48.0	60 - 125	IS F	78893.89	81305.73	77113.55
89 Y # 3	567924.31	4.46	1068488.30	53.2	60 - 125	IS F	571172.19	591451.25	541149.50
115 In # 3	467900.41	4.08	1083659.40	43.2	60 - 125	IS F	470801.03	485372.66	447527.53
159 Tb # 3	698536.63	4.59	1651256.80	42.3	60 - 125	IS F	699552.56	730074.13	665983.00
209 Bi # 3	313512.69	3.37	1054491.00	29.7	60 - 125	IS F	314862.81	323325.81	302349.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
8 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\317SMPL.D\317SMPL.D#
Date Acquired: Dec 27 2012 12:16 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-19-a
Misc Info: 3010 1/5
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.002106	0.002106	ug/l	61.92	100.00		6.67	3.33	3.33
11 B # 3	867.5	867.5	ug/l	1.79	1800.00		1381713.00	1351285.90	1361249.40
23 Na # 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg # 1	212400	212400	ug/l	1.95	81000.00		693690430.00	711158590.00	712662780.00
27 Al # 1	1.728	1.728	ug/l	1.84	81000.00		7518.36	7368.31	7264.91
39 K # 2	91670	91670	ug/l	1.29	81000.00		17237886.00	17374516.00	17632624.00
40 Ca # 1	67060	67060	ug/l	0.54	81000.00		509297540.00	508623780.00	510646020.00
45 Sc # 2	----	--------		--------	#VALUE!		28661.81	29270.52	29103.62
47 Ti # 3	1.099	1.099	ug/l	8.68	1620.00		810.04	793.37	703.37
51 V # 2	0.4225	0.4225	ug/l	1.19	1800.00		653.35	660.02	652.24
52 Cr # 2	0.0491	0.0491	ug/l	12.40	1800.00		132.22	145.56	153.34
55 Mn # 3	19.12	19.12	ug/l	1.81	1800.00		188329.69	186125.48	184087.75
56 Fe # 1	44.54	44.54	ug/l	0.94	81000.00		417764.63	417913.00	418175.81
59 Co # 3	0.1689	0.1689	ug/l	1.98	1800.00		1276.75	1273.41	1246.75
60 Ni # 2	0.2139	0.2139	ug/l	8.13	1800.00		154.45	151.11	172.22
63 Cu # 2	-0.08068	-0.08068	ug/l	5.69	1800.00		134.45	148.89	152.22
66 Zn # 3	2.919	2.919	ug/l	3.69	1800.00		2773.63	2630.27	2833.64
75 As # 2	0.3862	0.3862	ug/l	15.21	100.00		64.67	64.67	51.67
78 Se # 1	0.2027	0.2027	ug/l	3.89	100.00		71.00	65.67	69.00
88 Sr # 3	1182	1182	ug/l	1.85	1800.00		16603020.00	16413915.00	16431245.00
95 Mo # 3	0.7732	0.7732	ug/l	3.36	1800.00		1276.76	1276.75	1373.44
107 Ag # 3	0.006782	0.006782	ug/l	54.84	100.00		63.34	33.33	33.33
111 Cd # 3	0.02572	0.02572	ug/l	29.51	100.00		42.93	36.26	52.90
118 Sn # 3	0.2269	0.2269	ug/l	4.34	1800.00		850.05	870.05	933.39
121 Sb # 3	0.1027	0.1027	ug/l	3.74	100.00		426.69	446.69	426.68
137 Ba # 3	12.03	12.03	ug/l	3.36	1800.00		19568.37	18847.58	19054.48
202 Hg # 3	0.04391	0.04391	ug/l	3.94	5.00		54.67	57.33	54.67
205 Tl # 3	0.03839	0.03839	ug/l	14.47	20.00		430.02	473.36	363.35
208 Pb # 3	0.006808	0.006808	ug/l	24.91	1800.00		173.34	170.01	216.68
232 Th # 3	0.1494	0.1494	ug/l	12.87	#VALUE!		1976.85	1896.85	1593.46
238 U # 3	0.5766	0.5766	ug/l	3.00	#VALUE!		6765.03	6908.43	6608.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	321727.72	0.67	836165.38	38.5	60 - 125	IS F	319802.97	324079.53	321300.72
45 Sc # 1	404761.94	0.63	552676.25	73.2	60 - 125		406754.66	401880.66	405650.44
45 Sc # 3	393608.72	1.60	644433.94	61.1	60 - 125		386352.19	397613.47	396860.50
74 Ge # 1	102349.02	0.90	175321.88	58.4	60 - 125	IS F	103385.05	101625.41	102036.60
74 Ge # 2	14198.59	1.33	27172.50	52.3	60 - 125	IS F	13996.58	14371.32	14227.87
74 Ge # 3	79709.91	0.68	164913.13	48.3	60 - 125	IS F	79245.58	79577.22	80306.92
89 Y # 3	564554.06	1.21	1068488.30	52.8	60 - 125	IS F	556694.38	568401.50	568566.38
115 In # 3	464777.19	1.53	1083659.40	42.9	60 - 125	IS F	456910.81	466694.78	470725.94
159 Tb # 3	686462.38	1.31	1651256.80	41.6	60 - 125	IS F	676575.50	688695.31	694116.31
209 Bi # 3	306505.25	1.47	1054491.00	29.1	60 - 125	IS F	301538.25	307695.53	310282.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
8 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\318_CCV.D\318_CCV.D#
Date Acquired: Dec 27 2012 12:24 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	53.67 ug/l	0.85	50.00	90 - 110		130560.35	133555.53	134479.64
11 B	122.8 ug/l	1.04	100.00	90 - 110	Fail	319176.81	324282.41	328224.63
23 Na	5261 ug/l	1.43	5000.00	90 - 110		35633740.00	36249244.00	37279548.00
24 Mg	4769 ug/l	2.35	5000.00	90 - 110		21646536.00	22713122.00	22309854.00
27 Al	472.9 ug/l	1.41	500.00	90 - 110		2471260.80	2540977.00	2517809.30
39 K	5052 ug/l	1.02	5000.00	90 - 110		1626813.80	1624969.80	1646073.80
40 Ca	4775 ug/l	1.04	5000.00	90 - 110		50720436.00	50151612.00	51913600.00
45 Sc	--------	--------	---	##### - #####		40324.19	41355.24	41347.43
47 Ti	50.48 ug/l	1.07	50.00	90 - 110		52999.04	53460.32	54426.45
51 V	50.74 ug/l	0.62	50.00	90 - 110		109888.02	111368.81	113465.88
52 Cr	50.22 ug/l	0.73	50.00	90 - 110		131539.77	130764.20	133691.55
55 Mn	495.1 ug/l	1.36	500.00	90 - 110		8866992.00	8848438.00	8944243.00
56 Fe	4853 ug/l	1.53	5000.00	90 - 110		79529288.00	77868208.00	81489024.00
59 Co	47.73 ug/l	1.33	50.00	90 - 110		652967.31	655822.00	659288.69
60 Ni	52.89 ug/l	0.20	50.00	90 - 110		58789.39	58680.07	60536.11
63 Cu	54 ug/l	1.16	50.00	90 - 110		157468.08	158715.23	159736.91
66 Zn	47.65 ug/l	0.36	50.00	90 - 110		79940.99	79077.49	78886.76
75 As	50.07 ug/l	0.80	50.00	90 - 110		10860.23	11059.02	11299.50
78 Se	47.64 ug/l	0.63	50.00	90 - 110		23047.21	23205.06	23307.20
88 Sr	48.96 ug/l	0.75	50.00	90 - 110		1123049.60	1128067.90	1116350.60
95 Mo	52.16 ug/l	0.21	50.00	90 - 110		159675.56	157467.00	157045.84
107 Ag	51.25 ug/l	0.69	50.00	90 - 110		455025.72	456619.72	453371.09
111 Cd	48.78 ug/l	0.73	50.00	90 - 110		94816.26	93912.70	94750.75
118 Sn	49.02 ug/l	0.30	50.00	90 - 110		296934.72	293917.66	291377.25
121 Sb	51.61 ug/l	0.81	50.00	90 - 110		289116.19	290900.63	287966.00
137 Ba	49.04 ug/l	0.15	50.00	90 - 110		143420.73	142219.42	141287.84
202 Hg	2.479 ug/l	0.27	2.50	90 - 110		4828.74	4851.08	4838.08
205 Tl	9.73 ug/l	0.53	10.00	90 - 110		163680.91	161509.77	163341.59
208 Pb	48.18 ug/l	0.60	50.00	90 - 110		1109457.00	1116505.90	1113010.90
232 Th	48.41 ug/l	5.00	---	##### - #####		1173659.10	1294739.90	1199993.60
238 U	49.68 ug/l	5.87	---	##### - #####		1297341.50	1297890.80	1174962.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	531868.88	2.38	836165.38	63.6	60 - 125		517927.03	535102.13	542577.31
45 Sc	567418.69	0.89	552676.25	102.7	60 - 125		563818.75	565219.13	573218.25
45 Sc	610425.63	0.46	644433.94	94.7	60 - 125		607159.94	612167.06	611949.81
74 Ge	182152.22	1.06	175321.88	103.9	60 - 125		180805.39	181290.98	184360.27
74 Ge	24039.25	1.73	27172.50	88.5	60 - 125		23774.45	23824.54	24518.77
74 Ge	147255.61	0.85	164913.13	89.3	60 - 125		148447.78	147360.63	145958.41
89 Y	927862.06	0.53	1068488.30	86.8	60 - 125		933526.94	924608.50	925450.94
115 In	847279.44	0.70	1083659.40	78.2	60 - 125		853898.75	845473.38	842466.31
159 Tb	1109183.40	0.29	1651256.80	67.2	60 - 125		1112809.50	1106710.30	1108030.40
209 Bi	661481.31	0.39	1054491.00	62.7	60 - 125		658561.06	662611.31	663271.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\319_CCB.D\319_CCB.D#
Date Acquired: Dec 27 2012 12:31 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01737	0.01737	ug/l	9.64	#VALUE!		43.33	46.67	56.67
11 B # 3	11.47	11.47	ug/l	5.95	#VALUE!		37206.74	38749.48	37560.54
23 Na # 1	181.3	181.3	ug/l	7.12	#VALUE!		1440517.30	1446386.40	1452402.50
24 Mg # 1	3.42	3.42	ug/l	9.27	#VALUE!		18199.04	17461.80	17294.86
27 Al # 1	0.2682	0.2682	ug/l	13.43	#VALUE!		2873.64	2706.93	2813.63
39 K # 2	4.873	4.873	ug/l	11.38	#VALUE!		10236.36	10486.55	10226.39
40 Ca # 1	13.75	13.75	ug/l	10.31	#VALUE!		230115.94	236359.70	233609.00
45 Sc # 2	----	--------		--------	#VALUE!		40329.75	40406.57	41500.03
47 Ti # 3	0.02366	0.02366	ug/l	55.07	#VALUE!		36.67	53.33	66.67
51 V # 2	0.03444	0.03444	ug/l	10.44	#VALUE!		277.78	262.23	263.34
52 Cr # 2	0.01206	0.01206	ug/l	18.68	#VALUE!		146.67	150.00	158.89
55 Mn # 3	0.2162	0.2162	ug/l	26.16	#VALUE!		3863.86	4650.70	6107.83
56 Fe # 1	1.87	1.87	ug/l	8.81	#VALUE!		46652.97	47592.02	46515.59
59 Co # 3	0.01891	0.01891	ug/l	24.03	#VALUE!		210.01	296.68	346.68
60 Ni # 2	0.01053	0.01053	ug/l	49.20	#VALUE!		44.45	36.67	48.89
63 Cu # 2	-0.08522	-0.08522	ug/l	3.08	#VALUE!		251.11	238.89	235.56
66 Zn # 3	0.0194	0.0194	ug/l	59.64	#VALUE!		253.34	290.01	260.01
75 As # 2	0.02216	0.02216	ug/l	76.53	#VALUE!		18.33	25.67	24.00
78 Se # 1	0.05818	0.05818	ug/l	7.79	#VALUE!		56.00	51.33	59.00
88 Sr # 3	0.04858	0.04858	ug/l	44.61	#VALUE!		766.70	1066.73	1836.82
95 Mo # 3	0.08734	0.08734	ug/l	10.55	#VALUE!		296.68	360.01	323.35
107 Ag # 3	0.02116	0.02116	ug/l	35.90	#VALUE!		176.67	176.67	306.68
111 Cd # 3	0.021	0.021	ug/l	24.28	#VALUE!		63.24	76.55	86.57
118 Sn # 3	0.05975	0.05975	ug/l	13.99	#VALUE!		660.03	586.69	693.37
121 Sb # 3	0.09929	0.09929	ug/l	6.08	#VALUE!		843.38	796.71	810.04
137 Ba # 3	0.02668	0.02668	ug/l	27.95	#VALUE!		80.00	90.00	126.67
202 Hg # 3	0.01644	0.01644	ug/l	23.22	#VALUE!		74.00	78.00	63.67
205 Tl # 3	0.02249	0.02249	ug/l	11.11	#VALUE!		436.69	390.02	486.69
208 Pb # 3	0.02281	0.02281	ug/l	25.16	#VALUE!		580.02	660.03	880.04
232 Th # 3	0.1126	0.1126	ug/l	4.91	#VALUE!		3117.08	3433.84	3193.77
238 U # 3	0.02265	0.02265	ug/l	8.52	#VALUE!		556.69	670.04	650.04

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	574325.38	5.26	836165.38	68.7	60 - 125		543446.13	575695.50	603834.50
45 Sc # 1	611059.44	7.24	552676.25	110.6	60 - 125		583756.38	587303.56	662118.25
45 Sc # 3	617689.69	2.23	644433.94	95.8	60 - 125		602049.63	623007.00	628012.38
74 Ge # 1	195216.38	5.50	175321.88	111.3	60 - 125		189182.92	188845.52	207620.70
74 Ge # 2	25013.89	0.37	27172.50	92.1	60 - 125		25061.73	24908.19	25071.76
74 Ge # 3	151471.19	1.85	164913.13	91.8	60 - 125		148822.28	151178.17	154413.09
89 Y # 3	965089.06	2.57	1068488.30	90.3	60 - 125		942057.25	961786.25	991423.75
115 In # 3	898171.31	1.67	1083659.40	82.9	60 - 125		882431.56	899698.63	912383.75
159 Tb # 3	1164768.00	2.26	1651256.80	70.5	60 - 125		1138053.90	1165523.30	1190727.10
209 Bi # 3	713864.88	1.54	1054491.00	67.7	60 - 125		701842.81	716409.81	723341.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\320SMPL.D\320SMPL.D#
Date Acquired: Dec 27 2012 12:39 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-20-a
Misc Info: 3010 1/5
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0008661	-0.0008661	ug/l	0.00	100.00		0.00	0.00	0.00
11 B	# 3	661.3	661.3	ug/l	1.70	1800.00		1090975.90	1082789.50	1088905.30
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	185900	185900	ug/l	0.39	81000.00		643272000.00	651872060.00	654898750.00
27 Al	# 1	2.659	2.659	ug/l	1.22	81000.00		11293.58	11376.99	11750.58
39 K	# 2	82170	82170	ug/l	8.53	81000.00		15759635.00	16507436.00	16643623.00
40 Ca	# 1	88510	88510	ug/l	0.91	81000.00		699317890.00	714173120.00	708691330.00
45 Sc	# 2	----	--------		--------	#VALUE!		32797.77	28170.29	30550.28
47 Ti	# 3	1.058	1.058	ug/l	4.70	1620.00		776.70	833.38	766.71
51 V	# 2	0.4239	0.4239	ug/l	15.50	1800.00		646.68	732.24	675.58
52 Cr	# 2	1.421	1.421	ug/l	6.60	1800.00		2354.61	2361.28	2406.84
55 Mn	# 3	4.489	4.489	ug/l	1.24	1800.00		46990.03	46351.90	46936.44
56 Fe	# 1	16.41	16.41	ug/l	0.51	81000.00		167674.50	169121.91	168799.80
59 Co	# 3	0.1909	0.1909	ug/l	4.38	1800.00		1490.10	1576.78	1480.10
60 Ni	# 2	0.8538	0.8538	ug/l	6.92	1800.00		606.68	610.02	611.13
63 Cu	# 2	-0.0477	-0.0477	ug/l	18.30	1800.00		208.89	193.34	233.34
66 Zn	# 3	2.727	2.727	ug/l	6.06	1800.00		2636.92	2673.60	2876.98
75 As	# 2	24.67	24.67	ug/l	8.54	100.00		3309.97	3442.00	3359.65
78 Se	# 1	0.203	0.203	ug/l	2.08	100.00		72.67	74.00	72.00
88 Sr	# 3	1519	1519	ug/l	0.95	1800.00		23126376.00	22787842.00	22786966.00
95 Mo	# 3	2.529	2.529	ug/l	1.38	1800.00		4597.39	4544.05	4620.74
107 Ag	# 3	0.009829	0.009829	ug/l	16.95	100.00		60.00	73.34	56.67
111 Cd	# 3	0.009065	0.009065	ug/l	34.30	100.00		25.20	28.55	31.86
118 Sn	# 3	0.1676	0.1676	ug/l	10.20	1800.00		733.37	700.03	810.04
121 Sb	# 3	0.2221	0.2221	ug/l	3.25	100.00		903.39	863.38	840.05
137 Ba	# 3	5.843	5.843	ug/l	1.84	1800.00		9989.91	10240.03	10079.97
202 Hg	# 3	0.03294	0.03294	ug/l	21.19	5.00		57.33	44.67	46.67
205 Tl	# 3	0.01144	0.01144	ug/l	5.56	20.00		156.67	146.67	160.01
208 Pb	# 3	0.01592	0.01592	ug/l	8.66	1800.00		346.68	360.01	316.68
232 Th	# 3	0.1085	0.1085	ug/l	5.50	#VALUE!		1536.80	1386.77	1456.78
238 U	# 3	0.09277	0.09277	ug/l	4.19	#VALUE!		1240.09	1153.42	1153.41

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	336114.84	1.55	836165.38	40.2	60 - 125	IS F	339428.50	338812.56	330103.50
45 Sc	# 1	425798.97	1.28	552676.25	77.0	60 - 125		420002.16	426541.66	430853.09
45 Sc	# 3	420591.41	0.55	644433.94	65.3	60 - 125		423079.72	420148.00	418546.50
74 Ge	# 1	108711.99	0.84	175321.88	62.0	60 - 125		107697.33	108975.13	109463.52
74 Ge	# 2	14880.27	6.35	27172.50	54.8	60 - 125	IS F	15666.85	13833.13	15140.81
74 Ge	# 3	84582.59	1.49	164913.13	51.3	60 - 125	IS F	86039.50	83849.08	83859.20
89 Y	# 3	610065.75	0.42	1068488.30	57.1	60 - 125	IS F	610023.25	612626.44	607547.38
115 In	# 3	504499.00	0.91	1083659.40	46.6	60 - 125	IS F	509337.53	503929.25	500230.19
159 Tb	# 3	739059.19	0.58	1651256.80	44.8	60 - 125	IS F	743699.44	738311.56	735166.63
209 Bi	# 3	332295.97	0.20	1054491.00	31.5	60 - 125	IS F	332495.38	332836.78	331555.72

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
7 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\321SMPL.D\321SMPL.D#
Date Acquired: Dec 27 2012 12:46 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-21-a
Misc Info: 3010 1/5
Vial Number: 2501
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.007146	0.007146	ug/l	52.11	100.00		10.00	30.00	23.33
11 B # 3	11.69	11.69	ug/l	3.64	1800.00		37934.76	37457.10	37617.25
23 Na # 1	506	506	ug/l	5.63	81000.00		3993355.30	3958390.80	3668677.00
24 Mg # 1	48.37	48.37	ug/l	7.95	81000.00		255941.92	251664.86	224155.52
27 Al # 1	1.219	1.219	ug/l	3.51	81000.00		8328.72	7928.51	8542.15
39 K # 2	14.57	14.57	ug/l	6.80	81000.00		13498.56	13842.05	14335.77
40 Ca # 1	34.97	34.97	ug/l	4.18	81000.00		489525.94	482442.34	464710.09
45 Sc # 2	----	--------		--------	#VALUE!		41753.99	41883.11	42522.32
47 Ti # 3	0.3731	0.3731	ug/l	8.07	1620.00		403.35	473.36	433.35
51 V # 2	0.2612	0.2612	ug/l	3.55	1800.00		823.36	786.69	804.47
52 Cr # 2	0.1129	0.1129	ug/l	0.52	1800.00		434.45	440.01	438.90
55 Mn # 3	0.04078	0.04078	ug/l	11.63	1800.00		1770.14	1666.80	1586.78
56 Fe # 1	2.901	2.901	ug/l	2.33	81000.00		66499.86	65198.53	64606.64
59 Co # 3	0.002655	0.002655	ug/l	38.98	1800.00		40.00	56.67	70.00
60 Ni # 2	0.1247	0.1247	ug/l	4.63	1800.00		181.11	173.34	187.78
63 Cu # 2	0.4452	0.4452	ug/l	0.59	1800.00		1900.12	1903.45	1906.78
66 Zn # 3	0.5705	0.5705	ug/l	7.12	1800.00		1166.74	1273.41	1300.08
75 As # 2	0.1355	0.1355	ug/l	15.84	100.00		45.00	55.33	49.33
78 Se # 1	0.03861	0.03861	ug/l	10.75	100.00		44.33	44.00	48.00
88 Sr # 3	0.2397	0.2397	ug/l	1.40	1800.00		5897.81	5787.76	5864.49
95 Mo # 3	0.03405	0.03405	ug/l	4.77	1800.00		153.34	156.67	160.01
107 Ag # 3	0.008374	0.008374	ug/l	22.09	100.00		116.67	103.34	80.00
111 Cd # 3	-0.002801	-0.002801	ug/l	157.12	100.00		16.62	29.95	33.28
118 Sn # 3	0.1438	0.1438	ug/l	7.40	1800.00		1150.08	1163.41	1256.75
121 Sb # 3	0.1099	0.1099	ug/l	11.86	100.00		820.04	953.39	886.72
137 Ba # 3	0.5115	0.5115	ug/l	6.13	1800.00		1533.45	1686.80	1586.79
202 Hg # 3	0.003718	0.003718	ug/l	13.10	5.00		46.00	44.33	45.00
205 Tl # 3	0.007202	0.007202	ug/l	17.32	20.00		176.67	190.01	146.67
208 Pb # 3	0.003933	0.003933	ug/l	22.64	1800.00		253.34	270.01	226.67
232 Th # 3	0.02795	0.02795	ug/l	6.29	#VALUE!		983.40	926.73	896.72
238 U # 3	0.001062	0.001062	ug/l	24.58	#VALUE!		43.33	33.33	30.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	561849.44	2.44	836165.38	67.2	60 - 125		547615.69	575016.25	562916.44
45 Sc # 1	612972.88	0.95	552676.25	110.9	60 - 125		610916.44	608469.75	619532.50
45 Sc # 3	630898.75	0.47	644433.94	97.9	60 - 125		628112.63	634013.88	630569.81
74 Ge # 1	196067.84	0.37	175321.88	111.8	60 - 125		195243.33	196588.17	196372.00
74 Ge # 2	25618.04	0.60	27172.50	94.3	60 - 125		25454.51	25639.15	25760.46
74 Ge # 3	156244.19	0.12	164913.13	94.7	60 - 125		156350.08	156358.33	156024.17
89 Y # 3	978068.63	0.56	1068488.30	91.5	60 - 125		971796.44	980255.31	982154.38
115 In # 3	905725.81	1.42	1083659.40	83.6	60 - 125		920507.88	896995.00	899674.56
159 Tb # 3	1179935.00	0.10	1651256.80	71.5	60 - 125		1181269.80	1179108.50	1179426.80
209 Bi # 3	710444.75	0.41	1054491.00	67.4	60 - 125		707115.50	712207.25	712011.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\322SMPL.D\322SMPL.D#
Date Acquired: Dec 27 2012 12:53 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-22-a
Misc Info: 3010 1/5
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00395	0.00395	ug/l	63.80	100.00		6.67	3.33	10.00
11 B	# 3	852.6	852.6	ug/l	2.12	1800.00		1248147.30	1258750.40	1242945.10
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	239300	239300	ug/l	0.62	81000.00		759368000.00	774539710.00	779448260.00
27 Al	# 1	7.992	7.992	ug/l	0.41	81000.00		29913.78	30244.42	30267.70
39 K	# 2	103400	103400	ug/l	1.46	81000.00		18612902.00	19129374.00	19283718.00
40 Ca	# 1	85560	85560	ug/l	0.24	81000.00		623353150.00	630772610.00	636802370.00
45 Sc	# 2	----	--------		--------	#VALUE!		28005.23	28583.88	29284.99
47 Ti	# 3	1.297	1.297	ug/l	9.45	1620.00		896.71	836.71	920.05
51 V	# 2	0.5262	0.5262	ug/l	6.39	1800.00		704.46	788.91	800.02
52 Cr	# 2	0.08653	0.08653	ug/l	5.38	1800.00		186.67	201.11	197.78
55 Mn	# 3	6.093	6.093	ug/l	3.18	1800.00		58198.19	56375.81	56272.23
56 Fe	# 1	53.97	53.97	ug/l	0.50	81000.00		488080.41	486338.94	491048.31
59 Co	# 3	0.2299	0.2299	ug/l	4.34	1800.00		1566.79	1680.21	1676.80
60 Ni	# 2	0.4803	0.4803	ug/l	0.56	1800.00		321.12	320.01	333.34
63 Cu	# 2	0.334	0.334	ug/l	1.97	1800.00		814.47	820.03	870.03
66 Zn	# 3	3.957	3.957	ug/l	5.24	1800.00		3647.13	3400.42	3483.77
75 As	# 2	0.5268	0.5268	ug/l	9.21	100.00		70.67	82.33	75.33
78 Se	# 1	0.2376	0.2376	ug/l	3.69	100.00		75.33	73.33	78.00
88 Sr	# 3	1524	1524	ug/l	3.84	1800.00		21079534.00	20658262.00	20730594.00
95 Mo	# 3	2.002	2.002	ug/l	3.18	1800.00		3420.44	3323.74	3117.02
107 Ag	# 3	0.02676	0.02676	ug/l	12.70	100.00		126.67	136.67	150.01
111 Cd	# 3	0.04081	0.04081	ug/l	26.64	100.00		72.24	55.61	49.00
118 Sn	# 3	0.1356	0.1356	ug/l	14.76	1800.00		576.69	526.69	610.03
121 Sb	# 3	0.2275	0.2275	ug/l	5.39	100.00		826.71	853.38	726.70
137 Ba	# 3	4.813	4.813	ug/l	3.70	1800.00		7551.92	7518.54	7475.19
202 Hg	# 3	0.04018	0.04018	ug/l	9.38	5.00		54.33	49.33	48.33
205 Tl	# 3	0.007476	0.007476	ug/l	25.44	20.00		80.00	110.00	113.34
208 Pb	# 3	0.1976	0.1976	ug/l	1.69	1800.00		2923.53	2923.53	2796.85
232 Th	# 3	0.06329	0.06329	ug/l	4.23	#VALUE!		760.04	836.72	783.38
238 U	# 3	0.5752	0.5752	ug/l	4.02	#VALUE!		6544.96	6511.57	6578.30

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	299900.91	2.59	836165.38	35.9	60 - 125	IS F	303307.06	305375.16	291020.56
45 Sc	# 1	392463.56	0.84	552676.25	71.0	60 - 125		389213.81	392375.25	395801.63
45 Sc	# 3	385695.66	4.56	644433.94	59.9	60 - 125	IS F	386422.56	402907.75	367756.59
74 Ge	# 1	99033.60	0.18	175321.88	56.5	60 - 125	IS F	99227.91	98880.65	98992.23
74 Ge	# 2	13739.69	2.34	27172.50	50.6	60 - 125	IS F	13508.39	13604.06	14106.63
74 Ge	# 3	76121.81	2.40	164913.13	46.2	60 - 125	IS F	75834.55	78078.87	74452.00
89 Y	# 3	553556.75	3.62	1068488.30	51.8	60 - 125	IS F	555439.00	572586.50	532644.81
115 In	# 3	455899.31	3.99	1083659.40	42.1	60 - 125	IS F	458108.16	472885.81	436704.06
159 Tb	# 3	679028.38	3.56	1651256.80	41.1	60 - 125	IS F	681199.56	702018.81	653866.88
209 Bi	# 3	297622.41	3.50	1054491.00	28.2	60 - 125	IS F	298258.66	307698.63	286909.91

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
9 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\323SMPL.D\323SMPL.D#
Date Acquired: Dec 27 2012 01:01 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 680-85793-e-23-a
Misc Info: 3010 1/10
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

	Tune Step
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.05228	0.02614	ug/l	178.96	100.00		0.00	110.09	0.00
11 B	# 3	1719.2	859.6	ug/l	0.90	1800.00		1243285.60	1218730.90	1203030.80
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	496200	248100	ug/l	0.59	81000.00		796295680.00	805577280.00	805503550.00
27 Al	# 1	16.486	8.243	ug/l	1.93	81000.00		31092.26	31649.99	30768.58
39 K	# 2	213600	106800	ug/l	2.54	81000.00		18850826.00	19347744.00	20001874.00
40 Ca	# 1	175800	87900	ug/l	0.25	81000.00		646763580.00	649883010.00	652910530.00
45 Sc	# 2	----	--------		--------	#VALUE!		27814.98	28245.64	28689.67
47 Ti	# 3	2.826	1.413	ug/l	2.62	1620.00		966.72	950.06	920.05
51 V	# 2	1.0782	0.5391	ug/l	3.28	1800.00		760.02	795.58	756.69
52 Cr	# 2	0.1502	0.0751	ug/l	20.73	1800.00		163.34	161.11	203.34
55 Mn	# 3	12.63	6.315	ug/l	1.36	1800.00		58943.73	58345.08	57840.23
56 Fe	# 1	110.28	55.14	ug/l	0.14	81000.00		496724.84	492941.34	495842.84
59 Co	# 3	0.439	0.2195	ug/l	2.96	1800.00		1543.46	1610.13	1500.12
60 Ni	# 2	0.7916	0.3958	ug/l	3.75	1800.00		256.67	276.67	268.89
63 Cu	# 2	0.692	0.346	ug/l	9.40	1800.00		900.03	828.92	803.36
66 Zn	# 3	8.414	4.207	ug/l	4.88	1800.00		3530.44	3917.19	3613.80
75 As	# 2	1.0324	0.5162	ug/l	3.97	100.00		71.33	73.33	77.00
78 Se	# 1	0.5464	0.2732	ug/l	4.98	100.00		81.33	83.33	88.33
88 Sr	# 3	3084	1542	ug/l	0.41	1800.00		21026300.00	20725646.00	20666174.00
95 Mo	# 3	3.872	1.936	ug/l	1.61	1800.00		3213.73	3053.67	3107.03
107 Ag	# 3	0.0587	0.02935	ug/l	32.51	100.00		156.67	186.67	100.00
111 Cd	# 3	0.06202	0.03101	ug/l	24.81	100.00		55.64	39.02	49.01
118 Sn	# 3	0.2668	0.1334	ug/l	20.15	1800.00		603.36	453.35	613.37
121 Sb	# 3	0.4406	0.2203	ug/l	10.68	100.00		703.37	826.71	766.71
137 Ba	# 3	10.594	5.297	ug/l	1.02	1800.00		8315.61	8012.11	8082.14
202 Hg	# 3	0.0724	0.0362	ug/l	19.91	5.00		50.00	39.33	50.33
205 Tl	# 3	0.01092	0.00546	ug/l	16.04	20.00		80.00	86.67	70.00
208 Pb	# 3	0.3908	0.1954	ug/l	3.27	1800.00		2910.19	2743.51	2716.84
232 Th	# 3	0.08772	0.04386	ug/l	15.78	#VALUE!		650.03	536.69	506.69
238 U	# 3	1.1252	0.5626	ug/l	1.91	#VALUE!		6268.14	6438.24	6241.46

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	290638.78	1.03	836165.38	34.8	60 - 125	IS E	292803.59	291895.69	287217.03
45 Sc	# 1	393854.47	0.56	552676.25	71.3	60 - 125		392424.84	392729.00	396409.53
45 Sc	# 3	378232.00	0.77	644433.94	58.7	60 - 125	IS E	380489.94	374959.47	379246.56
74 Ge	# 1	98278.15	0.27	175321.88	56.1	60 - 125	IS E	98450.68	97968.95	98414.81
74 Ge	# 2	13571.42	0.44	27172.50	49.9	60 - 125	IS E	13510.65	13574.00	13629.61
74 Ge	# 3	75288.74	0.78	164913.13	45.7	60 - 125	IS E	74853.61	75954.78	75057.84
89 Y	# 3	546270.88	0.72	1068488.30	51.1	60 - 125	IS E	550640.06	543024.25	545148.31
115 In	# 3	448064.94	1.05	1083659.40	41.3	60 - 125	IS E	452676.09	443283.31	448235.50
159 Tb	# 3	664600.25	0.86	1651256.80	40.2	60 - 125	IS E	669929.13	658532.44	665339.25
209 Bi	# 3	293404.84	0.41	1054491.00	27.8	60 - 125	IS E	292495.31	292950.38	294768.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
9 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\324_CCV.D\324_CCV.D#
Date Acquired: Dec 27 2012 01:08 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	53.28 ug/l	0.99	50.00	90 - 110		123565.13	129880.06	128993.30
11 B	118.2 ug/l	2.67	100.00	90 - 110	Fail	301044.47	303391.56	299845.16
23 Na	5788 ug/l	2.19	5000.00	90 - 110	Fail	38088644.00	40424208.00	39818988.00
24 Mg	4851 ug/l	1.89	5000.00	90 - 110		22396972.00	21960974.00	22471366.00
27 Al	476.3 ug/l	1.24	500.00	90 - 110		2487193.30	2470326.00	2516626.00
39 K	5087 ug/l	2.22	5000.00	90 - 110		1583276.40	1598286.60	1655344.00
40 Ca	4804 ug/l	0.92	5000.00	90 - 110		50198856.00	50493708.00	50784520.00
45 Sc	--------	--------	---	##### - #####		39224.09	39402.21	40916.49
47 Ti	49.84 ug/l	1.32	50.00	90 - 110		50840.07	50913.48	52297.11
51 V	50.2 ug/l	1.19	50.00	90 - 110		106991.30	108298.80	109440.17
52 Cr	49.58 ug/l	1.05	50.00	90 - 110		127035.60	128666.47	127721.37
55 Mn	503.9 ug/l	0.17	500.00	90 - 110		8743561.00	8728683.00	8773908.00
56 Fe	4753 ug/l	0.85	5000.00	90 - 110		75533472.00	76847776.00	78174336.00
59 Co	48.39 ug/l	0.39	50.00	90 - 110		642059.81	644519.13	643912.94
60 Ni	51.95 ug/l	1.41	50.00	90 - 110		56436.55	57632.35	57366.14
63 Cu	53.39 ug/l	0.72	50.00	90 - 110		152921.42	153966.28	154544.50
66 Zn	47.5 ug/l	1.02	50.00	90 - 110		76881.85	76610.27	75937.79
75 As	49.47 ug/l	0.43	50.00	90 - 110		10793.20	10625.76	10765.51
78 Se	47.34 ug/l	0.43	50.00	90 - 110		22598.32	22662.72	22858.63
88 Sr	49.23 ug/l	1.16	50.00	90 - 110		1125462.30	1103524.60	1097269.90
95 Mo	51.91 ug/l	0.66	50.00	90 - 110		155129.64	154425.80	153874.13
107 Ag	50.7 ug/l	1.24	50.00	90 - 110		445797.03	444010.88	436228.81
111 Cd	47.85 ug/l	1.49	50.00	90 - 110		91487.31	91778.43	89782.00
118 Sn	48.62 ug/l	0.73	50.00	90 - 110		286496.31	285657.72	287119.34
121 Sb	50.84 ug/l	0.80	50.00	90 - 110		280372.47	280127.03	279167.41
137 Ba	48.8 ug/l	1.44	50.00	90 - 110		138041.13	139690.73	139389.38
202 Hg	2.448 ug/l	1.01	2.50	90 - 110		4742.38	4623.35	4689.03
205 Tl	9.624 ug/l	0.31	10.00	90 - 110		158817.17	157734.78	156676.63
208 Pb	47.9 ug/l	0.80	50.00	90 - 110		1083319.60	1084031.30	1082907.30
232 Th	50.45 ug/l	0.71	---	##### - #####		1244755.00	1249410.60	1252197.80
238 U	47.43 ug/l	6.89	---	##### - #####		1125721.00	1137122.10	1265591.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	513998.63	2.50	836165.38	61.5	60 - 125		499598.53	518001.03	524396.38
45 Sc	559266.00	1.50	552676.25	101.2	60 - 125		550600.56	559850.88	567346.69
45 Sc	592006.00	0.28	644433.94	91.9	60 - 125		590745.13	591365.44	593907.50
74 Ge	179489.30	0.89	175321.88	102.4	60 - 125		177768.72	179767.23	180931.94
74 Ge	23571.96	0.44	27172.50	86.7	60 - 125		23622.00	23452.94	23640.93
74 Ge	142435.92	0.39	164913.13	86.4	60 - 125		142111.61	142111.16	143085.02
89 Y	911508.44	0.30	1068488.30	85.3	60 - 125		914043.44	908569.88	911911.88
115 In	832011.00	0.83	1083659.40	76.8	60 - 125		839152.00	825452.25	831428.63
159 Tb	1086257.30	0.83	1651256.80	65.8	60 - 125		1092972.80	1089832.00	1075967.10
209 Bi	648365.88	0.41	1054491.00	61.5	60 - 125		651408.94	647231.06	646457.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\325_CCB.D\325_CCB.D#
Date Acquired: Dec 27 2012 01:16 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 26 2012 09:15 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01452	0.01452	ug/l	43.97	#VALUE!		20.00	50.00	46.67
11 B # 3	10.33	10.33	ug/l	2.05	#VALUE!		32788.47	32374.41	32945.22
23 Na # 1	966.7	966.7	ug/l	137.89	#VALUE!		1410755.80	1461113.60	17533788.00
24 Mg # 1	103.3	103.3	ug/l	165.15	#VALUE!		21309.95	23523.23	1412106.90
27 Al # 1	1.696	1.696	ug/l	142.22	#VALUE!		2683.59	2823.62	25176.35
39 K # 2	13.47	13.47	ug/l	35.37	#VALUE!		14262.41	12831.31	11333.69
40 Ca # 1	52.41	52.41	ug/l	123.11	#VALUE!		226392.55	231492.63	1435396.60
45 Sc # 2	----	--------		--------	#VALUE!		39250.76	39828.67	39571.50
47 Ti # 3	0.0312	0.0312	ug/l	68.85	#VALUE!		66.67	33.33	76.67
51 V # 2	0.04904	0.04904	ug/l	10.39	#VALUE!		301.12	276.67	300.01
52 Cr # 2	0.02626	0.02626	ug/l	15.49	#VALUE!		196.67	181.11	177.78
55 Mn # 3	0.1846	0.1846	ug/l	4.99	#VALUE!		4073.89	4313.96	4330.62
56 Fe # 1	4.946	4.946	ug/l	101.76	#VALUE!		46295.24	46743.32	194017.92
59 Co # 3	0.01844	0.01844	ug/l	13.95	#VALUE!		243.34	270.01	310.01
60 Ni # 2	0.0215	0.0215	ug/l	39.11	#VALUE!		54.45	63.33	45.56
63 Cu # 2	-0.06929	-0.06929	ug/l	17.32	#VALUE!		267.78	318.89	258.89
66 Zn # 3	0.005665	0.005665	ug/l	138.50	#VALUE!		256.68	230.01	240.01
75 As # 2	0.04891	0.04891	ug/l	43.69	#VALUE!		33.33	24.00	26.67
78 Se # 1	0.06625	0.06625	ug/l	24.95	#VALUE!		57.00	47.00	64.00
88 Sr # 3	0.03968	0.03968	ug/l	5.19	#VALUE!		963.39	1030.06	956.72
95 Mo # 3	0.08342	0.08342	ug/l	4.35	#VALUE!		320.01	310.01	293.34
107 Ag # 3	0.01917	0.01917	ug/l	3.96	#VALUE!		196.67	190.01	203.34
111 Cd # 3	0.01188	0.01188	ug/l	80.30	#VALUE!		49.90	39.90	76.58
118 Sn # 3	0.06215	0.06215	ug/l	16.33	#VALUE!		693.37	573.36	680.03
121 Sb # 3	0.1032	0.1032	ug/l	11.46	#VALUE!		820.04	893.38	756.70
137 Ba # 3	0.02486	0.02486	ug/l	23.51	#VALUE!		76.67	110.00	86.67
202 Hg # 3	0.01611	0.01611	ug/l	17.74	#VALUE!		64.67	76.00	68.67
205 Tl # 3	0.013	0.013	ug/l	17.25	#VALUE!		273.34	223.34	296.68
208 Pb # 3	0.01824	0.01824	ug/l	6.00	#VALUE!		553.36	606.69	580.02
232 Th # 3	0.1081	0.1081	ug/l	0.76	#VALUE!		3050.39	3080.40	3053.72
238 U # 3	0.01982	0.01982	ug/l	5.19	#VALUE!		550.03	556.69	503.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	540980.69	1.77	836165.38	64.7	60 - 125		531844.38	540170.81	550926.75
45 Sc # 1	563502.81	1.74	552676.25	102.0	60 - 125		553040.56	564944.13	572523.81
45 Sc # 3	604542.25	0.68	644433.94	93.8	60 - 125		609200.50	601409.00	603017.19
74 Ge # 1	183161.88	1.63	175321.88	104.5	60 - 125		180386.25	182779.23	186320.16
74 Ge # 2	24299.25	1.19	27172.50	89.4	60 - 125		24270.71	24025.92	24601.13
74 Ge # 3	150141.27	0.93	164913.13	91.0	60 - 125		150942.67	150955.23	148525.89
89 Y # 3	946930.00	0.98	1068488.30	88.6	60 - 125		956906.44	938610.19	945273.19
115 In # 3	880297.38	0.84	1083659.40	81.2	60 - 125		888818.50	876550.38	875523.19
159 Tb # 3	1137905.80	0.43	1651256.80	68.9	60 - 125		1139054.90	1142100.40	1132561.80
209 Bi # 3	699191.06	0.40	1054491.00	66.3	60 - 125		702045.69	699009.81	696517.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\326_CCV.D\326_CCV.D#
Date Acquired: Dec 27 2012 08:51 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	56.79 ug/l	1.47	50.00	90 - 110	Fail	125944.57	129800.05	128627.95
11 B	110.5 ug/l	1.74	100.00	90 - 110	Fail	260755.91	265847.09	271806.72
23 Na	4983 ug/l	0.62	5000.00	90 - 110		29414736.00	29457140.00	30051522.00
24 Mg	4812 ug/l	1.51	5000.00	90 - 110		18843036.00	19362084.00	19647140.00
27 Al	488.6 ug/l	1.35	500.00	90 - 110		2183660.50	2235418.00	2271360.00
39 K	4845 ug/l	1.17	5000.00	90 - 110		1476187.80	1486311.80	1553051.40
40 Ca	5025 ug/l	1.57	5000.00	90 - 110		45211872.00	46844320.00	46218408.00
45 Sc	--------	--------	---	##### - #####		36789.16	36987.43	38156.31
47 Ti	51.31 ug/l	1.76	50.00	90 - 110		51274.30	51197.40	49920.57
51 V	50.05 ug/l	0.48	50.00	90 - 110		103232.79	106381.46	107667.60
52 Cr	49.74 ug/l	0.81	50.00	90 - 110		123652.56	125964.80	127302.67
55 Mn	489.6 ug/l	0.59	500.00	90 - 110		8656129.00	8618928.00	8653125.00
56 Fe	4843 ug/l	0.99	5000.00	90 - 110		70004856.00	71258696.00	70714904.00
59 Co	48.12 ug/l	0.14	50.00	90 - 110		652749.50	652780.13	646054.38
60 Ni	51.32 ug/l	1.29	50.00	90 - 110		54771.71	55311.10	55834.88
63 Cu	52.85 ug/l	1.00	50.00	90 - 110		147184.13	149470.14	150924.73
66 Zn	49.5 ug/l	0.04	50.00	90 - 110		81263.27	81173.30	80614.27
75 As	51.84 ug/l	1.12	50.00	90 - 110		10838.55	11086.04	11114.05
78 Se	49.4 ug/l	0.81	50.00	90 - 110		21159.25	21508.34	21468.61
88 Sr	51.28 ug/l	1.69	50.00	90 - 110		1216405.60	1194252.90	1161571.90
95 Mo	51.98 ug/l	0.75	50.00	90 - 110		168649.83	166069.58	164102.11
107 Ag	51.65 ug/l	0.78	50.00	90 - 110		491205.78	480653.44	480191.03
111 Cd	49.93 ug/l	0.28	50.00	90 - 110		102996.49	101753.13	101522.33
118 Sn	50.79 ug/l	0.66	50.00	90 - 110		324551.09	319071.72	321113.66
121 Sb	54.08 ug/l	0.23	50.00	90 - 110		322366.25	319111.53	318627.88
137 Ba	51.26 ug/l	1.12	50.00	90 - 110		159587.34	157289.50	154175.11
202 Hg	2.608 ug/l	0.50	2.50	90 - 110		5448.27	5489.95	5406.59
205 Tl	9.937 ug/l	1.25	10.00	90 - 110		181669.22	181556.80	178144.00
208 Pb	49.68 ug/l	0.69	50.00	90 - 110		1246255.30	1241507.40	1247730.90
232 Th	49.07 ug/l	0.93	---	##### - #####		1342370.90	1327365.80	1310210.80
238 U	47.93 ug/l	0.81	---	##### - #####		1290049.00	1300889.00	1303518.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	484766.59	2.90	836165.38	58.0	60 - 125	IS Fail	468578.06	493643.06	492078.75
45 Sc	488018.06	0.65	552676.25	88.3	60 - 125		485102.97	487551.84	491399.44
45 Sc	568942.44	0.37	644433.94	88.3	60 - 125		566571.06	569819.88	570436.44
74 Ge	161966.81	0.55	175321.88	92.4	60 - 125		161406.09	161497.58	162996.77
74 Ge	23099.50	2.25	27172.50	85.0	60 - 125		22574.03	23112.48	23612.00
74 Ge	144809.02	0.46	164913.13	87.8	60 - 125		145229.17	145151.14	144046.75
89 Y	939693.44	0.64	1068488.30	87.9	60 - 125		945476.63	940046.13	933557.25
115 In	894326.31	0.62	1083659.40	82.5	60 - 125		899980.19	894110.06	888888.50
159 Tb	1203625.80	0.82	1651256.80	72.9	60 - 125		1214268.60	1194899.00	1201709.80
209 Bi	708084.00	0.34	1054491.00	67.1	60 - 125		709393.88	709540.06	705318.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\327_CCB.D\327_CCB.D#
Date Acquired: Dec 27 2012 08:59 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01917	0.01917	ug/l	35.21	#VALUE!		40.00	36.67	66.67
11 B # 3	1.471	1.471	ug/l	5.85	#VALUE!		8882.30	8832.25	8732.20
23 Na # 1	60.5	60.5	ug/l	14.83	#VALUE!		414267.28	531749.13	471948.28
24 Mg # 1	4.836	4.836	ug/l	25.06	#VALUE!		16223.93	26676.29	20725.46
27 Al # 1	0.1103	0.1103	ug/l	7.27	#VALUE!		1630.12	1636.79	1610.11
39 K # 2	-0.6672	-0.6672	ug/l	39.87	#VALUE!		8045.26	8228.68	8495.48
40 Ca # 1	10.76	10.76	ug/l	2.57	#VALUE!		166739.17	173145.89	171753.08
45 Sc # 2	----	--------		--------	#VALUE!		37234.80	37466.08	38567.11
47 Ti # 3	0.02427	0.02427	ug/l	45.20	#VALUE!		56.67	53.33	36.67
51 V # 2	-0.001385	-0.001385	ug/l	294.95	#VALUE!		172.23	176.67	195.56
52 Cr # 2	0.001398	0.001398	ug/l	348.07	#VALUE!		114.45	133.34	111.11
55 Mn # 3	0.1723	0.1723	ug/l	5.09	#VALUE!		3853.84	4157.26	3987.21
56 Fe # 1	1.212	1.212	ug/l	2.07	#VALUE!		30545.96	31113.54	31851.27
59 Co # 3	0.01486	0.01486	ug/l	18.65	#VALUE!		230.01	256.68	183.34
60 Ni # 2	-0.008084	-0.008084	ug/l	74.25	#VALUE!		13.33	26.67	23.33
63 Cu # 2	-0.1298	-0.1298	ug/l	1.79	#VALUE!		95.56	110.00	104.45
66 Zn # 3	-0.04976	-0.04976	ug/l	11.18	#VALUE!		146.67	156.67	140.00
75 As # 2	0.0161	0.0161	ug/l	60.33	#VALUE!		18.00	21.67	22.67
78 Se # 1	0.05562	0.05562	ug/l	17.03	#VALUE!		52.00	46.33	44.33
88 Sr # 3	0.0301	0.0301	ug/l	11.43	#VALUE!		690.04	860.05	753.37
95 Mo # 3	0.07879	0.07879	ug/l	14.91	#VALUE!		346.68	306.68	270.01
107 Ag # 3	0.01874	0.01874	ug/l	20.17	#VALUE!		243.34	183.34	180.01
111 Cd # 3	0.01953	0.01953	ug/l	48.37	#VALUE!		96.56	59.90	66.58
118 Sn # 3	0.02864	0.02864	ug/l	19.88	#VALUE!		453.35	506.69	426.68
121 Sb # 3	0.0859	0.0859	ug/l	4.84	#VALUE!		780.05	740.04	756.71
137 Ba # 3	0.02303	0.02303	ug/l	11.54	#VALUE!		93.34	96.67	80.00
202 Hg # 3	0.006239	0.006239	ug/l	17.54	#VALUE!		55.33	50.33	52.67
205 Tl # 3	0.006145	0.006145	ug/l	26.59	#VALUE!		186.67	130.00	153.34
208 Pb # 3	0.023	0.023	ug/l	4.60	#VALUE!		740.03	770.03	710.03
232 Th # 3	0.1007	0.1007	ug/l	4.91	#VALUE!		3213.78	2947.05	2983.72
238 U # 3	0.02051	0.02051	ug/l	10.25	#VALUE!		630.03	620.03	523.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	511623.13	1.72	836165.38	61.2	60 - 125		501464.53	517389.56	516015.19
45 Sc # 1	521564.53	1.67	552676.25	94.4	60 - 125		513698.00	520030.88	530964.69
45 Sc # 3	573650.38	0.98	644433.94	89.0	60 - 125		567297.31	577979.06	575674.75
74 Ge # 1	171655.89	0.91	175321.88	97.9	60 - 125		170488.52	171052.53	173426.67
74 Ge # 2	24400.48	1.77	27172.50	89.8	60 - 125		24057.10	24258.42	24885.92
74 Ge # 3	149514.75	0.79	164913.13	90.7	60 - 125		148892.13	148768.34	150883.78
89 Y # 3	956904.69	0.78	1068488.30	89.6	60 - 125		955602.38	964917.50	950193.94
115 In # 3	924343.50	0.80	1083659.40	85.3	60 - 125		919584.06	932867.38	920579.13
159 Tb # 3	1215172.30	0.93	1651256.80	73.6	60 - 125		1204258.40	1226828.00	1214430.80
209 Bi # 3	744513.50	0.30	1054491.00	70.6	60 - 125		745438.75	741973.75	746127.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\328_CCV.D\328_CCV.D#
Date Acquired: Dec 27 2012 09:06 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	56.33 ug/l	0.57	50.00	90 - 110	Fail	125810.10	128185.94	128912.80
11 B	110.8 ug/l	1.90	100.00	90 - 110	Fail	263110.38	265864.16	275348.88
23 Na	4989 ug/l	0.65	5000.00	90 - 110		30751886.00	30894490.00	31390572.00
24 Mg	4867 ug/l	0.68	5000.00	90 - 110		20056848.00	20449134.00	20654246.00
27 Al	488.8 ug/l	1.12	500.00	90 - 110		2282748.80	2351565.50	2361424.80
39 K	5074 ug/l	2.14	5000.00	90 - 110		1544029.10	1580848.30	1638214.40
40 Ca	4971 ug/l	0.81	5000.00	90 - 110		47026492.00	47782388.00	48136784.00
45 Sc	--------	--------		--- ##### - #####		37724.32	38655.12	38795.43
47 Ti	51.39 ug/l	0.87	50.00	90 - 110		50552.31	50826.32	50324.94
51 V	50.48 ug/l	0.47	50.00	90 - 110		106331.06	107211.47	108855.40
52 Cr	50.83 ug/l	0.68	50.00	90 - 110		128043.23	128759.18	131280.83
55 Mn	490.5 ug/l	1.45	500.00	90 - 110		8612102.00	8760574.00	8545222.00
56 Fe	4854 ug/l	0.50	5000.00	90 - 110		71810160.00	72682280.00	74076952.00
59 Co	47.84 ug/l	0.21	50.00	90 - 110		651766.75	642416.06	641715.44
60 Ni	51.91 ug/l	0.65	50.00	90 - 110		55954.06	56077.76	57088.52
63 Cu	53.18 ug/l	0.87	50.00	90 - 110		150517.19	150079.23	153180.84
66 Zn	48.45 ug/l	1.28	50.00	90 - 110		79663.57	77949.70	79726.19
75 As	51.82 ug/l	0.75	50.00	90 - 110		10934.61	11066.02	11278.15
78 Se	49.52 ug/l	0.37	50.00	90 - 110		21836.04	22060.34	22235.54
88 Sr	51.31 ug/l	1.21	50.00	90 - 110		1178681.60	1190425.40	1188867.90
95 Mo	52.13 ug/l	0.83	50.00	90 - 110		166392.73	165576.14	162932.06
107 Ag	51.65 ug/l	0.56	50.00	90 - 110		483754.94	478096.56	474769.47
111 Cd	50.07 ug/l	0.23	50.00	90 - 110		101995.52	100898.01	100946.17
118 Sn	50.92 ug/l	0.95	50.00	90 - 110		323256.47	315203.47	318458.81
121 Sb	54.05 ug/l	0.24	50.00	90 - 110		318502.72	316165.63	314697.03
137 Ba	51.43 ug/l	0.44	50.00	90 - 110		157075.47	154795.47	155685.13
202 Hg	2.553 ug/l	0.74	2.50	90 - 110		5352.24	5316.89	5344.90
205 Tl	9.908 ug/l	0.51	10.00	90 - 110		180730.28	176932.95	179312.89
208 Pb	49.17 ug/l	0.52	50.00	90 - 110		1226822.30	1225484.00	1225470.40
232 Th	48.64 ug/l	0.26		--- ##### - #####		1315902.40	1318323.40	1314512.80
238 U	47.93 ug/l	1.81		--- ##### - #####		1297264.80	1280788.90	1319671.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	486807.59	1.65	836165.38	58.2	60 - 125	IS Fail	477552.66	492002.69	490867.38
45 Sc	510044.03	1.72	552676.25	92.3	60 - 125		502616.56	507765.06	519750.47
45 Sc	565442.00	0.41	644433.94	87.7	60 - 125		564028.06	564152.44	568145.50
74 Ge	166614.80	1.09	175321.88	95.0	60 - 125		165118.56	166079.50	168646.34
74 Ge	23271.57	0.93	27172.50	85.6	60 - 125		23033.52	23322.74	23458.45
74 Ge	144489.83	0.69	164913.13	87.6	60 - 125		145615.47	144143.33	143710.70
89 Y	935643.81	0.68	1068488.30	87.6	60 - 125		942987.25	932125.31	931819.13
115 In	884816.75	0.40	1083659.40	81.7	60 - 125		888897.69	883266.88	882285.81
159 Tb	1197275.60	0.57	1651256.80	72.5	60 - 125		1203479.30	1190010.30	1198337.30
209 Bi	708796.31	0.39	1054491.00	67.2	60 - 125		706956.06	711947.56	707485.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\329_CCB.D\329_CCB.D#
Date Acquired: Dec 27 2012 09:14 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01771	0.01771	ug/l	30.92	#VALUE!		36.67	36.67	56.67
11 B # 3	1.651	1.651	ug/l	8.55	#VALUE!		8895.64	9289.16	9182.42
23 Na # 1	36.04	36.04	ug/l	10.31	#VALUE!		315487.44	322505.66	325437.59
24 Mg # 1	2.421	2.421	ug/l	5.15	#VALUE!		10529.86	10946.71	11513.78
27 Al # 1	0.1136	0.1136	ug/l	18.51	#VALUE!		1613.45	1663.46	1710.13
39 K # 2	1.516	1.516	ug/l	47.71	#VALUE!		8735.61	8502.14	8575.50
40 Ca # 1	8.921	8.921	ug/l	11.27	#VALUE!		151298.41	153662.06	158225.28
45 Sc # 2	----	--------		--------	#VALUE!		36514.22	36725.73	37670.95
47 Ti # 3	0.01685	0.01685	ug/l	50.56	#VALUE!		43.33	33.33	43.34
51 V # 2	0.002635	0.002635	ug/l	235.52	#VALUE!		192.23	168.89	186.67
52 Cr # 2	0.007882	0.007882	ug/l	17.93	#VALUE!		130.00	127.78	136.67
55 Mn # 3	0.1456	0.1456	ug/l	13.23	#VALUE!		3723.83	3233.71	3193.70
56 Fe # 1	1.291	1.291	ug/l	6.48	#VALUE!		30946.62	32789.69	34128.61
59 Co # 3	0.01552	0.01552	ug/l	4.22	#VALUE!		233.34	230.01	210.01
60 Ni # 2	0.007654	0.007654	ug/l	10.41	#VALUE!		37.78	36.67	37.78
63 Cu # 2	-0.1133	-0.1133	ug/l	2.79	#VALUE!		134.45	154.45	150.00
66 Zn # 3	-0.05869	-0.05869	ug/l	25.29	#VALUE!		133.34	156.67	96.67
75 As # 2	0.03807	0.03807	ug/l	26.45	#VALUE!		22.33	24.33	27.33
78 Se # 1	0.06236	0.06236	ug/l	12.51	#VALUE!		45.33	52.67	55.33
88 Sr # 3	0.02404	0.02404	ug/l	6.52	#VALUE!		643.37	633.36	543.36
95 Mo # 3	0.08426	0.08426	ug/l	11.60	#VALUE!		340.01	306.68	303.34
107 Ag # 3	0.01926	0.01926	ug/l	26.28	#VALUE!		250.01	173.34	180.01
111 Cd # 3	0.01559	0.01559	ug/l	54.63	#VALUE!		83.23	59.90	49.90
118 Sn # 3	0.03448	0.03448	ug/l	13.94	#VALUE!		503.35	490.02	466.69
121 Sb # 3	0.1188	0.1188	ug/l	5.58	#VALUE!		893.38	993.39	920.05
137 Ba # 3	0.01723	0.01723	ug/l	6.86	#VALUE!		66.67	80.00	63.34
202 Hg # 3	0.01014	0.01014	ug/l	32.65	#VALUE!		65.00	56.33	58.67
205 Tl # 3	0.00747	0.00747	ug/l	19.72	#VALUE!		193.34	193.34	140.00
208 Pb # 3	0.02324	0.02324	ug/l	11.19	#VALUE!		720.03	696.70	740.03
232 Th # 3	0.1031	0.1031	ug/l	8.58	#VALUE!		3283.79	3163.76	2740.35
238 U # 3	0.01671	0.01671	ug/l	16.02	#VALUE!		550.03	473.36	400.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	504175.88	5.22	836165.38	60.3	60 - 125		487962.03	534573.44	489992.22
45 Sc # 1	529959.75	8.90	552676.25	95.9	60 - 125		501610.81	503876.75	584391.56
45 Sc # 3	558035.06	7.11	644433.94	86.6	60 - 125		547446.50	601924.19	524734.50
74 Ge # 1	173134.45	7.25	175321.88	98.8	60 - 125		165169.89	166616.58	187616.94
74 Ge # 2	23415.84	1.43	27172.50	86.2	60 - 125		23067.99	23441.79	23737.74
74 Ge # 3	144266.52	5.11	164913.13	87.5	60 - 125		143487.31	151995.27	137317.00
89 Y # 3	929479.75	5.75	1068488.30	87.0	60 - 125		925972.25	984626.31	877840.50
115 In # 3	901619.38	7.34	1083659.40	83.2	60 - 125		886004.56	974189.13	844664.44
159 Tb # 3	1175104.30	6.12	1651256.80	71.2	60 - 125		1147184.80	1256840.30	1121287.80
209 Bi # 3	732169.81	6.68	1054491.00	69.4	60 - 125		717965.38	786625.31	691918.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\330_ICV.D\330_ICV.D#
Date Acquired: Dec 27 2012 09:21 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: ICSA
Misc Info:
Vial Number: 4510
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: ICV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	-0.0002762 ug/l	370.02	---	##### - #####		0.00	3.33	0.00
11 B	0.5898 ug/l	15.31	---	##### - #####		5074.11	5140.82	5207.52
23 Na	91280 ug/l	1.91	##########	80 - 120		496475230.00	499474340.00	502195070.00
24 Mg	88120 ug/l	2.12	##########	80 - 120		324215040.00	326496060.00	326199940.00
27 Al	87050 ug/l	1.67	##########	80 - 120		361873150.00	369693860.00	367183300.00
39 K	101200 ug/l	1.09	##########	80 - 120		24536640.00	24737826.00	24964270.00
40 Ca	92670 ug/l	1.59	##########	80 - 120		775182590.00	785113790.00	788121280.00
45 Sc	--------	--------	---	##### - #####		31906.95	32604.81	32137.39
47 Ti	2074 ug/l	2.66	2000.00	80 - 120		1715751.60	1730804.50	1699466.40
51 V	0.2013 ug/l	2.54	---	##### - #####		464.46	478.90	478.90
52 Cr	1.209 ug/l	5.01	---	##### - #####		2362.39	2576.86	2565.75
55 Mn	0.1991 ug/l	9.41	---	##### - #####		3147.04	3303.73	3410.45
56 Fe	92650 ug/l	0.71	##########	80 - 120		##########	##########	##########
59 Co	0.1129 ug/l	13.93	---	##### - #####		1166.74	1043.39	1283.42
60 Ni	0.6582 ug/l	4.26	---	##### - #####		574.46	567.79	608.91
63 Cu	0.09089 ug/l	17.86	---	##### - #####		608.90	561.12	536.68
66 Zn	3.004 ug/l	13.50	---	##### - #####		3497.11	3900.52	4220.61
75 As	0.3735 ug/l	7.19	---	##### - #####		73.33	81.00	72.33
78 Se	0.06391 ug/l	18.34	---	##### - #####		41.33	34.67	41.33
88 Sr	0.3136 ug/l	7.38	---	##### - #####		5764.43	6324.62	6107.90
95 Mo	2136 ug/l	3.71	2000.00	80 - 120		5302235.50	5244852.00	5262639.00
107 Ag	0.05497 ug/l	1.46	---	##### - #####		426.68	413.35	400.02
111 Cd	0.4439 ug/l	13.01	---	##### - #####		640.19	768.57	762.87
118 Sn	0.09169 ug/l	2.64	---	##### - #####		680.03	650.03	630.03
121 Sb	0.3606 ug/l	9.81	---	##### - #####		1796.81	1736.81	1920.27
137 Ba	0.1731 ug/l	4.18	---	##### - #####		416.68	446.69	403.35
202 Hg	0.01406 ug/l	24.93	---	##### - #####		46.00	56.00	45.00
205 Tl	0.01105 ug/l	27.89	---	##### - #####		170.01	190.01	243.34
208 Pb	0.111 ug/l	4.75	---	##### - #####		2383.48	2470.16	2433.49
232 Th	0.11 ug/l	2.90	---	##### - #####		2376.92	2296.93	2290.25
238 U	0.002377 ug/l	20.96	---	##### - #####		53.34	43.33	60.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	397535.28	2.29	836165.38	47.5	60 - 125	IS Fail	400724.88	404599.00	387282.03
45 Sc	450170.56	2.44	552676.25	81.5	60 - 125		438025.88	453026.50	459459.34
45 Sc	475762.75	3.27	644433.94	73.8	60 - 125		487404.78	481823.16	458060.34
74 Ge	130736.66	1.15	175321.88	74.6	60 - 125		129007.44	131634.81	131567.75
74 Ge	18276.27	0.33	27172.50	67.3	60 - 125		18278.10	18335.96	18214.74
74 Ge	109723.62	3.78	164913.13	66.5	60 - 125		112361.95	111862.23	104946.65
89 Y	778329.63	4.18	1068488.30	72.8	60 - 125		805491.81	787278.75	742218.19
115 In	690781.06	3.79	1083659.40	63.7	60 - 125		709767.56	701679.88	660895.63
159 Tb	996361.31	3.78	1651256.80	60.3	60 - 125		1021096.10	1015001.30	952986.63
209 Bi	522103.44	3.47	1054491.00	49.5	60 - 125	IS Fail	534042.44	531008.06	501259.78

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\331SMPL.D\331SMPL.D#
Date Acquired: Dec 27 2012 09:29 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: ICSAB
Misc Info:
Vial Number: 4511
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001009	0.001009	ug/l	186.52	100.00		0.00	6.67	3.33
11 B # 3	0.4251	0.4251	ug/l	13.47	1800.00		4517.32	4740.71	4600.67
23 Na # 1	89260	89260	ug/l	0.26	81000.00		464447230.00	469856990.00	471261790.00
24 Mg # 1	86260	86260	ug/l	0.79	81000.00		303243580.00	309698720.00	304626020.00
27 Al # 1	85010	85010	ug/l	0.63	81000.00	Fail	338328160.00	345875740.00	345266560.00
39 K # 2	99450	99450	ug/l	1.33	81000.00		22740062.00	23254046.00	23551820.00
40 Ca # 1	91190	91190	ug/l	0.31	81000.00		731375040.00	743425790.00	742332030.00
45 Sc # 2	----	--------		--------	#VALUE!		29722.37	30760.65	30786.26
47 Ti # 3	2087	2087	ug/l	0.87	1620.00	Fail	1682272.90	1656109.50	1654722.00
51 V # 2	0.2055	0.2055	ug/l	2.77	1800.00		457.79	455.57	462.23
52 Cr # 2	21.28	21.28	ug/l	1.80	1800.00		40267.58	40375.65	41116.11
55 Mn # 3	20.6	20.6	ug/l	0.22	1800.00		267913.69	264801.56	263154.13
56 Fe # 1	92120	92120	ug/l	1.05	81000.00	Fail	1030674600.00	1044388800.00	1049778600.00
59 Co # 3	19.24	19.24	ug/l	0.44	1800.00		191533.75	189114.58	187358.25
60 Ni # 2	20.25	20.25	ug/l	0.66	1800.00		16273.89	16611.96	16539.69
63 Cu # 2	18.53	18.53	ug/l	0.79	1800.00		39058.92	39966.43	40025.41
66 Zn # 3	20.36	20.36	ug/l	1.23	1800.00		24870.71	23999.51	24193.05
75 As # 2	20.83	20.83	ug/l	1.62	100.00		3338.65	3342.31	3351.98
78 Se # 1	0.05358	0.05358	ug/l	13.53	100.00		32.00	33.67	36.67
88 Sr # 3	0.3136	0.3136	ug/l	1.91	1800.00		5807.76	5927.82	5967.84
95 Mo # 3	2107	2107	ug/l	0.73	1800.00	Fail	5176299.00	5092383.00	5090173.50
107 Ag # 3	17	17	ug/l	0.69	100.00		122723.62	120726.82	119811.35
111 Cd # 3	17.36	17.36	ug/l	1.21	100.00		27214.75	27371.83	26401.02
118 Sn # 3	0.09426	0.09426	ug/l	16.68	1800.00		746.70	620.03	600.03
121 Sb # 3	0.3301	0.3301	ug/l	3.15	100.00		1716.80	1650.13	1600.12
137 Ba # 3	0.1794	0.1794	ug/l	8.67	1800.00		436.69	393.35	460.02
202 Hg # 3	0.01055	0.01055	ug/l	34.52	5.00		45.67	46.00	36.33
205 Tl # 3	0.00983	0.00983	ug/l	27.89	20.00		220.01	183.34	136.67
208 Pb # 3	0.1124	0.1124	ug/l	6.81	1800.00		2243.46	2486.82	2480.15
232 Th # 3	0.06945	0.06945	ug/l	6.77	#VALUE!		1523.46	1546.79	1376.78
238 U # 3	0.001232	0.001232	ug/l	32.44	#VALUE!		20.00	33.33	33.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	380690.75	0.99	836165.38	45.5	60 - 125	IS F	377007.38	380558.69	384506.13
45 Sc # 1	431768.31	0.60	552676.25	78.1	60 - 125		428801.94	433483.06	433019.97
45 Sc # 3	458448.63	0.35	644433.94	71.1	60 - 125		459181.41	456625.25	459539.31
74 Ge # 1	125551.84	0.31	175321.88	71.6	60 - 125		125514.32	125953.05	125188.16
74 Ge # 2	17422.11	1.67	27172.50	64.1	60 - 125		17115.89	17696.45	17454.00
74 Ge # 3	105415.16	0.74	164913.13	63.9	60 - 125		106302.21	105105.73	104837.55
89 Y # 3	756010.75	0.48	1068488.30	70.8	60 - 125		760039.38	755106.63	752886.31
115 In # 3	679664.13	0.80	1083659.40	62.7	60 - 125		683731.00	681771.44	673489.88
159 Tb # 3	973459.38	0.86	1651256.80	59.0	60 - 125	IS F	981372.25	974383.31	964622.50
209 Bi # 3	510915.09	0.48	1054491.00	48.5	60 - 125	IS F	513627.50	508907.59	510210.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

4 :Element Failures 0 :Max. Number of Failures Allowed
3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\332SMPL.D\332SMPL.D#
Date Acquired: Dec 27 2012 09:36 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01456	0.01456	ug/l	54.18	100.00		46.67	20.00	23.33
11 B # 3	0.9024	0.9024	ug/l	11.14	1800.00		6107.80	6174.45	5977.72
23 Na # 1	402.2	402.2	ug/l	1.90	81000.00		2204878.80	2262106.50	2291581.80
24 Mg # 1	78.5	78.5	ug/l	5.00	81000.00		265416.47	284259.75	313974.22
27 Al # 1	28.21	28.21	ug/l	12.72	81000.00		100108.47	117653.07	138579.56
39 K # 2	72.91	72.91	ug/l	5.26	81000.00		30094.71	26722.72	27119.98
40 Ca # 1	61.4	61.4	ug/l	6.15	81000.00		520757.50	564300.06	624290.25
45 Sc # 2	----	--------		--------	#VALUE!		34686.58	29902.65	33417.06
47 Ti # 3	1.012	1.012	ug/l	12.70	1620.00		1023.39	870.05	820.05
51 V # 2	0.002856	0.002856	ug/l	353.99	1800.00		163.34	176.67	154.45
52 Cr # 2	0.01461	0.01461	ug/l	38.70	1800.00		150.00	112.22	142.22
55 Mn # 3	0.1309	0.1309	ug/l	8.59	1800.00		2946.98	3093.67	2733.60
56 Fe # 1	30.68	30.68	ug/l	12.15	81000.00		370589.94	422244.59	497772.19
59 Co # 3	0.01979	0.01979	ug/l	9.34	1800.00		283.34	243.34	263.34
60 Ni # 2	0.01259	0.01259	ug/l	40.81	1800.00		34.44	40.00	41.11
63 Cu # 2	-0.1188	-0.1188	ug/l	4.12	1800.00		114.45	124.45	113.34
66 Zn # 3	-0.04246	-0.04246	ug/l	21.80	1800.00		126.67	150.00	156.67
75 As # 2	0.0123	0.0123	ug/l	87.97	100.00		20.33	14.33	17.33
78 Se # 1	0.02201	0.02201	ug/l	29.74	100.00		29.00	30.00	26.00
88 Sr # 3	0.2813	0.2813	ug/l	2.96	1800.00		6177.89	5964.48	6051.22
95 Mo # 3	1.863	1.863	ug/l	10.85	1800.00		6304.61	5581.04	5167.59
107 Ag # 3	0.01937	0.01937	ug/l	3.25	100.00		183.34	200.01	190.01
111 Cd # 3	0.01152	0.01152	ug/l	34.16	100.00		57.98	44.88	55.02
118 Sn # 3	0.001367	0.001367	ug/l	151.50	1800.00		270.01	263.34	246.68
121 Sb # 3	0.02895	0.02895	ug/l	7.63	100.00		380.01	390.02	360.01
137 Ba # 3	0.02486	0.02486	ug/l	5.21	1800.00		83.34	93.34	86.67
202 Hg # 3	-0.001237	-0.001237	ug/l	90.46	5.00		36.67	33.33	33.33
205 Tl # 3	0.003699	0.003699	ug/l	39.34	20.00		130.00	83.34	100.00
208 Pb # 3	0.01234	0.01234	ug/l	14.21	1800.00		456.69	393.35	466.69
232 Th # 3	0.02184	0.02184	ug/l	6.89	#VALUE!		733.38	750.04	803.38
238 U # 3	0.01252	0.01252	ug/l	11.37	#VALUE!		383.35	330.01	316.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	421049.44	2.45	836165.38	50.4	60 - 125	IS F	409328.16	425183.16	428637.03
45 Sc # 1	445474.28	3.77	552676.25	80.6	60 - 125		427218.69	448922.53	460281.69
45 Sc # 3	502061.41	0.89	644433.94	77.9	60 - 125		497742.44	506701.13	501740.72
74 Ge # 1	151392.91	3.53	175321.88	86.4	60 - 125		145308.05	153571.61	155299.09
74 Ge # 2	21157.66	5.42	27172.50	77.9	60 - 125		22126.88	19890.94	21455.16
74 Ge # 3	134777.06	1.31	164913.13	81.7	60 - 125		132747.98	135948.27	135634.94
89 Y # 3	865555.13	1.16	1068488.30	81.0	60 - 125		855179.75	875289.56	866196.00
115 In # 3	847098.94	1.53	1083659.40	78.2	60 - 125		837765.19	861925.31	841606.31
159 Tb # 3	1134906.00	1.20	1651256.80	68.7	60 - 125		1119338.10	1141186.50	1144193.50
209 Bi # 3	703570.69	1.59	1054491.00	66.7	60 - 125		695701.44	716362.06	698648.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\333SMPL.D\333SMPL.D#
Date Acquired: Dec 27 2012 09:44 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01004	0.01004	ug/l	33.47	100.00		20.00	16.67	30.00
11 B	# 3	0.753	0.753	ug/l	8.24	1800.00		5931.07	5927.73	6171.15
23 Na	# 1	362.5	362.5	ug/l	11.90	81000.00		2107525.30	2146556.30	2194411.80
24 Mg	# 1	51.21	51.21	ug/l	12.43	81000.00		191562.67	198880.53	202919.92
27 Al	# 1	7.38	7.38	ug/l	18.04	81000.00		29783.83	33850.51	36151.53
39 K	# 2	20.11	20.11	ug/l	1.42	81000.00		13498.50	13571.86	13341.70
40 Ca	# 1	32.91	32.91	ug/l	14.82	81000.00		337587.09	349791.56	358459.06
45 Sc	# 2	----	--------		--------	#VALUE!		33038.87	33682.31	33706.77
47 Ti	# 3	0.2652	0.2652	ug/l	19.59	1620.00		223.34	310.01	246.68
51 V	# 2	0.006308	0.006308	ug/l	172.32	1800.00		180.00	155.56	197.78
52 Cr	# 2	0.01481	0.01481	ug/l	21.90	1800.00		147.78	133.33	136.67
55 Mn	# 3	0.121	0.121	ug/l	2.22	1800.00		2846.97	2773.62	2786.96
56 Fe	# 1	8.97	8.97	ug/l	12.95	81000.00		128475.31	139061.48	147890.81
59 Co	# 3	0.01467	0.01467	ug/l	15.74	1800.00		223.34	216.67	166.67
60 Ni	# 2	-0.003724	-0.003724	ug/l	161.33	1800.00		24.44	28.89	16.67
63 Cu	# 2	-0.1275	-0.1275	ug/l	4.60	1800.00		102.22	112.22	81.11
66 Zn	# 3	-0.06687	-0.06687	ug/l	10.72	1800.00		120.00	110.00	96.67
75 As	# 2	0.02091	0.02091	ug/l	74.61	100.00		17.00	18.67	23.00
78 Se	# 1	0.01536	0.01536	ug/l	98.31	100.00		21.67	25.33	33.00
88 Sr	# 3	0.2709	0.2709	ug/l	2.60	1800.00		5947.84	6114.54	5917.82
95 Mo	# 3	0.5246	0.5246	ug/l	3.51	1800.00		1756.81	1656.80	1666.79
107 Ag	# 3	0.009434	0.009434	ug/l	25.28	100.00		126.67	110.00	83.34
111 Cd	# 3	0.01003	0.01003	ug/l	53.14	100.00		56.11	59.47	39.47
118 Sn	# 3	0.0005085	0.0005085	ug/l	1100.10	1800.00		230.01	263.34	300.01
121 Sb	# 3	0.00875	0.00875	ug/l	53.50	100.00		280.01	296.68	243.34
137 Ba	# 3	0.01898	0.01898	ug/l	15.25	1800.00		66.67	83.34	70.00
202 Hg	# 3	-0.001953	-0.001953	ug/l	49.80	5.00		32.33	36.00	33.00
205 Tl	# 3	0.001737	0.001737	ug/l	10.30	20.00		76.67	73.34	70.00
208 Pb	# 3	0.01223	0.01223	ug/l	26.57	1800.00		393.35	533.35	423.35
232 Th	# 3	0.02064	0.02064	ug/l	8.66	#VALUE!		780.05	770.04	693.37
238 U	# 3	0.01205	0.01205	ug/l	13.89	#VALUE!		386.68	293.35	336.68

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	437619.94	1.48	836165.38	52.3	60 - 125	IS F	430177.38	442099.78	440582.66
45 Sc	# 1	473416.84	10.58	552676.25	85.7	60 - 125		524099.94	423982.91	472167.69
45 Sc	# 3	515889.72	1.17	644433.94	80.1	60 - 125		513775.34	511196.88	522696.88
74 Ge	# 1	158084.33	7.02	175321.88	90.2	60 - 125		169125.41	146924.64	158202.92
74 Ge	# 2	21856.13	0.29	27172.50	80.4	60 - 125		21839.82	21926.57	21801.99
74 Ge	# 3	136773.94	0.89	164913.13	82.9	60 - 125		137096.53	137794.53	135430.73
89 Y	# 3	887734.44	0.81	1068488.30	83.1	60 - 125		892542.06	879459.56	891201.75
115 In	# 3	878788.00	0.16	1083659.40	81.1	60 - 125		877232.69	880093.50	879037.88
159 Tb	# 3	1171627.10	1.15	1651256.80	71.0	60 - 125		1183203.80	1156821.80	1174856.00
209 Bi	# 3	720532.25	0.33	1054491.00	68.3	60 - 125		720895.06	717971.13	722730.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\334SMPL.D\334SMPL.D#
Date Acquired: Dec 27 2012 09:51 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.006735	0.006735	ug/l	60.80	100.00		16.67	23.33	6.67
11 B	# 3	0.7676	0.7676	ug/l	9.06	1800.00		5914.37	6001.10	6334.53
23 Na	# 1	359	359	ug/l	1.50	81000.00		2158866.50	2123171.00	2188725.80
24 Mg	# 1	48.42	48.42	ug/l	0.61	81000.00		187521.11	188810.44	192356.89
27 Al	# 1	4.362	4.362	ug/l	1.32	81000.00		19927.56	20491.45	20761.62
39 K	# 2	15.13	15.13	ug/l	20.81	81000.00		12034.18	12057.50	12057.48
40 Ca	# 1	29.38	29.38	ug/l	0.41	81000.00		318811.63	321043.44	325442.75
45 Sc	# 2	----	--------		--------	#VALUE!		33386.22	37386.18	30766.34
47 Ti	# 3	0.1337	0.1337	ug/l	6.03	1620.00		143.34	136.67	150.01
51 V	# 2	0.01157	0.01157	ug/l	93.69	1800.00		191.11	180.00	194.45
52 Cr	# 2	0.008793	0.008793	ug/l	98.62	1800.00		137.78	110.00	126.67
55 Mn	# 3	0.124	0.124	ug/l	1.98	1800.00		2876.97	2836.97	2910.31
56 Fe	# 1	5.877	5.877	ug/l	1.42	81000.00		94935.95	95643.36	97462.16
59 Co	# 3	0.01379	0.01379	ug/l	22.16	1800.00		163.34	176.67	236.68
60 Ni	# 2	0.002646	0.002646	ug/l	103.67	1800.00		26.67	33.33	30.00
63 Cu	# 2	-0.1324	-0.1324	ug/l	1.31	1800.00		90.00	93.33	75.56
66 Zn	# 3	-0.06951	-0.06951	ug/l	4.64	1800.00		110.00	106.67	100.00
75 As	# 2	0.0152	0.0152	ug/l	7.78	100.00		18.33	20.33	17.00
78 Se	# 1	0.02274	0.02274	ug/l	15.79	100.00		31.67	30.33	28.67
88 Sr	# 3	0.2686	0.2686	ug/l	3.16	1800.00		5797.76	6197.93	6037.86
95 Mo	# 3	0.2861	0.2861	ug/l	10.08	1800.00		836.71	996.73	996.73
107 Ag	# 3	0.008233	0.008233	ug/l	35.35	100.00		123.34	93.34	70.00
111 Cd	# 3	0.009073	0.009073	ug/l	20.08	100.00		49.73	46.35	53.02
118 Sn	# 3	-0.000876	-0.000876	ug/l	410.62	1800.00		280.01	240.01	246.68
121 Sb	# 3	0.001719	0.001719	ug/l	254.97	100.00		260.01	213.34	223.34
137 Ba	# 3	0.02235	0.02235	ug/l	25.58	1800.00		83.34	66.67	100.00
202 Hg	# 3	-0.0006777	-0.0006777	ug/l	171.02	5.00		38.67	34.33	38.00
205 Tl	# 3	0.001138	0.001138	ug/l	107.82	20.00		43.33	86.67	60.00
208 Pb	# 3	0.0141	0.0141	ug/l	12.71	1800.00		530.02	450.02	523.36
232 Th	# 3	0.01906	0.01906	ug/l	4.39	#VALUE!		723.37	693.37	726.71
238 U	# 3	0.01076	0.01076	ug/l	4.97	#VALUE!		293.35	313.35	316.68

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	440587.22	1.71	836165.38	52.7	60 - 125	IS F	432105.41	443178.78	446477.53
45 Sc	# 1	475664.94	0.84	552676.25	86.1	60 - 125		471475.75	476092.97	479426.09
45 Sc	# 3	520207.38	0.67	644433.94	80.7	60 - 125		517135.97	523975.09	519511.13
74 Ge	# 1	159573.78	0.15	175321.88	91.0	60 - 125		159558.81	159341.36	159821.13
74 Ge	# 2	22010.14	7.74	27172.50	81.0	60 - 125		21822.02	23800.16	20408.23
74 Ge	# 3	137779.64	0.15	164913.13	83.5	60 - 125		137753.97	138003.50	137581.44
89 Y	# 3	897895.50	0.25	1068488.30	84.0	60 - 125		896295.50	900501.13	896889.88
115 In	# 3	878092.19	0.70	1083659.40	81.0	60 - 125		875667.69	885081.25	873527.56
159 Tb	# 3	1182904.50	0.06	1651256.80	71.6	60 - 125		1183091.90	1182180.30	1183441.50
209 Bi	# 3	731086.44	1.06	1054491.00	69.3	60 - 125		735922.69	735203.69	722132.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\335SMPL.D\335SMPL.D#
Date Acquired: Dec 27 2012 09:58 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.004991	0.004991	ug/l	48.25	100.00		13.33	6.67	16.67
11 B # 3	0.5568	0.5568	ug/l	21.25	1800.00		5747.69	5831.05	5597.63
23 Na # 1	159.8	159.8	ug/l	1.64	81000.00		989510.38	993205.19	1024492.20
24 Mg # 1	19.98	19.98	ug/l	1.45	81000.00		76522.39	79363.95	78995.64
27 Al # 1	2.553	2.553	ug/l	1.80	81000.00		12304.27	12104.08	12527.79
39 K # 2	5.624	5.624	ug/l	16.99	81000.00		9359.25	9599.34	9015.73
40 Ca # 1	17.16	17.16	ug/l	1.19	81000.00		209920.09	211121.11	215167.41
45 Sc # 2	----	--------		--------	#VALUE!		33254.91	34409.15	34166.46
47 Ti # 3	0.06122	0.06122	ug/l	5.42	1620.00		80.01	76.67	76.67
51 V # 2	-0.007632	-0.007632	ug/l	65.19	1800.00		143.34	147.78	163.34
52 Cr # 2	0.002199	0.002199	ug/l	309.82	1800.00		90.00	123.34	117.78
55 Mn # 3	0.04058	0.04058	ug/l	13.93	1800.00		1533.44	1530.10	1370.09
56 Fe # 1	3.279	3.279	ug/l	2.13	81000.00		57018.09	58716.71	59295.41
59 Co # 3	0.005561	0.005561	ug/l	13.65	1800.00		76.67	86.67	96.67
60 Ni # 2	-0.006125	-0.006125	ug/l	57.11	1800.00		16.67	23.33	23.33
63 Cu # 2	-0.1426	-0.1426	ug/l	1.38	1800.00		63.33	54.45	58.89
66 Zn # 3	-0.07901	-0.07901	ug/l	6.61	1800.00		83.34	100.00	90.00
75 As # 2	0.004464	0.004464	ug/l	306.45	100.00		13.33	19.33	16.67
78 Se # 1	0.02211	0.02211	ug/l	40.96	100.00		29.67	26.00	33.67
88 Sr # 3	0.1149	0.1149	ug/l	5.24	1800.00		2673.62	2643.60	2473.58
95 Mo # 3	0.1816	0.1816	ug/l	2.67	1800.00		603.36	606.69	633.36
107 Ag # 3	0.001341	0.001341	ug/l	146.61	100.00		13.33	50.00	33.33
111 Cd # 3	0.001916	0.001916	ug/l	405.85	100.00		23.14	29.81	53.13
118 Sn # 3	-0.01445	-0.01445	ug/l	34.15	1800.00		156.67	150.01	206.67
121 Sb # 3	-0.0101	-0.0101	ug/l	38.02	100.00		180.01	140.01	170.01
137 Ba # 3	0.007592	0.007592	ug/l	67.69	1800.00		53.33	23.33	40.00
202 Hg # 3	-0.002985	-0.002985	ug/l	76.68	5.00		31.67	37.00	27.33
205 Tl # 3	0.0005923	0.0005923	ug/l	49.98	20.00		46.67	56.67	56.67
208 Pb # 3	0.006548	0.006548	ug/l	15.33	1800.00		283.34	320.01	336.68
232 Th # 3	0.009409	0.009409	ug/l	11.47	#VALUE!		460.02	413.35	460.02
238 U # 3	0.003971	0.003971	ug/l	7.17	#VALUE!		116.67	110.00	126.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	448509.72	3.31	836165.38	53.6	60 - 125	IS F	431757.53	453647.44	460124.25
45 Sc # 1	474421.97	0.59	552676.25	85.8	60 - 125		471285.69	475288.25	476691.97
45 Sc # 3	520269.88	1.39	644433.94	80.7	60 - 125		512244.06	522377.44	526188.25
74 Ge # 1	158634.84	0.35	175321.88	90.5	60 - 125		158000.00	159002.23	158902.28
74 Ge # 2	22071.57	1.45	27172.50	81.2	60 - 125		21734.16	22370.42	22110.15
74 Ge # 3	138229.44	0.32	164913.13	83.8	60 - 125		137721.13	138551.03	138416.17
89 Y # 3	896560.06	1.10	1068488.30	83.9	60 - 125		886137.88	897772.69	905769.56
115 In # 3	877045.69	1.05	1083659.40	80.9	60 - 125		866717.00	884450.06	879970.06
159 Tb # 3	1176012.40	1.07	1651256.80	71.2	60 - 125		1161847.30	1185789.00	1180401.00
209 Bi # 3	729889.31	1.61	1054491.00	69.2	60 - 125		716586.63	734238.13	738843.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\336_CCV.D\336_CCV.D#
Date Acquired: Dec 27 2012 10:06 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	56.5 ug/l	0.40	50.00	90 - 110	Fail	112639.70	115925.73	116659.73
11 B	110.5 ug/l	0.24	100.00	90 - 110	Fail	235932.31	241047.58	244137.13
23 Na	4952 ug/l	1.12	5000.00	90 - 110		28342090.00	28987646.00	29131752.00
24 Mg	4836 ug/l	0.90	5000.00	90 - 110		18690164.00	18971694.00	19223122.00
27 Al	486.9 ug/l	1.02	500.00	90 - 110		2156460.50	2150740.00	2215485.50
39 K	5032 ug/l	1.25	5000.00	90 - 110		1438231.60	1478083.10	1484376.90
40 Ca	5008 ug/l	0.59	5000.00	90 - 110		44672280.00	44577272.00	45567780.00
45 Sc	--------	--------		--- ##### - #####		33328.42	35041.41	36224.76
47 Ti	51.12 ug/l	0.44	50.00	90 - 110		46892.72	46962.57	46852.54
51 V	50.74 ug/l	1.80	50.00	90 - 110		99328.86	100511.73	101998.34
52 Cr	50.68 ug/l	2.89	50.00	90 - 110		120063.45	119789.35	120483.69
55 Mn	489.1 ug/l	0.06	500.00	90 - 110		8111293.00	8191568.00	8148742.50
56 Fe	4912 ug/l	0.79	5000.00	90 - 110		69041216.00	69684384.00	69499000.00
59 Co	47.19 ug/l	0.57	50.00	90 - 110		602538.56	602352.63	602113.88
60 Ni	51.98 ug/l	1.86	50.00	90 - 110		51948.00	52657.84	53135.80
63 Cu	53.59 ug/l	2.83	50.00	90 - 110		141776.89	141700.52	142377.50
66 Zn	49.01 ug/l	0.63	50.00	90 - 110		75753.21	75649.78	75800.13
75 As	51.81 ug/l	2.57	50.00	90 - 110		10290.24	10308.58	10394.29
78 Se	49.73 ug/l	0.31	50.00	90 - 110		20842.24	20830.55	20868.59
88 Sr	50.91 ug/l	1.47	50.00	90 - 110		1115586.60	1141055.10	1121459.60
95 Mo	51.75 ug/l	0.60	50.00	90 - 110		159598.55	160832.67	159421.80
107 Ag	51.19 ug/l	0.64	50.00	90 - 110		464200.00	465353.63	460931.81
111 Cd	50.22 ug/l	0.52	50.00	90 - 110		99505.88	99368.25	98768.31
118 Sn	51.08 ug/l	0.11	50.00	90 - 110		312474.75	311751.00	313313.84
121 Sb	54.04 ug/l	0.38	50.00	90 - 110		309905.81	308922.00	308189.28
137 Ba	51.62 ug/l	0.55	50.00	90 - 110		151914.33	152550.27	153878.36
202 Hg	2.582 ug/l	0.72	2.50	90 - 110		5360.91	5369.25	5377.91
205 Tl	10.04 ug/l	0.63	10.00	90 - 110		180151.33	178526.69	176938.94
208 Pb	50 ug/l	0.19	50.00	90 - 110		1232017.80	1226571.50	1223540.30
232 Th	49.62 ug/l	0.88		--- ##### - #####		1330875.80	1343316.60	1332125.10
238 U	48.55 ug/l	1.52		--- ##### - #####		1294289.60	1316807.00	1316232.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	437532.38	1.96	836165.38	52.3	60 - 125	IS Fail	428344.53	438946.13	445306.56
45 Sc	477419.75	0.64	552676.25	86.4	60 - 125		475460.19	475871.72	480927.28
45 Sc	527230.13	0.40	644433.94	81.8	60 - 125		524984.69	527581.13	529124.44
74 Ge	156893.83	0.37	175321.88	89.5	60 - 125		157233.52	156221.75	157226.20
74 Ge	21685.26	2.93	27172.50	79.8	60 - 125		20967.94	21914.31	22173.54
74 Ge	136725.34	0.55	164913.13	82.9	60 - 125		135991.41	137505.27	136679.38
89 Y	895180.63	0.45	1068488.30	83.8	60 - 125		893867.38	891933.63	899740.81
115 In	864128.94	0.14	1083659.40	79.7	60 - 125		863857.19	863064.56	865465.13
159 Tb	1178605.50	0.31	1651256.80	71.4	60 - 125		1181132.30	1180231.40	1174452.90
209 Bi	704979.75	0.56	1054491.00	66.9	60 - 125		709381.75	703810.81	701746.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\337_CCB.D\337_CCB.D#
Date Acquired: Dec 27 2012 10:13 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01274	0.01274	ug/l	55.13	#VALUE!		43.34	20.00	20.00
11 B # 3	1.408	1.408	ug/l	10.16	#VALUE!		7418.29	7491.64	7568.34
23 Na # 1	30.24	30.24	ug/l	7.09	#VALUE!		249651.84	255773.59	258824.22
24 Mg # 1	2.831	2.831	ug/l	11.76	#VALUE!		10589.87	11230.21	12467.67
27 Al # 1	0.4321	0.4321	ug/l	27.03	#VALUE!		2583.58	2723.61	3370.38
39 K # 2	-0.8235	-0.8235	ug/l	130.90	#VALUE!		7171.56	7191.56	7348.29
40 Ca # 1	8.798	8.798	ug/l	7.70	#VALUE!		133038.69	140050.67	139071.94
45 Sc # 2	----	--------		--------	#VALUE!		30944.49	33981.68	34252.20
47 Ti # 3	0.01499	0.01499	ug/l	42.89	#VALUE!		33.33	33.33	40.00
51 V # 2	0.000477	0.000477	ug/l	1996.40	#VALUE!		173.34	150.00	166.67
52 Cr # 2	0.01168	0.01168	ug/l	55.78	#VALUE!		134.45	115.56	138.89
55 Mn # 3	0.0944	0.0944	ug/l	12.66	#VALUE!		2563.59	2293.54	2246.88
56 Fe # 1	1.717	1.717	ug/l	12.37	#VALUE!		33313.75	35691.73	38514.13
59 Co # 3	0.0101	0.0101	ug/l	28.77	#VALUE!		166.67	106.67	156.67
60 Ni # 2	-0.003011	-0.003011	ug/l	195.28	#VALUE!		23.33	17.78	30.00
63 Cu # 2	-0.1258	-0.1258	ug/l	2.94	#VALUE!		105.56	103.33	95.56
66 Zn # 3	-0.05676	-0.05676	ug/l	27.59	#VALUE!		143.34	140.01	93.34
75 As # 2	0.009563	0.009563	ug/l	88.09	#VALUE!		17.33	18.00	15.67
78 Se # 1	0.04862	0.04862	ug/l	18.03	#VALUE!		44.33	38.33	39.67
88 Sr # 3	0.01985	0.01985	ug/l	7.76	#VALUE!		530.03	503.35	443.35
95 Mo # 3	0.1228	0.1228	ug/l	11.38	#VALUE!		480.02	430.02	380.01
107 Ag # 3	0.01071	0.01071	ug/l	20.13	#VALUE!		126.67	140.00	90.00
111 Cd # 3	0.005881	0.005881	ug/l	123.24	#VALUE!		26.51	53.20	49.88
118 Sn # 3	0.02114	0.02114	ug/l	36.50	#VALUE!		413.35	356.68	400.02
121 Sb # 3	0.09682	0.09682	ug/l	14.66	#VALUE!		873.38	756.71	716.70
137 Ba # 3	0.009777	0.009777	ug/l	26.08	#VALUE!		36.67	53.34	46.67
202 Hg # 3	0.01203	0.01203	ug/l	47.65	#VALUE!		61.67	55.33	73.67
205 Tl # 3	0.004509	0.004509	ug/l	34.44	#VALUE!		143.34	96.67	126.67
208 Pb # 3	0.01294	0.01294	ug/l	5.29	#VALUE!		456.68	490.02	463.35
232 Th # 3	0.09002	0.09002	ug/l	5.96	#VALUE!		2850.35	2713.65	2480.28
238 U # 3	0.01214	0.01214	ug/l	0.88	#VALUE!		346.68	356.68	330.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	443149.69	4.28	836165.38	53.0	60 - 125	IS F	428904.31	464663.94	435880.66
45 Sc # 1	473961.19	4.08	552676.25	85.8	60 - 125		470994.72	494626.53	456262.38
45 Sc # 3	517185.97	5.89	644433.94	80.3	60 - 125		513215.19	549438.00	488904.78
74 Ge # 1	157920.44	2.45	175321.88	90.1	60 - 125		156703.61	162247.34	154810.36
74 Ge # 2	21552.87	4.92	27172.50	79.3	60 - 125		20332.60	22068.96	22257.04
74 Ge # 3	137457.36	4.89	164913.13	83.4	60 - 125		136586.19	144574.23	131211.64
89 Y # 3	896867.38	5.59	1068488.30	83.9	60 - 125		894654.69	948102.25	847845.19
115 In # 3	876657.38	5.84	1083659.40	80.9	60 - 125		875662.25	928348.50	825961.31
159 Tb # 3	1178071.50	5.41	1651256.80	71.3	60 - 125		1176117.80	1242752.30	1115344.50
209 Bi # 3	727408.69	4.48	1054491.00	69.0	60 - 125		726626.00	760351.88	695248.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\338SMPL.D\338SMPL.D#
Date Acquired: Dec 27 2012 10:21 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 85612-1
Misc Info: 3050 1/20
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: Sample
Dilution Factor: 4.00
Autodil Factor: Undiluted
Final Dil Factor: 4.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.7952	0.4488	ug/l	8.32	100.00		903.38	860.04	826.71
11 B	# 3	8.348	2.087	ug/l	6.02	1800.00		8218.62	8552.14	8312.02
23 Na	# 1	128.8	32.2	ug/l	3.60	81000.00		322441.72	324708.88	342444.53
24 Mg	# 1	6884	1721	ug/l	0.40	81000.00		8201330.50	8299385.00	8384337.50
27 Al	# 1	57880	14470	ug/l	0.13	81000.00		78958016.00	79181944.00	80018464.00
39 K	# 2	1222	305.5	ug/l	1.05	81000.00		95142.83	96030.32	96734.15
40 Ca	# 1	3406.4	851.6	ug/l	0.59	81000.00		9377517.00	9493110.00	9491241.00
45 Sc	# 2	----	--------		--------	#VALUE!		41446.52	41786.18	41858.59
47 Ti	# 3	1296.4	324.1	ug/l	4.67	1620.00		347671.34	340279.59	336141.03
51 V	# 2	281.24	70.31	ug/l	1.85	1800.00		139134.00	139532.59	138676.31
52 Cr	# 2	142.84	35.71	ug/l	2.09	1800.00		84463.49	85353.02	83762.43
55 Mn	# 3	346.36	86.59	ug/l	4.18	1800.00		1389347.30	1364095.90	1339309.40
56 Fe	# 1	108720	27180	ug/l	0.69	81000.00		382764900.00	384486980.00	382554300.00
59 Co	# 3	27.712	6.928	ug/l	5.13	1800.00		85762.22	84081.29	80840.39
60 Ni	# 2	43.08	10.77	ug/l	0.51	1800.00		10679.81	11030.01	10994.45
63 Cu	# 2	133.36	33.34	ug/l	2.07	1800.00		88612.90	88328.09	88036.77
66 Zn	# 3	99.88	24.97	ug/l	4.15	1800.00		37205.15	36603.85	35875.71
75 As	# 2	3.4312	0.8578	ug/l	3.62	100.00		177.67	194.00	185.67
78 Se	# 1	0.9912	0.2478	ug/l	5.97	100.00		119.00	120.67	131.67
88 Sr	# 3	39.856	9.964	ug/l	4.16	1800.00		248706.17	243948.64	237651.89
95 Mo	# 3	0.7664	0.1916	ug/l	8.28	1800.00		633.37	610.03	570.03
107 Ag	# 3	0.04132	0.01033	ug/l	16.20	100.00		93.34	126.67	103.34
111 Cd	# 3	0.09536	0.02384	ug/l	5.33	100.00		73.13	73.14	76.49
118 Sn	# 3	5.692	1.423	ug/l	7.12	1800.00		8885.87	8375.57	8258.85
121 Sb	# 3	0.25732	0.06433	ug/l	20.07	100.00		593.36	490.02	586.69
137 Ba	# 3	186.04	46.51	ug/l	3.64	1800.00		131640.17	132480.42	128506.84
202 Hg	# 3	0.2116	0.0529	ug/l	10.33	5.00		144.67	146.00	130.00
205 Tl	# 3	0.19448	0.04862	ug/l	7.15	20.00		870.05	826.71	926.73
208 Pb	# 3	28.332	7.083	ug/l	4.82	1800.00		169597.69	167736.95	165663.98
232 Th	# 3	8.276	2.069	ug/l	4.70	#VALUE!		54613.81	52847.94	53092.22
238 U	# 3	1.9792	0.4948	ug/l	5.27	#VALUE!		13116.00	12842.34	12408.73

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	413342.53	3.82	836165.38	49.4	60 - 125	IS F	395286.34	420223.06	424518.13
45 Sc	# 1	586919.50	0.82	552676.25	106.2	60 - 125		582946.63	585571.63	592240.13
45 Sc	# 3	606076.44	3.04	644433.94	94.0	60 - 125		585132.00	619662.50	613434.88
74 Ge	# 1	156593.38	0.63	175321.88	89.3	60 - 125		155562.73	156683.20	157534.16
74 Ge	# 2	21643.30	1.74	27172.50	79.7	60 - 125		21217.99	21780.88	21931.02
74 Ge	# 3	129286.73	2.46	164913.13	78.4	60 - 125		125620.08	131264.73	130975.39
89 Y	# 3	989281.31	2.38	1068488.30	92.6	60 - 125		964009.06	1010722.10	993112.69
115 In	# 3	822104.19	2.99	1083659.40	75.9	60 - 125		794197.25	840612.25	831503.13
159 Tb	# 3	1137178.10	3.73	1651256.80	68.9	60 - 125		1088469.10	1165710.30	1157355.00
209 Bi	# 3	676048.56	2.83	1054491.00	64.1	60 - 125		654161.06	689573.63	684411.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\339SMPL.D\339SMPL.D#
Date Acquired: Dec 27 2012 10:28 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 85612-2
Misc Info: 3050 1/20
Vial Number: 2510
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: Sample
Dilution Factor: 4.00
Autodil Factor: Undiluted
Final Dil Factor: 4.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.4624	0.3656	ug/l	5.13	100.00		633.36	716.70	746.70
11 B # 3	3.8852	0.9713	ug/l	16.14	1800.00		6184.49	5911.08	6054.44
23 Na # 1	283.96	70.99	ug/l	0.24	81000.00		553325.31	563777.56	566067.50
24 Mg # 1	9412	2353	ug/l	0.65	81000.00		10312693.00	10640662.00	10525515.00
27 Al # 1	50560	12640	ug/l	0.46	81000.00		63462824.00	64359800.00	64598072.00
39 K # 2	1789.6	447.4	ug/l	0.85	81000.00		129096.90	130869.24	132466.03
40 Ca # 1	4308	1077	ug/l	0.68	81000.00		10957105.00	11080061.00	11098871.00
45 Sc # 2	----	--------		--------	#VALUE!		37270.11	37956.99	38546.05
47 Ti # 3	1998.4	499.6	ug/l	3.10	1620.00		501889.06	501371.59	496033.44
51 V # 2	247.88	61.97	ug/l	0.26	1800.00		116411.34	116744.25	118010.26
52 Cr # 2	127.32	31.83	ug/l	0.36	1800.00		71346.04	71712.05	72726.93
55 Mn # 3	743.6	185.9	ug/l	2.44	1800.00		2884613.30	2881437.00	2861994.00
56 Fe # 1	72520	18130	ug/l	1.00	81000.00		243926320.00	246789730.00	246770500.00
59 Co # 3	40.8	10.2	ug/l	2.73	1800.00		121537.46	121011.21	119880.78
60 Ni # 2	46.68	11.67	ug/l	1.14	1800.00		11212.36	11344.66	11261.28
63 Cu # 2	103.72	25.93	ug/l	0.62	1800.00		65493.09	65655.95	65864.38
66 Zn # 3	99.2	24.8	ug/l	1.24	1800.00		35334.58	35772.33	35909.16
75 As # 2	3.1436	0.7859	ug/l	4.88	100.00		162.00	156.00	173.00
78 Se # 1	0.5848	0.1462	ug/l	2.32	100.00		78.33	79.33	76.67
88 Sr # 3	46.52	11.63	ug/l	3.70	1800.00		285906.31	281420.59	277773.91
95 Mo # 3	0.6008	0.1502	ug/l	9.61	1800.00		470.02	533.36	456.69
107 Ag # 3	0.029388	0.007347	ug/l	15.39	100.00		86.67	86.67	73.34
111 Cd # 3	0.1288	0.0322	ug/l	59.50	100.00		126.52	79.83	63.19
118 Sn # 3	3.542	0.8855	ug/l	5.65	1800.00		5561.05	5344.30	5374.35
121 Sb # 3	0.24828	0.06207	ug/l	27.02	100.00		590.03	596.70	456.69
137 Ba # 3	218.4	54.6	ug/l	4.07	1800.00		155801.39	154871.64	153403.77
202 Hg # 3	0.07472	0.01868	ug/l	3.71	5.00		71.00	75.33	76.67
205 Tl # 3	0.16168	0.04042	ug/l	3.84	20.00		716.71	730.04	790.05
208 Pb # 3	82.28	20.57	ug/l	2.33	1800.00		496733.78	493679.47	491606.25
232 Th # 3	5.62	1.405	ug/l	3.02	#VALUE!		37623.32	36828.40	37429.27
238 U # 3	1.8748	0.4687	ug/l	4.76	#VALUE!		12378.67	12789.05	12065.11

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	409250.03	3.44	836165.38	48.9	60 - 125	IS E	394359.41	411071.66	422319.13
45 Sc # 1	542892.19	1.36	552676.25	98.2	60 - 125		534369.13	546650.50	547656.88
45 Sc # 3	575385.00	2.51	644433.94	89.3	60 - 125		560608.19	576043.31	589503.56
74 Ge # 1	150551.83	1.50	175321.88	85.9	60 - 125		148383.73	152887.17	150384.59
74 Ge # 2	20656.23	0.84	27172.50	76.0	60 - 125		20572.78	20540.57	20855.35
74 Ge # 3	126946.66	2.06	164913.13	77.0	60 - 125		124049.93	127638.40	129151.65
89 Y # 3	980551.94	2.32	1068488.30	91.8	60 - 125		954313.50	994747.38	992595.00
115 In # 3	827946.56	3.28	1083659.40	76.4	60 - 125		798255.69	834018.75	851565.19
159 Tb # 3	1153583.10	1.81	1651256.80	69.9	60 - 125		1132093.50	1154927.40	1173728.50
209 Bi # 3	692373.38	2.62	1054491.00	65.7	60 - 125		675346.75	690340.63	711432.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\340SMPL.D\340SMPL.D#
Date Acquired: Dec 27 2012 10:36 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 85612-3
Misc Info: 3050 1/20
Vial Number: 2511
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: Sample
Dilution Factor: 4.00
Autodil Factor: Undiluted
Final Dil Factor: 4.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.6604	0.4151	ug/l	5.24	100.00		773.37	743.37	830.04
11 B # 3	3.7664	0.9416	ug/l	9.34	1800.00		5987.75	5954.39	5811.04
23 Na # 1	190.68	47.67	ug/l	1.07	81000.00		402820.00	408165.00	411723.00
24 Mg # 1	8468	2117	ug/l	0.91	81000.00		9326066.00	9464697.00	9548107.00
27 Al # 1	59720	14930	ug/l	1.42	81000.00		74621536.00	75754376.00	77173960.00
39 K # 2	603.2	150.8	ug/l	0.66	81000.00		47687.55	47898.14	47885.15
40 Ca # 1	3807.2	951.8	ug/l	1.09	81000.00		9642695.00	9777159.00	9907047.00
45 Sc # 2	----	--------		--------	#VALUE!		37627.50	38331.07	38603.88
47 Ti # 3	2009.6	502.4	ug/l	0.73	1620.00		513965.34	510437.13	502604.56
51 V # 2	317.64	79.41	ug/l	0.62	1800.00		145100.02	148242.84	147243.23
52 Cr # 2	186.48	46.62	ug/l	0.44	1800.00		102729.65	102985.24	103687.72
55 Mn # 3	820	205	ug/l	1.34	1800.00		3181087.80	3092471.50	3068795.80
56 Fe # 1	95920	23980	ug/l	0.88	81000.00		316283840.00	316760800.00	320870460.00
59 Co # 3	50.4	12.6	ug/l	1.37	1800.00		148950.55	144878.02	145838.25
60 Ni # 2	74.76	18.69	ug/l	1.65	1800.00		17834.19	17505.01	17627.32
63 Cu # 2	119.8	29.95	ug/l	0.26	1800.00		73717.27	74169.95	74767.96
66 Zn # 3	74.12	18.53	ug/l	1.49	1800.00		26246.03	26035.68	26372.81
75 As # 2	4.496	1.124	ug/l	3.68	100.00		225.34	228.34	215.67
78 Se # 1	0.8388	0.2097	ug/l	13.92	100.00		90.33	100.67	113.00
88 Sr # 3	40.76	10.19	ug/l	1.16	1800.00		248672.13	244343.61	244996.02
95 Mo # 3	0.5972	0.1493	ug/l	6.65	1800.00		456.68	503.36	463.35
107 Ag # 3	0.031116	0.007779	ug/l	27.38	100.00		96.67	93.34	63.34
111 Cd # 3	0.020884	0.005221	ug/l	164.43	100.00		26.52	33.17	56.52
118 Sn # 3	3.6296	0.9074	ug/l	2.00	1800.00		5451.04	5527.71	5364.32
121 Sb # 3	0.11028	0.02757	ug/l	9.18	100.00		370.01	336.68	353.35
137 Ba # 3	180.96	45.24	ug/l	0.71	1800.00		127935.75	123943.77	125202.94
202 Hg # 3	0.13716	0.03429	ug/l	1.77	5.00		103.00	104.67	103.00
205 Tl # 3	0.12764	0.03191	ug/l	11.52	20.00		663.37	560.03	540.03
208 Pb # 3	11.576	2.894	ug/l	0.78	1800.00		69215.02	68801.02	67581.87
232 Th # 3	4.48	1.12	ug/l	0.83	#VALUE!		29438.83	29014.58	28824.26
238 U # 3	1.1652	0.2913	ug/l	3.57	#VALUE!		7348.67	7825.57	7462.07

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	403935.97	1.51	836165.38	48.3	60 - 125	IS I	397023.59	406227.50	408556.81
45 Sc # 1	543415.75	0.28	552676.25	98.3	60 - 125		541770.13	543774.94	544702.25
45 Sc # 3	582412.88	0.46	644433.94	90.4	60 - 125		585302.63	581989.25	579946.75
74 Ge # 1	147201.86	0.39	175321.88	84.0	60 - 125		147737.02	146594.61	147273.95
74 Ge # 2	20227.95	0.79	27172.50	74.4	60 - 125		20049.98	20273.56	20360.31
74 Ge # 3	124592.98	0.94	164913.13	75.6	60 - 125		125405.94	125119.73	123253.25
89 Y # 3	977331.00	0.29	1068488.30	91.5	60 - 125		975461.44	980570.81	975960.69
115 In # 3	811173.06	0.92	1083659.40	74.9	60 - 125		819563.19	805253.69	808702.38
159 Tb # 3	1134947.40	0.54	1651256.80	68.7	60 - 125		1141566.50	1133876.60	1129398.90
209 Bi # 3	676590.56	0.31	1054491.00	64.2	60 - 125		678966.06	674947.25	675858.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\341SMPL.D\341SMPL.D#
Date Acquired: Dec 27 2012 10:43 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: 85612-4
Misc Info: 3050 1/20
Vial Number: 2512
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: Sample
Dilution Factor: 4.00
Autodil Factor: Undiluted
Final Dil Factor: 4.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.9884	0.4971	ug/l	11.58	100.00		1066.73	866.71	860.04
11 B # 3	4.22	1.055	ug/l	7.92	1800.00		5991.08	6091.11	6231.17
23 Na # 1	166.48	41.62	ug/l	9.72	81000.00		352596.16	352515.03	358684.72
24 Mg # 1	12080	3020	ug/l	7.84	81000.00		12972371.00	12819813.00	13198343.00
27 Al # 1	46640	11660	ug/l	8.09	81000.00		57301212.00	56056632.00	57983060.00
39 K # 2	1552	388	ug/l	4.41	81000.00		104994.34	107072.58	107559.70
40 Ca # 1	4284	1071	ug/l	7.13	81000.00		10597595.00	10530367.00	10675509.00
45 Sc # 2	----	--------		--------	#VALUE!		33420.86	38408.09	34782.48
47 Ti # 3	1732.4	433.1	ug/l	4.87	1620.00		422214.41	424817.03	415501.75
51 V # 2	249.76	62.44	ug/l	4.58	1800.00		109313.30	109854.27	110359.73
52 Cr # 2	178.04	44.51	ug/l	4.75	1800.00		93552.95	93509.34	93794.20
55 Mn # 3	499.2	124.8	ug/l	3.53	1800.00		1894028.50	1896328.30	1864751.90
56 Fe # 1	74760	18690	ug/l	6.45	81000.00		242525410.00	242007410.00	248991970.00
59 Co # 3	44.12	11.03	ug/l	3.17	1800.00		128370.18	127605.05	126846.56
60 Ni # 2	68.04	17.01	ug/l	6.16	1800.00		15392.04	14999.46	15436.50
63 Cu # 2	181.76	45.44	ug/l	4.69	1800.00		106853.73	106857.34	106901.92
66 Zn # 3	110.68	27.67	ug/l	2.46	1800.00		39409.64	38617.88	38470.84
75 As # 2	3.8468	0.9617	ug/l	3.29	100.00		177.00	187.67	186.00
78 Se # 1	0.7596	0.1899	ug/l	9.90	100.00		88.33	92.33	96.33
88 Sr # 3	38.42	9.605	ug/l	4.13	1800.00		246964.34	248392.86	243859.94
95 Mo # 3	0.4456	0.1114	ug/l	6.65	1800.00		360.02	360.01	370.01
107 Ag # 3	0.017368	0.004342	ug/l	32.52	100.00		70.00	40.00	56.67
111 Cd # 3	0.05616	0.01404	ug/l	47.24	100.00		73.22	46.55	46.55
118 Sn # 3	4.828	1.207	ug/l	3.13	1800.00		7325.10	6934.94	7181.68
121 Sb # 3	0.10012	0.02503	ug/l	47.10	100.00		296.68	383.35	330.01
137 Ba # 3	252.84	63.21	ug/l	5.95	1800.00		174873.59	175747.97	174172.50
202 Hg # 3	0.06956	0.01739	ug/l	22.52	5.00		64.67	68.00	78.00
205 Tl # 3	0.14412	0.03603	ug/l	5.76	20.00		650.03	660.04	670.04
208 Pb # 3	22.82	5.705	ug/l	4.56	1800.00		136389.00	136227.69	133570.63
232 Th # 3	4.916	1.229	ug/l	5.92	#VALUE!		32321.02	32585.20	31015.16
238 U # 3	1.2832	0.3208	ug/l	4.80	#VALUE!		8529.30	8379.20	8082.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	401452.75	1.69	836165.38	48.0	60 - 125	IS F	406464.06	393716.91	404177.28
45 Sc # 1	525771.06	6.49	552676.25	95.1	60 - 125		520569.34	562214.75	494529.16
45 Sc # 3	559399.69	4.54	644433.94	86.8	60 - 125		586261.13	535834.81	556103.19
74 Ge # 1	145606.95	5.13	175321.88	83.1	60 - 125		144111.20	153716.20	138993.44
74 Ge # 2	19262.92	4.78	27172.50	70.9	60 - 125		18554.00	20302.50	18932.27
74 Ge # 3	123997.13	3.58	164913.13	75.2	60 - 125		128919.20	120293.17	122779.01
89 Y # 3	1039175.20	3.94	1068488.30	97.3	60 - 125		1084150.00	1004021.60	1029353.90
115 In # 3	809818.81	5.71	1083659.40	74.7	60 - 125		857537.25	765175.19	806744.00
159 Tb # 3	1140045.90	4.49	1651256.80	69.0	60 - 125		1192997.10	1090762.00	1136378.80
209 Bi # 3	679176.94	4.46	1054491.00	64.4	60 - 125		707417.19	647153.13	682960.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\342_CCV.D\342_CCV.D#
Date Acquired: Dec 27 2012 10:51 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	55.21 ug/l	4.16	50.00	90 - 110	Fail	104049.48	107200.34	105212.23
11 B	109.8 ug/l	4.35	100.00	90 - 110		220139.86	228589.97	222984.92
23 Na	5074 ug/l	0.64	5000.00	90 - 110		26756972.00	26982194.00	27334676.00
24 Mg	4890 ug/l	1.53	5000.00	90 - 110		17251348.00	17700934.00	17684204.00
27 Al	492.8 ug/l	0.77	500.00	90 - 110		1986354.50	2013867.00	2042037.60
39 K	4966 ug/l	2.11	5000.00	90 - 110		1305281.50	1350199.60	1362680.10
40 Ca	5009 ug/l	0.67	5000.00	90 - 110		40836468.00	41033212.00	41524324.00
45 Sc	--------	--------	---	##### - #####		31751.26	32355.54	32646.04
47 Ti	50 ug/l	4.36	50.00	90 - 110		43133.42	43474.38	42692.48
51 V	49.58 ug/l	0.77	50.00	90 - 110		90083.72	90702.34	92151.53
52 Cr	49.66 ug/l	1.15	50.00	90 - 110		107725.92	109719.65	109299.47
55 Mn	485.2 ug/l	1.43	500.00	90 - 110		7531873.00	7487290.50	7616100.00
56 Fe	4915 ug/l	1.34	5000.00	90 - 110		63429012.00	63839704.00	65211280.00
59 Co	46.02 ug/l	2.32	50.00	90 - 110		549257.50	547317.44	547541.06
60 Ni	50.85 ug/l	0.84	50.00	90 - 110		47070.57	47589.73	48119.95
63 Cu	52.29 ug/l	1.20	50.00	90 - 110		126328.31	128733.54	129556.23
66 Zn	47.99 ug/l	2.33	50.00	90 - 110		68756.20	69488.91	69297.75
75 As	50.67 ug/l	0.55	50.00	90 - 110		9278.37	9330.06	9440.44
78 Se	50.07 ug/l	0.85	50.00	90 - 110		19438.01	19252.14	19476.73
88 Sr	49.53 ug/l	3.59	50.00	90 - 110		1046443.30	1044752.50	1044559.30
95 Mo	49.31 ug/l	3.23	50.00	90 - 110		146433.31	147057.53	147453.98
107 Ag	49.45 ug/l	3.84	50.00	90 - 110		430290.66	434683.25	430370.56
111 Cd	48.54 ug/l	2.67	50.00	90 - 110		92729.52	91392.38	93329.23
118 Sn	50.27 ug/l	4.78	50.00	90 - 110		296875.47	300410.09	292221.50
121 Sb	53.02 ug/l	3.43	50.00	90 - 110		291772.72	292752.38	292570.06
137 Ba	50.79 ug/l	3.86	50.00	90 - 110		144890.23	145578.75	144315.77
202 Hg	2.488 ug/l	4.69	2.50	90 - 110		5050.14	5231.20	5094.15
205 Tl	9.959 ug/l	3.78	10.00	90 - 110		175654.69	174307.73	172652.97
208 Pb	49.48 ug/l	3.19	50.00	90 - 110		1196543.40	1194895.90	1192557.10
232 Th	48.41 ug/l	3.70	---	##### - #####		1292901.90	1291245.00	1286467.80
238 U	48.05 ug/l	3.51	---	##### - #####		1268746.00	1292862.40	1287945.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	410916.81	4.39	836165.38	49.1	60 - 125	IS Fail	394031.50	408771.50	429947.44
45 Sc	436980.56	1.44	552676.25	79.1	60 - 125		433511.63	433177.47	444252.63
45 Sc	495881.44	3.65	644433.94	76.9	60 - 125		483177.59	487829.84	516636.91
74 Ge	144926.41	0.32	175321.88	82.7	60 - 125		144406.98	145317.22	145055.00
74 Ge	20057.77	0.61	27172.50	73.8	60 - 125		20032.20	19950.98	20190.13
74 Ge	127598.42	2.30	164913.13	77.4	60 - 125		126571.31	125309.15	130914.81
89 Y	854862.00	3.61	1068488.30	80.0	60 - 125		838708.94	835433.31	890443.81
115 In	833950.25	3.53	1083659.40	77.0	60 - 125		820673.44	813503.75	867673.50
159 Tb	1160243.40	3.10	1651256.80	70.3	60 - 125		1144346.10	1134920.60	1201463.40
209 Bi	698724.50	3.53	1054491.00	66.3	60 - 125		689491.44	680018.00	726664.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L24s00.B\343_CCB.D\343_CCB.D#
Date Acquired: Dec 27 2012 10:58 am
Acq. Method: EPA2002C.M
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 08:50 am
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02573	0.02573	ug/l	44.70	#VALUE!		73.34	53.33	30.00
11 B # 3	1.579	1.579	ug/l	5.60	#VALUE!		7458.30	7401.65	7725.07
23 Na # 1	27.2	27.2	ug/l	0.37	#VALUE!		219515.20	222855.39	225476.45
24 Mg # 1	2.276	2.276	ug/l	2.80	#VALUE!		8495.42	8972.29	8668.84
27 Al # 1	0.1459	0.1459	ug/l	6.49	#VALUE!		1546.77	1543.44	1506.77
39 K # 2	-0.8448	-0.8448	ug/l	50.33	#VALUE!		6804.77	6748.07	6931.49
40 Ca # 1	7.539	7.539	ug/l	1.25	#VALUE!		116454.93	119161.06	119526.38
45 Sc # 2	----	--------		--------	#VALUE!		31071.17	31992.69	32173.03
47 Ti # 3	0.07849	0.07849	ug/l	29.79	#VALUE!		110.00	80.01	73.35
51 V # 2	-0.001379	-0.001379	ug/l	235.03	#VALUE!		146.67	147.78	158.89
52 Cr # 2	0.002369	0.002369	ug/l	136.34	#VALUE!		103.33	94.45	107.78
55 Mn # 3	0.1524	0.1524	ug/l	16.97	#VALUE!		3497.12	3147.03	2700.27
56 Fe # 1	1.319	1.319	ug/l	1.92	#VALUE!		28278.80	27991.61	28769.60
59 Co # 3	0.01642	0.01642	ug/l	8.29	#VALUE!		226.67	196.67	206.67
60 Ni # 2	-0.005117	-0.005117	ug/l	33.77	#VALUE!		20.00	22.22	18.89
63 Cu # 2	-0.1295	-0.1295	ug/l	2.86	#VALUE!		81.11	81.11	97.78
66 Zn # 3	-0.04586	-0.04586	ug/l	42.09	#VALUE!		110.00	123.34	163.34
75 As # 2	0.001483	0.001483	ug/l	315.37	#VALUE!		15.33	14.00	14.33
78 Se # 1	0.04138	0.04138	ug/l	13.44	#VALUE!		37.00	33.00	36.33
88 Sr # 3	0.02433	0.02433	ug/l	10.97	#VALUE!		556.69	620.03	506.69
95 Mo # 3	0.09793	0.09793	ug/l	9.78	#VALUE!		336.68	366.68	310.01
107 Ag # 3	0.01752	0.01752	ug/l	20.65	#VALUE!		206.67	166.67	146.67
111 Cd # 3	0.01258	0.01258	ug/l	53.33	#VALUE!		63.23	59.88	39.90
118 Sn # 3	0.02652	0.02652	ug/l	38.50	#VALUE!		466.69	350.01	406.68
121 Sb # 3	0.09295	0.09295	ug/l	7.17	#VALUE!		766.71	710.04	713.37
137 Ba # 3	0.01895	0.01895	ug/l	56.78	#VALUE!		96.67	76.67	36.67
202 Hg # 3	0.01473	0.01473	ug/l	14.72	#VALUE!		70.33	72.67	64.00
205 Tl # 3	0.005767	0.005767	ug/l	21.48	#VALUE!		143.34	163.34	120.00
208 Pb # 3	0.01862	0.01862	ug/l	28.84	#VALUE!		740.03	556.69	493.35
232 Th # 3	0.09485	0.09485	ug/l	10.49	#VALUE!		3057.07	2757.01	2550.30
238 U # 3	0.01742	0.01742	ug/l	17.46	#VALUE!		576.70	460.02	423.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	423867.72	1.96	836165.38	50.7	60 - 125	IS F	414292.13	428685.97	428625.09
45 Sc # 1	444189.19	1.17	552676.25	80.4	60 - 125		439197.00	443778.59	449591.94
45 Sc # 3	489067.50	0.43	644433.94	75.9	60 - 125		487143.13	488712.19	491347.22
74 Ge # 1	148216.16	0.51	175321.88	84.5	60 - 125		147408.13	148315.48	148924.86
74 Ge # 2	20325.83	1.21	27172.50	74.8	60 - 125		20043.29	20486.01	20448.19
74 Ge # 3	128051.22	0.53	164913.13	77.6	60 - 125		127510.73	128816.12	127826.82
89 Y # 3	850767.69	0.43	1068488.30	79.6	60 - 125		846587.19	853535.06	852180.88
115 In # 3	841479.06	0.73	1083659.40	77.7	60 - 125		834564.50	843490.69	846382.00
159 Tb # 3	1152676.90	0.16	1651256.80	69.8	60 - 125		1150924.60	1154644.60	1152461.50
209 Bi # 3	720618.75	0.74	1054491.00	68.3	60 - 125		714490.06	724260.19	723106.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L24s00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

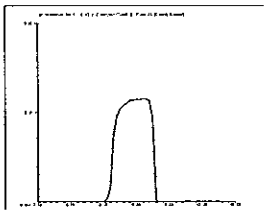
Data Results:
Analytes: Pass
ISTD: Fail

200.8 QC Tune Report ICPMSA

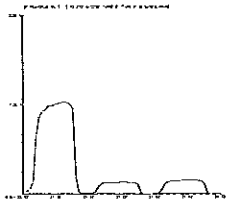
Data File: C:\ICPCHEM\1\DATA\12L27o00.B\001TUNE.D
Date Acquired: Dec 27 2012 02:04 pm
Acq. Method: CLPTUNE.M
Operator: RM
Sample Name: 100 ppb tune check
Misc Info:
Vial Number: 1305
Current Method: C:\ICPCHEM\1\METHODS\CLPTUNE.M

RSD (%)

Element	Actual	Required	Flag	Rep1	Rep2	Rep3	Rep4	Rep5
9 Be	1.25	5.00		177745.78	177900.08	175960.00	174706.94	172648.61
24 Mg	1.75	5.00		607621.75	597191.88	592401.44	581604.44	584700.69
25 Mg	1.14	5.00		82441.82	80708.08	80781.80	80597.63	79973.23
26 Mg	0.87	5.00		95834.51	94484.75	93803.07	94140.34	93941.04
59 Co	0.89	5.00		846927.88	833233.56	834282.19	829765.75	827945.19
113 In	0.76	5.00		100504.59	98850.09	99115.67	98730.13	98753.57
115 In	0.78	5.00		2209587.30	2209697.30	2175940.80	2198174.50	2221070.80
206 Pb	0.56	5.00		407676.16	403346.94	402343.25	403632.72	402002.59
207 Pb	0.29	5.00		386991.22	384157.69	384961.81	384608.22	384465.81
208 Pb	0.76	5.00		906318.56	889225.50	892631.56	892026.88	898532.38



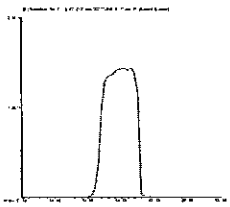
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90 - 9.10
Flag:
Peak Width at 10% height
Actual: 0.65
Required: 1.00
Flag:



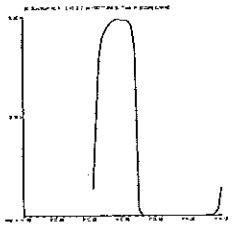
24 Mg
Mass Calib.
Actual: 24.10
Required: 23.90 - 24.10
Flag:
Peak Width at 10% height
Actual: 0.65
Required: 1.00
Flag:

25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90 - 25.10
Flag:
Peak Width at 10% height
Actual: 0.65
Required: 1.00
Flag:

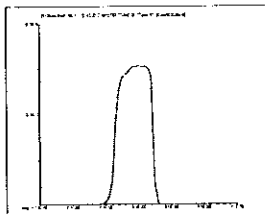
26 Mg
Mass Calib.
Actual: 26.05
Required: 25.90 - 26.10
Flag:
Peak Width at 10% height
Actual: 0.65
Required: 1.00
Flag:



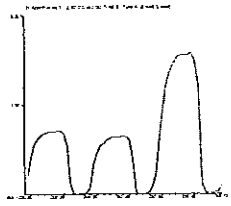
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90 - 59.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:



113 In
Mass Calib.
Actual: 113.00
Required: 112.90 - 113.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 0.90
Flag:



115 In
Mass Calib.
Actual: 115.00
Required: 114.90 - 115.10
Flag:
Peak Width at 10% height
Actual: 0.65
Required: 1.00
Flag:



206 Pb
Mass Calib.
Actual: 205.95
Required: 205.90 - 206.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

207 Pb
Mass Calib.
Actual: 206.95
Required: 206.90 - 207.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

208 Pb
Mass Calib.
Actual: 207.95
Required: 207.90 - 208.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

Tune Result: Pass

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\001CALB.D\001CALB.D#
Date Acquired: Dec 27 2012 05:03 pm
Operator: RM
Sample Name: CalBlk
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 19 2012 08:42 am
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	564811.69	P	13290.00	2.35	549938.56	568990.13	575506.44
9	Be	63.34	P	17.64	27.85	50.00	83.34	56.67
11	B	8171.94	P	111.00	1.36	8218.64	8045.22	8251.97
23	Na	2203466.00	A	30590.00	1.39	2171863.80	2205597.50	2232935.50
24	Mg	195318.30	P	3468.00	1.78	192199.22	194702.47	199053.27
27	Al	23000.98	P	833.90	3.63	22470.31	22570.52	23962.10
39	K	12144.20	P	424.20	3.49	12260.96	11673.88	12497.77
40	Ca	332460.19	P	4264.00	1.28	328107.09	332644.06	336629.59
45	Sc	531577.50	P	6995.00	1.32	527644.94	527433.69	539654.06
45	Sc		P			38494.72	38484.78	38932.31
45	Sc	601952.69	P	6835.00	1.14	597901.69	598111.75	609844.69
47	Ti	135.56	P	19.53	14.41	113.34	143.34	150.01
51	V	194.82	P	17.37	8.92	213.34	178.89	192.22
52	Cr	148.52	P	16.97	11.43	152.22	130.00	163.34
55	Mn	4672.96	P	144.80	3.10	4797.43	4707.43	4514.01
56	Fe	111016.00	P	2549.00	2.30	109820.73	109284.24	113942.98
59	Co	316.68	P	29.63	9.36	326.68	340.01	283.34
60	Ni	91.85	P	6.12	6.66	92.22	97.78	85.56
63	Cu	517.79	P	27.76	5.36	508.90	548.90	495.57
66	Zn	353.35	P	24.04	6.80	346.68	380.02	333.35
74	Ge	173637.30	P	1906.00	1.10	173331.34	171902.56	175677.98
74	Ge	24832.50	P	367.40	1.48	24440.83	24887.04	25169.62
74	Ge	154829.20	P	1607.00	1.04	154537.50	153388.06	156562.03
75	As	18.44	P	3.03	16.40	20.67	15.00	19.67
78	Se	33.67	P	1.45	4.32	34.67	32.00	34.33
88	Sr	6356.85	P	79.08	1.24	6284.60	6441.34	6344.62
89	Y	1015667.00	P	11500.00	1.13	1007412.20	1010788.10	1028800.80
95	Mo	427.80	P	36.87	8.62	393.35	423.35	466.69
107	Ag	192.23	P	19.53	10.16	206.67	200.01	170.01
111	Cd	67.64	P	12.63	18.67	73.21	76.53	53.19
115	In	1002329.00	P	6687.00	0.67	998163.63	998780.63	1010041.60
118	Sn	503.36	P	63.34	12.58	486.69	450.02	573.36
121	Sb	596.69	P	89.70	15.03	623.36	670.03	496.69
137	Ba	128.89	P	20.09	15.59	126.67	150.01	110.00
159	Tb	1396030.00	A	19360.00	1.39	1379397.80	1391411.50	1417281.40
202	Hg	77.44	P	3.41	4.40	75.00	76.00	81.33
205	Tl	228.90	P	20.37	8.90	246.68	206.67	233.34
208	Pb	852.26	P	33.72	3.96	873.37	870.04	813.37
209	Bi	833470.13	P	6244.00	0.75	830623.63	829156.31	840630.38
232	Th	834.49	P	72.45	8.68	756.71	900.06	846.72
238	U	612.25	P	43.51	7.11	653.37	566.70	616.70

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\002CALB.D\002CALB.D#
Date Acquired: Dec 27 2012 05:10 pm
Operator: RM
Sample Name: CalBlk
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 05:07 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	564954.69	P	15950.00	2.82	546543.88	573752.81	574567.31
9	Be	50.00	P	11.55	23.10	43.33	63.34	43.33
11	B	7766.20	P	125.40	1.61	7671.74	7908.49	7718.39
23	Na	2192136.00	A	22440.00	1.02	2168799.00	2213554.00	2194056.00
24	Mg	195015.70	P	2797.00	1.43	195324.44	192077.00	197645.75
27	Al	23448.22	P	179.20	0.76	23518.28	23244.62	23581.77
39	K	12471.10	P	289.20	2.32	12170.88	12494.47	12747.94
40	Ca	334896.91	P	5104.00	1.52	330383.19	333871.63	340436.06
45	Sc	529612.19	P	4065.00	0.77	526444.50	528196.38	534195.63
45	Sc		P			36681.23	39447.87	39715.01
45	Sc	597207.81	P	9884.00	1.66	586010.69	604718.19	600894.38
47	Ti	127.78	P	5.09	3.98	123.34	126.67	133.34
51	V	207.78	P	4.01	1.93	206.67	212.23	204.45
52	Cr	151.85	P	8.34	5.49	156.67	142.22	156.67
55	Mn	4318.40	P	155.50	3.60	4170.58	4480.67	4303.95
56	Fe	110468.20	P	146.70	0.13	110313.70	110485.35	110605.63
59	Co	282.23	P	35.95	12.74	256.68	266.68	323.35
60	Ni	181.85	P	14.67	8.07	197.78	168.89	178.89
63	Cu	744.47	P	65.47	8.79	731.14	815.58	686.68
66	Zn	371.12	P	1.92	0.52	370.01	373.35	370.01
74	Ge	174198.41	P	422.00	0.24	174559.45	173734.45	174301.34
74	Ge	24815.49	P	777.40	3.13	23926.86	25149.65	25369.97
74	Ge	154530.00	P	1085.00	0.70	153676.91	155750.53	154162.70
75	As	20.89	P	2.52	12.08	22.00	18.00	22.67
78	Se	33.00	P	3.93	11.91	37.33	29.67	32.00
88	Sr	6211.24	P	162.30	2.61	6291.28	6317.96	6024.48
89	Y	1015069.00	M	10230.00	1.01	1024397.20	1016689.10	1004121.90
95	Mo	416.68	P	37.12	8.91	383.35	456.69	410.02
107	Ag	182.23	P	35.33	19.39	150.01	220.01	176.67
111	Cd	67.65	P	3.85	5.69	69.88	69.86	63.20
115	In	986732.50	P	9420.00	0.95	976548.94	988513.19	995135.50
118	Sn	462.24	P	26.74	5.78	490.02	436.68	460.02
121	Sb	491.13	P	34.21	6.97	500.02	520.02	453.35
137	Ba	118.89	P	13.88	11.67	130.00	103.34	123.34
159	Tb	1387551.00	A	10990.00	0.79	1380244.60	1400196.40	1382210.90
202	Hg	68.56	P	2.67	3.90	68.33	71.33	66.00
205	Tl	222.23	P	16.44	7.40	230.01	203.34	233.34
208	Pb	758.92	P	92.46	12.18	836.70	783.37	656.69
209	Bi	830709.81	P	7891.00	0.95	823245.38	838966.75	829917.25
232	Th	803.38	P	50.00	6.22	753.38	853.39	803.38
238	U	503.36	P	41.64	8.27	550.03	470.03	490.03

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\003CALB.D\003CALB.D#
Date Acquired: Dec 27 2012 05:18 pm
Operator: RM
Sample Name: CalBlk
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 05:15 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	571077.69	P	11220.00	1.96	558174.38	576483.75	578575.06
9	Be	43.33	P	15.28	35.26	60.00	40.00	30.00
11	B	7189.30	P	210.10	2.92	7121.50	7424.97	7021.44
23	Na	2206006.00	A	26770.00	1.21	2183631.80	2198728.00	2235659.80
24	Mg	194676.20	P	2671.00	1.37	192678.45	193639.63	197710.41
27	Al	23343.68	P	357.80	1.53	22931.02	23568.36	23531.67
39	K	12578.97	P	136.50	1.09	12537.84	12467.78	12731.29
40	Ca	334747.31	P	4991.00	1.49	328994.00	337339.47	337908.56
45	Sc	532764.69	P	7153.00	1.34	525172.69	533744.44	539377.13
45	Sc		P			38430.22	38891.11	40385.38
45	Sc	603241.19	P	3012.00	0.50	604359.50	605534.44	599829.56
47	Ti	70.00	P	16.67	23.81	70.00	86.67	53.33
51	V	180.37	P	17.01	9.43	170.00	200.00	171.11
52	Cr	161.48	P	8.98	5.56	151.11	166.67	166.67
55	Mn	2980.33	P	387.00	12.99	3427.10	2750.28	2763.63
56	Fe	110067.50	P	1348.00	1.22	108623.21	110287.03	111292.38
59	Co	190.01	P	14.53	7.65	200.01	173.34	196.67
60	Ni	183.71	P	17.58	9.57	187.78	198.89	164.45
63	Cu	857.81	P	105.50	12.30	930.03	906.70	736.69
66	Zn	292.23	P	46.71	15.98	330.01	306.68	240.01
74	Ge	174149.09	P	1142.00	0.66	172831.45	174852.88	174762.86
74	Ge	25096.58	P	271.30	1.08	24783.58	25265.31	25240.85
74	Ge	156191.59	P	978.40	0.63	157320.63	155660.81	155593.30
75	As	15.56	P	3.47	22.30	18.33	16.67	11.67
78	Se	29.56	P	2.59	8.76	31.67	30.33	26.67
88	Sr	3924.99	P	547.90	13.96	4557.38	3623.81	3593.79
89	Y	1012534.00	P	5749.00	0.57	1019139.10	1009805.40	1008656.60
95	Mo	253.34	P	33.33	13.16	286.68	253.34	220.01
107	Ag	103.34	P	21.86	21.15	123.34	106.67	80.00
111	Cd	67.70	P	26.95	39.81	63.24	43.25	96.60
115	In	999370.88	P	7467.00	0.75	1005465.30	991041.94	1001605.40
118	Sn	402.24	P	72.45	18.01	456.69	430.02	320.01
121	Sb	403.35	P	17.32	4.29	413.35	383.35	413.35
137	Ba	90.00	P	21.86	24.29	113.34	70.00	86.67
159	Tb	1383749.00	A	18130.00	1.31	1396376.90	1391897.50	1362972.10
202	Hg	59.22	P	4.82	8.14	61.67	62.33	53.67
205	Tl	160.01	P	18.56	11.60	180.01	143.34	156.67
208	Pb	570.02	P	66.59	11.68	643.36	513.35	553.36
209	Bi	829048.50	P	6722.00	0.81	830132.00	835162.88	821850.44
232	Th	605.59	P	82.36	13.60	693.37	593.36	530.02
238	U	375.57	P	28.74	7.65	406.69	370.02	350.01

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\004CALB.D\004CALB.D#
Date Acquired: Dec 27 2012 05:25 pm
Operator: RM
Sample Name: CalBlk
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 05:22 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	575529.38	P	11730.00	2.04	563370.50	576445.44	586772.19
9	Be	30.00	P	3.33	11.11	33.33	26.67	30.00
11	B	7164.84	P	208.10	2.90	6924.78	7274.86	7294.88
23	Na	1268583.00	A	23770.00	1.87	1246592.50	1265348.40	1293808.00
24	Mg	105616.90	P	1299.00	1.23	104128.09	106516.99	106205.73
27	Al	13099.26	P	354.40	2.71	12717.83	13418.44	13161.52
39	K	10189.69	P	133.00	1.31	10236.38	10039.63	10293.06
40	Ca	234721.80	P	4381.00	1.87	230619.58	234209.92	239335.95
45	Sc	532224.00	P	6798.00	1.28	524744.13	533900.25	538027.63
45	Sc		P			38245.37	39466.73	39908.79
45	Sc	603003.81	P	1853.00	0.31	601790.06	602084.50	605136.94
47	Ti	57.78	P	8.39	14.52	50.00	56.67	66.67
51	V	169.26	P	18.90	11.17	150.00	187.78	170.00
52	Cr	126.67	P	13.92	10.99	113.33	125.56	141.11
55	Mn	2781.40	P	77.06	2.77	2733.61	2740.28	2870.30
56	Fe	64613.94	P	646.40	1.00	64188.21	64295.85	65357.78
59	Co	171.12	P	37.17	21.72	143.34	213.34	156.67
60	Ni	162.22	P	12.81	7.90	147.78	166.67	172.22
63	Cu	692.98	P	74.13	10.70	712.24	755.58	611.13
66	Zn	312.23	P	40.19	12.87	350.01	316.68	270.01
74	Ge	174208.09	P	1371.00	0.79	172799.14	174286.97	175538.33
74	Ge	25028.69	P	256.60	1.03	24747.91	25087.30	25250.87
74	Ge	157276.41	P	1052.00	0.67	156255.58	158357.02	157216.78
75	As	14.89	P	1.84	12.33	13.67	14.00	17.00
78	Se	26.33	P	3.76	14.26	22.00	28.33	28.67
88	Sr	3470.44	P	131.20	3.78	3413.77	3620.48	3377.08
89	Y	1013619.00	P	2811.00	0.28	1015401.40	1015076.90	1010378.30
95	Mo	243.34	P	8.82	3.62	253.34	236.68	240.01
107	Ag	108.89	P	25.46	23.38	103.34	86.67	136.67
111	Cd	49.92	P	13.33	26.70	49.92	36.59	63.26
115	In	991821.63	P	5180.00	0.52	992940.31	996350.63	986174.25
118	Sn	333.35	P	40.55	12.17	380.02	306.68	313.35
121	Sb	345.57	P	8.39	2.43	336.68	346.68	353.35
137	Ba	70.00	P	10.00	14.29	60.00	80.00	70.00
159	Tb	1383771.00	A	4636.00	0.34	1380355.60	1389048.10	1381908.00
202	Hg	56.33	P	3.00	5.33	56.33	59.33	53.33
205	Tl	115.56	P	20.37	17.63	133.34	93.34	120.00
208	Pb	506.69	P	14.53	2.87	496.68	523.36	500.02
209	Bi	835855.63	P	6367.00	0.76	843083.00	833407.50	831076.13
232	Th	577.81	P	20.37	3.53	573.37	600.03	560.03
238	U	285.57	P	36.57	12.81	306.68	306.68	243.34

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\005CALB.D\005CALB.D#
Date Acquired: Dec 27 2012 05:32 pm
Operator: RM
Sample Name: CalBlk
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 05:30 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	576188.31	P	8819.00	1.53	578438.31	566462.00	583664.63
9	Be	44.45	P	16.44	36.99	63.34	33.33	36.67
11	B	6691.33	P	186.60	2.79	6894.73	6527.93	6651.33
23	Na	1257241.00	A	25740.00	2.05	1234027.10	1252779.80	1284917.10
24	Mg	104212.80	P	2008.00	1.93	101896.12	105277.12	105465.12
27	Al	12865.76	P	518.80	4.03	12270.92	13224.85	13101.51
39	K	10081.86	P	174.90	1.73	9886.20	10223.06	10136.33
40	Ca	234062.80	P	3376.00	1.44	230946.56	233592.73	237649.19
45	Sc	522141.31	P	17020.00	3.26	502964.97	527986.63	535472.38
45	Sc		P			40288.92	37869.16	39857.66
45	Sc	605863.88	P	22270.00	3.68	629772.06	585711.38	602108.25
47	Ti	78.89	P	22.20	28.14	93.34	53.33	90.00
51	V	151.85	P	10.68	7.03	142.22	150.00	163.34
52	Cr	144.82	P	11.88	8.20	131.11	152.22	151.11
55	Mn	2718.06	P	34.06	1.25	2703.60	2756.96	2693.61
56	Fe	64962.27	P	768.40	1.18	64075.04	65415.88	65395.88
59	Co	156.67	P	24.04	15.34	150.00	183.34	136.67
60	Ni	168.52	P	0.64	0.38	168.89	167.78	168.89
63	Cu	741.87	P	45.47	6.13	778.91	691.13	755.58
66	Zn	328.90	P	51.03	15.52	360.01	356.68	270.01
74	Ge	172376.41	P	3032.00	1.76	168919.61	173621.94	174587.70
74	Ge	25183.78	P	448.10	1.78	25544.73	24682.31	25324.31
74	Ge	157049.00	P	5128.00	3.27	162203.47	151947.38	156996.14
75	As	13.33	P	3.61	27.05	12.33	17.33	10.33
78	Se	25.56	P	4.82	18.87	28.67	20.00	28.00
88	Sr	3501.56	P	224.90	6.42	3243.73	3657.14	3603.81
89	Y	1021952.00	M	41410.00	4.05	1062254.30	979515.63	1024085.80
95	Mo	225.56	P	46.83	20.76	270.01	176.67	230.01
107	Ag	108.89	P	26.94	24.74	113.34	133.34	80.00
111	Cd	39.93	P	9.99	25.02	39.92	29.94	49.93
115	In	1001592.00	P	38580.00	3.85	1038805.40	961771.94	1004197.50
118	Sn	376.72	P	73.40	19.48	303.34	450.14	376.68
121	Sb	336.68	P	31.80	9.45	306.68	333.35	370.01
137	Ba	50.00	P	5.77	11.55	56.67	46.67	46.67
159	Tb	1399203.00	A	69330.00	4.96	1468484.60	1329816.60	1399308.50
202	Hg	50.22	P	3.29	6.55	48.67	54.00	48.00
205	Tl	114.45	P	10.71	9.36	126.67	110.00	106.67
208	Pb	534.47	P	44.01	8.23	486.69	573.36	543.36
209	Bi	839996.50	P	25380.00	3.02	866767.56	816287.06	836935.00
232	Th	492.25	P	46.83	9.51	536.69	443.36	496.69
238	U	322.24	P	24.12	7.49	350.02	310.01	306.68

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\006CALB.D\006CALB.D#
Date Acquired: Dec 27 2012 05:40 pm
Operator: RM
Sample Name: CalBlk
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 05:37 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	576555.13	P	3646.00	0.63	573508.50	575561.69	580595.06
9	Be	25.56	P	5.09	19.93	26.67	20.00	30.00
11	B	6333.43	P	181.80	2.87	6327.89	6154.47	6517.93
23	Na	774902.19	P	11720.00	1.51	765230.75	771537.25	787938.63
24	Mg	60132.50	P	1183.00	1.97	58843.93	60385.47	61168.13
27	Al	9957.30	P	322.90	3.24	9612.71	10006.20	10253.00
39	K	8866.76	P	248.50	2.80	8618.87	8865.63	9115.79
40	Ca	188941.59	P	1444.00	0.76	187821.25	188432.19	190571.48
45	Sc	529252.00	P	4681.00	0.88	524220.53	530057.50	533478.00
45	Sc		P			38426.88	39365.50	39961.22
45	Sc	606687.38	P	4017.00	0.66	605372.75	603492.13	611197.25
47	Ti	65.56	P	15.75	24.03	53.34	83.34	60.00
51	V	150.00	P	5.77	3.85	146.67	146.67	156.67
52	Cr	123.71	P	20.01	16.18	114.45	146.67	110.00
55	Mn	1991.28	P	22.70	1.14	2016.84	1973.49	1983.50
56	Fe	50369.05	P	498.30	0.99	50348.85	49881.15	50877.15
59	Co	94.45	P	25.46	26.96	66.67	100.00	116.67
60	Ni	12994.63	P	157.90	1.22	12856.75	12960.15	13166.97
63	Cu	694.83	P	35.04	5.04	656.68	702.24	725.58
66	Zn	285.57	P	53.16	18.62	330.01	226.67	300.01
74	Ge	173303.30	P	1341.00	0.77	172658.81	172406.59	174844.59
74	Ge	25111.39	P	589.10	2.35	24621.10	24948.22	25764.87
74	Ge	156160.00	P	130.00	0.08	156141.73	156040.03	156298.11
75	As	14.11	P	3.34	23.66	14.33	10.67	17.33
78	Se	23.67	P	4.41	18.63	28.67	20.33	22.00
88	Sr	2059.07	P	46.72	2.27	2073.52	2096.86	2006.84
89	Y	1020384.00	P	3898.00	0.38	1021889.10	1023303.80	1015957.70
95	Mo	156.67	P	15.28	9.75	153.34	143.34	173.34
107	Ag	58.89	P	25.02	42.49	33.33	83.34	60.00
111	Cd	29.95	P	11.55	38.56	16.62	36.62	36.61
115	In	995307.31	P	3784.00	0.38	997271.75	997705.19	990944.75
118	Sn	283.34	P	12.02	4.24	296.68	280.01	273.34
121	Sb	251.12	P	10.18	4.05	260.01	240.01	253.34
137	Ba	55.56	P	6.94	12.49	53.34	63.34	50.00
159	Tb	1394384.00	A	19270.00	1.38	1376051.00	1414474.50	1392625.30
202	Hg	43.00	P	0.67	1.55	43.00	42.33	43.67
205	Tl	82.22	P	29.12	35.42	90.00	50.00	106.67
208	Pb	552.24	P	45.50	8.24	573.36	583.36	500.02
209	Bi	832483.69	P	3672.00	0.44	830738.81	830009.13	836703.13
232	Th	396.69	P	33.83	8.53	390.02	366.68	433.36
238	U	174.45	P	56.01	32.11	223.34	186.67	113.34

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\007CALB.D\007CALB.D#
Date Acquired: Dec 27 2012 05:47 pm
Operator: RM
Sample Name: CalBlk
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 05:44 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	578999.88	P	13240.00	2.29	564784.69	581234.94	590980.31
9	Be	18.89	P	5.09	26.96	20.00	13.33	23.33
11	B	6327.88	P	122.00	1.93	6317.87	6211.14	6454.62
23	Na	770151.81	P	4943.00	0.64	765833.31	769079.44	775542.69
24	Mg	59810.36	P	540.60	0.90	59375.49	59639.97	60415.63
27	Al	9969.52	P	358.10	3.59	9762.77	9762.75	10383.05
39	K	8967.92	P	155.90	1.74	8822.30	8949.05	9132.41
40	Ca	184830.41	P	3155.00	1.71	181203.67	186342.97	186944.64
45	Sc	525448.50	P	2294.00	0.44	524124.59	524123.88	528096.94
45	Sc		P			38402.40	39284.17	40016.82
45	Sc	606345.63	P	4795.00	0.79	602395.94	604960.13	611680.75
47	Ti	68.89	P	10.18	14.78	80.00	60.00	66.67
51	V	152.59	P	18.34	12.02	134.45	171.11	152.22
52	Cr	118.89	P	15.67	13.18	102.22	121.11	133.34
55	Mn	2006.83	P	38.44	1.92	1993.50	2050.17	1976.83
56	Fe	49943.47	P	466.90	0.93	49567.13	49797.37	50465.91
59	Co	105.56	P	11.71	11.09	116.67	93.34	106.67
60	Ni	12975.73	P	109.90	0.85	12848.99	13044.68	13033.52
63	Cu	704.09	P	93.18	13.23	660.02	811.14	641.13
66	Zn	317.79	P	28.74	9.04	286.68	343.35	323.35
74	Ge	171824.20	P	846.20	0.49	171199.70	171485.69	172787.34
74	Ge	24884.81	P	444.80	1.79	24476.48	24819.15	25358.81
74	Ge	155069.70	P	462.20	0.30	154612.31	155536.67	155060.19
75	As	16.89	P	2.59	15.33	19.00	14.00	17.67
78	Se	25.11	P	3.53	14.07	21.33	25.67	28.33
88	Sr	1953.50	P	30.56	1.56	1960.17	1920.16	1980.18
89	Y	1015733.00	P	7174.00	0.71	1020488.40	1007481.40	1019228.80
95	Mo	145.56	P	35.01	24.05	180.01	110.00	146.67
107	Ag	58.89	P	26.94	45.75	83.34	30.00	63.34
111	Cd	45.51	P	15.04	33.05	46.61	59.97	29.95
115	In	991793.13	P	11300.00	1.14	994376.75	979425.69	1001576.90
118	Sn	314.46	P	61.50	19.56	330.01	366.68	246.68
121	Sb	222.23	P	26.94	12.12	206.67	206.67	253.34
137	Ba	51.11	P	15.03	29.41	36.67	66.67	50.00
159	Tb	1391059.00	A	21060.00	1.51	1383861.10	1374546.40	1414769.50
202	Hg	40.89	P	3.86	9.45	45.00	40.33	37.33
205	Tl	92.23	P	21.43	23.24	76.67	83.34	116.67
208	Pb	618.91	P	1.93	0.31	620.02	620.03	616.69
209	Bi	835758.69	P	7646.00	0.91	841549.13	827091.56	838635.44
232	Th	348.90	P	33.56	9.62	313.35	353.35	380.02
238	U	173.34	P	29.06	16.77	193.34	140.01	186.68

Calibration Blank QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#
Date Acquired: Dec 27 2012 05:55 pm
Operator: RM
Sample Name: CALBLK
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 05:52 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	572657.19	P	13000.00	2.27	558270.38	576132.69	583568.56
9	Be	2.22	P	1.93	86.62	0.00	3.33	3.33
11	B	5861.03	P	147.40	2.51	5891.05	5700.96	5991.07
23	Na	152029.70	P	2338.00	1.54	150109.53	151345.72	154633.89
24	Mg	612.25	P	50.92	8.32	556.69	623.36	656.70
27	Al	1006.72	P	96.16	9.55	926.72	980.05	1113.40
39	K	7090.44	P	179.80	2.54	6884.82	7168.25	7218.24
40	Ca	114647.30	P	2399.00	2.09	111991.31	115294.96	116655.59
45	Sc	523286.00	P	6091.00	1.16	516728.06	524362.63	528767.31
45	Sc		P			37697.62	39024.71	39771.79
45	Sc	603286.63	P	499.80	0.08	603839.81	603152.63	602867.44
47	Ti	10.00	P	3.33	33.33	6.67	13.33	10.00
51	V	127.41	P	6.51	5.11	132.22	120.00	130.00
52	Cr	108.15	P	11.13	10.29	96.67	108.89	118.89
55	Mn	717.81	P	40.32	5.62	763.37	703.37	686.70
56	Fe	12414.47	P	550.10	4.43	11834.09	12928.12	12481.20
59	Co	30.00	P	6.67	22.22	36.67	23.33	30.00
60	Ni	135.56	P	12.02	8.87	125.56	132.22	148.89
63	Cu	584.46	P	22.80	3.90	606.68	585.57	561.13
66	Zn	281.12	P	33.39	11.88	293.34	243.34	306.68
74	Ge	170650.50	P	1158.00	0.68	169834.59	170140.81	171976.02
74	Ge	24862.19	P	474.80	1.91	24500.96	24685.64	25399.96
74	Ge	155795.41	P	920.60	0.59	156810.81	155560.11	155015.19
75	As	12.78	P	1.17	9.16	11.67	14.00	12.67
78	Se	25.11	P	4.23	16.86	22.67	22.67	30.00
88	Sr	70.00	P	28.48	40.68	96.67	40.00	73.34
89	Y	1011968.00	P	7922.00	0.78	1004668.10	1020392.10	1010844.40
95	Mo	38.89	P	11.71	30.11	50.00	40.00	26.67
107	Ag	13.33	P	3.33	25.00	13.33	16.67	10.00
111	Cd	29.99	P	8.82	29.41	26.65	39.99	23.33
115	In	989458.81	P	1890.00	0.19	987586.13	989425.06	991365.19
118	Sn	233.34	P	20.27	8.69	256.68	220.01	223.34
121	Sb	190.01	P	14.53	7.65	200.01	173.34	196.67
137	Ba	16.67	P	11.55	69.30	23.33	23.33	3.33
159	Tb	1388284.00	A	4994.00	0.36	1390297.50	1391956.00	1382597.80
202	Hg	41.33	P	4.26	10.30	40.33	46.00	37.67
205	Tl	54.45	P	16.78	30.82	36.67	56.67	70.00
208	Pb	217.79	P	35.95	16.51	243.34	233.34	176.67
209	Bi	829936.50	P	4675.00	0.56	826917.56	827569.81	835322.00
232	Th	216.68	P	40.42	18.66	210.01	180.01	260.01
238	U	10.00	P	14.53	145.29	3.33	0.00	26.67

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\009CALS.D\009CALS.D#
Date Acquired: Dec 27 2012 06:02 pm
Operator: RM
Sample Name: cal-2212044
Misc Info:
Vial Number: 4501
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 05:59 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	579349.38	M	7468.00	1.29	571180.13	581043.31	585824.63
9 Be	260.01	P	34.80	13.38	283.34	276.68	220.01
11 B	58969.94	P	1448.00	2.46	57299.35	59874.13	59736.35
23 Na	455565.81	P	1671.00	0.37	454888.00	454339.94	457469.38
24 Mg	206057.50	P	2148.00	1.04	203724.09	206495.78	207952.59
27 Al	46744.38	P	702.80	1.50	45989.24	46864.59	47379.31
39 K	22758.63	P	465.60	2.05	22296.98	22750.84	23228.08
40 Ca	585576.63	P	7404.00	1.26	577147.56	591029.38	588552.81
45 Sc	525609.50	P	33290.00	6.33	559665.44	493147.47	524015.56
45 Sc		P			38990.29	39176.95	38973.56
45 Sc	609688.50	P	6534.00	1.07	615091.75	602426.19	611547.63
47 Ti	1013.39	P	29.06	2.87	993.38	1046.73	1000.05
51 V	2104.21	P	20.01	0.95	2113.47	2081.24	2117.92
52 Cr	2529.83	P	112.90	4.46	2432.40	2503.52	2653.55
55 Mn	18765.46	P	184.50	0.98	18856.63	18886.67	18553.08
56 Fe	289561.59	P	5705.00	1.97	283527.81	290290.00	294867.13
59 Co	1244.52	P	65.44	5.26	1206.74	1320.09	1206.74
60 Ni	1232.28	P	37.78	3.07	1232.28	1194.49	1270.06
63 Cu	3377.01	P	56.52	1.67	3324.77	3437.02	3369.23
66 Zn	7116.02	P	173.30	2.44	7034.85	7315.00	6998.21
74 Ge	171298.00	P	7984.00	4.66	179184.02	163218.97	171491.09
74 Ge	24845.55	P	359.00	1.44	24456.47	24916.13	25164.05
74 Ge	157094.20	P	1349.00	0.86	158638.95	156145.89	156497.92
75 As	118.11	P	3.67	3.11	115.67	116.33	122.33
78 Se	238.89	P	12.48	5.22	236.67	227.67	252.34
88 Sr	4555.17	P	55.22	1.21	4560.72	4607.40	4497.38
89 Y	1032529.00	M	22170.00	2.15	1057057.30	1013908.80	1026622.30
95 Mo	3319.29	P	63.81	1.92	3310.40	3260.40	3387.09
107 Ag	1917.95	P	73.44	3.83	1966.84	1953.51	1833.49
111 Cd	221.17	P	33.56	15.17	185.61	252.30	225.59
115 In	999338.88	P	14790.00	1.48	1014951.40	985544.06	997521.56
118 Sn	6549.19	P	98.95	1.51	6661.47	6511.38	6474.71
121 Sb	6645.91	P	25.03	0.38	6621.45	6644.81	6671.47
137 Ba	3228.19	P	118.60	3.67	3363.78	3177.07	3143.71
159 Tb	1404231.00	A	29510.00	2.10	1438305.60	1387171.30	1387215.60
202 Hg	374.01	P	3.38	0.90	377.01	374.67	370.34
205 Tl	3835.03	P	59.30	1.55	3847.25	3887.27	3770.57
208 Pb	7996.63	P	95.80	1.20	8067.77	7887.70	8034.44
209 Bi	836058.19	P	9492.00	1.14	846592.44	828168.38	833413.63
232 Th	218.90	P	41.95	19.16	263.35	180.01	213.34
238 U	8.89	P	3.85	43.30	6.67	6.67	13.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	579349.38	1.29	572657.25	101.2	60 - 125		571180.13	581043.31	585824.63
45 Sc	525609.50	6.33	523286.00	100.4	60 - 125		559665.44	493147.47	524015.56
45 Sc	609688.56	1.07	603286.69	101.1	60 - 125		615091.75	602426.19	611547.63
74 Ge	171298.02	4.66	170650.48	100.4	60 - 125		179184.02	163218.97	171491.09
74 Ge	24845.55	1.44	24862.19	99.9	60 - 125		24456.47	24916.13	25164.05
74 Ge	157094.25	0.86	155795.36	100.8	60 - 125		158638.95	156145.89	156497.92
89 Y	1032529.40	2.15	1011968.20	102.0	60 - 125		1057057.30	1013908.80	1026622.30
115 In	999338.94	1.48	989458.81	101.0	60 - 125		1014951.40	985544.06	997521.56
159 Tb	1404230.80	2.10	1388283.80	101.1	60 - 125		1438305.60	1387171.30	1387215.60
209 Bi	836058.19	1.14	829936.50	100.7	60 - 125		846592.44	828168.38	833413.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\010CALS.D\010CALS.D#
Date Acquired: Dec 27 2012 06:10 pm
Operator: RM
Sample Name: cal-2212044
Misc Info:
Vial Number: 4502
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 06:07 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	574677.38	P	8022.00	1.40	572068.69	568284.50	583679.19
9 Be	24519.20	P	362.40	1.48	24102.01	24756.18	24699.41
11 B	55248.63	P	214.00	0.39	55042.76	55469.95	55233.19
23 Na	5818423.00	A	152300.00	2.62	5720978.00	5740385.50	5993904.00
24 Mg	3708407.00	A	46010.00	1.24	3663410.30	3706432.00	3755378.30
27 Al	425230.91	P	6192.00	1.46	418272.09	427289.94	430130.75
39 K	325722.59	P	10830.00	3.32	313991.28	327836.66	335339.97
40 Ca	8679556.00	A	128500.00	1.48	8531782.00	8742049.00	8764837.00
45 Sc	521423.50	P	40430.00	7.75	562772.75	481969.44	519528.25
45 Sc		P			38486.93	40700.06	39524.69
45 Sc	607840.38	P	17150.00	2.82	624789.50	590502.31	608229.44
47 Ti	9274.78	P	151.70	1.64	9319.24	9399.28	9105.80
51 V	19256.65	P	411.40	2.14	18791.72	19404.56	19573.66
52 Cr	23130.66	P	445.00	1.92	22704.95	23094.30	23592.73
55 Mn	1743779.00	A	7074.00	0.41	1744586.30	1736336.40	1750415.00
56 Fe	13230170.00	A	346400.00	2.62	12832403.00	13465518.00	13392593.00
59 Co	119055.60	P	765.30	0.64	118347.76	119867.63	118951.38
60 Ni	10433.75	P	208.80	2.00	10298.49	10328.51	10674.26
63 Cu	27095.09	P	282.70	1.04	26782.80	27168.91	27333.56
66 Zn	16872.60	P	303.50	1.80	16974.88	17111.74	16531.19
74 Ge	171278.50	P	11190.00	6.53	182561.66	160190.72	171083.14
74 Ge	25173.79	P	379.30	1.51	24739.04	25345.64	25436.71
74 Ge	157586.20	P	3990.00	2.53	161554.88	153576.13	157627.73
75 As	1958.22	P	53.37	2.73	1929.77	1925.11	2019.78
78 Se	3901.32	P	35.11	0.90	3862.75	3931.43	3909.76
88 Sr	217945.09	P	1352.00	0.62	216776.63	217632.48	219426.30
89 Y	1010814.00	M	33630.00	3.33	1041466.00	974833.19	1016142.80
95 Mo	30271.92	P	527.90	1.74	29665.29	30627.01	30523.46
107 Ag	91031.24	P	1040.00	1.14	91877.85	91345.26	89870.59
111 Cd	19221.41	P	92.98	0.48	19158.15	19177.91	19328.17
115 In	984825.00	P	30610.00	3.11	1014344.80	953223.50	986906.56
118 Sn	60740.35	P	605.60	1.00	60138.10	61349.15	60733.80
121 Sb	56292.01	P	1029.00	1.83	55178.57	57208.38	56489.09
137 Ba	29243.65	P	224.20	0.77	29082.21	29499.69	29149.05
159 Tb	1383218.00	A	45600.00	3.30	1428993.50	1337800.00	1382861.30
202 Hg	1052.37	P	21.88	2.08	1036.70	1077.37	1043.04
205 Tl	35121.88	P	160.30	0.46	35119.68	35283.29	34962.68
208 Pb	241874.00	P	1532.00	0.63	240106.02	242815.41	242700.47
209 Bi	825828.13	P	27370.00	3.31	854250.31	799634.94	823599.13
232 Th	269398.00	P	360.90	0.13	269066.13	269345.75	269782.16
238 U	275273.31	P	1731.00	0.63	273461.56	276909.94	275448.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	574677.44	1.40	572657.25	100.4	60 - 125		572068.69	568284.50	583679.19
45 Sc	521423.50	7.75	523286.00	99.6	60 - 125		562772.75	481969.44	519528.25
45 Sc	607840.44	2.82	603286.69	100.8	60 - 125		624789.50	590502.31	608229.44
74 Ge	171278.50	6.53	170650.48	100.4	60 - 125		182561.66	160190.72	171083.14
74 Ge	25173.79	1.51	24862.19	101.3	60 - 125		24739.04	25345.64	25436.71
74 Ge	157586.23	2.53	155795.36	101.1	60 - 125		161554.88	153576.13	157627.73
89 Y	1010813.90	3.33	1011968.20	99.9	60 - 125		1041466.00	974833.19	1016142.80
115 In	984825.00	3.11	989458.81	99.5	60 - 125		1014344.80	953223.50	986906.56
159 Tb	1383218.30	3.30	1388283.80	99.6	60 - 125		1428993.50	1337800.00	1382861.30
209 Bi	825828.13	3.31	829936.50	99.5	60 - 125		854250.31	799634.94	823599.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\011CALS.D\011CALS.D#
Date Acquired: Dec 27 2012 06:17 pm
Operator: RM
Sample Name: cal-2212044
Misc Info:
Vial Number: 4503
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 06:15 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	574700.81	M	23800.00	4.14	553267.69	600314.50	570520.31
9 Be	59914.66	P	1633.00	2.73	58093.46	60400.69	61249.85
11 B	127317.10	P	2936.00	2.31	123927.42	129075.43	128948.59
23 Na	13330970.00	A	230700.00	1.73	13173631.00	13223525.00	13595765.00
24 Mg	8835358.00	A	151900.00	1.72	8691208.00	8820930.00	8993937.00
27 Al	1033028.00	A	24630.00	2.38	1008001.10	1033830.40	1057253.10
39 K	712182.19	P	14320.00	2.01	698093.56	711728.50	726724.69
40 Ca	20714670.00	A	147100.00	0.71	20568814.00	20712138.00	20863046.00
45 Sc	518600.09	P	17800.00	3.43	505494.19	511437.97	538868.25
45 Sc		P			38242.06	38911.24	42523.88
45 Sc	606188.19	P	8256.00	1.36	605091.13	614937.63	598535.75
47 Ti	22438.38	P	179.90	0.80	22233.62	22510.74	22570.79
51 V	46156.66	P	490.40	1.06	45605.32	46320.41	46544.27
52 Cr	55195.87	P	667.10	1.21	54558.03	55888.78	55140.79
55 Mn	4077322.00	A	26560.00	0.65	4103054.00	4049995.00	4078916.30
56 Fe	31903790.00	A	211700.00	0.66	31670292.00	32083300.00	31957790.00
59 Co	288389.00	P	1889.00	0.66	288580.97	286411.63	290174.31
60 Ni	24281.52	P	316.50	1.30	23919.94	24508.49	24416.13
63 Cu	63994.99	P	636.10	0.99	63281.17	64201.98	64501.81
66 Zn	38334.12	P	478.50	1.25	38093.63	38023.52	38885.21
74 Ge	169700.59	P	4552.00	2.68	167361.05	166794.56	174946.22
74 Ge	24911.94	P	1123.00	4.51	24180.55	24349.64	26205.63
74 Ge	156377.91	P	774.80	0.50	155888.88	157271.22	155973.58
75 As	4809.75	P	52.39	1.09	4758.63	4807.31	4863.32
78 Se	9484.25	P	121.70	1.28	9557.18	9343.74	9551.85
88 Sr	529143.00	P	2630.00	0.50	528522.31	526878.88	532027.81
89 Y	1021507.00	M	19160.00	1.88	1018772.70	1041891.30	1003858.30
95 Mo	74500.02	P	78.55	0.11	74502.89	74420.07	74577.09
107 Ag	219983.20	P	544.70	0.25	219401.09	220480.52	220068.02
111 Cd	46817.40	P	425.20	0.91	46786.14	46408.68	47257.39
115 In	977958.13	P	6716.00	0.69	980896.31	982704.69	970273.44
118 Sn	147570.59	P	626.00	0.42	147993.98	147866.31	146851.52
121 Sb	137249.50	P	295.50	0.22	136928.19	137509.53	137310.81
137 Ba	72231.87	P	303.10	0.42	72096.73	72579.07	72019.81
159 Tb	1382796.00	A	22770.00	1.65	1381903.80	1406000.80	1360483.50
202 Hg	2457.20	P	29.24	1.19	2471.86	2476.20	2423.52
205 Tl	84721.26	P	890.60	1.05	84247.67	84167.50	85748.61
208 Pb	582344.81	P	2133.00	0.37	584310.13	582647.63	580076.69
209 Bi	805369.69	P	9438.00	1.17	797198.94	815700.81	803209.38
232 Th	665814.13	P	2651.00	0.40	662960.19	668200.00	666282.19
238 U	677374.31	P	2770.00	0.41	675427.94	680545.75	676149.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	574700.81	4.14	572657.25	100.4	60 - 125		553267.69	600314.50	570520.31
45 Sc	518600.16	3.43	523286.00	99.1	60 - 125		505494.19	511437.97	538868.25
45 Sc	606188.19	1.36	603286.69	100.5	60 - 125		605091.13	614937.63	598535.75
74 Ge	169700.63	2.68	170650.48	99.4	60 - 125		167361.05	166794.56	174946.22
74 Ge	24911.94	4.51	24862.19	100.2	60 - 125		24180.55	24349.64	26205.63
74 Ge	156377.89	0.50	155795.36	100.4	60 - 125		155888.88	157271.22	155973.58
89 Y	1021507.50	1.88	1011968.20	100.9	60 - 125		1018772.70	1041891.30	1003858.30
115 In	977958.13	0.69	989458.81	98.8	60 - 125		980896.31	982704.69	970273.44
159 Tb	1382796.00	1.65	1388283.80	99.6	60 - 125		1381903.80	1406000.80	1360483.50
209 Bi	805369.75	1.17	829936.50	97.0	60 - 125		797198.94	815700.81	803209.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\012CALS.D\012CALS.D#
Date Acquired: Dec 27 2012 06:25 pm
Operator: RM
Sample Name: cal-2212044
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 06:22 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	561275.63	M	9571.00	1.71	559509.56	552710.25	571606.88
9 Be	119567.40	P	2310.00	1.93	117163.41	119768.46	121770.30
11 B	248575.20	P	6284.00	2.53	241491.42	250757.78	253476.42
23 Na	25593720.00	A	258800.00	1.01	25880986.00	25378710.00	25521462.00
24 Mg	17205960.00	A	191100.00	1.11	16985344.00	17315264.00	17317262.00
27 Al	2008782.00	A	59340.00	2.95	1941020.00	2033872.60	2051453.10
39 K	1399010.00	A	30970.00	2.21	1376821.10	1385815.30	1434392.50
40 Ca	40737192.00	A	973200.00	2.39	39683968.00	40924368.00	41603236.00
45 Sc	487631.09	P	28380.00	5.82	455252.88	499444.00	508196.50
45 Sc		P			40521.59	35806.30	39936.67
45 Sc	603318.19	P	11590.00	1.92	611996.50	590154.75	607803.44
47 Ti	44928.98	P	395.30	0.88	45378.88	44637.13	44770.92
51 V	91111.49	P	2393.00	2.63	88895.71	90789.06	93649.70
52 Cr	109129.90	P	1652.00	1.51	107354.81	109412.29	110622.59
55 Mn	7972136.00	A	67310.00	0.84	7985840.00	7899028.00	8031540.00
56 Fe	63420960.00	A	624400.00	0.98	63970372.00	62741980.00	63550532.00
59 Co	572013.69	P	2606.00	0.46	571825.44	569507.19	574708.69
60 Ni	47051.77	P	1052.00	2.24	46045.95	46964.83	48144.55
63 Cu	124919.40	P	2659.00	2.13	122219.91	125001.66	127536.75
66 Zn	72500.49	P	686.70	0.95	71707.49	72898.65	72895.33
74 Ge	160475.50	P	8118.00	5.06	151121.63	165679.78	164625.06
74 Ge	24018.15	P	1188.00	4.95	24827.02	22654.18	24573.26
74 Ge	154663.30	P	2165.00	1.40	157062.97	152857.14	154069.94
75 As	9429.22	P	196.90	2.09	9210.99	9483.14	9593.53
78 Se	18621.39	P	101.50	0.55	18504.38	18685.24	18674.55
88 Sr	1045642.00	P	7793.00	0.75	1038870.40	1043895.00	1054159.80
89 Y	1004676.00	M	22650.00	2.25	1028715.90	983725.94	1001587.50
95 Mo	147695.30	P	195.50	0.13	147885.36	147705.77	147494.78
107 Ag	430389.81	P	2055.00	0.48	431203.59	428052.34	431913.63
111 Cd	91794.56	P	886.90	0.97	92816.68	91227.90	91339.11
115 In	964936.50	P	14100.00	1.46	979604.69	951488.13	963716.75
118 Sn	290156.09	P	1239.00	0.43	290262.88	288866.81	291338.56
121 Sb	270182.41	P	1408.00	0.52	269551.31	269200.63	271795.19
137 Ba	142967.70	P	734.50	0.51	142746.20	142369.47	143787.45
159 Tb	1391350.00	A	31660.00	2.28	1422310.40	1359039.10	1392699.60
202 Hg	4974.78	P	73.81	1.48	5056.14	4912.10	4956.11
205 Tl	168901.80	P	275.80	0.16	168649.95	169196.56	168858.97
208 Pb	1155816.00	P	8032.00	0.69	1164760.40	1149220.80	1153467.80
209 Bi	793438.69	P	12840.00	1.62	805592.81	780002.50	794720.94
232 Th	1383094.00	A	10430.00	0.75	1371787.80	1385148.40	1392344.80
238 U	1401247.00	A	16280.00	1.16	1382450.30	1410822.00	1410467.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	561275.56	1.71	572657.25	98.0	60 - 125		559509.56	552710.25	571606.88
45 Sc	487631.13	5.82	523286.00	93.2	60 - 125		455252.88	499444.00	508196.50
45 Sc	603318.25	1.92	603286.69	100.0	60 - 125		611996.50	590154.75	607803.44
74 Ge	160475.50	5.06	170650.48	94.0	60 - 125		151121.63	165679.78	164625.06
74 Ge	24018.15	4.95	24862.19	96.6	60 - 125		24827.02	22654.18	24573.26
74 Ge	154663.34	1.40	155795.36	99.3	60 - 125		157062.97	152857.14	154069.94
89 Y	1004676.40	2.25	1011968.20	99.3	60 - 125		1028715.90	983725.94	1001587.50
115 In	964936.56	1.46	989458.81	97.5	60 - 125		979604.69	951488.13	963716.75
159 Tb	1391349.80	2.28	1388283.80	100.2	60 - 125		1422310.40	1359039.10	1392699.60
209 Bi	793438.75	1.62	829936.50	95.6	60 - 125		805592.81	780002.50	794720.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\013CALS.D\013CALS.D#
Date Acquired: Dec 27 2012 06:32 pm
Operator: RM
Sample Name: cal-2212044
Misc Info:
Vial Number: 4505
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 06:29 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	549174.88	M	27260.00	4.96	517757.34	563193.19	566574.38
9 Be	234255.59	P	5200.00	2.22	229252.36	233881.69	239632.78
11 B	488177.59	P	9247.00	1.89	479107.13	487834.16	497591.75
23 Na	49933300.00	A	1098000.00	2.20	48666940.00	50508584.00	50624372.00
24 Mg	33582528.00	A	423100.00	1.26	33218520.00	33482376.00	34046692.00
27 Al	3844161.00	A	68340.00	1.78	3796185.80	3813884.50	3922412.50
39 K	2682921.00	A	77610.00	2.89	2604871.00	2683815.50	2760076.30
40 Ca	79923392.00	A	882600.00	1.10	79782736.00	79119608.00	80867840.00
45 Sc	491979.91	P	9281.00	1.89	501537.56	491398.34	483003.81
45 Sc		P			38286.62	39631.58	39052.02
45 Sc	597377.63	P	4737.00	0.79	593094.88	602465.44	596572.63
47 Ti	90260.43	P	809.50	0.90	89329.94	90802.78	90648.56
51 V	179978.30	P	3438.00	1.91	176624.97	179814.55	183495.31
52 Cr	213275.80	P	3366.00	1.58	210537.45	212255.86	217034.23
55 Mn	15618840.00	A	129700.00	0.83	15500463.00	15598640.00	15757433.00
56 Fe	120909800.00	A	1328000.00	1.10	119382300.00	121552610.00	121794520.00
59 Co	1164134.00	A	7397.00	0.64	1172530.40	1158579.00	1161293.30
60 Ni	91344.99	P	1186.00	1.30	90146.21	91371.06	92517.68
63 Cu	241059.41	P	1929.00	0.80	239052.88	241224.61	242900.70
66 Zn	139064.30	P	376.30	0.27	139394.17	138654.44	139144.39
74 Ge	159648.50	P	2949.00	1.85	162671.17	159495.44	156778.81
74 Ge	23207.11	P	368.00	1.59	22995.71	23632.09	22993.55
74 Ge	149977.91	P	2068.00	1.38	148068.20	152174.80	149690.59
75 As	18586.20	P	302.00	1.62	18283.12	18588.42	18887.08
78 Se	35949.40	P	119.80	0.33	36021.08	35811.03	36016.09
88 Sr	2154246.00	A	25380.00	1.18	2148963.30	2131920.50	2181853.00
89 Y	989398.88	M	19650.00	1.99	981238.94	1011811.80	975145.94
95 Mo	295631.00	P	1547.00	0.52	293873.72	296789.44	296229.84
107 Ag	838583.50	P	5440.00	0.65	832798.63	839354.56	843597.19
111 Cd	180154.41	P	560.50	0.31	180219.14	179564.30	180679.66
115 In	935657.63	P	5690.00	0.61	930241.63	941587.50	935143.75
118 Sn	576192.13	P	1269.00	0.22	577392.19	576320.13	574864.06
121 Sb	531673.50	P	1565.00	0.29	533172.75	530050.13	531797.63
137 Ba	282532.81	P	1850.00	0.65	282276.06	280824.69	284497.75
159 Tb	1340663.00	A	22120.00	1.65	1315125.00	1353261.50	1353601.90
202 Hg	9592.33	P	18.14	0.19	9577.54	9612.57	9586.88
205 Tl	329575.31	P	2081.00	0.63	331766.00	327625.25	329334.75
208 Pb	2270394.00	P	9541.00	0.42	2259387.50	2276329.50	2275463.30
209 Bi	765901.88	P	6130.00	0.80	770864.88	767791.19	759049.69
232 Th	2749835.00	A	16090.00	0.59	2732848.30	2764853.30	2751801.80
238 U	2772372.00	A	10140.00	0.37	2775006.80	2761177.00	2780930.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	549174.94	4.96	572657.25	95.9	60 - 125		517757.34	563193.19	566574.38
45 Sc	491979.91	1.89	523286.00	94.0	60 - 125		501537.56	491398.34	483003.81
45 Sc	597377.63	0.79	603286.69	99.0	60 - 125		593094.88	602465.44	596572.63
74 Ge	159648.48	1.85	170650.48	93.6	60 - 125		162671.17	159495.44	156778.81
74 Ge	23207.11	1.59	24862.19	93.3	60 - 125		22995.71	23632.09	22993.55
74 Ge	149977.86	1.38	155795.36	96.3	60 - 125		148068.20	152174.80	149690.59
89 Y	989398.94	1.99	1011968.20	97.8	60 - 125		981238.94	1011811.80	975145.94
115 In	935657.56	0.61	989458.81	94.6	60 - 125		930241.63	941587.50	935143.75
159 Tb	1340662.80	1.65	1388283.80	96.6	60 - 125		1315125.00	1353261.50	1353601.90
209 Bi	765901.94	0.80	829936.50	92.3	60 - 125		770864.88	767791.19	759049.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\014_BLK.D\014_BLK.D#
Date Acquired: Dec 27 2012 06:39 pm
Operator: RM
Sample Name: BLANK
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal Update: Dec 27 2012 06:55 pm
Sample Type: Blank
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	0.05 ug/l	20.77	#######	
11 B	2.66 ug/l	2.93	#######	
23 Na	205.70 ug/l	12.31	#######	
24 Mg	30.65 ug/l	11.63	#######	
27 Al	2.98 ug/l	13.93	#######	
39 K	15.19 ug/l	6.24	#######	
40 Ca	15.21 ug/l	21.68	#######	
45 Sc	--------	--------	#######	
47 Ti	0.11 ug/l	26.61	#######	
51 V	0.06 ug/l	19.91	#######	
52 Cr	0.06 ug/l	14.80	#######	
55 Mn	0.49 ug/l	11.94	#######	
56 Fe	6.01 ug/l	13.75	#######	
59 Co	0.05 ug/l	15.68	#######	
60 Ni	0.06 ug/l	30.89	#######	
63 Cu	0.01 ug/l	198.03	#######	
66 Zn	0.02 ug/l	188.28	#######	
75 As	0.09 ug/l	11.49	#######	
78 Se	0.10 ug/l	8.16	#######	
88 Sr	0.18 ug/l	2.38	#######	
95 Mo	0.21 ug/l	9.55	#######	
107 Ag	0.05 ug/l	10.13	#######	
111 Cd	0.04 ug/l	39.96	#######	
118 Sn	0.13 ug/l	15.33	#######	
121 Sb	0.79 ug/l	8.66	#######	
137 Ba	0.05 ug/l	24.03	#######	
202 Hg	0.04 ug/l	2.61	#######	
205 Tl	0.01 ug/l	6.28	#######	
208 Pb	0.05 ug/l	13.54	#######	
232 Th	0.18 ug/l	6.26	#######	
238 U	0.05 ug/l	13.80	#######	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	547512.63	1.86	572657.25	95.6	60 - 125	
45 Sc	491849.84	9.36	523286.00	94.0	60 - 125	
45 Sc	576883.25	3.05	603286.69	95.6	60 - 125	
74 Ge	162408.66	6.45	170650.48	95.2	60 - 125	
74 Ge	23628.73	1.49	24862.19	95.0	60 - 125	
74 Ge	149983.05	2.74	155795.36	96.3	60 - 125	
89 Y	988685.81	1.33	1011968.20	97.7	60 - 125	
115 In	956475.50	3.28	989458.81	96.7	60 - 125	
159 Tb	1339056.30	3.39	1388283.80	96.5	60 - 125	
209 Bi	806502.25	3.12	829936.50	97.2	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

ICS-A QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\015ICSA.D\015ICSA.D#
Date Acquired: Dec 27 2012 06:47 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: icv
Misc Info: MS ICVWK 00157
Vial Number: 4506
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: ICS
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	40.93 ug/l	1.16	1.10	
11 B	84.67 ug/l	1.13	1.10	
23 Na	4028 ug/l	1.87	1.10	
24 Mg	4063 ug/l	3.23	1.10	
27 Al	421.8 ug/l	2.11	1.10	
39 K	3996 ug/l	1.39	1.10	
40 Ca	3910 ug/l	0.94	1.10	
45 Sc	--------	--------	1.10	
47 Ti	38.72 ug/l	1.50	1.10	
51 V	38.96 ug/l	0.16	1.10	
52 Cr	38.21 ug/l	0.12	1.10	
55 Mn	406 ug/l	0.60	1.10	
56 Fe	3870 ug/l	0.99	1.10	
59 Co	39.4 ug/l	0.66	1.10	
60 Ni	40.06 ug/l	0.16	1.10	
63 Cu	40.5 ug/l	0.23	1.10	
66 Zn	43.47 ug/l	0.90	1.10	
75 As	40.89 ug/l	0.26	1.10	
78 Se	40.3 ug/l	0.82	1.10	
88 Sr	37.14 ug/l	0.24	1.10	
95 Mo	40.53 ug/l	0.27	1.10	
107 Ag	42.99 ug/l	0.35	1.10	
111 Cd	41.5 ug/l	1.04	1.10	
118 Sn	38.44 ug/l	0.65	1.10	
121 Sb	44.07 ug/l	0.33	1.10	Fail
137 Ba	40.9 ug/l	0.71	1.10	
202 Hg	1.962 ug/l	0.51	1.10	
205 Tl	8.012 ug/l	0.96	1.10	
208 Pb	41.11 ug/l	0.27	1.10	
232 Th	0.2459 ug/l	8.15	1.10	
238 U	0.003101 ug/l	26.29	1.10	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	531087.25	2.81	572657.25	92.7	60 - 125	
45 Sc	483152.28	0.84	523286.00	92.3	60 - 125	
45 Sc	576849.19	0.57	603286.69	95.6	60 - 125	
74 Ge	158524.47	1.18	170650.48	92.9	60 - 125	
74 Ge	23013.84	1.18	24862.19	92.6	60 - 125	
74 Ge	148185.11	0.55	155795.36	95.1	60 - 125	
89 Y	972473.00	0.29	1011968.20	96.1	60 - 125	
115 In	944517.25	0.16	989458.81	95.5	60 - 125	
159 Tb	1348501.40	1.08	1388283.80	97.1	60 - 125	
209 Bi	783416.00	0.67	829936.50	94.4	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\016_CCB.D\016_CCB.D#
Date Acquired: Dec 27 2012 06:54 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: ICB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.004409	0.004409	ug/l	52.01	#VALUE!		13.33	16.67	6.67
11 B # 3	1.067	1.067	ug/l	8.67	#VALUE!		7988.55	8088.59	8141.97
23 Na # 1	-1.379	-1.379	ug/l	34.99	#VALUE!		128881.38	131394.72	135268.08
24 Mg # 1	0.2612	0.2612	ug/l	97.97	#VALUE!		680.03	1226.74	2346.88
27 Al # 1	0.004224	0.004224	ug/l	792.38	#VALUE!		810.05	916.72	1073.39
39 K # 2	0.3804	0.3804	ug/l	371.19	#VALUE!		6908.11	6531.33	6517.97
40 Ca # 1	-0.06847	-0.06847	ug/l	360.30	#VALUE!		101066.26	105062.06	105715.14
45 Sc # 2	-----	--------		--------	#VALUE!		34637.33	35646.94	35632.56
47 Ti # 3	0.01207	0.01207	ug/l	113.92	#VALUE!		33.33	13.33	13.33
51 V # 2	0.003008	0.003008	ug/l	215.16	#VALUE!		111.11	120.00	138.89
52 Cr # 2	-0.004851	-0.004851	ug/l	63.78	#VALUE!		94.45	84.45	90.00
55 Mn # 3	0.02729	0.02729	ug/l	48.22	#VALUE!		1296.75	1113.40	916.72
56 Fe # 1	0.3754	0.3754	ug/l	63.24	#VALUE!		13401.85	15583.64	19280.50
59 Co # 3	0.00099	0.00099	ug/l	230.40	#VALUE!		70.00	26.67	23.33
60 Ni # 2	-0.05571	-0.05571	ug/l	18.83	#VALUE!		80.00	78.89	65.56
63 Cu # 2	-0.08255	-0.08255	ug/l	8.02	#VALUE!		341.12	357.78	333.34
66 Zn # 3	-0.032	-0.032	ug/l	58.56	#VALUE!		236.68	236.67	200.01
75 As # 2	0.02038	0.02038	ug/l	12.84	#VALUE!		14.67	15.67	16.33
78 Se # 1	0.02081	0.02081	ug/l	33.49	#VALUE!		33.33	28.33	30.67
88 Sr # 3	0.002591	0.002591	ug/l	96.99	#VALUE!		180.01	96.67	90.00
95 Mo # 3	0.0693	0.0693	ug/l	23.64	#VALUE!		293.34	233.34	210.01
107 Ag # 3	0.00523	0.00523	ug/l	33.33	#VALUE!		73.34	46.67	53.34
111 Cd # 3	0.00459	0.00459	ug/l	180.28	#VALUE!		43.24	19.93	49.93
118 Sn # 3	0.02468	0.02468	ug/l	28.65	#VALUE!		410.02	343.35	360.01
121 Sb # 3	0.1111	0.1111	ug/l	3.86	#VALUE!		810.04	786.71	810.04
137 Ba # 3	0.00291	0.00291	ug/l	172.20	#VALUE!		40.00	13.33	20.00
202 Hg # 3	0.02683	0.02683	ug/l	8.00	#VALUE!		97.00	96.33	92.67
205 Tl # 3	0.004319	0.004319	ug/l	36.10	#VALUE!		150.01	113.34	106.67
208 Pb # 3	0.002461	0.002461	ug/l	55.47	#VALUE!		293.34	260.01	243.34
232 Th # 3	0.004388	0.004388	ug/l	4.10	#VALUE!		330.01	343.35	350.02
238 U # 3	0.001104	0.001104	ug/l	4.63	#VALUE!		40.00	43.33	43.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	544516.69	3.62	572657.25	95.1	60 - 125		526371.13	541664.44	565514.50
45 Sc # 1	476881.91	0.66	523286.00	91.1	60 - 125		473784.41	476765.19	480096.09
45 Sc # 3	579661.88	2.95	603286.69	96.1	60 - 125		568491.31	571147.56	599346.81
74 Ge # 1	158522.23	0.63	170650.48	92.9	60 - 125		158078.33	157827.38	159661.03
74 Ge # 2	22992.37	2.33	24862.19	92.5	60 - 125		22418.30	23079.15	23479.65
74 Ge # 3	149245.91	2.51	155795.36	95.8	60 - 125		149014.38	145622.23	153101.13
89 Y # 3	982644.88	3.06	1011968.20	97.1	60 - 125		960804.88	970226.56	1016903.10
115 In # 3	960495.31	2.89	989458.81	97.1	60 - 125		938428.75	951466.44	991590.81
159 Tb # 3	1341055.90	2.34	1388283.80	96.6	60 - 125		1317921.60	1328413.00	1376833.10
209 Bi # 3	818167.63	2.19	829936.50	98.6	60 - 125		804430.56	811677.88	838394.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\017SMPL.D\017SMPL.D#
Date Acquired: Dec 27 2012 07:02 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CRI
Misc Info: MS STD1-RL-00028
Vial Number: 4501
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.1129	0.1129	ug/l	18.26	100.00		253.34	310.01	223.34
11 B	# 3	21.46	21.46	ug/l	0.59	1800.00		54183.69	55370.20	57218.94
23 Na	# 1	55.33	55.33	ug/l	1.08	81000.00		406124.66	409349.09	417241.75
24 Mg	# 1	56.4	56.4	ug/l	0.69	81000.00		183245.48	187057.63	190648.13
27 Al	# 1	10.96	10.96	ug/l	0.37	81000.00		41996.88	42598.05	43159.49
39 K	# 2	52.79	52.79	ug/l	1.96	81000.00		20915.35	20631.68	21098.84
40 Ca	# 1	54.47	54.47	ug/l	0.78	81000.00		527303.69	533608.38	535592.63
45 Sc	# 2	----	--------		--------	#VALUE!		34903.34	36165.76	36558.73
47 Ti	# 3	1.107	1.107	ug/l	3.16	1620.00		966.72	926.72	1006.73
51 V	# 2	1.04	1.04	ug/l	2.24	1800.00		1944.56	2033.46	1990.12
52 Cr	# 2	1.024	1.024	ug/l	0.65	1800.00		2261.27	2297.94	2309.05
55 Mn	# 3	1.093	1.093	ug/l	2.29	1800.00		17061.60	17945.74	18095.95
56 Fe	# 1	21.21	21.21	ug/l	0.39	81000.00		265529.91	266372.47	270282.06
59 Co	# 3	0.1064	0.1064	ug/l	2.55	1800.00		1236.74	1216.74	1296.75
60 Ni	# 2	1.132	1.132	ug/l	1.70	1800.00		1161.16	1171.16	1162.27
63 Cu	# 2	1.004	1.004	ug/l	4.44	1800.00		2916.92	2876.92	3142.52
66 Zn	# 3	4.731	4.731	ug/l	2.60	1800.00		6891.51	6928.16	6741.46
75 As	# 2	0.5196	0.5196	ug/l	4.94	100.00		102.67	113.33	109.67
78 Se	# 1	0.5267	0.5267	ug/l	2.16	100.00		210.34	207.34	217.00
88 Sr	# 3	0.2055	0.2055	ug/l	2.31	1800.00		4437.34	4390.68	4277.31
95 Mo	# 3	1.057	1.057	ug/l	2.97	1800.00		3090.38	3170.39	3280.40
107 Ag	# 3	0.2127	0.2127	ug/l	5.48	100.00		1756.82	1926.83	1776.81
111 Cd	# 3	0.1153	0.1153	ug/l	14.96	100.00		262.35	202.33	252.29
118 Sn	# 3	1.043	1.043	ug/l	1.12	1800.00		6247.97	6221.32	6374.72
121 Sb	# 3	1.217	1.217	ug/l	0.72	100.00		6731.52	6718.17	6828.19
137 Ba	# 3	1.039	1.039	ug/l	2.01	1800.00		2930.33	2953.69	3050.36
202 Hg	# 3	0.1699	0.1699	ug/l	2.69	5.00		371.34	387.01	386.34
205 Tl	# 3	0.2143	0.2143	ug/l	3.85	20.00		3550.50	3423.81	3677.22
208 Pb	# 3	0.3351	0.3351	ug/l	1.68	1800.00		7504.27	7941.05	7764.31
232 Th	# 3	0.00625	0.00625	ug/l	13.23	#VALUE!		413.35	393.35	363.35
238 U	# 3	0.000701	0.000701	ug/l	32.43	#VALUE!		36.67	30.00	23.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	541465.25	2.40	572657.25	94.6	60 - 125		531018.63	537360.44	556016.56
45 Sc	# 1	480713.94	1.43	523286.00	91.9	60 - 125		472997.75	482859.94	486284.06
45 Sc	# 3	574034.69	1.02	603286.69	95.2	60 - 125		573362.94	568553.13	580188.00
74 Ge	# 1	157967.92	0.70	170650.48	92.6	60 - 125		156877.09	157948.50	159078.19
74 Ge	# 2	23340.53	1.45	24862.19	93.9	60 - 125		23027.94	23294.90	23698.76
74 Ge	# 3	149568.16	1.19	155795.36	96.0	60 - 125		147910.30	149355.38	151438.78
89 Y	# 3	971290.63	0.43	1011968.20	96.0	60 - 125		966615.94	972583.44	974672.50
115 In	# 3	948831.31	0.34	989458.81	95.9	60 - 125		950249.44	945149.88	951094.75
159 Tb	# 3	1331171.90	1.48	1388283.80	95.9	60 - 125		1308377.80	1341915.30	1343222.50
209 Bi	# 3	807220.00	0.69	829936.50	97.3	60 - 125		807279.56	812733.50	801646.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\018_CCV.D\018_CCV.D#
Date Acquired: Dec 27 2012 07:09 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info: MS CCV cpi 00102
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.73 ug/l	1.73	50.00	90 - 110		112102.72	114532.00	116368.07
11 B	99.69 ug/l	0.90	100.00	90 - 110		229450.59	239609.92	242152.08
23 Na	5003 ug/l	3.56	5000.00	90 - 110		24211542.00	24336020.00	24653572.00
24 Mg	4990 ug/l	4.70	5000.00	90 - 110		15960830.00	16448135.00	16529348.00
27 Al	506.6 ug/l	4.59	500.00	90 - 110		1866324.10	1916645.80	1932149.80
39 K	5001 ug/l	5.67	5000.00	90 - 110		1311307.10	1292924.80	1366495.90
40 Ca	4935 ug/l	4.86	5000.00	90 - 110		37469648.00	38477020.00	39112980.00
45 Sc	--------	--------	---	##### - #####		36150.15	38537.30	35675.26
47 Ti	49.53 ug/l	0.41	50.00	90 - 110		43337.42	43791.82	44272.98
51 V	49.5 ug/l	4.65	50.00	90 - 110		85895.20	86231.13	89220.64
52 Cr	49.23 ug/l	4.45	50.00	90 - 110		101489.15	102067.02	105204.12
55 Mn	490.7 ug/l	2.20	500.00	90 - 110		7666396.50	7539826.50	7712285.50
56 Fe	4955 ug/l	2.88	5000.00	90 - 110		58741012.00	59717840.00	59321804.00
59 Co	47.76 ug/l	2.08	50.00	90 - 110		543556.94	541544.69	561059.81
60 Ni	49.72 ug/l	3.89	50.00	90 - 110		44436.37	44335.00	45250.59
63 Cu	49.8 ug/l	4.59	50.00	90 - 110		116183.48	117405.61	121128.33
66 Zn	49.47 ug/l	1.74	50.00	90 - 110		69224.62	68702.31	69602.36
75 As	49.45 ug/l	4.17	50.00	90 - 110		8861.49	8951.20	9170.31
78 Se	49.8 ug/l	2.55	50.00	90 - 110		17554.44	17693.93	17757.65
88 Sr	48.03 ug/l	2.18	50.00	90 - 110		1010088.00	1019101.90	1024334.40
95 Mo	49.05 ug/l	1.20	50.00	90 - 110		144731.28	143516.05	144791.75
107 Ag	49.81 ug/l	0.20	50.00	90 - 110		415051.22	421355.19	420225.78
111 Cd	49.94 ug/l	0.70	50.00	90 - 110		88933.80	90350.83	90869.97
118 Sn	49.21 ug/l	0.74	50.00	90 - 110		281409.22	282662.31	284904.50
121 Sb	49.32 ug/l	0.80	50.00	90 - 110		260419.77	263550.72	265928.38
137 Ba	49.44 ug/l	0.76	50.00	90 - 110		139331.78	139352.36	139707.28
202 Hg	2.503 ug/l	1.75	2.50	90 - 110		4888.09	4845.41	4929.10
205 Tl	9.934 ug/l	1.23	10.00	90 - 110		166618.52	164665.27	163438.86
208 Pb	49.54 ug/l	1.46	50.00	90 - 110		1136425.30	1125723.90	1131652.40
232 Th	48.29 ug/l	2.57	---	##### - #####		1338534.10	1312724.40	1357556.50
238 U	48.33 ug/l	2.30	---	##### - #####		1323339.60	1351216.90	1376014.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	539337.31	3.02	572657.25	94.2	60 - 125		520660.00	550465.44	546886.69
45 Sc	475838.16	2.93	523286.00	90.9	60 - 125		491819.63	466373.97	469320.88
45 Sc	587276.31	1.25	603286.69	97.3	60 - 125		579004.06	589822.13	593002.69
74 Ge	156602.91	2.07	170650.48	91.8	60 - 125		160161.30	153811.28	155836.17
74 Ge	22833.30	2.92	24862.19	91.8	60 - 125		22691.94	23558.68	22249.28
74 Ge	149709.09	1.45	155795.36	96.1	60 - 125		147234.41	151277.17	150615.73
89 Y	983679.69	2.32	1011968.20	97.2	60 - 125		967170.63	1009697.10	974171.31
115 In	938598.63	0.77	989458.81	94.9	60 - 125		930935.69	945350.00	939510.00
159 Tb	1353070.30	1.13	1388283.80	97.5	60 - 125		1351818.90	1368944.50	1338447.30
209 Bi	778422.25	0.90	829936.50	93.8	60 - 125		775934.25	786367.06	772965.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\019_CCB.D\019_CCB.D#
Date Acquired: Dec 27 2012 07:17 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02602	0.02602	ug/l	13.87	#VALUE!		66.67	66.67	53.33
11 B	# 3	1.455	1.455	ug/l	8.52	#VALUE!		8915.62	9122.43	8818.89
23 Na	# 1	-0.5964	-0.5964	ug/l	385.31	#VALUE!		135921.89	135190.66	134781.11
24 Mg	# 1	0.1979	0.1979	ug/l	26.52	#VALUE!		1350.09	1123.40	1133.40
27 Al	# 1	-0.002335	-0.002335	ug/l	1435.50	#VALUE!		863.37	876.71	970.05
39 K	# 2	0.7386	0.7386	ug/l	58.67	#VALUE!		6678.03	6831.42	6834.79
40 Ca	# 1	0.01523	0.01523	ug/l	7012.50	#VALUE!		103720.36	105064.79	104247.47
45 Sc	# 2	----	--------		--------	#VALUE!		34241.07	35357.59	36949.15
47 Ti	# 3	0.03606	0.03606	ug/l	37.74	#VALUE!		46.67	50.00	26.67
51 V	# 2	0.00994	0.00994	ug/l	52.82	#VALUE!		135.56	143.34	128.89
52 Cr	# 2	-0.001047	-0.001047	ug/l	584.34	#VALUE!		102.22	83.33	108.89
55 Mn	# 3	0.2084	0.2084	ug/l	18.59	#VALUE!		4433.99	4217.27	3257.06
56 Fe	# 1	0.2748	0.2748	ug/l	28.38	#VALUE!		14822.96	14746.28	14719.59
59 Co	# 3	0.02139	0.02139	ug/l	21.29	#VALUE!		333.35	260.01	236.68
60 Ni	# 2	-0.057	-0.057	ug/l	7.14	#VALUE!		72.22	77.78	72.22
63 Cu	# 2	-0.08446	-0.08446	ug/l	12.22	#VALUE!		356.68	338.90	326.67
66 Zn	# 3	-0.003934	-0.003934	ug/l	433.91	#VALUE!		256.68	253.34	290.01
75 As	# 2	0.01863	0.01863	ug/l	65.75	#VALUE!		12.33	16.67	17.00
78 Se	# 1	0.0432	0.0432	ug/l	42.59	#VALUE!		34.00	38.00	43.33
88 Sr	# 3	0.01978	0.01978	ug/l	19.33	#VALUE!		483.35	590.03	393.35
95 Mo	# 3	0.08642	0.08642	ug/l	11.72	#VALUE!		290.01	340.02	263.34
107 Ag	# 3	0.0231	0.0231	ug/l	31.91	#VALUE!		220.01	276.68	140.01
111 Cd	# 3	0.02217	0.02217	ug/l	65.58	#VALUE!		96.58	69.89	43.25
118 Sn	# 3	0.05995	0.05995	ug/l	17.90	#VALUE!		636.70	590.03	506.69
121 Sb	# 3	0.4445	0.4445	ug/l	3.83	#VALUE!		2673.61	2713.62	2463.58
137 Ba	# 3	0.01792	0.01792	ug/l	5.83	#VALUE!		70.00	70.00	63.34
202 Hg	# 3	0.02668	0.02668	ug/l	11.20	#VALUE!		95.33	101.33	84.67
205 Tl	# 3	0.003235	0.003235	ug/l	49.24	#VALUE!		136.67	100.00	83.34
208 Pb	# 3	0.02327	0.02327	ug/l	21.05	#VALUE!		686.69	893.37	650.03
232 Th	# 3	0.1093	0.1093	ug/l	3.08	#VALUE!		3277.11	3560.52	3190.41
238 U	# 3	0.0232	0.0232	ug/l	13.01	#VALUE!		770.05	686.70	586.70

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	542872.00	3.90	572657.25	94.8	60 - 125		520800.72	562980.31	544834.81
45 Sc	# 1	477897.66	8.52	523286.00	91.3	60 - 125		470169.63	521912.19	441611.16
45 Sc	# 3	577883.31	3.28	603286.69	95.8	60 - 125		569324.38	599631.88	564693.81
74 Ge	# 1	157925.08	6.47	170650.48	92.5	60 - 125		157185.23	168496.50	148093.53
74 Ge	# 2	23095.11	2.79	24862.19	92.9	60 - 125		22434.95	23125.84	23724.52
74 Ge	# 3	150985.30	2.10	155795.36	96.9	60 - 125		149207.92	154649.50	149098.44
89 Y	# 3	982981.56	3.73	1011968.20	97.1	60 - 125		967355.06	1024836.00	956753.44
115 In	# 3	958185.06	2.81	989458.81	96.8	60 - 125		948288.75	988630.50	937636.00
159 Tb	# 3	1349654.90	2.85	1388283.80	97.2	60 - 125		1354044.60	1385744.60	1309175.60
209 Bi	# 3	805916.63	2.90	829936.50	97.1	60 - 125		801027.81	831370.38	785351.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\020_ICV.D\020_ICV.D#
Date Acquired: Dec 27 2012 07:24 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: ICSA
Misc Info: MS ICSA WK 00056
Vial Number: 4510
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: ICV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	0.001781 ug/l	55.47	---	##### - #####		6.67	3.33	6.67
11 B	0.4526 ug/l	18.43	---	##### - #####		5987.76	5981.06	5937.73
23 Na	96620 ug/l	7.98	##########	80 - 120		426265890.00	430166270.00	439146820.00
24 Mg	93480 ug/l	7.89	##########	80 - 120		277564060.00	281039740.00	286383170.00
27 Al	92530 ug/l	7.48	##########	80 - 120		317085570.00	320668060.00	324081980.00
39 K	105200 ug/l	1.53	##########	80 - 120		22985900.00	23164642.00	24033056.00
40 Ca	95890 ug/l	7.98	##########	80 - 120		675081980.00	682842430.00	697195010.00
45 Sc	--------	--------		--- ##### - #####		33003.34	34294.43	36665.84
47 Ti	2136 ug/l	5.17	2000.00	80 - 120		1775315.80	1750588.30	1774700.80
51 V	0.2314 ug/l	3.02	---	##### - #####		420.01	448.90	457.79
52 Cr	1.232 ug/l	2.58	---	##### - #####		2226.82	2252.38	2289.05
55 Mn	0.1939 ug/l	10.31	---	##### - #####		2876.98	3123.70	3270.37
56 Fe	97940 ug/l	6.74	##########	80 - 120		950902460.00	946990400.00	970913150.00
59 Co	0.1225 ug/l	5.46	---	##### - #####		1163.40	1196.74	1230.08
60 Ni	0.7869 ug/l	3.34	---	##### - #####		675.57	713.35	711.13
63 Cu	0.1413 ug/l	11.16	---	##### - #####		676.69	741.13	790.02
66 Zn	3.316 ug/l	4.98	---	##### - #####		4000.55	4070.57	4157.28
75 As	0.4553 ug/l	6.84	---	##### - #####		72.33	83.33	83.67
78 Se	0.05399 ug/l	40.04	---	##### - #####		30.00	33.33	39.67
88 Sr	0.3147 ug/l	2.70	---	##### - #####		6001.18	6174.59	6001.15
95 Mo	2231 ug/l	4.98	2000.00	80 - 120		5499989.00	5443163.50	5509977.50
107 Ag	0.05299 ug/l	3.43	---	##### - #####		396.69	393.35	360.02
111 Cd	0.4404 ug/l	10.15	---	##### - #####		650.25	675.09	733.72
118 Sn	0.1183 ug/l	12.47	---	##### - #####		670.03	836.72	756.70
121 Sb	0.5058 ug/l	5.48	---	##### - #####		2463.57	2380.23	2400.24
137 Ba	0.1879 ug/l	19.68	---	##### - #####		416.69	413.35	533.36
202 Hg	0.03173 ug/l	11.50	---	##### - #####		70.00	79.33	77.33
205 Tl	0.01247 ug/l	21.82	---	##### - #####		210.01	193.34	243.34
208 Pb	0.1214 ug/l	2.67	---	##### - #####		2430.15	2610.18	2423.49
232 Th	0.1085 ug/l	4.30	---	##### - #####		2503.61	2403.60	2340.26
238 U	0.001803 ug/l	58.79	---	##### - #####		40.00	26.67	66.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	490065.63	3.17	572657.25	85.6	60 - 125		481869.38	507985.94	480341.50
45 Sc	439821.00	7.25	523286.00	84.0	60 - 125		430708.66	475286.72	413467.56
45 Sc	550248.06	4.49	603286.69	91.2	60 - 125		547510.25	576226.44	527007.50
74 Ge	128128.80	5.64	170650.48	75.1	60 - 125		126521.30	136027.44	121837.65
74 Ge	19267.69	3.89	24862.19	77.5	60 - 125		18646.29	19056.70	20100.08
74 Ge	124908.68	3.29	155795.36	80.2	60 - 125		124918.42	129012.99	120794.63
89 Y	885112.69	3.95	1011968.20	87.5	60 - 125		884726.56	920233.75	850377.56
115 In	785288.00	4.38	989458.81	79.4	60 - 125		782410.38	821042.94	752410.69
159 Tb	1129002.10	5.72	1388283.80	81.3	60 - 125		1121306.50	1197103.80	1068596.00
209 Bi	587110.25	4.01	829936.50	70.7	60 - 125		587313.94	610557.31	563459.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\021_ICB.D\021_ICB.D#
Date Acquired: Dec 27 2012 07:32 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: ICSAB
Misc Info: MS ICSABWK 00053
Vial Number: 4511
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: ICB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00184	0.00184	ug/l	51.21	#VALUE!		3.33	6.67	6.67
11 B	# 3	0.1475	0.1475	ug/l	32.54	#VALUE!		5164.17	5004.11	5344.20
23 Na	# 1	95520	95520	ug/l	0.62	#VALUE!		415311870.00	425727300.00	423301540.00
24 Mg	# 1	93870	93870	ug/l	1.44	#VALUE!		274715260.00	278590340.00	284264220.00
27 Al	# 1	91920	91920	ug/l	1.31	#VALUE!		309897500.00	313545500.00	319571680.00
39 K	# 2	104000	104000	ug/l	3.06	#VALUE!		22390636.00	22383282.00	23814922.00
40 Ca	# 1	96300	96300	ug/l	0.78	#VALUE!		676019710.00	677057790.00	684154690.00
45 Sc	# 2	----	--------		--------	#VALUE!		33885.23	31565.36	33500.86
47 Ti	# 3	2143	2143	ug/l	2.54	#VALUE!		1730225.90	1729550.60	1746938.30
51 V	# 2	0.2208	0.2208	ug/l	10.34	#VALUE!		391.12	412.23	460.01
52 Cr	# 2	21.91	21.91	ug/l	4.50	#VALUE!		37019.83	38664.25	38978.27
55 Mn	# 3	21.41	21.41	ug/l	2.98	#VALUE!		272503.97	276175.69	276223.72
56 Fe	# 1	97460	97460	ug/l	0.41	#VALUE!		947585340.00	945583100.00	941657470.00
59 Co	# 3	20.77	20.77	ug/l	1.89	#VALUE!		197040.83	195486.27	196922.19
60 Ni	# 2	20.75	20.75	ug/l	3.51	#VALUE!		15378.67	15700.07	15715.62
63 Cu	# 2	18.8	18.8	ug/l	3.39	#VALUE!		36733.13	37501.30	38243.91
66 Zn	# 3	21.64	21.64	ug/l	2.73	#VALUE!		24897.39	25111.09	25107.63
75 As	# 2	20.9	20.9	ug/l	2.87	#VALUE!		3116.27	3136.94	3274.30
78 Se	# 1	0.053	0.053	ug/l	14.03	#VALUE!		31.67	34.00	36.00
88 Sr	# 3	0.3209	0.3209	ug/l	3.48	#VALUE!		6081.20	6151.24	6111.26
95 Mo	# 3	2233	2233	ug/l	3.16	#VALUE!		5414281.50	5449366.50	5391484.50
107 Ag	# 3	17.88	17.88	ug/l	2.54	#VALUE!		124966.25	124100.45	123092.88
111 Cd	# 3	18.11	18.11	ug/l	1.82	#VALUE!		27208.75	26656.62	26988.90
118 Sn	# 3	0.124	0.124	ug/l	5.73	#VALUE!		780.04	786.71	743.38
121 Sb	# 3	0.461	0.461	ug/l	7.13	#VALUE!		2180.20	2290.22	2086.85
137 Ba	# 3	0.2085	0.2085	ug/l	21.75	#VALUE!		450.02	603.36	436.69
202 Hg	# 3	0.02384	0.02384	ug/l	7.13	#VALUE!		64.33	60.00	66.33
205 Tl	# 3	0.01111	0.01111	ug/l	30.33	#VALUE!		220.01	226.68	143.34
208 Pb	# 3	0.1258	0.1258	ug/l	2.42	#VALUE!		2593.51	2516.82	2550.17
232 Th	# 3	0.06219	0.06219	ug/l	5.21	#VALUE!		1430.11	1480.13	1403.44
238 U	# 3	0.001107	0.001107	ug/l	31.88	#VALUE!		23.33	36.67	30.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	475469.09	1.46	572657.25	83.0	60 - 125		473322.19	469842.75	483242.34
45 Sc	# 1	432518.53	0.68	523286.00	82.7	60 - 125		429290.69	435079.72	433185.16
45 Sc	# 3	538086.13	2.55	603286.69	89.2	60 - 125		551178.56	523841.56	539238.19
74 Ge	# 1	126915.66	0.13	170650.48	74.4	60 - 125		126729.73	127039.56	126977.67
74 Ge	# 2	19030.40	2.75	24862.19	76.5	60 - 125		19301.47	18427.19	19362.56
74 Ge	# 3	123290.53	2.27	155795.36	79.1	60 - 125		126234.45	120674.77	122962.37
89 Y	# 3	876078.50	2.89	1011968.20	86.6	60 - 125		902934.06	852535.50	872766.19
115 In	# 3	774571.63	2.83	989458.81	78.3	60 - 125		797290.94	753522.25	772901.63
159 Tb	# 3	1120388.40	3.76	1388283.80	80.7	60 - 125		1167127.90	1085379.00	1108658.30
209 Bi	# 3	582117.31	2.32	829936.50	70.1	60 - 125		595322.00	568285.50	582744.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\022SMPL.D\022SMPL.D#
Date Acquired: Dec 27 2012 07:39 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 2PPM
Misc Info: 00030 MS LINNG 1/10
Vial Number: 4512
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001196	0.001196	ug/l	75.29	100.00		6.67	3.33	3.33
11 B	# 3	1933	1933	ug/l	4.46	1800.00		3976733.30	4219846.50	4232373.50
23 Na	# 1	-----	--------	ug/l	--------	81000.00		321818.97	358227.41	--------
24 Mg	# 1	44.4	44.4	ug/l	21.98	81000.00		109669.06	133062.06	170750.89
27 Al	# 1	36.94	36.94	ug/l	23.02	81000.00		103774.38	127814.96	165018.66
39 K	# 2	96.25	96.25	ug/l	10.53	81000.00		31259.87	30094.68	28071.45
40 Ca	# 1	49.3	49.3	ug/l	18.48	81000.00		394140.03	453392.19	531954.50
45 Sc	# 2	-----	--------		--------	#VALUE!		30617.17	33021.09	33523.20
47 Ti	# 3	1.27	1.27	ug/l	7.24	1620.00		1160.07	1103.40	1010.05
51 V	# 2	1892	1892	ug/l	1.60	1800.00	Fail	3068741.30	3106950.80	3170092.80
52 Cr	# 2	1905	1905	ug/l	2.00	1800.00	Fail	3689384.50	3708148.30	3786064.30
55 Mn	# 3	2899	2899	ug/l	4.10	1800.00	Fail	44080480.00	45248672.00	45186540.00
56 Fe	# 1	38.42	38.42	ug/l	21.38	81000.00		364649.13	446949.56	555273.75
59 Co	# 3	1867	1867	ug/l	3.47	1800.00	Fail	21102444.00	21358938.00	21487250.00
60 Ni	# 2	2024	2024	ug/l	2.08	1800.00	Fail	1682142.40	1692136.00	1720583.90
63 Cu	# 2	2007	2007	ug/l	2.53	1800.00	Fail	4424015.00	4394830.50	4513535.50
66 Zn	# 3	2155	2155	ug/l	2.92	1800.00	Fail	2972613.80	2980009.50	2996992.50
75 As	# 2	1934	1934	ug/l	1.63	100.00	Fail	324314.19	328380.56	334646.31
78 Se	# 1	0.01509	0.01509	ug/l	59.97	100.00		28.33	30.00	24.00
88 Sr	# 3	1818	1818	ug/l	4.89	1800.00	Fail	38082396.00	38308772.00	38161056.00
95 Mo	# 3	1.91	1.91	ug/l	8.19	1800.00		5971.16	5684.39	5064.17
107 Ag	# 3	0.02569	0.02569	ug/l	7.17	100.00		246.68	223.34	206.67
111 Cd	# 3	0.01221	0.01221	ug/l	94.84	100.00		68.09	24.85	58.38
118 Sn	# 3	1968	1968	ug/l	5.74	1800.00	Fail	11152572.00	11193221.00	11036112.00
121 Sb	# 3	0.1595	0.1595	ug/l	5.57	100.00		1093.40	1016.73	973.39
137 Ba	# 3	1997	1997	ug/l	7.09	1800.00	Fail	5437504.00	5606954.00	5580445.00
202 Hg	# 3	0.0379	0.0379	ug/l	10.62	5.00		108.00	110.00	119.33
205 Tl	# 3	0.09806	0.09806	ug/l	3.97	20.00		1643.47	1556.80	1696.81
208 Pb	# 3	1990	1990	ug/l	5.38	1800.00	Fail	43835044.00	44229772.00	44204672.00
232 Th	# 3	0.06291	0.06291	ug/l	5.84	#VALUE!		2143.55	1820.16	1893.51
238 U	# 3	0.004733	0.004733	ug/l	6.33	#VALUE!		156.67	130.00	140.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	497359.09	2.47	572657.25	86.9	60 - 125		498972.28	484346.09	508759.06
45 Sc	# 1	449367.75	0.81	523286.00	85.9	60 - 125		445257.66	452121.66	450723.97
45 Sc	# 3	566368.25	4.29	603286.69	93.9	60 - 125		588970.56	540639.94	569494.25
74 Ge	# 1	151464.80	0.17	170650.48	88.8	60 - 125		151161.63	151641.45	151591.34
74 Ge	# 2	21378.91	3.05	24862.19	86.0	60 - 125		20671.79	21506.07	21958.88
74 Ge	# 3	148840.33	2.71	155795.36	95.5	60 - 125		153374.88	145680.98	147465.13
89 Y	# 3	976179.69	4.63	1011968.20	96.5	60 - 125		1023527.90	933520.69	971490.19
115 In	# 3	925702.81	5.58	989458.81	93.6	60 - 125		980032.69	877269.38	919806.25
159 Tb	# 3	1315229.00	4.92	1388283.80	94.7	60 - 125		1378511.00	1249076.10	1318099.80
209 Bi	# 3	780948.31	3.54	829936.50	94.1	60 - 125		809590.94	754478.19	778775.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

12 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\023SMPL.D\023SMPL.D#
Date Acquired: Dec 27 2012 07:46 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: Rinse
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0175	0.0175	ug/l	26.80	100.00		40.00	50.00	30.00
11 B # 3	16.9	16.9	ug/l	3.46	1800.00		42494.23	42610.94	42119.99
23 Na # 1	196.4	196.4	ug/l	2.01	81000.00		1056743.10	1082503.90	1056456.00
24 Mg # 1	32.16	32.16	ug/l	0.84	81000.00		101417.34	102937.97	105462.04
27 Al # 1	6.712	6.712	ug/l	1.48	81000.00		25414.00	25173.69	26048.27
39 K # 2	13.84	13.84	ug/l	10.66	81000.00		10143.00	10259.74	9986.27
40 Ca # 1	17.58	17.58	ug/l	0.91	81000.00		233096.84	234929.00	236717.75
45 Sc # 2	----	--------		--------	#VALUE!		33351.77	34235.48	35402.13
47 Ti # 3	0.1915	0.1915	ug/l	16.16	1620.00		186.67	193.34	146.67
51 V # 2	0.4061	0.4061	ug/l	12.53	1800.00		886.70	842.25	754.47
52 Cr # 2	0.3923	0.3923	ug/l	10.73	1800.00		958.92	945.59	842.25
55 Mn # 3	0.2319	0.2319	ug/l	13.48	1800.00		4757.42	4440.65	3847.16
56 Fe # 1	8.274	8.274	ug/l	1.24	81000.00		109663.01	109428.87	111641.65
59 Co # 3	0.07562	0.07562	ug/l	34.37	1800.00		1170.07	963.39	586.69
60 Ni # 2	0.3856	0.3856	ug/l	21.55	1800.00		534.46	457.79	411.12
63 Cu # 2	0.3856	0.3856	ug/l	22.56	1800.00		1582.31	1487.85	1256.72
66 Zn # 3	0.07673	0.07673	ug/l	84.24	1800.00		473.35	296.68	373.35
75 As # 2	0.8137	0.8137	ug/l	10.46	100.00		169.67	160.00	147.33
78 Se # 1	0.007203	0.007203	ug/l	102.97	100.00		24.33	28.67	23.67
88 Sr # 3	0.209	0.209	ug/l	10.39	1800.00		4990.87	4423.99	4077.25
95 Mo # 3	0.3905	0.3905	ug/l	6.54	1800.00		1220.08	1276.76	1140.07
107 Ag # 3	0.01374	0.01374	ug/l	5.75	100.00		126.67	126.67	140.00
111 Cd # 3	0.01113	0.01113	ug/l	16.75	100.00		46.28	52.93	49.64
118 Sn # 3	1.062	1.062	ug/l	13.88	1800.00		7441.84	6077.92	5884.50
121 Sb # 3	0.06789	0.06789	ug/l	19.62	100.00		636.70	490.02	573.36
137 Ba # 3	0.07923	0.07923	ug/l	30.59	1800.00		296.68	270.01	166.67
202 Hg # 3	0.01057	0.01057	ug/l	32.08	5.00		54.33	58.33	68.33
205 Tl # 3	0.003793	0.003793	ug/l	53.97	20.00		76.67	126.67	140.01
208 Pb # 3	0.07786	0.07786	ug/l	26.36	1800.00		2366.81	2066.78	1456.74
232 Th # 3	0.0161	0.0161	ug/l	3.60	#VALUE!		666.70	643.37	670.04
238 U # 3	0.01299	0.01299	ug/l	4.08	#VALUE!		370.02	396.68	370.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	510922.75	2.64	572657.25	89.2	60 - 125		496113.00	514217.53	522437.66
45 Sc # 1	464589.50	1.26	523286.00	88.8	60 - 125		458305.22	465522.88	469940.41
45 Sc # 3	576530.13	1.14	603286.69	95.6	60 - 125		570655.50	575302.50	583632.50
74 Ge # 1	156416.89	0.61	170650.48	91.7	60 - 125		155322.94	157122.78	156804.92
74 Ge # 2	22780.97	2.76	24862.19	91.6	60 - 125		22260.33	22602.96	23479.62
74 Ge # 3	151468.08	0.76	155795.36	97.2	60 - 125		150189.19	151788.44	152426.63
89 Y # 3	983454.56	0.08	1011968.20	97.2	60 - 125		983429.38	984209.13	982725.06
115 In # 3	959907.69	0.69	989458.81	97.0	60 - 125		957839.38	954557.88	967325.81
159 Tb # 3	1334950.00	0.20	1388283.80	96.2	60 - 125		1337582.10	1332225.10	1335042.80
209 Bi # 3	792104.19	0.95	829936.50	95.4	60 - 125		783871.94	793815.50	798625.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\024SMPL.D\024SMPL.D#
Date Acquired: Dec 27 2012 07:54 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: Rinse
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01229	0.01229	ug/l	42.01	100.00		36.67	33.33	16.67
11 B # 3	9.025	9.025	ug/l	1.05	1800.00		24412.60	25857.86	25914.52
23 Na # 1	195.9	195.9	ug/l	1.82	81000.00		1050036.00	1084084.40	1094114.10
24 Mg # 1	30.95	30.95	ug/l	1.77	81000.00		97952.90	102235.14	101647.30
27 Al # 1	5.7	5.7	ug/l	2.57	81000.00		21322.40	22500.45	22456.93
39 K # 2	11.59	11.59	ug/l	8.49	81000.00		9252.50	9806.12	10142.95
40 Ca # 1	16.31	16.31	ug/l	1.29	81000.00		227058.36	226882.70	230167.86
45 Sc # 2	----	--------		--------	#VALUE!		34006.22	34868.89	36034.43
47 Ti # 3	0.1829	0.1829	ug/l	14.55	1620.00		156.67	196.67	156.67
51 V # 2	0.1443	0.1443	ug/l	7.58	1800.00		366.67	398.90	365.56
52 Cr # 2	0.1265	0.1265	ug/l	14.14	1800.00		326.67	367.78	416.68
55 Mn # 3	0.2635	0.2635	ug/l	3.27	1800.00		4834.11	5054.16	4777.42
56 Fe # 1	7.148	7.148	ug/l	0.36	81000.00		97113.85	97284.32	98675.29
59 Co # 3	0.1009	0.1009	ug/l	3.89	1800.00		1236.74	1163.41	1233.41
60 Ni # 2	0.09756	0.09756	ug/l	14.93	1800.00		198.89	230.00	217.78
63 Cu # 2	0.05989	0.05989	ug/l	28.85	1800.00		658.91	662.24	751.13
66 Zn # 3	0.09065	0.09065	ug/l	46.94	1800.00		353.35	386.68	473.35
75 As # 2	0.2814	0.2814	ug/l	5.99	100.00		59.67	64.00	68.33
78 Se # 1	0.008711	0.008711	ug/l	80.61	100.00		23.33	27.67	28.00
88 Sr # 3	0.2255	0.2255	ug/l	5.07	1800.00		4864.14	4670.74	5184.23
95 Mo # 3	0.2686	0.2686	ug/l	5.10	1800.00		890.05	816.71	846.71
107 Ag # 3	0.0157	0.0157	ug/l	20.00	100.00		136.67	180.01	130.00
111 Cd # 3	0.009847	0.009847	ug/l	54.09	100.00		53.05	53.07	36.40
118 Sn # 3	0.4247	0.4247	ug/l	3.72	1800.00		2770.30	2796.99	2650.28
121 Sb # 3	0.05751	0.05751	ug/l	12.87	100.00		493.35	483.35	563.36
137 Ba # 3	0.1001	0.1001	ug/l	14.85	1800.00		346.68	263.34	310.01
202 Hg # 3	0.008114	0.008114	ug/l	14.64	5.00		57.00	58.00	53.33
205 Tl # 3	0.002843	0.002843	ug/l	45.27	20.00		90.00	83.34	123.34
208 Pb # 3	0.1019	0.1019	ug/l	9.22	1800.00		2663.50	2290.14	2553.49
232 Th # 3	0.01353	0.01353	ug/l	10.50	#VALUE!		610.03	550.03	623.36
238 U # 3	0.0121	0.0121	ug/l	11.84	#VALUE!		363.35	396.68	313.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	517102.19	3.07	572657.25	90.3	60 - 125		499493.06	521530.09	530283.44
45 Sc # 1	470150.78	0.57	523286.00	89.8	60 - 125		467072.41	471507.34	471872.63
45 Sc # 3	582553.81	1.27	603286.69	96.6	60 - 125		575458.25	581929.63	590273.56
74 Ge # 1	157876.27	0.56	170650.48	92.5	60 - 125		157223.08	157518.36	158887.31
74 Ge # 2	23222.26	1.92	24862.19	93.4	60 - 125		22750.92	23277.14	23638.72
74 Ge # 3	152686.08	0.58	155795.36	98.0	60 - 125		151672.20	153269.95	153116.13
89 Y # 3	995210.38	0.38	1011968.20	98.3	60 - 125		997494.25	990834.38	997302.38
115 In # 3	965990.38	0.75	989458.81	97.6	60 - 125		958462.56	966674.69	972833.94
159 Tb # 3	1333852.40	0.99	1388283.80	96.1	60 - 125		1318629.90	1342018.30	1340909.00
209 Bi # 3	801396.00	0.25	829936.50	96.6	60 - 125		800173.81	803715.06	800299.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\025SMPL.D\025SMPL.D#
Date Acquired: Dec 27 2012 08:01 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: Rinse
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01361	0.01361	ug/l	58.35	100.00		23.33	20.00	53.33
11 B	# 3	6.134	6.134	ug/l	2.66	1800.00		18762.93	19076.52	19049.73
23 Na	# 1	197.6	197.6	ug/l	1.73	81000.00		1062784.00	1089419.30	1108918.40
24 Mg	# 1	30.73	30.73	ug/l	0.81	81000.00		98860.20	100773.68	100900.45
27 Al	# 1	5.293	5.293	ug/l	0.92	81000.00		20705.04	20408.00	20788.51
39 K	# 2	16.55	16.55	ug/l	59.29	81000.00		9345.90	13760.42	9629.37
40 Ca	# 1	15.81	15.81	ug/l	0.57	81000.00		222927.50	224981.14	226390.94
45 Sc	# 2	----	--------		--------	#VALUE!		34019.53	34940.11	35649.21
47 Ti	# 3	0.1568	0.1568	ug/l	27.77	1620.00		180.01	106.67	153.34
51 V	# 2	0.07091	0.07091	ug/l	15.72	1800.00		247.78	251.12	228.89
52 Cr	# 2	0.05556	0.05556	ug/l	8.05	1800.00		218.89	215.56	214.45
55 Mn	# 3	0.1949	0.1949	ug/l	10.72	1800.00		4160.60	3547.12	3663.80
56 Fe	# 1	6.675	6.675	ug/l	1.47	81000.00		93304.63	91127.15	93230.90
59 Co	# 3	0.04824	0.04824	ug/l	13.93	1800.00		680.03	570.02	530.02
60 Ni	# 2	-0.0009722	-0.0009722	ug/l	2709.30	1800.00		125.56	143.34	102.22
63 Cu	# 2	-0.024	-0.024	ug/l	105.88	1800.00		448.90	544.46	453.34
66 Zn	# 3	0.02787	0.02787	ug/l	36.20	1800.00		330.01	303.34	310.01
75 As	# 2	0.1818	0.1818	ug/l	5.43	100.00		43.67	46.33	45.00
78 Se	# 1	0.009193	0.009193	ug/l	59.86	100.00		25.67	25.33	29.00
88 Sr	# 3	0.1844	0.1844	ug/l	7.51	1800.00		4297.31	3990.56	3777.17
95 Mo	# 3	0.2093	0.2093	ug/l	3.08	1800.00		680.03	653.37	693.37
107 Ag	# 3	0.01163	0.01163	ug/l	21.35	100.00		96.67	106.67	140.00
111 Cd	# 3	0.01034	0.01034	ug/l	55.28	100.00		59.78	46.46	39.78
118 Sn	# 3	0.2313	0.2313	ug/l	12.63	1800.00		1660.12	1733.47	1420.11
121 Sb	# 3	0.04771	0.04771	ug/l	23.89	100.00		463.35	396.68	526.69
137 Ba	# 3	0.04883	0.04883	ug/l	27.01	1800.00		190.01	116.67	170.01
202 Hg	# 3	0.005463	0.005463	ug/l	38.02	5.00		48.33	55.67	48.33
205 Tl	# 3	0.002273	0.002273	ug/l	23.42	20.00		93.34	80.00	96.67
208 Pb	# 3	0.04812	0.04812	ug/l	22.74	1800.00		1580.09	1190.06	1126.72
232 Th	# 3	0.01226	0.01226	ug/l	1.51	#VALUE!		560.03	553.36	560.03
238 U	# 3	0.01072	0.01072	ug/l	16.02	#VALUE!		260.01	340.02	353.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	517496.97	2.72	572657.25	90.4	60 - 125		502154.47	520590.41	529746.06
45 Sc	# 1	471456.75	0.69	523286.00	90.1	60 - 125		468888.91	470352.91	475128.53
45 Sc	# 3	581168.31	1.30	603286.69	96.3	60 - 125		573497.38	581413.50	588594.19
74 Ge	# 1	158857.44	0.18	170650.48	93.1	60 - 125		158652.56	158735.38	159184.38
74 Ge	# 2	22954.55	3.47	24862.19	92.3	60 - 125		22337.10	22674.17	23852.39
74 Ge	# 3	152369.61	0.14	155795.36	97.8	60 - 125		152119.98	152460.50	152528.34
89 Y	# 3	995016.31	0.93	1011968.20	98.3	60 - 125		987106.94	992794.56	1005147.50
115 In	# 3	971647.69	0.94	989458.81	98.2	60 - 125		962175.94	972259.44	980507.56
159 Tb	# 3	1340899.60	0.18	1388283.80	96.6	60 - 125		1338918.50	1340274.60	1343506.00
209 Bi	# 3	800664.00	0.40	829936.50	96.5	60 - 125		797005.44	802378.44	802608.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\026SMPL.D\026SMPL.D#
Date Acquired: Dec 27 2012 08:09 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: Rinse
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01492	0.01492	ug/l	67.83	100.00		33.33	13.33	60.00
11 B	# 3	4.498	4.498	ug/l	3.10	1800.00		15316.37	15716.71	15573.32
23 Na	# 1	196.5	196.5	ug/l	0.87	81000.00		1066884.30	1087481.00	1098189.80
24 Mg	# 1	30.28	30.28	ug/l	1.15	81000.00		97101.27	99030.76	100686.64
27 Al	# 1	5.25	5.25	ug/l	1.43	81000.00		20087.60	20544.68	20925.16
39 K	# 2	11.69	11.69	ug/l	6.87	81000.00		9385.97	9692.76	9982.92
40 Ca	# 1	15.79	15.79	ug/l	0.40	81000.00		223496.22	226101.73	225759.16
45 Sc	# 2	----	--------		--------	#VALUE!		33559.86	35212.88	35790.54
47 Ti	# 3	0.1289	0.1289	ug/l	28.52	1620.00		140.00	143.34	86.67
51 V	# 2	0.06501	0.06501	ug/l	9.26	1800.00		217.78	240.00	243.34
52 Cr	# 2	0.03989	0.03989	ug/l	37.90	1800.00		165.56	165.56	222.23
55 Mn	# 3	0.1777	0.1777	ug/l	7.88	1800.00		3663.80	3683.82	3337.06
56 Fe	# 1	6.62	6.62	ug/l	1.18	81000.00		91233.96	91961.37	90567.56
59 Co	# 3	0.0401	0.0401	ug/l	3.25	1800.00		516.69	496.69	500.02
60 Ni	# 2	0.003665	0.003665	ug/l	449.39	1800.00		124.45	116.67	145.56
63 Cu	# 2	-0.07282	-0.07282	ug/l	12.23	1800.00		343.34	368.90	393.34
66 Zn	# 3	0.00937	0.00937	ug/l	503.74	1800.00		216.67	353.35	306.68
75 As	# 2	0.1263	0.1263	ug/l	10.91	100.00		37.00	33.00	35.00
78 Se	# 1	0.01099	0.01099	ug/l	60.48	100.00		29.00	27.67	24.67
88 Sr	# 3	0.1731	0.1731	ug/l	3.39	1800.00		3917.21	3667.15	3797.18
95 Mo	# 3	0.1752	0.1752	ug/l	6.75	1800.00		593.36	533.36	586.70
107 Ag	# 3	0.01152	0.01152	ug/l	19.39	100.00		93.34	113.34	133.34
111 Cd	# 3	0.0175	0.0175	ug/l	33.06	100.00		66.48	69.83	49.81
118 Sn	# 3	0.1567	0.1567	ug/l	11.65	1800.00		1260.08	1163.41	1056.73
121 Sb	# 3	0.0319	0.0319	ug/l	20.12	100.00		373.35	340.01	410.02
137 Ba	# 3	0.04583	0.04583	ug/l	19.43	1800.00		173.34	153.34	123.34
202 Hg	# 3	0.003647	0.003647	ug/l	32.08	5.00		46.67	45.33	49.67
205 Tl	# 3	0.00309	0.00309	ug/l	74.34	20.00		146.67	73.34	93.34
208 Pb	# 3	0.03912	0.03912	ug/l	7.48	1800.00		1153.39	1030.05	1136.72
232 Th	# 3	0.01297	0.01297	ug/l	14.86	#VALUE!		613.37	610.03	513.36
238 U	# 3	0.01086	0.01086	ug/l	15.28	#VALUE!		366.68	270.01	330.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	524828.56	2.81	572657.25	91.6	60 - 125		508941.81	527412.44	538131.38
45 Sc	# 1	472475.91	0.74	523286.00	90.3	60 - 125		468482.41	473956.72	474988.66
45 Sc	# 3	586260.50	0.96	603286.69	97.2	60 - 125		579945.44	588183.81	590652.31
74 Ge	# 1	157757.41	0.90	170650.48	92.4	60 - 125		156154.61	158869.63	158247.98
74 Ge	# 2	23053.89	1.54	24862.19	92.7	60 - 125		22656.33	23335.01	23170.34
74 Ge	# 3	154317.45	1.05	155795.36	99.1	60 - 125		152645.66	154434.25	155872.50
89 Y	# 3	998429.44	0.32	1011968.20	98.7	60 - 125		996416.63	996710.63	1002161.10
115 In	# 3	970907.56	0.73	989458.81	98.1	60 - 125		962853.00	976269.44	973600.38
159 Tb	# 3	1354591.50	0.32	1388283.80	97.6	60 - 125		1350776.50	1353752.80	1359245.30
209 Bi	# 3	801873.13	0.50	829936.50	96.6	60 - 125		806368.31	800492.50	798758.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\027_CCV.D\027_CCV.D#
Date Acquired: Dec 27 2012 08:16 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info: MS CCV cpi 00102
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.45 ug/l	1.31	50.00	90 - 110		108389.20	109772.90	111634.16
11 B	102.7 ug/l	0.22	100.00	90 - 110		225050.09	233499.94	235684.73
23 Na	4901 ug/l	1.60	5000.00	90 - 110		23009740.00	23744016.00	24100276.00
24 Mg	4901 ug/l	1.68	5000.00	90 - 110		15736056.00	15999710.00	15751055.00
27 Al	496.7 ug/l	2.13	500.00	90 - 110		1794439.10	1876540.80	1866381.30
39 K	4786 ug/l	1.33	5000.00	90 - 110		1228818.40	1266667.10	1315869.00
40 Ca	4907 ug/l	2.48	5000.00	90 - 110		36488068.00	38424252.00	38125296.00
45 Sc	--------	--------		--- ##### - #####		35505.53	35972.03	36348.26
47 Ti	49.39 ug/l	1.36	50.00	90 - 110		42742.83	44303.08	43424.38
51 V	48.39 ug/l	0.49	50.00	90 - 110		83506.63	85236.70	87290.59
52 Cr	48.4 ug/l	0.46	50.00	90 - 110		99432.77	101572.13	103220.80
55 Mn	491.4 ug/l	1.22	500.00	90 - 110		7653080.00	7838136.50	7834796.50
56 Fe	4938 ug/l	1.55	5000.00	90 - 110		57799280.00	59149172.00	60409132.00
59 Co	47.75 ug/l	0.67	50.00	90 - 110		552748.31	560525.75	559122.19
60 Ni	49.01 ug/l	1.05	50.00	90 - 110		43559.95	44032.13	44781.77
63 Cu	49.09 ug/l	1.09	50.00	90 - 110		115165.24	116061.98	119240.69
66 Zn	49.18 ug/l	0.73	50.00	90 - 110		69177.59	70070.81	70422.41
75 As	49 ug/l	0.11	50.00	90 - 110		8703.08	8981.55	9108.61
78 Se	49.39 ug/l	0.10	50.00	90 - 110		17464.36	17490.38	17667.54
88 Sr	48.3 ug/l	0.19	50.00	90 - 110		1025803.80	1036762.80	1040832.70
95 Mo	49.32 ug/l	0.37	50.00	90 - 110		147188.73	146707.78	147123.78
107 Ag	49.64 ug/l	0.40	50.00	90 - 110		423162.22	420101.66	424923.00
111 Cd	49.5 ug/l	0.74	50.00	90 - 110		89438.87	90802.78	90966.88
118 Sn	49.1 ug/l	0.38	50.00	90 - 110		285752.34	286171.66	285994.03
121 Sb	49.35 ug/l	0.66	50.00	90 - 110		266077.97	268116.63	266292.13
137 Ba	49.3 ug/l	0.57	50.00	90 - 110		140422.70	141415.72	140713.64
202 Hg	2.504 ug/l	1.59	2.50	90 - 110		4927.10	4827.40	4798.40
205 Tl	9.938 ug/l	1.10	10.00	90 - 110		164032.53	164574.81	162819.56
208 Pb	49.33 ug/l	0.63	50.00	90 - 110		1117585.80	1115865.30	1122120.90
232 Th	47.53 ug/l	0.78		--- ##### - #####		1314034.00	1298581.90	1301534.60
238 U	48.38 ug/l	0.91		--- ##### - #####		1352194.10	1334887.80	1335215.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	511208.53	2.58	572657.25	89.3	60 - 125		496509.25	515192.13	521924.16
45 Sc	469775.69	1.11	523286.00	89.8	60 - 125		466241.28	467317.47	475768.31
45 Sc	584748.31	0.58	603286.69	96.9	60 - 125		580851.38	586670.94	586722.75
74 Ge	156695.94	0.73	170650.48	91.8	60 - 125		155857.36	156233.67	157996.77
74 Ge	22865.14	2.28	24862.19	92.0	60 - 125		22300.36	22965.64	23329.40
74 Ge	152117.41	0.27	155795.36	97.6	60 - 125		151832.36	151932.03	152587.86
89 Y	993877.50	0.93	1011968.20	98.2	60 - 125		983741.44	995924.38	1001966.80
115 In	950561.88	0.38	989458.81	96.1	60 - 125		948176.63	948736.13	954772.81
159 Tb	1343583.60	0.73	1388283.80	96.8	60 - 125		1332752.10	1346357.90	1351641.00
209 Bi	772075.38	0.20	829936.50	93.0	60 - 125		770630.69	771925.69	773669.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\028_CCB.D\028_CCB.D#
Date Acquired: Dec 27 2012 08:23 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001615	0.001615	ug/l	107.18	#VALUE!		3.33	10.00	3.33
11 B	# 3	3.641	3.641	ug/l	2.85	#VALUE!		13084.76	13211.51	13958.70
23 Na	# 1	-2.873	-2.873	ug/l	12.27	#VALUE!		119564.98	121869.77	125841.35
24 Mg	# 1	0.7987	0.7987	ug/l	41.88	#VALUE!		2103.51	2963.64	4323.96
27 Al	# 1	0.08991	0.08991	ug/l	15.35	#VALUE!		1166.73	1240.08	1296.74
39 K	# 2	0.1459	0.1459	ug/l	627.42	#VALUE!		6728.03	6294.57	6681.39
40 Ca	# 1	1.136	1.136	ug/l	23.57	#VALUE!		108480.13	110458.23	115139.62
45 Sc	# 2	----	--------		--------	#VALUE!		34354.51	34989.17	36008.82
47 Ti	# 3	0.01718	0.01718	ug/l	71.54	#VALUE!		20.00	36.67	16.67
51 V	# 2	0.02061	0.02061	ug/l	43.21	#VALUE!		138.89	170.00	152.22
52 Cr	# 2	0.001454	0.001454	ug/l	131.36	#VALUE!		96.67	103.33	107.78
55 Mn	# 3	0.02083	0.02083	ug/l	32.87	#VALUE!		1140.07	966.72	976.72
56 Fe	# 1	0.9007	0.9007	ug/l	34.32	#VALUE!		18723.33	21526.38	26179.05
59 Co	# 3	0.002643	0.002643	ug/l	43.44	#VALUE!		60.00	46.67	73.34
60 Ni	# 2	-0.05871	-0.05871	ug/l	17.68	#VALUE!		72.22	80.00	63.33
63 Cu	# 2	-0.1116	-0.1116	ug/l	4.55	#VALUE!		278.89	276.67	265.56
66 Zn	# 3	-0.0216	-0.0216	ug/l	90.74	#VALUE!		260.01	213.34	256.68
75 As	# 2	0.07021	0.07021	ug/l	19.71	#VALUE!		27.00	22.33	24.33
78 Se	# 1	0.0418	0.0418	ug/l	50.72	#VALUE!		46.00	31.67	35.67
88 Sr	# 3	0.0006354	0.0006354	ug/l	155.67	#VALUE!		103.34	76.67	63.34
95 Mo	# 3	0.09875	0.09875	ug/l	5.26	#VALUE!		333.35	350.01	316.68
107 Ag	# 3	0.006292	0.006292	ug/l	33.44	#VALUE!		86.67	53.34	60.00
111 Cd	# 3	-0.003734	-0.003734	ug/l	73.33	#VALUE!		23.23	26.56	16.57
118 Sn	# 3	0.08174	0.08174	ug/l	15.73	#VALUE!		776.71	703.37	630.03
121 Sb	# 3	0.3673	0.3673	ug/l	10.28	#VALUE!		2413.57	2086.85	2066.85
137 Ba	# 3	0.003292	0.003292	ug/l	54.34	#VALUE!		30.00	26.67	20.00
202 Hg	# 3	0.01841	0.01841	ug/l	14.16	#VALUE!		82.00	72.00	74.33
205 Tl	# 3	0.0002636	0.0002636	ug/l	83.27	#VALUE!		56.67	53.34	60.00
208 Pb	# 3	0.004085	0.004085	ug/l	43.21	#VALUE!		343.35	290.01	270.01
232 Th	# 3	0.0853	0.0853	ug/l	7.56	#VALUE!		2827.01	2556.96	2476.94
238 U	# 3	0.00414	0.00414	ug/l	11.32	#VALUE!		143.34	120.00	120.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	517673.47	2.92	572657.25	90.4	60 - 125		501601.91	519851.56	531567.00
45 Sc	# 1	468625.19	1.23	523286.00	89.6	60 - 125		463922.84	466911.19	475041.63
45 Sc	# 3	575840.31	1.00	603286.69	95.5	60 - 125		569356.94	577689.19	580474.81
74 Ge	# 1	156377.52	0.33	170650.48	91.6	60 - 125		155847.34	156403.41	156881.80
74 Ge	# 2	22897.79	1.84	24862.19	92.1	60 - 125		22582.94	22735.35	23375.08
74 Ge	# 3	151855.70	1.00	155795.36	97.5	60 - 125		150128.34	152980.78	152457.98
89 Y	# 3	977938.75	0.58	1011968.20	96.6	60 - 125		971507.25	982034.75	980274.13
115 In	# 3	955457.88	0.57	989458.81	96.6	60 - 125		950432.25	961242.56	954698.75
159 Tb	# 3	1334562.00	0.81	1388283.80	96.1	60 - 125		1324101.50	1345780.40	1333804.00
209 Bi	# 3	795687.31	0.14	829936.50	95.9	60 - 125		796305.31	794425.94	796330.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\029SMPL.D\029SMPL.D#
Date Acquired: Dec 27 2012 08:31 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-260740_1-a
Misc Info: 3005 1/5
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.004359	0.004359	ug/l	58.02	100.00		10.00	16.67	6.67
11 B	# 3	3.253	3.253	ug/l	8.45	1800.00		11773.93	12490.94	12054.02
23 Na	# 1	-4.34	-4.34	ug/l	6.19	81000.00		114280.08	115812.66	118650.34
24 Mg	# 1	0.2822	0.2822	ug/l	1.49	81000.00		1450.10	1456.76	1496.78
27 Al	# 1	0.9238	0.9238	ug/l	6.81	81000.00		4120.56	4297.26	4650.66
39 K	# 2	0.2425	0.2425	ug/l	262.06	81000.00		6461.30	6634.70	6728.06
40 Ca	# 1	2.578	2.578	ug/l	6.42	81000.00		121378.59	124352.50	124004.85
45 Sc	# 2	----	--------		--------	#VALUE!		35334.71	34243.36	35772.82
47 Ti	# 3	0.05597	0.05597	ug/l	5.84	1620.00		63.34	53.33	56.67
51 V	# 2	0.1105	0.1105	ug/l	9.05	1800.00		314.45	286.67	338.90
52 Cr	# 2	-0.002392	-0.002392	ug/l	116.01	1800.00		90.00	90.00	104.45
55 Mn	# 3	0.01388	0.01388	ug/l	30.38	1800.00		866.71	903.39	966.72
56 Fe	# 1	0.3299	0.3299	ug/l	9.66	81000.00		14943.13	15513.56	15753.74
59 Co	# 3	0.0007845	0.0007845	ug/l	282.09	1800.00		63.34	10.00	43.33
60 Ni	# 2	-0.08193	-0.08193	ug/l	15.21	1800.00		40.00	61.11	52.22
63 Cu	# 2	-0.07468	-0.07468	ug/l	17.73	1800.00		384.45	364.45	336.67
66 Zn	# 3	0.3526	0.3526	ug/l	1.12	1800.00		790.04	736.70	776.70
75 As	# 2	0.1839	0.1839	ug/l	11.37	100.00		44.33	48.33	43.33
78 Se	# 1	0.005892	0.005892	ug/l	59.00	100.00		24.33	26.67	24.67
88 Sr	# 3	0.004114	0.004114	ug/l	40.06	1800.00		203.34	120.00	150.00
95 Mo	# 3	0.06904	0.06904	ug/l	1.06	1800.00		256.68	236.68	246.68
107 Ag	# 3	0.002101	0.002101	ug/l	23.30	100.00		33.33	33.33	26.67
111 Cd	# 3	-0.00381	-0.00381	ug/l	151.65	100.00		29.92	26.59	9.92
118 Sn	# 3	0.1395	0.1395	ug/l	8.80	1800.00		1166.75	990.06	1000.06
121 Sb	# 3	0.2988	0.2988	ug/l	2.02	100.00		1930.16	1743.48	1833.49
137 Ba	# 3	0.009291	0.009291	ug/l	27.69	1800.00		53.34	36.67	40.00
202 Hg	# 3	0.003235	0.003235	ug/l	65.29	5.00		43.33	47.00	48.67
205 Tl	# 3	-0.001446	-0.001446	ug/l	29.81	20.00		23.33	26.67	36.67
208 Pb	# 3	1.908E-005	1.908E-005	ug/l	7615.30	1800.00		256.68	200.01	180.01
232 Th	# 3	0.03328	0.03328	ug/l	9.30	#VALUE!		1260.09	1006.73	1216.75
238 U	# 3	0.001254	0.001254	ug/l	47.30	#VALUE!		30.00	43.33	63.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	499640.56	2.59	572657.25	87.2	60 - 125		497761.56	487740.09	513420.00
45 Sc	# 1	472022.53	0.80	523286.00	90.2	60 - 125		468955.69	470881.72	476230.19
45 Sc	# 3	572299.94	4.24	603286.69	94.9	60 - 125		594699.38	546560.00	575640.50
74 Ge	# 1	157261.61	0.22	170650.48	92.2	60 - 125		156866.06	157395.66	157523.09
74 Ge	# 2	22953.08	2.80	24862.19	92.3	60 - 125		22827.82	22382.70	23648.72
74 Ge	# 3	151013.97	4.32	155795.36	96.9	60 - 125		156345.94	143737.77	152958.20
89 Y	# 3	992458.44	4.46	1011968.20	98.1	60 - 125		1034031.40	945880.00	997463.75
115 In	# 3	964495.19	3.51	989458.81	97.5	60 - 125		993881.88	927499.69	972103.94
159 Tb	# 3	1347578.40	5.04	1388283.80	97.1	60 - 125		1411296.40	1276239.50	1355199.10
209 Bi	# 3	802526.38	4.48	829936.50	96.7	60 - 125		835908.63	764491.31	807179.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\030SMPL.D\030SMPL.D#
Date Acquired: Dec 27 2012 08:38 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-260740_2-a
Misc Info: 3005 1/5
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.89	10.89	ug/l	2.11	100.00		23054.19	24168.77	23741.63
11 B	# 3	45.4	45.4	ug/l	1.91	1800.00		103060.24	105635.74	105779.44
23 Na	# 1	1007	1007	ug/l	1.12	81000.00		5003134.50	5085124.50	5138990.00
24 Mg	# 1	1039	1039	ug/l	1.76	81000.00		3409792.80	3400178.80	3493329.50
27 Al	# 1	1014	1014	ug/l	1.89	81000.00		3799755.80	3831122.50	3938032.80
39 K	# 2	978.7	978.7	ug/l	3.84	81000.00		263123.16	270661.47	280150.53
40 Ca	# 1	1026	1026	ug/l	0.95	81000.00		8023655.50	8185590.00	8232163.00
45 Sc	# 2	----	--------		--------	#VALUE!		36970.20	34232.22	36796.96
47 Ti	# 3	21.06	21.06	ug/l	1.31	1620.00		18259.36	18592.96	18556.31
51 V	# 2	19.72	19.72	ug/l	4.01	1800.00		34595.21	35853.17	36638.00
52 Cr	# 2	20.15	20.15	ug/l	3.32	1800.00		42262.05	43195.27	44414.77
55 Mn	# 3	107.2	107.2	ug/l	1.45	1800.00		1704734.10	1691084.00	1723490.80
56 Fe	# 1	998.9	998.9	ug/l	1.79	81000.00		11870915.00	12175705.00	12327370.00
59 Co	# 3	10.12	10.12	ug/l	1.35	1800.00		118797.55	118021.41	119451.66
60 Ni	# 2	20.85	20.85	ug/l	3.06	1800.00		18977.59	19299.03	19606.00
63 Cu	# 2	20.79	20.79	ug/l	4.23	1800.00		49652.00	51629.59	51605.09
66 Zn	# 3	24.36	24.36	ug/l	1.21	1800.00		34439.71	34780.30	35608.50
75 As	# 2	21.04	21.04	ug/l	3.68	100.00		3831.74	3947.44	4022.78
78 Se	# 1	20.62	20.62	ug/l	0.89	100.00		7356.16	7427.52	7513.89
88 Sr	# 3	19.04	19.04	ug/l	2.06	1800.00		413561.25	415913.50	418991.22
95 Mo	# 3	20.21	20.21	ug/l	1.20	1800.00		61661.27	61323.33	61487.11
107 Ag	# 3	10.66	10.66	ug/l	0.77	100.00		92609.20	91864.38	93388.81
111 Cd	# 3	10.64	10.64	ug/l	0.72	100.00		19802.08	19802.15	19938.82
118 Sn	# 3	20.69	20.69	ug/l	0.25	1800.00		121964.06	123032.43	124333.79
121 Sb	# 3	11.56	11.56	ug/l	1.28	100.00		63978.66	63999.19	63771.75
137 Ba	# 3	20.7	20.7	ug/l	1.17	1800.00		60598.78	59588.23	60863.24
202 Hg	# 3	0.9598	0.9598	ug/l	1.62	5.00		1999.46	1966.79	1944.12
205 Tl	# 3	8.236	8.236	ug/l	1.11	20.00		138044.19	139816.88	140175.34
208 Pb	# 3	10.46	10.46	ug/l	1.86	1800.00		244248.38	243135.44	243689.89
232 Th	# 3	19.04	19.04	ug/l	0.06	#VALUE!		545633.56	547566.44	547329.94
238 U	# 3	19.66	19.66	ug/l	0.22	#VALUE!		570105.38	571137.25	569305.63

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	509627.81	3.15	572657.25	89.0	60 - 125		492305.03	512652.59	523925.78
45 Sc	# 1	480812.66	0.80	523286.00	91.9	60 - 125		477016.44	484685.06	480736.44
45 Sc	# 3	582242.00	1.94	603286.69	96.5	60 - 125		571322.25	581528.81	593874.81
74 Ge	# 1	158731.98	0.29	170650.48	93.0	60 - 125		158624.17	158336.58	159235.20
74 Ge	# 2	23424.43	2.70	24862.19	94.2	60 - 125		23711.22	22698.65	23863.43
74 Ge	# 3	152948.17	1.17	155795.36	98.2	60 - 125		150891.28	154010.89	153942.36
89 Y	# 3	1014203.90	1.57	1011968.20	100.2	60 - 125		1032249.70	1002002.10	1008360.10
115 In	# 3	969987.69	1.10	989458.81	98.0	60 - 125		961347.88	966760.81	981854.38
159 Tb	# 3	1379085.90	1.76	1388283.80	99.3	60 - 125		1356784.60	1375417.80	1405055.50
209 Bi	# 3	807839.50	0.23	829936.50	97.3	60 - 125		805837.69	809498.81	808182.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\031SMPL.D\031SMPL.D#
Date Acquired: Dec 27 2012 08:46 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85871-a-18-a
Misc Info: 3005 1/5
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.006932	0.006932	ug/l	48.53	100.00		23.33	16.67	10.00
11 B	# 3	16.05	16.05	ug/l	3.13	1800.00		39788.35	39735.06	40332.80
23 Na	# 1	6926	6926	ug/l	1.59	81000.00		33170480.00	34368976.00	34629020.00
24 Mg	# 1	4182	4182	ug/l	1.20	81000.00		13508586.00	13895946.00	14018350.00
27 Al	# 1	3.348	3.348	ug/l	0.46	81000.00		13495.09	13688.55	13718.67
39 K	# 2	1061	1061	ug/l	2.15	81000.00		281569.25	285858.88	297729.72
40 Ca	# 1	21120	21120	ug/l	0.96	81000.00		162307360.00	165811460.00	168078290.00
45 Sc	# 2	----	--------		--------	#VALUE!		33081.33	36095.68	36912.69
47 Ti	# 3	0.142	0.142	ug/l	13.27	1620.00		133.34	120.00	153.34
51 V	# 2	0.1545	0.1545	ug/l	8.96	1800.00		374.45	372.23	428.90
52 Cr	# 2	0.04173	0.04173	ug/l	3.75	1800.00		183.34	187.78	192.22
55 Mn	# 3	18.49	18.49	ug/l	0.78	1800.00		293651.63	294358.84	297928.50
56 Fe	# 1	1.514	1.514	ug/l	2.41	81000.00		29146.97	30292.13	30278.74
59 Co	# 3	0.04542	0.04542	ug/l	7.29	1800.00		520.02	580.02	590.03
60 Ni	# 2	0.2844	0.2844	ug/l	6.68	1800.00		371.12	367.78	407.79
63 Cu	# 2	0.8266	0.8266	ug/l	1.64	1800.00		2417.96	2565.76	2547.97
66 Zn	# 3	0.7486	0.7486	ug/l	3.21	1800.00		1326.75	1376.77	1326.75
75 As	# 2	0.265	0.265	ug/l	7.72	100.00		53.67	62.67	65.00
78 Se	# 1	0.05465	0.05465	ug/l	19.63	100.00		38.67	43.33	47.00
88 Sr	# 3	289.4	289.4	ug/l	2.49	1800.00		6319741.50	6318890.50	6318570.50
95 Mo	# 3	0.3766	0.3766	ug/l	1.94	1800.00		1196.74	1153.41	1173.41
107 Ag	# 3	0.002102	0.002102	ug/l	10.05	100.00		30.00	30.00	33.33
111 Cd	# 3	-0.0003743	-0.0003743	ug/l	1680.50	100.00		16.28	29.63	39.63
118 Sn	# 3	0.1036	0.1036	ug/l	12.46	1800.00		826.71	916.72	770.04
121 Sb	# 3	2.681	2.681	ug/l	1.19	100.00		14796.71	15033.62	14776.66
137 Ba	# 3	20.17	20.17	ug/l	0.67	1800.00		58250.53	58695.27	58250.36
202 Hg	# 3	0.005819	0.005819	ug/l	24.61	5.00		53.00	47.67	49.33
205 Tl	# 3	0.02893	0.02893	ug/l	5.38	20.00		513.36	573.36	536.69
208 Pb	# 3	0.2645	0.2645	ug/l	0.70	1800.00		6247.35	6427.38	6360.71
232 Th	# 3	0.0809	0.0809	ug/l	9.29	#VALUE!		2623.64	2476.94	2216.90
238 U	# 3	0.1922	0.1922	ug/l	3.23	#VALUE!		5181.03	5531.14	5407.78

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	503640.19	3.16	572657.25	87.9	60 - 125		486017.69	507877.75	517025.16
45 Sc	# 1	480142.69	0.84	523286.00	91.8	60 - 125		476350.34	479708.63	484369.06
45 Sc	# 3	588433.44	0.32	603286.69	97.5	60 - 125		586230.19	589461.94	589608.25
74 Ge	# 1	158747.23	0.78	170650.48	93.0	60 - 125		157385.63	159072.14	159783.92
74 Ge	# 2	23003.86	3.82	24862.19	92.5	60 - 125		22013.38	23306.08	23692.11
74 Ge	# 3	153171.59	0.40	155795.36	98.3	60 - 125		153591.97	152470.27	153452.55
89 Y	# 3	1013518.10	2.53	1011968.20	100.2	60 - 125		1043087.50	1000636.60	996830.06
115 In	# 3	962925.38	0.32	989458.81	97.3	60 - 125		961307.56	961022.88	966445.94
159 Tb	# 3	1373075.50	0.76	1388283.80	98.9	60 - 125		1362134.10	1382993.40	1374099.00
209 Bi	# 3	777629.75	0.09	829936.50	93.7	60 - 125		776832.94	778016.69	778039.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\032SMPL.D\032SMPL.D#
Date Acquired: Dec 27 2012 08:53 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85871-a-18-a SD
Misc Info: 3005 1/25
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005565	0.001113	ug/l	79.83	100.00		6.67	3.33	3.33
11 B	# 3	23.26	4.652	ug/l	2.79	1800.00		15513.33	15613.28	16037.12
23 Na	# 1	7140	1428	ug/l	3.05	81000.00		7029461.50	7107850.50	7220210.00
24 Mg	# 1	4448.5	889.7	ug/l	3.49	81000.00		2912894.50	2923540.30	2960406.50
27 Al	# 1	5.91	1.182	ug/l	3.24	81000.00		5277.52	5357.56	5567.66
39 K	# 2	1054	210.8	ug/l	9.18	81000.00		61678.66	65002.64	66012.44
40 Ca	# 1	21785	4357	ug/l	3.28	81000.00		33827392.00	34055872.00	34546576.00
45 Sc	# 2	----	--------		--------	#VALUE!		37517.59	33918.31	37444.97
47 Ti	# 3	0.28905	0.05781	ug/l	46.27	1620.00		90.00	46.67	46.67
51 V	# 2	0.2141	0.04282	ug/l	20.26	1800.00		196.67	181.11	221.11
52 Cr	# 2	0.00634	0.001268	ug/l	845.43	1800.00		87.78	96.67	132.22
55 Mn	# 3	18.945	3.789	ug/l	4.19	1800.00		61462.19	62779.77	61810.13
56 Fe	# 1	2.0115	0.4023	ug/l	5.07	81000.00		16357.67	16941.56	16754.62
59 Co	# 3	0.04308	0.008616	ug/l	24.52	1800.00		160.01	103.34	136.67
60 Ni	# 2	1.1485	0.2297	ug/l	6.61	1800.00		346.67	335.56	344.45
63 Cu	# 2	0.32215	0.06443	ug/l	25.80	1800.00		704.46	705.58	732.24
66 Zn	# 3	1.2795	0.2559	ug/l	23.11	1800.00		626.70	723.37	600.03
75 As	# 2	0.334	0.0668	ug/l	24.36	100.00		22.67	26.00	25.33
78 Se	# 1	0.0574	0.01148	ug/l	23.00	100.00		28.00	27.33	28.33
88 Sr	# 3	305.85	61.17	ug/l	4.42	1800.00		1324068.10	1325603.40	1341649.10
95 Mo	# 3	0.43845	0.08769	ug/l	10.31	1800.00		286.68	316.68	320.01
107 Ag	# 3	0.007105	0.001421	ug/l	66.80	100.00		16.67	30.00	30.00
111 Cd	# 3	-0.005795	-0.001159	ug/l	313.89	100.00		36.58	23.23	23.23
118 Sn	# 3	0.1848	0.03696	ug/l	15.50	1800.00		486.69	453.35	420.02
121 Sb	# 3	2.9135	0.5827	ug/l	3.30	100.00		3487.12	3243.73	3627.15
137 Ba	# 3	20.01	4.002	ug/l	4.31	1800.00		11694.32	11774.44	11964.50
202 Hg	# 3	0.012195	0.002439	ug/l	33.56	5.00		44.00	43.33	46.67
205 Tl	# 3	0.03246	0.006492	ug/l	30.33	20.00		133.34	153.34	200.01
208 Pb	# 3	0.266	0.0532	ug/l	12.14	1800.00		1340.06	1533.41	1433.40
232 Th	# 3	0.1541	0.03082	ug/l	10.66	#VALUE!		1046.73	1143.42	1056.74
238 U	# 3	0.1898	0.03796	ug/l	4.36	#VALUE!		1093.41	1106.74	1093.41

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	519529.72	3.24	572657.25	90.7	60 - 125		514949.84	505462.66	538176.69
45 Sc	# 1	479633.72	3.95	523286.00	91.7	60 - 125		457774.63	489965.41	491161.13
45 Sc	# 3	587420.75	4.16	603286.69	97.4	60 - 125		600107.69	559254.25	602900.31
74 Ge	# 1	161274.88	2.84	170650.48	94.5	60 - 125		156067.05	163117.67	164639.89
74 Ge	# 2	23694.43	5.74	24862.19	95.3	60 - 125		24820.37	22183.60	24079.32
74 Ge	# 3	155679.30	3.01	155795.36	99.9	60 - 125		158164.11	150277.84	158595.94
89 Y	# 3	1010596.40	4.44	1011968.20	99.9	60 - 125		1046750.80	960334.38	1024704.10
115 In	# 3	981700.94	4.12	989458.81	99.2	60 - 125		1013053.30	936086.75	995962.69
159 Tb	# 3	1364745.50	3.69	1388283.80	98.3	60 - 125		1396172.10	1306618.80	1391445.90
209 Bi	# 3	799497.38	3.55	829936.50	96.3	60 - 125		820581.88	767200.88	810709.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\033SMPL.D\033SMPL.D#
Date Acquired: Dec 27 2012 09:01 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85871-a-18-a PDS
Misc Info: 3005 1/5
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	21.39	21.39	ug/l	2.29	100.00		43452.30	45283.05	46355.43
11 B	# 3	58.26	58.26	ug/l	1.46	1800.00		125729.69	129176.94	131879.22
23 Na	# 1	9303	9303	ug/l	3.97	81000.00		43582428.00	43881208.00	45517552.00
24 Mg	# 1	6382	6382	ug/l	3.99	81000.00		20117824.00	20305874.00	20894236.00
27 Al	# 1	214.2	214.2	ug/l	3.90	81000.00		776291.75	784337.81	808298.63
39 K	# 2	3066	3066	ug/l	0.95	81000.00		796014.75	822417.50	835777.25
40 Ca	# 1	23790	23790	ug/l	3.86	81000.00		177664270.00	179782500.00	184853780.00
45 Sc	# 2	----	--------		--------	#VALUE!		35123.82	36039.58	36721.31
47 Ti	# 3	20.98	20.98	ug/l	3.06	1620.00		18412.79	18482.89	18576.37
51 V	# 2	20.6	20.6	ug/l	1.12	1800.00		35536.95	36394.17	37543.13
52 Cr	# 2	20.38	20.38	ug/l	2.04	1800.00		41584.98	42410.15	44592.95
55 Mn	# 3	226.3	226.3	ug/l	3.78	1800.00		3495256.30	3587115.00	3628623.30
56 Fe	# 1	2114	2114	ug/l	2.33	81000.00		24565160.00	24846216.00	25345466.00
59 Co	# 3	19.86	19.86	ug/l	2.51	1800.00		230687.44	231232.13	231972.11
60 Ni	# 2	20.79	20.79	ug/l	0.74	1800.00		18679.47	18708.37	19099.92
63 Cu	# 2	21.15	21.15	ug/l	0.50	1800.00		49765.67	50623.53	51909.31
66 Zn	# 3	20.72	20.72	ug/l	3.25	1800.00		29163.74	29651.13	29774.75
75 As	# 2	20.83	20.83	ug/l	1.61	100.00		3705.05	3879.75	3854.75
78 Se	# 1	21.15	21.15	ug/l	3.12	100.00		7369.50	7362.16	7483.54
88 Sr	# 3	313.6	313.6	ug/l	4.69	1800.00		6757227.50	6805153.00	6786254.00
95 Mo	# 3	21	21	ug/l	3.11	1800.00		62115.60	62654.56	63242.93
107 Ag	# 3	18.27	18.27	ug/l	3.08	100.00		154354.83	155236.95	157761.48
111 Cd	# 3	20.5	20.5	ug/l	2.41	100.00		37437.72	37153.65	37895.06
118 Sn	# 3	20.63	20.63	ug/l	3.78	1800.00		118781.92	121718.46	120648.42
121 Sb	# 3	24.78	24.78	ug/l	3.05	100.00		133092.45	134103.05	135339.09
137 Ba	# 3	41.38	41.38	ug/l	2.87	1800.00		117904.75	118670.08	118417.47
202 Hg	# 3	1.045	1.045	ug/l	2.92	5.00		2001.13	2034.14	1999.80
205 Tl	# 3	3.998	3.998	ug/l	3.43	20.00		66493.14	65693.56	67290.12
208 Pb	# 3	20.65	20.65	ug/l	4.08	1800.00		470237.06	471903.91	474740.25
232 Th	# 3	20.24	20.24	ug/l	2.78	#VALUE!		539824.25	550184.94	549264.50
238 U	# 3	20.44	20.44	ug/l	3.32	#VALUE!		549612.94	565269.38	556138.94

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	493668.59	1.31	572657.25	86.2	60 - 125		489373.47	490526.13	501106.13
45 Sc	# 1	466386.31	5.30	523286.00	89.1	60 - 125		438369.94	475690.06	485098.97
45 Sc	# 3	585371.38	2.86	603286.69	97.0	60 - 125		601892.63	568410.75	585810.81
74 Ge	# 1	154316.50	3.46	170650.48	90.4	60 - 125		148189.94	156764.09	157995.50
74 Ge	# 2	22916.76	1.65	24862.19	92.2	60 - 125		22546.23	22902.45	23301.61
74 Ge	# 3	151773.88	2.41	155795.36	97.4	60 - 125		155024.91	147815.91	152480.81
89 Y	# 3	1004956.60	4.37	1011968.20	99.3	60 - 125		1051340.30	963954.75	999574.88
115 In	# 3	951915.06	2.55	989458.81	96.2	60 - 125		977220.50	928778.13	949746.56
159 Tb	# 3	1356224.90	3.89	1388283.80	97.7	60 - 125		1409622.50	1304109.10	1354943.10
209 Bi	# 3	759428.81	1.90	829936.50	91.5	60 - 125		770772.56	743229.88	764284.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\034SMPL.D\034SMPL.D#
Date Acquired: Dec 27 2012 09:08 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85871-a-18-b ms
Misc Info: 3005 1/5
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.8	10.8	ug/l	1.27	100.00		21786.05	23010.71	22810.60
11 B # 3	57.85	57.85	ug/l	1.04	1800.00		125312.37	127066.77	128343.71
23 Na # 1	7915	7915	ug/l	0.61	81000.00		39011592.00	38692580.00	39451040.00
24 Mg # 1	5129	5129	ug/l	0.87	81000.00		16714313.00	17028094.00	17265848.00
27 Al # 1	990.6	990.6	ug/l	0.49	81000.00		3729089.50	3778602.80	3821290.80
39 K # 2	2035	2035	ug/l	0.81	81000.00		528107.81	545188.63	556116.13
40 Ca # 1	21690	21690	ug/l	0.20	81000.00		169006320.00	170198940.00	172540540.00
45 Sc # 2	----	--------		--------	#VALUE!		34326.82	35907.45	36848.15
47 Ti # 3	20.51	20.51	ug/l	2.28	1620.00		18065.89	17528.63	17508.59
51 V # 2	20.39	20.39	ug/l	0.90	1800.00		35146.26	35895.49	36901.87
52 Cr # 2	20.26	20.26	ug/l	0.07	1800.00		41564.97	42668.50	43064.89
55 Mn # 3	123.4	123.4	ug/l	0.67	1800.00		1906542.30	1916306.90	1947159.50
56 Fe # 1	975.4	975.4	ug/l	0.47	81000.00		11773390.00	11763778.00	11908413.00
59 Co # 3	9.858	9.858	ug/l	0.23	1800.00		112749.41	113594.55	113802.56
60 Ni # 2	20.67	20.67	ug/l	0.24	1800.00		18320.26	18697.28	18938.65
63 Cu # 2	20.79	20.79	ug/l	0.34	1800.00		48530.22	49998.49	50627.92
66 Zn # 3	21.74	21.74	ug/l	1.56	1800.00		30930.00	30579.39	30248.86
75 As # 2	21.56	21.56	ug/l	1.09	100.00		3805.74	3960.11	4028.79
78 Se # 1	20.57	20.57	ug/l	0.89	100.00		7330.48	7468.88	7398.18
88 Sr # 3	311.4	311.4	ug/l	0.43	1800.00		6491168.50	6585889.00	6578604.00
95 Mo # 3	20.99	20.99	ug/l	0.86	1800.00		62788.13	62266.39	61573.94
107 Ag # 3	10.23	10.23	ug/l	0.65	100.00		86091.66	87166.54	86486.87
111 Cd # 3	10.34	10.34	ug/l	0.81	100.00		18863.80	18617.16	18867.67
118 Sn # 3	20.65	20.65	ug/l	1.38	1800.00		118241.77	121439.79	119244.77
121 Sb # 3	14	14	ug/l	0.53	100.00		75069.66	75819.65	75193.73
137 Ba # 3	40.43	40.43	ug/l	0.87	1800.00		115951.13	114827.31	113679.01
202 Hg # 3	1.018	1.018	ug/l	0.50	5.00		1955.12	1977.13	1987.13
205 Tl # 3	7.978	7.978	ug/l	0.51	20.00		131603.52	131085.61	132255.58
208 Pb # 3	10.46	10.46	ug/l	0.54	1800.00		236752.28	237128.67	238918.61
232 Th # 3	19.91	19.91	ug/l	0.47	#VALUE!		538690.63	544190.94	539825.50
238 U # 3	20.66	20.66	ug/l	0.53	#VALUE!		562041.81	570738.06	567273.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	489307.75	2.15	572657.25	85.4	60 - 125		477562.53	492525.31	497835.31
45 Sc # 1	482066.16	0.89	523286.00	92.1	60 - 125		478713.59	480566.44	486918.44
45 Sc # 3	573130.13	0.51	603286.69	95.0	60 - 125		569992.75	573587.38	575810.19
74 Ge # 1	158420.70	0.25	170650.48	92.8	60 - 125		158074.28	158343.47	158844.33
74 Ge # 2	22829.56	1.83	24862.19	91.8	60 - 125		22368.26	22937.83	23182.58
74 Ge # 3	149836.56	0.44	155795.36	96.2	60 - 125		149247.11	149721.77	150540.81
89 Y # 3	976290.19	0.57	1011968.20	96.5	60 - 125		970543.13	976662.38	981665.06
115 In # 3	944753.81	0.12	989458.81	95.5	60 - 125		945675.00	945101.88	943484.56
159 Tb # 3	1344820.90	0.06	1388283.80	96.9	60 - 125		1344769.40	1345719.40	1343974.00
209 Bi # 3	764055.25	0.34	829936.50	92.1	60 - 125		761097.50	764985.31	766083.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\035SMPL.D\035SMPL.D#
Date Acquired: Dec 27 2012 09:15 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85871-a-18-c msd
Misc Info: 3005 1/5
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.13	11.13	ug/l	1.97	100.00		22496.79	22756.98	23287.76
11 B # 3	59.58	59.58	ug/l	2.80	1800.00		127622.52	128536.05	129028.48
23 Na # 1	8026	8026	ug/l	0.40	81000.00		39094912.00	39367368.00	39238308.00
24 Mg # 1	5176	5176	ug/l	1.19	81000.00		16763560.00	17269248.00	16969700.00
27 Al # 1	1016	1016	ug/l	0.49	81000.00		3791305.30	3861166.50	3860890.00
39 K # 2	2062	2062	ug/l	1.86	81000.00		525714.19	548987.94	566570.44
40 Ca # 1	21920	21920	ug/l	0.32	81000.00		169187010.00	171022670.00	172196610.00
45 Sc # 2	----	--------		--------	#VALUE!		34371.30	35866.23	36746.88
47 Ti # 3	21.3	21.3	ug/l	1.26	1620.00		17879.06	18145.83	18592.99
51 V # 2	20.66	20.66	ug/l	1.53	1800.00		34992.63	36246.19	37485.20
52 Cr # 2	20.5	20.5	ug/l	0.36	1800.00		41717.49	42708.71	43651.85
55 Mn # 3	127.9	127.9	ug/l	1.48	1800.00		1962104.50	1942598.80	2004586.40
56 Fe # 1	1007	1007	ug/l	0.62	81000.00		12026671.00	12098608.00	12090740.00
59 Co # 3	10.09	10.09	ug/l	0.38	1800.00		113296.25	114597.62	116227.76
60 Ni # 2	20.96	20.96	ug/l	0.82	1800.00		18577.18	18661.71	19175.56
63 Cu # 2	21.29	21.29	ug/l	0.66	1800.00		49285.41	50978.80	51571.63
66 Zn # 3	22.26	22.26	ug/l	1.65	1800.00		30920.10	31047.00	30846.43
75 As # 2	21.73	21.73	ug/l	1.35	100.00		3848.41	4000.45	3964.77
78 Se # 1	20.79	20.79	ug/l	0.71	100.00		7381.83	7434.53	7386.18
88 Sr # 3	310.9	310.9	ug/l	2.03	1800.00		6570911.50	6594430.50	6638610.00
95 Mo # 3	21.56	21.56	ug/l	2.30	1800.00		63417.08	63624.54	62072.38
107 Ag # 3	10.58	10.58	ug/l	1.91	100.00		88764.72	87990.66	88306.72
111 Cd # 3	10.66	10.66	ug/l	2.79	100.00		19184.10	18686.80	19464.86
118 Sn # 3	21.21	21.21	ug/l	1.08	1800.00		120691.57	121392.94	121805.80
121 Sb # 3	14.3	14.3	ug/l	1.21	100.00		75642.05	75826.76	76466.23
137 Ba # 3	42.01	42.01	ug/l	1.79	1800.00		118138.59	117793.09	117249.88
202 Hg # 3	1.041	1.041	ug/l	0.48	5.00		1997.13	2011.80	2030.47
205 Tl # 3	8.215	8.215	ug/l	1.54	20.00		134289.48	135055.72	135354.25
208 Pb # 3	10.75	10.75	ug/l	2.31	1800.00		244294.34	241632.89	242959.84
232 Th # 3	20.43	20.43	ug/l	0.58	#VALUE!		549810.81	555704.63	555023.25
238 U # 3	21.22	21.22	ug/l	1.03	#VALUE!		579177.06	582196.44	579477.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	481467.50	3.19	572657.25	84.1	60 - 125		463945.31	487770.94	492686.19
45 Sc # 1	477620.75	0.59	523286.00	91.3	60 - 125		474420.97	478607.06	479834.22
45 Sc # 3	567554.50	2.01	603286.69	94.1	60 - 125		554382.88	573883.31	574397.25
74 Ge # 1	156824.53	0.32	170650.48	91.9	60 - 125		157266.11	156283.36	156924.09
74 Ge # 2	22699.00	1.91	24862.19	91.3	60 - 125		22253.66	22722.01	23121.34
74 Ge # 3	148089.64	1.53	155795.36	95.1	60 - 125		145666.52	148450.84	150151.61
89 Y # 3	985610.63	1.53	1011968.20	97.4	60 - 125		1001384.70	984012.69	971434.25
115 In # 3	932479.13	1.47	989458.81	94.2	60 - 125		916679.75	941343.94	939413.63
159 Tb # 3	1338597.80	1.94	1388283.80	96.4	60 - 125		1311530.90	1341072.50	1363189.60
209 Bi # 3	761991.38	1.11	829936.50	91.8	60 - 125		752451.00	765099.38	768423.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\036SMPL.D\036SMPL.D#
Date Acquired: Dec 27 2012 09:23 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85871-a-19-a
Misc Info: 3005 1/5
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.003335	0.003335	ug/l	70.68	100.00		3.33	10.00	13.33
11 B	# 3	15.1	15.1	ug/l	5.27	1800.00		36301.16	36101.11	37159.65
23 Na	# 1	6602	6602	ug/l	8.24	81000.00		32046820.00	32303412.00	32917492.00
24 Mg	# 1	4048	4048	ug/l	8.81	81000.00		13144546.00	13236916.00	13646416.00
27 Al	# 1	1	1	ug/l	5.63	81000.00		4627.37	4904.10	4634.03
39 K	# 2	1010	1010	ug/l	2.65	81000.00		268136.97	275364.34	281118.78
40 Ca	# 1	20190	20190	ug/l	7.21	81000.00		155561870.00	159380480.00	159092620.00
45 Sc	# 2	-----	--------		--------	#VALUE!		33755.82	35235.06	38154.53
47 Ti	# 3	0.173	0.173	ug/l	24.22	1620.00		163.34	120.00	180.01
51 V	# 2	0.1539	0.1539	ug/l	10.68	1800.00		383.34	408.90	377.79
52 Cr	# 2	0.0115	0.0115	ug/l	86.44	1800.00		142.22	115.56	113.33
55 Mn	# 3	19.57	19.57	ug/l	2.22	1800.00		296478.09	298876.59	302232.09
56 Fe	# 1	0.8845	0.8845	ug/l	11.87	81000.00		21646.51	22344.86	22450.93
59 Co	# 3	0.04755	0.04755	ug/l	15.25	1800.00		486.69	556.69	646.70
60 Ni	# 2	0.3189	0.3189	ug/l	1.38	1800.00		397.79	403.34	440.01
63 Cu	# 2	0.3377	0.3377	ug/l	6.55	1800.00		1345.62	1272.28	1421.18
66 Zn	# 3	0.7662	0.7662	ug/l	3.86	1800.00		1333.42	1300.09	1296.75
75 As	# 2	0.1939	0.1939	ug/l	4.89	100.00		47.33	45.00	49.67
78 Se	# 1	0.06433	0.06433	ug/l	23.66	100.00		49.67	42.33	46.33
88 Sr	# 3	286.6	286.6	ug/l	4.88	1800.00		5910804.00	5839878.00	5982370.00
95 Mo	# 3	0.3345	0.3345	ug/l	5.77	1800.00		1026.73	983.39	1006.73
107 Ag	# 3	0.002798	0.002798	ug/l	46.93	100.00		46.67	33.33	26.67
111 Cd	# 3	0.004777	0.004777	ug/l	150.24	100.00		33.01	26.35	49.68
118 Sn	# 3	0.08021	0.08021	ug/l	17.43	1800.00		736.71	690.04	590.03
121 Sb	# 3	2.604	2.604	ug/l	4.48	100.00		14129.53	13815.93	13672.37
137 Ba	# 3	19.85	19.85	ug/l	3.83	1800.00		55223.95	54946.27	55364.38
202 Hg	# 3	0.004596	0.004596	ug/l	80.94	5.00		53.33	45.00	41.00
205 Tl	# 3	0.03821	0.03821	ug/l	19.92	20.00		786.71	623.37	593.36
208 Pb	# 3	0.4585	0.4585	ug/l	3.95	1800.00		10411.64	10374.97	10425.05
232 Th	# 3	0.0943	0.0943	ug/l	4.77	#VALUE!		2817.02	2793.68	2616.96
238 U	# 3	0.191	0.191	ug/l	1.11	#VALUE!		5034.33	5431.15	5181.03

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	485893.53	4.41	572657.25	84.8	60 - 125		461906.44	503208.63	492565.56
45 Sc	# 1	481429.78	7.38	523286.00	92.0	60 - 125		475373.03	519579.63	449336.66
45 Sc	# 3	560545.69	3.71	603286.69	92.9	60 - 125		543998.38	583871.13	553767.38
74 Ge	# 1	158143.14	5.34	170650.48	92.7	60 - 125		156774.78	167194.56	150460.03
74 Ge	# 2	23016.13	4.74	24862.19	92.6	60 - 125		22152.41	22653.03	24242.94
74 Ge	# 3	146688.69	2.01	155795.36	94.2	60 - 125		144731.84	150076.48	145257.73
89 Y	# 3	958184.25	3.90	1011968.20	94.7	60 - 125		937521.31	1001290.60	935740.63
115 In	# 3	925488.00	3.56	989458.81	93.5	60 - 125		901512.19	963031.00	911920.63
159 Tb	# 3	1319146.90	3.72	1388283.80	95.0	60 - 125		1277621.00	1373258.40	1306561.10
209 Bi	# 3	759456.56	3.40	829936.50	91.5	60 - 125		742044.63	789083.81	747241.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\037SMPL.D\037SMPL.D#
Date Acquired: Dec 27 2012 09:30 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85871-a-23-a
Misc Info: 3005 1/5
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001684	0.001684	ug/l	141.15	100.00		0.00	10.00	6.67
11 B	# 3	4.032	4.032	ug/l	2.34	1800.00		13421.61	13888.60	13828.60
23 Na	# 1	1775	1775	ug/l	1.27	81000.00		8724224.00	8950329.00	9029942.00
24 Mg	# 1	2995	2995	ug/l	1.66	81000.00		9725347.00	10014726.00	10156459.00
27 Al	# 1	1.544	1.544	ug/l	1.43	81000.00		6714.71	6838.09	6958.13
39 K	# 2	150.4	150.4	ug/l	1.45	81000.00		44486.56	46320.83	47814.61
40 Ca	# 1	16680	16680	ug/l	1.06	81000.00		129335580.00	132859940.00	132775120.00
45 Sc	# 2	----	--------		--------	#VALUE!		34590.54	35113.79	36072.24
47 Ti	# 3	0.1284	0.1284	ug/l	10.43	1620.00		123.34	106.67	130.00
51 V	# 2	0.2509	0.2509	ug/l	7.05	1800.00		552.24	528.90	595.57
52 Cr	# 2	0.008415	0.008415	ug/l	57.22	1800.00		108.89	111.11	131.11
55 Mn	# 3	1.897	1.897	ug/l	1.54	1800.00		30689.33	30108.31	29824.49
56 Fe	# 1	2.352	2.352	ug/l	1.42	81000.00		40261.61	40371.82	39960.57
59 Co	# 3	0.04191	0.04191	ug/l	6.38	1800.00		543.36	483.36	503.36
60 Ni	# 2	0.3826	0.3826	ug/l	2.45	1800.00		463.34	468.90	471.12
63 Cu	# 2	0.2169	0.2169	ug/l	2.77	1800.00		1027.82	1044.48	1081.15
66 Zn	# 3	0.6647	0.6647	ug/l	6.17	1800.00		1133.41	1246.75	1206.74
75 As	# 2	0.1975	0.1975	ug/l	3.08	100.00		47.33	47.00	48.67
78 Se	# 1	0.04506	0.04506	ug/l	15.66	100.00		37.33	39.00	42.67
88 Sr	# 3	58.14	58.14	ug/l	0.89	1800.00		1237797.80	1218379.90	1238131.30
95 Mo	# 3	0.3066	0.3066	ug/l	4.26	1800.00		923.39	1003.39	943.39
107 Ag	# 3	0.002128	0.002128	ug/l	52.87	100.00		36.67	36.67	20.00
111 Cd	# 3	0.008255	0.008255	ug/l	13.62	100.00		46.37	43.01	43.03
118 Sn	# 3	0.06624	0.06624	ug/l	21.48	1800.00		543.36	590.03	706.70
121 Sb	# 3	0.3852	0.3852	ug/l	3.01	100.00		2243.54	2260.21	2363.57
137 Ba	# 3	13	13	ug/l	0.66	1800.00		37375.44	37181.31	37552.19
202 Hg	# 3	0.008993	0.008993	ug/l	15.96	5.00		53.67	59.33	56.67
205 Tl	# 3	0.01402	0.01402	ug/l	9.19	20.00		266.68	276.68	316.68
208 Pb	# 3	0.01429	0.01429	ug/l	6.51	1800.00		530.02	516.69	573.36
232 Th	# 3	0.0457	0.0457	ug/l	0.66	#VALUE!		1476.79	1473.45	1480.13
238 U	# 3	0.5135	0.5135	ug/l	1.08	#VALUE!		14196.94	14457.23	14690.75

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	496908.28	3.02	572657.25	86.8	60 - 125		480199.72	501302.06	509223.00
45 Sc	# 1	483906.13	0.55	523286.00	92.5	60 - 125		481114.38	484198.75	486405.19
45 Sc	# 3	571632.63	1.15	603286.69	94.8	60 - 125		565605.56	570638.69	578653.50
74 Ge	# 1	159254.63	0.81	170650.48	93.3	60 - 125		157792.31	160198.30	159773.28
74 Ge	# 2	22856.24	2.63	24862.19	91.9	60 - 125		22177.99	23070.22	23320.52
74 Ge	# 3	149638.73	0.05	155795.36	96.0	60 - 125		149569.44	149634.27	149712.53
89 Y	# 3	982944.38	0.66	1011968.20	97.1	60 - 125		978435.63	980010.00	990387.50
115 In	# 3	956221.63	0.30	989458.81	96.6	60 - 125		953067.56	958640.69	956956.75
159 Tb	# 3	1356354.90	1.70	1388283.80	97.7	60 - 125		1339477.10	1347036.90	1382550.60
209 Bi	# 3	783310.19	0.73	829936.50	94.4	60 - 125		779165.06	780936.75	789828.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\038SMPL.D\038SMPL.D#
Date Acquired: Dec 27 2012 09:38 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85871-a-24-a
Misc Info: 3005 1/5
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01107	0.01107	ug/l	57.41	100.00		40.00	13.33	23.33
11 B	# 3	3.318	3.318	ug/l	5.43	1800.00		11900.70	12100.78	12881.27
23 Na	# 1	1874	1874	ug/l	0.96	81000.00		9207216.00	9293942.00	9478698.00
24 Mg	# 1	1974	1974	ug/l	0.72	81000.00		6439070.50	6525736.00	6603224.00
27 Al	# 1	1.568	1.568	ug/l	2.38	81000.00		6881.41	6788.03	6975.06
39 K	# 2	91.21	91.21	ug/l	3.05	81000.00		31476.87	30124.59	31299.86
40 Ca	# 1	13630	13630	ug/l	0.74	81000.00		105521140.00	107498360.00	107575020.00
45 Sc	# 2	----	--------		--------	#VALUE!		37253.72	33754.69	36317.17
47 Ti	# 3	0.1226	0.1226	ug/l	9.18	1620.00		110.00	113.34	126.67
51 V	# 2	0.2045	0.2045	ug/l	5.41	1800.00		514.46	458.90	476.68
52 Cr	# 2	0.06945	0.06945	ug/l	9.96	1800.00		270.00	222.23	252.23
55 Mn	# 3	7.682	7.682	ug/l	3.12	1800.00		119545.70	121179.95	122373.23
56 Fe	# 1	8.822	8.822	ug/l	1.45	81000.00		118795.55	117399.98	118988.68
59 Co	# 3	0.06142	0.06142	ug/l	13.94	1800.00		720.03	826.71	666.70
60 Ni	# 2	0.2184	0.2184	ug/l	23.76	1800.00		326.67	354.45	288.89
63 Cu	# 2	0.733	0.733	ug/l	8.48	1800.00		2232.38	2336.84	2326.83
66 Zn	# 3	0.8583	0.8583	ug/l	10.87	1800.00		1390.09	1573.45	1456.77
75 As	# 2	0.2499	0.2499	ug/l	12.36	100.00		63.67	57.00	53.00
78 Se	# 1	0.02884	0.02884	ug/l	6.32	100.00		33.33	34.33	33.33
88 Sr	# 3	52.29	52.29	ug/l	8.09	1800.00		1086796.90	1168910.90	1106603.00
95 Mo	# 3	0.3276	0.3276	ug/l	10.27	1800.00		963.39	1090.07	1016.73
107 Ag	# 3	0.0004267	0.0004267	ug/l	236.23	100.00		23.33	20.00	6.67
111 Cd	# 3	0.007646	0.007646	ug/l	93.13	100.00		36.36	56.32	36.34
118 Sn	# 3	0.0651	0.0651	ug/l	5.21	1800.00		623.36	610.03	596.69
121 Sb	# 3	0.2987	0.2987	ug/l	7.01	100.00		1776.81	1766.81	1943.50
137 Ba	# 3	4.851	4.851	ug/l	3.29	1800.00		14009.52	13719.24	14376.50
202 Hg	# 3	0.01496	0.01496	ug/l	18.42	5.00		64.67	67.00	73.67
205 Tl	# 3	0.008651	0.008651	ug/l	39.02	20.00		203.34	136.67	253.34
208 Pb	# 3	0.01888	0.01888	ug/l	11.53	1800.00		633.36	603.36	696.70
232 Th	# 3	0.02724	0.02724	ug/l	3.63	#VALUE!		1003.40	906.72	993.39
238 U	# 3	0.3046	0.3046	ug/l	3.57	#VALUE!		8572.64	8646.01	8602.69

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	501095.00	1.08	572657.25	87.5	60 - 125		498284.25	497681.25	507319.47
45 Sc	# 1	480664.19	1.80	523286.00	91.9	60 - 125		470858.81	484031.44	487102.28
45 Sc	# 3	580536.38	3.41	603286.69	96.2	60 - 125		599184.00	559799.94	582625.13
74 Ge	# 1	158578.63	1.10	170650.48	92.9	60 - 125		156756.16	158749.61	160230.11
74 Ge	# 2	23153.72	4.64	24862.19	93.1	60 - 125		23708.89	21915.48	23836.79
74 Ge	# 3	150698.67	2.51	155795.36	96.7	60 - 125		153730.63	146452.53	151912.86
89 Y	# 3	996990.69	4.51	1011968.20	98.5	60 - 125		1045801.90	957183.50	987986.63
115 In	# 3	962210.50	3.67	989458.81	97.2	60 - 125		997379.69	926799.56	962452.25
159 Tb	# 3	1356725.40	4.47	1388283.80	97.7	60 - 125		1420928.90	1300348.40	1348899.00
209 Bi	# 3	786890.19	3.12	829936.50	94.8	60 - 125		810527.19	761456.56	788686.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\039_CCV.D\039_CCV.D#
Date Acquired: Dec 27 2012 09:45 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.7 ug/l	3.96	50.00	90 - 110		108094.85	109650.00	112972.47
11 B	101 ug/l	3.30	100.00	90 - 110		224000.91	227343.72	229627.34
23 Na	4876 ug/l	11.93	5000.00	90 - 110		23867816.00	23830536.00	24520182.00
24 Mg	4923 ug/l	11.93	5000.00	90 - 110		16202053.00	16089766.00	16582958.00
27 Al	496.7 ug/l	10.87	500.00	90 - 110		1876427.30	1891866.30	1908071.30
39 K	4882 ug/l	1.53	5000.00	90 - 110		1277638.40	1315086.50	1339371.80
40 Ca	4922 ug/l	11.69	5000.00	90 - 110		37952340.00	38711436.00	39550552.00
45 Sc	--------	--------		--- ##### - #####		36211.41	36657.77	39725.75
47 Ti	50.22 ug/l	5.07	50.00	90 - 110		43511.22	43681.63	44750.64
51 V	48.37 ug/l	1.52	50.00	90 - 110		84283.71	86455.79	88214.74
52 Cr	48.45 ug/l	2.52	50.00	90 - 110		101271.45	102961.70	103791.71
55 Mn	492.1 ug/l	2.48	500.00	90 - 110		7648330.50	7705788.00	7757640.00
56 Fe	4901 ug/l	9.83	5000.00	90 - 110		58891400.00	59281264.00	60346784.00
59 Co	47.85 ug/l	2.87	50.00	90 - 110		549928.25	550017.00	558071.56
60 Ni	49.15 ug/l	2.63	50.00	90 - 110		44240.39	44837.44	45214.95
63 Cu	49.14 ug/l	2.03	50.00	90 - 110		115900.83	118832.53	120217.30
66 Zn	49.37 ug/l	2.13	50.00	90 - 110		68725.66	69789.73	69733.16
75 As	48.46 ug/l	2.39	50.00	90 - 110		8787.78	8973.55	9041.58
78 Se	49.24 ug/l	9.68	50.00	90 - 110		17643.54	17642.53	17917.46
88 Sr	48.76 ug/l	4.89	50.00	90 - 110		1017573.90	1029350.80	1033831.10
95 Mo	49.68 ug/l	4.19	50.00	90 - 110		146324.89	144994.17	146143.59
107 Ag	50.45 ug/l	4.46	50.00	90 - 110		419542.66	422395.19	427232.34
111 Cd	50 ug/l	3.65	50.00	90 - 110		90119.97	89955.86	89687.16
118 Sn	49.48 ug/l	4.56	50.00	90 - 110		282537.41	282317.38	286458.25
121 Sb	49.47 ug/l	4.39	50.00	90 - 110		261670.00	262802.34	265587.59
137 Ba	49.75 ug/l	4.14	50.00	90 - 110		139529.48	139778.33	140660.02
202 Hg	2.499 ug/l	3.92	2.50	90 - 110		4807.73	4738.38	4768.05
205 Tl	9.985 ug/l	5.06	10.00	90 - 110		160192.45	161827.77	160637.63
208 Pb	50.01 ug/l	5.65	50.00	90 - 110		1103718.60	1107478.90	1113641.80
232 Th	48.29 ug/l	6.67		--- ##### - #####		1285155.30	1279202.90	1352359.90
238 U	48.4 ug/l	6.24		--- ##### - #####		1290194.10	1309283.80	1364502.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	510324.41	3.60	572657.25	89.1	60 - 125		494530.03	530502.31	505940.81
45 Sc	485310.63	10.56	523286.00	92.7	60 - 125		479037.91	539387.25	437506.72
45 Sc	582351.38	3.83	603286.69	96.5	60 - 125		579791.69	605815.81	561446.75
74 Ge	159840.64	8.92	170650.48	93.7	60 - 125		158762.98	174606.69	146152.25
74 Ge	23142.96	3.69	24862.19	93.1	60 - 125		22376.02	22989.00	24063.86
74 Ge	150553.69	2.24	155795.36	96.6	60 - 125		149452.13	154341.72	147867.20
89 Y	978840.38	4.69	1011968.20	96.7	60 - 125		972519.38	1027607.50	936394.44
115 In	937046.75	3.80	989458.81	94.7	60 - 125		936851.88	972740.63	901547.88
159 Tb	1315568.10	5.12	1388283.80	94.8	60 - 125		1341204.60	1366331.10	1239168.40
209 Bi	761650.75	3.58	829936.50	91.8	60 - 125		764648.19	787312.19	732991.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\040_CCB.D\040_CCB.D#
Date Acquired: Dec 27 2012 09:52 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.002494	0.002494	ug/l	146.91	#VALUE!		0.00	6.67	16.67
11 B # 3	1.65	1.65	ug/l	5.04	#VALUE!		9092.36	9122.39	9435.88
23 Na # 1	-4.576	-4.576	ug/l	5.93	#VALUE!		117339.48	118817.70	119297.56
24 Mg # 1	0.328	0.328	ug/l	23.06	#VALUE!		1916.83	1616.78	1453.43
27 Al # 1	0.01097	0.01097	ug/l	116.86	#VALUE!		913.38	986.72	1030.06
39 K # 2	0.1451	0.1451	ug/l	21.72	#VALUE!		6497.95	6658.03	6854.76
40 Ca # 1	1.111	1.111	ug/l	11.52	#VALUE!		114810.86	114888.30	116041.96
45 Sc # 2	----	--------		--------	#VALUE!		35471.10	35744.95	37332.41
47 Ti # 3	0.02525	0.02525	ug/l	68.12	#VALUE!		20.00	50.00	26.67
51 V # 2	0.007414	0.007414	ug/l	60.26	#VALUE!		123.33	128.89	145.56
52 Cr # 2	-0.004032	-0.004032	ug/l	94.67	#VALUE!		81.11	95.56	101.11
55 Mn # 3	0.01962	0.01962	ug/l	35.37	#VALUE!		1130.06	993.39	933.39
56 Fe # 1	0.3442	0.3442	ug/l	15.04	#VALUE!		16627.86	15717.08	15576.91
59 Co # 3	0.001551	0.001551	ug/l	38.05	#VALUE!		50.00	40.00	53.33
60 Ni # 2	-0.09203	-0.09203	ug/l	9.10	#VALUE!		38.89	51.11	37.78
63 Cu # 2	-0.1534	-0.1534	ug/l	5.56	#VALUE!		150.00	186.67	196.67
66 Zn # 3	-0.03043	-0.03043	ug/l	90.31	#VALUE!		223.34	276.68	200.01
75 As # 2	0.01319	0.01319	ug/l	150.34	#VALUE!		13.00	11.33	19.00
78 Se # 1	0.03636	0.03636	ug/l	20.91	#VALUE!		38.67	33.67	38.67
88 Sr # 3	0.001896	0.001896	ug/l	35.70	#VALUE!		116.67	93.34	120.00
95 Mo # 3	0.06237	0.06237	ug/l	16.31	#VALUE!		236.68	253.34	193.34
107 Ag # 3	0.006555	0.006555	ug/l	32.75	#VALUE!		73.34	50.00	86.67
111 Cd # 3	-0.004485	-0.004485	ug/l	24.39	#VALUE!		23.26	19.92	19.94
118 Sn # 3	0.03966	0.03966	ug/l	15.86	#VALUE!		420.02	496.69	476.69
121 Sb # 3	0.347	0.347	ug/l	6.70	#VALUE!		2206.88	2153.53	1973.51
137 Ba # 3	0.003155	0.003155	ug/l	19.53	#VALUE!		23.33	26.67	26.67
202 Hg # 3	0.01771	0.01771	ug/l	8.13	#VALUE!		76.33	72.00	77.33
205 Tl # 3	0.004817	0.004817	ug/l	30.66	#VALUE!		103.34	143.34	150.01
208 Pb # 3	0.002273	0.002273	ug/l	20.69	#VALUE!		260.01	253.34	273.34
232 Th # 3	0.0901	0.0901	ug/l	7.70	#VALUE!		2997.05	2660.32	2666.98
238 U # 3	0.003338	0.003338	ug/l	29.70	#VALUE!		133.34	76.67	106.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	531508.06	2.11	572657.25	92.8	60 - 125		518582.34	538822.94	537118.88
45 Sc # 1	485930.81	1.48	523286.00	92.9	60 - 125		482243.63	481341.94	494206.97
45 Sc # 3	587539.50	1.73	603286.69	97.4	60 - 125		576376.50	596179.50	590062.38
74 Ge # 1	161309.77	0.66	170650.48	94.5	60 - 125		160721.91	160673.98	162533.44
74 Ge # 2	23252.29	2.68	24862.19	93.5	60 - 125		22670.82	23175.88	23910.17
74 Ge # 3	153399.50	0.94	155795.36	98.5	60 - 125		151792.06	153855.36	154551.08
89 Y # 3	998422.81	1.27	1011968.20	98.7	60 - 125		985102.81	999864.44	1010301.00
115 In # 3	969999.06	0.54	989458.81	98.0	60 - 125		964128.13	974276.00	971592.88
159 Tb # 3	1343662.80	0.87	1388283.80	96.8	60 - 125		1330910.30	1353685.30	1346392.80
209 Bi # 3	801179.69	0.17	829936.50	96.5	60 - 125		799591.94	801857.88	802089.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\041SMPL.D\041SMPL.D#
Date Acquired: Dec 27 2012 10:00 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41601-a-1-a
Misc Info: 3005 1/5
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00533	0.00533	ug/l	50.47	100.00		6.67	16.67	16.67
11 B	# 3	1.82	1.82	ug/l	4.90	1800.00		8838.90	9125.75	9245.78
23 Na	# 1	630.8	630.8	ug/l	2.71	81000.00		3051467.50	3131490.30	3201025.30
24 Mg	# 1	186.3	186.3	ug/l	3.50	81000.00		587774.38	595567.38	605689.00
27 Al	# 1	25.34	25.34	ug/l	3.74	81000.00		92886.10	94110.28	95163.59
39 K	# 2	187.8	187.8	ug/l	9.12	81000.00		53951.21	56498.79	57866.13
40 Ca	# 1	453.3	453.3	ug/l	4.90	81000.00		3534392.50	3529303.30	3549052.00
45 Sc	# 2	----	--------		--------	#VALUE!		37018.90	32521.50	35970.92
47 Ti	# 3	1.12	1.12	ug/l	6.34	1620.00		973.39	923.39	1060.06
51 V	# 2	0.2216	0.2216	ug/l	11.67	1800.00		496.68	525.57	500.01
52 Cr	# 2	0.06232	0.06232	ug/l	23.04	1800.00		215.56	208.89	266.67
55 Mn	# 3	18.34	18.34	ug/l	3.41	1800.00		286721.38	290201.53	288320.53
56 Fe	# 1	131.8	131.8	ug/l	2.82	81000.00		1558729.40	1577358.50	1593415.30
59 Co	# 3	0.2102	0.2102	ug/l	2.91	1800.00		2483.58	2476.91	2426.88
60 Ni	# 2	0.1852	0.1852	ug/l	6.85	1800.00		293.34	276.67	304.45
63 Cu	# 2	-0.06344	-0.06344	ug/l	15.38	1800.00		405.56	344.45	417.79
66 Zn	# 3	0.4546	0.4546	ug/l	10.23	1800.00		863.38	903.38	963.39
75 As	# 2	0.1659	0.1659	ug/l	6.81	100.00		42.00	41.33	42.67
78 Se	# 1	0.01541	0.01541	ug/l	68.20	100.00		30.67	25.00	29.00
88 Sr	# 3	4.016	4.016	ug/l	4.17	1800.00		86475.53	86271.64	86888.12
95 Mo	# 3	0.05561	0.05561	ug/l	9.82	1800.00		196.67	210.01	216.68
107 Ag	# 3	0.003063	0.003063	ug/l	55.66	100.00		36.67	26.67	56.67
111 Cd	# 3	0.0002353	0.0002353	ug/l	1368.50	100.00		33.27	33.27	23.26
118 Sn	# 3	0.06257	0.06257	ug/l	11.27	1800.00		660.03	593.36	556.69
121 Sb	# 3	0.2965	0.2965	ug/l	1.20	100.00		1896.83	1760.15	1866.83
137 Ba	# 3	2.419	2.419	ug/l	5.55	1800.00		6954.99	7145.03	7175.12
202 Hg	# 3	0.0009509	0.0009509	ug/l	156.90	5.00		40.00	42.67	43.67
205 Tl	# 3	0.003153	0.003153	ug/l	27.77	20.00		123.34	86.67	110.00
208 Pb	# 3	0.02122	0.02122	ug/l	6.27	1800.00		763.37	646.69	700.03
232 Th	# 3	0.05821	0.05821	ug/l	4.70	#VALUE!		2010.21	1850.17	1790.16
238 U	# 3	0.006494	0.006494	ug/l	21.88	#VALUE!		253.34	163.34	180.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	501758.59	1.52	572657.25	87.6	60 - 125		500184.25	495024.38	510067.19
45 Sc	# 1	465631.63	4.78	523286.00	89.0	60 - 125		440688.66	472707.03	483499.16
45 Sc	# 3	579205.81	4.16	603286.69	96.0	60 - 125		601932.31	553894.81	581790.38
74 Ge	# 1	155525.42	3.78	170650.48	91.1	60 - 125		148856.39	157784.19	159935.70
74 Ge	# 2	22935.31	5.74	24862.19	92.2	60 - 125		24110.53	21511.72	23183.67
74 Ge	# 3	150944.91	2.81	155795.36	96.9	60 - 125		155376.61	146926.77	150531.36
89 Y	# 3	1000381.80	4.28	1011968.20	98.9	60 - 125		1043039.60	957342.06	1000763.50
115 In	# 3	974605.00	4.17	989458.81	98.5	60 - 125		1014000.30	932844.56	976970.00
159 Tb	# 3	1364516.60	3.95	1388283.80	98.3	60 - 125		1421116.60	1313755.90	1358677.50
209 Bi	# 3	808101.56	3.22	829936.50	97.4	60 - 125		835071.69	783188.19	806044.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\042SMPL.D\042SMPL.D#
Date Acquired: Dec 27 2012 10:07 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41601-a-2-a
Misc Info: 3005 1/5
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005832	0.005832	ug/l	38.20	100.00		10.00	13.33	20.00
11 B	# 3	1.583	1.583	ug/l	5.39	1800.00		8398.68	8275.34	8982.28
23 Na	# 1	673	673	ug/l	4.55	81000.00		3543286.30	3592402.00	3618220.30
24 Mg	# 1	316.9	316.9	ug/l	4.93	81000.00		1081150.30	1100266.10	1095314.50
27 Al	# 1	9.047	9.047	ug/l	3.29	81000.00		36892.12	35317.32	38284.95
39 K	# 2	240.7	240.7	ug/l	1.54	81000.00		69117.56	72268.88	74220.02
40 Ca	# 1	703.3	703.3	ug/l	4.81	81000.00		5836669.00	5840736.50	5884655.00
45 Sc	# 2	----	--------		--------	#VALUE!		35160.62	36509.70	37316.93
47 Ti	# 3	0.5057	0.5057	ug/l	10.20	1620.00		416.68	443.35	503.35
51 V	# 2	0.1409	0.1409	ug/l	10.70	1800.00		356.67	354.45	413.34
52 Cr	# 2	0.03038	0.03038	ug/l	34.73	1800.00		140.00	170.00	192.23
55 Mn	# 3	89.31	89.31	ug/l	2.78	1800.00		1405843.10	1436282.50	1426528.50
56 Fe	# 1	186.4	186.4	ug/l	4.23	81000.00		2375548.00	2360728.30	2338844.50
59 Co	# 3	0.7255	0.7255	ug/l	1.91	1800.00		8875.68	8282.09	8518.90
60 Ni	# 2	0.1234	0.1234	ug/l	15.07	1800.00		254.45	236.67	232.23
63 Cu	# 2	-0.1066	-0.1066	ug/l	13.72	1800.00		245.56	313.34	320.01
66 Zn	# 3	0.3982	0.3982	ug/l	10.34	1800.00		833.38	893.38	803.38
75 As	# 2	0.1478	0.1478	ug/l	6.83	100.00		36.67	41.33	41.00
78 Se	# 1	0.01037	0.01037	ug/l	14.05	100.00		28.00	27.67	28.67
88 Sr	# 3	6.813	6.813	ug/l	4.18	1800.00		148996.11	149877.47	149228.48
95 Mo	# 3	0.03357	0.03357	ug/l	15.10	1800.00		150.01	150.01	126.67
107 Ag	# 3	0.0006435	0.0006435	ug/l	93.82	100.00		13.33	20.00	23.33
111 Cd	# 3	-0.0005306	-0.0005306	ug/l	503.20	100.00		33.29	29.95	23.29
118 Sn	# 3	0.05859	0.05859	ug/l	16.71	1800.00		540.02	616.70	596.69
121 Sb	# 3	0.1968	0.1968	ug/l	2.01	100.00		1366.76	1246.74	1296.76
137 Ba	# 3	3.403	3.403	ug/l	4.45	1800.00		10036.59	10180.06	10036.58
202 Hg	# 3	0.005777	0.005777	ug/l	18.57	5.00		53.67	52.33	49.67
205 Tl	# 3	0.003964	0.003964	ug/l	8.77	20.00		130.01	110.00	120.00
208 Pb	# 3	0.005073	0.005073	ug/l	58.92	1800.00		413.35	310.01	270.01
232 Th	# 3	0.03196	0.03196	ug/l	5.30	#VALUE!		1170.08	1046.74	1173.42
238 U	# 3	0.00215	0.00215	ug/l	20.32	#VALUE!		76.67	56.67	83.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	501231.41	2.24	572657.25	87.5	60 - 125		496805.50	492906.75	513981.91
45 Sc	# 1	501829.81	5.32	523286.00	95.9	60 - 125		484458.59	488475.50	532555.25
45 Sc	# 3	584595.69	2.89	603286.69	96.9	60 - 125		597617.00	565539.31	590630.81
74 Ge	# 1	164938.59	3.56	170650.48	96.7	60 - 125		161424.45	161680.75	171710.56
74 Ge	# 2	23443.66	2.19	24862.19	94.3	60 - 125		22894.42	23523.04	23913.50
74 Ge	# 3	153159.56	1.74	155795.36	98.3	60 - 125		155472.92	150252.92	153752.84
89 Y	# 3	1018096.10	3.79	1011968.20	100.6	60 - 125		1042129.90	973582.69	1038575.90
115 In	# 3	985285.69	3.58	989458.81	99.6	60 - 125		1014561.10	946134.56	995161.31
159 Tb	# 3	1364590.50	4.13	1388283.80	98.3	60 - 125		1402548.90	1299766.40	1391456.30
209 Bi	# 3	808511.19	2.58	829936.50	97.4	60 - 125		828242.56	786752.13	810538.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\043SMPL.D\043SMPL.D#
Date Acquired: Dec 27 2012 10:15 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41601-a-3-a
Misc Info: 3005 1/5
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01135	0.01135	ug/l	47.26	100.00		23.33	16.67	40.00
11 B	# 3	1.534	1.534	ug/l	5.01	1800.00		8478.74	8722.18	8552.13
23 Na	# 1	816.2	816.2	ug/l	0.48	81000.00		4214407.50	4275115.50	4322298.50
24 Mg	# 1	639.4	639.4	ug/l	1.05	81000.00		2166788.00	2176591.00	2197231.80
27 Al	# 1	2.116	2.116	ug/l	2.16	81000.00		9252.52	9112.39	9375.88
39 K	# 2	386.8	386.8	ug/l	1.42	81000.00		111039.38	111723.27	114580.24
40 Ca	# 1	1326	1326	ug/l	0.79	81000.00		10705293.00	10790950.00	10980447.00
45 Sc	# 2	----	--------		--------	#VALUE!		35854.04	36440.69	37859.08
47 Ti	# 3	0.2533	0.2533	ug/l	10.00	1620.00		223.34	220.01	263.34
51 V	# 2	0.1284	0.1284	ug/l	9.40	1800.00		360.01	367.79	337.78
52 Cr	# 2	0.0135	0.0135	ug/l	58.91	1800.00		115.56	152.22	128.89
55 Mn	# 3	349.2	349.2	ug/l	1.45	1800.00		5526582.50	5614944.50	5708266.50
56 Fe	# 1	1145	1145	ug/l	0.74	81000.00		14277440.00	14320131.00	14520253.00
59 Co	# 3	3.089	3.089	ug/l	0.54	1800.00		36643.56	36466.61	36931.00
60 Ni	# 2	0.5216	0.5216	ug/l	3.10	1800.00		610.02	600.01	631.13
63 Cu	# 2	0.08689	0.08689	ug/l	21.06	1800.00		798.91	741.13	767.80
66 Zn	# 3	1.028	1.028	ug/l	0.66	1800.00		1760.14	1726.79	1786.81
75 As	# 2	0.1902	0.1902	ug/l	10.29	100.00		45.67	52.33	46.00
78 Se	# 1	0.00852	0.00852	ug/l	64.88	100.00		24.67	29.00	28.33
88 Sr	# 3	13.34	13.34	ug/l	0.39	1800.00		290401.69	294157.19	295904.44
95 Mo	# 3	0.02522	0.02522	ug/l	20.35	1800.00		120.00	130.00	100.00
107 Ag	# 3	0.001262	0.001262	ug/l	96.04	100.00		16.67	36.67	20.00
111 Cd	# 3	0.007714	0.007714	ug/l	109.92	100.00		56.63	49.96	26.64
118 Sn	# 3	0.0946	0.0946	ug/l	13.70	1800.00		793.38	883.38	733.37
121 Sb	# 3	0.1585	0.1585	ug/l	3.12	100.00		1073.40	1066.73	1130.07
137 Ba	# 3	8.425	8.425	ug/l	0.59	1800.00		24932.32	24962.31	25048.92
202 Hg	# 3	0.01236	0.01236	ug/l	23.98	5.00		58.33	69.67	68.67
205 Tl	# 3	0.007564	0.007564	ug/l	11.34	20.00		183.34	196.67	170.01
208 Pb	# 3	0.001097	0.001097	ug/l	136.92	1800.00		253.34	270.01	206.67
232 Th	# 3	0.02388	0.02388	ug/l	5.90	#VALUE!		940.06	900.05	866.72
238 U	# 3	0.001113	0.001113	ug/l	36.51	#VALUE!		53.34	30.00	43.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	509705.88	2.65	572657.25	89.0	60 - 125		494155.50	516629.69	518332.38
45 Sc	# 1	495769.91	1.61	523286.00	94.7	60 - 125		486821.63	498393.19	502094.91
45 Sc	# 3	591731.25	0.63	603286.69	98.1	60 - 125		589989.75	589220.13	595983.88
74 Ge	# 1	164248.70	1.13	170650.48	96.2	60 - 125		162137.25	164987.81	165621.09
74 Ge	# 2	23670.97	2.54	24862.19	95.2	60 - 125		23026.82	23771.10	24214.99
74 Ge	# 3	154618.80	1.16	155795.36	99.2	60 - 125		154651.98	152807.77	156396.67
89 Y	# 3	1020554.40	0.72	1011968.20	100.8	60 - 125		1014036.10	1019169.40	1028457.50
115 In	# 3	986001.88	0.82	989458.81	99.7	60 - 125		977997.06	985767.06	994241.56
159 Tb	# 3	1389524.00	1.88	1388283.80	100.1	60 - 125		1360831.60	1395759.00	1411981.60
209 Bi	# 3	813192.38	0.46	829936.50	98.0	60 - 125		808944.06	814661.13	815971.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\044SMPL.D\044SMPL.D#
Date Acquired: Dec 27 2012 10:22 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41601-a-4-a
Misc Info: 3005 1/5
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0006057	0.0006057	ug/l	430.25	100.00		0.00	0.00	10.00
11 B	# 3	1.339	1.339	ug/l	3.39	1800.00		7915.18	8081.92	8428.76
23 Na	# 1	674.9	674.9	ug/l	1.14	81000.00		3508658.30	3610560.30	3628077.50
24 Mg	# 1	313.4	313.4	ug/l	0.56	81000.00		1072286.00	1075525.40	1082576.50
27 Al	# 1	5.601	5.601	ug/l	3.07	81000.00		23590.20	22560.94	23061.76
39 K	# 2	238.7	238.7	ug/l	1.52	81000.00		70579.47	73105.41	74681.11
40 Ca	# 1	683.9	683.9	ug/l	0.41	81000.00		5634279.00	5681000.00	5715963.00
45 Sc	# 2	----	--------		--------	#VALUE!		36178.03	37053.01	37712.08
47 Ti	# 3	0.3924	0.3924	ug/l	11.77	1620.00		370.01	393.35	316.68
51 V	# 2	0.148	0.148	ug/l	12.80	1800.00		411.12	365.56	407.79
52 Cr	# 2	0.01753	0.01753	ug/l	31.80	1800.00		145.56	131.11	150.00
55 Mn	# 3	2.097	2.097	ug/l	1.38	1800.00		35033.78	34920.23	34369.15
56 Fe	# 1	30.34	30.34	ug/l	0.81	81000.00		390601.41	395679.38	396228.41
59 Co	# 3	0.01297	0.01297	ug/l	13.84	1800.00		163.34	206.67	186.67
60 Ni	# 2	0.1097	0.1097	ug/l	21.91	1800.00		248.89	220.00	230.00
63 Cu	# 2	-0.1042	-0.1042	ug/l	1.55	1800.00		296.67	306.67	310.01
66 Zn	# 3	0.8299	0.8299	ug/l	3.46	1800.00		1436.76	1500.10	1526.78
75 As	# 2	0.1173	0.1173	ug/l	9.34	100.00		32.67	33.67	37.67
78 Se	# 1	-0.00215	-0.00215	ug/l	193.35	100.00		25.00	23.33	22.00
88 Sr	# 3	6.315	6.315	ug/l	0.47	1800.00		137672.92	137212.77	139411.31
95 Mo	# 3	0.02123	0.02123	ug/l	34.78	1800.00		130.00	93.34	90.00
107 Ag	# 3	0.001004	0.001004	ug/l	75.70	100.00		16.67	30.00	20.00
111 Cd	# 3	-0.001746	-0.001746	ug/l	263.06	100.00		29.96	33.30	16.64
118 Sn	# 3	0.05693	0.05693	ug/l	13.86	1800.00		583.36	530.03	616.69
121 Sb	# 3	0.1555	0.1555	ug/l	5.59	100.00		1023.40	1076.73	1123.40
137 Ba	# 3	1.797	1.797	ug/l	2.23	1800.00		5184.26	5424.37	5437.70
202 Hg	# 3	0.0108	0.0108	ug/l	37.13	5.00		67.67	53.00	67.00
205 Tl	# 3	0.001459	0.001459	ug/l	177.93	20.00		43.33	130.01	66.67
208 Pb	# 3	0.007353	0.007353	ug/l	36.23	1800.00		460.02	360.01	356.68
232 Th	# 3	0.01773	0.01773	ug/l	16.88	#VALUE!		826.72	663.37	690.04
238 U	# 3	0.001488	0.001488	ug/l	27.31	#VALUE!		56.67	40.00	63.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	508646.66	2.32	572657.25	88.8	60 - 125		496136.56	510187.19	519616.28
45 Sc	# 1	499386.53	0.75	523286.00	95.4	60 - 125		495097.66	501947.97	501114.00
45 Sc	# 3	593064.75	0.76	603286.69	98.3	60 - 125		588875.31	592498.44	597820.50
74 Ge	# 1	164913.52	0.79	170650.48	96.6	60 - 125		164027.05	166417.42	164296.06
74 Ge	# 2	23931.34	3.33	24862.19	96.3	60 - 125		23011.26	24418.62	24364.14
74 Ge	# 3	156161.45	0.34	155795.36	100.2	60 - 125		155700.98	156043.56	156739.80
89 Y	# 3	1014363.00	0.41	1011968.20	100.2	60 - 125		1014407.90	1010150.70	1018530.30
115 In	# 3	987213.19	0.87	989458.81	99.8	60 - 125		980542.06	996863.00	984234.69
159 Tb	# 3	1397773.60	0.98	1388283.80	100.7	60 - 125		1382383.30	1402054.90	1408882.80
209 Bi	# 3	815384.25	0.26	829936.50	98.2	60 - 125		816190.19	813000.06	816962.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\045SMPL.D\045SMPL.D#
Date Acquired: Dec 27 2012 10:30 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41602-a-1-a
Misc Info: 3005 1/5
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0001185	0.0001185	ug/l	743.71	100.00		0.00	3.33	3.33
11 B	# 3	1.399	1.399	ug/l	4.76	1800.00		7828.43	8405.36	8338.69
23 Na	# 1	1982	1982	ug/l	1.96	81000.00		9918918.00	10443548.00	10305092.00
24 Mg	# 1	535.7	535.7	ug/l	1.05	81000.00		1796100.60	1831131.00	1885292.00
27 Al	# 1	1.955	1.955	ug/l	3.86	81000.00		8642.21	8899.00	8448.76
39 K	# 2	505.6	505.6	ug/l	4.45	81000.00		140789.66	142900.81	146893.11
40 Ca	# 1	4265	4265	ug/l	0.56	81000.00		34324488.00	34572344.00	35450500.00
45 Sc	# 2	----	--------		--------	#VALUE!		32636.09	36647.79	37513.89
47 Ti	# 3	0.4829	0.4829	ug/l	11.80	1620.00		396.68	503.36	416.68
51 V	# 2	0.1236	0.1236	ug/l	9.47	1800.00		302.23	374.45	356.67
52 Cr	# 2	0.01183	0.01183	ug/l	46.49	1800.00		131.11	120.00	130.00
55 Mn	# 3	1.139	1.139	ug/l	2.21	1800.00		19300.59	19140.33	18933.44
56 Fe	# 1	4.548	4.548	ug/l	1.01	81000.00		68474.27	68624.08	70694.98
59 Co	# 3	0.003087	0.003087	ug/l	29.27	1800.00		76.67	66.67	56.67
60 Ni	# 2	0.1341	0.1341	ug/l	7.97	1800.00		234.45	267.78	252.23
63 Cu	# 2	0.4879	0.4879	ug/l	7.24	1800.00		1715.65	1717.87	1773.43
66 Zn	# 3	0.5722	0.5722	ug/l	14.21	1800.00		1213.41	993.39	1116.73
75 As	# 2	1.118	1.118	ug/l	3.19	100.00		210.34	218.34	234.00
78 Se	# 1	-0.00509	-0.00509	ug/l	82.65	100.00		24.00	21.67	21.33
88 Sr	# 3	9.833	9.833	ug/l	1.38	1800.00		215156.88	216832.86	217241.20
95 Mo	# 3	0.178	0.178	ug/l	6.06	1800.00		630.03	586.69	556.69
107 Ag	# 3	0.0006208	0.0006208	ug/l	171.23	100.00		30.00	13.33	13.33
111 Cd	# 3	0.004625	0.004625	ug/l	137.25	100.00		26.47	49.81	39.82
118 Sn	# 3	0.0536	0.0536	ug/l	15.78	1800.00		546.69	610.03	516.69
121 Sb	# 3	0.1272	0.1272	ug/l	14.98	100.00		983.39	786.71	983.39
137 Ba	# 3	1.512	1.512	ug/l	2.08	1800.00		4630.76	4504.06	4404.03
202 Hg	# 3	-0.00131	-0.00131	ug/l	223.05	5.00		43.00	37.67	31.67
205 Tl	# 3	9.244E-005	9.244E-005	ug/l	904.15	20.00		70.00	53.33	43.33
208 Pb	# 3	0.004136	0.004136	ug/l	42.00	1800.00		320.01	270.01	346.68
232 Th	# 3	0.01376	0.01376	ug/l	8.10	#VALUE!		633.37	580.03	596.70
238 U	# 3	0.06896	0.06896	ug/l	2.12	#VALUE!		2033.54	1996.86	1973.53

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	503607.44	3.22	572657.25	87.9	60 - 125		486128.69	506511.44	518182.06
45 Sc	# 1	498657.97	1.42	523286.00	95.3	60 - 125		491544.28	498700.47	505729.19
45 Sc	# 3	589741.06	1.87	603286.69	97.8	60 - 125		577141.25	597660.13	594421.75
74 Ge	# 1	164839.97	1.01	170650.48	96.6	60 - 125		164145.02	163642.41	166732.53
74 Ge	# 2	23475.61	5.81	24862.19	94.4	60 - 125		21923.31	24028.11	24475.41
74 Ge	# 3	155457.75	1.16	155795.36	99.8	60 - 125		153606.06	155542.92	157224.25
89 Y	# 3	1021130.80	0.93	1011968.20	100.9	60 - 125		1031143.90	1012175.20	1020073.30
115 In	# 3	989340.81	0.93	989458.81	100.0	60 - 125		998930.00	980562.25	988530.06
159 Tb	# 3	1378522.80	1.25	1388283.80	99.3	60 - 125		1359248.50	1392445.40	1383874.30
209 Bi	# 3	804670.44	0.75	829936.50	97.0	60 - 125		798313.50	810338.81	805358.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\046SMPL.D\046SMPL.D#
Date Acquired: Dec 27 2012 10:37 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41602-a-2-a
Misc Info: 3005 1/5
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01096	0.01096	ug/l	19.82	100.00		20.00	30.00	26.67
11 B	# 3	2.456	2.456	ug/l	2.19	1800.00		10269.63	10489.78	10729.92
23 Na	# 1	898.6	898.6	ug/l	0.54	81000.00		4603073.50	4728488.50	4725681.00
24 Mg	# 1	1333	1333	ug/l	0.32	81000.00		4465309.00	4552628.00	4617240.00
27 Al	# 1	47.53	47.53	ug/l	0.69	81000.00		183908.64	189235.70	188482.50
39 K	# 2	2323	2323	ug/l	4.46	81000.00		602657.63	622169.75	643591.25
40 Ca	# 1	1987	1987	ug/l	0.69	81000.00		15962633.00	16160080.00	16354206.00
45 Sc	# 2	----	--------		--------	#VALUE!		35945.43	35362.64	34718.75
47 Ti	# 3	1.832	1.832	ug/l	4.71	1620.00		1560.11	1663.46	1730.13
51 V	# 2	0.5128	0.5128	ug/l	2.40	1800.00		1024.48	1028.93	1023.37
52 Cr	# 2	0.134	0.134	ug/l	6.08	1800.00		371.12	375.56	398.90
55 Mn	# 3	189	189	ug/l	0.66	1800.00		3084026.50	3084497.80	3066243.80
56 Fe	# 1	814.7	814.7	ug/l	0.92	81000.00		10210039.00	10226382.00	10210977.00
59 Co	# 3	1.39	1.39	ug/l	0.79	1800.00		16794.71	16904.86	16514.40
60 Ni	# 2	0.3148	0.3148	ug/l	6.08	1800.00		436.68	387.79	404.45
63 Cu	# 2	0.5384	0.5384	ug/l	6.72	1800.00		1770.10	1873.45	1822.33
66 Zn	# 3	1.16	1.16	ug/l	4.85	1800.00		1870.15	2043.51	2003.50
75 As	# 2	0.2707	0.2707	ug/l	5.61	100.00		59.33	61.00	63.67
78 Se	# 1	0.02667	0.02667	ug/l	33.04	100.00		37.00	30.67	34.33
88 Sr	# 3	5.231	5.231	ug/l	0.35	1800.00		113847.51	114884.57	116269.65
95 Mo	# 3	0.07116	0.07116	ug/l	7.88	1800.00		236.67	263.34	273.34
107 Ag	# 3	0.002273	0.002273	ug/l	125.03	100.00		10.00	30.00	60.00
111 Cd	# 3	0.004186	0.004186	ug/l	84.83	100.00		29.93	39.92	43.25
118 Sn	# 3	0.06163	0.06163	ug/l	2.50	1800.00		586.70	610.03	610.03
121 Sb	# 3	0.138	0.138	ug/l	4.87	100.00		926.72	1013.40	973.39
137 Ba	# 3	3.293	3.293	ug/l	0.51	1800.00		9649.67	9733.05	9833.13
202 Hg	# 3	-0.0005743	-0.0005743	ug/l	215.39	5.00		37.33	41.67	37.67
205 Tl	# 3	0.005717	0.005717	ug/l	21.46	20.00		163.34	160.01	126.67
208 Pb	# 3	0.07259	0.07259	ug/l	4.10	1800.00		1953.45	1906.77	1826.77
232 Th	# 3	0.02921	0.02921	ug/l	9.36	#VALUE!		1120.08	960.06	1053.41
238 U	# 3	0.006215	0.006215	ug/l	20.56	#VALUE!		160.01	176.67	230.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	504251.88	1.94	572657.25	88.1	60 - 125		492952.84	509785.09	510017.75
45 Sc	# 1	495631.31	1.78	523286.00	94.7	60 - 125		485791.72	498240.84	502861.31
45 Sc	# 3	594977.25	0.73	603286.69	98.6	60 - 125		590236.38	598709.44	595985.81
74 Ge	# 1	163956.88	0.90	170650.48	96.1	60 - 125		162716.28	163554.70	165599.66
74 Ge	# 2	22987.09	1.89	24862.19	92.5	60 - 125		23412.86	22543.76	23004.64
74 Ge	# 3	156582.44	0.80	155795.36	100.5	60 - 125		155946.88	158023.69	155776.72
89 Y	# 3	1019541.00	0.71	1011968.20	100.7	60 - 125		1012658.50	1018927.70	1027036.90
115 In	# 3	982156.75	0.71	989458.81	99.3	60 - 125		974129.75	986102.50	986238.13
159 Tb	# 3	1372028.90	0.27	1388283.80	98.8	60 - 125		1369578.10	1370275.60	1376232.90
209 Bi	# 3	803745.06	0.25	829936.50	96.8	60 - 125		806087.38	802445.50	802702.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\047SMPL.D\047SMPL.D#
Date Acquired: Dec 27 2012 10:44 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41603-a-1-a
Misc Info: 3005 1/5
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.04074	0.04074	ug/l	21.13	100.00		80.00	76.67	113.34
11 B	# 3	0.7636	0.7636	ug/l	2.80	1800.00		6601.31	6948.09	6981.42
23 Na	# 1	216.1	216.1	ug/l	1.29	81000.00		1223430.90	1265532.80	1243227.30
24 Mg	# 1	357	357	ug/l	0.81	81000.00		1219997.50	1218892.60	1235294.80
27 Al	# 1	20.58	20.58	ug/l	0.63	81000.00		81014.73	83007.25	82270.55
39 K	# 2	359.6	359.6	ug/l	0.59	81000.00		104270.73	106523.13	107488.05
40 Ca	# 1	115.9	115.9	ug/l	1.16	81000.00		1030890.90	1061373.60	1061228.60
45 Sc	# 2	----	--------		--------	#VALUE!		35799.53	36578.77	38049.54
47 Ti	# 3	1.71	1.71	ug/l	5.21	1620.00		1553.44	1560.11	1443.43
51 V	# 2	0.3881	0.3881	ug/l	3.68	1800.00		808.91	866.69	836.69
52 Cr	# 2	0.04313	0.04313	ug/l	18.19	1800.00		180.00	194.45	221.11
55 Mn	# 3	30.28	30.28	ug/l	0.26	1800.00		484897.81	492677.22	496541.75
56 Fe	# 1	35.6	35.6	ug/l	0.86	81000.00		456537.38	465778.63	461756.41
59 Co	# 3	1.052	1.052	ug/l	3.62	1800.00		12924.85	12651.34	12251.04
60 Ni	# 2	0.4836	0.4836	ug/l	4.66	1800.00		574.46	562.24	616.68
63 Cu	# 2	0.3494	0.3494	ug/l	2.79	1800.00		1426.73	1402.29	1454.52
66 Zn	# 3	3.689	3.689	ug/l	1.90	1800.00		5684.38	5587.67	5614.35
75 As	# 2	0.1315	0.1315	ug/l	7.17	100.00		36.33	35.67	40.00
78 Se	# 1	0.03043	0.03043	ug/l	29.81	100.00		39.00	32.33	35.67
88 Sr	# 3	1.152	1.152	ug/l	1.46	1800.00		25241.61	25505.46	25154.89
95 Mo	# 3	0.01418	0.01418	ug/l	49.58	1800.00		106.67	63.34	80.00
107 Ag	# 3	0.0007396	0.0007396	ug/l	151.97	100.00		30.00	10.00	20.00
111 Cd	# 3	0.1831	0.1831	ug/l	12.39	100.00		426.65	369.99	343.32
118 Sn	# 3	0.06199	0.06199	ug/l	6.42	1800.00		583.36	623.36	630.03
121 Sb	# 3	0.1633	0.1633	ug/l	2.36	100.00		1113.41	1150.07	1116.74
137 Ba	# 3	15.15	15.15	ug/l	0.23	1800.00		45134.18	45257.82	45558.38
202 Hg	# 3	0.01133	0.01133	ug/l	12.31	5.00		61.00	66.33	62.33
205 Tl	# 3	0.01353	0.01353	ug/l	3.38	20.00		286.68	273.34	290.01
208 Pb	# 3	0.04532	0.04532	ug/l	9.29	1800.00		1353.40	1163.39	1300.06
232 Th	# 3	0.01064	0.01064	ug/l	15.09	#VALUE!		566.70	483.36	503.36
238 U	# 3	0.004367	0.004367	ug/l	19.03	#VALUE!		163.34	120.00	126.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	505909.09	2.65	572657.25	88.3	60 - 125		490975.00	509888.06	516864.22
45 Sc	# 1	498638.66	0.64	523286.00	95.3	60 - 125		494968.59	500866.09	500081.31
45 Sc	# 3	586563.13	1.03	603286.69	97.2	60 - 125		580472.88	586642.94	592573.50
74 Ge	# 1	165210.11	0.16	170650.48	96.8	60 - 125		164925.83	165468.97	165235.55
74 Ge	# 2	23911.29	1.83	24862.19	96.2	60 - 125		23488.49	23881.23	24364.14
74 Ge	# 3	155780.34	0.97	155795.36	100.0	60 - 125		154084.02	156268.70	156988.31
89 Y	# 3	1016851.60	1.04	1011968.20	100.5	60 - 125		1007068.00	1015353.90	1028132.70
115 In	# 3	994878.63	0.28	989458.81	100.5	60 - 125		993242.88	993293.44	998099.56
159 Tb	# 3	1380585.30	0.96	1388283.80	99.4	60 - 125		1371008.00	1375048.50	1395699.30
209 Bi	# 3	810471.94	0.83	829936.50	97.7	60 - 125		804715.38	808836.25	817864.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\048SMPL.D\048SMPL.D#
Date Acquired: Dec 27 2012 10:52 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41603-a-2-a
Misc Info: 3005 1/5
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.142	0.142	ug/l	3.07	100.00		300.01	323.34	310.01
11 B	# 3	0.8581	0.8581	ug/l	12.80	1800.00		7181.49	6924.76	7224.89
23 Na	# 1	420.9	420.9	ug/l	1.63	81000.00		2218176.80	2284283.00	2335143.80
24 Mg	# 1	657.7	657.7	ug/l	1.78	81000.00		2185681.80	2248985.50	2314424.50
27 Al	# 1	57.08	57.08	ug/l	0.76	81000.00		222180.78	226838.09	227068.84
39 K	# 2	479.3	479.3	ug/l	0.87	81000.00		135554.42	139255.11	142410.42
40 Ca	# 1	58.93	58.93	ug/l	0.22	81000.00		581966.13	584375.13	593470.19
45 Sc	# 2	----	--------		--------	#VALUE!		34757.60	37231.17	38085.04
47 Ti	# 3	2.248	2.248	ug/l	8.72	1620.00		1900.15	2210.20	1913.49
51 V	# 2	0.2329	0.2329	ug/l	7.89	1800.00		512.24	594.46	547.79
52 Cr	# 2	0.06357	0.06357	ug/l	4.03	1800.00		232.23	251.12	245.56
55 Mn	# 3	114.2	114.2	ug/l	1.04	1800.00		1824851.90	1874888.30	1856026.00
56 Fe	# 1	51.4	51.4	ug/l	1.23	81000.00		659349.50	649606.69	665559.69
59 Co	# 3	6.933	6.933	ug/l	0.70	1800.00		81717.86	83612.59	83441.85
60 Ni	# 2	1.223	1.223	ug/l	1.71	1800.00		1252.27	1266.72	1313.39
63 Cu	# 2	0.5276	0.5276	ug/l	2.65	1800.00		1857.89	1884.56	1861.22
66 Zn	# 3	7.273	7.273	ug/l	3.28	1800.00		10936.87	11016.93	10519.95
75 As	# 2	0.1346	0.1346	ug/l	6.35	100.00		36.67	40.00	37.00
78 Se	# 1	0.02238	0.02238	ug/l	57.33	100.00		30.00	29.33	38.33
88 Sr	# 3	0.3895	0.3895	ug/l	3.27	1800.00		8669.02	8725.73	9079.24
95 Mo	# 3	0.01187	0.01187	ug/l	12.65	1800.00		76.67	70.00	80.00
107 Ag	# 3	0.001758	0.001758	ug/l	64.28	100.00		26.67	20.00	40.00
111 Cd	# 3	0.004111	0.004111	ug/l	134.25	100.00		33.31	29.98	49.98
118 Sn	# 3	0.06796	0.06796	ug/l	10.00	1800.00		616.69	686.70	626.70
121 Sb	# 3	0.1308	0.1308	ug/l	3.32	100.00		910.05	953.39	943.39
137 Ba	# 3	14.84	14.84	ug/l	1.00	1800.00		44111.50	43322.65	44736.37
202 Hg	# 3	0.1176	0.1176	ug/l	3.17	5.00		279.67	270.00	282.34
205 Tl	# 3	0.01549	0.01549	ug/l	8.63	20.00		316.68	336.68	293.35
208 Pb	# 3	0.1013	0.1013	ug/l	7.69	1800.00		2680.19	2630.17	2393.48
232 Th	# 3	0.01482	0.01482	ug/l	13.91	#VALUE!		600.03	606.70	706.71
238 U	# 3	0.003033	0.003033	ug/l	17.90	#VALUE!		106.67	80.00	106.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	510505.56	2.36	572657.25	89.1	60 - 125		497413.53	512954.88	521148.31
45 Sc	# 1	497233.09	1.11	523286.00	95.0	60 - 125		492339.88	496136.66	503222.78
45 Sc	# 3	590437.81	1.17	603286.69	97.9	60 - 125		583294.69	590942.63	597076.19
74 Ge	# 1	164574.73	0.82	170650.48	96.4	60 - 125		163202.81	164617.56	165903.84
74 Ge	# 2	23896.45	2.07	24862.19	96.1	60 - 125		23330.54	24104.86	24253.97
74 Ge	# 3	155805.98	0.90	155795.36	100.0	60 - 125		154370.50	155866.06	157181.42
89 Y	# 3	1042868.10	0.78	1011968.20	103.1	60 - 125		1051223.80	1042331.30	1035049.40
115 In	# 3	987102.06	0.62	989458.81	99.8	60 - 125		986627.56	981209.38	993469.25
159 Tb	# 3	1376790.50	1.43	1388283.80	99.2	60 - 125		1354155.40	1386250.50	1389965.80
209 Bi	# 3	809473.94	0.52	829936.50	97.5	60 - 125		805084.88	813410.38	809926.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\049SMPL.D\049SMPL.D#
Date Acquired: Dec 27 2012 10:59 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41603-a-3-a
Misc Info: 3005 1/5
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01396	0.01396	ug/l	45.84	100.00		36.67	16.67	43.33
11 B	# 3	0.6764	0.6764	ug/l	12.27	1800.00		6621.31	6844.73	6631.35
23 Na	# 1	123	123	ug/l	0.89	81000.00		752990.38	774674.19	768743.81
24 Mg	# 1	261.9	261.9	ug/l	0.81	81000.00		876954.44	898212.56	903462.06
27 Al	# 1	81.4	81.4	ug/l	0.84	81000.00		318861.56	318244.66	322187.25
39 K	# 2	197.9	197.9	ug/l	0.89	81000.00		59792.23	61487.27	63149.19
40 Ca	# 1	34.83	34.83	ug/l	0.83	81000.00		385384.63	389990.63	394276.22
45 Sc	# 2	----	--------		--------	#VALUE!		36062.25	36822.61	38054.98
47 Ti	# 3	7.079	7.079	ug/l	3.74	1620.00		6127.85	6254.56	6601.33
51 V	# 2	0.4657	0.4657	ug/l	1.09	1800.00		954.48	977.81	1010.04
52 Cr	# 2	0.2724	0.2724	ug/l	4.55	1800.00		655.57	716.69	730.02
55 Mn	# 3	1.827	1.827	ug/l	0.65	1800.00		30181.78	30468.81	30312.17
56 Fe	# 1	121.6	121.6	ug/l	0.60	81000.00		1522711.40	1549882.00	1539128.30
59 Co	# 3	0.07763	0.07763	ug/l	6.52	1800.00		1000.06	976.72	896.72
60 Ni	# 2	0.3905	0.3905	ug/l	8.36	1800.00		462.23	488.90	541.12
63 Cu	# 2	0.08833	0.08833	ug/l	7.25	1800.00		776.69	764.47	803.36
66 Zn	# 3	2.635	2.635	ug/l	1.67	1800.00		3980.53	4163.93	4160.57
75 As	# 2	0.1011	0.1011	ug/l	8.94	100.00		30.67	30.00	34.00
78 Se	# 1	0.008316	0.008316	ug/l	103.17	100.00		29.33	28.67	23.67
88 Sr	# 3	0.5618	0.5618	ug/l	1.09	1800.00		12151.17	12474.73	12448.09
95 Mo	# 3	0.009341	0.009341	ug/l	47.69	1800.00		60.00	60.00	83.34
107 Ag	# 3	0.001126	0.001126	ug/l	98.67	100.00		13.33	33.33	23.33
111 Cd	# 3	0.003527	0.003527	ug/l	53.33	100.00		36.65	33.32	39.97
118 Sn	# 3	0.06774	0.06774	ug/l	16.50	1800.00		563.36	693.37	673.36
121 Sb	# 3	0.1299	0.1299	ug/l	7.00	100.00		880.05	993.39	923.39
137 Ba	# 3	2.901	2.901	ug/l	4.12	1800.00		8539.09	8392.34	8975.95
202 Hg	# 3	0.005834	0.005834	ug/l	57.27	5.00		59.00	50.67	46.67
205 Tl	# 3	0.004513	0.004513	ug/l	34.43	20.00		103.34	156.67	130.00
208 Pb	# 3	0.05896	0.05896	ug/l	6.63	1800.00		1486.75	1676.76	1583.42
232 Th	# 3	0.03129	0.03129	ug/l	8.47	#VALUE!		1023.40	1123.42	1193.41
238 U	# 3	0.005815	0.005815	ug/l	2.14	#VALUE!		173.34	180.01	183.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	509609.94	2.94	572657.25	89.0	60 - 125		492453.59	516405.16	519971.03
45 Sc	# 1	495420.91	0.80	523286.00	94.7	60 - 125		490866.50	497789.34	497606.84
45 Sc	# 3	592859.44	0.45	603286.69	98.3	60 - 125		590021.38	595358.25	593198.75
74 Ge	# 1	164166.75	0.45	170650.48	96.2	60 - 125		163335.02	164407.63	164757.63
74 Ge	# 2	23918.33	1.95	24862.19	96.2	60 - 125		23435.13	23952.45	24367.43
74 Ge	# 3	155780.13	1.02	155795.36	100.0	60 - 125		153963.61	156881.25	156495.56
89 Y	# 3	1015001.40	0.45	1011968.20	100.3	60 - 125		1010578.80	1019738.90	1014686.60
115 In	# 3	988654.06	0.74	989458.81	99.9	60 - 125		985229.38	997045.81	983687.06
159 Tb	# 3	1373807.30	0.71	1388283.80	99.0	60 - 125		1374674.60	1383060.00	1363687.40
209 Bi	# 3	810528.50	0.83	829936.50	97.7	60 - 125		803410.31	811386.31	816788.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\050SMPL.D\050SMPL.D#
Date Acquired: Dec 27 2012 11:07 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41603-a-4-a
Misc Info: 3005 1/5
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.09848	0.09848	ug/l	4.04	100.00		206.67	206.67	230.01
11 B	# 3	0.9023	0.9023	ug/l	7.07	1800.00		6941.42	7278.23	7211.54
23 Na	# 1	210.9	210.9	ug/l	0.41	81000.00		1191245.30	1210765.90	1208380.60
24 Mg	# 1	959.2	959.2	ug/l	0.75	81000.00		3210960.80	3286938.30	3259072.50
27 Al	# 1	21.9	21.9	ug/l	0.24	81000.00		85850.34	86284.77	86815.56
39 K	# 2	443.9	443.9	ug/l	0.62	81000.00		124056.66	128653.34	131569.77
40 Ca	# 1	159.7	159.7	ug/l	1.61	81000.00		1358040.30	1402218.50	1416081.60
45 Sc	# 2	----	--------		--------	#VALUE!		35517.90	36966.15	37351.36
47 Ti	# 3	0.6544	0.6544	ug/l	3.86	1620.00		593.36	563.36	613.36
51 V	# 2	0.2522	0.2522	ug/l	14.24	1800.00		640.02	537.79	563.35
52 Cr	# 2	0.03467	0.03467	ug/l	19.62	1800.00		168.89	166.67	198.89
55 Mn	# 3	297.5	297.5	ug/l	1.90	1800.00		4718897.00	4730922.50	4846400.50
56 Fe	# 1	205	205	ug/l	0.40	81000.00		2574827.50	2578141.80	2567225.50
59 Co	# 3	2.682	2.682	ug/l	2.78	1800.00		31009.93	31704.68	32439.03
60 Ni	# 2	1.382	1.382	ug/l	1.88	1800.00		1375.62	1394.51	1471.18
63 Cu	# 2	0.6877	0.6877	ug/l	2.02	1800.00		2152.37	2281.27	2297.94
66 Zn	# 3	8.107	8.107	ug/l	1.34	1800.00		11814.15	12014.26	11854.18
75 As	# 2	0.226	0.226	ug/l	16.88	100.00		55.00	47.00	62.33
78 Se	# 1	0.01664	0.01664	ug/l	26.21	100.00		28.33	31.67	30.67
88 Sr	# 3	1.886	1.886	ug/l	0.50	1800.00		44054.87	44265.36	43797.64
95 Mo	# 3	0.02891	0.02891	ug/l	19.92	1800.00		116.67	116.67	146.67
107 Ag	# 3	0.001296	0.001296	ug/l	119.60	100.00		16.67	16.67	40.00
111 Cd	# 3	0.03881	0.03881	ug/l	41.43	100.00		83.30	86.63	136.62
118 Sn	# 3	0.06349	0.06349	ug/l	10.47	1800.00		563.36	630.03	633.36
121 Sb	# 3	0.1323	0.1323	ug/l	7.56	100.00		993.39	886.72	916.72
137 Ba	# 3	8.694	8.694	ug/l	0.32	1800.00		25406.17	25616.70	25456.29
202 Hg	# 3	0.04455	0.04455	ug/l	3.73	5.00		125.00	129.67	133.33
205 Tl	# 3	0.1326	0.1326	ug/l	3.64	20.00		2316.90	2203.57	2330.25
208 Pb	# 3	0.08136	0.08136	ug/l	0.60	1800.00		2060.12	2113.46	2120.12
232 Th	# 3	0.01494	0.01494	ug/l	14.65	#VALUE!		633.37	573.36	706.70
238 U	# 3	0.0189	0.0189	ug/l	3.84	#VALUE!		560.03	570.03	536.69

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	505864.78	2.67	572657.25	88.3	60 - 125		492913.94	504827.75	519852.66
45 Sc	# 1	493036.72	0.70	523286.00	94.2	60 - 125		489193.00	493999.28	495917.81
45 Sc	# 3	588965.13	1.23	603286.69	97.6	60 - 125		582263.31	587963.56	596668.56
74 Ge	# 1	163601.81	0.33	170650.48	95.9	60 - 125		162996.00	163991.47	163817.94
74 Ge	# 2	23672.47	2.38	24862.19	95.2	60 - 125		23080.24	23734.42	24202.75
74 Ge	# 3	153978.52	0.57	155795.36	98.8	60 - 125		154995.92	153553.98	153385.66
89 Y	# 3	1081664.40	0.28	1011968.20	106.9	60 - 125		1078555.40	1084534.50	1081903.00
115 In	# 3	975002.56	0.22	989458.81	98.5	60 - 125		975174.44	977096.63	972736.44
159 Tb	# 3	1371273.50	1.04	1388283.80	98.8	60 - 125		1354873.40	1378729.60	1380217.80
209 Bi	# 3	804793.69	0.76	829936.50	97.0	60 - 125		800496.44	802053.75	811830.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\051_CCV.D\051_CCV.D#
Date Acquired: Dec 27 2012 11:14 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.62 ug/l	1.73	50.00	90 - 110		108980.14	112425.88	112683.05
11 B	98.18 ug/l	0.63	100.00	90 - 110		225553.22	227510.28	230880.86
23 Na	4832 ug/l	0.41	5000.00	90 - 110		24082240.00	24509392.00	24714196.00
24 Mg	4894 ug/l	1.39	5000.00	90 - 110		16187593.00	16564285.00	17020526.00
27 Al	496.3 ug/l	2.40	500.00	90 - 110		1862419.50	1949857.90	1993821.40
39 K	5042 ug/l	2.51	5000.00	90 - 110		1296463.00	1368214.00	1359070.50
40 Ca	4930 ug/l	1.52	5000.00	90 - 110		38628892.00	40131740.00	40431660.00
45 Sc	--------	--------		--- ##### - #####		33878.24	37282.37	38724.15
47 Ti	50.09 ug/l	1.67	50.00	90 - 110		44503.64	45419.08	45138.33
51 V	50.28 ug/l	3.22	50.00	90 - 110		87269.18	88922.55	90439.63
52 Cr	50.1 ug/l	3.62	50.00	90 - 110		103727.26	105197.38	106622.20
55 Mn	491.6 ug/l	0.42	500.00	90 - 110		7858306.50	7850095.50	7888844.00
56 Fe	4910 ug/l	0.69	5000.00	90 - 110		59803024.00	60937372.00	61030140.00
59 Co	48.02 ug/l	0.78	50.00	90 - 110		562072.13	573045.38	565915.63
60 Ni	50.98 ug/l	4.63	50.00	90 - 110		45891.07	45407.69	46637.33
63 Cu	50.89 ug/l	3.87	50.00	90 - 110		119991.07	121052.34	122946.94
66 Zn	49.86 ug/l	2.19	50.00	90 - 110		69773.05	72537.44	72664.61
75 As	50.87 ug/l	3.38	50.00	90 - 110		9144.63	9258.02	9474.13
78 Se	49.08 ug/l	0.50	50.00	90 - 110		17930.47	17859.74	18110.33
88 Sr	47.63 ug/l	2.22	50.00	90 - 110		1037505.70	1048268.50	1051336.60
95 Mo	49.22 ug/l	1.27	50.00	90 - 110		147067.33	148979.73	147853.39
107 Ag	49.92 ug/l	1.43	50.00	90 - 110		424747.97	431906.91	429656.75
111 Cd	49.77 ug/l	0.85	50.00	90 - 110		91232.44	91398.20	92387.35
118 Sn	49.33 ug/l	1.40	50.00	90 - 110		287991.81	292303.63	289074.66
121 Sb	49.41 ug/l	2.10	50.00	90 - 110		266539.53	273958.72	267768.06
137 Ba	48.99 ug/l	1.18	50.00	90 - 110		140122.19	141759.16	141640.44
202 Hg	2.517 ug/l	1.06	2.50	90 - 110		4840.41	4946.77	4859.08
205 Tl	9.94 ug/l	1.55	10.00	90 - 110		163556.06	163338.48	163631.98
208 Pb	49.42 ug/l	2.13	50.00	90 - 110		1110943.80	1122476.90	1121093.50
232 Th	48.69 ug/l	2.09		--- ##### - #####		1306541.10	1356787.80	1352033.50
238 U	48.43 ug/l	1.67		--- ##### - #####		1318740.90	1356517.00	1356959.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	526414.50	0.96	572657.25	91.9	60 - 125		524421.06	522645.41	532177.19
45 Sc	492966.50	1.13	523286.00	94.2	60 - 125		487717.19	492396.56	498785.75
45 Sc	596949.56	1.08	603286.69	98.9	60 - 125		596418.88	590810.13	603619.75
74 Ge	161518.77	0.55	170650.48	94.6	60 - 125		160638.84	161490.22	162427.19
74 Ge	22939.32	4.88	24862.19	92.3	60 - 125		21706.31	23222.64	23889.02
74 Ge	153841.98	0.21	155795.36	98.7	60 - 125		153634.02	154211.75	153680.19
89 Y	1018921.40	1.63	1011968.20	100.7	60 - 125		1036413.10	1003318.80	1017032.50
115 In	958799.69	0.62	989458.81	96.9	60 - 125		963580.81	952116.56	960701.56
159 Tb	1340960.10	1.62	1388283.80	96.6	60 - 125		1361546.90	1318351.60	1342981.80
209 Bi	773199.88	0.18	829936.50	93.2	60 - 125		773455.00	774408.81	771735.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\052_CCB.D\052_CCB.D#
Date Acquired: Dec 27 2012 11:22 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005515	0.005515	ug/l	83.72	#VALUE!		23.33	3.33	16.67
11 B	# 3	0.8172	0.8172	ug/l	21.59	#VALUE!		7495.00	7004.82	7485.00
23 Na	# 1	-4.706	-4.706	ug/l	6.59	#VALUE!		117411.72	120624.54	120893.07
24 Mg	# 1	0.2454	0.2454	ug/l	46.29	#VALUE!		963.38	1590.12	1676.78
27 Al	# 1	0.02827	0.02827	ug/l	78.35	#VALUE!		973.39	1050.06	1153.40
39 K	# 2	0.2062	0.2062	ug/l	699.81	#VALUE!		6457.98	6684.71	7351.60
40 Ca	# 1	1.15	1.15	ug/l	12.51	#VALUE!		115579.20	117752.74	118627.16
45 Sc	# 2	----	--------		--------	#VALUE!		35691.51	36823.74	37734.40
47 Ti	# 3	0.01268	0.01268	ug/l	43.78	#VALUE!		16.67	26.67	20.00
51 V	# 2	0.01503	0.01503	ug/l	39.59	#VALUE!		141.11	143.34	163.34
52 Cr	# 2	-0.002716	-0.002716	ug/l	267.53	#VALUE!		82.22	94.45	115.56
55 Mn	# 3	0.02578	0.02578	ug/l	77.89	#VALUE!		1483.44	976.72	923.38
56 Fe	# 1	0.3224	0.3224	ug/l	17.27	#VALUE!		15153.22	15830.56	16577.77
59 Co	# 3	0.00179	0.00179	ug/l	60.45	#VALUE!		60.00	56.67	36.67
60 Ni	# 2	-0.06415	-0.06415	ug/l	26.05	#VALUE!		53.33	85.56	70.00
63 Cu	# 2	-0.1714	-0.1714	ug/l	2.98	#VALUE!		124.45	134.45	152.22
66 Zn	# 3	-0.0321	-0.0321	ug/l	49.03	#VALUE!		253.34	213.34	233.34
75 As	# 2	0.02758	0.02758	ug/l	67.01	#VALUE!		13.33	20.33	18.67
78 Se	# 1	0.02583	0.02583	ug/l	58.11	#VALUE!		35.33	27.33	37.67
88 Sr	# 3	0.002446	0.002446	ug/l	106.83	#VALUE!		186.67	103.34	80.00
95 Mo	# 3	0.06463	0.06463	ug/l	15.83	#VALUE!		203.34	240.01	270.01
107 Ag	# 3	0.004676	0.004676	ug/l	31.80	#VALUE!		56.67	40.00	66.67
111 Cd	# 3	-0.001121	-0.001121	ug/l	384.39	#VALUE!		26.60	19.92	36.58
118 Sn	# 3	0.03136	0.03136	ug/l	23.33	#VALUE!		443.35	443.35	373.35
121 Sb	# 3	0.3736	0.3736	ug/l	4.93	#VALUE!		2333.56	2333.55	2190.21
137 Ba	# 3	0.0004394	0.0004394	ug/l	1167.30	#VALUE!		33.33	16.67	3.33
202 Hg	# 3	0.01623	0.01623	ug/l	23.30	#VALUE!		75.67	78.00	63.67
205 Tl	# 3	0.001755	0.001755	ug/l	136.35	#VALUE!		126.67	53.33	66.67
208 Pb	# 3	0.001916	0.001916	ug/l	82.93	#VALUE!		220.01	256.68	293.34
232 Th	# 3	0.08054	0.08054	ug/l	13.89	#VALUE!		2853.70	2473.60	2200.22
238 U	# 3	0.005059	0.005059	ug/l	39.53	#VALUE!		220.01	140.01	106.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	533079.38	2.55	572657.25	93.1	60 - 125		517400.47	540097.19	541740.44
45 Sc	# 1	493301.22	0.37	523286.00	94.3	60 - 125		491498.44	493259.56	495145.69
45 Sc	# 3	591395.75	0.72	603286.69	98.0	60 - 125		586935.13	595359.19	591892.88
74 Ge	# 1	162808.48	0.45	170650.48	95.4	60 - 125		162138.19	163597.59	162689.69
74 Ge	# 2	23747.00	1.21	24862.19	95.5	60 - 125		23426.21	23837.89	23976.92
74 Ge	# 3	155089.50	1.18	155795.36	99.5	60 - 125		153038.31	156558.47	155671.75
89 Y	# 3	1012907.60	0.77	1011968.20	100.1	60 - 125		1006005.80	1011396.60	1021320.30
115 In	# 3	982306.94	0.91	989458.81	99.3	60 - 125		976758.94	977586.94	992575.00
159 Tb	# 3	1356768.80	1.01	1388283.80	97.7	60 - 125		1346055.30	1372172.10	1352079.00
209 Bi	# 3	802979.44	0.35	829936.50	96.8	60 - 125		806077.06	802183.63	800677.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\053SMPL.D\053SMPL.D#
Date Acquired: Dec 27 2012 11:29 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41603-a-5-a
Misc Info: 3005 1/5
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.03459	0.03459	ug/l	9.08	100.00		76.67	80.00	70.00
11 B	# 3	1.616	1.616	ug/l	9.45	1800.00		8645.49	8682.16	8448.73
23 Na	# 1	398.1	398.1	ug/l	4.02	81000.00		2058069.80	2050046.60	2104969.30
24 Mg	# 1	166.1	166.1	ug/l	3.17	81000.00		537627.88	543775.75	551760.44
27 Al	# 1	9.163	9.163	ug/l	3.29	81000.00		34918.36	35026.54	36280.21
39 K	# 2	239	239	ug/l	4.20	81000.00		69532.33	72660.39	74551.23
40 Ca	# 1	149.1	149.1	ug/l	4.04	81000.00		1250225.30	1274962.10	1259302.10
45 Sc	# 2	----	--------		--------	#VALUE!		34939.04	38287.24	35600.35
47 Ti	# 3	0.3126	0.3126	ug/l	17.56	1620.00		323.35	293.34	230.01
51 V	# 2	0.1146	0.1146	ug/l	4.53	1800.00		333.34	336.67	323.34
52 Cr	# 2	0.02557	0.02557	ug/l	48.57	1800.00		170.00	132.22	172.22
55 Mn	# 3	2.436	2.436	ug/l	2.66	1800.00		39312.45	39836.85	39452.65
56 Fe	# 1	9.208	9.208	ug/l	2.07	81000.00		122148.45	123814.48	124133.05
59 Co	# 3	0.05296	0.05296	ug/l	8.43	1800.00		600.03	680.03	676.70
60 Ni	# 2	0.1214	0.1214	ug/l	3.93	1800.00		233.34	256.67	237.78
63 Cu	# 2	0.01991	0.01991	ug/l	46.97	1800.00		592.24	605.57	623.35
66 Zn	# 3	1.441	1.441	ug/l	7.88	1800.00		2170.20	2400.23	2423.56
75 As	# 2	0.1083	0.1083	ug/l	16.12	100.00		29.33	32.67	36.00
78 Se	# 1	0.02255	0.02255	ug/l	42.95	100.00		26.67	33.33	34.67
88 Sr	# 3	1.838	1.838	ug/l	0.53	1800.00		40242.78	39744.84	40513.57
95 Mo	# 3	0.0374	0.0374	ug/l	9.47	1800.00		150.01	140.01	166.67
107 Ag	# 3	0.003217	0.003217	ug/l	40.78	100.00		53.33	40.00	30.00
111 Cd	# 3	0.002653	0.002653	ug/l	100.60	100.00		29.95	33.29	39.95
118 Sn	# 3	0.07217	0.07217	ug/l	11.21	1800.00		616.70	680.04	676.70
121 Sb	# 3	0.31	0.31	ug/l	6.52	100.00		1920.16	1970.18	1836.82
137 Ba	# 3	4.295	4.295	ug/l	2.12	1800.00		12645.02	12474.87	12548.32
202 Hg	# 3	0.01061	0.01061	ug/l	28.58	5.00		55.00	64.33	64.00
205 Tl	# 3	0.000353	0.000353	ug/l	54.65	20.00		56.67	60.00	60.00
208 Pb	# 3	0.02533	0.02533	ug/l	14.07	1800.00		730.03	850.04	786.70
232 Th	# 3	0.04179	0.04179	ug/l	7.38	#VALUE!		1486.78	1400.11	1316.77
238 U	# 3	0.004065	0.004065	ug/l	3.62	#VALUE!		123.34	126.67	130.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	499951.41	2.46	572657.25	87.3	60 - 125		490871.50	495014.94	513967.81
45 Sc	# 1	476533.84	4.23	523286.00	91.1	60 - 125		453635.19	484409.28	491557.00
45 Sc	# 3	579580.88	1.72	603286.69	96.1	60 - 125		586605.19	568167.94	583969.50
74 Ge	# 1	158999.13	2.71	170650.48	93.2	60 - 125		154182.22	160316.28	162498.91
74 Ge	# 2	23738.95	3.26	24862.19	95.5	60 - 125		23126.97	24608.01	23481.87
74 Ge	# 3	153332.17	1.93	155795.36	98.4	60 - 125		154862.78	149929.31	155204.42
89 Y	# 3	1012513.60	0.70	1011968.20	100.1	60 - 125		1017948.30	1004562.40	1015030.00
115 In	# 3	971668.00	2.64	989458.81	98.2	60 - 125		988115.63	942086.88	984801.44
159 Tb	# 3	1352876.80	2.71	1388283.80	97.4	60 - 125		1380138.40	1311264.10	1367227.80
209 Bi	# 3	802461.38	2.04	829936.50	96.7	60 - 125		812221.56	783599.69	811562.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\054SMPL.D\054SMPL.D#
Date Acquired: Dec 27 2012 11:37 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41603-a-6-a
Misc Info: 3005 1/5
Vial Number: 2210
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.08912	0.08912	ug/l	14.71	100.00		216.67	166.67	196.67
11 B # 3	1.083	1.083	ug/l	7.17	1800.00		7184.86	7495.00	7885.13
23 Na # 1	1354	1354	ug/l	0.34	81000.00		7001983.00	7052167.50	7076987.50
24 Mg # 1	1036	1036	ug/l	1.77	81000.00		3462955.80	3637867.80	3576570.00
27 Al # 1	1546	1546	ug/l	0.22	81000.00		6035733.50	6139380.00	6142774.00
39 K # 2	1221	1221	ug/l	1.79	81000.00		330929.06	336066.16	350929.31
40 Ca # 1	1454	1454	ug/l	1.01	81000.00		11951686.00	11879438.00	12015736.00
45 Sc # 2	----	--------		--------	#VALUE!		35737.15	36806.91	38017.11
47 Ti # 3	159	159	ug/l	0.16	1620.00		143099.08	144650.50	145787.80
51 V # 2	3.142	3.142	ug/l	1.00	1800.00		5634.23	5870.96	5987.68
52 Cr # 2	2.158	2.158	ug/l	1.41	1800.00		4599.49	4775.09	4918.47
55 Mn # 3	17.59	17.59	ug/l	0.78	1800.00		281296.81	285225.47	287574.09
56 Fe # 1	2342	2342	ug/l	1.30	81000.00		29084746.00	28772232.00	29185750.00
59 Co # 3	0.6211	0.6211	ug/l	1.08	1800.00		7361.65	7471.70	7448.37
60 Ni # 2	1.541	1.541	ug/l	1.42	1800.00		1514.52	1591.19	1563.41
63 Cu # 2	1.472	1.472	ug/l	0.81	1800.00		4058.26	4154.95	4246.08
66 Zn # 3	6.809	6.809	ug/l	1.13	1800.00		9962.99	10166.41	10216.43
75 As # 2	1.02	1.02	ug/l	4.57	100.00		189.67	213.67	208.00
78 Se # 1	0.03284	0.03284	ug/l	15.44	100.00		35.67	38.00	34.00
88 Sr # 3	21.07	21.07	ug/l	0.34	1800.00		479967.06	482182.28	492369.84
95 Mo # 3	0.05542	0.05542	ug/l	25.86	1800.00		183.34	256.68	183.34
107 Ag # 3	0.003071	0.003071	ug/l	13.58	100.00		43.33	40.00	36.67
111 Cd # 3	0.000707	0.000707	ug/l	1420.10	100.00		19.94	19.92	53.28
118 Sn # 3	0.1579	0.1579	ug/l	1.98	1800.00		1170.08	1146.74	1206.74
121 Sb # 3	0.1969	0.1969	ug/l	2.31	100.00		1270.08	1270.08	1336.76
137 Ba # 3	15.88	15.88	ug/l	0.79	1800.00		46237.03	46695.05	46928.74
202 Hg # 3	0.01338	0.01338	ug/l	13.13	5.00		70.67	64.33	65.00
205 Tl # 3	0.04287	0.04287	ug/l	7.17	20.00		746.70	833.38	753.38
208 Pb # 3	0.5624	0.5624	ug/l	1.84	1800.00		13259.24	13446.03	13139.19
232 Th # 3	0.8611	0.8611	ug/l	1.74	#VALUE!		25147.85	24683.77	24453.34
238 U # 3	0.1927	0.1927	ug/l	3.24	#VALUE!		5507.85	5377.79	5787.94

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	504524.88	2.49	572657.25	88.1	60 - 125		491285.63	506047.69	516241.28
45 Sc # 1	499431.19	0.79	523286.00	95.4	60 - 125		494897.91	501798.03	501597.63
45 Sc # 3	603557.75	1.00	603286.69	100.0	60 - 125		596847.75	605176.06	608649.50
74 Ge # 1	162100.11	0.64	170650.48	95.0	60 - 125		161131.73	163191.91	161976.72
74 Ge # 2	23592.00	2.18	24862.19	94.9	60 - 125		23009.04	23786.70	23980.26
74 Ge # 3	155212.86	0.94	155795.36	99.6	60 - 125		154497.39	154248.92	156892.28
89 Y # 3	1067472.40	1.03	1011968.20	105.5	60 - 125		1060001.30	1062376.00	1080040.00
115 In # 3	976313.00	1.03	989458.81	98.7	60 - 125		972126.75	969032.81	987779.56
159 Tb # 3	1376769.80	0.69	1388283.80	99.2	60 - 125		1373515.50	1369316.30	1387477.80
209 Bi # 3	802164.94	0.53	829936.50	96.7	60 - 125		801561.75	798255.50	806677.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\055SMPL.D\055SMPL.D#
Date Acquired: Dec 27 2012 11:44 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 640-41603-b-6-a
Misc Info: 3005 1/5
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0007069	0.0007069	ug/l	229.88	100.00		6.67	3.33	0.00
11 B	# 3	0.8195	0.8195	ug/l	10.42	1800.00		6708.00	6988.10	6838.06
23 Na	# 1	1349	1349	ug/l	1.41	81000.00		6838880.50	7054328.00	6959436.50
24 Mg	# 1	475.1	475.1	ug/l	1.17	81000.00		1598538.50	1637577.10	1614633.90
27 Al	# 1	2.3	2.3	ug/l	1.04	81000.00		9812.83	10042.87	9986.22
39 K	# 2	419.2	419.2	ug/l	0.58	81000.00		120819.02	122309.02	126224.22
40 Ca	# 1	1338	1338	ug/l	1.39	81000.00		10670185.00	10995787.00	11034722.00
45 Sc	# 2	----	--------		--------	#VALUE!		35657.10	37187.81	37499.44
47 Ti	# 3	0.4194	0.4194	ug/l	3.36	1620.00		380.02	390.02	370.02
51 V	# 2	0.2684	0.2684	ug/l	7.03	1800.00		570.01	633.35	656.68
52 Cr	# 2	0.02923	0.02923	ug/l	38.49	1800.00		137.78	181.11	187.78
55 Mn	# 3	0.1693	0.1693	ug/l	5.47	1800.00		3573.79	3270.37	3413.74
56 Fe	# 1	3.953	3.953	ug/l	0.60	81000.00		60770.25	62134.90	61311.84
59 Co	# 3	0.003889	0.003889	ug/l	62.51	1800.00		106.67	70.00	50.00
60 Ni	# 2	0.2555	0.2555	ug/l	3.48	1800.00		357.78	370.01	387.79
63 Cu	# 2	-0.09166	-0.09166	ug/l	8.85	1800.00		310.01	354.45	346.67
66 Zn	# 3	0.9287	0.9287	ug/l	6.41	1800.00		1553.44	1703.47	1566.78
75 As	# 2	0.2488	0.2488	ug/l	6.56	100.00		58.67	63.00	58.00
78 Se	# 1	0.00867	0.00867	ug/l	165.51	100.00		23.67	33.67	24.67
88 Sr	# 3	19.49	19.49	ug/l	1.44	1800.00		417381.59	422380.66	431049.56
95 Mo	# 3	0.03272	0.03272	ug/l	34.05	1800.00		150.01	100.00	166.67
107 Ag	# 3	0.001415	0.001415	ug/l	87.07	100.00		13.33	33.33	30.00
111 Cd	# 3	-0.0004268	-0.0004268	ug/l	248.59	100.00		29.95	29.97	26.61
118 Sn	# 3	0.05665	0.05665	ug/l	10.74	1800.00		610.03	563.36	536.69
121 Sb	# 3	0.1629	0.1629	ug/l	10.66	100.00		1170.07	1150.08	996.73
137 Ba	# 3	2.872	2.872	ug/l	2.41	1800.00		8412.34	8642.42	8322.26
202 Hg	# 3	0.01051	0.01051	ug/l	14.51	5.00		61.33	57.67	63.33
205 Tl	# 3	-0.0004911	-0.0004911	ug/l	24.07	20.00		43.33	46.67	46.67
208 Pb	# 3	0.0005497	0.0005497	ug/l	70.97	1800.00		223.34	236.67	223.34
232 Th	# 3	0.027	0.027	ug/l	6.92	#VALUE!		933.39	1036.74	960.07
238 U	# 3	0.003109	0.003109	ug/l	17.41	#VALUE!		93.34	116.67	86.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	497380.97	3.14	572657.25	86.9	60 - 125		481223.31	498519.56	512400.03
45 Sc	# 1	494746.06	0.58	523286.00	94.5	60 - 125		492072.41	494410.13	497755.59
45 Sc	# 3	586592.56	0.93	603286.69	97.2	60 - 125		581661.44	585650.75	592465.38
74 Ge	# 1	163868.97	0.64	170650.48	96.0	60 - 125		162950.70	165003.70	163652.45
74 Ge	# 2	24016.99	1.80	24862.19	96.6	60 - 125		23615.37	23962.47	24473.13
74 Ge	# 3	153921.67	0.14	155795.36	98.8	60 - 125		154007.16	153683.39	154074.44
89 Y	# 3	1008470.40	0.24	1011968.20	99.7	60 - 125		1007613.30	1006600.50	1011197.60
115 In	# 3	978221.44	0.48	989458.81	98.9	60 - 125		981361.88	972843.13	980459.38
159 Tb	# 3	1371656.30	0.61	1388283.80	98.8	60 - 125		1373171.50	1362685.00	1379112.10
209 Bi	# 3	800147.19	0.37	829936.50	96.4	60 - 125		802235.19	801492.06	796714.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\056_CCV.D\056_CCV.D#
Date Acquired: Dec 27 2012 11:51 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.03 ug/l	3.62	50.00	90 - 110		110149.27	114689.45	115856.21
11 B	97.61 ug/l	3.70	100.00	90 - 110		224440.36	229704.70	233647.98
23 Na	4921 ug/l	3.22	5000.00	90 - 110		24545146.00	24533060.00	25162260.00
24 Mg	4960 ug/l	3.31	5000.00	90 - 110		16420416.00	17100726.00	16643803.00
27 Al	505.7 ug/l	3.56	500.00	90 - 110		1930403.90	2005676.40	1946495.10
39 K	4836 ug/l	0.58	5000.00	90 - 110		1341971.50	1369220.00	1380042.90
40 Ca	5054 ug/l	2.86	5000.00	90 - 110		39830908.00	41012752.00	40654848.00
45 Sc	--------	--------		--- ##### - #####		37889.07	39023.64	39193.86
47 Ti	49.87 ug/l	1.33	50.00	90 - 110		45245.57	46217.84	45248.56
51 V	48.27 ug/l	1.51	50.00	90 - 110		89139.11	89806.55	92416.34
52 Cr	48.4 ug/l	0.98	50.00	90 - 110		106475.61	107411.89	109404.60
55 Mn	487.9 ug/l	0.92	500.00	90 - 110		7990016.50	7977547.50	7949575.50
56 Fe	4953 ug/l	2.87	5000.00	90 - 110		61249192.00	60642220.00	62674840.00
59 Co	47.74 ug/l	1.06	50.00	90 - 110		572265.63	574744.50	579540.38
60 Ni	49.1 ug/l	0.95	50.00	90 - 110		46368.93	46862.32	47699.04
63 Cu	48.95 ug/l	1.03	50.00	90 - 110		122731.17	123160.31	125442.77
66 Zn	49.78 ug/l	1.85	50.00	90 - 110		72902.23	72276.48	73979.59
75 As	48.73 ug/l	0.84	50.00	90 - 110		9240.00	9513.82	9558.50
78 Se	50.09 ug/l	3.03	50.00	90 - 110		18465.67	18368.90	18530.08
88 Sr	47.52 ug/l	2.17	50.00	90 - 110		1060898.80	1065886.30	1065508.40
95 Mo	49.61 ug/l	0.66	50.00	90 - 110		152621.14	152375.27	150920.59
107 Ag	49.72 ug/l	0.82	50.00	90 - 110		437069.00	433488.22	434959.63
111 Cd	49.68 ug/l	0.87	50.00	90 - 110		93749.44	92885.73	93110.28
118 Sn	49.12 ug/l	0.92	50.00	90 - 110		290940.69	298555.25	292700.09
121 Sb	48.89 ug/l	0.42	50.00	90 - 110		269882.25	272669.16	272493.66
137 Ba	48.93 ug/l	1.10	50.00	90 - 110		144420.27	142605.23	144040.19
202 Hg	2.51 ug/l	1.15	2.50	90 - 110		4924.44	4905.76	4842.74
205 Tl	9.821 ug/l	0.99	10.00	90 - 110		163604.20	164874.27	163488.47
208 Pb	49.12 ug/l	0.61	50.00	90 - 110		1130895.30	1128960.90	1124828.40
232 Th	48.2 ug/l	1.44		--- ##### - #####		1336771.00	1304705.30	1352115.30
238 U	48.34 ug/l	1.21		--- ##### - #####		1346344.00	1327346.30	1369657.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	533074.25	5.49	572657.25	93.1	60 - 125		510526.66	522550.78	566145.38
45 Sc	490624.84	3.98	523286.00	93.8	60 - 125		468935.69	496186.84	506752.03
45 Sc	606945.19	0.47	603286.69	100.6	60 - 125		604183.25	606803.56	609848.69
74 Ge	162657.56	2.96	170650.48	95.3	60 - 125		157160.33	164740.89	166071.47
74 Ge	24295.60	1.03	24862.19	97.7	60 - 125		24005.84	24455.32	24425.65
74 Ge	157101.02	0.88	155795.36	100.8	60 - 125		156007.11	158649.72	156646.22
89 Y	1039496.30	2.31	1011968.20	102.7	60 - 125		1024283.80	1026963.50	1067241.60
115 In	977068.19	0.43	989458.81	98.7	60 - 125		973948.19	981891.63	975364.75
159 Tb	1361015.60	0.87	1388283.80	98.0	60 - 125		1373364.40	1359993.50	1349689.00
209 Bi	776757.38	0.38	829936.50	93.6	60 - 125		777304.56	773590.81	779376.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\057_CCB.D\057_CCB.D#
Date Acquired: Dec 27 2012 11:59 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.002018	0.002018	ug/l	194.40	#VALUE!		0.00	3.33	16.67
11 B	# 3	0.8101	0.8101	ug/l	9.01	#VALUE!		7248.21	7608.37	7374.96
23 Na	# 1	-3.803	-3.803	ug/l	69.95	#VALUE!		121923.24	124488.33	130323.66
24 Mg	# 1	0.3372	0.3372	ug/l	46.80	#VALUE!		1436.76	1540.11	2200.20
27 Al	# 1	0.01715	0.01715	ug/l	258.89	#VALUE!		903.38	1030.06	1143.40
39 K	# 2	0.0476	0.0476	ug/l	810.92	#VALUE!		6998.14	6848.10	7158.22
40 Ca	# 1	1.693	1.693	ug/l	88.84	#VALUE!		121597.51	121804.34	125853.88
45 Sc	# 2	----	--------		--------	#VALUE!		36592.11	37566.19	38870.65
47 Ti	# 3	0.02917	0.02917	ug/l	72.40	#VALUE!		16.67	40.00	53.34
51 V	# 2	0.007039	0.007039	ug/l	45.96	#VALUE!		131.11	144.45	141.11
52 Cr	# 2	-0.004821	-0.004821	ug/l	98.24	#VALUE!		105.56	93.33	87.78
55 Mn	# 3	0.01993	0.01993	ug/l	29.58	#VALUE!		1136.73	1000.06	1066.73
56 Fe	# 1	0.4032	0.4032	ug/l	45.19	#VALUE!		16427.71	16224.18	18583.12
59 Co	# 3	0.001285	0.001285	ug/l	90.27	#VALUE!		30.00	56.67	53.34
60 Ni	# 2	-0.07868	-0.07868	ug/l	7.44	#VALUE!		61.11	51.11	61.11
63 Cu	# 2	-0.1932	-0.1932	ug/l	1.64	#VALUE!		75.56	91.11	91.11
66 Zn	# 3	-0.06126	-0.06126	ug/l	12.63	#VALUE!		183.34	213.34	196.67
75 As	# 2	0.01695	0.01695	ug/l	53.15	#VALUE!		17.67	14.67	15.33
78 Se	# 1	0.02646	0.02646	ug/l	27.97	#VALUE!		30.67	38.33	34.00
88 Sr	# 3	0.00268	0.00268	ug/l	22.81	#VALUE!		126.67	156.67	113.34
95 Mo	# 3	0.0662	0.0662	ug/l	13.21	#VALUE!		256.68	230.01	253.34
107 Ag	# 3	0.00515	0.00515	ug/l	61.59	#VALUE!		90.00	56.67	33.33
111 Cd	# 3	0.00505	0.00505	ug/l	117.31	#VALUE!		29.92	39.93	49.92
118 Sn	# 3	0.03471	0.03471	ug/l	19.92	#VALUE!		486.69	433.35	426.68
121 Sb	# 3	0.3587	0.3587	ug/l	8.30	#VALUE!		2416.91	2266.90	2063.52
137 Ba	# 3	0.003241	0.003241	ug/l	59.86	#VALUE!		20.00	30.00	30.00
202 Hg	# 3	0.01345	0.01345	ug/l	4.71	#VALUE!		67.67	69.00	65.67
205 Tl	# 3	0.0002602	0.0002602	ug/l	33.56	#VALUE!		56.67	60.00	56.67
208 Pb	# 3	0.001475	0.001475	ug/l	167.73	#VALUE!		306.68	210.01	223.34
232 Th	# 3	0.0812	0.0812	ug/l	9.13	#VALUE!		2780.34	2540.29	2326.92
238 U	# 3	0.004571	0.004571	ug/l	19.57	#VALUE!		146.67	173.34	110.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	540236.63	4.73	572657.25	94.3	60 - 125		521471.81	569315.75	529922.38
45 Sc	# 1	501770.09	8.55	523286.00	95.9	60 - 125		492508.03	548539.69	464262.47
45 Sc	# 3	608151.38	5.17	603286.69	100.8	60 - 125		597593.88	643502.06	583358.06
74 Ge	# 1	165818.86	6.45	170650.48	97.2	60 - 125		163457.91	177495.94	156502.75
74 Ge	# 2	24503.63	1.76	24862.19	98.6	60 - 125		24151.59	24375.22	24984.07
74 Ge	# 3	160204.94	4.08	155795.36	102.8	60 - 125		159265.19	167153.22	154196.38
89 Y	# 3	1036015.60	6.30	1011968.20	102.4	60 - 125		1025619.60	1105913.30	976513.94
115 In	# 3	1003671.10	5.86	989458.81	101.4	60 - 125		991962.88	1067482.50	951567.88
159 Tb	# 3	1362832.80	5.34	1388283.80	98.2	60 - 125		1348247.80	1441799.50	1298451.50
209 Bi	# 3	810108.38	4.26	829936.50	97.6	60 - 125		805484.38	846739.38	778101.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\058SMPL.D\058SMPL.D#
Date Acquired: Dec 28 2012 12:06 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261113_1-a
Misc Info: 200.8 1/5
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001621	0.001621	ug/l	193.15	100.00		3.33	13.33	0.00
11 B # 3	0.509	0.509	ug/l	19.50	1800.00		6141.12	6401.25	6734.65
23 Na # 1	-6.424	-6.424	ug/l	2.25	81000.00		110703.28	113015.83	113515.48
24 Mg # 1	0.2318	0.2318	ug/l	7.53	81000.00		1430.09	1346.75	1363.42
27 Al # 1	0.6954	0.6954	ug/l	5.65	81000.00		3820.49	3677.13	3620.45
39 K # 2	0.28	0.28	ug/l	100.29	81000.00		6778.08	6901.43	7128.18
40 Ca # 1	3.967	3.967	ug/l	1.18	81000.00		140141.36	141623.38	143513.75
45 Sc # 2	----	--------		--------	#VALUE!		37191.72	36338.40	37535.04
47 Ti # 3	0.03983	0.03983	ug/l	45.90	1620.00		43.33	30.00	63.33
51 V # 2	0.08554	0.08554	ug/l	20.93	1800.00		266.67	252.23	327.78
52 Cr # 2	0.001345	0.001345	ug/l	185.20	1800.00		112.22	104.45	105.56
55 Mn # 3	0.1319	0.1319	ug/l	1.60	1800.00		2880.31	2833.64	2830.29
56 Fe # 1	0.3337	0.3337	ug/l	7.58	81000.00		15937.22	16561.09	16144.08
59 Co # 3	0.0003814	0.0003814	ug/l	376.77	1800.00		53.33	30.00	20.00
60 Ni # 2	0.06854	0.06854	ug/l	39.39	1800.00		174.45	221.11	191.11
63 Cu # 2	-0.1745	-0.1745	ug/l	2.05	1800.00		124.45	138.89	128.89
66 Zn # 3	0.177	0.177	ug/l	11.34	1800.00		516.69	520.02	573.36
75 As # 2	0.08504	0.08504	ug/l	33.30	100.00		31.00	31.67	23.00
78 Se # 1	0.00998	0.00998	ug/l	84.45	100.00		24.33	29.67	30.00
88 Sr # 3	0.004577	0.004577	ug/l	47.11	1800.00		226.68	160.01	130.00
95 Mo # 3	0.02703	0.02703	ug/l	2.78	1800.00		123.34	123.34	120.00
107 Ag # 3	0.002256	0.002256	ug/l	73.98	100.00		50.00	20.00	30.00
111 Cd # 3	-0.002948	-0.002948	ug/l	233.68	100.00		39.96	16.63	16.63
118 Sn # 3	0.05597	0.05597	ug/l	0.94	1800.00		576.70	566.69	566.70
121 Sb # 3	0.2301	0.2301	ug/l	1.27	100.00		1500.11	1490.11	1480.11
137 Ba # 3	0.01164	0.01164	ug/l	35.95	1800.00		60.00	56.67	36.67
202 Hg # 3	-0.0004781	-0.0004781	ug/l	553.86	5.00		38.67	34.33	45.00
205 Tl # 3	-0.0009004	-0.0009004	ug/l	127.72	20.00		53.33	46.67	16.67
208 Pb # 3	-0.00237	-0.00237	ug/l	38.63	1800.00		180.01	136.67	166.67
232 Th # 3	0.0402	0.0402	ug/l	4.07	#VALUE!		1330.10	1353.44	1416.77
238 U # 3	0.00154	0.00154	ug/l	43.16	#VALUE!		76.67	40.00	46.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	516797.91	1.30	572657.25	90.2	60 - 125		509227.34	519021.97	522144.41
45 Sc # 1	499612.34	1.46	523286.00	95.5	60 - 125		492835.47	498684.69	507316.88
45 Sc # 3	593850.25	0.99	603286.69	98.4	60 - 125		594955.75	587494.38	599100.63
74 Ge # 1	165049.11	0.17	170650.48	96.7	60 - 125		164834.16	164949.45	165363.75
74 Ge # 2	24047.83	2.34	24862.19	96.7	60 - 125		23776.87	23672.08	24694.54
74 Ge # 3	155455.19	0.58	155795.36	99.8	60 - 125		155393.52	154584.34	156387.72
89 Y # 3	1023810.90	1.56	1011968.20	101.2	60 - 125		1038504.80	1006903.60	1026024.40
115 In # 3	985364.44	1.43	989458.81	99.6	60 - 125		1000895.40	973391.63	981806.25
159 Tb # 3	1378474.60	0.61	1388283.80	99.3	60 - 125		1387583.60	1370818.90	1377021.10
209 Bi # 3	808797.25	0.39	829936.50	97.5	60 - 125		812131.13	805897.69	808362.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\059SMPL.D\059SMPL.D#
Date Acquired: Dec 28 2012 12:14 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261113_2-a
Misc Info: 200.8 1/5
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.77	10.77	ug/l	2.34	100.00		22560.15	24008.59	23718.24
11 B	# 3	43.56	43.56	ug/l	1.10	1800.00		99107.11	101296.75	102254.28
23 Na	# 1	1063	1063	ug/l	1.40	81000.00		5523854.50	5512957.50	5720570.50
24 Mg	# 1	1108	1108	ug/l	1.48	81000.00		3744431.30	3893599.00	3836717.00
27 Al	# 1	1074	1074	ug/l	0.87	81000.00		4184755.00	4308102.50	4295177.50
39 K	# 2	1065	1065	ug/l	2.30	81000.00		291544.28	300000.50	303198.97
40 Ca	# 1	1104	1104	ug/l	1.06	81000.00		9141877.00	9073337.00	9205758.00
45 Sc	# 2	----	--------		--------	#VALUE!		37923.17	36238.16	38483.73
47 Ti	# 3	21.28	21.28	ug/l	1.96	1620.00		18392.77	19267.03	19000.10
51 V	# 2	21.41	21.41	ug/l	1.56	1800.00		38437.18	39057.31	40215.25
52 Cr	# 2	21.79	21.79	ug/l	1.77	1800.00		46689.21	47475.47	48063.72
55 Mn	# 3	110.5	110.5	ug/l	1.40	1800.00		1758927.60	1806205.10	1797068.30
56 Fe	# 1	1064	1064	ug/l	0.42	81000.00		13351531.00	13211116.00	13583008.00
59 Co	# 3	10.42	10.42	ug/l	0.77	1800.00		124658.98	123378.30	125000.69
60 Ni	# 2	22.46	22.46	ug/l	1.56	1800.00		20629.33	20966.37	21539.28
63 Cu	# 2	22.1	22.1	ug/l	1.20	1800.00		54651.64	54469.90	55448.38
66 Zn	# 3	21.71	21.71	ug/l	1.04	1800.00		31410.73	31607.78	32008.83
75 As	# 2	22.01	22.01	ug/l	2.69	100.00		4052.79	4208.83	4239.83
78 Se	# 1	- 20.29	20.29	ug/l	0.86	100.00		7568.25	7572.58	7594.93
88 Sr	# 3	19.71	19.71	ug/l	2.84	1800.00		436576.13	436248.63	436784.66
95 Mo	# 3	20.74	20.74	ug/l	2.13	1800.00		64200.25	64226.33	65066.61
107 Ag	# 3	10.78	10.78	ug/l	1.80	100.00		94689.05	96147.12	96451.94
111 Cd	# 3	10.47	10.47	ug/l	1.72	100.00		19787.76	20014.77	20081.17
118 Sn	# 3	20.76	20.76	ug/l	1.95	1800.00		125328.50	126201.20	127276.14
121 Sb	# 3	11.51	11.51	ug/l	1.81	100.00		65243.37	64798.83	65149.81
137 Ba	# 3	21.18	21.18	ug/l	1.77	1800.00		62937.25	63027.88	63399.13
202 Hg	# 3	1.024	1.024	ug/l	1.46	5.00		2061.47	2060.14	2118.14
205 Tl	# 3	8.381	8.381	ug/l	1.47	20.00		142702.19	144962.91	142203.05
208 Pb	# 3	10.64	10.64	ug/l	0.52	1800.00		250257.44	250103.56	250958.02
232 Th	# 3	19.95	19.95	ug/l	0.57	#VALUE!		568688.25	569442.69	565669.81
238 U	# 3	20.64	20.64	ug/l	0.90	#VALUE!		593782.94	596491.00	588652.31

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	510010.25	2.48	572657.25	89.1	60 - 125		497990.31	508872.38	523168.06
45 Sc	# 1	501951.56	1.11	523286.00	95.9	60 - 125		496151.69	502387.28	507315.78
45 Sc	# 3	589083.50	0.95	603286.69	97.6	60 - 125		583832.13	588431.38	594987.00
74 Ge	# 1	164495.67	1.04	170650.48	96.4	60 - 125		163875.11	163181.75	166430.13
74 Ge	# 2	23715.91	2.11	24862.19	95.4	60 - 125		23618.86	23270.46	24258.41
74 Ge	# 3	155410.98	0.09	155795.36	99.8	60 - 125		155422.61	155545.23	155265.13
89 Y	# 3	1028269.60	2.83	1011968.20	101.6	60 - 125		1005764.10	1061059.00	1017985.50
115 In	# 3	991668.19	1.50	989458.81	100.2	60 - 125		988692.25	1007813.90	978498.31
159 Tb	# 3	1393572.00	0.68	1388283.80	100.4	60 - 125		1386245.30	1390143.80	1404327.00
209 Bi	# 3	800358.75	0.24	829936.50	96.4	60 - 125		800983.88	798177.94	801914.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\060SMPL.D\060SMPL.D#
Date Acquired: Dec 28 2012 12:21 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8436-c-1-a
Misc Info: 200.8 1/5
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.002728	0.002728	ug/l	117.38	100.00		10.00	0.00	13.33
11	B	# 3	20	20	ug/l	2.01	1800.00		47780.10	48812.61	48862.45
23	Na	# 1	16560	16560	ug/l	1.14	81000.00		82306704.00	82398024.00	85250384.00
24	Mg	# 1	3398	3398	ug/l	0.22	81000.00		11388246.00	11516680.00	11621730.00
27	Al	# 1	6.388	6.388	ug/l	1.63	81000.00		25717.73	26111.90	25634.52
39	K	# 2	1021	1021	ug/l	0.87	81000.00		275691.34	282711.22	289196.34
40	Ca	# 1	12370	12370	ug/l	0.79	81000.00		97714120.00	99467264.00	101124740.00
45	Sc	# 2	----	--------		--------	#VALUE!		35861.88	36156.81	38146.35
47	Ti	# 3	0.3334	0.3334	ug/l	12.61	1620.00		260.01	326.68	323.36
51	V	# 2	0.2792	0.2792	ug/l	7.55	1800.00		590.02	664.46	615.57
52	Cr	# 2	46.66	46.66	ug/l	1.10	1800.00		97509.74	99777.93	103009.97
55	Mn	# 3	7.176	7.176	ug/l	0.24	1800.00		114377.62	115569.13	113861.59
56	Fe	# 1	13.73	13.73	ug/l	0.43	81000.00		180563.20	180522.09	180667.86
59	Co	# 3	1.817	1.817	ug/l	0.98	1800.00		21129.27	21669.86	21152.53
60	Ni	# 2	217	217	ug/l	0.18	1800.00		196574.17	199128.78	202936.78
63	Cu	# 2	12.53	12.53	ug/l	0.63	1800.00		30531.93	30981.55	31298.76
66	Zn	# 3	1.966	1.966	ug/l	2.49	1800.00		3003.67	3160.36	3040.34
75	As	# 2	0.2138	0.2138	ug/l	9.37	100.00		47.00	54.67	54.00
78	Se	# 1	0.0695	0.0695	ug/l	1.43	100.00		49.33	48.67	49.00
88	Sr	# 3	32.81	32.81	ug/l	0.72	1800.00		712718.13	709554.44	709831.00
95	Mo	# 3	0.4373	0.4373	ug/l	0.71	1800.00		1363.42	1353.42	1343.42
107	Ag	# 3	1.21	1.21	ug/l	2.95	100.00		10656.83	10536.83	10063.15
111	Cd	# 3	0.06233	0.06233	ug/l	20.28	100.00		146.24	166.24	119.57
118	Sn	# 3	0.2166	0.2166	ug/l	7.95	1800.00		1563.45	1383.43	1550.12
121	Sb	# 3	0.3278	0.3278	ug/l	6.48	100.00		2113.52	1953.51	1886.82
137	Ba	# 3	7.519	7.519	ug/l	1.20	1800.00		21674.39	21998.19	21447.52
202	Hg	# 3	0.007903	0.007903	ug/l	24.84	5.00		56.00	54.00	48.67
205	Tl	# 3	0.02762	0.02762	ug/l	0.69	20.00		520.03	516.69	516.69
208	Pb	# 3	0.07822	0.07822	ug/l	6.29	1800.00		2040.11	1910.11	2116.79
232	Th	# 3	0.09099	0.09099	ug/l	4.23	#VALUE!		2777.00	2633.64	2570.31
238	U	# 3	0.01651	0.01651	ug/l	4.79	#VALUE!		466.69	436.69	476.69

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	503374.78	2.98	572657.25	87.9	60 - 125		486721.97	507551.97	515850.41
45	Sc	# 1	492595.47	0.96	523286.00	94.1	60 - 125		488356.94	491727.25	497702.28
45	Sc	# 3	585047.00	0.22	603286.69	97.0	60 - 125		583697.31	585213.00	586230.69
74	Ge	# 1	161006.58	0.45	170650.48	94.3	60 - 125		160732.22	160461.45	161826.06
74	Ge	# 2	23406.20	1.69	24862.19	94.1	60 - 125		23066.88	23311.64	23840.08
74	Ge	# 3	152613.72	0.67	155795.36	98.0	60 - 125		152705.44	153579.30	151556.42
89	Y	# 3	1005278.50	0.55	1011968.20	99.3	60 - 125		1001912.30	1011632.50	1002290.90
115	In	# 3	959893.00	0.08	989458.81	97.0	60 - 125		960035.63	960576.63	959066.75
159	Tb	# 3	1369715.10	0.46	1388283.80	98.7	60 - 125		1369126.60	1376333.50	1363685.30
209	Bi	# 3	761084.75	0.18	829936.50	91.7	60 - 125		761286.63	762359.13	759608.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\061SMPL.D\061SMPL.D#
Date Acquired: Dec 28 2012 12:29 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8436-c-1-a SD
Misc Info: 200.8 1/25
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.010135	0.002027	ug/l	124.17	100.00		3.33	13.33	3.33
11 B	# 3	20.305	4.061	ug/l	1.29	1800.00		14452.45	14732.66	15133.03
23 Na	# 1	15855	3171	ug/l	0.21	81000.00		15900731.00	16276671.00	16375080.00
24 Mg	# 1	3389	677.8	ug/l	0.88	81000.00		2255714.50	2325604.30	2356180.30
27 Al	# 1	11.275	2.255	ug/l	18.06	81000.00		10676.21	10634.98	8045.24
39 K	# 2	962	192.4	ug/l	1.42	81000.00		58437.42	60631.31	61694.74
40 Ca	# 1	11810	2362	ug/l	0.54	81000.00		18826492.00	19401576.00	19398934.00
45 Sc	# 2	----	--------		--------	#VALUE!		36215.82	36829.26	37881.35
47 Ti	# 3	0.49285	0.09857	ug/l	27.13	1620.00		103.34	120.00	73.34
51 V	# 2	0.2554	0.05108	ug/l	16.48	1800.00		200.00	233.34	220.00
52 Cr	# 2	44.73	8.946	ug/l	0.89	1800.00		19427.96	19897.32	20030.82
55 Mn	# 3	7.105	1.421	ug/l	1.50	1800.00		23652.32	24186.32	23759.17
56 Fe	# 1	13.86	2.772	ug/l	2.94	81000.00		46756.16	46077.79	47768.79
59 Co	# 3	1.82	0.364	ug/l	2.98	1800.00		4517.35	4320.63	4373.97
60 Ni	# 2	211.5	42.3	ug/l	1.49	1800.00		39733.58	40235.71	40158.93
63 Cu	# 2	11.57	2.314	ug/l	1.73	1800.00		6336.69	6256.67	6384.48
66 Zn	# 3	2.1305	0.4261	ug/l	8.30	1800.00		896.71	953.38	860.04
75 As	# 2	0.2606	0.05212	ug/l	29.24	100.00		19.33	25.33	22.33
78 Se	# 1	0.0819	0.01638	ug/l	20.38	100.00		30.67	31.33	29.00
88 Sr	# 3	32.12	6.424	ug/l	0.61	1800.00		141295.38	141406.58	139884.14
95 Mo	# 3	0.4789	0.09578	ug/l	10.08	1800.00		343.35	356.68	300.01
107 Ag	# 3	1.2475	0.2495	ug/l	3.13	100.00		2206.87	2276.89	2140.21
111 Cd	# 3	0.077	0.0154	ug/l	47.81	100.00		63.23	43.22	69.91
118 Sn	# 3	0.2104	0.04208	ug/l	31.73	1800.00		576.70	433.35	443.35
121 Sb	# 3	0.44545	0.08909	ug/l	10.36	100.00		640.03	740.04	713.37
137 Ba	# 3	7.135	1.427	ug/l	5.03	1800.00		3983.91	4384.05	4314.00
202 Hg	# 3	0.01229	0.002458	ug/l	35.77	5.00		43.00	44.33	46.67
205 Tl	# 3	0.039025	0.007805	ug/l	8.48	20.00		173.34	186.67	200.01
208 Pb	# 3	0.0766	0.01532	ug/l	12.05	1800.00		520.02	606.69	596.69
232 Th	# 3	0.12715	0.02543	ug/l	3.76	#VALUE!		936.72	900.06	953.39
238 U	# 3	0.022165	0.004433	ug/l	22.49	#VALUE!		103.34	153.34	153.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	532817.94	2.55	572657.25	93.0	60 - 125		517859.22	536220.63	544373.88
45 Sc	# 1	496007.81	1.35	523286.00	94.8	60 - 125		488504.16	498094.63	501424.75
45 Sc	# 3	600096.81	0.87	603286.69	99.5	60 - 125		595245.81	599424.88	605619.75
74 Ge	# 1	164771.73	1.05	170650.48	96.6	60 - 125		162825.42	166137.78	165351.95
74 Ge	# 2	24033.31	1.85	24862.19	96.7	60 - 125		23643.17	23937.97	24518.79
74 Ge	# 3	156597.06	0.91	155795.36	100.5	60 - 125		155307.81	156357.75	158125.63
89 Y	# 3	1017137.10	0.24	1011968.20	100.5	60 - 125		1014823.80	1019736.60	1016850.80
115 In	# 3	981753.31	0.05	989458.81	99.2	60 - 125		981236.75	981856.25	982166.94
159 Tb	# 3	1382540.00	1.13	1388283.80	99.6	60 - 125		1367867.80	1380716.10	1399036.30
209 Bi	# 3	798503.31	0.26	829936.50	96.2	60 - 125		796203.81	799027.81	800278.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\062SMPL.D\062SMPL.D#
Date Acquired: Dec 28 2012 12:36 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8436-c-1-a PDS
Misc Info: 200.8 1/5
Vial Number: 2305
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	21.21	21.21	ug/l	2.10	100.00		45777.56	45119.26	46265.58
11 B # 3	63.13	63.13	ug/l	0.47	1800.00		139553.14	142523.94	145823.91
23 Na # 1	18260	18260	ug/l	0.66	81000.00		90860696.00	91905264.00	92263528.00
24 Mg # 1	5404	5404	ug/l	0.60	81000.00		18093382.00	18262916.00	18446860.00
27 Al # 1	219.6	219.6	ug/l	0.16	81000.00		840955.31	856904.25	865674.50
39 K # 2	3136	3136	ug/l	0.70	81000.00		830101.63	854357.75	870087.94
40 Ca # 1	14200	14200	ug/l	1.05	81000.00		113304360.00	113297900.00	115068320.00
45 Sc # 2	----	--------		--------	#VALUE!		36078.91	37075.29	38522.61
47 Ti # 3	21.77	21.77	ug/l	1.99	1620.00		19260.46	19583.98	19967.73
51 V # 2	21.72	21.72	ug/l	0.60	1800.00		38323.60	39342.33	39827.86
52 Cr # 2	67.34	67.34	ug/l	1.12	1800.00		141433.81	143712.91	146604.16
55 Mn # 3	221	221	ug/l	0.78	1800.00		3521720.80	3534986.50	3531646.50
56 Fe # 1	2202	2202	ug/l	0.21	81000.00		26521046.00	26856818.00	26760758.00
59 Co # 3	22.29	22.29	ug/l	0.91	1800.00		260007.66	262744.75	265191.47
60 Ni # 2	234.9	234.9	ug/l	1.32	1800.00		212778.11	215546.45	217660.48
63 Cu # 2	33.5	33.5	ug/l	1.31	1800.00		80548.62	81751.72	82229.36
66 Zn # 3	21.73	21.73	ug/l	0.92	1800.00		30993.45	31304.07	31647.96
75 As # 2	21.13	21.13	ug/l	0.86	100.00		3863.75	3944.77	4002.78
78 Se # 1	20.26	20.26	ug/l	0.82	100.00		7310.81	7325.81	7265.79
88 Sr # 3	55.38	55.38	ug/l	3.75	1800.00		1190476.50	1226394.30	1212788.80
95 Mo # 3	21.76	21.76	ug/l	2.51	1800.00		64715.02	66016.54	66347.83
107 Ag # 3	19.38	19.38	ug/l	1.95	100.00		166596.55	168689.98	166010.66
111 Cd # 3	20.57	20.57	ug/l	2.89	100.00		37583.80	38779.60	37800.40
118 Sn # 3	21.15	21.15	ug/l	0.61	1800.00		125955.63	124249.55	124494.59
121 Sb # 3	22.05	22.05	ug/l	1.43	100.00		120759.40	121098.05	120712.37
137 Ba # 3	28.54	28.54	ug/l	1.45	1800.00		83314.53	82962.84	81455.48
202 Hg # 3	1.025	1.025	ug/l	1.99	5.00		1941.12	1981.79	1974.13
205 Tl # 3	4.155	4.155	ug/l	1.91	20.00		69151.59	69238.49	69566.52
208 Pb # 3	20.74	20.74	ug/l	1.52	1800.00		477104.56	474616.97	475827.59
232 Th # 3	20.79	20.79	ug/l	1.66	#VALUE!		556428.88	562969.88	557023.63
238 U # 3	20.82	20.82	ug/l	1.23	#VALUE!		564053.19	566220.69	564032.75

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	505602.59	2.52	572657.25	88.3	60 - 125		494248.91	503152.91	519405.88
45 Sc # 1	491637.50	1.45	523286.00	94.0	60 - 125		483684.94	493847.28	497380.31
45 Sc # 3	598045.69	1.46	603286.69	99.1	60 - 125		600954.50	588259.69	604922.81
74 Ge # 1	158729.27	0.57	170650.48	93.0	60 - 125		157683.33	159216.91	159287.56
74 Ge # 2	23332.40	2.32	24862.19	93.8	60 - 125		22710.85	23588.66	23697.67
74 Ge # 3	153513.19	0.71	155795.36	98.5	60 - 125		153527.69	152420.44	154591.45
89 Y # 3	1014315.80	2.27	1011968.20	100.2	60 - 125		1037690.40	991667.06	1013590.00
115 In # 3	962680.31	1.31	989458.81	97.3	60 - 125		976341.31	951493.50	960206.00
159 Tb # 3	1359550.00	1.79	1388283.80	97.9	60 - 125		1385887.10	1337883.40	1354879.60
209 Bi # 3	755913.38	1.01	829936.50	91.1	60 - 125		760905.13	747167.50	759667.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\063SMPL.D\063SMPL.D#
Date Acquired: Dec 28 2012 12:43 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8436-c-1-b ms
Misc Info: 200.8 1/5
Vial Number: 2306
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.61	10.61	ug/l	2.72	100.00		21969.48	22390.14	22757.14
11 B # 3	63.61	63.61	ug/l	3.22	1800.00		138631.05	140653.45	142388.05
23 Na # 1	17320	17320	ug/l	1.25	81000.00		85839952.00	85766960.00	87742496.00
24 Mg # 1	4357	4357	ug/l	0.94	81000.00		14346023.00	14734663.00	14840841.00
27 Al # 1	1041	1041	ug/l	0.77	81000.00		3991717.50	4009027.50	4059880.30
39 K # 2	2071	2071	ug/l	0.34	81000.00		544223.00	553617.13	566806.38
40 Ca # 1	13080	13080	ug/l	0.66	81000.00		103118260.00	105673690.00	104146380.00
45 Sc # 2	----	--------		--------	#VALUE!		35234.00	36465.21	37362.54
47 Ti # 3	21.53	21.53	ug/l	4.09	1620.00		18930.04	18719.81	18506.26
51 V # 2	21.43	21.43	ug/l	1.06	1800.00		37582.13	38138.77	38190.02
52 Cr # 2	67.53	67.53	ug/l	0.26	1800.00		139742.97	141813.34	143991.44
55 Mn # 3	116.4	116.4	ug/l	3.16	1800.00		1822410.40	1816574.50	1804015.00
56 Fe # 1	1045	1045	ug/l	1.27	81000.00		12769775.00	12595576.00	12656501.00
59 Co # 3	12.04	12.04	ug/l	2.79	1800.00		138734.38	137918.53	138767.61
60 Ni # 2	236.2	236.2	ug/l	0.44	1800.00		210021.81	212880.48	215566.67
63 Cu # 2	33.34	33.34	ug/l	0.95	1800.00		78997.68	79896.98	80308.75
66 Zn # 3	22.69	22.69	ug/l	2.09	1800.00		31714.87	31774.70	32228.86
75 As # 2	21.38	21.38	ug/l	0.57	100.00		3871.42	3882.42	3989.78
78 Se # 1	19.56	19.56	ug/l	0.39	100.00		7022.03	7016.03	7091.72
88 Sr # 3	53.64	53.64	ug/l	2.25	1800.00		1170792.30	1156104.30	1131872.10
95 Mo # 3	21.9	21.9	ug/l	1.69	1800.00		63754.73	64517.94	65210.35
107 Ag # 3	11.7	11.7	ug/l	2.57	100.00		98215.52	97886.57	98978.48
111 Cd # 3	10.33	10.33	ug/l	4.60	100.00		18937.07	18859.92	18149.01
118 Sn # 3	21.38	21.38	ug/l	3.63	1800.00		124320.35	122514.55	122269.28
121 Sb # 3	11.81	11.81	ug/l	3.71	100.00		63868.29	63002.06	62640.87
137 Ba # 3	28.8	28.8	ug/l	2.20	1800.00		80826.24	81231.38	81750.08
202 Hg # 3	1.079	1.079	ug/l	2.45	5.00		2021.80	2002.46	2083.81
205 Tl # 3	8.17	8.17	ug/l	1.45	20.00		133196.52	134205.50	134289.58
208 Pb # 3	10.47	10.47	ug/l	1.92	1800.00		236203.09	235867.20	236603.33
232 Th # 3	20.76	20.76	ug/l	2.03	#VALUE!		547094.63	554658.94	546418.00
238 U # 3	21.33	21.33	ug/l	2.12	#VALUE!		568386.94	574175.31	566848.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	495042.44	4.29	572657.25	86.4	60 - 125		470939.38	503254.56	510933.44
45 Sc # 1	488587.91	0.92	523286.00	93.4	60 - 125		483402.09	491554.16	490807.47
45 Sc # 3	577609.56	2.97	603286.69	95.7	60 - 125		558010.25	585126.69	589691.94
74 Ge # 1	158568.48	0.70	170650.48	92.9	60 - 125		157462.14	158557.84	159685.48
74 Ge # 2	22930.78	1.71	24862.19	92.2	60 - 125		22565.11	22882.21	23345.02
74 Ge # 3	149896.13	2.66	155795.36	96.2	60 - 125		145460.39	151052.22	153175.78
89 Y # 3	997417.19	0.78	1011968.20	98.6	60 - 125		997712.69	989448.50	1005090.30
115 In # 3	939063.00	2.66	989458.81	94.9	60 - 125		910408.13	950363.75	956417.06
159 Tb # 3	1335959.00	1.87	1388283.80	96.2	60 - 125		1307413.40	1354230.60	1346233.10
209 Bi # 3	744336.94	2.17	829936.50	89.7	60 - 125		725766.56	752423.44	754820.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\064SMPL.D\064SMPL.D#
Date Acquired: Dec 28 2012 12:51 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8436-c-1-c msd
Misc Info: 200.8 1/5
Vial Number: 2307
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.57	10.57	ug/l	1.77	100.00		22520.18	22893.85	22980.61
11 B	# 3	63.1	63.1	ug/l	1.60	1800.00		139411.20	143329.61	145144.22
23 Na	# 1	17450	17450	ug/l	0.01	81000.00		86042208.00	87530280.00	87899896.00
24 Mg	# 1	4402	4402	ug/l	0.16	81000.00		14586301.00	14875525.00	14945411.00
27 Al	# 1	1053	1053	ug/l	0.46	81000.00		4000031.50	4105189.50	4112770.80
39 K	# 2	2061	2061	ug/l	0.84	81000.00		543262.19	554024.69	569025.50
40 Ca	# 1	13230	13230	ug/l	0.91	81000.00		103319490.00	107029010.00	106405090.00
45 Sc	# 2	----	--------		--------	#VALUE!		35805.10	36262.68	37518.45
47 Ti	# 3	21.31	21.31	ug/l	4.76	1620.00		18332.76	19010.52	18893.40
51 V	# 2	21.41	21.41	ug/l	1.14	1800.00		37605.45	38051.95	38790.03
52 Cr	# 2	67.52	67.52	ug/l	1.20	1800.00		139948.25	142731.36	145247.06
55 Mn	# 3	117.2	117.2	ug/l	3.01	1800.00		1828302.50	1850927.90	1835742.90
56 Fe	# 1	1044	1044	ug/l	0.39	81000.00		12604615.00	12668827.00	12764016.00
59 Co	# 3	12.04	12.04	ug/l	2.66	1800.00		139329.81	139747.70	138794.38
60 Ni	# 2	237.1	237.1	ug/l	1.57	1800.00		211508.78	215412.84	217595.84
63 Cu	# 2	33.48	33.48	ug/l	1.41	1800.00		79664.88	80332.11	81596.68
66 Zn	# 3	22.78	22.78	ug/l	3.22	1800.00		31607.88	32232.34	32826.63
75 As	# 2	21.52	21.52	ug/l	2.59	100.00		3869.75	4027.45	3991.44
78 Se	# 1	19.95	19.95	ug/l	0.34	100.00		7188.77	7178.43	7212.44
88 Sr	# 3	53.62	53.62	ug/l	6.26	1800.00		1112675.00	1170332.30	1185284.30
95 Mo	# 3	21.86	21.86	ug/l	2.64	1800.00		64370.73	63995.81	65544.77
107 Ag	# 3	11.78	11.78	ug/l	3.04	100.00		99120.95	99247.56	100048.63
111 Cd	# 3	10.46	10.46	ug/l	4.46	100.00		18643.13	19193.87	19023.21
118 Sn	# 3	21.09	21.09	ug/l	3.01	1800.00		122071.63	121832.62	122007.70
121 Sb	# 3	11.74	11.74	ug/l	3.34	100.00		63129.20	63276.31	62875.21
137 Ba	# 3	29.08	29.08	ug/l	3.99	1800.00		82159.08	83240.32	81747.23
202 Hg	# 3	1.068	1.068	ug/l	1.96	5.00		2038.14	2028.80	2070.81
205 Tl	# 3	8.199	8.199	ug/l	4.91	20.00		134870.81	137559.84	136235.89
208 Pb	# 3	10.44	10.44	ug/l	4.08	1800.00		238274.61	239055.00	239055.91
232 Th	# 3	20.56	20.56	ug/l	2.63	#VALUE!		548421.56	553763.13	553784.50
238 U	# 3	21.18	21.18	ug/l	2.99	#VALUE!		569824.88	578769.69	573541.44

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	505828.13	2.31	572657.25	88.3	60 - 125		498821.44	499367.22	519295.66
45 Sc	# 1	489017.38	1.13	523286.00	93.5	60 - 125		482753.88	491084.03	493214.25
45 Sc	# 3	584641.00	3.09	603286.69	96.9	60 - 125		597641.75	563976.38	592304.81
74 Ge	# 1	158795.06	0.32	170650.48	93.1	60 - 125		158208.78	159035.64	159140.75
74 Ge	# 2	23065.73	2.58	24862.19	92.8	60 - 125		22660.76	22787.61	23748.83
74 Ge	# 3	150795.00	2.35	155795.36	96.8	60 - 125		153226.28	146725.70	152433.02
89 Y	# 3	1001980.70	3.76	1011968.20	99.0	60 - 125		1033525.70	960195.00	1012221.40
115 In	# 3	943302.56	3.06	989458.81	95.3	60 - 125		965446.31	910609.13	953852.25
159 Tb	# 3	1355798.40	3.90	1388283.80	97.7	60 - 125		1405376.10	1300189.60	1361829.10
209 Bi	# 3	755362.56	2.19	829936.50	91.0	60 - 125		768625.19	736785.63	760676.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\065SMPL.D\065SMPL.D#
Date Acquired: Dec 28 2012 12:58 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8456-c-1-a
Misc Info: 200.8 1/5
Vial Number: 2308
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.01035	0.01035	ug/l	32.56	100.00		30.00	16.67	26.67
11	B	# 3	2.118	2.118	ug/l	4.82	1800.00		9776.04	9746.03	10169.51
23	Na	# 1	291.6	291.6	ug/l	23.31	81000.00		1375086.50	1383624.10	1416667.50
24	Mg	# 1	220.6	220.6	ug/l	21.36	81000.00		639643.25	642253.31	659562.06
27	Al	# 1	46.8	46.8	ug/l	21.86	81000.00		156122.73	157083.70	162181.38
39	K	# 2	206.3	206.3	ug/l	6.90	81000.00		60849.48	63387.47	63571.03
40	Ca	# 1	1313	1313	ug/l	21.31	81000.00		9090131.00	9191786.00	9367281.00
45	Sc	# 2	----	--------		--------	#VALUE!		39103.15	33617.84	37544.02
47	Ti	# 3	1.743	1.743	ug/l	60.24	1620.00		2601.96	966.72	1060.06
51	V	# 2	0.3704	0.3704	ug/l	8.74	1800.00		746.69	761.13	864.47
52	Cr	# 2	0.3827	0.3827	ug/l	4.86	1800.00		918.92	920.03	934.48
55	Mn	# 3	1.566	1.566	ug/l	1.47	1800.00		26038.81	25544.82	25621.70
56	Fe	# 1	92.93	92.93	ug/l	20.14	81000.00		991087.88	977289.44	1066009.00
59	Co	# 3	0.03321	0.03321	ug/l	8.02	1800.00		396.68	413.35	453.35
60	Ni	# 2	0.3251	0.3251	ug/l	12.66	1800.00		404.45	444.45	432.23
63	Cu	# 2	1.824	1.824	ug/l	6.79	1800.00		4846.23	5039.61	5075.18
66	Zn	# 3	11.37	11.37	ug/l	1.83	1800.00		16764.71	16337.66	16497.81
75	As	# 2	0.3091	0.3091	ug/l	13.91	100.00		63.00	67.33	79.33
78	Se	# 1	0.0364	0.0364	ug/l	30.08	100.00		32.67	35.00	30.33
88	Sr	# 3	2.775	2.775	ug/l	3.27	1800.00		60368.83	60509.86	61640.06
95	Mo	# 3	0.1186	0.1186	ug/l	7.45	1800.00		433.35	390.02	390.01
107	Ag	# 3	0.00795	0.00795	ug/l	6.17	100.00		86.67	80.00	83.34
111	Cd	# 3	0.0217	0.0217	ug/l	30.32	100.00		73.20	83.21	56.54
118	Sn	# 3	0.1572	0.1572	ug/l	5.96	1800.00		1190.08	1136.74	1210.09
121	Sb	# 3	0.2014	0.2014	ug/l	1.43	100.00		1326.76	1333.42	1323.42
137	Ba	# 3	3.39	3.39	ug/l	2.60	1800.00		10149.98	9916.49	10059.92
202	Hg	# 3	0.002727	0.002727	ug/l	83.61	5.00		47.67	48.33	40.00
205	Tl	# 3	0.03908	0.03908	ug/l	3.86	20.00		746.70	700.04	693.37
208	Pb	# 3	0.6446	0.6446	ug/l	3.60	1800.00		15503.56	14589.73	15433.40
232	Th	# 3	0.09068	0.09068	ug/l	4.41	#VALUE!		2867.04	2850.35	2653.66
238	U	# 3	0.007282	0.007282	ug/l	11.55	#VALUE!		246.68	206.67	203.34

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	511378.44	2.58	572657.25	89.3	60 - 125		496370.41	516746.03	521018.84
45	Sc	# 1	437193.91	17.60	523286.00	83.5	60 - 125		488139.28	474779.72	348662.69
45	Sc	# 3	584903.81	0.48	603286.69	97.0	60 - 125		582854.00	583788.88	588068.56
74	Ge	# 1	143743.84	14.38	170650.48	84.2	60 - 125		161624.95	148500.22	121106.32
74	Ge	# 2	23507.11	4.54	24862.19	94.5	60 - 125		24132.75	22274.79	24113.80
74	Ge	# 3	153652.80	0.78	155795.36	98.6	60 - 125		153519.48	154914.44	152524.48
89	Y	# 3	1016881.90	2.57	1011968.20	100.5	60 - 125		1004404.60	1046928.10	999313.31
115	In	# 3	984392.19	1.60	989458.81	99.5	60 - 125		980058.31	1001899.90	971218.19
159	Tb	# 3	1375490.90	0.67	1388283.80	99.1	60 - 125		1382918.10	1378413.00	1365141.30
209	Bi	# 3	800757.81	0.24	829936.50	96.5	60 - 125		800455.31	802832.56	798985.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\066SMPL.D\066SMPL.D#
Date Acquired: Dec 28 2012 01:06 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8456-c-2-a
Misc Info: 200.8 1/5
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.003743	0.003743	ug/l	110.29	100.00		16.67	0.00	13.33
11 B	# 3	8.574	8.574	ug/l	1.97	1800.00		23725.02	23735.15	24152.27
23 Na	# 1	593.7	593.7	ug/l	12.20	81000.00		3040069.00	3102391.30	3129919.00
24 Mg	# 1	196.5	196.5	ug/l	12.36	81000.00		644636.38	667307.31	663033.25
27 Al	# 1	63.61	63.61	ug/l	13.81	81000.00		237551.48	252913.44	246095.52
39 K	# 2	362.8	362.8	ug/l	2.49	81000.00		104302.25	106236.00	109359.70
40 Ca	# 1	1275	1275	ug/l	11.70	81000.00		10063768.00	10256428.00	10369437.00
45 Sc	# 2	----	--------		--------	#VALUE!		35124.90	36668.90	39188.23
47 Ti	# 3	1.441	1.441	ug/l	6.45	1620.00		1273.41	1176.74	1340.09
51 V	# 2	0.4197	0.4197	ug/l	5.40	1800.00		892.25	841.14	945.59
52 Cr	# 2	0.2857	0.2857	ug/l	3.04	1800.00		717.80	710.02	753.36
55 Mn	# 3	3.221	3.221	ug/l	1.50	1800.00		52581.66	51074.43	52351.45
56 Fe	# 1	100.2	100.2	ug/l	10.79	81000.00		1204967.90	1260955.50	1248080.30
59 Co	# 3	0.05636	0.05636	ug/l	13.02	1800.00		603.36	713.37	756.71
60 Ni	# 2	0.2523	0.2523	ug/l	11.57	1800.00		354.45	387.79	354.45
63 Cu	# 2	1.126	1.126	ug/l	4.18	1800.00		3259.21	3387.01	3374.78
66 Zn	# 3	9.917	9.917	ug/l	0.46	1800.00		14519.46	14355.99	14349.27
75 As	# 2	0.3318	0.3318	ug/l	10.97	100.00		77.67	67.00	81.00
78 Se	# 1	0.03456	0.03456	ug/l	20.03	100.00		41.67	30.67	37.00
88 Sr	# 3	2.789	2.789	ug/l	1.37	1800.00		60281.88	59947.83	61198.53
95 Mo	# 3	0.2443	0.2443	ug/l	2.67	1800.00		753.38	783.37	823.38
107 Ag	# 3	0.01601	0.01601	ug/l	19.36	100.00		130.00	183.34	146.67
111 Cd	# 3	0.02909	0.02909	ug/l	47.47	100.00		63.09	113.09	76.41
118 Sn	# 3	0.1827	0.1827	ug/l	6.77	1800.00		1320.09	1380.09	1266.75
121 Sb	# 3	0.2314	0.2314	ug/l	6.21	100.00		1520.11	1390.10	1543.45
137 Ba	# 3	2.647	2.647	ug/l	2.96	1800.00		7478.54	8022.16	7865.42
202 Hg	# 3	0.003504	0.003504	ug/l	65.30	5.00		43.00	51.67	44.33
205 Tl	# 3	0.01618	0.01618	ug/l	8.36	20.00		333.35	333.35	293.34
208 Pb	# 3	1.706	1.706	ug/l	1.69	1800.00		38646.14	38719.62	39534.04
232 Th	# 3	0.05113	0.05113	ug/l	4.14	#VALUE!		1660.15	1583.48	1690.15
238 U	# 3	0.01187	0.01187	ug/l	0.80	#VALUE!		346.68	350.02	343.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	506249.38	2.42	572657.25	88.4	60 - 125		494681.19	504987.69	519079.16
45 Sc	# 1	491162.13	10.71	523286.00	93.9	60 - 125		545282.63	440177.63	488026.16
45 Sc	# 3	578144.31	0.93	603286.69	95.8	60 - 125		572153.56	579801.56	582477.94
74 Ge	# 1	161160.03	8.41	170650.48	94.4	60 - 125		174468.95	147352.77	161658.36
74 Ge	# 2	23849.46	4.75	24862.19	95.9	60 - 125		22842.15	23629.84	25076.39
74 Ge	# 3	153132.95	1.09	155795.36	98.3	60 - 125		155021.17	152551.25	151826.45
89 Y	# 3	1005180.70	2.44	1011968.20	99.3	60 - 125		993936.13	988321.88	1033284.10
115 In	# 3	976887.69	1.93	989458.81	98.7	60 - 125		959867.81	973667.25	997128.13
159 Tb	# 3	1346239.90	0.64	1388283.80	97.0	60 - 125		1356171.00	1340608.10	1341940.50
209 Bi	# 3	791332.19	0.33	829936.50	95.3	60 - 125		789073.56	794245.50	790677.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\067SMPL.D\067SMPL.D#
Date Acquired: Dec 28 2012 01:13 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86060-k-1-a
Misc Info: 200.8 1/5
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0006154	0.0006154	ug/l	247.97	100.00		0.00	6.67	3.33
11 B # 3	2.994	2.994	ug/l	2.19	1800.00		11513.74	12014.08	12024.03
23 Na # 1	592.8	592.8	ug/l	14.56	81000.00		3078042.50	3063742.80	3175011.50
24 Mg # 1	163.7	163.7	ug/l	13.36	81000.00		549937.50	546845.94	560769.75
27 Al # 1	71.4	71.4	ug/l	14.71	81000.00		278266.16	269775.91	284240.00
39 K # 2	245.8	245.8	ug/l	1.36	81000.00		72081.23	74326.46	76659.84
40 Ca # 1	919.4	919.4	ug/l	14.23	81000.00		7417377.50	7324813.00	7614980.00
45 Sc # 2	----	--------		--------	#VALUE!		35890.81	36658.89	37800.14
47 Ti # 3	1.065	1.065	ug/l	38.28	1620.00		1290.59	576.72	984.69
51 V # 2	0.2446	0.2446	ug/l	2.13	1800.00		567.79	557.79	585.57
52 Cr # 2	0.08451	0.08451	ug/l	4.63	1800.00		287.78	291.12	283.34
55 Mn # 3	3.722	3.722	ug/l	1.91	1800.00		60278.45	60472.46	59211.68
56 Fe # 1	58.85	58.85	ug/l	10.66	81000.00		738076.19	728999.25	750323.75
59 Co # 3	0.02113	0.02113	ug/l	6.99	1800.00		260.01	293.34	280.01
60 Ni # 2	0.2357	0.2357	ug/l	17.24	1800.00		303.34	356.67	391.12
63 Cu # 2	0.7652	0.7652	ug/l	1.31	1800.00		2430.18	2415.73	2492.41
66 Zn # 3	5.33	5.33	ug/l	1.63	1800.00		7841.92	7708.51	8071.99
75 As # 2	0.154	0.154	ug/l	13.20	100.00		36.33	43.67	44.33
78 Se # 1	0.01774	0.01774	ug/l	66.97	100.00		26.33	32.33	32.33
88 Sr # 3	2.211	2.211	ug/l	1.24	1800.00		47818.04	47978.76	48844.39
95 Mo # 3	0.1707	0.1707	ug/l	13.87	1800.00		476.69	610.03	600.03
107 Ag # 3	0.001919	0.001919	ug/l	52.94	100.00		40.00	26.67	23.33
111 Cd # 3	0.0184	0.0184	ug/l	19.35	100.00		56.52	69.81	66.48
118 Sn # 3	0.07483	0.07483	ug/l	17.92	1800.00		733.37	590.03	713.37
121 Sb # 3	0.2559	0.2559	ug/l	5.22	100.00		1573.45	1590.12	1706.80
137 Ba # 3	0.4591	0.4591	ug/l	11.31	1800.00		1290.09	1270.08	1540.12
202 Hg # 3	-0.001202	-0.001202	ug/l	13.35	5.00		37.33	37.00	37.33
205 Tl # 3	0.006549	0.006549	ug/l	29.97	20.00		186.67	176.67	126.67
208 Pb # 3	0.3024	0.3024	ug/l	1.53	1800.00		7237.55	7187.56	7144.19
232 Th # 3	0.03297	0.03297	ug/l	9.23	#VALUE!		1230.08	1113.41	1073.40
238 U # 3	0.002858	0.002858	ug/l	22.20	#VALUE!		73.34	90.00	110.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	512282.69	2.39	572657.25	89.5	60 - 125		500073.31	512234.31	524540.44
45 Sc # 1	495778.00	12.39	523286.00	94.7	60 - 125		485509.69	561709.31	440115.03
45 Sc # 3	586769.19	0.62	603286.69	97.3	60 - 125		583995.63	585445.38	590866.63
74 Ge # 1	162847.53	9.24	170650.48	95.4	60 - 125		160394.00	178976.27	149172.30
74 Ge # 2	23796.67	1.89	24862.19	95.7	60 - 125		23388.37	23721.01	24280.64
74 Ge # 3	153165.27	0.76	155795.36	98.3	60 - 125		152870.94	152169.41	154455.50
89 Y # 3	1010737.80	0.31	1011968.20	99.9	60 - 125		1008355.10	1014324.40	1009533.80
115 In # 3	978648.81	0.43	989458.81	98.9	60 - 125		975352.81	983348.31	977245.19
159 Tb # 3	1367002.10	0.91	1388283.80	98.5	60 - 125		1352835.30	1376112.00	1372059.10
209 Bi # 3	794951.75	0.42	829936.50	95.8	60 - 125		791145.25	797458.19	796251.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\068_CCV.D\068_CCV.D#
Date Acquired: Dec 28 2012 01:20 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.17 ug/l	0.73	50.00	90 - 110		109080.31	111246.34	112868.99
11 B	98.72 ug/l	0.88	100.00	90 - 110		222416.25	226201.02	229539.03
23 Na	4798 ug/l	0.64	5000.00	90 - 110		23988112.00	23874830.00	24193454.00
24 Mg	4873 ug/l	1.41	5000.00	90 - 110		16048705.00	16258846.00	16756750.00
27 Al	491.5 ug/l	1.07	500.00	90 - 110		1859099.50	1905766.90	1928087.90
39 K	4916 ug/l	0.30	5000.00	90 - 110		1318660.90	1348780.60	1355540.90
40 Ca	4878 ug/l	1.02	5000.00	90 - 110		38728436.00	39217472.00	38799728.00
45 Sc	--------	--------		--- ##### - #####		36195.88	37732.14	38198.68
47 Ti	50.13 ug/l	0.55	50.00	90 - 110		44293.27	44493.31	44877.86
51 V	48.19 ug/l	0.56	50.00	90 - 110		85787.93	87693.56	88644.61
52 Cr	48.01 ug/l	1.55	50.00	90 - 110		101388.60	102836.55	106000.90
55 Mn	485.9 ug/l	0.42	500.00	90 - 110		7737482.50	7690431.50	7805328.00
56 Fe	4864 ug/l	0.62	5000.00	90 - 110		59893492.00	59902644.00	59249960.00
59 Co	47.36 ug/l	1.00	50.00	90 - 110		560326.88	551969.81	558455.63
60 Ni	48.65 ug/l	0.72	50.00	90 - 110		44219.26	45122.43	45751.78
63 Cu	48.79 ug/l	1.31	50.00	90 - 110		118379.90	118690.68	120991.09
66 Zn	49.06 ug/l	0.67	50.00	90 - 110		70255.37	69492.20	70958.05
75 As	48.53 ug/l	0.93	50.00	90 - 110		8958.87	9080.27	9238.34
78 Se	48.77 ug/l	0.54	50.00	90 - 110		17786.03	17645.86	17819.35
88 Sr	48.27 ug/l	0.66	50.00	90 - 110		1035390.10	1023463.20	1038983.80
95 Mo	49.52 ug/l	0.96	50.00	90 - 110		146126.81	147910.97	146257.81
107 Ag	50.07 ug/l	0.77	50.00	90 - 110		426807.03	424694.00	420337.28
111 Cd	49.18 ug/l	0.42	50.00	90 - 110		89667.64	88591.51	89617.08
118 Sn	49.02 ug/l	0.74	50.00	90 - 110		283292.72	281937.41	286385.28
121 Sb	49.05 ug/l	0.65	50.00	90 - 110		262474.91	264222.06	264385.69
137 Ba	48.82 ug/l	0.84	50.00	90 - 110		137895.33	139415.52	138739.25
202 Hg	2.497 ug/l	0.53	2.50	90 - 110		4755.72	4740.71	4758.05
205 Tl	9.829 ug/l	1.67	10.00	90 - 110		160321.97	158597.78	161692.08
208 Pb	48.88 ug/l	0.31	50.00	90 - 110		1097644.60	1100817.80	1089288.30
232 Th	47.32 ug/l	0.88		--- ##### - #####		1284737.90	1272240.40	1271697.10
238 U	48.47 ug/l	2.24		--- ##### - #####		1283245.30	1330341.50	1345393.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	519233.84	2.43	572657.25	90.7	60 - 125		506334.69	519800.47	531566.38
45 Sc	488026.13	0.83	523286.00	93.3	60 - 125		484045.31	487876.06	492157.06
45 Sc	590257.75	0.56	603286.69	97.8	60 - 125		586553.56	592791.44	591428.25
74 Ge	160575.52	0.02	170650.48	94.1	60 - 125		160554.66	160607.77	160564.13
74 Ge	23504.47	1.56	24862.19	94.5	60 - 125		23080.22	23722.16	23711.02
74 Ge	153226.09	0.76	155795.36	98.4	60 - 125		152393.09	152722.67	154562.52
89 Y	992676.13	0.14	1011968.20	98.1	60 - 125		992451.94	991363.13	994213.31
115 In	945166.44	0.29	989458.81	95.5	60 - 125		947713.44	942258.63	945527.38
159 Tb	1328535.30	0.71	1388283.80	95.7	60 - 125		1326551.00	1338744.40	1320310.40
209 Bi	758520.81	0.35	829936.50	91.4	60 - 125		756021.88	761244.13	758296.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\069_CCB.D\069_CCB.D#
Date Acquired: Dec 28 2012 01:28 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.002487	0.002487	ug/l	85.77	#VALUE!		3.33	6.67	13.33
11 B	# 3	0.9119	0.9119	ug/l	1.88	#VALUE!		7318.27	7564.98	7721.76
23 Na	# 1	-4.793	-4.793	ug/l	8.18	#VALUE!		118183.21	120434.01	122964.11
24 Mg	# 1	0.4184	0.4184	ug/l	34.01	#VALUE!		1556.77	1880.14	2653.59
27 Al	# 1	0.0313	0.0313	ug/l	68.34	#VALUE!		966.72	1083.40	1203.40
39 K	# 2	1.182	1.182	ug/l	38.38	#VALUE!		6824.75	7138.21	7181.56
40 Ca	# 1	1.245	1.245	ug/l	15.57	#VALUE!		117218.64	118752.12	122226.12
45 Sc	# 2	----	--------		--------	#VALUE!		36153.50	36388.40	37429.30
47 Ti	# 3	0.02926	0.02926	ug/l	25.44	#VALUE!		30.00	43.33	33.33
51 V	# 2	0.005839	0.005839	ug/l	18.10	#VALUE!		128.89	131.11	134.45
52 Cr	# 2	-0.000614	-0.000614	ug/l	543.16	#VALUE!		107.78	100.00	95.56
55 Mn	# 3	0.03978	0.03978	ug/l	9.50	#VALUE!		1303.42	1406.76	1300.08
56 Fe	# 1	0.4807	0.4807	ug/l	22.97	#VALUE!		16424.43	17562.15	19961.32
59 Co	# 3	0.002223	0.002223	ug/l	23.70	#VALUE!		50.00	53.34	63.34
60 Ni	# 2	-0.08147	-0.08147	ug/l	17.80	#VALUE!		61.11	60.00	37.78
63 Cu	# 2	-0.1915	-0.1915	ug/l	1.02	#VALUE!		91.11	84.45	84.45
66 Zn	# 3	-0.05639	-0.05639	ug/l	25.02	#VALUE!		206.67	173.34	206.67
75 As	# 2	0.04612	0.04612	ug/l	4.74	#VALUE!		21.00	20.67	20.67
78 Se	# 1	0.02938	0.02938	ug/l	43.60	#VALUE!		40.00	32.00	33.00
88 Sr	# 3	0.003158	0.003158	ug/l	3.55	#VALUE!		136.67	136.67	136.67
95 Mo	# 3	0.05502	0.05502	ug/l	28.88	#VALUE!		173.34	260.01	176.67
107 Ag	# 3	0.006792	0.006792	ug/l	36.75	#VALUE!		93.34	53.33	66.67
111 Cd	# 3	0.002838	0.002838	ug/l	250.81	#VALUE!		26.61	26.58	49.94
118 Sn	# 3	0.03067	0.03067	ug/l	17.80	#VALUE!		363.35	430.02	426.69
121 Sb	# 3	0.3676	0.3676	ug/l	6.91	#VALUE!		2320.22	2150.21	2126.86
137 Ba	# 3	0.007885	0.007885	ug/l	10.14	#VALUE!		40.00	40.00	36.67
202 Hg	# 3	0.01807	0.01807	ug/l	11.39	#VALUE!		72.00	71.67	80.67
205 Tl	# 3	0.002743	0.002743	ug/l	45.10	#VALUE!		76.67	120.00	93.34
208 Pb	# 3	0.003353	0.003353	ug/l	40.44	#VALUE!		280.01	253.34	313.35
232 Th	# 3	0.08674	0.08674	ug/l	9.26	#VALUE!		2840.35	2583.64	2480.28
238 U	# 3	0.006314	0.006314	ug/l	20.29	#VALUE!		220.01	190.01	153.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	531995.31	3.21	572657.25	92.9	60 - 125		513661.03	534820.88	547504.13
45 Sc	# 1	498957.19	3.44	523286.00	95.4	60 - 125		486438.72	491925.13	518507.75
45 Sc	# 3	585873.88	2.82	603286.69	97.1	60 - 125		567714.00	589846.81	600060.94
74 Ge	# 1	164090.28	2.51	170650.48	96.2	60 - 125		161963.13	161468.06	168839.72
74 Ge	# 2	23582.70	1.04	24862.19	94.9	60 - 125		23300.49	23732.15	23715.46
74 Ge	# 3	152882.64	1.52	155795.36	98.1	60 - 125		150340.11	153423.16	154884.67
89 Y	# 3	995026.31	1.75	1011968.20	98.3	60 - 125		975951.63	999161.88	1009965.40
115 In	# 3	959324.06	1.45	989458.81	97.0	60 - 125		943420.63	965501.56	969050.00
159 Tb	# 3	1322960.30	2.35	1388283.80	95.3	60 - 125		1287100.30	1342311.40	1339469.40
209 Bi	# 3	788506.94	1.57	829936.50	95.0	60 - 125		777037.06	786897.19	801586.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\070SMPL.D\070SMPL.D#
Date Acquired: Dec 28 2012 01:35 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86060-k-2-a
Misc Info: 200.8 1/5
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.003613	0.003613	ug/l	108.64	100.00		3.33	6.67	20.00
11 B	# 3	0.8484	0.8484	ug/l	6.35	1800.00		7014.81	7301.59	7134.82
23 Na	# 1	17.7	17.7	ug/l	0.44	81000.00		229399.31	231981.09	233033.06
24 Mg	# 1	32.88	32.88	ug/l	0.31	81000.00		111052.93	111582.89	112383.63
27 Al	# 1	49.16	49.16	ug/l	3.98	81000.00		196942.63	183827.47	195026.95
39 K	# 2	74.05	74.05	ug/l	1.18	81000.00		25898.43	27013.28	27390.36
40 Ca	# 1	93.11	93.11	ug/l	0.42	81000.00		848389.44	855100.81	857314.56
45 Sc	# 2	----	--------		--------	#VALUE!		35503.38	36234.79	36778.09
47 Ti	# 3	2.408	2.408	ug/l	2.88	1620.00		2176.87	2046.85	2143.52
51 V	# 2	0.9145	0.9145	ug/l	4.22	1800.00		1717.87	1844.55	1757.87
52 Cr	# 2	0.1548	0.1548	ug/l	8.82	1800.00		414.45	466.68	422.24
55 Mn	# 3	1.912	1.912	ug/l	0.26	1800.00		30930.20	30716.19	30822.96
56 Fe	# 1	47.25	47.25	ug/l	0.61	81000.00		588011.06	595578.06	596964.06
59 Co	# 3	0.0253	0.0253	ug/l	6.18	1800.00		310.01	316.68	343.35
60 Ni	# 2	0.1785	0.1785	ug/l	11.60	1800.00		264.45	310.01	303.34
63 Cu	# 2	0.2822	0.2822	ug/l	6.06	1800.00		1248.94	1207.83	1256.72
66 Zn	# 3	3.046	3.046	ug/l	3.13	1800.00		4574.03	4420.65	4710.74
75 As	# 2	0.1375	0.1375	ug/l	9.32	100.00		37.67	35.00	40.67
78 Se	# 1	0.02367	0.02367	ug/l	34.42	100.00		35.67	30.33	31.00
88 Sr	# 3	0.3101	0.3101	ug/l	1.65	1800.00		6658.08	6741.48	6914.92
95 Mo	# 3	0.05873	0.05873	ug/l	8.52	1800.00		206.67	210.01	233.34
107 Ag	# 3	0.002205	0.002205	ug/l	20.65	100.00		30.00	30.00	36.67
111 Cd	# 3	0.003859	0.003859	ug/l	281.42	100.00		59.94	23.27	26.59
118 Sn	# 3	0.09282	0.09282	ug/l	5.75	1800.00		773.37	816.71	750.04
121 Sb	# 3	0.3369	0.3369	ug/l	2.34	100.00		2016.84	2056.86	2093.52
137 Ba	# 3	0.8985	0.8985	ug/l	3.02	1800.00		2646.97	2716.96	2543.60
202 Hg	# 3	0.00271	0.00271	ug/l	21.14	5.00		44.00	46.00	44.67
205 Tl	# 3	0.00272	0.00272	ug/l	32.77	20.00		93.34	116.67	86.67
208 Pb	# 3	0.9063	0.9063	ug/l	2.02	1800.00		21212.88	20729.27	21132.75
232 Th	# 3	0.07596	0.07596	ug/l	4.53	#VALUE!		2440.26	2243.58	2366.92
238 U	# 3	0.008327	0.008327	ug/l	12.45	#VALUE!		280.01	230.01	230.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	514779.63	2.08	572657.25	89.9	60 - 125		502720.50	518347.69	523270.66
45 Sc	# 1	491457.38	0.88	523286.00	93.9	60 - 125		487003.53	491732.56	495636.09
45 Sc	# 3	582868.88	0.50	603286.69	96.6	60 - 125		582764.31	580024.88	585817.63
74 Ge	# 1	161192.39	0.30	170650.48	94.5	60 - 125		160794.13	161042.23	161740.80
74 Ge	# 2	23474.81	2.93	24862.19	94.4	60 - 125		22797.65	23452.90	24173.89
74 Ge	# 3	151503.19	0.60	155795.36	97.2	60 - 125		152440.89	150629.44	151439.25
89 Y	# 3	1002916.30	0.47	1011968.20	99.1	60 - 125		997499.75	1005887.10	1005361.90
115 In	# 3	969984.25	0.32	989458.81	98.0	60 - 125		971093.50	972346.25	966513.13
159 Tb	# 3	1360923.30	0.86	1388283.80	98.0	60 - 125		1359521.60	1373225.00	1350022.90
209 Bi	# 3	793663.88	0.61	829936.50	95.6	60 - 125		791430.69	790381.31	799179.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\071SMPL.D\071SMPL.D#
Date Acquired: Dec 28 2012 01:43 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86060-k-3-a
Misc Info: 200.8 1/5
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.01695	0.01695	ug/l	17.35	100.00		36.67	33.33	46.67
11	B	# 3	0.6745	0.6745	ug/l	5.60	1800.00		6591.29	6701.33	6834.74
23	Na	# 1	13.76	13.76	ug/l	6.11	81000.00		207105.05	209521.64	210648.17
24	Mg	# 1	27.24	27.24	ug/l	1.97	81000.00		91042.27	91329.93	91996.61
27	Al	# 1	61.83	61.83	ug/l	2.23	81000.00		235319.22	238492.89	240558.22
39	K	# 2	54.65	54.65	ug/l	3.69	81000.00		20798.66	21579.45	22443.86
40	Ca	# 1	101.1	101.1	ug/l	2.74	81000.00		895996.00	905339.13	917362.56
45	Sc	# 2	----	--------		--------	#VALUE!		35507.91	36534.32	38147.40
47	Ti	# 3	4.533	4.533	ug/l	3.63	1620.00		4033.87	3793.83	3997.20
51	V	# 2	0.5659	0.5659	ug/l	3.47	1800.00		1098.93	1146.72	1201.16
52	Cr	# 2	0.1685	0.1685	ug/l	5.39	1800.00		480.01	438.90	480.01
55	Mn	# 3	3.905	3.905	ug/l	1.11	1800.00		62716.47	62248.40	61943.98
56	Fe	# 1	81.6	81.6	ug/l	1.63	81000.00		1005610.80	1011220.40	1008240.80
59	Co	# 3	0.03119	0.03119	ug/l	8.30	1800.00		423.35	386.68	366.68
60	Ni	# 2	0.1906	0.1906	ug/l	15.46	1800.00		278.89	330.01	305.56
63	Cu	# 2	0.599	0.599	ug/l	2.34	1800.00		2014.57	2014.58	2023.46
66	Zn	# 3	6.219	6.219	ug/l	0.88	1800.00		9089.16	9072.49	8995.82
75	As	# 2	0.131	0.131	ug/l	18.41	100.00		33.67	41.33	35.00
78	Se	# 1	0.008457	0.008457	ug/l	69.36	100.00		27.00	24.67	28.00
88	Sr	# 3	0.1923	0.1923	ug/l	3.11	1800.00		4317.34	4073.92	4160.60
95	Mo	# 3	0.05227	0.05227	ug/l	11.74	1800.00		180.01	193.34	216.68
107	Ag	# 3	0.003364	0.003364	ug/l	6.57	100.00		43.34	43.33	40.00
111	Cd	# 3	0.008688	0.008688	ug/l	95.35	100.00		36.61	36.61	63.27
118	Sn	# 3	0.07584	0.07584	ug/l	3.82	1800.00		673.38	663.37	696.70
121	Sb	# 3	0.253	0.253	ug/l	5.67	100.00		1510.11	1593.45	1666.80
137	Ba	# 3	0.9015	0.9015	ug/l	4.18	1800.00		2513.61	2703.64	2700.29
202	Hg	# 3	-0.0002404	-0.0002404	ug/l	601.50	5.00		41.67	38.67	36.67
205	Tl	# 3	0.003301	0.003301	ug/l	35.29	20.00		93.34	130.00	103.34
208	Pb	# 3	0.5869	0.5869	ug/l	1.39	1800.00		13772.74	13762.80	13706.10
232	Th	# 3	0.1026	0.1026	ug/l	7.41	#VALUE!		3310.48	3023.73	2957.04
238	U	# 3	0.01267	0.01267	ug/l	2.72	#VALUE!		376.68	370.02	363.35

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	510568.00	2.73	572657.25	89.2	60 - 125		494839.88	515465.31	521398.78
45	Sc	# 1	485351.56	1.57	523286.00	92.8	60 - 125		484882.97	493175.72	477996.03
45	Sc	# 3	576306.00	0.79	603286.69	95.5	60 - 125		571341.81	577284.94	580291.25
74	Ge	# 1	159931.78	1.68	170650.48	93.7	60 - 125		160554.25	162252.58	156988.50
74	Ge	# 2	23579.00	1.96	24862.19	94.8	60 - 125		23385.03	23244.89	24107.08
74	Ge	# 3	151691.05	0.68	155795.36	97.4	60 - 125		150823.80	152833.72	151415.58
89	Y	# 3	993256.13	0.57	1011968.20	98.2	60 - 125		990417.88	989630.31	999720.00
115	In	# 3	968111.56	0.03	989458.81	97.8	60 - 125		968496.94	967940.94	967896.88
159	Tb	# 3	1366615.30	1.12	1388283.80	98.4	60 - 125		1359339.50	1356336.10	1384170.30
209	Bi	# 3	792708.06	0.85	829936.50	95.5	60 - 125		785593.81	793480.88	799049.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\072SMPL.D\072SMPL.D#
Date Acquired: Dec 28 2012 01:50 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86060-k-4-a
Misc Info: 200.8 1/5
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.004818	0.004818	ug/l	70.90	100.00		20.00	6.67	10.00
11 B # 3	1.183	1.183	ug/l	5.97	1800.00		7681.71	7745.10	7865.13
23 Na # 1	131.3	131.3	ug/l	1.28	81000.00		794498.75	798542.00	803840.94
24 Mg # 1	76.94	76.94	ug/l	1.21	81000.00		257095.31	258922.52	263966.94
27 Al # 1	215.4	215.4	ug/l	1.08	81000.00		821569.13	835933.19	851190.38
39 K # 2	204.4	204.4	ug/l	0.24	81000.00		61163.23	61861.82	63661.50
40 Ca # 1	800.7	800.7	ug/l	0.22	81000.00		6406751.50	6583514.00	6534465.50
45 Sc # 2	----	--------		--------	#VALUE!		35531.26	35807.28	37189.95
47 Ti # 3	16.14	16.14	ug/l	1.97	1620.00		14172.40	14315.81	13888.86
51 V # 2	0.7034	0.7034	ug/l	3.10	1800.00		1416.73	1374.51	1392.29
52 Cr # 2	0.5572	0.5572	ug/l	1.24	1800.00		1294.50	1280.06	1331.17
55 Mn # 3	5.577	5.577	ug/l	1.49	1800.00		89282.20	88188.89	88598.66
56 Fe # 1	282	282	ug/l	0.24	81000.00		3475717.50	3480846.30	3501374.50
59 Co # 3	0.1208	0.1208	ug/l	5.25	1800.00		1356.76	1526.78	1426.76
60 Ni # 2	0.2802	0.2802	ug/l	7.01	1800.00		397.79	386.67	375.56
63 Cu # 2	0.7633	0.7633	ug/l	1.45	1800.00		2391.29	2371.29	2477.97
66 Zn # 3	72.28	72.28	ug/l	0.35	1800.00		101104.44	102931.25	102944.15
75 As # 2	0.3228	0.3228	ug/l	3.94	100.00		69.33	71.67	76.67
78 Se # 1	0.02149	0.02149	ug/l	16.07	100.00		33.00	30.67	31.00
88 Sr # 3	2.344	2.344	ug/l	1.87	1800.00		51361.14	51230.79	50923.38
95 Mo # 3	0.06978	0.06978	ug/l	13.30	1800.00		286.68	253.34	220.01
107 Ag # 3	0.004513	0.004513	ug/l	76.98	100.00		90.00	30.00	40.00
111 Cd # 3	0.09024	0.09024	ug/l	10.82	100.00		226.58	183.26	189.94
118 Sn # 3	0.1419	0.1419	ug/l	5.97	1800.00		1063.40	1060.06	1123.40
121 Sb # 3	0.2193	0.2193	ug/l	4.03	100.00		1463.44	1350.09	1453.44
137 Ba # 3	3.118	3.118	ug/l	5.62	1800.00		8952.62	9589.62	9049.30
202 Hg # 3	-0.0003976	-0.0003976	ug/l	1017.90	5.00		41.67	44.67	29.67
205 Tl # 3	0.005241	0.005241	ug/l	20.24	20.00		156.67	123.34	143.34
208 Pb # 3	0.7221	0.7221	ug/l	0.83	1800.00		16810.70	16793.97	16897.36
232 Th # 3	0.1063	0.1063	ug/l	1.13	#VALUE!		3143.75	3247.11	3207.10
238 U # 3	0.03379	0.03379	ug/l	1.44	#VALUE!		963.40	960.06	986.73

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	506538.78	3.08	572657.25	88.5	60 - 125		489997.38	508655.97	520963.06
45 Sc # 1	490400.88	1.42	523286.00	93.7	60 - 125		482413.97	495202.63	493586.03
45 Sc # 3	581155.38	1.11	603286.69	96.3	60 - 125		573764.38	585504.75	584197.00
74 Ge # 1	161266.09	0.27	170650.48	94.5	60 - 125		161226.53	160847.47	161724.23
74 Ge # 2	23520.81	1.86	24862.19	94.6	60 - 125		23148.11	23411.74	24002.56
74 Ge # 3	151726.92	0.85	155795.36	97.4	60 - 125		150303.25	152840.77	152036.78
89 Y # 3	1012084.30	2.13	1011968.20	100.0	60 - 125		1036763.50	997017.25	1002471.90
115 In # 3	980446.13	2.37	989458.81	99.1	60 - 125		1007122.70	964940.81	969274.75
159 Tb # 3	1363947.60	0.70	1388283.80	98.2	60 - 125		1354420.00	1373644.00	1363779.00
209 Bi # 3	792079.44	0.62	829936.50	95.4	60 - 125		786473.00	795341.00	794424.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\073SMPL.D\073SMPL.D#
Date Acquired: Dec 28 2012 01:58 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86060-k-5-a
Misc Info: 200.8 1/5
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.007738	0.007738	ug/l	31.82	100.00		23.33	13.33	20.00
11 B # 3	0.463	0.463	ug/l	8.66	1800.00		6077.79	6347.88	6457.91
23 Na # 1	23.81	23.81	ug/l	2.88	81000.00		258492.81	266770.00	262208.78
24 Mg # 1	78.58	78.58	ug/l	0.97	81000.00		263847.41	267041.09	268513.50
27 Al # 1	198.4	198.4	ug/l	0.64	81000.00		766531.56	777677.25	774866.31
39 K # 2	110.7	110.7	ug/l	9.32	81000.00		36596.27	36051.81	38436.55
40 Ca # 1	183.4	183.4	ug/l	0.41	81000.00		1575167.60	1581230.00	1581754.10
45 Sc # 2	----	--------		--------	#VALUE!		35736.10	40652.12	35047.07
47 Ti # 3	16.22	16.22	ug/l	4.21	1620.00		14926.34	14102.33	14399.24
51 V # 2	0.9915	0.9915	ug/l	6.80	1800.00		1952.34	1900.11	1941.23
52 Cr # 2	0.4856	0.4856	ug/l	7.02	1800.00		1150.05	1138.94	1180.05
55 Mn # 3	4.261	4.261	ug/l	0.75	1800.00		69296.80	68429.90	68517.09
56 Fe # 1	278.7	278.7	ug/l	0.88	81000.00		3480755.00	3463632.00	3440960.00
59 Co # 3	0.1211	0.1211	ug/l	4.63	1800.00		1533.44	1413.43	1423.42
60 Ni # 2	0.3615	0.3615	ug/l	3.05	1800.00		445.56	488.90	464.45
63 Cu # 2	0.7006	0.7006	ug/l	3.91	1800.00		2190.15	2362.39	2290.16
66 Zn # 3	12.62	12.62	ug/l	1.41	1800.00		18292.87	18626.56	17995.99
75 As # 2	0.1283	0.1283	ug/l	29.06	100.00		41.00	30.33	37.33
78 Se # 1	0.01439	0.01439	ug/l	14.36	100.00		28.33	30.00	29.00
88 Sr # 3	0.3806	0.3806	ug/l	2.59	1800.00		8108.74	8565.62	8792.41
95 Mo # 3	0.04301	0.04301	ug/l	23.15	1800.00		173.34	140.00	200.01
107 Ag # 3	0.002909	0.002909	ug/l	14.04	100.00		36.67	43.33	36.67
111 Cd # 3	0.02011	0.02011	ug/l	49.17	100.00		86.61	66.62	49.94
118 Sn # 3	0.08683	0.08683	ug/l	2.94	1800.00		763.37	743.37	756.71
121 Sb # 3	0.1818	0.1818	ug/l	8.06	100.00		1153.40	1186.74	1310.09
137 Ba # 3	2.458	2.458	ug/l	2.02	1800.00		7371.76	7341.77	7125.05
202 Hg # 3	-0.002672	-0.002672	ug/l	85.22	5.00		39.67	34.00	30.67
205 Tl # 3	0.004698	0.004698	ug/l	54.49	20.00		93.34	180.01	126.67
208 Pb # 3	1.017	1.017	ug/l	0.41	1800.00		23824.28	23881.18	23737.58
232 Th # 3	0.09199	0.09199	ug/l	3.04	#VALUE!		2927.04	2837.02	2770.34
238 U # 3	0.01773	0.01773	ug/l	7.90	#VALUE!		526.69	560.03	480.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	514532.13	1.96	572657.25	89.8	60 - 125		502900.50	520838.38	519857.44
45 Sc # 1	492111.41	0.37	523286.00	94.0	60 - 125		491474.47	494153.31	490706.50
45 Sc # 3	592682.06	1.41	603286.69	98.2	60 - 125		583132.13	596453.88	598460.25
74 Ge # 1	162064.91	0.34	170650.48	95.0	60 - 125		161421.84	162415.00	162357.86
74 Ge # 2	23748.57	5.16	24862.19	95.5	60 - 125		23020.14	25163.09	23062.48
74 Ge # 3	153529.19	0.35	155795.36	98.5	60 - 125		153651.69	153989.53	152946.36
89 Y # 3	1026068.60	1.78	1011968.20	101.4	60 - 125		1010284.60	1021890.70	1046030.50
115 In # 3	983178.19	0.69	989458.81	99.4	60 - 125		976654.56	990190.50	982689.75
159 Tb # 3	1375510.90	0.39	1388283.80	99.1	60 - 125		1370021.90	1380592.30	1375918.80
209 Bi # 3	805705.44	0.06	829936.50	97.1	60 - 125		805434.44	805378.31	806303.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\074SMPL.D\074SMPL.D#
Date Acquired: Dec 28 2012 02:05 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86070-c-1-a
Misc Info: 200.8 1/5
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.006506	0.006506	ug/l	40.92	100.00		20.00	10.00	20.00
11 B	# 3	1.916	1.916	ug/l	1.25	1800.00		9405.85	9982.86	10016.20
23 Na	# 1	1655	1655	ug/l	1.00	81000.00		8604200.00	8808832.00	8889051.00
24 Mg	# 1	13590	13590	ug/l	0.84	81000.00		46926860.00	47980512.00	48303408.00
27 Al	# 1	4.278	4.278	ug/l	3.61	81000.00		18824.13	17788.81	18148.93
39 K	# 2	745.1	745.1	ug/l	0.82	81000.00		212146.11	220754.22	223110.09
40 Ca	# 1	17450	17450	ug/l	0.58	81000.00		144014590.00	144799310.00	147359710.00
45 Sc	# 2	----	--------		--------	#VALUE!		37009.66	38318.90	38844.44
47 Ti	# 3	0.1165	0.1165	ug/l	24.64	1620.00		136.67	123.34	90.00
51 V	# 2	0.1245	0.1245	ug/l	8.84	1800.00		345.56	348.90	392.23
52 Cr	# 2	0.01415	0.01415	ug/l	38.70	1800.00		122.22	148.89	145.56
55 Mn	# 3	129	129	ug/l	1.45	1800.00		2118974.00	2124550.80	2129237.00
56 Fe	# 1	37.85	37.85	ug/l	0.43	81000.00		486159.06	492490.09	492324.84
59 Co	# 3	0.2988	0.2988	ug/l	2.60	1800.00		3577.11	3773.83	3633.78
60 Ni	# 2	1.62	1.62	ug/l	2.84	1800.00		1623.42	1701.21	1774.55
63 Cu	# 2	-0.1493	-0.1493	ug/l	3.09	1800.00		191.11	188.89	214.45
66 Zn	# 3	1.746	1.746	ug/l	3.94	1800.00		2883.65	2903.66	2786.96
75 As	# 2	0.1327	0.1327	ug/l	14.62	100.00		34.00	39.00	43.00
78 Se	# 1	0.02974	0.02974	ug/l	39.71	100.00		40.33	33.67	32.33
88 Sr	# 3	97.87	97.87	ug/l	0.86	1800.00		2263872.80	2211774.30	2212380.80
95 Mo	# 3	0.00855	0.00855	ug/l	48.28	1800.00		50.00	76.67	70.00
107 Ag	# 3	0.001354	0.001354	ug/l	164.18	100.00		6.67	23.33	46.67
111 Cd	# 3	0.008356	0.008356	ug/l	174.84	100.00		73.32	19.98	43.31
118 Sn	# 3	0.1378	0.1378	ug/l	119.74	1800.00		2169.69	530.02	463.35
121 Sb	# 3	0.1208	0.1208	ug/l	4.19	100.00		863.38	916.72	863.38
137 Ba	# 3	2.515	2.515	ug/l	2.47	1800.00		7478.52	7601.89	7391.82
202 Hg	# 3	-0.002704	-0.002704	ug/l	107.54	5.00		34.33	38.67	27.67
205 Tl	# 3	0.001228	0.001228	ug/l	35.16	20.00		73.34	70.00	83.34
208 Pb	# 3	7.502E-005	7.502E-005	ug/l	609.04	1800.00		216.67	213.34	230.01
232 Th	# 3	0.0177	0.0177	ug/l	14.72	#VALUE!		610.03	776.71	696.71
238 U	# 3	0.006579	0.006579	ug/l	11.77	#VALUE!		190.01	216.67	173.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	530202.75	3.88	572657.25	92.6	60 - 125		506729.25	538652.69	545226.31
45 Sc	# 1	510706.19	0.72	523286.00	97.6	60 - 125		506953.88	510891.44	514273.31
45 Sc	# 3	609621.06	2.30	603286.69	101.0	60 - 125		593831.44	614510.69	620521.13
74 Ge	# 1	165410.55	0.37	170650.48	96.9	60 - 125		164754.09	165516.73	165960.84
74 Ge	# 2	24597.74	1.89	24862.19	98.9	60 - 125		24087.09	24707.87	24998.26
74 Ge	# 3	158363.42	1.69	155795.36	101.6	60 - 125		155515.75	158759.92	160814.58
89 Y	# 3	1057018.80	0.73	1011968.20	104.5	60 - 125		1064202.90	1048838.40	1058014.90
115 In	# 3	989084.38	2.00	989458.81	100.0	60 - 125		966437.25	998108.19	1002707.70
159 Tb	# 3	1392413.40	2.55	1388283.80	100.3	60 - 125		1355192.80	1425783.10	1396264.10
209 Bi	# 3	779299.31	2.02	829936.50	93.9	60 - 125		761156.56	787514.56	789226.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\075SMPL.D\075SMPL.D#
Date Acquired: Dec 28 2012 02:13 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86070-c-2-a
Misc Info: 200.8 1/5
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.009591	0.009591	ug/l	8.79	100.00		23.33	26.67	23.33
11 B # 3	2.133	2.133	ug/l	0.69	1800.00		10372.98	10626.54	10859.99
23 Na # 1	3054	3054	ug/l	5.96	81000.00		16211473.00	16680681.00	16564671.00
24 Mg # 1	15150	15150	ug/l	6.31	81000.00		53112892.00	55052436.00	55719776.00
27 Al # 1	5.034	5.034	ug/l	5.51	81000.00		22593.90	19908.95	23298.91
39 K # 2	1296	1296	ug/l	1.08	81000.00		369257.84	385542.56	392518.16
40 Ca # 1	30210	30210	ug/l	5.52	81000.00		255660340.00	260869970.00	258723680.00
45 Sc # 2	----	--------		--------	#VALUE!		38031.66	39455.65	40707.21
47 Ti # 3	0.1421	0.1421	ug/l	57.11	1620.00		133.34	230.08	76.67
51 V # 2	0.1825	0.1825	ug/l	5.04	1800.00		452.23	498.90	492.23
52 Cr # 2	0.0146	0.0146	ug/l	33.03	1800.00		130.00	140.00	157.78
55 Mn # 3	104	104	ug/l	1.44	1800.00		1756839.50	1781914.80	1741144.50
56 Fe # 1	26.06	26.06	ug/l	3.33	81000.00		343435.34	345837.03	351870.88
59 Co # 3	2.374	2.374	ug/l	1.17	1800.00		29754.54	29818.00	29380.65
60 Ni # 2	7.508	7.508	ug/l	0.64	1800.00		7410.42	7529.37	7641.64
63 Cu # 2	0.02373	0.02373	ug/l	22.63	1800.00		628.91	644.46	681.13
66 Zn # 3	9.734	9.734	ug/l	0.96	1800.00		15123.29	14976.49	14959.75
75 As # 2	0.1839	0.1839	ug/l	6.92	100.00		51.33	48.00	49.33
78 Se # 1	0.536	0.536	ug/l	6.36	100.00		227.00	236.00	223.00
88 Sr # 3	196.3	196.3	ug/l	3.57	1800.00		4591329.50	4549132.00	4444299.50
95 Mo # 3	0.01864	0.01864	ug/l	7.68	1800.00		96.67	93.34	103.34
107 Ag # 3	0.0007289	0.0007289	ug/l	135.12	100.00		10.00	23.33	26.67
111 Cd # 3	0.04146	0.04146	ug/l	18.78	100.00		96.64	106.64	126.64
118 Sn # 3	0.03844	0.03844	ug/l	7.26	1800.00		463.35	486.69	463.36
121 Sb # 3	0.11	0.11	ug/l	8.81	100.00		813.38	780.04	896.72
137 Ba # 3	6.675	6.675	ug/l	2.26	1800.00		19745.31	20396.12	20092.39
202 Hg # 3	-0.002766	-0.002766	ug/l	26.58	5.00		34.33	32.33	32.33
205 Tl # 3	0.006925	0.006925	ug/l	7.16	20.00		180.01	176.67	166.67
208 Pb # 3	0.007204	0.007204	ug/l	14.53	1800.00		393.35	366.68	413.35
232 Th # 3	0.01554	0.01554	ug/l	9.25	#VALUE!		583.37	670.04	623.37
238 U # 3	0.06773	0.06773	ug/l	3.81	#VALUE!		1916.84	1806.83	1910.18

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	546701.81	1.97	572657.25	95.5	60 - 125		535836.88	546916.81	557351.69
45 Sc # 1	525346.94	4.48	523286.00	100.4	60 - 125		547281.00	500480.13	528279.75
45 Sc # 3	637005.56	0.83	603286.69	105.6	60 - 125		631847.81	636778.63	642390.31
74 Ge # 1	168285.00	2.92	170650.48	98.6	60 - 125		172371.64	162832.27	169651.05
74 Ge # 2	25068.00	2.15	24862.19	100.8	60 - 125		24507.61	25113.98	25582.40
74 Ge # 3	162576.28	0.40	155795.36	104.4	60 - 125		162046.70	162385.31	163296.81
89 Y # 3	1070842.40	2.00	1011968.20	105.8	60 - 125		1060382.50	1056713.30	1095431.50
115 In # 3	1000077.40	0.75	989458.81	101.1	60 - 125		1003302.90	991452.38	1005476.60
159 Tb # 3	1405315.00	1.31	1388283.80	101.2	60 - 125		1384178.00	1418222.60	1413544.00
209 Bi # 3	768832.44	0.75	829936.50	92.6	60 - 125		762225.19	772704.25	771567.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\076_CCV.D\076_CCV.D#
Date Acquired: Dec 28 2012 02:20 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.42 ug/l	2.35	50.00	90 - 110		109485.88	111397.19	113203.64
11 B	96.63 ug/l	2.64	100.00	90 - 110		219697.73	225132.86	231250.78
23 Na	4848 ug/l	1.15	5000.00	90 - 110		23651994.00	24368926.00	24563720.00
24 Mg	4926 ug/l	2.25	5000.00	90 - 110		15899205.00	16735198.00	16806100.00
27 Al	495.9 ug/l	1.21	500.00	90 - 110		1862162.90	1919140.00	1944475.60
39 K	5111 ug/l	6.80	5000.00	90 - 110		1340224.30	1362663.00	1386567.30
40 Ca	4961 ug/l	0.52	5000.00	90 - 110		39225440.00	39097552.00	40044360.00
45 Sc	--------	--------		--- ##### - #####		39443.76	34736.70	38170.77
47 Ti	49.61 ug/l	1.52	50.00	90 - 110		43721.47	44433.36	43918.66
51 V	49.34 ug/l	7.77	50.00	90 - 110		85289.38	88373.57	88655.94
52 Cr	49.54 ug/l	7.50	50.00	90 - 110		101704.80	104963.80	106271.13
55 Mn	490.3 ug/l	0.38	500.00	90 - 110		7742077.50	7836099.00	7788488.00
56 Fe	4898 ug/l	0.31	5000.00	90 - 110		59139492.00	59951724.00	60284364.00
59 Co	47.49 ug/l	0.70	50.00	90 - 110		554317.06	556735.13	558919.50
60 Ni	49.85 ug/l	6.77	50.00	90 - 110		44769.38	45266.33	45314.12
63 Cu	50 ug/l	7.29	50.00	90 - 110		117561.27	120422.77	120796.42
66 Zn	49.34 ug/l	1.11	50.00	90 - 110		69987.66	70054.01	71155.34
75 As	49.87 ug/l	7.82	50.00	90 - 110		8919.52	9243.01	9236.34
78 Se	48.59 ug/l	0.51	50.00	90 - 110		17505.06	17681.90	17587.81
88 Sr	48.07 ug/l	4.15	50.00	90 - 110		1034088.60	1030113.30	1029753.80
95 Mo	49.38 ug/l	1.97	50.00	90 - 110		145250.34	146442.84	145938.48
107 Ag	49.75 ug/l	2.27	50.00	90 - 110		416172.53	421320.25	422118.78
111 Cd	49.4 ug/l	2.71	50.00	90 - 110		89094.18	89054.27	90062.43
118 Sn	49.06 ug/l	2.02	50.00	90 - 110		282897.50	283740.31	282948.53
121 Sb	49.19 ug/l	1.61	50.00	90 - 110		262460.72	265579.44	262742.75
137 Ba	48.93 ug/l	1.83	50.00	90 - 110		139371.64	138925.44	137442.72
202 Hg	2.5 ug/l	1.08	2.50	90 - 110		4760.05	4758.05	4656.02
205 Tl	9.832 ug/l	2.30	10.00	90 - 110		158003.27	158628.00	158668.95
208 Pb	49.08 ug/l	2.63	50.00	90 - 110		1088330.50	1084645.30	1090561.50
232 Th	47.52 ug/l	2.91		--- ##### - #####		1260634.00	1264493.40	1291661.90
238 U	47.02 ug/l	1.89		--- ##### - #####		1267023.50	1271849.10	1274772.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	528675.06	2.98	572657.25	92.3	60 - 125		512002.53	543371.38	530651.19
45 Sc	486520.13	1.29	523286.00	93.0	60 - 125		481302.41	484743.22	493514.69
45 Sc	589454.25	2.37	603286.69	97.7	60 - 125		578910.44	605302.25	584150.13
74 Ge	159761.73	0.68	170650.48	93.6	60 - 125		158564.78	160061.00	160659.42
74 Ge	23048.78	6.15	24862.19	92.7	60 - 125		24103.84	21437.17	23605.32
74 Ge	152728.05	0.94	155795.36	98.0	60 - 125		151144.17	153919.41	153120.56
89 Y	996650.63	4.15	1011968.20	98.5	60 - 125		974161.00	1044346.00	971444.88
115 In	942393.44	2.19	989458.81	95.2	60 - 125		937872.50	964891.94	924415.63
159 Tb	1313847.90	2.39	1388283.80	94.6	60 - 125		1299480.30	1349905.30	1292158.30
209 Bi	753340.19	1.78	829936.50	90.8	60 - 125		751754.69	767459.88	740806.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\077_CCB.D\077_CCB.D#
Date Acquired: Dec 28 2012 02:27 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.002019	0.002019	ug/l	125.31	#VALUE!		10.00	10.00	0.00
11 B	# 3	0.7005	0.7005	ug/l	5.64	#VALUE!		6844.73	7268.25	7144.86
23 Na	# 1	-3.111	-3.111	ug/l	18.91	#VALUE!		117881.78	121788.70	126445.12
24 Mg	# 1	0.9869	0.9869	ug/l	45.32	#VALUE!		2290.20	3590.45	5514.31
27 Al	# 1	0.07201	0.07201	ug/l	57.49	#VALUE!		946.72	1240.08	1356.76
39 K	# 2	1.493	1.493	ug/l	29.71	#VALUE!		6994.82	7144.90	7294.95
40 Ca	# 1	3.072	3.072	ug/l	6.05	#VALUE!		120509.34	127729.10	132739.59
45 Sc	# 2	----	--------		--------	#VALUE!		35473.32	36701.26	36650.14
47 Ti	# 3	0.02154	0.02154	ug/l	22.56	#VALUE!		33.33	26.67	26.67
51 V	# 2	0.01122	0.01122	ug/l	39.06	#VALUE!		142.22	133.34	148.89
52 Cr	# 2	-0.0001742	-0.0001742	ug/l	4508.60	#VALUE!		121.11	92.22	93.33
55 Mn	# 3	0.03051	0.03051	ug/l	25.65	#VALUE!		1326.76	1136.73	1116.74
56 Fe	# 1	0.8161	0.8161	ug/l	30.01	#VALUE!		18005.81	20979.12	25124.35
59 Co	# 3	0.001457	0.001457	ug/l	23.35	#VALUE!		43.33	46.67	50.00
60 Ni	# 2	-0.09077	-0.09077	ug/l	14.20	#VALUE!		56.67	33.33	43.33
63 Cu	# 2	-0.1981	-0.1981	ug/l	2.24	#VALUE!		57.78	77.78	76.67
66 Zn	# 3	-0.03443	-0.03443	ug/l	18.00	#VALUE!		216.67	236.68	230.01
75 As	# 2	0.02232	0.02232	ug/l	63.35	#VALUE!		18.00	13.33	17.67
78 Se	# 1	0.04191	0.04191	ug/l	17.03	#VALUE!		39.33	38.33	36.67
88 Sr	# 3	0.002394	0.002394	ug/l	67.50	#VALUE!		150.01	136.67	80.00
95 Mo	# 3	0.05152	0.05152	ug/l	16.48	#VALUE!		220.01	176.67	183.34
107 Ag	# 3	0.004666	0.004666	ug/l	3.79	#VALUE!		53.34	56.67	50.00
111 Cd	# 3	0.008108	0.008108	ug/l	57.36	#VALUE!		49.93	49.95	33.28
118 Sn	# 3	0.02845	0.02845	ug/l	34.44	#VALUE!		376.68	476.69	336.68
121 Sb	# 3	0.3764	0.3764	ug/l	6.92	#VALUE!		2406.91	2296.89	2076.86
137 Ba	# 3	0.004356	0.004356	ug/l	10.38	#VALUE!		30.00	30.00	26.67
202 Hg	# 3	0.01523	0.01523	ug/l	14.14	#VALUE!		64.33	76.00	67.33
205 Tl	# 3	0.0007156	0.0007156	ug/l	176.91	#VALUE!		86.67	53.34	50.00
208 Pb	# 3	0.00127	0.00127	ug/l	173.07	#VALUE!		240.01	293.34	176.67
232 Th	# 3	0.08092	0.08092	ug/l	6.46	#VALUE!		2610.30	2523.62	2286.92
238 U	# 3	0.005387	0.005387	ug/l	27.42	#VALUE!		146.67	133.34	203.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	534584.88	2.72	572657.25	93.4	60 - 125		521887.38	550430.31	531436.94
45 Sc	# 1	471875.53	5.13	523286.00	90.2	60 - 125		444492.00	480774.22	490360.41
45 Sc	# 3	590696.00	4.05	603286.69	97.9	60 - 125		582575.94	617639.25	571872.81
74 Ge	# 1	157771.34	3.27	170650.48	92.5	60 - 125		151923.95	159695.03	161695.05
74 Ge	# 2	23623.62	0.55	24862.19	95.0	60 - 125		23474.05	23714.38	23682.44
74 Ge	# 3	153508.31	2.87	155795.36	98.5	60 - 125		152393.69	158359.11	149772.11
89 Y	# 3	1006541.10	4.84	1011968.20	99.5	60 - 125		992812.38	1060630.40	966180.63
115 In	# 3	964240.19	3.46	989458.81	97.5	60 - 125		959188.75	999871.88	933659.88
159 Tb	# 3	1320466.30	4.10	1388283.80	95.1	60 - 125		1314288.50	1377462.90	1269647.40
209 Bi	# 3	788337.88	3.19	829936.50	95.0	60 - 125		781009.75	816363.13	767640.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\078SMPL.D\078SMPL.D#
Date Acquired: Dec 28 2012 02:35 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261139_1-a
Misc Info: 3010 1/5
Vial Number: 3101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01123	0.01123	ug/l	26.33	100.00		33.33	23.33	23.33
11 B	# 3	0.5868	0.5868	ug/l	7.95	1800.00		6447.94	6774.75	6611.28
23 Na	# 1	-7.477	-7.477	ug/l	1.99	81000.00		103298.95	104274.40	106352.13
24 Mg	# 1	0.5387	0.5387	ug/l	2.47	81000.00		2343.54	2340.21	2456.90
27 Al	# 1	0.7984	0.7984	ug/l	5.56	81000.00		4103.90	4093.89	3863.84
39 K	# 2	0.9145	0.9145	ug/l	151.45	81000.00		6694.70	6861.40	7041.52
40 Ca	# 1	3.713	3.713	ug/l	7.09	81000.00		134652.45	138208.13	136770.17
45 Sc	# 2	----	--------		--------	#VALUE!		38010.82	33359.82	37067.52
47 Ti	# 3	0.05266	0.05266	ug/l	42.44	1620.00		56.67	36.67	76.67
51 V	# 2	0.113	0.113	ug/l	7.25	1800.00		325.56	293.34	346.67
52 Cr	# 2	0.06124	0.06124	ug/l	13.06	1800.00		217.78	227.78	247.78
55 Mn	# 3	0.03357	0.03357	ug/l	10.80	1800.00		1190.07	1310.08	1250.08
56 Fe	# 1	0.757	0.757	ug/l	4.46	81000.00		21316.08	21025.77	20692.04
59 Co	# 3	0.001337	0.001337	ug/l	22.99	1800.00		43.33	43.33	50.00
60 Ni	# 2	0.07506	0.07506	ug/l	17.73	1800.00		195.56	197.78	191.11
63 Cu	# 2	0.357	0.357	ug/l	14.41	1800.00		1360.06	1465.63	1383.40
66 Zn	# 3	10.37	10.37	ug/l	2.67	1800.00		14806.35	15009.80	15700.46
75 As	# 2	0.1086	0.1086	ug/l	28.79	100.00		34.33	24.33	38.00
78 Se	# 1	0.00854	0.00854	ug/l	27.00	100.00		27.00	25.67	27.67
88 Sr	# 3	0.006	0.006	ug/l	18.20	1800.00		180.01	196.67	226.67
95 Mo	# 3	0.04177	0.04177	ug/l	23.99	1800.00		196.67	140.01	166.67
107 Ag	# 3	0.002996	0.002996	ug/l	54.21	100.00		26.67	56.67	36.67
111 Cd	# 3	0.005309	0.005309	ug/l	63.03	100.00		36.60	36.62	46.62
118 Sn	# 3	0.05316	0.05316	ug/l	5.57	1800.00		563.36	573.36	526.69
121 Sb	# 3	0.2766	0.2766	ug/l	6.87	100.00		1850.16	1780.15	1633.45
137 Ba	# 3	0.02173	0.02173	ug/l	9.13	1800.00		76.67	80.00	86.67
202 Hg	# 3	0.00143	0.00143	ug/l	168.32	5.00		40.33	47.67	39.00
205 Tl	# 3	-0.0006655	-0.0006655	ug/l	98.93	20.00		50.00	46.67	30.00
208 Pb	# 3	0.0005331	0.0005331	ug/l	87.11	1800.00		236.68	216.67	223.34
232 Th	# 3	0.04476	0.04476	ug/l	2.59	#VALUE!		1493.46	1476.79	1436.77
238 U	# 3	0.001812	0.001812	ug/l	24.33	#VALUE!		70.00	46.67	66.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	517960.50	2.49	572657.25	90.4	60 - 125		503164.22	523676.44	527040.88
45 Sc	# 1	488366.44	0.91	523286.00	93.3	60 - 125		485943.59	485683.38	493472.34
45 Sc	# 3	590955.06	0.22	603286.69	98.0	60 - 125		590216.44	590174.19	592474.50
74 Ge	# 1	160928.31	0.70	170650.48	94.3	60 - 125		160836.63	159849.59	162098.70
74 Ge	# 2	23250.13	4.67	24862.19	93.5	60 - 125		23913.58	21996.70	23840.11
74 Ge	# 3	154368.86	0.47	155795.36	99.1	60 - 125		153704.84	154253.05	155148.70
89 Y	# 3	1012693.10	0.89	1011968.20	100.1	60 - 125		1006185.80	1022939.40	1008954.10
115 In	# 3	987682.38	2.14	989458.81	99.8	60 - 125		977789.69	1011904.70	973352.81
159 Tb	# 3	1360471.50	0.76	1388283.80	98.0	60 - 125		1354600.90	1354395.50	1372418.50
209 Bi	# 3	793225.56	0.27	829936.50	95.6	60 - 125		792300.81	791712.88	795663.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\079SMPL.D\079SMPL.D#
Date Acquired: Dec 28 2012 02:42 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261139_2-a
Misc Info: 3010 1/5
Vial Number: 3102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.986	9.986	ug/l	1.48	100.00		21472.30	21645.80	22026.20
11 B # 3	39.89	39.89	ug/l	0.28	1800.00		90476.07	93754.77	94290.09
23 Na # 1	959.5	959.5	ug/l	1.79	81000.00		4834612.00	4952519.50	5049670.00
24 Mg # 1	993.3	993.3	ug/l	1.47	81000.00		3278489.50	3405265.00	3374815.00
27 Al # 1	957.1	957.1	ug/l	0.48	81000.00		3674774.00	3743959.00	3726395.80
39 K # 2	963.4	963.4	ug/l	1.03	81000.00		261958.20	265053.53	270492.50
40 Ca # 1	997.3	997.3	ug/l	1.63	81000.00		7895137.50	8221072.50	8145574.00
45 Sc # 2	----	--------		--------	#VALUE!		35488.92	36776.96	37372.59
47 Ti # 3	19.8	19.8	ug/l	0.61	1620.00		17395.13	17371.82	17491.97
51 V # 2	19.32	19.32	ug/l	1.11	1800.00		34066.50	34919.16	35419.03
52 Cr # 2	19.52	19.52	ug/l	0.48	1800.00		41063.83	41984.71	42158.50
55 Mn # 3	103	103	ug/l	0.91	1800.00		1613758.00	1632899.10	1632710.80
56 Fe # 1	958.1	958.1	ug/l	1.07	81000.00		11767556.00	11719321.00	11930160.00
59 Co # 3	9.678	9.678	ug/l	1.23	1800.00		111911.53	113527.97	112753.67
60 Ni # 2	20.14	20.14	ug/l	0.51	1800.00		18245.69	18708.39	18697.30
63 Cu # 2	19.97	19.97	ug/l	0.61	1800.00		48076.76	48794.23	49398.08
66 Zn # 3	20.33	20.33	ug/l	1.47	1800.00		29227.20	28833.33	28890.04
75 As # 2	19.55	19.55	ug/l	1.54	100.00		3551.69	3642.37	3722.39
78 Se # 1	18.74	18.74	ug/l	0.43	100.00		6857.96	6894.65	6824.96
88 Sr # 3	18.26	18.26	ug/l	0.46	1800.00		393935.25	394917.69	394653.47
95 Mo # 3	19.29	19.29	ug/l	0.98	1800.00		58637.41	58379.73	57586.83
107 Ag # 3	10.02	10.02	ug/l	0.45	100.00		86075.52	86094.84	86765.41
111 Cd # 3	9.866	9.866	ug/l	0.36	100.00		18321.30	18131.08	18308.31
118 Sn # 3	19.44	19.44	ug/l	0.40	1800.00		114369.48	114597.82	115100.75
121 Sb # 3	10.67	10.67	ug/l	1.23	100.00		57823.93	58877.41	58944.34
137 Ba # 3	19.66	19.66	ug/l	1.27	1800.00		56892.78	57431.14	56187.13
202 Hg # 3	0.9517	0.9517	ug/l	1.24	5.00		1906.45	1864.45	1903.12
205 Tl # 3	7.742	7.742	ug/l	0.61	20.00		127760.02	128081.66	128572.23
208 Pb # 3	9.877	9.877	ug/l	0.83	1800.00		224880.80	224930.75	225291.27
232 Th # 3	18.3	18.3	ug/l	0.58	#VALUE!		509702.06	510314.16	506517.03
238 U # 3	18.85	18.85	ug/l	0.37	#VALUE!		530271.75	528887.38	528215.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	510083.47	2.43	572657.25	89.1	60 - 125		496078.78	514586.41	519585.31
45 Sc # 1	490814.28	0.52	523286.00	93.8	60 - 125		487862.34	492347.28	492233.28
45 Sc # 3	584167.63	0.97	603286.69	96.8	60 - 125		581618.56	580206.75	590677.38
74 Ge # 1	161137.41	0.15	170650.48	94.4	60 - 125		161358.47	161184.47	160869.27
74 Ge # 2	23299.00	0.94	24862.19	93.7	60 - 125		23047.95	23407.29	23441.77
74 Ge # 3	151748.69	1.02	155795.36	97.4	60 - 125		150867.97	150844.23	153533.88
89 Y # 3	1002475.70	0.36	1011968.20	99.1	60 - 125		1004401.90	998275.81	1004749.10
115 In # 3	961799.25	0.23	989458.81	97.2	60 - 125		963511.31	959328.75	962557.69
159 Tb # 3	1348927.90	0.91	1388283.80	97.2	60 - 125		1335571.10	1351552.30	1359660.50
209 Bi # 3	781989.19	0.19	829936.50	94.2	60 - 125		780814.50	781518.81	783634.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\080SMPL.D\080SMPL.D#
Date Acquired: Dec 28 2012 02:50 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcsd 680-261139_3-a
Misc Info: 3010 1/5
Vial Number: 3103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.817	9.817	ug/l	0.51	100.00		20911.60	21729.30	21922.83
11 B # 3	40.01	40.01	ug/l	0.70	1800.00		91197.55	94896.66	95447.01
23 Na # 1	943.6	943.6	ug/l	4.58	81000.00		5003204.00	4962897.00	5004044.00
24 Mg # 1	982.3	982.3	ug/l	4.95	81000.00		3407647.50	3401895.00	3390104.00
27 Al # 1	948.2	948.2	ug/l	4.94	81000.00		3796400.00	3762764.50	3762272.50
39 K # 2	960.1	960.1	ug/l	0.87	81000.00		262258.34	269806.91	273426.31
40 Ca # 1	970.1	970.1	ug/l	5.10	81000.00		8098431.50	8072345.00	8037606.50
45 Sc # 2	----	--------		--------	#VALUE!		36245.99	36467.43	37860.16
47 Ti # 3	19.44	19.44	ug/l	0.11	1620.00		16991.42	17198.23	17735.53
51 V # 2	19.47	19.47	ug/l	1.28	1800.00		34545.13	35862.07	36201.60
52 Cr # 2	19.53	19.53	ug/l	0.47	1800.00		41708.62	42217.49	42995.86
55 Mn # 3	102.5	102.5	ug/l	1.01	1800.00		1639304.90	1638892.40	1653299.00
56 Fe # 1	936.9	936.9	ug/l	3.41	81000.00		11742035.00	11731110.00	11684770.00
59 Co # 3	9.625	9.625	ug/l	1.96	1800.00		114812.66	113021.74	113706.09
60 Ni # 2	20.07	20.07	ug/l	1.28	1800.00		18568.26	18764.02	18861.92
63 Cu # 2	19.94	19.94	ug/l	1.22	1800.00		48923.41	49317.71	49706.68
66 Zn # 3	20.39	20.39	ug/l	0.23	1800.00		29193.87	29360.73	30021.84
75 As # 2	19.95	19.95	ug/l	1.01	100.00		3673.71	3788.07	3825.41
78 Se # 1	18.69	18.69	ug/l	3.38	100.00		6936.33	6966.01	6928.66
88 Sr # 3	17.97	17.97	ug/l	3.17	1800.00		394571.59	399143.63	396310.97
95 Mo # 3	19.39	19.39	ug/l	2.16	1800.00		59861.47	59333.04	59179.45
107 Ag # 3	9.961	9.961	ug/l	1.22	100.00		87180.35	86838.84	87790.63
111 Cd # 3	9.719	9.719	ug/l	1.52	100.00		18157.40	18371.22	18311.19
118 Sn # 3	19.19	19.19	ug/l	2.40	1800.00		115299.24	115875.86	114036.88
121 Sb # 3	10.56	10.56	ug/l	2.60	100.00		59152.07	59252.24	58215.26
137 Ba # 3	19.48	19.48	ug/l	1.89	1800.00		56464.30	58002.91	57303.98
202 Hg # 3	0.9358	0.9358	ug/l	0.41	5.00		1865.11	1879.12	1903.12
205 Tl # 3	7.705	7.705	ug/l	2.88	20.00		129404.85	130242.43	129727.66
208 Pb # 3	9.771	9.771	ug/l	2.50	1800.00		226150.05	225070.94	228585.47
232 Th # 3	18.27	18.27	ug/l	1.72	#VALUE!		516525.56	512632.59	513297.34
238 U # 3	18.77	18.77	ug/l	1.72	#VALUE!		534294.50	533225.88	531155.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	514138.06	2.71	572657.25	89.8	60 - 125		499119.72	516711.44	526582.94
45 Sc # 1	504097.00	4.84	523286.00	96.3	60 - 125		492741.44	487454.44	532095.13
45 Sc # 3	591162.44	2.22	603286.69	98.0	60 - 125		579816.81	588097.63	605572.88
74 Ge # 1	163703.61	3.22	170650.48	95.9	60 - 125		161028.20	160307.86	169774.75
74 Ge # 2	23610.52	1.98	24862.19	95.0	60 - 125		23209.26	23498.53	24123.77
74 Ge # 3	154121.58	1.46	155795.36	98.9	60 - 125		152142.09	153659.81	156562.81
89 Y # 3	1025003.60	3.24	1011968.20	101.3	60 - 125		997799.25	1015127.90	1062084.00
115 In # 3	977910.06	1.67	989458.81	98.8	60 - 125		965882.19	971369.88	996478.13
159 Tb # 3	1373670.10	2.99	1388283.80	98.9	60 - 125		1333905.10	1371169.00	1415936.30
209 Bi # 3	791307.44	1.43	829936.50	95.3	60 - 125		781225.50	789187.81	803509.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\081SMPL.D\081SMPL.D#
Date Acquired: Dec 28 2012 02:57 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85174-b-7-c
Misc Info: 3010 1/5
Vial Number: 3104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.3285	0.3285	ug/l	6.97	100.00		753.37	700.03	700.03
11 B	# 3	18.88	18.88	ug/l	2.21	1800.00		46379.65	47044.66	47071.06
23 Na	# 1	10810	10810	ug/l	1.43	81000.00		52902800.00	54970444.00	54791980.00
24 Mg	# 1	874.9	874.9	ug/l	0.83	81000.00		2907019.80	2944593.30	2997994.00
27 Al	# 1	8.119	8.119	ug/l	0.16	81000.00		32110.81	32434.68	32688.42
39 K	# 2	599.3	599.3	ug/l	2.30	81000.00		168106.88	170878.34	174335.42
40 Ca	# 1	6000	6000	ug/l	1.28	81000.00		48339256.00	47898240.00	47934584.00
45 Sc	# 2	----	--------		--------	#VALUE!		35672.56	36775.83	38407.10
47 Ti	# 3	0.1142	0.1142	ug/l	27.66	1620.00		123.34	130.00	80.00
51 V	# 2	0.1857	0.1857	ug/l	9.36	1800.00		442.23	486.68	454.45
52 Cr	# 2	0.03795	0.03795	ug/l	30.36	1800.00		155.56	185.56	217.78
55 Mn	# 3	110.1	110.1	ug/l	0.23	1800.00		1754488.50	1768845.40	1756290.40
56 Fe	# 1	1513	1513	ug/l	0.83	81000.00		18365786.00	18685906.00	18662922.00
59 Co	# 3	14.3	14.3	ug/l	1.13	1800.00		169707.58	169407.58	166860.50
60 Ni	# 2	2.548	2.548	ug/l	5.02	1800.00		2454.63	2569.09	2489.08
63 Cu	# 2	0.9211	0.9211	ug/l	4.94	1800.00		2674.66	2889.14	2912.48
66 Zn	# 3	30.99	30.99	ug/l	0.68	1800.00		44641.47	44822.28	44284.34
75 As	# 2	0.3876	0.3876	ug/l	2.30	100.00		82.00	83.67	91.00
78 Se	# 1	0.06742	0.06742	ug/l	21.36	100.00		46.00	44.33	54.00
88 Sr	# 3	46.05	46.05	ug/l	1.55	1800.00		1029308.20	1025472.90	1013023.90
95 Mo	# 3	0.05358	0.05358	ug/l	28.31	1800.00		250.01	163.34	186.67
107 Ag	# 3	0.003506	0.003506	ug/l	11.42	100.00		46.67	40.00	43.33
111 Cd	# 3	0.2659	0.2659	ug/l	9.82	100.00		569.95	476.64	519.96
118 Sn	# 3	0.05186	0.05186	ug/l	18.05	1800.00		553.36	470.02	580.03
121 Sb	# 3	0.1238	0.1238	ug/l	10.03	100.00		900.05	923.38	806.71
137 Ba	# 3	40.59	40.59	ug/l	1.32	1800.00		118571.74	117507.82	117384.06
202 Hg	# 3	0.002642	0.002642	ug/l	62.11	5.00		40.00	45.67	44.67
205 Tl	# 3	0.06895	0.06895	ug/l	7.41	20.00		1233.42	1270.09	1120.08
208 Pb	# 3	0.01294	0.01294	ug/l	3.92	1800.00		520.02	513.35	503.35
232 Th	# 3	0.08772	0.08772	ug/l	6.05	#VALUE!		2770.34	2550.28	2490.30
238 U	# 3	0.01297	0.01297	ug/l	6.93	#VALUE!		343.35	390.02	370.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	511666.34	2.72	572657.25	89.3	60 - 125		496895.41	513580.50	524523.13
45 Sc	# 1	490256.38	0.79	523286.00	93.7	60 - 125		486013.25	491198.25	493557.63
45 Sc	# 3	590434.81	1.22	603286.69	97.9	60 - 125		583351.06	590227.19	597726.25
74 Ge	# 1	160585.56	0.24	170650.48	94.1	60 - 125		160318.95	161035.06	160402.70
74 Ge	# 2	23758.88	3.74	24862.19	95.6	60 - 125		23232.63	23258.21	24785.82
74 Ge	# 3	153624.41	0.56	155795.36	98.6	60 - 125		152764.86	154490.70	153617.66
89 Y	# 3	1030611.80	0.75	1011968.20	101.8	60 - 125		1027090.90	1025241.60	1039502.80
115 In	# 3	965619.56	0.85	989458.81	97.6	60 - 125		958950.38	963147.19	974761.13
159 Tb	# 3	1365463.00	0.67	1388283.80	98.4	60 - 125		1359111.60	1361306.60	1375970.60
209 Bi	# 3	770483.75	0.50	829936.50	92.8	60 - 125		772186.56	766043.63	773221.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\082SMPL.D\082SMPL.D#
Date Acquired: Dec 28 2012 03:05 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85174-b-7-c SD
Misc Info: 3010 1/25
Vial Number: 3105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.3151	0.06302	ug/l	21.42	100.00		130.00	180.01	123.34
11 B	# 3	19.285	3.857	ug/l	1.40	1800.00		13925.37	14185.61	14582.50
23 Na	# 1	10230	2046	ug/l	6.94	81000.00		10687239.00	10937607.00	10964708.00
24 Mg	# 1	844.5	168.9	ug/l	7.14	81000.00		593962.75	596200.50	600365.31
27 Al	# 1	10.49	2.098	ug/l	6.28	81000.00		9305.81	9482.59	9736.12
39 K	# 2	586.5	117.3	ug/l	3.72	81000.00		37731.63	40056.47	40594.27
40 Ca	# 1	5695	1139	ug/l	7.93	81000.00		9608657.00	9693636.00	9609792.00
45 Sc	# 2	----	--------		--------	#VALUE!		35775.00	36447.41	37440.44
47 Ti	# 3	0.3479	0.06958	ug/l	24.29	1620.00		63.34	90.00	63.34
51 V	# 2	0.14905	0.02981	ug/l	21.00	1800.00		183.34	165.56	186.67
52 Cr	# 2	0.032555	0.006511	ug/l	63.95	1800.00		117.78	110.00	128.89
55 Mn	# 3	108.3	21.66	ug/l	0.87	1800.00		348144.78	349928.69	350707.84
56 Fe	# 1	1452	290.4	ug/l	6.22	81000.00		3756878.30	3771428.80	3753878.30
59 Co	# 3	14.98	2.996	ug/l	3.29	1800.00		34556.22	35822.04	36526.93
60 Ni	# 2	2.95	0.59	ug/l	7.43	1800.00		647.79	678.91	738.91
63 Cu	# 2	0.2288	0.04576	ug/l	11.67	1800.00		658.91	686.69	694.46
66 Zn	# 3	33.65	6.73	ug/l	2.03	1800.00		9819.59	9999.69	10113.10
75 As	# 2	0.3587	0.07174	ug/l	11.91	100.00		24.00	27.00	27.33
78 Se	# 1	0.08	0.016	ug/l	29.11	100.00		28.33	29.67	35.33
88 Sr	# 3	47.83	9.566	ug/l	1.54	1800.00		207680.77	211864.00	208143.45
95 Mo	# 3	0.07945	0.01589	ug/l	48.64	1800.00		106.67	60.00	93.34
107 Ag	# 3	0.0046055	0.0009211	ug/l	21.79	100.00		20.00	20.00	23.33
111 Cd	# 3	0.2338	0.04676	ug/l	6.88	100.00		109.97	119.98	119.97
118 Sn	# 3	0.0549	0.01098	ug/l	73.07	1800.00		346.68	250.01	286.68
121 Sb	# 3	0.2129	0.04258	ug/l	9.70	100.00		436.69	450.02	413.35
137 Ba	# 3	41.175	8.235	ug/l	0.69	1800.00		23887.38	23924.12	24348.01
202 Hg	# 3	0.02047	0.004094	ug/l	23.65	5.00		45.67	48.33	49.67
205 Tl	# 3	0.10745	0.02149	ug/l	2.91	20.00		410.02	396.68	416.69
208 Pb	# 3	-0.0012605	-0.0002521	ug/l	452.20	1800.00		190.01	190.01	236.68
232 Th	# 3	0.1586	0.03172	ug/l	4.15	#VALUE!		1126.75	1070.08	1126.75
238 U	# 3	0.01753	0.003506	ug/l	8.28	#VALUE!		103.34	120.00	106.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	530030.50	2.58	572657.25	92.6	60 - 125		514965.00	533454.25	541672.25
45 Sc	# 1	515279.91	7.97	523286.00	98.5	60 - 125		488411.94	494857.63	562570.25
45 Sc	# 3	595028.75	0.66	603286.69	98.6	60 - 125		590501.38	597204.13	597380.88
74 Ge	# 1	169391.92	6.26	170650.48	99.3	60 - 125		163186.25	163341.41	181648.16
74 Ge	# 2	24055.54	0.80	24862.19	96.8	60 - 125		23840.09	24116.00	24210.54
74 Ge	# 3	154850.42	0.50	155795.36	99.4	60 - 125		155613.36	154863.73	154074.22
89 Y	# 3	1014708.40	0.46	1011968.20	100.3	60 - 125		1019223.80	1009822.20	1015079.10
115 In	# 3	971150.06	1.00	989458.81	98.1	60 - 125		972051.25	960998.63	980400.38
159 Tb	# 3	1346903.00	0.67	1388283.80	97.0	60 - 125		1336799.80	1349604.40	1354305.00
209 Bi	# 3	797992.44	0.46	829936.50	96.2	60 - 125		794569.25	801812.69	797595.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\083SMPL.D\083SMPL.D#
Date Acquired: Dec 28 2012 03:12 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85174-b-7-c PDS
Misc Info: 3010 1/5
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	22.07	22.07	ug/l	2.75	100.00		45366.60	45717.70	46339.07
11 B # 3	64.85	64.85	ug/l	3.97	1800.00		138510.67	142397.72	141910.98
23 Na # 1	13130	13130	ug/l	0.28	81000.00		64099732.00	64502192.00	65618372.00
24 Mg # 1	3095	3095	ug/l	1.23	81000.00		10016079.00	10354576.00	10438245.00
27 Al # 1	238.7	238.7	ug/l	0.33	81000.00		898922.06	914118.50	921228.50
39 K # 2	2787	2787	ug/l	2.14	81000.00		722628.13	739281.13	767744.44
40 Ca # 1	8350	8350	ug/l	0.37	81000.00		64934600.00	66016000.00	66378000.00
45 Sc # 2	----	--------		--------	#VALUE!		34040.79	36230.38	37369.26
47 Ti # 3	21.61	21.61	ug/l	2.82	1620.00		18970.13	18512.94	18062.45
51 V # 2	21.81	21.81	ug/l	2.40	1800.00		37868.18	38414.93	39440.35
52 Cr # 2	21.8	21.8	ug/l	3.11	1800.00		45286.85	45303.53	46724.77
55 Mn # 3	328.4	328.4	ug/l	4.67	1800.00		4987869.00	5065096.50	5032831.00
56 Fe # 1	3753	3753	ug/l	0.55	81000.00		44937452.00	44819356.00	45822744.00
59 Co # 3	35.92	35.92	ug/l	4.03	1800.00		405210.22	406243.47	406156.09
60 Ni # 2	24.31	24.31	ug/l	4.03	1800.00		22017.59	21749.50	22126.62
63 Cu # 2	22.89	22.89	ug/l	2.64	1800.00		54034.13	54622.52	55828.38
66 Zn # 3	52.93	52.93	ug/l	4.07	1800.00		72728.30	72925.80	72697.60
75 As # 2	21.38	21.38	ug/l	4.01	100.00		3918.10	3888.09	3913.76
78 Se # 1	20.68	20.68	ug/l	0.90	100.00		7371.17	7433.19	7394.51
88 Sr # 3	71.18	71.18	ug/l	4.40	1800.00		1549060.80	1531904.50	1524792.40
95 Mo # 3	21.92	21.92	ug/l	3.69	1800.00		62925.17	63624.36	62691.18
107 Ag # 3	19.58	19.58	ug/l	2.94	100.00		162770.89	161289.89	158799.81
111 Cd # 3	21.62	21.62	ug/l	2.88	100.00		38142.38	38018.42	38182.47
118 Sn # 3	21.7	21.7	ug/l	2.96	1800.00		122336.72	122057.77	121860.55
121 Sb # 3	22.65	22.65	ug/l	3.57	100.00		117826.26	118994.38	118093.93
137 Ba # 3	64.77	64.77	ug/l	3.01	1800.00		180132.92	179103.91	176650.95
202 Hg # 3	1.035	1.035	ug/l	2.45	5.00		1942.46	1911.12	1913.45
205 Tl # 3	4.348	4.348	ug/l	2.66	20.00		70092.59	69767.56	69352.09
208 Pb # 3	21.48	21.48	ug/l	2.55	1800.00		477044.25	474589.47	469689.88
232 Th # 3	21.27	21.27	ug/l	2.73	#VALUE!		554444.56	550389.63	555890.88
238 U # 3	21.23	21.23	ug/l	2.75	#VALUE!		559492.63	555435.00	558308.88

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	487136.03	3.16	572657.25	85.1	60 - 125		488789.69	470988.78	501629.53
45 Sc # 1	482440.47	1.10	523286.00	92.2	60 - 125		477284.28	482168.19	487868.97
45 Sc # 3	569247.38	3.68	603286.69	94.4	60 - 125		592065.31	550934.50	564742.38
74 Ge # 1	157605.50	0.87	170650.48	92.4	60 - 125		156436.67	157274.89	159104.92
74 Ge # 2	22901.49	3.66	24862.19	92.1	60 - 125		21934.39	23341.65	23428.44
74 Ge # 3	147387.38	3.90	155795.36	94.6	60 - 125		153013.23	141531.88	147617.06
89 Y # 3	1002463.40	5.31	1011968.20	99.1	60 - 125		1063944.00	972667.19	970779.06
115 In # 3	918018.13	3.04	989458.81	92.8	60 - 125		945094.44	889320.38	919639.38
159 Tb # 3	1307368.00	3.13	1388283.80	94.2	60 - 125		1354600.90	1283361.60	1284141.60
209 Bi # 3	732232.88	3.11	829936.50	88.2	60 - 125		753817.38	708475.06	734406.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\084_CCV.D\084_CCV.D#
Date Acquired: Dec 28 2012 03:19 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.75 ug/l	2.57	50.00	90 - 110		110654.61	112399.34	113092.12
11 B	99.88 ug/l	4.06	100.00	90 - 110		220395.25	231785.47	231945.52
23 Na	4817 ug/l	0.79	5000.00	90 - 110		23765422.00	24156242.00	24152630.00
24 Mg	4885 ug/l	0.50	5000.00	90 - 110		16132696.00	16315106.00	16543693.00
27 Al	494.9 ug/l	1.30	500.00	90 - 110		1862558.50	1913204.80	1933132.50
39 K	4924 ug/l	5.45	5000.00	90 - 110		1305326.60	1343893.80	1369927.80
40 Ca	4952 ug/l	0.67	5000.00	90 - 110		38943348.00	39512128.00	39602440.00
45 Sc	--------	--------		--- ##### - #####		39889.59	35346.54	37409.32
47 Ti	50.6 ug/l	3.66	50.00	90 - 110		44610.51	45011.49	44483.56
51 V	48.16 ug/l	5.36	50.00	90 - 110		85164.16	87671.15	88459.24
52 Cr	48.12 ug/l	5.62	50.00	90 - 110		100518.70	103898.99	105694.45
55 Mn	497.4 ug/l	3.44	500.00	90 - 110		7775996.50	7886223.00	7910210.00
56 Fe	4894 ug/l	0.64	5000.00	90 - 110		58874320.00	60083624.00	60305892.00
59 Co	48.2 ug/l	3.50	50.00	90 - 110		555061.88	563090.00	567317.00
60 Ni	48.84 ug/l	5.14	50.00	90 - 110		44288.29	45384.26	45623.79
63 Cu	48.75 ug/l	5.54	50.00	90 - 110		116169.36	119994.40	120687.95
66 Zn	49.76 ug/l	3.92	50.00	90 - 110		69578.98	71248.86	70971.05
75 As	48.72 ug/l	5.44	50.00	90 - 110		8892.51	9166.97	9256.02
78 Se	48.79 ug/l	0.41	50.00	90 - 110		17561.44	17741.28	17700.92
88 Sr	47.95 ug/l	2.13	50.00	90 - 110		1035858.40	1043628.50	1032492.90
95 Mo	50 ug/l	4.99	50.00	90 - 110		145682.11	147004.77	148472.69
107 Ag	50.71 ug/l	4.97	50.00	90 - 110		421996.88	425624.59	430715.81
111 Cd	50.06 ug/l	5.33	50.00	90 - 110		89488.77	90873.20	90229.31
118 Sn	49.68 ug/l	4.82	50.00	90 - 110		283573.06	285189.59	287810.72
121 Sb	49.89 ug/l	4.92	50.00	90 - 110		263864.91	265871.22	268799.53
137 Ba	49.61 ug/l	3.71	50.00	90 - 110		140208.42	137762.53	141844.52
202 Hg	2.547 ug/l	4.03	2.50	90 - 110		4800.06	4797.73	4823.74
205 Tl	9.825 ug/l	3.74	10.00	90 - 110		160407.61	159167.58	159143.67
208 Pb	49.26 ug/l	4.55	50.00	90 - 110		1093769.80	1105801.80	1101492.10
232 Th	47.87 ug/l	4.22		--- ##### - #####		1277312.80	1282035.40	1282109.60
238 U	48.53 ug/l	7.27		--- ##### - #####		1277196.30	1357847.10	1293797.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	518043.63	2.57	572657.25	90.5	60 - 125		518518.13	504508.22	531104.56
45 Sc	486136.09	0.88	523286.00	92.9	60 - 125		483027.09	484372.06	491009.16
45 Sc	587163.19	3.05	603286.69	97.3	60 - 125		601853.19	567192.44	592443.88
74 Ge	159792.19	0.70	170650.48	93.6	60 - 125		158603.08	159936.59	160836.88
74 Ge	23477.11	3.97	24862.19	94.4	60 - 125		24280.83	22456.15	23694.35
74 Ge	151967.06	2.71	155795.36	97.5	60 - 125		156095.42	147868.69	151937.09
89 Y	1004044.70	1.86	1011968.20	99.2	60 - 125		1025337.90	990149.88	996646.00
115 In	939409.06	4.53	989458.81	94.9	60 - 125		980083.81	895114.25	943028.94
159 Tb	1325061.80	3.97	1388283.80	95.4	60 - 125		1368703.80	1266609.00	1339872.50
209 Bi	753245.94	4.02	829936.50	90.8	60 - 125		782520.69	722019.50	755197.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\085_CCB.D\085_CCB.D#
Date Acquired: Dec 28 2012 03:27 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.003038	0.003038	ug/l	55.30	#VALUE!		6.67	13.33	6.67
11 B	# 3	0.9729	0.9729	ug/l	12.03	#VALUE!		7678.35	7691.73	7511.66
23 Na	# 1	-4.786	-4.786	ug/l	10.53	#VALUE!		116959.40	119122.34	122044.11
24 Mg	# 1	0.4879	0.4879	ug/l	2.70	#VALUE!		2173.52	2236.86	2293.54
27 Al	# 1	0.03889	0.03889	ug/l	8.97	#VALUE!		1073.40	1066.73	1166.74
39 K	# 2	1.411	1.411	ug/l	27.75	#VALUE!		6911.48	7071.53	7144.87
40 Ca	# 1	1.231	1.231	ug/l	31.41	#VALUE!		117459.89	116698.97	120109.22
45 Sc	# 2	----	--------		--------	#VALUE!		35828.45	35765.00	36299.36
47 Ti	# 3	0.01588	0.01588	ug/l	71.85	#VALUE!		13.33	23.33	33.33
51 V	# 2	0.01173	0.01173	ug/l	60.22	#VALUE!		152.22	140.00	130.00
52 Cr	# 2	-0.002984	-0.002984	ug/l	190.45	#VALUE!		105.56	81.11	98.89
55 Mn	# 3	0.03959	0.03959	ug/l	21.34	#VALUE!		1260.08	1220.07	1473.45
56 Fe	# 1	0.5597	0.5597	ug/l	6.62	#VALUE!		18459.59	18830.00	18843.35
59 Co	# 3	0.003527	0.003527	ug/l	36.55	#VALUE!		53.33	73.34	83.34
60 Ni	# 2	-0.09961	-0.09961	ug/l	5.56	#VALUE!		36.67	30.00	41.11
63 Cu	# 2	-0.2013	-0.2013	ug/l	2.79	#VALUE!		72.22	66.67	47.78
66 Zn	# 3	-0.06101	-0.06101	ug/l	38.14	#VALUE!		216.67	190.01	153.34
75 As	# 2	0.01853	0.01853	ug/l	53.42	#VALUE!		14.00	17.33	15.00
78 Se	# 1	0.03488	0.03488	ug/l	28.53	#VALUE!		37.00	39.00	33.67
88 Sr	# 3	0.004351	0.004351	ug/l	52.40	#VALUE!		110.00	163.34	206.68
95 Mo	# 3	0.05798	0.05798	ug/l	12.42	#VALUE!		186.67	213.34	230.01
107 Ag	# 3	0.008417	0.008417	ug/l	21.77	#VALUE!		66.67	96.67	90.00
111 Cd	# 3	-0.0005916	-0.0005916	ug/l	174.95	#VALUE!		26.61	26.60	29.93
118 Sn	# 3	0.03542	0.03542	ug/l	31.73	#VALUE!		420.02	500.02	370.02
121 Sb	# 3	0.3866	0.3866	ug/l	3.24	#VALUE!		2323.56	2313.56	2206.88
137 Ba	# 3	0.00257	0.00257	ug/l	236.30	#VALUE!		33.33	3.33	33.33
202 Hg	# 3	0.02053	0.02053	ug/l	6.41	#VALUE!		81.33	79.33	76.33
205 Tl	# 3	0.004535	0.004535	ug/l	29.17	#VALUE!		146.67	116.67	106.67
208 Pb	# 3	0.002958	0.002958	ug/l	23.74	#VALUE!		266.68	286.68	253.34
232 Th	# 3	0.08977	0.08977	ug/l	6.62	#VALUE!		2850.36	2733.66	2523.62
238 U	# 3	0.005562	0.005562	ug/l	14.89	#VALUE!		176.67	140.01	180.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	528928.56	2.45	572657.25	92.4	60 - 125		514573.94	532365.75	539845.88
45 Sc	# 1	494140.94	4.08	523286.00	94.4	60 - 125		480440.34	484698.69	517283.88
45 Sc	# 3	575300.56	1.06	603286.69	95.4	60 - 125		568607.94	580573.69	576720.00
74 Ge	# 1	162072.73	3.08	170650.48	95.0	60 - 125		158491.56	159953.63	167773.03
74 Ge	# 2	23361.68	1.58	24862.19	94.0	60 - 125		23228.20	23077.97	23778.88
74 Ge	# 3	151034.47	0.54	155795.36	96.9	60 - 125		150097.41	151418.05	151587.94
89 Y	# 3	980639.44	0.59	1011968.20	96.9	60 - 125		975388.44	986865.00	979665.06
115 In	# 3	949813.63	0.22	989458.81	96.0	60 - 125		947351.88	951034.13	951055.00
159 Tb	# 3	1300454.60	0.56	1388283.80	93.7	60 - 125		1295913.90	1308847.10	1296603.40
209 Bi	# 3	782876.94	0.71	829936.50	94.3	60 - 125		779311.88	789270.81	780048.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\086SMPL.D\086SMPL.D#
Date Acquired: Dec 28 2012 03:34 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261138_1-a
Misc Info: 3005 1/5
Vial Number: 3107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00731	0.00731	ug/l	42.45	100.00		10.00	23.33	20.00
11 B	# 3	0.861	0.861	ug/l	8.72	1800.00		7024.82	7071.47	7044.82
23 Na	# 1	-7.67	-7.67	ug/l	1.75	81000.00		101331.48	101981.43	103020.59
24 Mg	# 1	0.8394	0.8394	ug/l	2.19	81000.00		3230.36	3343.74	3443.75
27 Al	# 1	1.006	1.006	ug/l	5.66	81000.00		4734.05	4524.01	4997.45
39 K	# 2	0.4625	0.4625	ug/l	142.12	81000.00		6751.37	6704.72	6734.73
40 Ca	# 1	4.273	4.273	ug/l	1.66	81000.00		137408.25	139033.09	140181.80
45 Sc	# 2	----	--------		--------	#VALUE!		35095.95	35446.68	36509.83
47 Ti	# 3	0.04187	0.04187	ug/l	11.74	1620.00		43.33	50.00	43.33
51 V	# 2	0.1075	0.1075	ug/l	6.39	1800.00		293.34	325.56	313.34
52 Cr	# 2	0.03789	0.03789	ug/l	27.55	1800.00		201.11	172.22	168.89
55 Mn	# 3	0.01081	0.01081	ug/l	39.99	1800.00		896.72	783.37	896.71
56 Fe	# 1	0.5745	0.5745	ug/l	3.27	81000.00		18296.16	18783.28	18456.31
59 Co	# 3	0.0001022	0.0001022	ug/l	759.88	1800.00		36.67	20.00	33.34
60 Ni	# 2	0.07368	0.07368	ug/l	17.82	1800.00		181.11	207.78	191.11
63 Cu	# 2	0.2285	0.2285	ug/l	4.98	1800.00		1095.60	1088.93	1095.60
66 Zn	# 3	0.1319	0.1319	ug/l	18.36	1800.00		473.35	416.68	473.35
75 As	# 2	0.1094	0.1094	ug/l	7.82	100.00		30.33	31.33	34.67
78 Se	# 1	0.009258	0.009258	ug/l	24.11	100.00		26.00	26.33	27.67
88 Sr	# 3	0.008734	0.008734	ug/l	23.94	1800.00		246.68	300.01	213.34
95 Mo	# 3	0.04626	0.04626	ug/l	25.64	1800.00		216.67	150.01	163.34
107 Ag	# 3	0.003023	0.003023	ug/l	51.87	100.00		46.67	23.33	46.67
111 Cd	# 3	-0.001336	-0.001336	ug/l	356.74	100.00		16.60	29.95	33.28
118 Sn	# 3	0.05365	0.05365	ug/l	23.78	1800.00		480.02	516.69	626.70
121 Sb	# 3	0.2828	0.2828	ug/l	2.37	100.00		1773.48	1706.79	1730.14
137 Ba	# 3	0.003652	0.003652	ug/l	95.65	1800.00		36.67	26.67	16.67
202 Hg	# 3	0.004863	0.004863	ug/l	5.34	5.00		48.33	48.67	49.67
205 Tl	# 3	0.002291	0.002291	ug/l	41.76	20.00		80.00	80.00	110.00
208 Pb	# 3	-0.002578	-0.002578	ug/l	17.44	1800.00		156.67	140.01	156.67
232 Th	# 3	0.04561	0.04561	ug/l	9.60	#VALUE!		1556.79	1550.13	1350.10
238 U	# 3	0.001274	0.001274	ug/l	14.02	#VALUE!		40.00	50.00	46.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	505493.22	2.47	572657.25	88.3	60 - 125		492207.66	507235.94	517036.13
45 Sc	# 1	481000.88	1.40	523286.00	91.9	60 - 125		473774.50	482164.91	487063.25
45 Sc	# 3	572577.00	1.01	603286.69	94.9	60 - 125		571568.06	567346.13	578817.00
74 Ge	# 1	158723.09	0.34	170650.48	93.0	60 - 125		158155.94	158800.36	159212.98
74 Ge	# 2	23175.15	2.41	24862.19	93.2	60 - 125		22581.81	23252.66	23690.98
74 Ge	# 3	149893.22	0.84	155795.36	96.2	60 - 125		148498.94	150212.42	150968.30
89 Y	# 3	984161.13	0.91	1011968.20	97.3	60 - 125		974941.75	984751.00	992790.50
115 In	# 3	958715.31	0.25	989458.81	96.9	60 - 125		956453.13	958406.00	961286.63
159 Tb	# 3	1334058.40	1.96	1388283.80	96.1	60 - 125		1307957.60	1333942.50	1360275.30
209 Bi	# 3	789526.00	0.38	829936.50	95.1	60 - 125		787607.06	787974.44	792996.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\087SMPL.D\087SMPL.D#
Date Acquired: Dec 28 2012 03:42 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261138_2-a
Misc Info: 3005 1/5
Vial Number: 3108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.45	10.45	ug/l	1.99	100.00		22149.64	22693.63	22576.92
11 B # 3	41.36	41.36	ug/l	1.43	1800.00		93607.15	95291.38	96056.12
23 Na # 1	983.9	983.9	ug/l	0.44	81000.00		4951770.00	4979051.00	5051570.00
24 Mg # 1	1021	1021	ug/l	0.47	81000.00		3342811.50	3391485.80	3452577.80
27 Al # 1	1003	1003	ug/l	0.73	81000.00		3789695.80	3812338.30	3906540.80
39 K # 2	978.8	978.8	ug/l	7.78	81000.00		258375.08	268428.81	273493.50
40 Ca # 1	1015	1015	ug/l	0.77	81000.00		8002770.00	8184816.50	8141820.50
45 Sc # 2	----	--------		--------	#VALUE!		38758.06	32991.11	36357.23
47 Ti # 3	20	20	ug/l	2.33	1620.00		17011.50	17325.15	17505.25
51 V # 2	19.59	19.59	ug/l	6.84	1800.00		34053.22	34821.21	35749.60
52 Cr # 2	19.91	19.91	ug/l	7.50	1800.00		40963.62	42469.14	42739.70
55 Mn # 3	104.3	104.3	ug/l	2.91	1800.00		1605808.60	1637145.60	1644607.00
56 Fe # 1	961.6	961.6	ug/l	0.46	81000.00		11615146.00	11754845.00	11881086.00
59 Co # 3	9.825	9.825	ug/l	2.92	1800.00		111150.83	113306.27	115328.59
60 Ni # 2	20.43	20.43	ug/l	7.37	1800.00		18242.42	18820.79	18715.09
63 Cu # 2	20.36	20.36	ug/l	7.21	1800.00		48126.88	49521.62	49682.02
66 Zn # 3	22.04	22.04	ug/l	2.37	1800.00		30916.77	31090.31	31190.50
75 As # 2	20.85	20.85	ug/l	8.73	100.00		3674.04	3904.43	3917.10
78 Se # 1	20.49	20.49	ug/l	0.53	100.00		7354.16	7478.21	7470.87
88 Sr # 3	18.49	18.49	ug/l	1.09	1800.00		395568.69	400606.25	399318.78
95 Mo # 3	19.46	19.46	ug/l	1.19	1800.00		58644.15	59105.58	59874.84
107 Ag # 3	10.15	10.15	ug/l	0.79	100.00		87853.11	87873.67	88935.32
111 Cd # 3	10.22	10.22	ug/l	1.29	100.00		19365.86	18805.10	19028.30
118 Sn # 3	19.66	19.66	ug/l	1.47	1800.00		115721.86	116329.34	118725.63
121 Sb # 3	11.03	11.03	ug/l	0.78	100.00		60579.95	61272.28	61075.16
137 Ba # 3	19.92	19.92	ug/l	1.09	1800.00		58909.38	57812.40	57511.48
202 Hg # 3	1.018	1.018	ug/l	0.36	5.00		2046.47	2000.80	2059.47
205 Tl # 3	7.838	7.838	ug/l	3.49	20.00		129569.87	132437.02	131203.75
208 Pb # 3	10.12	10.12	ug/l	3.18	1800.00		231107.50	234596.53	233192.97
232 Th # 3	18.67	18.67	ug/l	1.26	#VALUE!		521185.81	520067.69	527662.69
238 U # 3	19.25	19.25	ug/l	1.76	#VALUE!		542951.69	545136.19	543880.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	504300.03	2.37	572657.25	88.1	60 - 125		494738.91	500443.31	517717.84
45 Sc # 1	483699.66	1.20	523286.00	92.4	60 - 125		477588.00	484344.31	489166.72
45 Sc # 3	573683.94	1.49	603286.69	95.1	60 - 125		579466.44	563858.56	577726.88
74 Ge # 1	159803.83	0.68	170650.48	93.6	60 - 125		158726.50	159789.75	160895.27
74 Ge # 2	23085.48	5.76	24862.19	92.9	60 - 125		24238.50	21630.68	23387.28
74 Ge # 3	150224.39	2.21	155795.36	96.4	60 - 125		152151.56	146397.38	152124.20
89 Y # 3	1000113.40	0.43	1011968.20	98.8	60 - 125		1004962.80	996733.81	998643.63
115 In # 3	969785.06	0.19	989458.81	98.0	60 - 125		971906.75	968363.94	969084.38
159 Tb # 3	1363631.00	2.53	1388283.80	98.2	60 - 125		1380286.00	1324005.30	1386601.90
209 Bi # 3	787609.13	1.56	829936.50	94.9	60 - 125		794866.13	773465.13	794496.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\088SMPL.D\088SMPL.D#
Date Acquired: Dec 28 2012 03:49 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcsd 680-261138_3-a
Misc Info: 3005 1/5
Vial Number: 3109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.57	10.57	ug/l	0.54	100.00		21685.94	22853.87	22957.37
11 B	# 3	41.88	41.88	ug/l	2.22	1800.00		93708.13	95480.13	96253.08
23 Na	# 1	976.9	976.9	ug/l	0.52	81000.00		4958332.00	4974282.00	5046501.50
24 Mg	# 1	1010	1010	ug/l	1.13	81000.00		3343987.30	3360045.00	3443421.00
27 Al	# 1	986.6	986.6	ug/l	1.08	81000.00		3737218.30	3810575.00	3851039.50
39 K	# 2	963.8	963.8	ug/l	1.07	81000.00		260547.55	266883.06	273666.88
40 Ca	# 1	1004	1004	ug/l	0.91	81000.00		7984084.00	8049160.00	8197905.00
45 Sc	# 2	----	--------		--------	#VALUE!		35518.98	36344.99	37004.01
47 Ti	# 3	20.09	20.09	ug/l	1.61	1620.00		17298.44	17822.22	17331.72
51 V	# 2	19.35	19.35	ug/l	1.55	1800.00		34310.32	34660.97	35990.14
52 Cr	# 2	19.46	19.46	ug/l	0.16	1800.00		40914.59	42009.15	42366.79
55 Mn	# 3	104.9	104.9	ug/l	0.56	1800.00		1638157.00	1671432.50	1652908.50
56 Fe	# 1	961.3	961.3	ug/l	0.46	81000.00		11660456.00	11755990.00	11863958.00
59 Co	# 3	9.749	9.749	ug/l	1.77	1800.00		112210.83	112549.38	115416.06
60 Ni	# 2	20.17	20.17	ug/l	1.12	1800.00		18168.98	18669.50	19134.40
63 Cu	# 2	20.05	20.05	ug/l	0.35	1800.00		48103.52	49624.19	49678.75
66 Zn	# 3	22.24	22.24	ug/l	2.10	1800.00		31881.70	31611.35	31411.02
75 As	# 2	20.59	20.59	ug/l	1.32	100.00		3774.07	3818.41	3946.43
78 Se	# 1	20.34	20.34	ug/l	0.52	100.00		7398.51	7370.50	7392.51
88 Sr	# 3	18.53	18.53	ug/l	0.34	1800.00		400369.75	399519.22	397161.97
95 Mo	# 3	19.69	19.69	ug/l	1.66	1800.00		58419.90	59266.18	58992.16
107 Ag	# 3	10.32	10.32	ug/l	1.52	100.00		87384.95	88962.64	88235.43
111 Cd	# 3	10.39	10.39	ug/l	0.82	100.00		18745.30	19358.96	19092.10
118 Sn	# 3	20.19	20.19	ug/l	2.27	1800.00		117322.27	117567.16	119467.41
121 Sb	# 3	11.12	11.12	ug/l	2.62	100.00		60526.52	60198.63	60740.32
137 Ba	# 3	19.97	19.97	ug/l	2.10	1800.00		57066.82	57370.61	57371.03
202 Hg	# 3	1.016	1.016	ug/l	0.47	5.00		1999.13	2037.80	2041.14
205 Tl	# 3	7.877	7.877	ug/l	2.00	20.00		130770.39	131213.02	130128.15
208 Pb	# 3	10.08	10.08	ug/l	2.06	1800.00		230425.91	230173.69	230315.56
232 Th	# 3	18.62	18.62	ug/l	1.83	#VALUE!		521255.41	521171.19	518176.34
238 U	# 3	19.1	19.1	ug/l	1.99	#VALUE!		540792.31	537728.56	537029.81

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	499449.56	3.43	572657.25	87.2	60 - 125		480130.25	505449.25	512769.22
45 Sc	# 1	486985.75	0.46	523286.00	93.1	60 - 125		484905.06	486671.56	489380.56
45 Sc	# 3	577866.56	1.56	603286.69	95.8	60 - 125		567487.31	582528.19	583584.13
74 Ge	# 1	159990.89	0.55	170650.48	93.8	60 - 125		159489.02	159470.70	161013.00
74 Ge	# 2	23392.48	1.66	24862.19	94.1	60 - 125		22953.40	23533.03	23691.00
74 Ge	# 3	151534.56	1.46	155795.36	97.3	60 - 125		149107.86	153431.56	152064.23
89 Y	# 3	999169.25	0.70	1011968.20	98.7	60 - 125		1006471.90	998544.69	992491.00
115 In	# 3	954013.13	2.38	989458.81	96.4	60 - 125		929042.25	973330.06	959666.94
159 Tb	# 3	1352729.50	1.99	1388283.80	97.4	60 - 125		1322556.10	1374026.90	1361605.50
209 Bi	# 3	785605.44	1.61	829936.50	94.7	60 - 125		771050.25	792625.31	793140.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\089SMPL.D\089SMPL.D#
Date Acquired: Dec 28 2012 03:56 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85174-a-7-d
Misc Info: 3005 1/5
Vial Number: 3110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.2269	0.2269	ug/l	10.95	100.00		513.35	516.69	440.02
11 B # 3	19.22	19.22	ug/l	1.66	1800.00		45748.44	47749.63	47472.38
23 Na # 1	10450	10450	ug/l	1.90	81000.00		50625004.00	50838680.00	53137124.00
24 Mg # 1	855.9	855.9	ug/l	1.77	81000.00		2806589.00	2828391.50	2875652.50
27 Al # 1	1.657	1.657	ug/l	1.56	81000.00		7024.80	7198.24	7501.64
39 K # 2	583.7	583.7	ug/l	1.60	81000.00		162253.52	166802.45	170763.83
40 Ca # 1	5827	5827	ug/l	1.23	81000.00		45114552.00	46044340.00	46524148.00
45 Sc # 2	----	--------		--------	#VALUE!		34858.87	35919.68	39839.31
47 Ti # 3	0.1285	0.1285	ug/l	22.47	1620.00		136.67	133.34	93.34
51 V # 2	0.1088	0.1088	ug/l	13.56	1800.00		294.45	302.23	366.67
52 Cr # 2	0.0124	0.0124	ug/l	55.48	1800.00		135.56	135.56	117.78
55 Mn # 3	111.2	111.2	ug/l	0.54	1800.00		1729621.10	1761949.50	1769382.90
56 Fe # 1	642	642	ug/l	0.89	81000.00		7764873.00	7790980.50	7895655.00
59 Co # 3	14.44	14.44	ug/l	1.04	1800.00		165174.95	169867.58	169100.34
60 Ni # 2	2.642	2.642	ug/l	2.14	1800.00		2553.53	2559.09	2655.77
63 Cu # 2	0.07114	0.07114	ug/l	30.18	1800.00		751.13	738.91	704.46
66 Zn # 3	32.37	32.37	ug/l	1.35	1800.00		45610.94	46529.92	45711.05
75 As # 2	0.2368	0.2368	ug/l	4.94	100.00		57.00	54.33	59.33
78 Se # 1	0.0505	0.0505	ug/l	21.25	100.00		44.67	41.67	38.33
88 Sr # 3	46.65	46.65	ug/l	1.67	1800.00		1004189.90	1021982.90	1008838.00
95 Mo # 3	0.04145	0.04145	ug/l	21.76	1800.00		183.34	133.34	170.01
107 Ag # 3	0.001593	0.001593	ug/l	39.53	100.00		23.33	23.33	33.33
111 Cd # 3	0.2383	0.2383	ug/l	12.67	100.00		486.63	506.65	409.96
118 Sn # 3	0.04754	0.04754	ug/l	8.64	1800.00		476.69	533.36	506.69
121 Sb # 3	0.1495	0.1495	ug/l	5.28	100.00		966.72	1063.40	1003.40
137 Ba # 3	40.29	40.29	ug/l	1.08	1800.00		115387.86	116628.01	116494.01
202 Hg # 3	0.003049	0.003049	ug/l	56.15	5.00		44.67	41.00	47.33
205 Tl # 3	0.06939	0.06939	ug/l	3.08	20.00		1193.42	1226.76	1153.41
208 Pb # 3	-0.001416	-0.001416	ug/l	44.53	1800.00		180.01	163.34	190.01
232 Th # 3	0.08101	0.08101	ug/l	4.00	#VALUE!		2443.61	2510.28	2323.59
238 U # 3	0.004994	0.004994	ug/l	34.86	#VALUE!		163.34	186.67	93.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	505251.81	2.53	572657.25	88.2	60 - 125		492229.94	505720.19	517805.31
45 Sc # 1	482106.19	2.76	523286.00	92.1	60 - 125		467275.72	486088.94	492953.94
45 Sc # 3	577480.81	0.93	603286.69	95.7	60 - 125		572905.56	576131.31	583405.69
74 Ge # 1	159173.92	1.68	170650.48	93.3	60 - 125		156528.97	159112.92	161879.86
74 Ge # 2	23722.58	3.99	24862.19	95.4	60 - 125		22868.83	23557.50	24741.43
74 Ge # 3	151621.67	0.84	155795.36	97.3	60 - 125		150390.03	151542.45	152932.53
89 Y # 3	1006525.60	1.53	1011968.20	99.5	60 - 125		992317.88	1004294.30	1022964.80
115 In # 3	959306.63	1.56	989458.81	97.0	60 - 125		943235.19	961765.94	972918.63
159 Tb # 3	1337902.80	0.91	1388283.80	96.4	60 - 125		1324687.30	1348694.60	1340326.50
209 Bi # 3	772389.13	0.26	829936.50	93.1	60 - 125		771768.50	774643.94	770754.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\090SMPL.D\090SMPL.D#
Date Acquired: Dec 28 2012 04:04 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85174-a-7-d SD
Misc Info: 3005 1/25
Vial Number: 3111
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.2117	0.04234	ug/l	12.18	100.00		103.34	110.00	86.67
11 B	# 3	20.12	4.024	ug/l	5.13	1800.00		14906.14	15253.04	14696.05
23 Na	# 1	11055	2211	ug/l	0.94	81000.00		11249001.00	11422584.00	11618295.00
24 Mg	# 1	866.5	173.3	ug/l	1.40	81000.00		583806.13	598157.00	609262.63
27 Al	# 1	3.766	0.7532	ug/l	2.94	81000.00		3853.83	3907.18	4067.22
39 K	# 2	598.5	119.7	ug/l	3.53	81000.00		38900.74	40166.81	41749.98
40 Ca	# 1	5860	1172	ug/l	1.48	81000.00		9447991.00	9702278.00	9872577.00
45 Sc	# 2	----	--------		--------	#VALUE!		36240.29	37957.12	37193.28
47 Ti	# 3	0.32165	0.06433	ug/l	16.99	1620.00		73.34	56.67	73.34
51 V	# 2	0.1165	0.0233	ug/l	45.58	1800.00		183.34	171.11	146.67
52 Cr	# 2	-0.01357	-0.002714	ug/l	162.16	1800.00		108.89	95.56	92.22
55 Mn	# 3	107.75	21.55	ug/l	0.69	1800.00		351403.94	351208.13	350343.19
56 Fe	# 1	679.5	135.9	ug/l	0.79	81000.00		1699122.00	1727844.10	1738720.80
59 Co	# 3	14.775	2.955	ug/l	1.66	1800.00		35588.18	35104.11	35722.12
60 Ni	# 2	2.9915	0.5983	ug/l	1.01	1800.00		697.80	702.24	696.69
63 Cu	# 2	-0.7255	-0.1451	ug/l	6.03	1800.00		227.78	192.23	194.45
66 Zn	# 3	34.135	6.827	ug/l	1.32	1800.00		10059.69	10269.83	10299.83
75 As	# 2	0.379	0.0758	ug/l	30.59	100.00		24.33	32.33	24.33
78 Se	# 1	0.07755	0.01551	ug/l	124.11	100.00		22.67	37.00	30.33
88 Sr	# 3	47.04	9.408	ug/l	2.51	1800.00		210692.55	209670.44	209468.20
95 Mo	# 3	0.05885	0.01177	ug/l	77.56	1800.00		60.00	60.00	106.67
107 Ag	# 3	0.007375	0.001475	ug/l	45.70	100.00		20.00	33.33	26.67
111 Cd	# 3	0.25545	0.05109	ug/l	12.57	100.00		139.99	123.32	119.97
118 Sn	# 3	0.0639	0.01278	ug/l	43.49	1800.00		300.01	293.35	343.35
121 Sb	# 3	0.2155	0.0431	ug/l	35.68	100.00		540.03	403.35	396.68
137 Ba	# 3	40.13	8.026	ug/l	4.87	1800.00		23653.69	23653.69	24748.69
202 Hg	# 3	0.022035	0.004407	ug/l	41.28	5.00		52.33	48.33	45.67
205 Tl	# 3	0.1231	0.02462	ug/l	2.03	20.00		473.36	463.36	456.69
208 Pb	# 3	-0.009725	-0.001945	ug/l	25.38	1800.00		173.34	180.01	153.34
232 Th	# 3	0.17045	0.03409	ug/l	1.93	#VALUE!		1156.75	1183.42	1206.76
238 U	# 3	0.00682	0.001364	ug/l	44.00	#VALUE!		63.34	30.00	53.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	542718.75	3.73	572657.25	94.8	60 - 125		521399.22	561649.19	545107.88
45 Sc	# 1	500485.50	0.78	523286.00	95.6	60 - 125		496071.44	501955.31	503429.69
45 Sc	# 3	597780.13	0.96	603286.69	99.1	60 - 125		591287.00	599854.31	602199.25
74 Ge	# 1	164688.22	0.68	170650.48	96.5	60 - 125		163933.69	164160.34	165970.64
74 Ge	# 2	24149.49	0.91	24862.19	97.1	60 - 125		23897.94	24303.23	24247.31
74 Ge	# 3	156271.11	0.75	155795.36	100.3	60 - 125		155723.97	157613.23	155476.13
89 Y	# 3	1035711.30	2.45	1011968.20	102.3	60 - 125		1023681.90	1064814.80	1018636.90
115 In	# 3	995819.25	2.89	989458.81	100.6	60 - 125		981934.13	1028851.10	976672.25
159 Tb	# 3	1361271.90	1.60	1388283.80	98.1	60 - 125		1362503.60	1382375.90	1338936.00
209 Bi	# 3	802682.56	0.57	829936.50	96.7	60 - 125		797439.56	804552.19	806056.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\091SMPL.D\091SMPL.D#
Date Acquired: Dec 28 2012 04:11 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85174-a-7-d PDS
Misc Info: 3005 1/5
Vial Number: 3112
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	21.93	21.93	ug/l	0.70	100.00		45333.35	46983.75	47548.31
11 B	# 3	61.9	61.9	ug/l	1.75	1800.00		135517.81	137423.13	140963.48
23 Na	# 1	12240	12240	ug/l	0.93	81000.00		60007780.00	60537904.00	61727692.00
24 Mg	# 1	2908	2908	ug/l	0.61	81000.00		9660022.00	9670238.00	9794717.00
27 Al	# 1	208	208	ug/l	0.99	81000.00		792895.31	793623.19	811223.19
39 K	# 2	2669	2669	ug/l	4.03	81000.00		700647.69	719457.38	740234.19
40 Ca	# 1	7782	7782	ug/l	0.58	81000.00		61552904.00	61829264.00	61695060.00
45 Sc	# 2	----	--------		--------	#VALUE!		36014.35	38579.04	35092.68
47 Ti	# 3	21.08	21.08	ug/l	1.41	1620.00		18279.38	18466.18	18362.82
51 V	# 2	20.61	20.61	ug/l	3.15	1800.00		36242.79	36946.43	37430.67
52 Cr	# 2	20.58	20.58	ug/l	4.21	1800.00		42877.90	43371.24	44887.00
55 Mn	# 3	316.2	316.2	ug/l	1.49	1800.00		4931933.00	4947463.50	4892053.50
56 Fe	# 1	2706	2706	ug/l	0.53	81000.00		32517376.00	32921692.00	33195620.00
59 Co	# 3	34.39	34.39	ug/l	0.83	1800.00		393195.25	397118.94	395263.44
60 Ni	# 2	23.14	23.14	ug/l	3.42	1800.00		20964.16	21076.50	21425.78
63 Cu	# 2	20.87	20.87	ug/l	4.19	1800.00		49878.25	50104.27	51787.80
66 Zn	# 3	52.79	52.79	ug/l	0.58	1800.00		72718.02	74648.79	74096.56
75 As	# 2	21.04	21.04	ug/l	3.01	100.00		3835.08	3896.09	3934.43
78 Se	# 1	21.12	21.12	ug/l	1.37	100.00		7659.29	7670.96	7540.24
88 Sr	# 3	69.77	69.77	ug/l	0.77	1800.00		1474607.50	1481755.90	1488603.90
95 Mo	# 3	20.98	20.98	ug/l	1.06	1800.00		61911.88	61222.46	61567.07
107 Ag	# 3	18.42	18.42	ug/l	0.36	100.00		154092.63	154099.02	155236.55
111 Cd	# 3	21.16	21.16	ug/l	0.14	100.00		37755.46	38096.02	38343.13
118 Sn	# 3	20.88	20.88	ug/l	1.24	1800.00		119735.12	120840.23	118956.41
121 Sb	# 3	22.01	22.01	ug/l	1.33	100.00		117855.74	117567.66	116359.65
137 Ba	# 3	61.46	61.46	ug/l	1.05	1800.00		173452.23	172997.55	172167.31
202 Hg	# 3	1.029	1.029	ug/l	1.11	5.00		1945.46	1978.13	1950.46
205 Tl	# 3	4.103	4.103	ug/l	2.15	20.00		68160.47	66282.28	66075.13
208 Pb	# 3	20.84	20.84	ug/l	0.91	1800.00		468326.13	468090.34	464355.31
232 Th	# 3	20.28	20.28	ug/l	0.57	#VALUE!		538332.31	543311.31	541150.19
238 U	# 3	20.3	20.3	ug/l	0.63	#VALUE!		545083.19	548822.00	546097.81

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	498557.84	3.15	572657.25	87.1	60 - 125		480829.78	504031.03	510812.75
45 Sc	# 1	485440.16	0.74	523286.00	92.8	60 - 125		481366.38	486942.44	488011.56
45 Sc	# 3	578755.44	1.70	603286.69	95.9	60 - 125		567750.56	581850.81	586665.00
74 Ge	# 1	158985.20	0.69	170650.48	93.2	60 - 125		157715.36	159689.44	159550.83
74 Ge	# 2	23160.44	3.01	24862.19	93.2	60 - 125		22713.14	23964.96	22803.22
74 Ge	# 3	149730.80	1.16	155795.36	96.1	60 - 125		147752.53	150437.39	151002.45
89 Y	# 3	985538.81	1.14	1011968.20	97.4	60 - 125		979030.31	979095.50	998490.63
115 In	# 3	935830.69	0.67	989458.81	94.6	60 - 125		929668.63	935561.00	942262.69
159 Tb	# 3	1327225.90	0.46	1388283.80	95.6	60 - 125		1321165.90	1327140.90	1333371.30
209 Bi	# 3	750182.06	0.53	829936.50	90.4	60 - 125		746887.44	749082.25	754576.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\092_CCV.D\092_CCV.D#
Date Acquired: Dec 28 2012 04:19 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.75 ug/l	3.31	50.00	90 - 110		109079.53	113579.48	113636.02
11 B	99.72 ug/l	2.81	100.00	90 - 110		224064.81	229443.95	229880.48
23 Na	4877 ug/l	2.09	5000.00	90 - 110		23465526.00	24676884.00	24708846.00
24 Mg	4922 ug/l	1.22	5000.00	90 - 110		16448303.00	16341823.00	16483853.00
27 Al	496.8 ug/l	1.05	500.00	90 - 110		1901010.80	1898741.60	1921847.00
39 K	4945 ug/l	6.22	5000.00	90 - 110		1297246.30	1338963.30	1366561.90
40 Ca	4989 ug/l	0.45	5000.00	90 - 110		39365988.00	39712648.00	39667940.00
45 Sc	--------	--------		--- ##### - #####		39440.43	35407.79	37226.73
47 Ti	51.06 ug/l	3.51	50.00	90 - 110		44894.57	44406.66	45439.02
51 V	48.47 ug/l	6.29	50.00	90 - 110		84640.83	87612.99	88495.98
52 Cr	48.63 ug/l	5.66	50.00	90 - 110		101546.16	103777.45	105548.17
55 Mn	498.1 ug/l	3.45	500.00	90 - 110		7752860.00	7807750.50	7855679.00
56 Fe	4912 ug/l	0.90	5000.00	90 - 110		58426420.00	60506464.00	59417512.00
59 Co	48.1 ug/l	3.74	50.00	90 - 110		551579.69	558279.13	558217.06
60 Ni	48.84 ug/l	5.95	50.00	90 - 110		43810.53	45044.46	45301.88
63 Cu	48.87 ug/l	5.58	50.00	90 - 110		116363.95	118729.80	119761.92
66 Zn	49.99 ug/l	2.42	50.00	90 - 110		70288.56	69448.71	71359.15
75 As	48.88 ug/l	5.35	50.00	90 - 110		8922.19	9064.59	9198.32
78 Se	49.46 ug/l	0.75	50.00	90 - 110		17713.93	17803.69	17742.28
88 Sr	48.78 ug/l	4.86	50.00	90 - 110		1031024.40	1036820.00	1037166.40
95 Mo	49.87 ug/l	3.59	50.00	90 - 110		145982.20	146234.81	145743.56
107 Ag	50.35 ug/l	3.86	50.00	90 - 110		420027.63	423063.75	420222.03
111 Cd	49.96 ug/l	3.46	50.00	90 - 110		89248.44	89409.09	90186.35
118 Sn	49.48 ug/l	3.59	50.00	90 - 110		282295.06	283204.63	283599.81
121 Sb	49.77 ug/l	3.51	50.00	90 - 110		262402.91	263216.78	267273.53
137 Ba	49.86 ug/l	4.02	50.00	90 - 110		138708.91	140473.47	140568.16
202 Hg	2.537 ug/l	4.55	2.50	90 - 110		4707.70	4749.72	4807.40
205 Tl	9.918 ug/l	5.35	10.00	90 - 110		159346.19	160207.45	158377.38
208 Pb	49.46 ug/l	4.97	50.00	90 - 110		1095445.80	1094477.80	1089126.00
232 Th	47.86 ug/l	4.34		--- ##### - #####		1264965.90	1274258.80	1274516.00
238 U	49.19 ug/l	4.29		--- ##### - #####		1326677.80	1330933.00	1299995.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	518243.44	2.58	572657.25	90.5	60 - 125		516528.91	505787.34	532414.06
45 Sc	485351.13	0.91	523286.00	92.8	60 - 125		480445.16	489077.34	486530.88
45 Sc	584701.19	4.15	603286.69	96.9	60 - 125		605038.06	557867.31	591198.19
74 Ge	158402.83	0.96	170650.48	92.8	60 - 125		156681.61	159576.06	158950.75
74 Ge	23292.03	4.61	24862.19	93.7	60 - 125		24235.17	22124.57	23516.34
74 Ge	150752.72	3.22	155795.36	96.8	60 - 125		154226.98	145213.52	152817.69
89 Y	985946.56	4.55	1011968.20	97.4	60 - 125		1025324.30	937120.00	995395.63
115 In	934370.94	3.42	989458.81	94.4	60 - 125		961488.44	899120.00	942504.56
159 Tb	1311425.30	4.74	1388283.80	94.5	60 - 125		1354801.50	1240142.90	1339331.50
209 Bi	747911.94	3.98	829936.50	90.1	60 - 125		778652.94	719307.00	745775.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\093_CCB.D\093_CCB.D#
Date Acquired: Dec 28 2012 04:26 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.002588	0.002588	ug/l	187.17	#VALUE!		20.00	3.33	0.00
11 B # 3	1.11	1.11	ug/l	18.29	#VALUE!		8312.01	8021.88	7805.12
23 Na # 1	-4.755	-4.755	ug/l	4.55	#VALUE!		116419.52	116895.74	119320.20
24 Mg # 1	0.4356	0.4356	ug/l	8.69	#VALUE!		1923.49	1950.15	2196.86
27 Al # 1	0.03745	0.03745	ug/l	56.69	#VALUE!		1066.73	996.72	1170.07
39 K # 2	0.8436	0.8436	ug/l	22.00	#VALUE!		6804.77	6981.49	7124.88
40 Ca # 1	1.513	1.513	ug/l	15.70	#VALUE!		118318.76	117239.30	119553.64
45 Sc # 2	----	--------		--------	#VALUE!		35445.53	36688.70	35917.49
47 Ti # 3	0.01672	0.01672	ug/l	95.87	#VALUE!		13.33	40.00	20.00
51 V # 2	0.007696	0.007696	ug/l	39.80	#VALUE!		126.67	137.78	141.11
52 Cr # 2	0.002943	0.002943	ug/l	262.86	#VALUE!		123.34	110.00	93.33
55 Mn # 3	0.04866	0.04866	ug/l	12.53	#VALUE!		1360.08	1570.11	1486.77
56 Fe # 1	0.4699	0.4699	ug/l	9.08	#VALUE!		16974.83	17241.81	17962.51
59 Co # 3	0.004156	0.004156	ug/l	48.89	#VALUE!		80.00	53.33	100.00
60 Ni # 2	-0.09512	-0.09512	ug/l	9.68	#VALUE!		48.89	38.89	33.33
63 Cu # 2	-0.1942	-0.1942	ug/l	1.60	#VALUE!		87.78	76.67	76.67
66 Zn # 3	-0.03694	-0.03694	ug/l	107.09	#VALUE!		216.67	170.01	280.01
75 As # 2	0.0205	0.0205	ug/l	67.81	#VALUE!		14.67	19.00	14.33
78 Se # 1	0.03253	0.03253	ug/l	18.64	#VALUE!		32.67	36.67	36.67
88 Sr # 3	0.004536	0.004536	ug/l	7.35	#VALUE!		173.34	170.01	160.01
95 Mo # 3	0.06018	0.06018	ug/l	9.62	#VALUE!		216.67	203.34	240.01
107 Ag # 3	0.008005	0.008005	ug/l	16.44	#VALUE!		83.34	70.00	93.34
111 Cd # 3	0.0003821	0.0003821	ug/l	961.79	#VALUE!		36.60	29.94	23.26
118 Sn # 3	0.03201	0.03201	ug/l	10.77	#VALUE!		420.02	393.35	436.69
121 Sb # 3	0.3737	0.3737	ug/l	11.42	#VALUE!		2493.58	2186.87	2056.86
137 Ba # 3	0.007418	0.007418	ug/l	32.22	#VALUE!		43.33	30.00	40.00
202 Hg # 3	0.01978	0.01978	ug/l	17.31	#VALUE!		83.00	80.33	70.67
205 Tl # 3	0.005876	0.005876	ug/l	30.79	#VALUE!		180.01	120.00	143.34
208 Pb # 3	0.004246	0.004246	ug/l	48.66	#VALUE!		306.68	253.34	350.01
232 Th # 3	0.08988	0.08988	ug/l	6.61	#VALUE!		2827.01	2797.02	2540.29
238 U # 3	0.005718	0.005718	ug/l	20.48	#VALUE!		140.00	166.67	206.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	536327.63	2.65	572657.25	93.7	60 - 125		520211.25	541718.00	547053.56
45 Sc # 1	485701.75	1.58	523286.00	92.8	60 - 125		477183.03	487825.88	492096.31
45 Sc # 3	587376.81	1.13	603286.69	97.4	60 - 125		587540.00	580650.81	593939.56
74 Ge # 1	160099.27	0.50	170650.48	93.8	60 - 125		159464.95	161002.50	159830.33
74 Ge # 2	23632.16	1.58	24862.19	95.1	60 - 125		23252.67	23645.75	23998.07
74 Ge # 3	152258.31	0.68	155795.36	97.7	60 - 125		151413.05	153408.09	151953.83
89 Y # 3	1004365.30	1.55	1011968.20	99.2	60 - 125		992832.88	1022005.70	998257.25
115 In # 3	964840.69	0.53	989458.81	97.5	60 - 125		961255.00	962604.88	970662.19
159 Tb # 3	1326750.30	0.80	1388283.80	95.6	60 - 125		1331701.60	1314517.80	1334031.00
209 Bi # 3	787555.38	0.43	829936.50	94.9	60 - 125		787840.19	784037.81	790788.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\094SMPL.D\094SMPL.D#
Date Acquired: Dec 28 2012 04:34 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261101_1-a
Misc Info: 3010 1/5
Vial Number: 3201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0006161	0.0006161	ug/l	245.58	100.00		0.00	6.67	3.33
11 B # 3	0.8609	0.8609	ug/l	9.52	1800.00		6878.09	6998.11	7251.55
23 Na # 1	-8.539	-8.539	ug/l	4.72	81000.00		98959.45	99850.86	99501.88
24 Mg # 1	1.276	1.276	ug/l	5.14	81000.00		5007.44	4790.74	4780.72
27 Al # 1	1.078	1.078	ug/l	0.65	81000.00		5010.82	5054.15	5260.87
39 K # 2	0.5143	0.5143	ug/l	22.38	81000.00		6544.63	6664.67	6758.06
40 Ca # 1	4.702	4.702	ug/l	5.88	81000.00		143297.84	144890.19	145480.98
45 Sc # 2	----	--------		--------	#VALUE!		34944.57	36247.02	36379.50
47 Ti # 3	0.07392	0.07392	ug/l	27.26	1620.00		90.00	63.34	63.34
51 V # 2	0.109	0.109	ug/l	13.60	1800.00		327.78	311.12	287.78
52 Cr # 2	0.02106	0.02106	ug/l	33.22	1800.00		152.22	127.78	150.00
55 Mn # 3	0.01233	0.01233	ug/l	27.64	1800.00		880.05	813.38	923.38
56 Fe # 1	0.4721	0.4721	ug/l	7.44	81000.00		16924.89	17789.02	17208.43
59 Co # 3	-0.0002622	-0.0002622	ug/l	116.44	1800.00		23.33	23.33	30.00
60 Ni # 2	0.09437	0.09437	ug/l	10.46	1800.00		208.89	200.00	218.89
63 Cu # 2	-0.1739	-0.1739	ug/l	2.98	1800.00		136.67	121.11	118.89
66 Zn # 3	0.5207	0.5207	ug/l	6.86	1800.00		1000.06	1010.06	943.38
75 As # 2	0.09835	0.09835	ug/l	34.73	100.00		25.67	37.00	26.33
78 Se # 1	0.0113	0.0113	ug/l	35.40	100.00		28.67	26.67	27.00
88 Sr # 3	0.004034	0.004034	ug/l	22.98	1800.00		140.00	176.67	140.00
95 Mo # 3	0.03092	0.03092	ug/l	37.74	1800.00		146.67	90.00	150.00
107 Ag # 3	0.002812	0.002812	ug/l	49.47	100.00		33.33	26.67	50.00
111 Cd # 3	0.006713	0.006713	ug/l	105.97	100.00		26.62	43.31	53.29
118 Sn # 3	0.07315	0.07315	ug/l	10.36	1800.00		643.36	606.70	693.37
121 Sb # 3	0.304	0.304	ug/l	5.73	100.00		1876.83	1746.81	1866.83
137 Ba # 3	0.0006754	0.0006754	ug/l	577.58	1800.00		30.00	13.33	10.00
202 Hg # 3	0.003677	0.003677	ug/l	63.23	5.00		44.33	42.33	51.67
205 Tl # 3	0.003276	0.003276	ug/l	28.22	20.00		113.34	113.34	90.00
208 Pb # 3	-0.0007747	-0.0007747	ug/l	85.93	1800.00		200.01	193.34	180.01
232 Th # 3	0.05146	0.05146	ug/l	10.78	#VALUE!		1763.49	1630.14	1503.46
238 U # 3	0.001214	0.001214	ug/l	37.20	#VALUE!		56.67	33.33	40.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	505215.50	3.61	572657.25	88.2	60 - 125		484172.66	516699.56	514774.25
45 Sc # 1	488924.44	2.19	523286.00	93.4	60 - 125		479853.25	486189.78	500730.25
45 Sc # 3	566836.06	2.18	603286.69	94.0	60 - 125		552576.69	573217.94	574713.75
74 Ge # 1	159067.72	1.54	170650.48	93.2	60 - 125		156590.69	159134.33	161478.14
74 Ge # 2	22863.29	1.99	24862.19	92.0	60 - 125		22363.80	22968.95	23257.11
74 Ge # 3	148121.23	1.70	155795.36	95.1	60 - 125		145495.56	148357.25	150510.91
89 Y # 3	973528.63	2.49	1011968.20	96.2	60 - 125		945591.63	986862.69	988131.56
115 In # 3	947663.81	1.66	989458.81	95.8	60 - 125		929482.50	957499.06	956009.75
159 Tb # 3	1331412.10	2.99	1388283.80	95.9	60 - 125		1285607.50	1357431.50	1351197.80
209 Bi # 3	781605.56	1.48	829936.50	94.2	60 - 125		768810.06	784736.56	791270.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\095SMPL.D\095SMPL.D#
Date Acquired: Dec 28 2012 04:41 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261101_2-a
Misc Info: 3010 1/5
Vial Number: 3202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.96	10.96	ug/l	1.78	100.00		23294.40	23491.24	23808.26
11 B # 3	44.41	44.41	ug/l	1.10	1800.00		99821.38	102163.03	102573.56
23 Na # 1	1107	1107	ug/l	0.53	81000.00		5504940.00	5641138.50	5646007.50
24 Mg # 1	1140	1140	ug/l	1.10	81000.00		3793917.80	3767560.00	3808468.30
27 Al # 1	1114	1114	ug/l	0.71	81000.00		4210599.50	4240403.00	4326576.50
39 K # 2	1082	1082	ug/l	3.35	81000.00		285861.19	299602.56	298321.06
40 Ca # 1	1137	1137	ug/l	0.61	81000.00		8987155.00	9125151.00	9077861.00
45 Sc # 2	----	--------		--------	#VALUE!		35609.11	37624.27	35250.04
47 Ti # 3	22.17	22.17	ug/l	2.10	1620.00		19330.40	19377.14	18826.55
51 V # 2	21.72	21.72	ug/l	4.19	1800.00		37844.89	38805.66	39365.75
52 Cr # 2	22.37	22.37	ug/l	4.52	1800.00		46175.75	47338.52	48346.77
55 Mn # 3	114.3	114.3	ug/l	0.81	1800.00		1775712.60	1782197.30	1774320.40
56 Fe # 1	1118	1118	ug/l	1.40	81000.00		13208628.00	13645506.00	13574625.00
59 Co # 3	10.65	10.65	ug/l	0.96	1800.00		122481.22	121833.70	122249.50
60 Ni # 2	22.53	22.53	ug/l	4.51	1800.00		20235.57	20455.81	20842.89
63 Cu # 2	22.44	22.44	ug/l	4.15	1800.00		53043.53	54332.83	55027.13
66 Zn # 3	22.89	22.89	ug/l	0.77	1800.00		31992.02	31891.64	32456.02
75 As # 2	22.3	22.3	ug/l	3.90	100.00		3994.11	4140.81	4176.15
78 Se # 1	21.3	21.3	ug/l	0.10	100.00		7593.93	7618.60	7650.95
88 Sr # 3	20.19	20.19	ug/l	2.84	1800.00		439001.13	429519.19	431784.84
95 Mo # 3	21.55	21.55	ug/l	0.94	1800.00		64082.66	64674.88	64845.79
107 Ag # 3	11.13	11.13	ug/l	0.57	100.00		96234.32	94641.84	94883.64
111 Cd # 3	10.84	10.84	ug/l	1.26	100.00		20225.10	19597.51	19874.50
118 Sn # 3	21.61	21.61	ug/l	0.34	1800.00		126553.34	126614.24	126365.91
121 Sb # 3	11.84	11.84	ug/l	0.73	100.00		64721.76	64701.99	63848.32
137 Ba # 3	21.93	21.93	ug/l	0.89	1800.00		63164.74	63352.20	62311.47
202 Hg # 3	1.038	1.038	ug/l	1.35	5.00		2092.48	2047.47	2030.80
205 Tl # 3	8.456	8.456	ug/l	1.07	20.00		142204.38	141343.94	141820.03
208 Pb # 3	10.85	10.85	ug/l	1.07	1800.00		251757.34	250620.09	248644.42
232 Th # 3	20.49	20.49	ug/l	0.65	#VALUE!		571093.06	569813.88	565868.63
238 U # 3	21.08	21.08	ug/l	1.33	#VALUE!		597355.63	586725.69	588926.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	503829.06	2.28	572657.25	88.0	60 - 125		490893.84	512789.25	507804.06
45 Sc # 1	483341.78	1.02	523286.00	92.4	60 - 125		477897.69	484644.16	487483.56
45 Sc # 3	574325.44	0.65	603286.69	95.2	60 - 125		570232.31	575131.38	577612.69
74 Ge # 1	157629.84	0.44	170650.48	92.4	60 - 125		156900.66	157711.05	158277.78
74 Ge # 2	23069.89	4.14	24862.19	92.8	60 - 125		22480.59	24172.75	22556.33
74 Ge # 3	149476.81	0.79	155795.36	95.9	60 - 125		148188.88	149755.73	150485.83
89 Y # 3	996686.88	2.20	1011968.20	98.5	60 - 125		981625.81	986562.25	1021872.40
115 In # 3	954716.44	0.33	989458.81	96.5	60 - 125		958325.19	952349.69	953474.25
159 Tb # 3	1366786.60	0.77	1388283.80	98.5	60 - 125		1357839.80	1378377.90	1364142.10
209 Bi # 3	781030.19	1.04	829936.50	94.1	60 - 125		783767.88	787435.31	771887.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\096SMPL.D\096SMPL.D#
Date Acquired: Dec 28 2012 04:48 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-1-a
Misc Info: 3010 1/5
Vial Number: 3203
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001679	0.001679	ug/l	103.28	100.00		3.33	3.33	10.00
11 B	# 3	10.78	10.78	ug/l	3.26	1800.00		28418.17	28471.60	28311.26
23 Na	# 1	1424	1424	ug/l	0.40	81000.00		7111832.50	7145642.50	7250145.00
24 Mg	# 1	575.9	575.9	ug/l	0.81	81000.00		1890848.90	1914064.50	1946122.90
27 Al	# 1	1.038	1.038	ug/l	1.85	81000.00		4884.06	4967.47	4857.42
39 K	# 2	726.1	726.1	ug/l	6.26	81000.00		194744.70	199882.91	204201.80
40 Ca	# 1	2733	2733	ug/l	0.78	81000.00		21346356.00	21748314.00	21913624.00
45 Sc	# 2	----	--------		--------	#VALUE!		37753.63	33061.31	36313.86
47 Ti	# 3	0.09494	0.09494	ug/l	16.84	1620.00		100.00	76.67	100.00
51 V	# 2	0.1597	0.1597	ug/l	3.97	1800.00		406.68	382.23	416.68
52 Cr	# 2	0.02651	0.02651	ug/l	60.20	1800.00		125.56	177.78	162.22
55 Mn	# 3	28.97	28.97	ug/l	0.84	1800.00		449571.75	453876.19	454439.41
56 Fe	# 1	18910	18910	ug/l	1.04	81000.00		226737650.00	230206240.00	232456000.00
59 Co	# 3	0.01797	0.01797	ug/l	7.72	1800.00		243.34	220.01	243.34
60 Ni	# 2	-0.0515	-0.0515	ug/l	11.38	1800.00		82.22	80.00	74.45
63 Cu	# 2	-0.1634	-0.1634	ug/l	4.50	1800.00		140.00	144.45	171.11
66 Zn	# 3	0.357	0.357	ug/l	10.11	1800.00		790.04	806.71	710.03
75 As	# 2	1.771	1.771	ug/l	3.13	100.00		343.34	316.00	352.00
78 Se	# 1	0.02325	0.02325	ug/l	48.99	100.00		28.00	31.00	36.33
88 Sr	# 3	10.79	10.79	ug/l	2.54	1800.00		236147.98	234186.41	232762.91
95 Mo	# 3	0.0489	0.0489	ug/l	17.42	1800.00		210.01	166.67	180.01
107 Ag	# 3	0.002239	0.002239	ug/l	55.78	100.00		43.33	23.33	30.00
111 Cd	# 3	0.007744	0.007744	ug/l	146.57	100.00		56.60	19.95	53.28
118 Sn	# 3	0.08246	0.08246	ug/l	6.80	1800.00		740.04	706.70	696.70
121 Sb	# 3	0.1386	0.1386	ug/l	0.40	100.00		943.38	986.72	943.39
137 Ba	# 3	12.32	12.32	ug/l	2.44	1800.00		35888.75	35728.27	35578.15
202 Hg	# 3	0.004333	0.004333	ug/l	16.88	5.00		47.00	45.67	48.33
205 Tl	# 3	0.03591	0.03591	ug/l	10.82	20.00		680.04	580.03	666.70
208 Pb	# 3	0.04156	0.04156	ug/l	8.08	1800.00		1226.73	1140.06	1083.38
232 Th	# 3	0.08694	0.08694	ug/l	5.03	#VALUE!		2730.33	2523.61	2543.62
238 U	# 3	0.002461	0.002461	ug/l	24.28	#VALUE!		96.67	70.00	66.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	501452.03	2.50	572657.25	87.6	60 - 125		487671.41	504510.00	512174.69
45 Sc	# 1	483903.22	0.64	523286.00	92.5	60 - 125		481004.63	483545.28	487159.66
45 Sc	# 3	578548.00	0.59	603286.69	95.9	60 - 125		575291.19	582122.81	578230.13
74 Ge	# 1	159113.36	0.44	170650.48	93.2	60 - 125		158907.86	158545.72	159886.48
74 Ge	# 2	23065.81	4.76	24862.19	92.8	60 - 125		24035.96	21875.43	23286.03
74 Ge	# 3	149991.97	1.20	155795.36	96.3	60 - 125		148269.48	151863.50	149842.94
89 Y	# 3	1008032.40	2.52	1011968.20	99.6	60 - 125		997533.50	1036994.40	989569.13
115 In	# 3	965166.88	2.38	989458.81	97.5	60 - 125		949974.75	991608.81	953916.75
159 Tb	# 3	1340513.30	1.61	1388283.80	96.6	60 - 125		1329579.80	1365339.60	1326620.40
209 Bi	# 3	775576.06	0.28	829936.50	93.5	60 - 125		773537.31	777853.38	775337.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\097SMPL.D\097SMPL.D#
Date Acquired: Dec 28 2012 04:56 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-1-a SD
Misc Info: 3010 1/25
Vial Number: 3204
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.007805	0.001561	ug/l	145.16	100.00		0.00	10.00	6.67
11 B	# 3	11.295	2.259	ug/l	8.50	1800.00		10316.37	10809.99	10189.63
23 Na	# 1	1317.5	263.5	ug/l	4.77	81000.00		1490034.10	1503092.90	1502836.40
24 Mg	# 1	516	103.2	ug/l	4.23	81000.00		354536.75	359187.75	359042.34
27 Al	# 1	4.0095	0.8019	ug/l	6.23	81000.00		4243.91	4050.54	4180.58
39 K	# 2	680.5	136.1	ug/l	1.22	81000.00		43066.69	43447.50	44787.15
40 Ca	# 1	2502	500.4	ug/l	4.22	81000.00		4204865.50	4205622.50	4236735.50
45 Sc	# 2	----	--------		--------	#VALUE!		36361.67	37073.06	37832.35
47 Ti	# 3	0.21895	0.04379	ug/l	22.01	1620.00		56.67	50.00	40.00
51 V	# 2	0.1633	0.03266	ug/l	25.88	1800.00		192.22	164.45	183.34
52 Cr	# 2	0.01394	0.002788	ug/l	259.11	1800.00		100.00	97.78	127.78
55 Mn	# 3	27.145	5.429	ug/l	1.23	1800.00		89666.30	88286.90	87952.31
56 Fe	# 1	17080	3416	ug/l	2.25	81000.00		42818800.00	43294220.00	43463728.00
59 Co	# 3	0.00934	0.001868	ug/l	63.65	1800.00		56.67	36.67	63.34
60 Ni	# 2	0.35465	0.07093	ug/l	18.47	1800.00		187.78	184.45	210.00
63 Cu	# 2	-0.919	-0.1838	ug/l	3.09	1800.00		105.56	91.11	120.00
66 Zn	# 3	0.3761	0.07522	ug/l	22.65	1800.00		416.68	386.68	366.68
75 As	# 2	1.6585	0.3317	ug/l	7.01	100.00		73.67	78.67	70.67
78 Se	# 1	0.0010485	0.0002097	ug/l	4166.00	100.00		20.33	26.67	26.33
88 Sr	# 3	10.415	2.083	ug/l	0.26	1800.00		45625.85	45862.91	45622.00
95 Mo	# 3	0.06885	0.01377	ug/l	42.51	1800.00		100.00	80.00	63.34
107 Ag	# 3	4.505E-005	9.01E-006	ug/l	7244.70	100.00		10.00	20.00	10.00
111 Cd	# 3	0.01808	0.003616	ug/l	174.67	100.00		33.30	49.98	26.65
118 Sn	# 3	0.09185	0.01837	ug/l	54.37	1800.00		286.68	336.68	403.35
121 Sb	# 3	0.221	0.0442	ug/l	23.08	100.00		390.02	503.35	450.02
137 Ba	# 3	11.45	2.29	ug/l	2.25	1800.00		6928.25	6841.57	6578.10
202 Hg	# 3	0.040915	0.008183	ug/l	15.87	5.00		59.67	56.00	54.00
205 Tl	# 3	0.0611	0.01222	ug/l	20.96	20.00		250.01	300.01	216.67
208 Pb	# 3	0.03078	0.006156	ug/l	38.22	1800.00		300.01	350.01	406.68
232 Th	# 3	0.15295	0.03059	ug/l	9.92	#VALUE!		1046.74	1040.07	1170.08
238 U	# 3	0.00504	0.001008	ug/l	38.56	#VALUE!		40.00	50.00	26.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	523035.19	2.71	572657.25	91.3	60 - 125		507731.75	525722.63	535651.25
45 Sc	# 1	503926.66	4.65	523286.00	96.3	60 - 125		489887.00	490905.06	530987.88
45 Sc	# 3	592878.56	1.51	603286.69	98.3	60 - 125		585546.25	602871.44	590218.13
74 Ge	# 1	165537.19	2.84	170650.48	97.0	60 - 125		162273.05	163405.44	170933.05
74 Ge	# 2	23565.29	1.26	24862.19	94.8	60 - 125		23251.54	23600.92	23843.41
74 Ge	# 3	155720.13	0.70	155795.36	100.0	60 - 125		155526.69	156897.86	154735.83
89 Y	# 3	1016496.40	0.55	1011968.20	100.4	60 - 125		1012297.30	1022836.60	1014355.40
115 In	# 3	982957.88	0.45	989458.81	99.3	60 - 125		986189.13	984796.44	977888.13
159 Tb	# 3	1351239.50	0.26	1388283.80	97.3	60 - 125		1354536.60	1347609.60	1351572.30
209 Bi	# 3	805742.56	1.27	829936.50	97.1	60 - 125		807507.88	814962.50	794757.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\098SMPL.D\098SMPL.D#
Date Acquired: Dec 28 2012 05:03 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-1-a PDS
Misc Info: 3010 1/5
Vial Number: 3205
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	21.07	21.07	ug/l	1.42	100.00		44190.90	45136.15	45142.57
11 B # 3	52.07	52.07	ug/l	1.41	1800.00		115197.68	117634.49	118107.16
23 Na # 1	3361	3361	ug/l	0.60	81000.00		16675551.00	16953424.00	17200674.00
24 Mg # 1	2591	2591	ug/l	0.24	81000.00		8611653.00	8786543.00	8800302.00
27 Al # 1	207.6	207.6	ug/l	0.39	81000.00		799247.56	807199.75	809464.63
39 K # 2	3003	3003	ug/l	6.23	81000.00		718999.38	745572.69	760358.56
40 Ca # 1	4602	4602	ug/l	0.31	81000.00		36316996.00	37025556.00	37289808.00
45 Sc # 2	----	--------		--------	#VALUE!		31326.27	33698.07	37316.92
47 Ti # 3	20.74	20.74	ug/l	0.61	1620.00		18125.85	18145.93	18022.47
51 V # 2	22.86	22.86	ug/l	6.89	1800.00		36556.77	37683.35	38117.61
52 Cr # 2	22.6	22.6	ug/l	5.73	1800.00		42481.43	44073.95	45423.80
55 Mn # 3	241.7	241.7	ug/l	0.67	1800.00		3733823.30	3741570.80	3746083.80
56 Fe # 1	19380	19380	ug/l	0.34	81000.00		235444260.00	237072020.00	235113250.00
59 Co # 3	20.43	20.43	ug/l	0.32	1800.00		232125.00	232457.50	235144.14
60 Ni # 2	23.06	23.06	ug/l	8.13	1800.00		19062.13	19471.44	19384.65
63 Cu # 2	22.94	22.94	ug/l	8.45	1800.00		50432.97	51067.14	51066.91
66 Zn # 3	20.57	20.57	ug/l	1.32	1800.00		28703.12	28933.40	28602.90
75 As # 2	24.12	24.12	ug/l	7.43	100.00		4012.12	4084.47	4148.15
78 Se # 1	19.62	19.62	ug/l	0.60	100.00		7063.38	7164.42	7074.39
88 Sr # 3	30.56	30.56	ug/l	0.46	1800.00		650681.69	658223.44	654212.63
95 Mo # 3	20.68	20.68	ug/l	1.36	1800.00		61299.79	62343.64	60473.55
107 Ag # 3	18.15	18.15	ug/l	0.15	100.00		154335.97	153723.27	153505.97
111 Cd # 3	20.41	20.41	ug/l	0.78	100.00		37491.62	36863.14	37020.57
118 Sn # 3	20.87	20.87	ug/l	0.62	1800.00		120591.02	121936.82	120793.05
121 Sb # 3	22.2	22.2	ug/l	0.74	100.00		120514.26	118707.95	119591.60
137 Ba # 3	32.64	32.64	ug/l	1.01	1800.00		92183.09	92786.38	93557.59
202 Hg # 3	0.9883	0.9883	ug/l	1.16	5.00		1901.45	1889.78	1925.12
205 Tl # 3	4.087	4.087	ug/l	1.59	20.00		66500.30	67222.99	68277.64
208 Pb # 3	20.78	20.78	ug/l	1.15	1800.00		469209.63	470975.47	472159.06
232 Th # 3	20.01	20.01	ug/l	0.21	#VALUE!		538479.00	541039.69	540988.50
238 U # 3	20.08	20.08	ug/l	0.42	#VALUE!		548016.75	546569.44	547152.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	498971.34	2.62	572657.25	87.1	60 - 125		483910.94	507012.91	505990.19
45 Sc # 1	490084.19	1.05	523286.00	93.7	60 - 125		484268.91	491822.97	494160.69
45 Sc # 3	579441.19	0.25	603286.69	96.0	60 - 125		578525.44	578715.44	581082.69
74 Ge # 1	159333.31	0.24	170650.48	93.4	60 - 125		158915.86	159671.80	159412.27
74 Ge # 2	21289.68	8.84	24862.19	85.6	60 - 125		19258.17	21640.79	22970.08
74 Ge # 3	148770.19	0.75	155795.36	95.5	60 - 125		148536.20	147793.63	149980.75
89 Y # 3	993475.19	0.18	1011968.20	98.2	60 - 125		992980.00	995480.69	991964.75
115 In # 3	946224.69	0.27	989458.81	95.6	60 - 125		948262.69	947100.38	943310.81
159 Tb # 3	1342313.10	1.07	1388283.80	96.7	60 - 125		1350197.40	1325780.30	1350961.90
209 Bi # 3	759271.88	0.30	829936.50	91.5	60 - 125		757394.75	761781.38	758639.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\099SMPL.D\099SMPL.D#
Date Acquired: Dec 28 2012 05:11 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-1-b ms
Misc Info: 3010 1/5
Vial Number: 3206
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.32	10.32	ug/l	1.04	100.00		21525.56	21752.60	21699.23
11 B # 3	51.86	51.86	ug/l	0.36	1800.00		113123.72	115835.65	115843.83
23 Na # 1	2436	2436	ug/l	0.31	81000.00		11891782.00	12077225.00	12188285.00
24 Mg # 1	1610	1610	ug/l	1.04	81000.00		5263727.50	5341320.00	5324798.50
27 Al # 1	1044	1044	ug/l	0.73	81000.00		3869606.30	3989545.30	4014200.00
39 K # 2	1728	1728	ug/l	0.57	81000.00		449357.44	464855.50	470114.94
40 Ca # 1	3708	3708	ug/l	1.06	81000.00		28896906.00	29200670.00	29179356.00
45 Sc # 2	----	--------		--------	#VALUE!		35097.07	36365.05	36107.85
47 Ti # 3	20.2	20.2	ug/l	0.79	1620.00		17658.78	17288.33	17425.22
51 V # 2	20.55	20.55	ug/l	1.68	1800.00		35594.92	36802.79	36202.72
52 Cr # 2	20.79	20.79	ug/l	1.64	1800.00		42825.54	43362.29	44297.86
55 Mn # 3	134.5	134.5	ug/l	0.55	1800.00		2083117.00	2104087.00	2077595.00
56 Fe # 1	19570	19570	ug/l	0.08	81000.00		233150020.00	233764370.00	236461860.00
59 Co # 3	9.877	9.877	ug/l	0.50	1800.00		113436.95	112937.72	112984.11
60 Ni # 2	21.01	21.01	ug/l	0.84	1800.00		18500.42	19033.21	19269.00
63 Cu # 2	21.14	21.14	ug/l	1.88	1800.00		49921.61	50458.51	50975.41
66 Zn # 3	20.82	20.82	ug/l	0.81	1800.00		29170.52	29113.65	29257.32
75 As # 2	22.54	22.54	ug/l	2.22	100.00		4062.80	4066.46	4179.15
78 Se # 1	20.03	20.03	ug/l	0.86	100.00		7164.75	7095.72	7135.41
88 Sr # 3	28.84	28.84	ug/l	1.54	1800.00		629252.75	620114.13	615245.31
95 Mo # 3	19.9	19.9	ug/l	0.41	1800.00		59282.66	59252.63	59162.32
107 Ag # 3	10.26	10.26	ug/l	0.28	100.00		87703.41	86932.49	86942.52
111 Cd # 3	10.09	10.09	ug/l	0.98	100.00		18618.10	18130.88	18498.00
118 Sn # 3	20.15	20.15	ug/l	1.15	1800.00		117765.86	118093.89	115959.66
121 Sb # 3	10.98	10.98	ug/l	1.30	100.00		60075.14	59560.01	58516.02
137 Ba # 3	32.09	32.09	ug/l	0.88	1800.00		92746.88	91016.66	90816.38
202 Hg # 3	0.9969	0.9969	ug/l	0.94	5.00		1970.13	1914.12	1940.46
205 Tl # 3	7.922	7.922	ug/l	0.50	20.00		130756.94	132110.36	130047.95
208 Pb # 3	10.15	10.15	ug/l	0.36	1800.00		232762.03	231243.91	228721.64
232 Th # 3	19.28	19.28	ug/l	0.88	#VALUE!		531275.19	525979.31	520243.84
238 U # 3	19.89	19.89	ug/l	0.52	#VALUE!		553159.06	545469.50	544242.94

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	492067.50	1.50	572657.25	85.9	60 - 125		483748.53	494550.78	497903.13
45 Sc # 1	479555.59	1.51	523286.00	91.6	60 - 125		472203.19	479777.00	486686.66
45 Sc # 3	573753.88	0.73	603286.69	95.1	60 - 125		575504.06	568984.88	576772.56
74 Ge # 1	156833.19	0.70	170650.48	91.9	60 - 125		156093.20	156316.69	158089.63
74 Ge # 2	22802.08	2.74	24862.19	91.7	60 - 125		22084.54	23103.55	23218.16
74 Ge # 3	149197.20	0.57	155795.36	95.8	60 - 125		149744.70	149627.14	148219.77
89 Y # 3	1000326.00	2.59	1011968.20	98.8	60 - 125		1030264.10	985533.50	985180.31
115 In # 3	948748.94	0.42	989458.81	95.9	60 - 125		952539.44	944663.75	949043.50
159 Tb # 3	1347362.40	0.72	1388283.80	97.1	60 - 125		1352665.30	1353284.00	1336138.00
209 Bi # 3	767081.00	0.52	829936.50	92.4	60 - 125		771256.00	763286.00	766701.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\100SMPL.D\100SMPL.D#
Date Acquired: Dec 28 2012 05:18 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-1-c msd
Misc Info: 3010 1/5
Vial Number: 3207
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.31	10.31	ug/l	2.19	100.00		21178.74	21298.84	22036.28
11 B	# 3	51.56	51.56	ug/l	0.50	1800.00		110774.40	114808.66	115314.44
23 Na	# 1	2445	2445	ug/l	0.39	81000.00		11983883.00	12100395.00	12241389.00
24 Mg	# 1	1615	1615	ug/l	1.14	81000.00		5288188.50	5391776.50	5316123.50
27 Al	# 1	1046	1046	ug/l	1.06	81000.00		3930160.30	4013750.80	3967765.00
39 K	# 2	1735	1735	ug/l	1.59	81000.00		450755.25	465970.16	473460.41
40 Ca	# 1	3692	3692	ug/l	0.56	81000.00		28651612.00	28983392.00	29368300.00
45 Sc	# 2	----	--------		--------	#VALUE!		34760.95	35962.04	37360.37
47 Ti	# 3	20.67	20.67	ug/l	0.55	1620.00		17715.48	17852.27	17788.87
51 V	# 2	20.69	20.69	ug/l	0.73	1800.00		35624.95	36298.49	37504.18
52 Cr	# 2	20.8	20.8	ug/l	2.08	1800.00		42895.67	43646.34	44046.06
55 Mn	# 3	134.3	134.3	ug/l	0.64	1800.00		2071017.00	2082304.80	2066346.60
56 Fe	# 1	19450	19450	ug/l	0.58	81000.00		230993200.00	234652160.00	236167570.00
59 Co	# 3	9.898	9.898	ug/l	0.90	1800.00		113148.77	113045.75	112125.38
60 Ni	# 2	21.03	21.03	ug/l	2.08	1800.00		18750.66	18936.44	19185.56
63 Cu	# 2	21.3	21.3	ug/l	1.96	1800.00		50330.60	50674.78	51560.49
66 Zn	# 3	20.91	20.91	ug/l	0.84	1800.00		29157.11	29210.44	29073.59
75 As	# 2	22.37	22.37	ug/l	1.99	100.00		4016.79	4075.46	4124.81
78 Se	# 1	19.96	19.96	ug/l	0.18	100.00		7072.05	7166.75	7172.42
88 Sr	# 3	29.21	29.21	ug/l	1.30	1800.00		623925.81	622407.13	616476.25
95 Mo	# 3	20.13	20.13	ug/l	1.47	1800.00		60139.34	59242.28	58490.32
107 Ag	# 3	10.32	10.32	ug/l	0.89	100.00		87489.34	86952.68	86155.96
111 Cd	# 3	10.06	10.06	ug/l	2.48	100.00		18597.85	18281.19	17640.66
118 Sn	# 3	20.49	20.49	ug/l	0.67	1800.00		118586.95	118359.87	117186.10
121 Sb	# 3	10.97	10.97	ug/l	1.07	100.00		58673.50	58620.10	58994.53
137 Ba	# 3	32.64	32.64	ug/l	1.70	1800.00		93681.33	92351.23	90403.83
202 Hg	# 3	1	1	ug/l	1.53	5.00		1918.12	1976.13	1959.79
205 Tl	# 3	7.944	7.944	ug/l	2.46	20.00		132400.30	132849.92	128680.59
208 Pb	# 3	10.14	10.14	ug/l	1.45	1800.00		231954.58	231370.08	228610.52
232 Th	# 3	19.38	19.38	ug/l	1.05	#VALUE!		532039.38	532427.94	524118.59
238 U	# 3	19.77	19.77	ug/l	0.57	#VALUE!		546683.00	546715.81	542930.81

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	489202.69	2.41	572657.25	85.4	60 - 125		475615.81	497000.63	494991.72
45 Sc	# 1	480065.69	0.69	523286.00	91.7	60 - 125		477047.16	479546.34	483603.53
45 Sc	# 3	571287.69	0.88	603286.69	94.7	60 - 125		565494.25	574682.88	573686.00
74 Ge	# 1	157430.17	0.73	170650.48	92.3	60 - 125		156125.56	158274.86	157890.11
74 Ge	# 2	22814.34	3.21	24862.19	91.8	60 - 125		22245.85	22556.24	23640.93
74 Ge	# 3	148435.67	1.02	155795.36	95.3	60 - 125		147661.91	150185.23	147459.89
89 Y	# 3	986623.00	0.79	1011968.20	97.5	60 - 125		977599.44	991375.94	990893.63
115 In	# 3	939196.88	0.78	989458.81	94.9	60 - 125		936770.94	947455.38	933364.38
159 Tb	# 3	1347275.60	0.92	1388283.80	97.0	60 - 125		1353044.10	1332971.30	1355811.40
209 Bi	# 3	768465.19	0.17	829936.50	92.6	60 - 125		767722.56	767728.13	769944.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\101SMPL.D\101SMPL.D#
Date Acquired: Dec 28 2012 05:26 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-2-a
Misc Info: 3010 1/5
Vial Number: 3208
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.004423	0.004423	ug/l	56.27	100.00		10.00	16.67	6.67
11 B # 3	2.885	2.885	ug/l	6.07	1800.00		10609.87	11407.02	11410.31
23 Na # 1	454.2	454.2	ug/l	0.46	81000.00		2378044.50	2410395.00	2432704.30
24 Mg # 1	151.1	151.1	ug/l	0.51	81000.00		501372.97	509847.50	514132.44
27 Al # 1	224.2	224.2	ug/l	1.07	81000.00		859451.63	854844.06	888747.19
39 K # 2	159	159	ug/l	2.60	81000.00		47436.98	48679.88	49859.81
40 Ca # 1	78.14	78.14	ug/l	1.01	81000.00		724440.31	731856.75	733397.88
45 Sc # 2	----	--------		--------	#VALUE!		33650.58	35650.40	37060.82
47 Ti # 3	1.649	1.649	ug/l	11.38	1620.00		1310.21	1346.97	1641.03
51 V # 2	0.547	0.547	ug/l	0.81	1800.00		1036.71	1092.26	1124.49
52 Cr # 2	0.2964	0.2964	ug/l	5.65	1800.00		721.13	724.47	718.91
55 Mn # 3	3.265	3.265	ug/l	2.75	1800.00		50887.32	52090.51	51020.98
56 Fe # 1	11170	11170	ug/l	0.22	81000.00		135024990.00	134686270.00	136385630.00
59 Co # 3	0.08408	0.08408	ug/l	2.91	1800.00		966.72	996.72	1010.05
60 Ni # 2	0.1091	0.1091	ug/l	11.99	1800.00		224.45	222.23	222.23
63 Cu # 2	-0.0734	-0.0734	ug/l	17.52	1800.00		375.56	368.90	348.90
66 Zn # 3	1.429	1.429	ug/l	2.88	1800.00		2206.86	2230.20	2323.55
75 As # 2	3.509	3.509	ug/l	1.92	100.00		626.68	663.35	667.68
78 Se # 1	0.02539	0.02539	ug/l	11.73	100.00		33.67	31.67	32.00
88 Sr # 3	1.082	1.082	ug/l	1.42	1800.00		23542.85	24020.65	23072.11
95 Mo # 3	0.04528	0.04528	ug/l	3.75	1800.00		170.01	173.34	176.67
107 Ag # 3	0.0008348	0.0008348	ug/l	52.11	100.00		16.67	23.33	20.00
111 Cd # 3	0.02042	0.02042	ug/l	59.94	100.00		53.28	53.28	93.28
118 Sn # 3	0.08804	0.08804	ug/l	1.58	1800.00		746.71	733.37	743.37
121 Sb # 3	0.1722	0.1722	ug/l	6.39	100.00		1216.75	1063.40	1116.74
137 Ba # 3	3.78	3.78	ug/l	3.19	1800.00		11344.97	10706.98	10603.68
202 Hg # 3	0.000256	0.000256	ug/l	700.78	5.00		40.67	35.33	43.00
205 Tl # 3	0.0466	0.0466	ug/l	11.35	20.00		893.39	843.38	730.04
208 Pb # 3	0.1556	0.1556	ug/l	10.45	1800.00		3913.85	3247.01	4101.22
232 Th # 3	0.1003	0.1003	ug/l	6.04	#VALUE!		3240.43	2833.69	2947.05
238 U # 3	0.01714	0.01714	ug/l	9.53	#VALUE!		466.69	536.69	473.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	491632.50	1.96	572657.25	85.9	60 - 125		484710.25	487572.22	502615.00
45 Sc # 1	488970.38	1.34	523286.00	93.4	60 - 125		483303.31	487436.72	496171.03
45 Sc # 3	572821.69	2.08	603286.69	95.0	60 - 125		576090.38	559624.50	582750.19
74 Ge # 1	158643.28	0.52	170650.48	93.0	60 - 125		158582.08	157856.77	159490.98
74 Ge # 2	22952.02	4.71	24862.19	92.3	60 - 125		21833.35	23030.18	23992.52
74 Ge # 3	149189.64	1.42	155795.36	95.8	60 - 125		150278.39	146754.48	150536.05
89 Y # 3	1006967.70	0.75	1011968.20	99.5	60 - 125		1011412.10	1011293.10	998197.81
115 In # 3	956632.38	2.01	989458.81	96.7	60 - 125		969948.13	934625.38	965323.50
159 Tb # 3	1347045.00	2.39	1388283.80	97.0	60 - 125		1369046.50	1310097.30	1361991.30
209 Bi # 3	785682.38	1.49	829936.50	94.7	60 - 125		796058.13	773039.38	787949.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\102SMPL.D\102SMPL.D#
Date Acquired: Dec 28 2012 05:33 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-3-a
Misc Info: 3010 1/5
Vial Number: 3209
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.06598	0.06598	ug/l	18.49	100.00		160.01	123.34	126.67
11 B	# 3	6.125	6.125	ug/l	1.83	1800.00		17191.36	17808.56	17842.05
23 Na	# 1	4489	4489	ug/l	0.38	81000.00		22362822.00	22833602.00	22869578.00
24 Mg	# 1	1926	1926	ug/l	0.85	81000.00		6474076.50	6530937.50	6559703.50
27 Al	# 1	16.01	16.01	ug/l	1.92	81000.00		61870.70	62596.26	65415.94
39 K	# 2	878.5	878.5	ug/l	0.25	81000.00		233887.42	237969.47	241911.33
40 Ca	# 1	8955	8955	ug/l	0.61	81000.00		71286456.00	72028936.00	72702960.00
45 Sc	# 2	----	--------		--------	#VALUE!		34908.95	35519.02	36491.96
47 Ti	# 3	0.8393	0.8393	ug/l	13.45	1620.00		643.36	843.37	706.70
51 V	# 2	0.1338	0.1338	ug/l	10.84	1800.00		358.90	367.78	328.90
52 Cr	# 2	0.07778	0.07778	ug/l	7.21	1800.00		270.00	251.12	263.34
55 Mn	# 3	14.89	14.89	ug/l	1.07	1800.00		226695.75	228906.03	230325.09
56 Fe	# 1	1036	1036	ug/l	0.20	81000.00		12414221.00	12591711.00	12609425.00
59 Co	# 3	0.2058	0.2058	ug/l	2.33	1800.00		2373.55	2396.88	2290.20
60 Ni	# 2	0.2404	0.2404	ug/l	3.13	1800.00		336.67	331.12	351.12
63 Cu	# 2	0.03293	0.03293	ug/l	2.71	1800.00		606.68	612.24	624.46
66 Zn	# 3	0.8931	0.8931	ug/l	4.49	1800.00		1446.76	1473.44	1546.78
75 As	# 2	0.328	0.328	ug/l	11.13	100.00		77.00	70.33	66.33
78 Se	# 1	0.03643	0.03643	ug/l	26.86	100.00		32.00	38.00	39.00
88 Sr	# 3	58.45	58.45	ug/l	0.51	1800.00		1236662.30	1235143.40	1240697.10
95 Mo	# 3	0.06303	0.06303	ug/l	22.32	1800.00		176.67	236.67	256.68
107 Ag	# 3	0.001784	0.001784	ug/l	55.61	100.00		36.67	20.00	26.67
111 Cd	# 3	0.05476	0.05476	ug/l	10.92	100.00		123.28	139.93	119.92
118 Sn	# 3	0.1511	0.1511	ug/l	14.81	1800.00		1243.42	1010.06	1030.06
121 Sb	# 3	0.1082	0.1082	ug/l	6.45	100.00		730.04	800.04	786.71
137 Ba	# 3	37.41	37.41	ug/l	0.26	1800.00		105933.26	106244.73	105918.56
202 Hg	# 3	0.005242	0.005242	ug/l	11.16	5.00		48.67	47.33	49.33
205 Tl	# 3	0.02803	0.02803	ug/l	1.77	20.00		516.69	523.36	510.02
208 Pb	# 3	0.3886	0.3886	ug/l	2.64	1800.00		9184.65	9104.66	8877.92
232 Th	# 3	0.04036	0.04036	ug/l	1.05	#VALUE!		1293.43	1323.43	1303.44
238 U	# 3	0.02124	0.02124	ug/l	2.70	#VALUE!		593.37	613.36	583.36

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	481165.78	3.27	572657.25	84.0	60 - 125		463573.44	485972.19	493951.72
45 Sc	# 1	492530.50	1.51	523286.00	94.1	60 - 125		484212.06	494800.09	498579.28
45 Sc	# 3	570855.13	0.93	603286.69	94.6	60 - 125		564719.50	574149.56	573696.44
74 Ge	# 1	158235.36	0.86	170650.48	92.7	60 - 125		156684.72	159214.06	158807.28
74 Ge	# 2	22812.48	1.79	24862.19	91.8	60 - 125		22436.06	22756.48	23244.89
74 Ge	# 3	147197.75	0.28	155795.36	94.5	60 - 125		147678.78	146972.36	146942.08
89 Y	# 3	982452.81	0.58	1011968.20	97.1	60 - 125		976100.00	984174.56	987083.94
115 In	# 3	942781.75	0.09	989458.81	95.3	60 - 125		942877.19	941869.06	943599.13
159 Tb	# 3	1349085.10	1.08	1388283.80	97.2	60 - 125		1332367.60	1359108.30	1355779.60
209 Bi	# 3	770658.81	0.89	829936.50	92.9	60 - 125		762860.81	773578.50	775537.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\103SMPL.D\103SMPL.D#
Date Acquired: Dec 28 2012 05:40 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-4-a
Misc Info: 3010 1/5
Vial Number: 3210
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.00171	0.00171	ug/l	140.58	100.00		0.00	6.67	10.00
11 B # 3	56.52	56.52	ug/l	3.46	1800.00		121207.11	123813.48	129714.32
23 Na # 1	17360	17360	ug/l	0.79	81000.00		85777504.00	87652896.00	87541904.00
24 Mg # 1	2241	2241	ug/l	0.77	81000.00		7487866.50	7586388.00	7601740.00
27 Al # 1	5.816	5.816	ug/l	3.98	81000.00		22167.62	23765.15	24581.72
39 K # 2	6918	6918	ug/l	8.19	81000.00		1822751.60	1840137.90	1931848.30
40 Ca # 1	5596	5596	ug/l	0.54	81000.00		44014528.00	44767568.00	45779256.00
45 Sc # 2	----	--------		--------	#VALUE!		35618.03	40058.46	34116.45
47 Ti # 3	0.176	0.176	ug/l	12.92	1620.00		166.67	146.67	173.34
51 V # 2	0.1155	0.1155	ug/l	6.97	1800.00		308.89	362.23	311.12
52 Cr # 2	0.04595	0.04595	ug/l	25.18	1800.00		171.11	235.56	193.34
55 Mn # 3	59.32	59.32	ug/l	2.99	1800.00		926676.44	924799.56	925919.56
56 Fe # 1	71.61	71.61	ug/l	0.97	81000.00		877053.94	884317.06	895761.00
59 Co # 3	0.6377	0.6377	ug/l	5.27	1800.00		7315.00	7194.91	7581.76
60 Ni # 2	0.4741	0.4741	ug/l	4.49	1800.00		564.46	572.24	545.57
63 Cu # 2	4.633	4.633	ug/l	8.10	1800.00		11396.94	11649.30	12100.69
66 Zn # 3	253.5	253.5	ug/l	3.05	1800.00		351694.38	353964.72	356543.78
75 As # 2	0.3821	0.3821	ug/l	11.08	100.00		83.67	79.00	85.33
78 Se # 1	0.07883	0.07883	ug/l	9.65	100.00		55.00	51.00	50.00
88 Sr # 3	35.61	35.61	ug/l	6.37	1800.00		777896.00	769990.50	783638.81
95 Mo # 3	0.04842	0.04842	ug/l	25.01	1800.00		150.00	176.67	213.34
107 Ag # 3	0.003618	0.003618	ug/l	39.58	100.00		56.67	40.00	33.33
111 Cd # 3	0.2221	0.2221	ug/l	8.90	100.00		399.97	436.63	456.62
118 Sn # 3	0.1282	0.1282	ug/l	11.38	1800.00		1016.73	903.38	966.72
121 Sb # 3	0.4316	0.4316	ug/l	1.65	100.00		2506.92	2566.95	2453.57
137 Ba # 3	36.15	36.15	ug/l	4.97	1800.00		103347.24	100899.50	103296.31
202 Hg # 3	0.005247	0.005247	ug/l	20.70	5.00		48.33	46.67	45.67
205 Tl # 3	0.06138	0.06138	ug/l	2.55	20.00		1060.07	1140.08	1010.07
208 Pb # 3	30.64	30.64	ug/l	4.11	1800.00		702544.44	694813.13	695724.38
232 Th # 3	0.02594	0.02594	ug/l	21.18	#VALUE!		766.71	853.39	1023.41
238 U # 3	0.005199	0.005199	ug/l	14.00	#VALUE!		146.67	133.34	163.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	492532.38	2.96	572657.25	86.0	60 - 125		476678.84	505404.88	495513.44
45 Sc # 1	490472.06	1.45	523286.00	93.7	60 - 125		483358.94	490433.19	497624.03
45 Sc # 3	578005.13	3.88	603286.69	95.8	60 - 125		567859.81	603705.94	562449.81
74 Ge # 1	159788.70	0.22	170650.48	93.6	60 - 125		159395.52	160096.45	159874.14
74 Ge # 2	23330.22	5.69	24862.19	93.8	60 - 125		23074.68	24766.92	22149.07
74 Ge # 3	150033.98	2.95	155795.36	96.3	60 - 125		147732.41	155136.95	147232.59
89 Y # 3	1015331.90	5.74	1011968.20	100.3	60 - 125		986361.13	1082398.40	977236.31
115 In # 3	944533.13	3.74	989458.81	95.5	60 - 125		936600.50	983129.38	913869.38
159 Tb # 3	1350173.40	3.90	1388283.80	97.3	60 - 125		1330790.40	1409822.80	1309906.80
209 Bi # 3	746256.31	3.33	829936.50	89.9	60 - 125		736240.63	774543.06	727985.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\104_CCV.D\104_CCV.D#
Date Acquired: Dec 28 2012 05:48 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.71 ug/l	3.18	50.00	90 - 110		109610.26	112496.14	113233.72
11 B	98.92 ug/l	2.84	100.00	90 - 110		224785.39	231385.95	234173.48
23 Na	4833 ug/l	1.99	5000.00	90 - 110		24208622.00	24409948.00	25007684.00
24 Mg	4930 ug/l	0.91	5000.00	90 - 110		16430223.00	16968860.00	16945800.00
27 Al	496.3 ug/l	0.75	500.00	90 - 110		1898089.40	1961200.60	1971107.00
39 K	4936 ug/l	1.75	5000.00	90 - 110		1327864.60	1379178.10	1416516.10
40 Ca	5005 ug/l	1.52	5000.00	90 - 110		39869428.00	40567616.00	41051444.00
45 Sc	--------	--------		--- ##### - #####		37773.35	37901.25	41191.73
47 Ti	49.64 ug/l	0.41	50.00	90 - 110		45215.33	44961.20	45121.91
51 V	47.99 ug/l	1.63	50.00	90 - 110		87082.92	88768.45	90564.94
52 Cr	48.11 ug/l	2.13	50.00	90 - 110		104491.32	105701.29	107039.08
55 Mn	495.1 ug/l	0.59	500.00	90 - 110		8048705.00	7985916.50	7959691.50
56 Fe	4943 ug/l	1.19	5000.00	90 - 110		60666800.00	60899104.00	61908572.00
59 Co	47.92 ug/l	0.53	50.00	90 - 110		567567.31	573632.88	572444.13
60 Ni	48.73 ug/l	2.88	50.00	90 - 110		45189.46	46563.86	46332.16
63 Cu	48.82 ug/l	2.67	50.00	90 - 110		120975.27	122066.82	122577.05
66 Zn	49.23 ug/l	0.41	50.00	90 - 110		71265.30	71305.77	71747.35
75 As	48.14 ug/l	1.89	50.00	90 - 110		9029.57	9225.34	9363.41
78 Se	49.38 ug/l	0.57	50.00	90 - 110		17995.21	18276.82	18097.31
88 Sr	47.45 ug/l	2.45	50.00	90 - 110		1057552.60	1050263.10	1051750.50
95 Mo	49.45 ug/l	1.92	50.00	90 - 110		150443.03	151181.44	149614.88
107 Ag	50.03 ug/l	1.47	50.00	90 - 110		435346.09	434798.41	434377.34
111 Cd	49.18 ug/l	1.32	50.00	90 - 110		92526.73	90693.89	91797.00
118 Sn	48.64 ug/l	1.97	50.00	90 - 110		288883.84	290950.72	287600.31
121 Sb	48.9 ug/l	1.23	50.00	90 - 110		269543.84	269586.56	270430.53
137 Ba	49.03 ug/l	1.27	50.00	90 - 110		141960.03	143279.91	143761.09
202 Hg	2.507 ug/l	1.26	2.50	90 - 110		4877.09	4820.07	4798.40
205 Tl	9.714 ug/l	0.64	10.00	90 - 110		161859.86	162583.72	160555.69
208 Pb	48.64 ug/l	0.31	50.00	90 - 110		1112646.10	1112763.50	1115177.50
232 Th	48.62 ug/l	1.05		--- ##### - #####		1338846.40	1321717.30	1323845.90
238 U	48.71 ug/l	2.07		--- ##### - #####		1315712.10	1333311.50	1381200.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	527926.88	4.66	572657.25	92.2	60 - 125		505925.09	523361.56	554493.88
45 Sc	495140.38	2.71	523286.00	94.6	60 - 125		479638.19	502967.97	502814.91
45 Sc	603325.44	0.13	603286.69	100.0	60 - 125		602438.44	603964.19	603573.63
74 Ge	161935.11	1.17	170650.48	94.9	60 - 125		159806.72	163467.08	162531.52
74 Ge	23995.98	3.21	24862.19	96.5	60 - 125		23496.32	23609.79	24881.84
74 Ge	155310.27	0.06	155795.36	99.7	60 - 125		155257.61	155419.80	155253.41
89 Y	1030411.10	2.38	1011968.20	101.8	60 - 125		1018925.90	1013755.20	1058552.10
115 In	970345.31	1.41	989458.81	98.1	60 - 125		967396.56	958399.75	985239.75
159 Tb	1356474.00	0.22	1388283.80	97.7	60 - 125		1359961.30	1354737.50	1354723.10
209 Bi	768400.06	0.45	829936.50	92.6	60 - 125		765521.44	767477.50	772201.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\105_CCB.D\105_CCB.D#
Date Acquired: Dec 28 2012 05:55 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01122	0.01122	ug/l	52.01	#VALUE!		13.33	30.00	40.00
11 B # 3	0.9857	0.9857	ug/l	13.01	#VALUE!		7745.10	7878.47	7768.41
23 Na # 1	-5.096	-5.096	ug/l	16.10	#VALUE!		116798.68	124945.28	119890.26
24 Mg # 1	1.218	1.218	ug/l	44.34	#VALUE!		3133.70	6831.40	4507.31
27 Al # 1	0.1116	0.1116	ug/l	84.02	#VALUE!		1030.05	1780.72	1443.44
39 K # 2	0.9578	0.9578	ug/l	158.17	#VALUE!		7124.87	7111.53	7321.62
40 Ca # 1	2.939	2.939	ug/l	25.54	#VALUE!		129051.26	141357.63	134347.81
45 Sc # 2	----	--------		--------	#VALUE!		39442.78	34180.02	38229.81
47 Ti # 3	0.02163	0.02163	ug/l	24.81	#VALUE!		33.33	23.33	33.33
51 V # 2	0.01155	0.01155	ug/l	181.47	#VALUE!		105.56	157.78	172.22
52 Cr # 2	0.001125	0.001125	ug/l	492.98	#VALUE!		111.11	90.00	124.45
55 Mn # 3	0.1057	0.1057	ug/l	8.45	#VALUE!		2643.60	2446.90	2300.21
56 Fe # 1	1.499	1.499	ug/l	46.30	#VALUE!		22561.79	40237.90	30309.00
59 Co # 3	0.009702	0.009702	ug/l	7.45	#VALUE!		146.67	153.34	143.34
60 Ni # 2	-0.0712	-0.0712	ug/l	29.99	#VALUE!		43.33	66.67	82.22
63 Cu # 2	-0.1993	-0.1993	ug/l	2.16	#VALUE!		66.67	58.89	84.45
66 Zn # 3	-0.02595	-0.02595	ug/l	17.08	#VALUE!		246.67	240.01	253.34
75 As # 2	0.02817	0.02817	ug/l	64.47	#VALUE!		14.67	17.67	21.33
78 Se # 1	0.04851	0.04851	ug/l	13.56	#VALUE!		41.00	41.00	45.67
88 Sr # 3	0.01227	0.01227	ug/l	23.49	#VALUE!		440.02	283.34	320.01
95 Mo # 3	0.06587	0.06587	ug/l	14.01	#VALUE!		246.68	210.01	276.68
107 Ag # 3	0.01232	0.01232	ug/l	11.90	#VALUE!		143.34	116.67	110.00
111 Cd # 3	0.01562	0.01562	ug/l	0.46	#VALUE!		63.26	56.60	59.91
118 Sn # 3	0.04071	0.04071	ug/l	17.87	#VALUE!		503.36	500.02	440.02
121 Sb # 3	0.355	0.355	ug/l	5.13	#VALUE!		2346.89	2176.86	2096.86
137 Ba # 3	0.01552	0.01552	ug/l	14.34	#VALUE!		73.34	53.33	63.34
202 Hg # 3	0.02022	0.02022	ug/l	13.09	#VALUE!		88.67	75.33	75.33
205 Tl # 3	0.008123	0.008123	ug/l	24.59	#VALUE!		230.01	186.67	153.34
208 Pb # 3	0.01004	0.01004	ug/l	16.78	#VALUE!		476.69	380.01	483.35
232 Th # 3	0.08935	0.08935	ug/l	3.27	#VALUE!		2880.37	2683.66	2640.31
238 U # 3	0.01282	0.01282	ug/l	6.13	#VALUE!		400.02	376.69	350.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	538756.69	2.85	572657.25	94.1	60 - 125		547555.44	521055.09	547659.56
45 Sc # 1	505359.69	1.03	523286.00	96.6	60 - 125		501370.25	503472.59	511236.22
45 Sc # 3	608429.81	4.00	603286.69	100.9	60 - 125		633370.19	584689.25	607230.00
74 Ge # 1	165651.84	0.64	170650.48	97.1	60 - 125		164541.53	165753.61	166660.44
74 Ge # 2	24314.90	6.25	24862.19	97.8	60 - 125		25427.95	22584.10	24932.65
74 Ge # 3	157876.17	2.90	155795.36	101.3	60 - 125		162311.78	153172.11	158144.63
89 Y # 3	1036245.60	4.81	1011968.20	102.4	60 - 125		1089371.00	990466.63	1028899.10
115 In # 3	993657.19	5.33	989458.81	100.4	60 - 125		1046525.50	940676.56	993769.56
159 Tb # 3	1366138.00	5.81	1388283.80	98.4	60 - 125		1442461.50	1284118.60	1371834.00
209 Bi # 3	795691.81	3.72	829936.50	95.9	60 - 125		825172.13	765977.19	795926.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\106SMPL.D\106SMPL.D#
Date Acquired: Dec 28 2012 06:03 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-5-a
Misc Info: 3010 1/5
Vial Number: 3211
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

	Tune Step
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.008023	0.008023	ug/l	50.58	100.00		26.67	10.00	20.00
11 B	# 3	15.4	15.4	ug/l	0.87	1800.00		37490.54	37794.23	39046.93
23 Na	# 1	6807	6807	ug/l	2.52	81000.00		34388164.00	34004772.00	35529512.00
24 Mg	# 1	4285	4285	ug/l	1.10	81000.00		14505748.00	14601528.00	14819496.00
27 Al	# 1	80.24	80.24	ug/l	6.51	81000.00		316356.94	296541.78	335609.09
39 K	# 2	2961	2961	ug/l	1.07	81000.00		788713.50	802460.50	826902.19
40 Ca	# 1	9566	9566	ug/l	0.54	81000.00		77289456.00	77595080.00	77927296.00
45 Sc	# 2	----	--------		--------	#VALUE!		35915.28	36706.77	37269.07
47 Ti	# 3	1.912	1.912	ug/l	14.46	1620.00		1463.62	1936.80	1664.57
51 V	# 2	0.3899	0.3899	ug/l	4.44	1800.00		791.14	863.36	811.14
52 Cr	# 2	0.1191	0.1191	ug/l	3.15	1800.00		356.67	354.45	357.79
55 Mn	# 3	239.7	239.7	ug/l	1.12	1800.00		3757725.00	3842700.00	3787844.00
56 Fe	# 1	5297	5297	ug/l	0.55	81000.00		64914852.00	65215532.00	65733164.00
59 Co	# 3	0.555	0.555	ug/l	3.20	1800.00		6751.38	6344.60	6444.65
60 Ni	# 2	0.2785	0.2785	ug/l	4.97	1800.00		380.01	371.12	397.79
63 Cu	# 2	-0.07354	-0.07354	ug/l	8.53	1800.00		354.45	392.23	368.90
66 Zn	# 3	23.07	23.07	ug/l	1.68	1800.00		32973.78	33664.83	32245.57
75 As	# 2	1.166	1.166	ug/l	3.77	100.00		226.67	221.34	239.00
78 Se	# 1	0.08051	0.08051	ug/l	16.33	100.00		57.33	48.00	54.00
88 Sr	# 3	58.12	58.12	ug/l	1.03	1800.00		1322474.30	1324239.00	1328623.60
95 Mo	# 3	0.3524	0.3524	ug/l	1.42	1800.00		1103.40	1106.74	1086.74
107 Ag	# 3	0.004181	0.004181	ug/l	24.09	100.00		40.00	50.00	56.67
111 Cd	# 3	0.05452	0.05452	ug/l	17.91	100.00		116.32	122.98	149.66
118 Sn	# 3	0.1725	0.1725	ug/l	3.08	1800.00		1260.08	1196.74	1266.75
121 Sb	# 3	0.386	0.386	ug/l	2.70	100.00		2326.89	2340.23	2243.55
137 Ba	# 3	20.61	20.61	ug/l	1.08	1800.00		59360.80	59431.43	59752.32
202 Hg	# 3	0.004798	0.004798	ug/l	10.55	5.00		46.33	48.00	47.67
205 Tl	# 3	0.1035	0.1035	ug/l	5.57	20.00		1903.51	1786.81	1716.81
208 Pb	# 3	0.3301	0.3301	ug/l	1.62	1800.00		7754.32	7944.36	7954.40
232 Th	# 3	0.0695	0.0695	ug/l	7.42	#VALUE!		2256.92	1990.19	2033.55
238 U	# 3	0.1263	0.1263	ug/l	4.35	#VALUE!		3433.82	3667.20	3347.14

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	497817.75	1.88	572657.25	86.9	60 - 125		488402.69	497935.00	507115.63
45 Sc	# 1	496923.56	0.58	523286.00	95.0	60 - 125		494077.06	499877.34	496816.31
45 Sc	# 3	583324.69	0.60	603286.69	96.7	60 - 125		582631.13	580226.75	587116.06
74 Ge	# 1	161313.03	0.15	170650.48	94.5	60 - 125		161034.16	161505.94	161399.00
74 Ge	# 2	23375.43	2.19	24862.19	94.0	60 - 125		22799.87	23549.70	23776.72
74 Ge	# 3	152249.78	0.55	155795.36	97.7	60 - 125		152646.33	152809.16	151293.86
89 Y	# 3	1058033.30	0.85	1011968.20	104.6	60 - 125		1068472.00	1052691.80	1052935.90
115 In	# 3	960626.31	0.93	989458.81	97.1	60 - 125		970126.13	952403.63	959349.13
159 Tb	# 3	1376840.60	0.57	1388283.80	99.2	60 - 125		1377791.00	1368607.80	1384123.30
209 Bi	# 3	766426.06	0.53	829936.50	92.3	60 - 125		768252.50	769268.00	761757.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\107SMPL.D\107SMPL.D#
Date Acquired: Dec 28 2012 06:10 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-6-a
Misc Info: 3010 1/5
Vial Number: 3212
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001301	0.001301	ug/l	70.04	100.00		6.67	3.33	3.33
11 B # 3	60.95	60.95	ug/l	8.82	1800.00		125746.49	128352.41	131330.73
23 Na # 1	16660	16660	ug/l	0.99	81000.00		81137480.00	82297504.00	85263024.00
24 Mg # 1	4105	4105	ug/l	0.32	81000.00		13522313.00	13746391.00	13982316.00
27 Al # 1	4.184	4.184	ug/l	4.34	81000.00		17593.58	16757.96	16781.65
39 K # 2	12210	12210	ug/l	1.52	81000.00		3131070.80	3281207.00	3314594.50
40 Ca # 1	8582	8582	ug/l	0.61	81000.00		67510280.00	68305080.00	68945584.00
45 Sc # 2	----	--------		--------	#VALUE!		35303.10	35750.50	37149.87
47 Ti # 3	0.1272	0.1272	ug/l	25.36	1620.00		96.67	130.00	113.34
51 V # 2	0.1714	0.1714	ug/l	10.42	1800.00		437.79	392.23	430.01
52 Cr # 2	0.04333	0.04333	ug/l	20.48	1800.00		176.67	182.22	213.34
55 Mn # 3	137.9	137.9	ug/l	9.09	1800.00		1994802.00	2025081.60	2023511.40
56 Fe # 1	14700	14700	ug/l	0.80	81000.00		174235900.00	176003230.00	178098690.00
59 Co # 3	0.02712	0.02712	ug/l	16.01	1800.00		283.34	330.01	343.35
60 Ni # 2	0.1735	0.1735	ug/l	18.95	1800.00		264.45	320.01	260.00
63 Cu # 2	-0.1207	-0.1207	ug/l	3.59	1800.00		257.78	255.56	244.45
66 Zn # 3	1.677	1.677	ug/l	15.49	1800.00		2220.20	2540.25	2560.24
75 As # 2	1.034	1.034	ug/l	5.21	100.00		192.33	196.67	213.00
78 Se # 1	0.05498	0.05498	ug/l	12.76	100.00		44.67	43.00	40.00
88 Sr # 3	47.57	47.57	ug/l	6.95	1800.00		986042.25	991915.38	993101.63
95 Mo # 3	0.04757	0.04757	ug/l	13.73	1800.00		163.34	170.01	166.67
107 Ag # 3	0.00679	0.00679	ug/l	18.94	100.00		70.00	50.00	80.00
111 Cd # 3	0.08446	0.08446	ug/l	9.20	100.00		163.29	159.95	189.95
118 Sn # 3	0.154	0.154	ug/l	4.42	1800.00		1076.73	983.39	1080.06
121 Sb # 3	0.2072	0.2072	ug/l	12.13	100.00		1276.75	1226.75	1166.74
137 Ba # 3	47.4	47.4	ug/l	9.22	1800.00		125743.21	126384.85	126246.88
202 Hg # 3	0.006519	0.006519	ug/l	47.39	5.00		45.00	47.00	44.67
205 Tl # 3	0.004051	0.004051	ug/l	31.10	20.00		120.00	116.67	96.67
208 Pb # 3	0.1223	0.1223	ug/l	9.04	1800.00		2863.52	2746.84	2746.86
232 Th # 3	0.0365	0.0365	ug/l	18.07	#VALUE!		1100.07	1136.74	983.40
238 U # 3	0.02528	0.02528	ug/l	8.08	#VALUE!		636.70	630.03	640.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	473280.72	8.61	572657.25	82.6	60 - 125		482695.09	428625.97	508521.19
45 Sc # 1	487152.88	1.57	523286.00	93.1	60 - 125		480508.81	485413.38	495536.38
45 Sc # 3	551990.94	8.69	603286.69	91.5	60 - 125		577814.63	496652.06	581506.19
74 Ge # 1	156764.13	0.33	170650.48	91.9	60 - 125		156190.34	156936.56	157165.47
74 Ge # 2	22940.03	1.99	24862.19	92.3	60 - 125		22434.95	23321.62	23063.52
74 Ge # 3	141119.31	8.20	155795.36	90.6	60 - 125		147507.50	127762.15	148088.28
89 Y # 3	969102.38	6.55	1011968.20	95.8	60 - 125		1004168.10	895852.81	1007286.40
115 In # 3	890003.75	8.59	989458.81	89.9	60 - 125		931013.31	801771.94	937226.00
159 Tb # 3	1260430.30	8.77	1388283.80	90.8	60 - 125		1311482.50	1133611.00	1336197.50
209 Bi # 3	694291.88	8.34	829936.50	83.7	60 - 125		726546.00	627416.75	728912.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\108SMPL.D\108SMPL.D#
Date Acquired: Dec 28 2012 06:17 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-7-a
Misc Info: 3010 1/5
Vial Number: 3301
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.004756	0.004756	ug/l	50.42	100.00		16.67	13.33	6.67
11 B # 3	3.492	3.492	ug/l	6.51	1800.00		12997.96	12681.14	12767.83
23 Na # 1	1631	1631	ug/l	1.03	81000.00		8616426.00	8649191.00	8566496.00
24 Mg # 1	585.1	585.1	ug/l	0.41	81000.00		2029237.00	2055881.90	2057737.90
27 Al # 1	2.19	2.19	ug/l	1.47	81000.00		9582.79	9879.56	9903.19
39 K # 2	612.9	612.9	ug/l	5.42	81000.00		167862.14	175038.66	176981.30
40 Ca # 1	2217	2217	ug/l	0.59	81000.00		18514592.00	18409764.00	18588636.00
45 Sc # 2	----	--------		--------	#VALUE!		37158.93	35196.39	38001.62
47 Ti # 3	0.5486	0.5486	ug/l	12.04	1620.00		573.36	486.69	473.36
51 V # 2	0.1727	0.1727	ug/l	7.75	1800.00		445.57	433.34	422.23
52 Cr # 2	0.01873	0.01873	ug/l	18.90	1800.00		141.11	144.45	142.22
55 Mn # 3	0.8438	0.8438	ug/l	6.70	1800.00		14289.20	14182.43	14943.06
56 Fe # 1	67.36	67.36	ug/l	1.30	81000.00		855069.56	869687.25	847309.44
59 Co # 3	0.01006	0.01006	ug/l	8.06	1800.00		156.67	146.67	150.00
60 Ni # 2	0.009766	0.009766	ug/l	106.70	1800.00		127.78	134.45	150.00
63 Cu # 2	-0.1398	-0.1398	ug/l	5.33	1800.00		220.00	217.78	200.00
66 Zn # 3	26.56	26.56	ug/l	6.05	1800.00		39296.08	38063.76	39650.23
75 As # 2	2.012	2.012	ug/l	0.74	100.00		390.34	373.34	405.01
78 Se # 1	0.03093	0.03093	ug/l	19.91	100.00		33.00	36.33	37.67
88 Sr # 3	18.28	18.28	ug/l	6.56	1800.00		409654.22	406251.56	406680.31
95 Mo # 3	0.3151	0.3151	ug/l	7.40	1800.00		1070.06	1010.06	1006.72
107 Ag # 3	0.001561	0.001561	ug/l	89.24	100.00		13.33	40.00	30.00
111 Cd # 3	0.02063	0.02063	ug/l	35.52	100.00		69.66	59.68	79.68
118 Sn # 3	0.0695	0.0695	ug/l	8.82	1800.00		613.36	730.04	650.03
121 Sb # 3	0.5432	0.5432	ug/l	4.60	100.00		3160.38	3467.14	3280.41
137 Ba # 3	19.26	19.26	ug/l	6.79	1800.00		58702.13	57304.11	58026.56
202 Hg # 3	-0.002961	-0.002961	ug/l	20.02	5.00		33.33	35.00	34.00
205 Tl # 3	0.009121	0.009121	ug/l	33.32	20.00		243.34	160.01	226.68
208 Pb # 3	0.1021	0.1021	ug/l	10.96	1800.00		2700.19	2476.82	2696.85
232 Th # 3	0.01945	0.01945	ug/l	10.54	#VALUE!		803.38	736.71	753.38
238 U # 3	0.002505	0.002505	ug/l	37.74	#VALUE!		93.34	53.34	96.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	507343.91	2.77	572657.25	88.6	60 - 125		496416.75	523173.84	502441.13
45 Sc # 1	508833.13	0.63	523286.00	97.2	60 - 125		505772.19	508542.06	512185.19
45 Sc # 3	607918.13	5.64	603286.69	100.8	60 - 125		603089.19	644391.56	576273.56
74 Ge # 1	164299.70	0.35	170650.48	96.3	60 - 125		163630.03	164685.09	164583.98
74 Ge # 2	23565.71	4.24	24862.19	94.8	60 - 125		23805.67	22467.27	24424.19
74 Ge # 3	156926.73	3.99	155795.36	100.7	60 - 125		154665.88	164005.94	152108.36
89 Y # 3	1037471.00	6.58	1011968.20	102.5	60 - 125		1017903.30	1113352.10	981157.69
115 In # 3	1004381.10	6.10	989458.81	101.5	60 - 125		992410.38	1070737.00	949996.00
159 Tb # 3	1400897.30	5.71	1388283.80	100.9	60 - 125		1402017.50	1480279.50	1320394.60
209 Bi # 3	804393.94	4.81	829936.50	96.9	60 - 125		796065.81	846543.31	770572.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\109SMPL.D\109SMPL.D#
Date Acquired: Dec 28 2012 06:25 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-8-a
Misc Info: 3010 1/5
Vial Number: 3302
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.004103	0.004103	ug/l	87.01	100.00		3.33	20.00	10.00
11 B # 3	73.56	73.56	ug/l	4.47	1800.00		162722.84	168502.42	168911.36
23 Na # 1	12380	12380	ug/l	0.56	81000.00		64435700.00	64970860.00	66198424.00
24 Mg # 1	2672	2672	ug/l	0.96	81000.00		9282556.00	9524740.00	9601147.00
27 Al # 1	6.34	6.34	ug/l	1.55	81000.00		26439.30	27280.87	26757.87
39 K # 2	6733	6733	ug/l	5.36	81000.00		1846802.50	1889777.90	1914837.00
40 Ca # 1	6917	6917	ug/l	0.85	81000.00		57159880.00	58553524.00	59002012.00
45 Sc # 2	----	--------		--------	#VALUE!		37018.57	40437.46	36758.09
47 Ti # 3	0.1643	0.1643	ug/l	6.95	1620.00		146.67	176.67	156.67
51 V # 2	0.5481	0.5481	ug/l	9.65	1800.00		1060.04	1160.05	1208.94
52 Cr # 2	0.1291	0.1291	ug/l	6.07	1800.00		388.90	392.23	390.01
55 Mn # 3	13.38	13.38	ug/l	5.00	1800.00		214439.89	215164.97	220145.78
56 Fe # 1	9919	9919	ug/l	0.66	81000.00		124304660.00	125897060.00	127802820.00
59 Co # 3	0.03242	0.03242	ug/l	6.14	1800.00		423.35	450.02	376.68
60 Ni # 2	0.1363	0.1363	ug/l	7.73	1800.00		246.67	276.67	260.00
63 Cu # 2	0.009573	0.009573	ug/l	105.71	1800.00		558.90	624.46	594.46
66 Zn # 3	0.7379	0.7379	ug/l	10.85	1800.00		1216.74	1400.10	1420.10
75 As # 2	0.7866	0.7866	ug/l	11.23	100.00		173.33	152.33	164.33
78 Se # 1	0.03366	0.03366	ug/l	14.37	100.00		36.67	39.00	35.67
88 Sr # 3	34.63	34.63	ug/l	6.65	1800.00		773144.63	782046.94	773673.63
95 Mo # 3	0.03041	0.03041	ug/l	21.22	1800.00		110.00	146.67	140.00
107 Ag # 3	0.0001318	0.0001318	ug/l	110.17	100.00		13.33	16.67	13.33
111 Cd # 3	0.02259	0.02259	ug/l	36.79	100.00		56.63	76.62	83.29
118 Sn # 3	0.07638	0.07638	ug/l	24.00	1800.00		690.04	613.37	760.04
121 Sb # 3	0.1286	0.1286	ug/l	7.89	100.00		960.05	900.05	893.39
137 Ba # 3	64.54	64.54	ug/l	5.66	1800.00		190185.63	189868.64	191036.73
202 Hg # 3	-0.002549	-0.002549	ug/l	181.29	5.00		33.00	25.67	40.00
205 Tl # 3	0.002546	0.002546	ug/l	20.90	20.00		86.67	113.34	93.34
208 Pb # 3	0.02607	0.02607	ug/l	6.45	1800.00		790.03	883.37	803.37
232 Th # 3	0.01844	0.01844	ug/l	6.16	#VALUE!		726.71	706.71	663.37
238 U # 3	0.004566	0.004566	ug/l	23.78	#VALUE!		123.34	116.67	160.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	510382.22	4.90	572657.25	89.1	60 - 125		496205.31	539234.81	495706.50
45 Sc # 1	515428.44	0.88	523286.00	98.5	60 - 125		510907.94	515412.00	519965.41
45 Sc # 3	606020.44	5.88	603286.69	100.5	60 - 125		600908.63	643915.00	573237.69
74 Ge # 1	166267.13	0.73	170650.48	97.4	60 - 125		165103.34	166166.84	167531.19
74 Ge # 2	24180.62	4.88	24862.19	97.3	60 - 125		23798.90	25503.65	23239.31
74 Ge # 3	155274.56	4.08	155795.36	99.7	60 - 125		152972.25	162434.70	150416.73
89 Y # 3	1043542.90	7.25	1011968.20	103.1	60 - 125		1035363.10	1122936.00	972329.69
115 In # 3	983282.69	5.34	989458.81	99.4	60 - 125		983560.94	1035619.40	930667.56
159 Tb # 3	1385954.50	8.23	1388283.80	99.8	60 - 125		1374857.80	1505242.40	1277763.50
209 Bi # 3	763234.75	5.00	829936.50	92.0	60 - 125		757544.13	803934.44	728225.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\110SMPL.D\110SMPL.D#
Date Acquired: Dec 28 2012 06:32 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-9-a
Misc Info: 3010 1/5
Vial Number: 3303
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.132	0.132	ug/l	6.18	100.00		256.67	286.68	306.68
11 B # 3	11.61	11.61	ug/l	1.80	1800.00		29620.14	30157.38	30447.86
23 Na # 1	4299	4299	ug/l	0.62	81000.00		22791242.00	22969746.00	22915930.00
24 Mg # 1	2869	2869	ug/l	0.17	81000.00		10171749.00	10197623.00	10327222.00
27 Al # 1	37.87	37.87	ug/l	1.15	81000.00		153614.61	157380.20	157992.33
39 K # 2	927.1	927.1	ug/l	6.11	81000.00		256717.08	265760.22	271547.34
40 Ca # 1	5942	5942	ug/l	1.58	81000.00		49221040.00	50733400.00	51142544.00
45 Sc # 2	----	--------		--------	#VALUE!		39683.73	35406.62	38206.38
47 Ti # 3	0.5018	0.5018	ug/l	22.72	1620.00		570.18	380.01	430.02
51 V # 2	0.201	0.201	ug/l	9.77	1800.00		485.57	512.23	490.01
52 Cr # 2	0.143	0.143	ug/l	7.55	1800.00		410.01	401.12	450.01
55 Mn # 3	185.6	185.6	ug/l	0.75	1800.00		2993933.80	3028781.50	3037553.30
56 Fe # 1	117	117	ug/l	1.61	81000.00		1529325.10	1504252.40	1518441.90
59 Co # 3	2.543	2.543	ug/l	1.11	1800.00		30168.54	30746.10	30766.20
60 Ni # 2	0.879	0.879	ug/l	11.66	1800.00		903.36	1014.48	965.59
63 Cu # 2	0.7897	0.7897	ug/l	5.33	1800.00		2515.75	2513.53	2583.54
66 Zn # 3	8.36	8.36	ug/l	1.19	1800.00		12297.77	12571.31	12484.57
75 As # 2	0.2512	0.2512	ug/l	13.62	100.00		55.67	63.67	62.00
78 Se # 1	0.0493	0.0493	ug/l	6.10	100.00		42.67	42.67	45.33
88 Sr # 3	48.51	48.51	ug/l	2.93	1800.00		1075445.30	1104544.10	1117835.00
95 Mo # 3	0.03695	0.03695	ug/l	9.76	1800.00		140.00	160.01	156.67
107 Ag # 3	0.002034	0.002034	ug/l	46.68	100.00		40.00	23.33	30.00
111 Cd # 3	0.05263	0.05263	ug/l	20.20	100.00		113.29	123.29	149.96
118 Sn # 3	0.3384	0.3384	ug/l	1.08	1800.00		2276.88	2296.89	2220.20
121 Sb # 3	0.1395	0.1395	ug/l	10.70	100.00		1056.73	1000.06	880.05
137 Ba # 3	53.53	53.53	ug/l	0.72	1800.00		158483.75	157636.61	157591.86
202 Hg # 3	0.001529	0.001529	ug/l	114.06	5.00		43.33	43.67	37.33
205 Tl # 3	0.02257	0.02257	ug/l	24.21	20.00		440.02	523.36	340.02
208 Pb # 3	1.518	1.518	ug/l	0.76	1800.00		35526.73	35603.49	35189.80
232 Th # 3	0.02336	0.02336	ug/l	13.11	#VALUE!		780.04	943.39	806.71
238 U # 3	0.01397	0.01397	ug/l	10.46	#VALUE!		430.02	353.35	406.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	499558.44	2.85	572657.25	87.2	60 - 125		483586.59	504165.81	510922.84
45 Sc # 1	518731.63	0.64	523286.00	99.1	60 - 125		516319.97	517362.47	522512.41
45 Sc # 3	596630.25	0.84	603286.69	98.9	60 - 125		591936.38	601875.63	596078.81
74 Ge # 1	168379.55	1.06	170650.48	98.7	60 - 125		166632.72	168308.59	170197.31
74 Ge # 2	24117.97	4.32	24862.19	97.0	60 - 125		24954.04	22948.97	24450.89
74 Ge # 3	156420.47	0.12	155795.36	100.4	60 - 125		156414.64	156239.38	156607.38
89 Y # 3	1052066.00	2.80	1011968.20	104.0	60 - 125		1033023.00	1086025.60	1037149.40
115 In # 3	981365.94	0.81	989458.81	99.2	60 - 125		985288.13	986633.81	972175.69
159 Tb # 3	1374773.80	0.67	1388283.80	99.0	60 - 125		1385471.30	1369232.60	1369617.40
209 Bi # 3	772657.56	0.57	829936.50	93.1	60 - 125		773306.69	776703.50	767962.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\111SMPL.D\111SMPL.D#
Date Acquired: Dec 28 2012 06:40 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-10-a
Misc Info: 3010 1/5
Vial Number: 3304
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.1722	0.1722	ug/l	4.47	100.00		343.35	363.35	400.01
11 B	# 3	11.65	11.65	ug/l	2.81	1800.00		29950.60	29753.66	30778.57
23 Na	# 1	4549	4549	ug/l	17.07	81000.00		23870760.00	23752044.00	24135326.00
24 Mg	# 1	3046	3046	ug/l	17.77	81000.00		10693851.00	10569004.00	10912582.00
27 Al	# 1	509.9	509.9	ug/l	18.01	81000.00		2039504.80	2042230.10	2112725.80
39 K	# 2	996.8	996.8	ug/l	0.66	81000.00		278127.06	285797.78	291212.19
40 Ca	# 1	6266	6266	ug/l	17.32	81000.00		52330384.00	51903472.00	53074964.00
45 Sc	# 2	----	--------		--------	#VALUE!		36770.30	37479.37	38854.45
47 Ti	# 3	3.534	3.534	ug/l	2.57	1620.00		3274.01	3193.92	3227.40
51 V	# 2	0.7966	0.7966	ug/l	2.62	1800.00		1612.31	1573.42	1633.42
52 Cr	# 2	0.5511	0.5511	ug/l	1.18	1800.00		1308.95	1313.39	1350.06
55 Mn	# 3	198.7	198.7	ug/l	1.40	1800.00		3228733.30	3226064.50	3253859.30
56 Fe	# 1	477.9	477.9	ug/l	14.97	81000.00		6031388.00	5952993.00	6239799.50
59 Co	# 3	2.737	2.737	ug/l	2.69	1800.00		33654.60	32329.04	32783.14
60 Ni	# 2	0.9913	0.9913	ug/l	1.50	1800.00		1053.37	1077.82	1085.60
63 Cu	# 2	0.7094	0.7094	ug/l	4.99	1800.00		2367.95	2349.06	2312.39
66 Zn	# 3	12.97	12.97	ug/l	1.34	1800.00		19103.73	19133.69	19317.25
75 As	# 2	0.5787	0.5787	ug/l	9.76	100.00		118.67	135.00	117.33
78 Se	# 1	0.09707	0.09707	ug/l	35.82	100.00		68.00	52.33	61.67
88 Sr	# 3	52.72	52.72	ug/l	4.25	1800.00		1232306.10	1224042.10	1220455.60
95 Mo	# 3	0.0774	0.0774	ug/l	20.05	1800.00		236.67	266.68	340.02
107 Ag	# 3	0.004707	0.004707	ug/l	45.80	100.00		53.34	36.67	76.67
111 Cd	# 3	0.1581	0.1581	ug/l	10.78	100.00		333.27	359.93	303.24
118 Sn	# 3	0.3539	0.3539	ug/l	5.43	1800.00		2493.58	2340.23	2336.89
121 Sb	# 3	0.2661	0.2661	ug/l	5.25	100.00		1773.48	1683.46	1666.79
137 Ba	# 3	57.22	57.22	ug/l	2.42	1800.00		172438.47	171447.70	169553.02
202 Hg	# 3	-0.000222	-0.000222	ug/l	945.50	5.00		36.67	43.67	36.67
205 Tl	# 3	0.02442	0.02442	ug/l	7.23	20.00		486.69	493.36	450.02
208 Pb	# 3	7.303	7.303	ug/l	2.66	1800.00		175386.92	173703.75	172016.09
232 Th	# 3	0.1785	0.1785	ug/l	1.68	#VALUE!		5287.74	5204.36	5201.07
238 U	# 3	0.05255	0.05255	ug/l	8.84	#VALUE!		1553.47	1590.14	1363.44

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	499377.66	3.37	572657.25	87.2	60 - 125		482674.38	499092.19	516366.44
45 Sc	# 1	521984.53	16.27	523286.00	99.8	60 - 125		515070.13	610131.31	440752.13
45 Sc	# 3	605798.50	1.97	603286.69	100.4	60 - 125		597239.00	600739.38	619417.19
74 Ge	# 1	168161.63	12.49	170650.48	98.5	60 - 125		167444.63	189513.92	147526.36
74 Ge	# 2	24167.92	2.60	24862.19	97.2	60 - 125		23596.45	24068.16	24839.16
74 Ge	# 3	156621.50	1.87	155795.36	100.5	60 - 125		155655.50	154289.88	159919.14
89 Y	# 3	1079882.50	3.93	1011968.20	106.7	60 - 125		1051823.60	1059095.60	1128728.40
115 In	# 3	995297.06	1.59	989458.81	100.6	60 - 125		984170.31	988314.75	1013406.30
159 Tb	# 3	1408153.90	1.71	1388283.80	101.4	60 - 125		1386905.00	1403207.30	1434349.10
209 Bi	# 3	791786.56	0.79	829936.50	95.4	60 - 125		786688.81	789879.19	798791.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\112SMPL.D\112SMPL.D#
Date Acquired: Dec 28 2012 06:47 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-a-11-a
Misc Info: 3010 1/5
Vial Number: 3305
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.002734	0.002734	ug/l	65.07	100.00		10.00	3.33	10.00
11 B	# 3	0.5051	0.5051	ug/l	20.55	1800.00		6017.76	6391.20	6224.48
23 Na	# 1	-7.658	-7.658	ug/l	1.85	81000.00		108037.81	110253.91	109666.80
24 Mg	# 1	0.7258	0.7258	ug/l	1.60	81000.00		3093.68	3187.02	3230.36
27 Al	# 1	0.8965	0.8965	ug/l	6.15	81000.00		4423.97	4557.37	4934.26
39 K	# 2	0.2918	0.2918	ug/l	188.83	81000.00		6544.66	7108.21	7024.82
40 Ca	# 1	5.924	5.924	ug/l	0.48	81000.00		160944.48	162325.05	164052.77
45 Sc	# 2	----	--------		--------	#VALUE!		35658.01	37495.05	39061.54
47 Ti	# 3	0.07042	0.07042	ug/l	18.11	1620.00		83.34	76.67	60.00
51 V	# 2	0.1139	0.1139	ug/l	8.38	1800.00		336.67	330.01	327.78
52 Cr	# 2	0.01239	0.01239	ug/l	76.80	1800.00		146.67	128.89	115.56
55 Mn	# 3	0.02988	0.02988	ug/l	14.56	1800.00		1166.74	1190.08	1293.42
56 Fe	# 1	0.8959	0.8959	ug/l	6.27	81000.00		23632.37	23188.46	24711.36
59 Co	# 3	-0.0007549	-0.0007549	ug/l	121.90	1800.00		16.67	33.33	13.33
60 Ni	# 2	-0.01388	-0.01388	ug/l	30.48	1800.00		113.33	121.11	116.67
63 Cu	# 2	-0.1779	-0.1779	ug/l	1.12	1800.00		117.78	116.67	130.00
66 Zn	# 3	0.1639	0.1639	ug/l	11.74	1800.00		536.69	486.69	553.36
75 As	# 2	0.1183	0.1183	ug/l	16.76	100.00		31.67	39.33	33.33
78 Se	# 1	0.00072	0.00072	ug/l	1129.60	100.00		22.67	28.67	24.00
88 Sr	# 3	0.03034	0.03034	ug/l	12.55	1800.00		703.37	813.38	743.37
95 Mo	# 3	-0.002967	-0.002967	ug/l	175.16	1800.00		16.67	46.67	26.67
107 Ag	# 3	0.0003432	0.0003432	ug/l	128.03	100.00		13.33	20.00	16.67
111 Cd	# 3	-0.00207	-0.00207	ug/l	26.56	100.00		26.66	26.65	26.66
118 Sn	# 3	0.04701	0.04701	ug/l	7.68	1800.00		566.69	486.69	540.03
121 Sb	# 3	0.1081	0.1081	ug/l	14.01	100.00		816.71	896.72	770.04
137 Ba	# 3	0.01418	0.01418	ug/l	24.89	1800.00		50.00	63.34	66.67
202 Hg	# 3	-0.003185	-0.003185	ug/l	66.66	5.00		37.00	35.67	29.00
205 Tl	# 3	0.001207	0.001207	ug/l	46.60	20.00		70.00	83.34	73.34
208 Pb	# 3	-0.001174	-0.001174	ug/l	29.63	1800.00		200.01	176.67	200.01
232 Th	# 3	0.009898	0.009898	ug/l	12.06	#VALUE!		513.36	513.36	460.02
238 U	# 3	0.0009247	0.0009247	ug/l	48.41	#VALUE!		36.67	23.33	50.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	500502.91	2.16	572657.25	87.4	60 - 125		494180.09	494330.34	512998.28
45 Sc	# 1	514630.19	0.93	523286.00	98.3	60 - 125		509645.69	515106.56	519138.28
45 Sc	# 3	598007.00	2.93	603286.69	99.1	60 - 125		616013.25	580968.31	597039.31
74 Ge	# 1	168878.94	0.48	170650.48	99.0	60 - 125		168004.13	169040.05	169592.67
74 Ge	# 2	23886.18	3.85	24862.19	96.1	60 - 125		22903.60	24027.02	24727.92
74 Ge	# 3	157767.63	1.75	155795.36	101.3	60 - 125		160339.48	154851.14	158112.28
89 Y	# 3	1045224.10	4.24	1011968.20	103.3	60 - 125		1094365.30	1008196.60	1033110.80
115 In	# 3	1013375.20	4.07	989458.81	102.4	60 - 125		1058160.50	976902.56	1005062.50
159 Tb	# 3	1402307.90	3.56	1388283.80	101.0	60 - 125		1450955.80	1351301.00	1404666.80
209 Bi	# 3	809192.50	2.72	829936.50	97.5	60 - 125		830848.19	786811.00	809918.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\113SMPL.D\113SMPL.D#
Date Acquired: Dec 28 2012 06:55 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-a-12-a
Misc Info: 3010 1/5
Vial Number: 3306
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0006589	0.0006589	ug/l	237.52	100.00		0.00	6.67	3.33
11 B	# 3	0.6488	0.6488	ug/l	5.32	1800.00		6391.24	6431.25	6614.64
23 Na	# 1	-2.804	-2.804	ug/l	48.04	81000.00		129213.55	129373.97	131629.72
24 Mg	# 1	0.6458	0.6458	ug/l	5.66	81000.00		2736.94	2753.60	2870.28
27 Al	# 1	1.421	1.421	ug/l	8.89	81000.00		6651.32	6514.61	6421.23
39 K	# 2	0.2918	0.2918	ug/l	108.91	81000.00		6871.51	7034.86	7271.57
40 Ca	# 1	6.793	6.793	ug/l	15.05	81000.00		162356.20	164162.30	164854.48
45 Sc	# 2	----	--------		--------	#VALUE!		37104.20	37990.43	38646.25
47 Ti	# 3	0.04096	0.04096	ug/l	47.07	1620.00		56.67	56.67	26.67
51 V	# 2	0.1138	0.1138	ug/l	9.80	1800.00		355.56	320.01	343.34
52 Cr	# 2	0.0196	0.0196	ug/l	48.29	1800.00		157.78	164.45	127.78
55 Mn	# 3	0.03132	0.03132	ug/l	14.73	1800.00		1226.74	1173.40	1323.41
56 Fe	# 1	2.133	2.133	ug/l	5.30	81000.00		38443.93	38276.74	38787.91
59 Co	# 3	-0.0007641	-0.0007641	ug/l	90.90	1800.00		13.33	20.00	30.00
60 Ni	# 2	0.08906	0.08906	ug/l	12.22	1800.00		210.00	212.23	234.45
63 Cu	# 2	-0.1746	-0.1746	ug/l	0.75	1800.00		128.89	131.11	138.89
66 Zn	# 3	0.3001	0.3001	ug/l	18.64	1800.00		713.37	650.03	813.38
75 As	# 2	0.09131	0.09131	ug/l	13.62	100.00		31.00	32.00	28.00
78 Se	# 1	0.00565	0.00565	ug/l	267.61	100.00		31.00	22.00	25.00
88 Sr	# 3	0.009963	0.009963	ug/l	11.64	1800.00		266.68	320.01	293.34
95 Mo	# 3	0.002385	0.002385	ug/l	88.97	1800.00		40.00	46.67	53.33
107 Ag	# 3	0.00546	0.00546	ug/l	19.58	100.00		56.67	73.34	56.67
111 Cd	# 3	0.00393	0.00393	ug/l	222.57	100.00		19.99	39.99	53.32
118 Sn	# 3	0.0441	0.0441	ug/l	12.52	1800.00		466.69	513.36	533.36
121 Sb	# 3	0.1207	0.1207	ug/l	10.16	100.00		823.38	963.39	876.72
137 Ba	# 3	0.02628	0.02628	ug/l	28.95	1800.00		113.34	70.00	103.34
202 Hg	# 3	-0.004102	-0.004102	ug/l	35.89	5.00		29.67	35.00	31.00
205 Tl	# 3	0.001108	0.001108	ug/l	63.34	20.00		73.34	83.34	60.00
208 Pb	# 3	0.0004348	0.0004348	ug/l	313.48	1800.00		223.34	193.34	256.68
232 Th	# 3	0.008024	0.008024	ug/l	29.90	#VALUE!		510.03	370.02	440.02
238 U	# 3	0.0001258	0.0001258	ug/l	272.58	#VALUE!		13.33	3.33	23.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	497197.59	2.12	572657.25	86.8	60 - 125		485615.00	499722.75	506255.09
45 Sc	# 1	497569.53	5.66	523286.00	95.1	60 - 125		465202.69	510963.69	516542.25
45 Sc	# 3	596480.19	0.09	603286.69	98.9	60 - 125		597073.69	595988.19	596378.81
74 Ge	# 1	163493.36	3.68	170650.48	95.8	60 - 125		156546.53	166746.14	167187.39
74 Ge	# 2	24460.92	1.62	24862.19	98.4	60 - 125		24052.58	24486.52	24843.66
74 Ge	# 3	157829.53	0.25	155795.36	101.3	60 - 125		158260.42	157492.69	157735.48
89 Y	# 3	1032701.90	0.40	1011968.20	102.0	60 - 125		1031389.40	1037302.30	1029413.90
115 In	# 3	997213.63	0.13	989458.81	100.8	60 - 125		995768.63	998426.88	997445.50
159 Tb	# 3	1367223.40	0.19	1388283.80	98.5	60 - 125		1364489.50	1367374.50	1369806.00
209 Bi	# 3	805401.38	0.68	829936.50	97.0	60 - 125		805636.00	799848.00	810720.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\114SMPL.D\114SMPL.D#
Date Acquired: Dec 28 2012 07:02 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-13-a
Misc Info: 3010 1/5
Vial Number: 3307
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0001609	0.0001609	ug/l	570.48	100.00		3.33	3.33	0.00
11 B # 3	37.61	37.61	ug/l	0.09	1800.00		84050.38	85258.90	86009.47
23 Na # 1	18230	18230	ug/l	0.83	81000.00		92729024.00	94317040.00	95839128.00
24 Mg # 1	11080	11080	ug/l	0.47	81000.00		38106444.00	38858604.00	38785428.00
27 Al # 1	2.491	2.491	ug/l	3.45	81000.00		10816.68	10673.27	11353.73
39 K # 2	3099	3099	ug/l	1.57	81000.00		820030.38	849935.19	871143.38
40 Ca # 1	36480	36480	ug/l	0.80	81000.00		294833540.00	302509890.00	306740580.00
45 Sc # 2	----	--------		--------	#VALUE!		36081.19	37487.20	38194.12
47 Ti # 3	0.2971	0.2971	ug/l	9.31	1620.00		280.01	296.68	250.01
51 V # 2	0.1302	0.1302	ug/l	5.08	1800.00		334.45	367.78	365.56
52 Cr # 2	0.04141	0.04141	ug/l	7.08	1800.00		181.11	200.00	192.23
55 Mn # 3	489.7	489.7	ug/l	1.65	1800.00		7616069.00	7638939.00	7723501.50
56 Fe # 1	2969	2969	ug/l	0.98	81000.00		36317048.00	36556828.00	37114768.00
59 Co # 3	6.98	6.98	ug/l	0.77	1800.00		80683.15	80679.95	80392.42
60 Ni # 2	0.9307	0.9307	ug/l	1.12	1800.00		974.48	988.92	994.48
63 Cu # 2	-0.07531	-0.07531	ug/l	14.17	1800.00		384.45	345.56	376.67
66 Zn # 3	1215	1215	ug/l	1.07	1800.00		1698429.50	1699440.30	1702762.30
75 As # 2	4.056	4.056	ug/l	2.31	100.00		740.35	772.35	798.35
78 Se # 1	0.05016	0.05016	ug/l	21.97	100.00		40.67	39.00	46.67
88 Sr # 3	473.2	473.2	ug/l	3.98	1800.00		10275527.00	10365691.00	10284424.00
95 Mo # 3	8.208	8.208	ug/l	3.60	1800.00		24046.76	24630.86	24484.04
107 Ag # 3	0.003085	0.003085	ug/l	54.13	100.00		43.33	50.00	23.33
111 Cd # 3	0.09886	0.09886	ug/l	33.71	100.00		182.31	272.13	168.84
118 Sn # 3	0.1798	0.1798	ug/l	3.55	1800.00		1266.75	1226.75	1303.42
121 Sb # 3	0.75	0.75	ug/l	3.14	100.00		4210.64	4264.00	4210.63
137 Ba # 3	1230	1230	ug/l	2.80	1800.00		3486180.80	3517126.30	3490955.00
202 Hg # 3	0.003938	0.003938	ug/l	62.57	5.00		39.67	47.67	43.33
205 Tl # 3	0.009873	0.009873	ug/l	22.12	20.00		206.68	186.67	253.34
208 Pb # 3	0.5051	0.5051	ug/l	1.27	1800.00		11718.76	11602.04	11715.39
232 Th # 3	0.01391	0.01391	ug/l	4.66	#VALUE!		563.36	560.03	533.36
238 U # 3	0.2735	0.2735	ug/l	1.88	#VALUE!		7108.57	7191.92	7255.28

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	494236.66	1.08	572657.25	86.3	60 - 125		488487.19	495154.72	499068.16
45 Sc # 1	506476.19	1.53	523286.00	96.8	60 - 125		497530.69	511061.03	510836.88
45 Sc # 3	594323.19	1.18	603286.69	98.5	60 - 125		601774.81	587902.81	593291.88
74 Ge # 1	161620.66	0.68	170650.48	94.7	60 - 125		160422.78	162558.34	161880.84
74 Ge # 2	23480.37	1.91	24862.19	94.4	60 - 125		22962.30	23752.21	23726.61
74 Ge # 3	150396.89	0.94	155795.36	96.5	60 - 125		151859.11	150298.55	149033.02
89 Y # 3	1011874.40	3.77	1011968.20	100.0	60 - 125		1055957.50	990197.06	989468.94
115 In # 3	946956.13	2.38	989458.81	95.7	60 - 125		970701.88	925927.69	944238.94
159 Tb # 3	1345655.10	1.17	1388283.80	96.9	60 - 125		1362243.80	1343907.40	1330814.10
209 Bi # 3	731126.19	1.10	829936.50	88.1	60 - 125		739268.13	723202.25	730908.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\115SMPL.D\115SMPL.D#
Date Acquired: Dec 28 2012 07:09 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-14-a
Misc Info: 3010 1/5
Vial Number: 3308
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.374	1.374	ug/l	1.41	100.00		2843.63	2880.29	2886.96
11 B	# 3	6.883	6.883	ug/l	2.33	1800.00		19293.42	19503.55	19767.23
23 Na	# 1	12340	12340	ug/l	0.75	81000.00		60400532.00	61217624.00	62278200.00
24 Mg	# 1	6390	6390	ug/l	1.11	81000.00		21052534.00	21465444.00	21535746.00
27 Al	# 1	11.25	11.25	ug/l	0.36	81000.00		43837.47	43700.73	44930.14
39 K	# 2	1099	1099	ug/l	4.24	81000.00		291699.00	293737.97	301655.94
40 Ca	# 1	14930	14930	ug/l	0.91	81000.00		116462410.00	118455020.00	120203600.00
45 Sc	# 2	----	--------		--------	#VALUE!		35402.13	37930.88	35240.80
47 Ti	# 3	0.2315	0.2315	ug/l	5.94	1620.00		193.34	220.01	213.34
51 V	# 2	0.1354	0.1354	ug/l	4.65	1800.00		336.67	370.01	357.78
52 Cr	# 2	0.02019	0.02019	ug/l	18.47	1800.00		146.67	138.89	137.78
55 Mn	# 3	42.89	42.89	ug/l	2.47	1800.00		663615.63	655307.13	665354.13
56 Fe	# 1	40.51	40.51	ug/l	0.43	81000.00		495055.50	494148.91	502608.44
59 Co	# 3	3.274	3.274	ug/l	3.11	1800.00		37011.09	36830.84	37879.37
60 Ni	# 2	3.358	3.358	ug/l	5.66	1800.00		3061.39	3080.28	3244.76
63 Cu	# 2	-0.05028	-0.05028	ug/l	25.62	1800.00		444.45	417.79	390.01
66 Zn	# 3	9.684	9.684	ug/l	4.76	1800.00		13385.21	13348.54	14109.19
75 As	# 2	0.243	0.243	ug/l	8.74	100.00		58.67	54.00	54.67
78 Se	# 1	0.04071	0.04071	ug/l	15.21	100.00		36.67	35.67	40.33
88 Sr	# 3	149.2	149.2	ug/l	5.32	1800.00		3237492.80	3204147.00	3240914.00
95 Mo	# 3	0.05565	0.05565	ug/l	13.11	1800.00		186.67	233.34	183.34
107 Ag	# 3	0.001139	0.001139	ug/l	80.66	100.00		13.33	26.67	26.67
111 Cd	# 3	0.1904	0.1904	ug/l	20.24	100.00		343.29	466.61	309.95
118 Sn	# 3	0.129	0.129	ug/l	6.21	1800.00		933.39	970.05	983.39
121 Sb	# 3	0.09058	0.09058	ug/l	17.44	100.00		676.70	610.03	733.37
137 Ba	# 3	163.6	163.6	ug/l	4.47	1800.00		463085.63	455420.31	465495.00
202 Hg	# 3	7.557E-005	7.557E-005	ug/l	1336.50	5.00		34.67	39.67	37.00
205 Tl	# 3	0.02584	0.02584	ug/l	4.98	20.00		460.02	486.69	483.36
208 Pb	# 3	0.6411	0.6411	ug/l	3.10	1800.00		14463.00	14856.50	14753.10
232 Th	# 3	0.007308	0.007308	ug/l	19.39	#VALUE!		350.02	436.69	373.35
238 U	# 3	0.02224	0.02224	ug/l	6.63	#VALUE!		556.70	610.03	636.70

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	489569.63	2.02	572657.25	85.5	60 - 125		479307.91	499014.25	490386.72
45 Sc	# 1	485972.13	1.18	523286.00	92.9	60 - 125		482888.09	482422.41	492605.91
45 Sc	# 3	572229.13	3.17	603286.69	94.9	60 - 125		565357.94	592792.19	558537.06
74 Ge	# 1	156980.28	0.80	170650.48	92.0	60 - 125		155859.95	156745.67	158335.25
74 Ge	# 2	22805.88	3.25	24862.19	91.7	60 - 125		22390.48	23661.14	22366.02
74 Ge	# 3	148171.38	1.68	155795.36	95.1	60 - 125		147893.28	150789.91	145830.95
89 Y	# 3	1005194.30	4.82	1011968.20	99.3	60 - 125		983518.13	1060725.30	971339.44
115 In	# 3	938886.88	3.38	989458.81	94.9	60 - 125		936415.81	971746.63	908498.13
159 Tb	# 3	1339194.90	2.57	1388283.80	96.5	60 - 125		1352208.00	1365263.50	1300113.10
209 Bi	# 3	741732.81	1.88	829936.50	89.4	60 - 125		732113.50	757756.31	735328.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\116_CCV.D\116_CCV.D#
Date Acquired: Dec 28 2012 07:17 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.37 ug/l	2.78	50.00	90 - 110		108128.54	110629.61	112278.71
11 B	96.17 ug/l	2.27	100.00	90 - 110		215658.61	223240.88	228679.97
23 Na	5105 ug/l	6.99	5000.00	90 - 110		24032902.00	24062730.00	24547176.00
24 Mg	5160 ug/l	7.22	5000.00	90 - 110		16335313.00	16363083.00	16523638.00
27 Al	522.7 ug/l	7.53	500.00	90 - 110		1909571.40	1901509.40	1923635.10
39 K	4990 ug/l	1.54	5000.00	90 - 110		1303624.80	1341416.50	1361084.10
40 Ca	5217 ug/l	6.89	5000.00	90 - 110		39108888.00	39399452.00	39796704.00
45 Sc	--------	--------		--- ##### - #####		36509.80	37383.61	38149.81
47 Ti	49.79 ug/l	0.88	50.00	90 - 110		43487.84	43684.66	43835.36
51 V	48.58 ug/l	1.95	50.00	90 - 110		84788.29	87101.99	87322.81
52 Cr	48.18 ug/l	2.21	50.00	90 - 110		100437.09	102641.42	102279.05
55 Mn	491.5 ug/l	1.15	500.00	90 - 110		7645297.50	7735546.50	7655654.00
56 Fe	5087 ug/l	5.64	5000.00	90 - 110		59484372.00	59036924.00	59782152.00
59 Co	47.74 ug/l	0.99	50.00	90 - 110		549287.06	549881.50	551718.56
60 Ni	48.58 ug/l	1.22	50.00	90 - 110		43338.25	44120.16	44869.66
63 Cu	48.75 ug/l	1.57	50.00	90 - 110		115930.01	116878.22	118161.80
66 Zn	49.42 ug/l	1.59	50.00	90 - 110		69679.67	68742.98	69606.06
75 As	49.07 ug/l	2.79	50.00	90 - 110		8878.83	9152.97	9016.90
78 Se	50.79 ug/l	5.98	50.00	90 - 110		17673.89	17527.42	17594.15
88 Sr	47.84 ug/l	3.01	50.00	90 - 110		1016146.40	1017984.30	1022637.20
95 Mo	49.27 ug/l	1.88	50.00	90 - 110		143582.78	145760.95	143901.94
107 Ag	49.68 ug/l	1.56	50.00	90 - 110		413733.69	418615.03	415953.75
111 Cd	49.63 ug/l	0.56	50.00	90 - 110		89390.00	88394.75	89631.02
118 Sn	49.1 ug/l	1.86	50.00	90 - 110		282500.53	282400.59	278794.94
121 Sb	49.01 ug/l	1.71	50.00	90 - 110		260466.19	262038.45	259275.98
137 Ba	49.19 ug/l	0.80	50.00	90 - 110		137416.22	137913.16	139392.86
202 Hg	2.468 ug/l	0.84	2.50	90 - 110		4657.02	4601.67	4579.00
205 Tl	9.764 ug/l	1.94	10.00	90 - 110		158168.28	156239.95	156190.59
208 Pb	48.98 ug/l	1.15	50.00	90 - 110		1080171.90	1081971.90	1085491.50
232 Th	47.94 ug/l	3.08		--- ##### - #####		1241619.00	1308071.60	1257809.50
238 U	47.52 ug/l	2.26		--- ##### - #####		1248222.80	1296391.50	1265709.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	524563.19	4.32	572657.25	91.6	60 - 125		508955.78	514184.53	550549.19
45 Sc	464063.50	7.33	523286.00	88.7	60 - 125		424971.66	480238.94	486979.88
45 Sc	582569.00	1.23	603286.69	96.6	60 - 125		577417.25	579546.44	590743.31
74 Ge	153227.61	5.45	170650.48	89.8	60 - 125		143685.70	156810.11	159187.03
74 Ge	23060.95	2.42	24862.19	92.8	60 - 125		22718.65	22759.83	23704.35
74 Ge	150205.91	1.18	155795.36	96.4	60 - 125		148254.33	150648.97	151714.42
89 Y	988938.00	3.36	1011968.20	97.7	60 - 125		974597.88	965313.44	1026902.70
115 In	934979.75	1.18	989458.81	94.5	60 - 125		934430.63	924262.06	946246.75
159 Tb	1309707.60	1.40	1388283.80	94.3	60 - 125		1296154.60	1302368.80	1330599.60
209 Bi	744739.19	0.35	829936.50	89.7	60 - 125		746452.69	741720.50	746044.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\117_CCB.D\117_CCB.D#
Date Acquired: Dec 28 2012 07:24 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.009448	0.009448	ug/l	80.10	#VALUE!		40.00	23.33	6.67
11 B # 3	0.7067	0.7067	ug/l	12.52	#VALUE!		6751.33	7118.15	7408.28
23 Na # 1	-5.211	-5.211	ug/l	9.08	#VALUE!		118775.40	113297.56	115467.08
24 Mg # 1	0.591	0.591	ug/l	4.17	#VALUE!		2556.93	2620.25	2483.57
27 Al # 1	0.0405	0.0405	ug/l	28.27	#VALUE!		1046.72	1120.07	1116.73
39 K # 2	1.327	1.327	ug/l	154.18	#VALUE!		6951.48	7048.17	7138.21
40 Ca # 1	1.974	1.974	ug/l	12.57	#VALUE!		120670.20	123357.73	123819.95
45 Sc # 2	----	--------		--------	#VALUE!		38823.90	33084.67	36619.99
47 Ti # 3	0.03336	0.03336	ug/l	77.28	#VALUE!		46.67	56.67	13.33
51 V # 2	0.007451	0.007451	ug/l	182.93	#VALUE!		115.56	145.56	137.78
52 Cr # 2	0.001873	0.001873	ug/l	334.86	#VALUE!		97.78	101.11	118.89
55 Mn # 3	0.08035	0.08035	ug/l	27.06	#VALUE!		2300.21	2030.17	1616.79
56 Fe # 1	0.6012	0.6012	ug/l	2.53	#VALUE!		19287.18	18536.39	19033.58
59 Co # 3	0.006389	0.006389	ug/l	36.77	#VALUE!		113.34	126.67	73.34
60 Ni # 2	-0.07758	-0.07758	ug/l	17.35	#VALUE!		47.78	51.11	70.00
63 Cu # 2	-0.1917	-0.1917	ug/l	2.28	#VALUE!		78.89	86.67	91.11
66 Zn # 3	-0.04091	-0.04091	ug/l	43.10	#VALUE!		196.67	246.67	210.01
75 As # 2	0.01972	0.01972	ug/l	29.11	#VALUE!		17.33	15.33	14.67
78 Se # 1	0.04205	0.04205	ug/l	18.43	#VALUE!		39.00	41.00	36.00
88 Sr # 3	0.01023	0.01023	ug/l	43.72	#VALUE!		393.35	250.01	223.34
95 Mo # 3	0.06052	0.06052	ug/l	11.07	#VALUE!		196.67	233.34	223.34
107 Ag # 3	0.008801	0.008801	ug/l	14.14	#VALUE!		76.67	96.67	90.00
111 Cd # 3	0.001216	0.001216	ug/l	233.63	#VALUE!		29.94	36.59	26.60
118 Sn # 3	0.03816	0.03816	ug/l	23.37	#VALUE!		500.02	446.69	393.35
121 Sb # 3	0.3558	0.3558	ug/l	3.83	#VALUE!		2200.21	2113.52	2040.19
137 Ba # 3	0.01265	0.01265	ug/l	36.66	#VALUE!		66.67	50.00	40.00
202 Hg # 3	0.01696	0.01696	ug/l	4.70	#VALUE!		71.67	71.00	73.00
205 Tl # 3	0.001747	0.001747	ug/l	49.27	#VALUE!		93.34	66.67	80.00
208 Pb # 3	0.006332	0.006332	ug/l	29.44	#VALUE!		390.02	340.01	313.34
232 Th # 3	0.07897	0.07897	ug/l	9.11	#VALUE!		2613.64	2340.25	2236.89
238 U # 3	0.0089	0.0089	ug/l	15.96	#VALUE!		303.35	243.34	230.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	533862.31	2.16	572657.25	93.2	60 - 125		520538.00	540546.69	540502.31
45 Sc # 1	488021.34	0.59	523286.00	93.3	60 - 125		489109.22	484764.94	490189.91
45 Sc # 3	581888.06	0.99	603286.69	96.5	60 - 125		575890.94	587313.56	582459.69
74 Ge # 1	159692.89	1.05	170650.48	93.6	60 - 125		161047.94	157822.69	160208.05
74 Ge # 2	23534.23	7.18	24862.19	94.7	60 - 125		25136.39	21767.53	23698.77
74 Ge # 3	152931.30	0.35	155795.36	98.2	60 - 125		152498.55	153535.30	152760.05
89 Y # 3	1000373.00	2.52	1011968.20	98.9	60 - 125		982073.31	1029067.60	989978.13
115 In # 3	951207.38	0.49	989458.81	96.1	60 - 125		956181.56	946937.88	950502.69
159 Tb # 3	1319833.00	0.78	1388283.80	95.1	60 - 125		1308092.30	1326871.00	1324535.80
209 Bi # 3	781335.88	0.85	829936.50	94.1	60 - 125		778047.25	788980.25	776980.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\118SMPL.D\118SMPL.D#
Date Acquired: Dec 28 2012 07:32 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-15-a
Misc Info: 3010 1/5
Vial Number: 3309
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006857	0.006857	ug/l	80.76	100.00		3.33	20.00	26.67
11 B # 3	46.94	46.94	ug/l	1.23	1800.00		103141.73	106315.98	107582.71
23 Na # 1	15680	15680	ug/l	0.78	81000.00		75706664.00	77186296.00	77497104.00
24 Mg # 1	3913	3913	ug/l	1.15	81000.00		12664866.00	12927593.00	13105137.00
27 Al # 1	81.77	81.77	ug/l	0.96	81000.00		311226.47	311807.09	309349.56
39 K # 2	7840	7840	ug/l	1.30	81000.00		2014194.80	2075936.90	2092100.10
40 Ca # 1	6161	6161	ug/l	1.14	81000.00		47490116.00	48789604.00	48455728.00
45 Sc # 2	----	--------		--------	#VALUE!		35576.86	35260.74	35996.57
47 Ti # 3	0.6771	0.6771	ug/l	9.62	1620.00		553.37	656.73	570.15
51 V # 2	2.483	2.483	ug/l	0.94	1800.00		4402.78	4471.68	4492.80
52 Cr # 2	0.3058	0.3058	ug/l	7.01	1800.00		681.13	741.13	780.02
55 Mn # 3	11.49	11.49	ug/l	0.61	1800.00		175525.72	177548.09	178624.80
56 Fe # 1	1343	1343	ug/l	0.74	81000.00		15797786.00	16061456.00	16058486.00
59 Co # 3	0.06452	0.06452	ug/l	8.15	1800.00		776.70	693.37	810.04
60 Ni # 2	0.46	0.46	ug/l	4.12	1800.00		543.35	524.46	532.24
63 Cu # 2	0.1001	0.1001	ug/l	11.44	1800.00		732.24	778.91	796.69
66 Zn # 3	10.87	10.87	ug/l	1.24	1800.00		15059.91	15433.46	15153.30
75 As # 2	1.071	1.071	ug/l	3.75	100.00		208.67	200.00	206.34
78 Se # 1	0.08744	0.08744	ug/l	3.84	100.00		53.67	52.33	55.00
88 Sr # 3	32.23	32.23	ug/l	0.30	1800.00		673485.50	682532.69	675222.06
95 Mo # 3	0.1596	0.1596	ug/l	2.19	1800.00		500.02	510.02	483.35
107 Ag # 3	0.004825	0.004825	ug/l	35.69	100.00		56.67	36.67	63.34
111 Cd # 3	0.01107	0.01107	ug/l	75.04	100.00		33.17	63.17	46.51
118 Sn # 3	0.1039	0.1039	ug/l	18.06	1800.00		686.70	903.39	823.38
121 Sb # 3	0.5048	0.5048	ug/l	3.40	100.00		2743.62	2850.32	2910.34
137 Ba # 3	20.54	20.54	ug/l	1.11	1800.00		56518.11	57030.17	57324.37
202 Hg # 3	0.005596	0.005596	ug/l	60.22	5.00		50.33	50.00	40.00
205 Tl # 3	0.002974	0.002974	ug/l	4.21	20.00		96.67	103.34	100.00
208 Pb # 3	3.553	3.553	ug/l	1.02	1800.00		79356.49	79920.59	78825.36
232 Th # 3	0.1116	0.1116	ug/l	3.48	#VALUE!		3053.74	3220.46	3040.40
238 U # 3	0.05225	0.05225	ug/l	2.59	#VALUE!		1373.44	1423.44	1360.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	497645.09	2.89	572657.25	86.9	60 - 125		481105.81	507211.13	504618.28
45 Sc # 1	479322.69	0.59	523286.00	91.6	60 - 125		476712.47	478899.97	482355.63
45 Sc # 3	572894.88	0.51	603286.69	95.0	60 - 125		570685.31	571772.63	576226.81
74 Ge # 1	155572.78	0.41	170650.48	91.2	60 - 125		155070.80	155366.69	156280.86
74 Ge # 2	22691.96	1.39	24862.19	91.3	60 - 125		22373.78	23003.45	22698.64
74 Ge # 3	147747.45	0.28	155795.36	94.8	60 - 125		147314.41	147782.22	148145.73
89 Y # 3	974731.13	0.44	1011968.20	96.3	60 - 125		972487.38	979637.81	972068.13
115 In # 3	922330.38	0.76	989458.81	93.2	60 - 125		920337.88	930091.63	916561.56
159 Tb # 3	1320559.60	1.40	1388283.80	95.1	60 - 125		1305752.80	1341352.90	1314573.50
209 Bi # 3	734250.88	0.80	829936.50	88.5	60 - 125		727953.63	735199.38	739599.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\119SMPL.D\119SMPL.D#
Date Acquired: Dec 28 2012 07:39 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-16-a
Misc Info: 3010 1/5
Vial Number: 3310
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.004341	0.004341	ug/l	54.62	100.00		6.67	16.67	10.00
11 B # 3	2.336	2.336	ug/l	3.74	1800.00		9979.48	10206.28	10016.18
23 Na # 1	661.4	661.4	ug/l	3.27	81000.00		3292583.80	3343910.80	3375450.00
24 Mg # 1	108.4	108.4	ug/l	3.78	81000.00		351892.75	354184.47	356080.97
27 Al # 1	7.425	7.425	ug/l	6.17	81000.00		29246.73	28691.62	28266.14
39 K # 2	19.16	19.16	ug/l	3.05	81000.00		11173.60	11767.32	11787.35
40 Ca # 1	27.86	27.86	ug/l	4.70	81000.00		315214.06	321085.66	321755.72
45 Sc # 2	----	--------		--------	#VALUE!		34536.06	36111.20	36478.52
47 Ti # 3	0.11	0.11	ug/l	18.72	1620.00		83.34	110.00	116.67
51 V # 2	0.1616	0.1616	ug/l	4.48	1800.00		405.56	395.56	403.34
52 Cr # 2	0.02427	0.02427	ug/l	21.21	1800.00		157.78	141.11	151.11
55 Mn # 3	0.1259	0.1259	ug/l	3.85	1800.00		2700.28	2523.58	2653.60
56 Fe # 1	24.78	24.78	ug/l	2.77	81000.00		305478.03	307672.09	306375.94
59 Co # 3	0.03909	0.03909	ug/l	6.59	1800.00		486.69	490.02	443.35
60 Ni # 2	0.1686	0.1686	ug/l	13.96	1800.00		282.23	286.67	257.78
63 Cu # 2	-0.1527	-0.1527	ug/l	2.93	1800.00		183.34	168.89	175.56
66 Zn # 3	3.216	3.216	ug/l	2.70	1800.00		4690.73	4790.74	4634.05
75 As # 2	0.1393	0.1393	ug/l	7.30	100.00		34.33	39.00	38.00
78 Se # 1	0.01213	0.01213	ug/l	38.85	100.00		26.33	29.33	26.00
88 Sr # 3	0.6017	0.6017	ug/l	2.07	1800.00		12918.36	13055.10	12548.04
95 Mo # 3	0.01244	0.01244	ug/l	29.04	1800.00		66.67	70.00	86.67
107 Ag # 3	0.004102	0.004102	ug/l	23.50	100.00		56.67	46.67	40.00
111 Cd # 3	0.06333	0.06333	ug/l	21.89	100.00		119.98	143.32	169.98
118 Sn # 3	0.06052	0.06052	ug/l	9.93	1800.00		596.70	533.36	600.03
121 Sb # 3	0.1815	0.1815	ug/l	3.41	100.00		1220.08	1143.41	1163.41
137 Ba # 3	4.161	4.161	ug/l	3.73	1800.00		11457.49	12087.99	12171.40
202 Hg # 3	-0.0006117	-0.0006117	ug/l	348.21	5.00		42.00	35.00	35.67
205 Tl # 3	0.0006122	0.0006122	ug/l	94.68	20.00		60.00	56.67	73.34
208 Pb # 3	0.08561	0.08561	ug/l	0.13	1800.00		2193.47	2180.13	2143.47
232 Th # 3	0.02405	0.02405	ug/l	8.59	#VALUE!		926.72	833.38	843.38
238 U # 3	0.004282	0.004282	ug/l	12.66	#VALUE!		130.00	113.34	143.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	496062.22	1.88	572657.25	86.6	60 - 125		485931.75	498035.19	504219.78
45 Sc # 1	474792.00	4.22	523286.00	90.7	60 - 125		451686.06	485183.44	487506.47
45 Sc # 3	567018.88	0.37	603286.69	94.0	60 - 125		567155.19	564876.38	569025.13
74 Ge # 1	156010.52	2.90	170650.48	91.4	60 - 125		150785.17	158479.97	158766.42
74 Ge # 2	22859.21	2.54	24862.19	91.9	60 - 125		22265.88	22887.76	23424.00
74 Ge # 3	148314.41	0.85	155795.36	95.2	60 - 125		148546.50	146949.63	149447.09
89 Y # 3	985139.44	0.13	1011968.20	97.3	60 - 125		986559.06	983954.38	984905.00
115 In # 3	950880.81	0.56	989458.81	96.1	60 - 125		956113.19	945528.19	951000.94
159 Tb # 3	1356491.50	1.27	1388283.80	97.7	60 - 125		1369521.30	1363014.60	1336938.50
209 Bi # 3	778005.63	0.66	829936.50	93.7	60 - 125		772145.13	781434.13	780437.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\120SMPL.D\120SMPL.D#
Date Acquired: Dec 28 2012 07:47 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86007-b-17-a
Misc Info: 3010 1/5
Vial Number: 3311
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0064	0.0064	ug/l	36.47	100.00		16.67	10.00	20.00
11 B	# 3	1.892	1.892	ug/l	3.90	1800.00		9155.78	9078.99	9305.77
23 Na	# 1	378.4	378.4	ug/l	6.22	81000.00		1926643.30	1948001.90	1945801.30
24 Mg	# 1	76.71	76.71	ug/l	5.54	81000.00		244728.28	248800.88	247962.19
27 Al	# 1	27.14	27.14	ug/l	3.15	81000.00		96341.18	101421.80	106349.14
39 K	# 2	27.19	27.19	ug/l	4.44	81000.00		13164.93	13968.96	14068.95
40 Ca	# 1	64.6	64.6	ug/l	7.15	81000.00		591501.69	595946.06	596758.25
45 Sc	# 2	----	--------		--------	#VALUE!		34933.45	35949.81	36515.28
47 Ti	# 3	0.3082	0.3082	ug/l	16.28	1620.00		323.38	246.68	256.68
51 V	# 2	0.1652	0.1652	ug/l	15.61	1800.00		360.01	454.45	413.34
52 Cr	# 2	0.02982	0.02982	ug/l	5.02	1800.00		155.56	162.22	168.89
55 Mn	# 3	0.4393	0.4393	ug/l	1.41	1800.00		7348.35	7725.20	7551.75
56 Fe	# 1	15.69	15.69	ug/l	6.34	81000.00		199249.47	193532.19	197004.73
59 Co	# 3	0.03251	0.03251	ug/l	24.31	1800.00		333.35	366.68	510.02
60 Ni	# 2	0.2375	0.2375	ug/l	6.99	1800.00		325.56	353.34	336.67
63 Cu	# 2	-0.1515	-0.1515	ug/l	4.79	1800.00		175.56	195.56	166.67
66 Zn	# 3	0.9987	0.9987	ug/l	6.40	1800.00		1736.79	1610.12	1643.46
75 As	# 2	0.09656	0.09656	ug/l	29.46	100.00		30.00	33.67	24.33
78 Se	# 1	0.01168	0.01168	ug/l	85.79	100.00		29.00	24.33	27.00
88 Sr	# 3	0.5694	0.5694	ug/l	2.30	1800.00		11957.68	12414.64	12404.65
95 Mo	# 3	0.006524	0.006524	ug/l	135.07	1800.00		53.33	33.33	86.67
107 Ag	# 3	0.00145	0.00145	ug/l	100.83	100.00		16.67	40.00	20.00
111 Cd	# 3	0.02255	0.02255	ug/l	11.51	100.00		69.98	66.66	76.64
118 Sn	# 3	0.08779	0.08779	ug/l	11.52	1800.00		800.04	683.37	756.71
121 Sb	# 3	0.1566	0.1566	ug/l	5.02	100.00		1003.39	1086.73	1080.07
137 Ba	# 3	2.15	2.15	ug/l	0.22	1800.00		6241.33	6251.35	6271.34
202 Hg	# 3	-0.00221	-0.00221	ug/l	85.97	5.00		37.67	36.00	30.67
205 Tl	# 3	0.0002358	0.0002358	ug/l	253.39	20.00		56.67	46.67	66.67
208 Pb	# 3	0.09784	0.09784	ug/l	3.03	1800.00		2393.48	2513.50	2386.85
232 Th	# 3	0.01907	0.01907	ug/l	5.37	#VALUE!		726.71	770.05	713.37
238 U	# 3	0.005108	0.005108	ug/l	12.60	#VALUE!		133.34	170.01	156.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	499344.38	2.18	572657.25	87.2	60 - 125		488236.44	499769.84	510026.88
45 Sc	# 1	468631.19	6.18	523286.00	89.6	60 - 125		435191.94	485762.38	484939.28
45 Sc	# 3	573861.25	0.60	603286.69	95.1	60 - 125		570124.38	574600.31	576859.06
74 Ge	# 1	154934.73	4.55	170650.48	90.8	60 - 125		146830.63	159609.31	158364.30
74 Ge	# 2	22920.41	2.34	24862.19	92.2	60 - 125		22476.15	22767.62	23517.46
74 Ge	# 3	149951.63	1.38	155795.36	96.2	60 - 125		147578.02	151428.72	150848.16
89 Y	# 3	993487.88	0.48	1011968.20	98.2	60 - 125		994802.69	997490.81	988170.06
115 In	# 3	965653.13	0.46	989458.81	97.6	60 - 125		961815.63	964571.63	970572.06
159 Tb	# 3	1344907.00	1.20	1388283.80	96.9	60 - 125		1326439.60	1351742.10	1356539.40
209 Bi	# 3	784840.69	0.29	829936.50	94.6	60 - 125		782249.75	786610.25	785662.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\121SMPL.D\121SMPL.D#
Date Acquired: Dec 28 2012 07:54 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86062-a-1-a
Misc Info: 3010 1/5
Vial Number: 3312
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01023	0.01023	ug/l	3.41	100.00		23.33	23.33	23.33
11 B # 3	0.8464	0.8464	ug/l	6.08	1800.00		6507.95	6994.79	7004.77
23 Na # 1	6091	6091	ug/l	0.26	81000.00		30218556.00	31171632.00	31151092.00
24 Mg # 1	5801	5801	ug/l	0.99	81000.00		19140920.00	20079854.00	19932830.00
27 Al # 1	66.89	66.89	ug/l	0.06	81000.00		256855.02	264486.81	265603.00
39 K # 2	1488	1488	ug/l	1.53	81000.00		400904.53	408131.75	423264.56
40 Ca # 1	19090	19090	ug/l	1.51	81000.00		153211390.00	152946750.00	155567630.00
45 Sc # 2	----	--------		--------	#VALUE!		35248.44	36389.57	40565.29
47 Ti # 3	3.84	3.84	ug/l	16.45	1620.00		3950.38	3120.47	3020.33
51 V # 2	0.4723	0.4723	ug/l	0.92	1800.00		948.92	965.59	1014.48
52 Cr # 2	4.692	4.692	ug/l	2.61	1800.00		9983.83	10239.55	10376.27
55 Mn # 3	274.9	274.9	ug/l	1.02	1800.00		4255401.50	4319229.50	4263753.00
56 Fe # 1	59.46	59.46	ug/l	0.89	81000.00		715104.88	733271.63	734935.19
59 Co # 3	0.4242	0.4242	ug/l	0.94	1800.00		4880.77	4937.47	4887.44
60 Ni # 2	1.82	1.82	ug/l	3.36	1800.00		1804.55	1776.77	1843.44
63 Cu # 2	0.41	0.41	ug/l	9.13	1800.00		1598.97	1492.30	1561.19
66 Zn # 3	1.471	1.471	ug/l	5.48	1800.00		2426.91	2256.86	2273.54
75 As # 2	0.1381	0.1381	ug/l	7.99	100.00		34.33	38.33	41.33
78 Se # 1	0.05582	0.05582	ug/l	11.89	100.00		41.67	41.67	46.00
88 Sr # 3	102.5	102.5	ug/l	1.93	1800.00		2188150.30	2224103.50	2168397.00
95 Mo # 3	0.629	0.629	ug/l	1.13	1800.00		1930.16	1896.82	1930.17
107 Ag # 3	0.0009605	0.0009605	ug/l	82.38	100.00		23.33	13.33	26.67
111 Cd # 3	0.02447	0.02447	ug/l	33.47	100.00		82.72	56.06	82.72
118 Sn # 3	0.3289	0.3289	ug/l	2.51	1800.00		2090.19	2120.20	2230.21
121 Sb # 3	0.1249	0.1249	ug/l	7.48	100.00		846.71	923.39	846.71
137 Ba # 3	1.736	1.736	ug/l	1.66	1800.00		4867.52	4990.87	5127.60
202 Hg # 3	-0.001472	-0.001472	ug/l	26.18	5.00		34.33	35.33	34.67
205 Tl # 3	-0.0004296	-0.0004296	ug/l	29.10	20.00		46.67	46.67	43.33
208 Pb # 3	0.03347	0.03347	ug/l	5.10	1800.00		983.38	993.38	926.71
232 Th # 3	0.02663	0.02663	ug/l	7.04	#VALUE!		856.72	913.39	960.06
238 U # 3	0.7864	0.7864	ug/l	0.39	#VALUE!		21408.81	21061.63	21372.23

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	492286.13	3.10	572657.25	86.0	60 - 125		475700.09	495367.38	505790.88
45 Sc # 1	494244.38	1.77	523286.00	94.5	60 - 125		484257.06	498096.72	500379.34
45 Sc # 3	580953.50	1.20	603286.69	96.3	60 - 125		573508.88	582055.44	587296.13
74 Ge # 1	157683.91	0.64	170650.48	92.4	60 - 125		156511.63	158266.95	158273.08
74 Ge # 2	23526.79	4.30	24862.19	94.6	60 - 125		22695.29	23232.64	24652.43
74 Ge # 3	149678.69	0.86	155795.36	96.1	60 - 125		148306.44	149872.22	150857.41
89 Y # 3	992902.19	0.75	1011968.20	98.1	60 - 125		988954.88	988312.69	1001439.10
115 In # 3	954339.88	1.22	989458.81	96.5	60 - 125		947877.50	947363.44	967778.94
159 Tb # 3	1341262.10	0.31	1388283.80	96.6	60 - 125		1337732.80	1340192.90	1345860.40
209 Bi # 3	753595.69	0.71	829936.50	90.8	60 - 125		754783.31	747758.44	758245.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\122SMPL.D\122SMPL.D#
Date Acquired: Dec 28 2012 08:02 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86062-a-2-a
Misc Info: 3010 1/5
Vial Number: 3401
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0124	0.0124	ug/l	35.19	100.00		16.67	33.33	33.33
11 B	# 3	1.46	1.46	ug/l	9.27	1800.00		8091.91	8151.90	7911.82
23 Na	# 1	5393	5393	ug/l	1.39	81000.00		26431642.00	27140460.00	27227670.00
24 Mg	# 1	5453	5453	ug/l	1.03	81000.00		18016224.00	18333618.00	18444978.00
27 Al	# 1	203.6	203.6	ug/l	0.59	81000.00		775810.19	784004.44	795178.63
39 K	# 2	643.3	643.3	ug/l	2.87	81000.00		167757.70	171255.55	173464.84
40 Ca	# 1	18650	18650	ug/l	0.68	81000.00		147036500.00	147969260.00	149641900.00
45 Sc	# 2	----	--------		--------	#VALUE!		32820.13	35282.94	36401.75
47 Ti	# 3	29.42	29.42	ug/l	0.66	1620.00		25304.37	25664.83	25277.62
51 V	# 2	1.354	1.354	ug/l	3.47	1800.00		2375.73	2467.96	2425.73
52 Cr	# 2	0.4476	0.4476	ug/l	2.68	1800.00		974.48	987.81	1050.04
55 Mn	# 3	127	127	ug/l	0.77	1800.00		1958112.90	1928418.30	1933265.80
56 Fe	# 1	321.8	321.8	ug/l	0.37	81000.00		3828696.50	3836925.00	3910975.00
59 Co	# 3	0.3574	0.3574	ug/l	1.35	1800.00		4093.90	3947.19	4127.24
60 Ni	# 2	1.61	1.61	ug/l	4.39	1800.00		1515.63	1511.19	1534.52
63 Cu	# 2	0.3966	0.3966	ug/l	2.59	1800.00		1357.84	1426.74	1512.30
66 Zn	# 3	1.747	1.747	ug/l	3.60	1800.00		2660.27	2540.25	2756.94
75 As	# 2	0.1407	0.1407	ug/l	1.79	100.00		34.00	37.00	37.67
78 Se	# 1	0.01226	0.01226	ug/l	62.80	100.00		29.00	28.33	24.67
88 Sr	# 3	101.5	101.5	ug/l	1.93	1800.00		2150929.50	2164880.00	2141664.30
95 Mo	# 3	0.1894	0.1894	ug/l	3.64	1800.00		610.03	570.03	603.36
107 Ag	# 3	0.00338	0.00338	ug/l	60.03	100.00		60.00	26.67	36.67
111 Cd	# 3	0.01121	0.01121	ug/l	33.82	100.00		46.47	43.15	56.48
118 Sn	# 3	0.09482	0.09482	ug/l	4.86	1800.00		796.71	743.37	760.04
121 Sb	# 3	0.1129	0.1129	ug/l	10.55	100.00		776.71	740.04	866.71
137 Ba	# 3	3.032	3.032	ug/l	1.65	1800.00		8639.15	8655.77	8429.00
202 Hg	# 3	-0.001373	-0.001373	ug/l	178.95	5.00		33.33	40.00	31.33
205 Tl	# 3	0.001886	0.001886	ug/l	64.37	20.00		106.67	70.00	73.34
208 Pb	# 3	0.0375	0.0375	ug/l	4.80	1800.00		1106.72	1033.38	1023.38
232 Th	# 3	0.05538	0.05538	ug/l	5.15	#VALUE!		1683.48	1593.46	1753.49
238 U	# 3	0.5536	0.5536	ug/l	1.36	#VALUE!		15007.77	15071.13	14777.58

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	487432.59	2.53	572657.25	85.1	60 - 125		473421.56	492166.25	496710.00
45 Sc	# 1	487157.09	1.46	523286.00	93.1	60 - 125		482809.53	483271.88	495389.84
45 Sc	# 3	573686.69	0.32	603286.69	95.1	60 - 125		571650.75	575295.88	574113.31
74 Ge	# 1	156523.80	1.52	170650.48	91.7	60 - 125		154726.89	155626.03	159218.47
74 Ge	# 2	22163.58	4.39	24862.19	89.1	60 - 125		21092.35	22404.94	22993.44
74 Ge	# 3	146836.39	1.14	155795.36	94.2	60 - 125		148038.77	144929.89	147540.52
89 Y	# 3	984700.69	2.46	1011968.20	97.3	60 - 125		972062.88	1012592.20	969447.19
115 In	# 3	939194.75	0.22	989458.81	94.9	60 - 125		939717.88	936908.94	940957.50
159 Tb	# 3	1335336.40	0.58	1388283.80	96.2	60 - 125		1342033.50	1337197.00	1326778.50
209 Bi	# 3	752067.06	0.36	829936.50	90.6	60 - 125		749968.38	751150.81	755082.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\123SMPL.D\123SMPL.D#
Date Acquired: Dec 28 2012 08:09 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86055-a-1-a
Misc Info: 3010 1/5
Vial Number: 3402
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01463	0.01463	ug/l	29.36	100.00		23.33	36.67	43.33
11 B	# 3	211.7	211.7	ug/l	2.37	1800.00		473423.78	485420.03	474406.03
23 Na	# 1	232700	232700	ug/l	1.42	81000.00		1097065900.00	1128883800.00	1152559600.00
24 Mg	# 1	60890	60890	ug/l	1.55	81000.00		193708370.00	198272180.00	203904420.00
27 Al	# 1	26.68	26.68	ug/l	3.14	81000.00		97055.52	104610.18	101284.51
39 K	# 2	21040	21040	ug/l	1.25	81000.00		5068846.00	5084953.50	5266894.00
40 Ca	# 1	26020	26020	ug/l	0.67	81000.00		197525170.00	202912930.00	203556290.00
45 Sc	# 2	----	--------		--------	#VALUE!		35575.79	35920.77	36831.41
47 Ti	# 3	10.21	10.21	ug/l	3.96	1620.00		8932.34	8989.07	9547.15
51 V	# 2	10.23	10.23	ug/l	1.06	1800.00		16422.84	16649.72	17225.81
52 Cr	# 2	10.35	10.35	ug/l	0.98	1800.00		19870.63	20203.21	20231.01
55 Mn	# 3	58.92	58.92	ug/l	0.51	1800.00		847170.50	841647.38	834107.19
56 Fe	# 1	2017	2017	ug/l	0.32	81000.00		21070934.00	21329684.00	21362870.00
59 Co	# 3	2.136	2.136	ug/l	1.48	1800.00		22584.29	22247.21	22687.77
60 Ni	# 2	10.03	10.03	ug/l	2.13	1800.00		8280.80	8280.81	8748.79
63 Cu	# 2	2.784	2.784	ug/l	1.61	1800.00		6522.31	6662.37	6589.00
66 Zn	# 3	1.674	1.674	ug/l	5.73	1800.00		2256.87	2506.92	2386.89
75 As	# 2	1.605	1.605	ug/l	1.98	100.00		279.67	283.00	279.67
78 Se	# 1	0.1016	0.1016	ug/l	9.22	100.00		48.33	55.00	52.67
88 Sr	# 3	267.6	267.6	ug/l	2.31	1800.00		5440284.00	5569855.00	5369326.00
95 Mo	# 3	1.424	1.424	ug/l	2.32	1800.00		3663.81	3823.86	3690.50
107 Ag	# 3	0.03254	0.03254	ug/l	11.36	100.00		226.68	250.01	280.01
111 Cd	# 3	0.01214	0.01214	ug/l	9.39	100.00		45.50	45.44	42.15
118 Sn	# 3	0.2586	0.2586	ug/l	4.87	1800.00		1443.44	1506.78	1563.45
121 Sb	# 3	0.1621	0.1621	ug/l	3.10	100.00		930.06	956.73	906.72
137 Ba	# 3	20.64	20.64	ug/l	1.28	1800.00		52147.68	50753.18	51127.60
202 Hg	# 3	0.01101	0.01101	ug/l	17.75	5.00		44.00	48.67	44.33
205 Tl	# 3	0.002521	0.002521	ug/l	47.12	20.00		83.34	96.67	63.34
208 Pb	# 3	0.3023	0.3023	ug/l	3.12	1800.00		5917.28	6097.30	6217.33
232 Th	# 3	0.04154	0.04154	ug/l	6.36	#VALUE!		1030.07	1080.07	973.39
238 U	# 3	0.4775	0.4775	ug/l	2.32	#VALUE!		9966.89	10173.74	10293.69

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	518237.50	2.20	572657.25	90.5	60 - 125		506106.56	519837.34	528768.56
45 Sc	# 1	474352.03	1.07	523286.00	90.6	60 - 125		468862.63	475378.63	478814.91
45 Sc	# 3	595130.94	0.48	603286.69	98.6	60 - 125		598401.50	593122.13	593869.19
74 Ge	# 1	137877.30	1.07	170650.48	80.8	60 - 125		136192.22	138493.75	138945.92
74 Ge	# 2	21130.47	1.90	24862.19	85.0	60 - 125		20696.25	21209.08	21486.06
74 Ge	# 3	137138.63	0.50	155795.36	88.0	60 - 125		137338.08	137704.03	136373.78
89 Y	# 3	947012.56	0.70	1011968.20	93.6	60 - 125		954193.75	941033.75	945810.38
115 In	# 3	827210.69	0.25	989458.81	83.6	60 - 125		829002.56	827713.38	824916.13
159 Tb	# 3	1156083.00	0.62	1388283.80	83.3	60 - 125		1164332.10	1151168.40	1152748.80
209 Bi	# 3	591546.25	0.79	829936.50	71.3	60 - 125		596834.88	587960.44	589843.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\124_CCV.D\124_CCV.D#
Date Acquired: Dec 28 2012 08:17 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.72 ug/l	0.92	50.00	90 - 110		114129.11	115788.13	116194.55
11 B	97.74 ug/l	1.95	100.00	90 - 110		231175.80	238116.73	234598.77
23 Na	4864 ug/l	0.90	5000.00	90 - 110		24105986.00	24045486.00	24794386.00
24 Mg	4913 ug/l	0.73	5000.00	90 - 110		16207636.00	16463228.00	16721536.00
27 Al	494.2 ug/l	0.68	500.00	90 - 110		1880651.60	1896023.50	1939338.30
39 K	5125 ug/l	0.92	5000.00	90 - 110		1327184.00	1343584.00	1382664.80
40 Ca	4975 ug/l	0.80	5000.00	90 - 110		39002912.00	39802260.00	40085700.00
45 Sc	--------	--------		--- ##### - #####		35300.93	37488.36	37560.21
47 Ti	50.11 ug/l	0.74	50.00	90 - 110		45161.77	44393.17	45372.23
51 V	49.86 ug/l	0.68	50.00	90 - 110		85933.23	87082.95	89119.15
52 Cr	49.71 ug/l	0.48	50.00	90 - 110		101674.81	103375.13	105404.05
55 Mn	497.9 ug/l	0.28	500.00	90 - 110		7862980.00	7890838.00	7841438.00
56 Fe	4887 ug/l	0.90	5000.00	90 - 110		58862240.00	58612112.00	60177840.00
59 Co	48.42 ug/l	0.52	50.00	90 - 110		563112.13	568526.06	561549.25
60 Ni	50.22 ug/l	1.58	50.00	90 - 110		44733.83	44413.00	45630.46
63 Cu	50.25 ug/l	1.10	50.00	90 - 110		117937.27	118506.16	119938.57
66 Zn	49.48 ug/l	0.86	50.00	90 - 110		70117.58	69947.38	70549.60
75 As	50.38 ug/l	1.43	50.00	90 - 110		9087.60	9119.95	9159.63
78 Se	48.68 ug/l	1.17	50.00	90 - 110		17672.56	17364.25	17454.34
88 Sr	47.99 ug/l	3.40	50.00	90 - 110		1023145.50	1031786.80	1026213.60
95 Mo	50.18 ug/l	0.61	50.00	90 - 110		145206.52	144766.02	145609.52
107 Ag	50.21 ug/l	1.14	50.00	90 - 110		412573.88	415876.41	416811.25
111 Cd	49.57 ug/l	1.43	50.00	90 - 110		87044.15	87935.77	88634.92
118 Sn	49.21 ug/l	0.53	50.00	90 - 110		279345.94	278370.69	276992.28
121 Sb	49.06 ug/l	1.11	50.00	90 - 110		256033.48	258053.38	258423.95
137 Ba	49.07 ug/l	0.79	50.00	90 - 110		136267.11	134909.56	137136.77
202 Hg	2.431 ug/l	0.87	2.50	90 - 110		4440.96	4422.29	4462.97
205 Tl	9.845 ug/l	2.14	10.00	90 - 110		151869.63	154147.59	154165.30
208 Pb	49.29 ug/l	1.68	50.00	90 - 110		1056409.50	1056921.80	1056438.00
232 Th	47.23 ug/l	0.19		--- ##### - #####		1228969.90	1221509.40	1217904.00
238 U	47.5 ug/l	1.86		--- ##### - #####		1275448.60	1217628.40	1232168.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	544188.69	1.03	572657.25	95.0	60 - 125		541514.50	540400.63	550650.94
45 Sc	487334.75	0.91	523286.00	93.1	60 - 125		483762.13	485940.75	492301.34
45 Sc	596099.25	0.51	603286.69	98.8	60 - 125		595446.38	593425.13	599426.38
74 Ge	158599.56	0.53	170650.48	92.9	60 - 125		158086.69	158142.69	159569.30
74 Ge	22719.45	1.79	24862.19	91.4	60 - 125		22271.46	22819.89	23067.00
74 Ge	151886.92	0.43	155795.36	97.5	60 - 125		152332.72	152192.17	151135.89
89 Y	993749.75	3.10	1011968.20	98.2	60 - 125		1029204.90	973650.38	978393.94
115 In	922870.63	0.65	989458.81	93.3	60 - 125		929380.31	917702.38	921529.13
159 Tb	1270240.40	1.64	1388283.80	91.5	60 - 125		1279567.10	1246389.90	1284764.10
209 Bi	728210.75	0.63	829936.50	87.7	60 - 125		733443.19	726462.81	724726.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\125_CCB.D\125_CCB.D#
Date Acquired: Dec 28 2012 08:24 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0145	0.0145	ug/l	12.10	#VALUE!		33.33	43.33	33.33
11 B	# 3	1.307	1.307	ug/l	6.70	#VALUE!		8625.48	9052.34	8812.20
23 Na	# 1	-1.279	-1.279	ug/l	87.02	#VALUE!		127640.12	132647.36	139798.50
24 Mg	# 1	1.171	1.171	ug/l	29.43	#VALUE!		3357.05	4280.60	5664.35
27 Al	# 1	0.1048	0.1048	ug/l	23.08	#VALUE!		1210.07	1380.09	1376.75
39 K	# 2	2.062	2.062	ug/l	7.65	#VALUE!		7151.54	7241.62	7144.91
40 Ca	# 1	2.793	2.793	ug/l	9.22	#VALUE!		124447.50	127329.93	129722.45
45 Sc	# 2	----	--------		--------	#VALUE!		35073.71	37089.65	34975.75
47 Ti	# 3	0.02747	0.02747	ug/l	7.06	#VALUE!		33.33	36.67	33.33
51 V	# 2	0.008924	0.008924	ug/l	91.84	#VALUE!		121.11	153.34	131.11
52 Cr	# 2	0.002207	0.002207	ug/l	355.19	#VALUE!		103.33	91.11	122.22
55 Mn	# 3	0.1282	0.1282	ug/l	40.58	#VALUE!		1910.16	2710.28	3533.78
56 Fe	# 1	0.8464	0.8464	ug/l	15.64	#VALUE!		20021.31	21496.42	22981.49
59 Co	# 3	0.009818	0.009818	ug/l	73.14	#VALUE!		50.00	170.01	210.01
60 Ni	# 2	-0.07214	-0.07214	ug/l	2.18	#VALUE!		61.11	60.00	61.11
63 Cu	# 2	-0.1946	-0.1946	ug/l	0.55	#VALUE!		76.67	82.22	75.56
66 Zn	# 3	-0.01111	-0.01111	ug/l	225.29	#VALUE!		266.68	220.01	286.68
75 As	# 2	0.04301	0.04301	ug/l	18.30	#VALUE!		21.33	19.00	19.33
78 Se	# 1	0.04079	0.04079	ug/l	29.13	#VALUE!		33.00	38.67	40.67
88 Sr	# 3	0.01503	0.01503	ug/l	35.56	#VALUE!		263.34	416.68	496.69
95 Mo	# 3	0.06781	0.06781	ug/l	3.65	#VALUE!		233.34	230.01	243.34
107 Ag	# 3	0.01308	0.01308	ug/l	18.47	#VALUE!		100.00	126.67	140.01
111 Cd	# 3	0.01696	0.01696	ug/l	33.42	#VALUE!		49.93	56.59	69.92
118 Sn	# 3	0.04492	0.04492	ug/l	5.89	#VALUE!		486.69	486.69	460.02
121 Sb	# 3	0.401	0.401	ug/l	5.24	#VALUE!		2433.58	2223.55	2310.23
137 Ba	# 3	0.01416	0.01416	ug/l	31.85	#VALUE!		50.00	46.67	70.00
202 Hg	# 3	0.01377	0.01377	ug/l	31.29	#VALUE!		59.33	59.33	73.00
205 Tl	# 3	0.002185	0.002185	ug/l	124.71	#VALUE!		53.34	66.67	133.34
208 Pb	# 3	0.01187	0.01187	ug/l	38.60	#VALUE!		363.35	443.35	563.35
232 Th	# 3	0.09514	0.09514	ug/l	2.16	#VALUE!		2783.67	2830.35	2693.67
238 U	# 3	0.01208	0.01208	ug/l	37.64	#VALUE!		200.01	376.68	440.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	556928.63	4.80	572657.25	97.3	60 - 125		531087.06	584518.81	555180.13
45 Sc	# 1	480565.66	0.49	523286.00	91.8	60 - 125		478195.41	480570.16	482931.41
45 Sc	# 3	594491.50	0.85	603286.69	98.5	60 - 125		588821.25	598408.94	596244.31
74 Ge	# 1	156516.16	0.92	170650.48	91.7	60 - 125		157966.44	155097.98	156484.02
74 Ge	# 2	23235.34	1.32	24862.19	93.5	60 - 125		23029.03	23588.98	23088.02
74 Ge	# 3	151610.00	0.46	155795.36	97.3	60 - 125		151624.16	152297.48	150908.36
89 Y	# 3	994858.31	2.81	1011968.20	98.3	60 - 125		968747.69	1024330.00	991497.38
115 In	# 3	935309.88	0.28	989458.81	94.5	60 - 125		933099.25	938242.50	934588.13
159 Tb	# 3	1277709.90	1.06	1388283.80	92.0	60 - 125		1263548.40	1290425.10	1279156.30
209 Bi	# 3	760137.63	0.82	829936.50	91.6	60 - 125		756187.19	767292.81	756932.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\126_CCV.D\126_CCV.D#
Date Acquired: Dec 28 2012 08:31 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.8 ug/l	3.56	50.00	90 - 110		110446.90	113073.34	114121.38
11 B	97.48 ug/l	3.28	100.00	90 - 110		224037.55	226466.19	233499.78
23 Na	4951 ug/l	1.10	5000.00	90 - 110		23358286.00	23522962.00	24237956.00
24 Mg	5008 ug/l	0.10	5000.00	90 - 110		15812400.00	16134500.00	16280023.00
27 Al	502 ug/l	0.09	500.00	90 - 110		1821238.90	1863634.50	1876547.90
39 K	5046 ug/l	2.72	5000.00	90 - 110		1276588.40	1310002.90	1361332.60
40 Ca	5034 ug/l	0.73	5000.00	90 - 110		37862864.00	38779244.00	38590404.00
45 Sc	--------	--------		--- ##### - #####		35673.70	36124.57	37098.66
47 Ti	49.63 ug/l	6.04	50.00	90 - 110		42682.86	43982.18	44657.15
51 V	49.17 ug/l	1.90	50.00	90 - 110		83665.36	85308.08	86688.85
52 Cr	49.3 ug/l	1.83	50.00	90 - 110		99710.27	101532.94	103301.30
55 Mn	498.9 ug/l	5.00	500.00	90 - 110		7661369.00	7847355.50	7680616.50
56 Fe	4937 ug/l	0.67	5000.00	90 - 110		56911260.00	57482404.00	58431184.00
59 Co	48.38 ug/l	3.80	50.00	90 - 110		553373.56	553933.56	552467.31
60 Ni	49.15 ug/l	1.97	50.00	90 - 110		42843.84	43693.52	43940.80
63 Cu	49.34 ug/l	1.47	50.00	90 - 110		114109.93	115255.73	116779.82
66 Zn	49.52 ug/l	4.13	50.00	90 - 110		68374.45	68876.40	69498.69
75 As	49.64 ug/l	1.35	50.00	90 - 110		8807.13	8872.16	8992.89
78 Se	48.85 ug/l	0.66	50.00	90 - 110		16842.44	16928.85	16952.21
88 Sr	48.5 ug/l	6.52	50.00	90 - 110		1006664.10	1023663.50	1010948.80
95 Mo	49.89 ug/l	6.50	50.00	90 - 110		141250.81	143531.80	142689.20
107 Ag	49.97 ug/l	6.15	50.00	90 - 110		407500.81	410586.28	405453.59
111 Cd	49.63 ug/l	5.33	50.00	90 - 110		87420.43	86689.86	86570.21
118 Sn	49.29 ug/l	5.67	50.00	90 - 110		275857.09	275433.75	274252.25
121 Sb	49.58 ug/l	6.53	50.00	90 - 110		254697.91	258908.14	257082.11
137 Ba	49.31 ug/l	6.13	50.00	90 - 110		134328.09	135479.67	135288.00
202 Hg	2.454 ug/l	4.62	2.50	90 - 110		4487.97	4496.98	4456.63
205 Tl	9.961 ug/l	7.47	10.00	90 - 110		152686.59	154888.47	153151.17
208 Pb	49.77 ug/l	6.63	50.00	90 - 110		1058613.80	1056114.90	1053171.50
232 Th	47.26 ug/l	5.24		--- ##### - #####		1209718.00	1228177.10	1228958.10
238 U	47.08 ug/l	5.03		--- ##### - #####		1221887.10	1235740.90	1230330.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	530341.00	2.44	572657.25	92.6	60 - 125		540829.50	515848.13	534345.31
45 Sc	466818.88	1.58	523286.00	89.2	60 - 125		458646.84	468877.63	472932.16
45 Sc	586793.56	4.55	603286.69	97.3	60 - 125		610742.13	558008.06	591630.44
74 Ge	152716.30	0.99	170650.48	89.5	60 - 125		150985.09	153352.39	153811.42
74 Ge	22472.88	1.65	24862.19	90.4	60 - 125		22498.68	22088.95	22831.03
74 Ge	149129.34	3.73	155795.36	95.7	60 - 125		154618.42	143505.42	149264.19
89 Y	972344.75	5.66	1011968.20	96.1	60 - 125		1027990.20	917879.06	971165.06
115 In	913156.94	5.69	989458.81	92.3	60 - 125		964648.75	860683.25	914138.75
159 Tb	1260766.80	6.62	1388283.80	90.8	60 - 125		1338963.80	1172989.10	1270347.50
209 Bi	728569.56	4.48	829936.50	87.8	60 - 125		762409.88	697259.56	726039.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\127_CCB.D\127_CCB.D#
Date Acquired: Dec 28 2012 08:39 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00592	0.00592	ug/l	71.05	#VALUE!		10.00	10.00	26.67
11 B	# 3	1.235	1.235	ug/l	3.91	#VALUE!		8091.92	8512.08	8358.67
23 Na	# 1	-2.876	-2.876	ug/l	28.80	#VALUE!		122091.39	123593.30	125794.14
24 Mg	# 1	0.8934	0.8934	ug/l	3.96	#VALUE!		3620.44	3427.07	3357.04
27 Al	# 1	0.103	0.103	ug/l	24.32	#VALUE!		1250.08	1363.42	1276.74
39 K	# 2	0.9616	0.9616	ug/l	146.42	#VALUE!		7081.50	6557.97	6914.77
40 Ca	# 1	2.623	2.623	ug/l	22.28	#VALUE!		123072.37	125496.30	123776.74
45 Sc	# 2	----	--------		--------	#VALUE!		34204.38	35439.89	38462.06
47 Ti	# 3	0.02492	0.02492	ug/l	66.05	#VALUE!		26.67	20.00	46.67
51 V	# 2	-0.0005696	-0.0005696	ug/l	995.44	#VALUE!		113.33	125.56	113.33
52 Cr	# 2	-0.00244	-0.00244	ug/l	260.29	#VALUE!		107.78	86.67	91.11
55 Mn	# 3	0.07233	0.07233	ug/l	30.76	#VALUE!		1646.79	1583.45	2176.86
56 Fe	# 1	0.8643	0.8643	ug/l	2.60	#VALUE!		22137.16	21472.98	21392.91
59 Co	# 3	0.006262	0.006262	ug/l	29.77	#VALUE!		86.67	90.00	123.34
60 Ni	# 2	-0.08863	-0.08863	ug/l	2.61	#VALUE!		45.56	42.22	48.89
63 Cu	# 2	-0.1935	-0.1935	ug/l	1.07	#VALUE!		83.33	74.45	83.33
66 Zn	# 3	-0.01098	-0.01098	ug/l	181.97	#VALUE!		233.34	286.68	240.01
75 As	# 2	0.03089	0.03089	ug/l	48.24	#VALUE!		15.67	20.33	16.67
78 Se	# 1	0.04171	0.04171	ug/l	51.59	#VALUE!		45.67	29.33	38.33
88 Sr	# 3	0.009064	0.009064	ug/l	34.99	#VALUE!		226.68	213.34	340.01
95 Mo	# 3	0.07359	0.07359	ug/l	19.53	#VALUE!		256.68	210.01	286.68
107 Ag	# 3	0.01145	0.01145	ug/l	40.26	#VALUE!		90.00	83.34	150.01
111 Cd	# 3	0.005308	0.005308	ug/l	102.68	#VALUE!		26.59	43.27	43.24
118 Sn	# 3	0.03774	0.03774	ug/l	20.62	#VALUE!		440.02	393.35	470.02
121 Sb	# 3	0.4276	0.4276	ug/l	1.65	#VALUE!		2493.59	2440.25	2426.91
137 Ba	# 3	0.01067	0.01067	ug/l	26.34	#VALUE!		36.67	50.00	50.00
202 Hg	# 3	0.02337	0.02337	ug/l	8.40	#VALUE!		83.33	77.67	82.67
205 Tl	# 3	0.002004	0.002004	ug/l	53.59	#VALUE!		73.34	100.00	70.00
208 Pb	# 3	0.008579	0.008579	ug/l	32.45	#VALUE!		356.68	343.35	450.02
232 Th	# 3	0.08939	0.08939	ug/l	3.42	#VALUE!		2683.66	2566.97	2510.29
238 U	# 3	0.009811	0.009811	ug/l	37.30	#VALUE!		256.68	186.67	376.68

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	534744.44	1.22	572657.25	93.4	60 - 125		527762.00	540738.56	535732.69
45 Sc	# 1	474322.22	2.60	523286.00	90.6	60 - 125		484819.63	460745.19	477401.81
45 Sc	# 3	577427.31	1.66	603286.69	95.7	60 - 125		573325.31	588384.50	570572.31
74 Ge	# 1	156137.61	1.56	170650.48	91.5	60 - 125		158444.86	153582.56	156385.44
74 Ge	# 2	23148.54	4.26	24862.19	93.1	60 - 125		22489.46	22673.03	24283.12
74 Ge	# 3	148778.50	0.93	155795.36	95.5	60 - 125		149295.25	149829.14	147211.13
89 Y	# 3	981098.50	1.02	1011968.20	96.9	60 - 125		971306.31	980751.63	991237.56
115 In	# 3	931388.75	1.39	989458.81	94.1	60 - 125		934850.69	942241.00	917074.69
159 Tb	# 3	1271597.90	0.82	1388283.80	91.6	60 - 125		1283660.00	1266013.80	1265119.90
209 Bi	# 3	752330.19	0.92	829936.50	90.6	60 - 125		753078.56	758829.69	745082.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\128_ICV.D\128_ICV.D#
Date Acquired: Dec 28 2012 08:46 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: ICSA
Misc Info:
Vial Number: 4510
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: ICV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	0.00132 ug/l	194.39	---	##### - #####		10.00	3.33	0.00
11 B	0.2772 ug/l	30.39	---	##### - #####		5510.93	5464.25	5377.53
23 Na	94310 ug/l	0.35	##########	80 - 120		406430750.00	414676350.00	415500350.00
24 Mg	92850 ug/l	0.86	##########	80 - 120		267678450.00	275445220.00	277556480.00
27 Al	91440 ug/l	1.12	##########	80 - 120		302214660.00	312704740.00	314380830.00
39 K	104000 ug/l	6.55	##########	80 - 120		22044000.00	22752474.00	23271668.00
40 Ca	96290 ug/l	0.80	##########	80 - 120		664438530.00	668817660.00	684789250.00
45 Sc	--------	--------		--- ##### - #####		33098.13	34014.65	30401.28
47 Ti	2126 ug/l	2.00	2000.00	80 - 120		1698472.00	1719609.40	1743181.30
51 V	0.2162 ug/l	17.74	---	##### - #####		393.34	385.56	452.23
52 Cr	1.204 ug/l	6.87	---	##### - #####		2144.59	2134.59	2210.15
55 Mn	0.2102 ug/l	5.93	---	##### - #####		3377.08	3117.03	3343.74
56 Fe	97100 ug/l	0.93	##########	80 - 120		918821120.00	919833150.00	934136960.00
59 Co	0.1195 ug/l	7.45	---	##### - #####		1173.40	1073.40	1233.41
60 Ni	0.8149 ug/l	9.32	---	##### - #####		675.57	708.91	736.69
63 Cu	0.01896 ug/l	38.36	---	##### - #####		477.79	493.34	474.46
66 Zn	3.538 ug/l	4.68	---	##### - #####		4484.01	4177.25	4247.28
75 As	0.3696 ug/l	4.62	---	##### - #####		63.00	71.33	62.00
78 Se	0.03904 ug/l	11.79	---	##### - #####		29.33	30.67	28.00
88 Sr	0.312 ug/l	1.14	---	##### - #####		5974.51	5907.77	5841.11
95 Mo	2211 ug/l	0.49	2000.00	80 - 120		5275441.50	5311766.00	5288357.50
107 Ag	0.05828 ug/l	2.75	---	##### - #####		396.68	423.35	406.68
111 Cd	0.4671 ug/l	5.04	---	##### - #####		668.76	720.47	734.63
118 Sn	0.1194 ug/l	4.47	---	##### - #####		763.37	723.37	726.70
121 Sb	0.4883 ug/l	1.46	---	##### - #####		2303.56	2273.55	2246.87
137 Ba	0.1881 ug/l	2.35	---	##### - #####		436.69	460.02	436.69
202 Hg	0.02416 ug/l	6.00	---	##### - #####		63.00	60.67	59.33
205 Tl	0.009977 ug/l	26.30	---	##### - #####		206.67	143.34	170.01
208 Pb	0.1175 ug/l	2.99	---	##### - #####		2210.13	2376.82	2316.80
232 Th	0.1139 ug/l	8.67	---	##### - #####		2443.60	2556.95	2173.56
238 U	0.003294 ug/l	20.82	---	##### - #####		86.67	70.00	60.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	477018.31	1.99	572657.25	83.3	60 - 125		466376.25	480036.50	484642.22
45 Sc	428452.44	1.07	523286.00	81.9	60 - 125		423487.34	429308.38	432561.59
45 Sc	537652.13	1.16	603286.69	89.1	60 - 125		535925.75	544596.75	532433.88
74 Ge	124606.72	0.64	170650.48	73.0	60 - 125		123707.72	125244.71	124867.73
74 Ge	18921.45	4.77	24862.19	76.1	60 - 125		18928.85	19819.83	18015.65
74 Ge	123918.58	0.69	155795.36	79.5	60 - 125		122992.91	124679.71	124083.09
89 Y	869709.63	0.68	1011968.20	85.9	60 - 125		868259.38	876230.38	864639.06
115 In	763385.69	0.76	989458.81	77.2	60 - 125		761180.69	769953.81	759022.56
159 Tb	1075238.90	2.39	1388283.80	77.5	60 - 125		1064666.50	1104556.90	1056493.40
209 Bi	554862.94	0.34	829936.50	66.9	60 - 125		552946.38	556704.50	554937.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\129SMPL.D\129SMPL.D#
Date Acquired: Dec 28 2012 08:54 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: ICSAB
Misc Info:
Vial Number: 4511
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00258	0.00258	ug/l	3.21	100.00		6.67	6.67	6.67
11 B	# 3	0.02839	0.02839	ug/l	468.83	1800.00		4774.04	4463.99	4727.38
23 Na	# 1	94270	94270	ug/l	0.45	81000.00		397843650.00	407232900.00	403229310.00
24 Mg	# 1	93090	93090	ug/l	0.88	81000.00		263777650.00	269978910.00	270507810.00
27 Al	# 1	91260	91260	ug/l	0.65	81000.00	Fail	298406620.00	303685180.00	304476060.00
39 K	# 2	104100	104100	ug/l	4.58	81000.00		21528610.00	22117106.00	22567756.00
40 Ca	# 1	96950	96950	ug/l	0.35	81000.00		659225540.00	664246270.00	662520190.00
45 Sc	# 2	----	--------		--------	#VALUE!		31164.60	33833.02	30584.86
47 Ti	# 3	2134	2134	ug/l	1.16	1620.00	Fail	1668620.90	1697572.90	1680618.60
51 V	# 2	0.2233	0.2233	ug/l	13.87	1800.00		377.79	402.23	448.90
52 Cr	# 2	21.44	21.44	ug/l	3.89	1800.00		35592.72	36232.81	36496.66
55 Mn	# 3	20.95	20.95	ug/l	0.91	1800.00		259776.61	265622.41	263870.22
56 Fe	# 1	97430	97430	ug/l	1.32	81000.00	Fail	904531200.00	916607230.00	915034620.00
59 Co	# 3	20.42	20.42	ug/l	1.23	1800.00		189383.17	187949.55	189205.41
60 Ni	# 2	20.43	20.43	ug/l	5.85	1800.00		14353.39	14741.48	15380.92
63 Cu	# 2	18.26	18.26	ug/l	4.90	1800.00		34722.57	34908.48	35846.93
66 Zn	# 3	21.67	21.67	ug/l	2.29	1800.00		24540.29	24149.71	24874.12
75 As	# 2	20.77	20.77	ug/l	5.22	100.00		2990.25	3019.92	3123.94
78 Se	# 1	0.03875	0.03875	ug/l	30.01	100.00		32.67	26.67	27.00
88 Sr	# 3	0.3154	0.3154	ug/l	1.83	1800.00		5691.08	5874.46	5884.46
95 Mo	# 3	2235	2235	ug/l	0.12	1800.00	Fail	5204202.50	5231072.50	5194973.50
107 Ag	# 3	17.65	17.65	ug/l	0.33	100.00		117676.34	117773.42	117263.80
111 Cd	# 3	17.94	17.94	ug/l	0.90	100.00		25659.85	25524.50	25743.10
118 Sn	# 3	0.1074	0.1074	ug/l	10.06	1800.00		606.69	700.03	686.70
121 Sb	# 3	0.4465	0.4465	ug/l	1.61	100.00		2016.85	2033.52	2066.85
137 Ba	# 3	0.1813	0.1813	ug/l	7.10	1800.00		436.68	433.35	383.35
202 Hg	# 3	0.02006	0.02006	ug/l	18.10	5.00		57.00	56.67	48.00
205 Tl	# 3	0.008975	0.008975	ug/l	19.66	20.00		160.01	136.67	173.34
208 Pb	# 3	0.117	0.117	ug/l	7.31	1800.00		2356.82	2160.12	2203.47
232 Th	# 3	0.07229	0.07229	ug/l	1.85	#VALUE!		1550.13	1543.46	1493.45
238 U	# 3	0.001156	0.001156	ug/l	22.91	#VALUE!		23.33	30.00	33.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	449676.91	2.35	572657.25	78.5	60 - 125		437592.19	457110.47	454328.13
45 Sc	# 1	418826.34	0.72	523286.00	80.0	60 - 125		415737.44	421800.78	418940.81
45 Sc	# 3	523612.13	1.12	603286.69	86.8	60 - 125		525458.44	528309.88	517068.06
74 Ge	# 1	122545.02	0.76	170650.48	71.8	60 - 125		123275.00	122856.73	121503.30
74 Ge	# 2	18377.54	3.90	24862.19	73.9	60 - 125		18034.54	19200.31	17897.76
74 Ge	# 3	120506.96	0.83	155795.36	77.3	60 - 125		120087.21	121645.52	119788.15
89 Y	# 3	847215.50	0.84	1011968.20	83.7	60 - 125		844363.19	855350.00	841933.25
115 In	# 3	743560.06	0.47	989458.81	75.1	60 - 125		742200.00	747551.38	740928.81
159 Tb	# 3	1052167.00	2.97	1388283.80	75.8	60 - 125		1036550.60	1088092.90	1031857.30
209 Bi	# 3	540162.56	0.61	829936.50	65.1	60 - 125		539422.63	543775.56	537289.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

4 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\130SMPL.D\130SMPL.D#
Date Acquired: Dec 28 2012 09:01 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.009418	0.009418	ug/l	30.92	100.00		26.67	20.00	16.67
11	B	# 3	0.3004	0.3004	ug/l	27.74	1800.00		5524.29	5540.93	5647.62
23	Na	# 1	128.2	128.2	ug/l	5.45	81000.00		699999.88	723981.25	765224.75
24	Mg	# 1	38.34	38.34	ug/l	16.04	81000.00		103812.91	117021.68	141983.67
27	Al	# 1	18.9	18.9	ug/l	27.45	81000.00		52706.97	65078.64	89594.73
39	K	# 2	93.75	93.75	ug/l	3.91	81000.00		30438.52	29884.35	29513.56
40	Ca	# 1	34.72	34.72	ug/l	17.92	81000.00		317433.66	349082.97	409056.41
45	Sc	# 2	----	--------		--------	#VALUE!		33176.95	33431.82	34312.31
47	Ti	# 3	1.781	1.781	ug/l	3.90	1620.00		1563.44	1536.77	1473.44
51	V	# 2	0.03544	0.03544	ug/l	37.73	1800.00		177.78	188.89	148.89
52	Cr	# 2	0.03527	0.03527	ug/l	24.29	1800.00		148.89	184.45	164.45
55	Mn	# 3	0.1941	0.1941	ug/l	2.83	1800.00		3600.43	3733.82	3737.14
56	Fe	# 1	22.13	22.13	ug/l	22.43	81000.00		217039.78	257270.55	329477.31
59	Co	# 3	0.0433	0.0433	ug/l	4.44	1800.00		530.02	543.36	496.68
60	Ni	# 2	0.02402	0.02402	ug/l	47.21	1800.00		128.89	150.00	141.11
63	Cu	# 2	-0.1518	-0.1518	ug/l	2.13	1800.00		161.11	170.00	181.11
66	Zn	# 3	0.01297	0.01297	ug/l	365.07	1800.00		250.01	363.35	246.68
75	As	# 2	0.03478	0.03478	ug/l	32.95	100.00		17.00	15.33	19.67
78	Se	# 1	0.01352	0.01352	ug/l	96.23	100.00		23.67	25.33	32.00
88	Sr	# 3	0.1355	0.1355	ug/l	4.92	1800.00		3010.34	2773.63	2906.97
95	Mo	# 3	2.426	2.426	ug/l	4.24	1800.00		7421.75	7311.68	6858.17
107	Ag	# 3	0.02827	0.02827	ug/l	5.06	100.00		263.34	240.01	250.01
111	Cd	# 3	0.01428	0.01428	ug/l	80.88	100.00		37.63	47.66	77.81
118	Sn	# 3	0.0355	0.0355	ug/l	7.73	1800.00		440.02	410.02	430.02
121	Sb	# 3	0.08343	0.08343	ug/l	5.80	100.00		613.36	666.70	636.70
137	Ba	# 3	0.04465	0.04465	ug/l	19.83	1800.00		143.34	116.67	166.67
202	Hg	# 3	0.01135	0.01135	ug/l	20.72	5.00		55.00	57.33	63.67
205	Tl	# 3	0.004616	0.004616	ug/l	28.90	20.00		133.34	100.00	130.00
208	Pb	# 3	0.02723	0.02723	ug/l	11.37	1800.00		790.03	716.69	833.37
232	Th	# 3	0.02402	0.02402	ug/l	3.29	#VALUE!		840.05	860.05	813.38
238	U	# 3	0.01314	0.01314	ug/l	4.91	#VALUE!		350.02	356.68	383.35

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	483479.16	3.88	572657.25	84.4	60 - 125		462437.38	489511.34	498488.75
45	Sc	# 1	456665.66	0.09	523286.00	87.3	60 - 125		456201.03	456920.50	456875.44
45	Sc	# 3	565208.00	0.90	603286.69	93.7	60 - 125		559641.25	566308.63	569674.19
74	Ge	# 1	152028.34	0.25	170650.48	89.1	60 - 125		152414.47	152015.63	151654.92
74	Ge	# 2	21901.73	1.56	24862.19	88.1	60 - 125		21578.35	21867.61	22259.22
74	Ge	# 3	148856.80	0.41	155795.36	95.5	60 - 125		149123.70	149284.27	148162.44
89	Y	# 3	969590.50	0.72	1011968.20	95.8	60 - 125		963167.56	977001.25	968602.81
115	In	# 3	941541.13	0.14	989458.81	95.2	60 - 125		940027.25	942603.50	941992.56
159	Tb	# 3	1266609.90	3.08	1388283.80	91.2	60 - 125		1221512.50	1288883.30	1289433.80
209	Bi	# 3	751432.44	0.88	829936.50	90.5	60 - 125		744900.31	758149.25	751247.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\131SMPL.D\131SMPL.D#
Date Acquired: Dec 28 2012 09:09 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.008181	0.008181	ug/l	20.56	100.00		16.67	16.67	23.33
11 B	# 3	0.2386	0.2386	ug/l	43.50	1800.00		5337.54	5724.33	5390.91
23 Na	# 1	105.3	105.3	ug/l	1.08	81000.00		633979.63	634763.88	640576.69
24 Mg	# 1	22.63	22.63	ug/l	5.12	81000.00		71643.91	77554.70	70165.65
27 Al	# 1	6.098	6.098	ug/l	6.77	81000.00		24816.60	22834.03	22453.70
39 K	# 2	16.51	16.51	ug/l	18.16	81000.00		9746.07	10699.92	11483.81
40 Ca	# 1	16.67	16.67	ug/l	2.15	81000.00		228994.11	227776.77	229823.91
45 Sc	# 2	----	--------		--------	#VALUE!		33348.37	34343.48	34975.82
47 Ti	# 3	0.3826	0.3826	ug/l	14.38	1620.00		366.68	283.34	353.35
51 V	# 2	0.03069	0.03069	ug/l	17.24	1800.00		165.56	160.00	176.67
52 Cr	# 2	0.03389	0.03389	ug/l	22.56	1800.00		152.22	186.67	161.11
55 Mn	# 3	0.1756	0.1756	ug/l	4.30	1800.00		3297.06	3457.08	3523.77
56 Fe	# 1	8.542	8.542	ug/l	3.48	81000.00		116384.81	111632.27	109311.61
59 Co	# 3	0.02746	0.02746	ug/l	14.82	1800.00		393.35	340.01	300.01
60 Ni	# 2	-0.01228	-0.01228	ug/l	156.35	1800.00		93.33	111.11	128.89
63 Cu	# 2	-0.1687	-0.1687	ug/l	2.42	1800.00		122.22	143.34	140.00
66 Zn	# 3	-0.01135	-0.01135	ug/l	129.25	1800.00		276.68	250.01	236.67
75 As	# 2	0.02278	0.02278	ug/l	26.38	100.00		14.67	17.00	15.00
78 Se	# 1	0.001217	0.001217	ug/l	435.41	100.00		25.00	21.33	23.33
88 Sr	# 3	0.1337	0.1337	ug/l	5.48	1800.00		2780.30	3080.37	2816.97
95 Mo	# 3	0.6132	0.6132	ug/l	4.10	1800.00		1790.14	1903.50	1896.82
107 Ag	# 3	0.01574	0.01574	ug/l	27.50	100.00		106.67	156.67	176.67
111 Cd	# 3	0.01191	0.01191	ug/l	49.82	100.00		46.10	62.73	42.73
118 Sn	# 3	0.03712	0.03712	ug/l	15.04	1800.00		436.69	410.02	473.35
121 Sb	# 3	0.04984	0.04984	ug/l	6.44	100.00		446.69	470.02	473.36
137 Ba	# 3	0.04181	0.04181	ug/l	25.19	1800.00		170.01	126.67	110.00
202 Hg	# 3	0.007287	0.007287	ug/l	42.83	5.00		57.67	46.00	51.67
205 Tl	# 3	0.003191	0.003191	ug/l	56.91	20.00		126.67	113.34	70.00
208 Pb	# 3	0.02945	0.02945	ug/l	6.30	1800.00		823.37	860.04	900.04
232 Th	# 3	0.02232	0.02232	ug/l	6.50	#VALUE!		773.38	850.05	786.71
238 U	# 3	0.01275	0.01275	ug/l	5.73	#VALUE!		380.02	343.35	350.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	486904.47	2.07	572657.25	85.0	60 - 125		476547.91	487521.56	496644.00
45 Sc	# 1	466347.47	1.05	523286.00	89.1	60 - 125		460675.75	469141.16	469225.56
45 Sc	# 3	564796.06	0.70	603286.69	93.6	60 - 125		560692.44	568578.25	565117.38
74 Ge	# 1	155032.78	0.22	170650.48	90.8	60 - 125		155055.50	155363.02	154679.81
74 Ge	# 2	22358.59	1.48	24862.19	89.9	60 - 125		21998.84	22648.58	22428.35
74 Ge	# 3	149785.17	0.54	155795.36	96.1	60 - 125		149488.64	150703.55	149163.31
89 Y	# 3	980510.31	0.31	1011968.20	96.9	60 - 125		979091.31	983948.63	978490.94
115 In	# 3	950223.75	0.62	989458.81	96.0	60 - 125		957021.13	947276.31	946373.75
159 Tb	# 3	1317486.30	1.17	1388283.80	94.9	60 - 125		1310396.60	1335136.60	1306925.30
209 Bi	# 3	762044.56	0.21	829936.50	91.8	60 - 125		761267.56	763904.88	760961.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\132SMPL.D\132SMPL.D#
Date Acquired: Dec 28 2012 09:16 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01086	0.01086	ug/l	32.96	100.00		30.00	16.67	20.00
11 B # 3	0.3976	0.3976	ug/l	114.16	1800.00		5094.14	5300.87	5407.56
23 Na # 1	105.1	105.1	ug/l	2.27	81000.00		627557.81	635737.00	649252.88
24 Mg # 1	21.54	21.54	ug/l	1.83	81000.00		68783.28	69509.96	71255.79
27 Al # 1	6.071	6.071	ug/l	1.18	81000.00		23314.69	23488.14	23274.71
39 K # 2	9.955	9.955	ug/l	5.63	81000.00		8929.03	9225.80	9139.11
40 Ca # 1	16.25	16.25	ug/l	2.26	81000.00		224232.59	226862.89	228299.81
45 Sc # 2	----	--------		--------	#VALUE!		34170.95	34374.64	35314.12
47 Ti # 3	0.2021	0.2021	ug/l	4.64	1620.00		170.01	190.01	143.34
51 V # 2	0.04028	0.04028	ug/l	15.17	1800.00		195.56	176.67	188.89
52 Cr # 2	0.02036	0.02036	ug/l	38.80	1800.00		134.45	158.89	130.00
55 Mn # 3	0.1924	0.1924	ug/l	20.55	1800.00		3493.77	3237.04	3420.43
56 Fe # 1	8.321	8.321	ug/l	0.44	81000.00		110860.92	110196.65	110081.59
59 Co # 3	0.03332	0.03332	ug/l	8.11	1800.00		396.68	396.68	350.01
60 Ni # 2	-0.02702	-0.02702	ug/l	79.05	1800.00		94.45	120.00	84.45
63 Cu # 2	-0.1751	-0.1751	ug/l	4.10	1800.00		108.89	141.11	116.67
66 Zn # 3	-0.001305	-0.001305	ug/l	2251.30	1800.00		250.01	243.34	246.68
75 As # 2	0.01581	0.01581	ug/l	65.78	100.00		15.33	12.33	16.00
78 Se # 1	0.007812	0.007812	ug/l	110.93	100.00		25.00	23.00	29.00
88 Sr # 3	0.1452	0.1452	ug/l	15.99	1800.00		2893.64	2913.65	2803.64
95 Mo # 3	0.3164	0.3164	ug/l	8.34	1800.00		953.39	946.72	810.04
107 Ag # 3	0.01823	0.01823	ug/l	41.55	100.00		156.67	113.34	180.01
111 Cd # 3	0.0179	0.0179	ug/l	57.99	100.00		53.03	49.70	63.08
118 Sn # 3	0.04477	0.04477	ug/l	14.46	1800.00		526.69	480.02	350.01
121 Sb # 3	0.06631	0.06631	ug/l	32.45	100.00		520.02	470.02	516.69
137 Ba # 3	0.05233	0.05233	ug/l	23.26	1800.00		190.01	130.00	136.67
202 Hg # 3	0.0117	0.0117	ug/l	37.86	5.00		54.67	57.00	54.33
205 Tl # 3	0.003724	0.003724	ug/l	86.92	20.00		56.67	123.34	120.00
208 Pb # 3	0.03269	0.03269	ug/l	25.38	1800.00		866.70	823.37	856.70
232 Th # 3	0.02033	0.02033	ug/l	21.52	#VALUE!		736.71	650.03	680.04
238 U # 3	0.01368	0.01368	ug/l	19.10	#VALUE!		363.35	330.02	360.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	447095.66	13.16	572657.25	78.1	60 - 125		468188.44	492470.09	380628.53
45 Sc # 1	467972.31	0.65	523286.00	89.4	60 - 125		469927.28	464444.72	469544.97
45 Sc # 3	524407.94	15.49	603286.69	86.9	60 - 125		557594.50	583789.56	431839.72
74 Ge # 1	155814.61	0.72	170650.48	91.3	60 - 125		157066.80	154895.97	155481.05
74 Ge # 2	22739.05	1.71	24862.19	91.5	60 - 125		22398.25	22655.27	23163.64
74 Ge # 3	139607.39	13.95	155795.36	89.6	60 - 125		148770.44	152803.34	117248.38
89 Y # 3	912762.88	16.24	1011968.20	90.2	60 - 125		980174.38	1015320.40	742794.06
115 In # 3	883642.38	16.06	989458.81	89.3	60 - 125		947786.75	982133.50	721006.69
159 Tb # 3	1225533.00	16.88	1388283.80	88.3	60 - 125		1326446.50	1362642.00	987510.63
209 Bi # 3	710413.38	14.36	829936.50	85.6	60 - 125		761769.06	776475.19	592995.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\133SMPL.D\133SMPL.D#
Date Acquired: Dec 28 2012 09:24 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0153	0.0153	ug/l	12.82	100.00		36.67	33.33	30.00
11 B	# 3	0.05896	0.05896	ug/l	142.89	1800.00		5097.46	5140.81	4967.46
23 Na	# 1	89.85	89.85	ug/l	0.71	81000.00		564377.50	570693.06	573701.94
24 Mg	# 1	17.67	17.67	ug/l	0.82	81000.00		57810.45	57155.43	58693.44
27 Al	# 1	4.109	4.109	ug/l	1.32	81000.00		16093.88	16414.09	16213.95
39 K	# 2	8.203	8.203	ug/l	5.59	81000.00		8635.51	8672.25	8732.25
40 Ca	# 1	14.07	14.07	ug/l	1.36	81000.00		209418.58	212421.27	213136.45
45 Sc	# 2	----	--------		--------	#VALUE!		33715.66	34744.20	35429.93
47 Ti	# 3	0.166	0.166	ug/l	11.66	1620.00		163.34	133.35	156.67
51 V	# 2	0.02808	0.02808	ug/l	43.88	1800.00		187.78	157.78	153.34
52 Cr	# 2	0.02125	0.02125	ug/l	26.69	1800.00		136.67	156.67	137.78
55 Mn	# 3	0.1758	0.1758	ug/l	9.61	1800.00		3703.82	3427.08	3143.69
56 Fe	# 1	6.317	6.317	ug/l	0.86	81000.00		86635.80	87369.22	87198.11
59 Co	# 3	0.02799	0.02799	ug/l	16.02	1800.00		336.68	406.68	306.68
60 Ni	# 2	12.37	12.37	ug/l	1.93	1800.00		11235.71	11185.68	11241.26
63 Cu	# 2	-0.173	-0.173	ug/l	1.28	1800.00		122.22	133.34	127.78
66 Zn	# 3	-0.01023	-0.01023	ug/l	198.14	1800.00		226.67	260.01	280.01
75 As	# 2	0.03616	0.03616	ug/l	22.17	100.00		18.33	16.67	20.00
78 Se	# 1	0.01237	0.01237	ug/l	7.54	100.00		27.33	27.67	27.33
88 Sr	# 3	0.1173	0.1173	ug/l	2.61	1800.00		2496.92	2546.92	2613.59
95 Mo	# 3	0.1964	0.1964	ug/l	3.46	1800.00		610.03	650.03	620.03
107 Ag	# 3	0.01236	0.01236	ug/l	12.41	100.00		130.01	123.34	103.34
111 Cd	# 3	0.007695	0.007695	ug/l	46.90	100.00		49.81	36.46	43.14
118 Sn	# 3	0.04134	0.04134	ug/l	15.22	1800.00		510.03	436.69	456.69
121 Sb	# 3	0.03635	0.03635	ug/l	27.14	100.00		456.69	370.02	353.35
137 Ba	# 3	0.05892	0.05892	ug/l	5.53	1800.00		183.34	196.67	176.67
202 Hg	# 3	0.01019	0.01019	ug/l	45.22	5.00		49.67	68.00	57.00
205 Tl	# 3	0.003724	0.003724	ug/l	44.36	20.00		116.67	83.34	136.67
208 Pb	# 3	0.04248	0.04248	ug/l	1.78	1800.00		1170.05	1133.39	1160.05
232 Th	# 3	0.017	0.017	ug/l	15.99	#VALUE!		596.70	753.38	660.04
238 U	# 3	0.01178	0.01178	ug/l	7.80	#VALUE!		336.68	363.35	310.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	483311.34	2.11	572657.25	84.4	60 - 125		472266.97	485313.63	492353.44
45 Sc	# 1	471981.34	0.64	523286.00	90.2	60 - 125		470142.13	470327.22	475474.63
45 Sc	# 3	567489.38	0.61	603286.69	94.1	60 - 125		563688.56	570423.94	568355.63
74 Ge	# 1	156790.02	0.58	170650.48	91.9	60 - 125		156599.48	155986.42	157784.16
74 Ge	# 2	22851.81	1.96	24862.19	91.9	60 - 125		22450.52	22768.73	23336.16
74 Ge	# 3	149575.72	0.52	155795.36	96.0	60 - 125		150453.63	149311.47	148962.03
89 Y	# 3	982609.56	0.53	1011968.20	97.1	60 - 125		987726.75	977235.81	982866.25
115 In	# 3	956616.75	0.66	989458.81	96.7	60 - 125		960802.56	959714.56	949333.31
159 Tb	# 3	1321338.30	0.19	1388283.80	95.2	60 - 125		1323043.40	1318467.10	1322504.10
209 Bi	# 3	774066.63	0.58	829936.50	93.3	60 - 125		769793.00	778805.31	773601.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\134_CCV.D\134_CCV.D#
Date Acquired: Dec 28 2012 09:31 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.26 ug/l	1.55	50.00	90 - 110		100260.45	104720.02	104780.40
11 B	99.01 ug/l	0.59	100.00	90 - 110		198002.28	208117.91	212964.56
23 Na	4864 ug/l	0.14	5000.00	90 - 110		22660712.00	23316102.00	23429382.00
24 Mg	4888 ug/l	0.86	5000.00	90 - 110		15339455.00	15569001.00	15842311.00
27 Al	492.5 ug/l	0.78	500.00	90 - 110		1784610.40	1820159.10	1813575.80
39 K	4914 ug/l	1.11	5000.00	90 - 110		1255619.10	1256009.50	1287722.80
40 Ca	4962 ug/l	0.54	5000.00	90 - 110		37070236.00	37773208.00	37985764.00
45 Sc	--------	--------		--- ##### - #####		35621.32	34015.13	36476.36
47 Ti	50.16 ug/l	1.90	50.00	90 - 110		42288.57	41850.58	42582.29
51 V	48.47 ug/l	2.26	50.00	90 - 110		81219.06	83139.87	84701.13
52 Cr	48.59 ug/l	2.55	50.00	90 - 110		97136.37	99732.31	99701.20
55 Mn	495.3 ug/l	1.35	500.00	90 - 110		7520605.50	7561978.00	7500988.00
56 Fe	4981 ug/l	1.04	5000.00	90 - 110		57197192.00	58726164.00	59006712.00
59 Co	47.88 ug/l	0.47	50.00	90 - 110		533414.56	536915.75	540568.38
60 Ni	49.07 ug/l	1.81	50.00	90 - 110		42367.24	42924.03	43428.58
63 Cu	49.16 ug/l	1.87	50.00	90 - 110		113153.02	113735.38	113956.80
66 Zn	49.54 ug/l	0.38	50.00	90 - 110		67143.81	67585.29	68157.16
75 As	48.82 ug/l	1.14	50.00	90 - 110		8557.68	8567.35	8800.13
78 Se	48.98 ug/l	0.43	50.00	90 - 110		16956.22	17034.30	17022.27
88 Sr	47.64 ug/l	1.78	50.00	90 - 110		997467.50	997874.38	1003086.40
95 Mo	49.33 ug/l	2.57	50.00	90 - 110		142360.52	145911.17	145320.75
107 Ag	49.25 ug/l	1.54	50.00	90 - 110		411133.69	413289.13	412657.38
111 Cd	49.14 ug/l	1.64	50.00	90 - 110		88029.98	87884.61	88772.66
118 Sn	48.62 ug/l	2.04	50.00	90 - 110		275978.91	280206.66	279086.97
121 Sb	48.8 ug/l	1.33	50.00	90 - 110		259286.48	260235.28	258755.88
137 Ba	48.73 ug/l	0.94	50.00	90 - 110		137802.03	135880.73	136985.75
202 Hg	2.444 ug/l	1.72	2.50	90 - 110		4484.31	4499.31	4437.29
205 Tl	9.831 ug/l	1.74	10.00	90 - 110		156980.80	155905.50	156563.73
208 Pb	48.8 ug/l	1.49	50.00	90 - 110		1062187.00	1069310.90	1074885.30
232 Th	47.93 ug/l	0.61		--- ##### - #####		1235339.60	1244680.60	1249525.90
238 U	48.64 ug/l	3.63		--- ##### - #####		1240506.40	1321115.50	1258759.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	472643.22	3.94	572657.25	82.5	60 - 125		451503.94	479751.91	486673.91
45 Sc	463703.16	1.75	523286.00	88.6	60 - 125		454347.00	467893.16	468869.28
45 Sc	559410.88	1.62	603286.69	92.7	60 - 125		548948.81	564170.81	565113.13
74 Ge	153197.83	0.68	170650.48	89.8	60 - 125		152012.38	153934.63	153646.48
74 Ge	22208.87	1.88	24862.19	89.3	60 - 125		22249.50	21773.07	22604.03
74 Ge	146141.06	1.14	155795.36	93.8	60 - 125		144577.14	145965.47	147880.59
89 Y	973706.56	1.61	1011968.20	96.2	60 - 125		991846.25	964118.75	965154.75
115 In	934690.00	1.31	989458.81	94.5	60 - 125		948595.19	929734.13	925740.63
159 Tb	1297710.10	1.84	1388283.80	93.5	60 - 125		1289319.40	1279141.50	1324669.60
209 Bi	729523.75	1.03	829936.50	87.9	60 - 125		724160.38	726331.25	738079.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\135_CCB.D\135_CCB.D#
Date Acquired: Dec 28 2012 09:39 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.01728	0.01728	ug/l	43.29	#VALUE!		43.33	46.67	20.00
11	B	# 3	0.8793	0.8793	ug/l	11.94	#VALUE!		6621.33	6611.31	6808.07
23	Na	# 1	-5.448	-5.448	ug/l	5.50	#VALUE!		107296.94	109536.45	111638.46
24	Mg	# 1	1.4	1.4	ug/l	2.38	#VALUE!		4970.79	4940.77	5184.17
27	Al	# 1	0.352	0.352	ug/l	6.17	#VALUE!		2193.52	2263.54	2120.18
39	K	# 2	2.318	2.318	ug/l	24.41	#VALUE!		6811.40	6901.46	6811.46
40	Ca	# 1	2.991	2.991	ug/l	1.70	#VALUE!		123524.83	125129.11	125766.02
45	Sc	# 2	----	--------		--------	#VALUE!		31715.68	34291.21	35209.62
47	Ti	# 3	0.04021	0.04021	ug/l	23.97	#VALUE!		50.00	36.67	40.00
51	V	# 2	0.01337	0.01337	ug/l	55.43	#VALUE!		121.11	133.33	151.11
52	Cr	# 2	0.01338	0.01338	ug/l	15.78	#VALUE!		117.78	120.00	128.89
55	Mn	# 3	0.1621	0.1621	ug/l	14.93	#VALUE!		3400.40	3203.71	2763.63
56	Fe	# 1	1.277	1.277	ug/l	3.86	#VALUE!		25598.22	26222.54	26786.63
59	Co	# 3	0.0152	0.0152	ug/l	18.49	#VALUE!		220.01	163.34	210.01
60	Ni	# 2	-0.04882	-0.04882	ug/l	10.78	#VALUE!		77.78	81.11	73.33
63	Cu	# 2	-0.1928	-0.1928	ug/l	2.16	#VALUE!		70.00	73.33	90.00
66	Zn	# 3	0.02383	0.02383	ug/l	183.59	#VALUE!		356.68	273.34	253.34
75	As	# 2	0.03852	0.03852	ug/l	29.36	#VALUE!		18.00	16.00	20.00
78	Se	# 1	0.05853	0.05853	ug/l	28.74	#VALUE!		49.67	39.00	40.33
88	Sr	# 3	0.01738	0.01738	ug/l	8.54	#VALUE!		433.35	456.69	390.02
95	Mo	# 3	0.1297	0.1297	ug/l	7.07	#VALUE!		400.02	390.02	443.35
107	Ag	# 3	0.01802	0.01802	ug/l	8.40	#VALUE!		166.67	150.01	166.67
111	Cd	# 3	0.013	0.013	ug/l	49.85	#VALUE!		49.87	63.21	39.86
118	Sn	# 3	0.04109	0.04109	ug/l	37.24	#VALUE!		470.02	356.68	520.02
121	Sb	# 3	0.3843	0.3843	ug/l	9.85	#VALUE!		2306.89	2273.54	2020.18
137	Ba	# 3	0.02169	0.02169	ug/l	10.01	#VALUE!		80.00	73.34	73.34
202	Hg	# 3	0.0239	0.0239	ug/l	23.03	#VALUE!		71.67	94.33	81.00
205	Tl	# 3	0.003876	0.003876	ug/l	9.28	#VALUE!		103.34	116.67	116.67
208	Pb	# 3	0.01634	0.01634	ug/l	13.29	#VALUE!		563.36	603.36	510.02
232	Th	# 3	0.09336	0.09336	ug/l	4.88	#VALUE!		2716.99	2787.01	2573.63
238	U	# 3	0.0173	0.0173	ug/l	16.15	#VALUE!		536.69	490.02	400.02

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	476681.34	3.98	572657.25	83.2	60 - 125		455401.75	482878.47	491763.84
45	Sc	# 1	465968.25	0.68	523286.00	89.0	60 - 125		462779.00	465974.44	469151.31
45	Sc	# 3	549075.88	2.23	603286.69	91.0	60 - 125		535110.06	558141.38	553976.19
74	Ge	# 1	153845.63	0.11	170650.48	90.2	60 - 125		153678.39	154008.25	153850.20
74	Ge	# 2	21936.97	2.27	24862.19	88.2	60 - 125		21365.93	22169.10	22275.88
74	Ge	# 3	145596.98	1.41	155795.36	93.5	60 - 125		143364.78	146040.34	147385.84
89	Y	# 3	961045.38	0.92	1011968.20	95.0	60 - 125		956616.63	971190.50	955329.25
115	In	# 3	922229.06	2.74	989458.81	93.2	60 - 125		893058.19	937292.56	936336.44
159	Tb	# 3	1292464.80	1.85	1388283.80	93.1	60 - 125		1265049.00	1308614.60	1303730.80
209	Bi	# 3	752346.69	1.61	829936.50	90.7	60 - 125		738357.19	760116.81	758566.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\136SMPL.D\136SMPL.D#
Date Acquired: Dec 28 2012 09:46 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-260929_1-a
Misc Info: 3005 1/5
Vial Number: 3403
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001821	0.001821	ug/l	102.69	100.00		3.33	10.00	3.33
11 B	# 3	0.5674	0.5674	ug/l	0.44	1800.00		5934.40	6091.15	6167.82
23 Na	# 1	-8.294	-8.294	ug/l	1.70	81000.00		95861.06	96142.46	97036.35
24 Mg	# 1	0.2751	0.2751	ug/l	6.13	81000.00		1386.76	1503.44	1406.76
27 Al	# 1	0.8722	0.8722	ug/l	6.14	81000.00		4213.91	3920.50	4240.58
39 K	# 2	0.1092	0.1092	ug/l	507.51	81000.00		6421.27	6291.19	6407.94
40 Ca	# 1	3.246	3.246	ug/l	2.13	81000.00		126501.17	127910.16	127336.22
45 Sc	# 2	----	--------		--------	#VALUE!		33645.56	34539.36	35074.89
47 Ti	# 3	0.04637	0.04637	ug/l	13.40	1620.00		43.33	46.67	53.33
51 V	# 2	0.04017	0.04017	ug/l	11.52	1800.00		173.34	192.23	183.34
52 Cr	# 2	-0.005398	-0.005398	ug/l	145.04	1800.00		102.22	75.56	78.89
55 Mn	# 3	0.0262	0.0262	ug/l	16.45	1800.00		990.05	1146.73	1076.73
56 Fe	# 1	0.234	0.234	ug/l	14.96	81000.00		13528.61	14152.47	14375.98
59 Co	# 3	6.745E-005	6.745E-005	ug/l	886.88	1800.00		26.67	36.67	23.33
60 Ni	# 2	-0.08555	-0.08555	ug/l	23.57	1800.00		27.78	47.78	64.45
63 Cu	# 2	-0.1838	-0.1838	ug/l	1.93	1800.00		91.11	108.89	98.89
66 Zn	# 3	0.1819	0.1819	ug/l	20.32	1800.00		446.69	550.03	536.69
75 As	# 2	0.05382	0.05382	ug/l	24.30	100.00		18.33	21.00	23.67
78 Se	# 1	0.01025	0.01025	ug/l	60.92	100.00		24.33	28.67	26.00
88 Sr	# 3	0.002669	0.002669	ug/l	55.23	1800.00		93.34	120.00	153.34
95 Mo	# 3	0.05941	0.05941	ug/l	2.87	1800.00		213.34	216.68	206.67
107 Ag	# 3	0.006531	0.006531	ug/l	42.25	100.00		43.33	90.00	70.00
111 Cd	# 3	0.005693	0.005693	ug/l	92.69	100.00		33.27	49.93	33.27
118 Sn	# 3	0.03265	0.03265	ug/l	17.50	1800.00		400.02	383.35	446.69
121 Sb	# 3	0.2075	0.2075	ug/l	0.58	100.00		1296.76	1300.09	1310.09
137 Ba	# 3	0.005779	0.005779	ug/l	65.24	1800.00		20.00	36.67	40.00
202 Hg	# 3	0.007622	0.007622	ug/l	12.25	5.00		55.00	52.00	51.00
205 Tl	# 3	0.0008642	0.0008642	ug/l	166.63	20.00		90.00	43.33	63.34
208 Pb	# 3	-0.000475	-0.000475	ug/l	341.89	1800.00		176.67	236.68	173.34
232 Th	# 3	0.03317	0.03317	ug/l	0.98	#VALUE!		1116.75	1090.07	1100.08
238 U	# 3	0.002538	0.002538	ug/l	7.92	#VALUE!		73.34	80.00	83.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	478211.66	1.97	572657.25	83.5	60 - 125		467764.94	480782.91	486087.06
45 Sc	# 1	467860.41	0.89	523286.00	89.4	60 - 125		463054.97	470575.06	469951.16
45 Sc	# 3	553180.31	0.17	603286.69	91.7	60 - 125		553811.81	553610.81	552118.19
74 Ge	# 1	154686.81	0.23	170650.48	90.6	60 - 125		154423.50	154552.28	155084.64
74 Ge	# 2	22254.75	1.69	24862.19	89.5	60 - 125		21856.51	22304.79	22602.95
74 Ge	# 3	146038.16	1.25	155795.36	93.7	60 - 125		144010.73	147564.25	146539.48
89 Y	# 3	964321.13	0.46	1011968.20	95.3	60 - 125		967446.75	966231.94	959284.56
115 In	# 3	940993.44	0.25	989458.81	95.1	60 - 125		938485.00	943082.56	941412.88
159 Tb	# 3	1314550.90	0.29	1388283.80	94.7	60 - 125		1318948.50	1311826.10	1312877.80
209 Bi	# 3	765545.56	0.57	829936.50	92.2	60 - 125		770471.50	763882.25	762283.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\137SMPL.D\137SMPL.D#
Date Acquired: Dec 28 2012 09:54 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-260929_2-a
Misc Info: 3005 1/5
Vial Number: 3404
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.35	10.35	ug/l	1.53	100.00		19993.94	20874.98	21258.73
11 B # 3	40.27	40.27	ug/l	0.38	1800.00		84696.77	86062.06	87729.84
23 Na # 1	976	976	ug/l	0.44	81000.00		4748606.00	4791105.00	4809701.00
24 Mg # 1	1014	1014	ug/l	0.73	81000.00		3197767.50	3278503.30	3287799.50
27 Al # 1	983.9	983.9	ug/l	0.70	81000.00		3610975.00	3627515.80	3659979.00
39 K # 2	993.2	993.2	ug/l	4.84	81000.00		246063.22	250250.36	257243.48
40 Ca # 1	1006	1006	ug/l	0.14	81000.00		7681758.00	7800503.00	7796556.50
45 Sc # 2	----	--------		--------	#VALUE!		30571.53	34133.14	34742.00
47 Ti # 3	19.95	19.95	ug/l	1.49	1620.00		16667.83	16721.24	16567.69
51 V # 2	20.24	20.24	ug/l	6.07	1800.00		33222.76	33133.77	33863.98
52 Cr # 2	20.37	20.37	ug/l	4.92	1800.00		39196.63	39617.37	41007.00
55 Mn # 3	103.3	103.3	ug/l	0.28	1800.00		1565874.40	1554862.40	1565189.00
56 Fe # 1	961	961	ug/l	1.01	81000.00		11213536.00	11357856.00	11463020.00
59 Co # 3	9.636	9.636	ug/l	0.90	1800.00		106698.08	107676.06	108182.49
60 Ni # 2	21.01	21.01	ug/l	4.24	1800.00		17291.49	17798.61	18170.10
63 Cu # 2	20.87	20.87	ug/l	6.02	1800.00		46315.65	46859.20	46859.29
66 Zn # 3	21.52	21.52	ug/l	1.51	1800.00		29016.90	29280.64	29798.28
75 As # 2	21.37	21.37	ug/l	4.81	100.00		3574.69	3622.37	3743.39
78 Se # 1	19.87	19.87	ug/l	0.52	100.00		6909.32	6993.35	6999.02
88 Sr # 3	18.05	18.05	ug/l	2.59	1800.00		381520.63	379854.72	380062.59
95 Mo # 3	19.39	19.39	ug/l	1.47	1800.00		56152.54	57731.35	56818.01
107 Ag # 3	10.05	10.05	ug/l	0.70	100.00		84511.06	83502.81	84828.54
111 Cd # 3	10.15	10.15	ug/l	1.66	100.00		18312.14	18445.13	18044.95
118 Sn # 3	19.54	19.54	ug/l	0.41	1800.00		112108.41	111859.83	112426.60
121 Sb # 3	11.01	11.01	ug/l	2.02	100.00		59409.28	58974.41	57790.53
137 Ba # 3	19.86	19.86	ug/l	0.49	1800.00		55785.75	55401.23	56364.07
202 Hg # 3	1.037	1.037	ug/l	0.99	5.00		2013.13	2031.80	2029.47
205 Tl # 3	7.69	7.69	ug/l	0.35	20.00		124617.74	126402.95	124584.41
208 Pb # 3	9.86	9.86	ug/l	1.59	1800.00		222620.39	220287.70	220045.16
232 Th # 3	18.26	18.26	ug/l	0.48	#VALUE!		501406.50	499892.50	498265.56
238 U # 3	18.76	18.76	ug/l	0.92	#VALUE!		517588.84	521077.19	516325.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	469107.13	1.62	572657.25	81.9	60 - 125		460973.22	470336.75	476011.34
45 Sc # 1	466911.50	0.87	523286.00	89.2	60 - 125		462282.84	470005.19	468446.47
45 Sc # 3	554260.75	1.03	603286.69	91.9	60 - 125		553045.31	549276.38	560460.63
74 Ge # 1	154382.69	0.77	170650.48	90.5	60 - 125		153284.39	155650.23	154213.41
74 Ge # 2	21411.92	6.43	24862.19	86.1	60 - 125		19852.03	21926.55	22457.20
74 Ge # 3	145352.03	0.23	155795.36	93.3	60 - 125		145721.53	145095.02	145239.52
89 Y # 3	978487.81	2.86	1011968.20	96.7	60 - 125		1010379.30	966949.56	958134.75
115 In # 3	935560.06	0.59	989458.81	94.6	60 - 125		931462.06	933356.94	941861.25
159 Tb # 3	1327013.50	1.12	1388283.80	95.6	60 - 125		1315722.80	1343867.40	1321450.50
209 Bi # 3	769637.25	0.51	829936.50	92.7	60 - 125		773304.56	765559.69	770047.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\138SMPL.D\138SMPL.D#
Date Acquired: Dec 28 2012 10:01 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-f-1-a
Misc Info: 3005 1/5
Vial Number: 3406
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.003769	0.003769	ug/l	26.90	100.00		6.67	10.00	10.00
11 B # 3	120.1	120.1	ug/l	5.19	1800.00		230846.02	236431.11	238699.27
23 Na # 1	1264	1264	ug/l	4.45	81000.00		5860416.00	5908998.00	6055418.00
24 Mg # 1	6891	6891	ug/l	4.75	81000.00		21217088.00	21267296.00	21579960.00
27 Al # 1	10.5	10.5	ug/l	3.43	81000.00		37367.34	39812.10	37752.69
39 K # 2	3830	3830	ug/l	10.69	81000.00		954620.19	947000.94	984893.63
40 Ca # 1	39770	39770	ug/l	4.02	81000.00		287516380.00	291870300.00	297785660.00
45 Sc # 2	----	--------		--------	#VALUE!		33402.94	37358.66	30414.71
47 Ti # 3	0.6274	0.6274	ug/l	9.66	1620.00		533.37	500.02	536.69
51 V # 2	0.2703	0.2703	ug/l	11.37	1800.00		520.01	594.46	572.24
52 Cr # 2	0.08205	0.08205	ug/l	24.02	1800.00		225.56	265.56	277.78
55 Mn # 3	619.6	619.6	ug/l	4.95	1800.00		9183845.00	9136721.00	9356640.00
56 Fe # 1	2722	2722	ug/l	3.05	81000.00		30548952.00	30645330.00	30576142.00
59 Co # 3	0.06675	0.06675	ug/l	9.49	1800.00		770.04	713.37	796.71
60 Ni # 2	0.2445	0.2445	ug/l	13.88	1800.00		322.23	326.67	327.78
63 Cu # 2	-0.158	-0.158	ug/l	3.08	1800.00		141.11	177.78	147.78
66 Zn # 3	0.5266	0.5266	ug/l	5.92	1800.00		940.06	970.05	970.05
75 As # 2	0.3967	0.3967	ug/l	18.39	100.00		73.33	77.67	86.67
78 Se # 1	0.0419	0.0419	ug/l	24.42	100.00		30.67	39.33	37.00
88 Sr # 3	101.1	101.1	ug/l	8.31	1800.00		2060063.90	2068115.80	2096952.30
95 Mo # 3	0.2767	0.2767	ug/l	5.94	1800.00		796.70	846.71	823.37
107 Ag # 3	0.002525	0.002525	ug/l	73.35	100.00		23.33	53.34	23.33
111 Cd # 3	0.008731	0.008731	ug/l	160.00	100.00		26.41	33.06	66.41
118 Sn # 3	0.06695	0.06695	ug/l	25.30	1800.00		483.35	646.70	626.70
121 Sb # 3	0.1995	0.1995	ug/l	3.52	100.00		1223.41	1250.08	1170.09
137 Ba # 3	33.22	33.22	ug/l	6.67	1800.00		91328.48	89710.29	90474.71
202 Hg # 3	0.004766	0.004766	ug/l	35.00	5.00		45.00	43.33	45.00
205 Tl # 3	0.02705	0.02705	ug/l	6.04	20.00		506.69	526.69	416.69
208 Pb # 3	0.01424	0.01424	ug/l	24.91	1800.00		450.02	540.02	550.02
232 Th # 3	0.08131	0.08131	ug/l	3.43	#VALUE!		2310.24	2440.27	2083.55
238 U # 3	0.02644	0.02644	ug/l	8.34	#VALUE!		726.71	656.70	693.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	446890.16	4.54	572657.25	78.0	60 - 125		443239.53	468761.81	428669.16
45 Sc # 1	451402.72	5.00	523286.00	86.3	60 - 125		425799.50	468380.13	460028.59
45 Sc # 3	546608.56	5.99	603286.69	90.6	60 - 125		549650.06	577722.69	512452.84
74 Ge # 1	147156.66	3.15	170650.48	86.2	60 - 125		142037.92	151091.17	148340.89
74 Ge # 2	21747.63	8.78	24862.19	87.5	60 - 125		21491.64	23771.27	19979.97
74 Ge # 3	143322.59	3.67	155795.36	92.0	60 - 125		143911.52	148262.31	137793.95
89 Y # 3	956174.25	7.57	1011968.20	94.5	60 - 125		953079.56	1030056.80	885386.56
115 In # 3	908765.63	6.24	989458.81	91.8	60 - 125		908416.88	965662.50	852217.38
159 Tb # 3	1299550.10	7.08	1388283.80	93.6	60 - 125		1324260.00	1376713.40	1197676.90
209 Bi # 3	722134.63	4.86	829936.50	87.0	60 - 125		725956.00	755177.88	685269.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\139SMPL.D\139SMPL.D#
Date Acquired: Dec 28 2012 10:09 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-f-1-a SD
Misc Info: 3005 1/25
Vial Number: 3407
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0016635	-0.0003327	ug/l	294.77	100.00		3.33	0.00	0.00
11 B # 3	121.25	24.25	ug/l	1.56	1800.00		53354.71	54297.37	55721.66
23 Na # 1	1255	251	ug/l	11.71	81000.00		1314754.10	1345833.40	1352921.00
24 Mg # 1	6885	1377	ug/l	10.86	81000.00		4369343.50	4502440.00	4457073.00
27 Al # 1	13.235	2.647	ug/l	14.41	81000.00		10153.91	10029.57	12037.95
39 K # 2	3699.5	739.9	ug/l	1.11	81000.00		195262.58	196325.44	200841.11
40 Ca # 1	38710	7742	ug/l	11.52	81000.00		57759280.00	60308584.00	59872572.00
45 Sc # 2	----	--------		--------	#VALUE!		33643.35	33811.41	36209.92
47 Ti # 3	0.7675	0.1535	ug/l	8.51	1620.00		126.67	136.67	150.01
51 V # 2	0.2991	0.05982	ug/l	2.20	1800.00		213.34	213.34	226.67
52 Cr # 2	0.014295	0.002859	ug/l	304.72	1800.00		98.89	85.56	125.56
55 Mn # 3	653	130.6	ug/l	1.68	1800.00		1977022.90	1970064.10	2005261.40
56 Fe # 1	2659	531.8	ug/l	8.48	81000.00		6223240.00	6352757.50	6402470.50
59 Co # 3	0.0579	0.01158	ug/l	10.47	1800.00		166.67	143.34	163.34
60 Ni # 2	0.816	0.1632	ug/l	18.24	1800.00		262.23	235.56	298.89
63 Cu # 2	-0.9325	-0.1865	ug/l	1.92	1800.00		83.33	100.00	98.89
66 Zn # 3	0.772	0.1544	ug/l	30.78	1800.00		546.69	450.02	423.35
75 As # 2	0.38525	0.07705	ug/l	2.98	100.00		24.33	25.33	26.00
78 Se # 1	0.040525	0.008105	ug/l	200.12	100.00		23.33	30.00	23.33
88 Sr # 3	96.2	19.24	ug/l	3.04	1800.00		403103.38	398757.28	401642.75
95 Mo # 3	0.42175	0.08435	ug/l	7.76	1800.00		283.34	266.68	300.01
107 Ag # 3	0.008405	0.001681	ug/l	38.95	100.00		23.33	33.33	23.33
111 Cd # 3	-0.01713	-0.003426	ug/l	64.62	100.00		26.58	19.92	19.90
118 Sn # 3	0.07275	0.01455	ug/l	18.85	1800.00		300.01	323.35	286.68
121 Sb # 3	0.3628	0.07256	ug/l	26.25	100.00		476.69	573.36	676.70
137 Ba # 3	32.575	6.515	ug/l	0.73	1800.00		18103.41	18430.49	18330.35
202 Hg # 3	0.031505	0.006301	ug/l	47.60	5.00		50.33	44.67	55.00
205 Tl # 3	0.05045	0.01009	ug/l	5.80	20.00		203.34	226.68	210.01
208 Pb # 3	0.005435	0.001087	ug/l	154.74	1800.00		266.68	196.67	223.34
232 Th # 3	0.14065	0.02813	ug/l	2.69	#VALUE!		953.40	996.73	940.06
238 U # 3	0.032185	0.006437	ug/l	8.27	#VALUE!		180.01	176.67	200.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	474901.13	2.67	572657.25	82.9	60 - 125		460279.25	481193.94	483230.25
45 Sc # 1	472548.00	9.41	523286.00	90.3	60 - 125		517863.38	429016.31	470764.34
45 Sc # 3	556044.94	0.77	603286.69	92.2	60 - 125		551121.44	558940.13	558073.13
74 Ge # 1	156097.14	7.45	170650.48	91.5	60 - 125		167960.78	144726.41	155604.25
74 Ge # 2	22370.90	2.59	24862.19	90.0	60 - 125		21953.26	22127.94	23031.52
74 Ge # 3	146029.61	0.77	155795.36	93.7	60 - 125		145945.00	147193.06	144950.75
89 Y # 3	968065.63	2.61	1011968.20	95.7	60 - 125		960862.25	996124.38	947210.19
115 In # 3	933279.75	1.00	989458.81	94.3	60 - 125		928153.81	944086.63	927598.94
159 Tb # 3	1308166.00	1.72	1388283.80	94.2	60 - 125		1305011.50	1332015.40	1287471.30
209 Bi # 3	763957.75	1.07	829936.50	92.1	60 - 125		765043.19	771499.81	755330.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\140SMPL.D\140SMPL.D#
Date Acquired: Dec 28 2012 10:16 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-f-1-a PDS
Misc Info: 3005 1/5
Vial Number: 3408
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	21.39	21.39	ug/l	3.59	100.00		39180.15	41134.04	40886.65
11 B # 3	163.9	163.9	ug/l	3.27	1800.00		307658.63	320708.06	323178.34
23 Na # 1	3234	3234	ug/l	1.54	81000.00		15379751.00	15781760.00	15933308.00
24 Mg # 1	8575	8575	ug/l	1.61	81000.00		27301656.00	27800086.00	28366126.00
27 Al # 1	209.6	209.6	ug/l	1.47	81000.00		767991.94	785585.94	795290.00
39 K # 2	5971	5971	ug/l	0.63	81000.00		1497336.00	1498356.10	1542962.40
40 Ca # 1	40210	40210	ug/l	1.21	81000.00		304633860.00	309601860.00	313985150.00
45 Sc # 2	----	--------		--------	#VALUE!		34769.97	34613.68	34864.47
47 Ti # 3	22.09	22.09	ug/l	8.22	1620.00		17995.79	19102.75	17718.80
51 V # 2	20.97	20.97	ug/l	1.19	1800.00		34717.71	35435.72	36081.34
52 Cr # 2	20.66	20.66	ug/l	1.68	1800.00		40446.92	41209.73	42600.60
55 Mn # 3	825	825	ug/l	5.12	1800.00		12114045.00	12377645.00	12272235.00
56 Fe # 1	4674	4674	ug/l	1.23	81000.00		53992720.00	54356060.00	55356564.00
59 Co # 3	19.6	19.6	ug/l	4.99	1800.00		212594.47	216589.45	215521.45
60 Ni # 2	20.41	20.41	ug/l	0.70	1800.00		17477.21	17417.17	17988.81
63 Cu # 2	20.22	20.22	ug/l	1.32	1800.00		45330.96	46161.84	47348.16
66 Zn # 3	20.1	20.1	ug/l	5.86	1800.00		26613.26	27561.22	26710.04
75 As # 2	21.76	21.76	ug/l	1.00	100.00		3731.72	3782.40	3875.09
78 Se # 1	20.01	20.01	ug/l	0.66	100.00		6943.67	6888.98	6998.69
88 Sr # 3	120.7	120.7	ug/l	5.79	1800.00		2490540.00	2477961.00	2491575.30
95 Mo # 3	20.9	20.9	ug/l	5.22	1800.00		58788.05	59694.24	59242.62
107 Ag # 3	17.28	17.28	ug/l	4.69	100.00		140328.63	140745.22	138749.45
111 Cd # 3	20.3	20.3	ug/l	4.22	100.00		35421.10	35240.45	35173.86
118 Sn # 3	20.63	20.63	ug/l	5.14	1800.00		113735.69	115252.50	114117.85
121 Sb # 3	22.34	22.34	ug/l	5.00	100.00		114215.84	115463.98	115111.86
137 Ba # 3	54.06	54.06	ug/l	4.35	1800.00		147206.17	146850.13	146575.58
202 Hg # 3	1.004	1.004	ug/l	4.86	5.00		1824.44	1852.78	1825.44
205 Tl # 3	3.937	3.937	ug/l	5.24	20.00		62919.08	62784.91	62969.39
208 Pb # 3	19.91	19.91	ug/l	5.72	1800.00		435107.25	438393.69	438733.69
232 Th # 3	20.08	20.08	ug/l	4.60	#VALUE!		507495.50	514928.84	518806.03
238 U # 3	20.02	20.02	ug/l	4.51	#VALUE!		511018.94	517513.00	522616.97

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	443085.25	1.73	572657.25	77.4	60 - 125		444725.47	434724.31	449806.03
45 Sc # 1	471867.38	0.31	523286.00	90.2	60 - 125		470424.19	471853.31	473324.63
45 Sc # 3	550349.81	4.45	603286.69	91.2	60 - 125		573391.25	524613.19	553045.19
74 Ge # 1	152793.00	0.14	170650.48	89.5	60 - 125		152865.89	152547.59	152965.48
74 Ge # 2	21849.14	1.09	24862.19	87.9	60 - 125		21719.69	21703.15	22124.57
74 Ge # 3	143009.11	4.08	155795.36	91.8	60 - 125		149260.55	137692.08	142074.72
89 Y # 3	958104.88	6.13	1011968.20	94.7	60 - 125		1022730.70	908030.19	943553.94
115 In # 3	905152.38	4.46	989458.81	91.5	60 - 125		946004.75	865289.13	904163.13
159 Tb # 3	1303980.50	5.35	1388283.80	93.9	60 - 125		1375271.90	1235845.90	1300823.50
209 Bi # 3	720213.88	3.88	829936.50	86.8	60 - 125		746197.56	690612.81	723831.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\141SMPL.D\141SMPL.D#
Date Acquired: Dec 28 2012 10:23 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-1-b ms
Misc Info: 3005 1/5
Vial Number: 3409
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.45	10.45	ug/l	5.16	100.00		19516.85	19937.27	18916.29
11 B	# 3	166.7	166.7	ug/l	1.86	1800.00		309727.09	322898.03	321376.88
23 Na	# 1	2193	2193	ug/l	0.65	81000.00		10436077.00	10601688.00	10772545.00
24 Mg	# 1	7650	7650	ug/l	0.45	81000.00		24139278.00	24714366.00	24986882.00
27 Al	# 1	952	952	ug/l	0.23	81000.00		3470219.30	3536931.50	3561426.30
39 K	# 2	4951	4951	ug/l	1.05	81000.00		1207853.30	1236430.90	1261638.80
40 Ca	# 1	39770	39770	ug/l	0.72	81000.00		296118780.00	307451520.00	306918340.00
45 Sc	# 2	----	--------		--------	#VALUE!		33296.08	34445.91	35191.70
47 Ti	# 3	20.27	20.27	ug/l	1.27	1620.00		16237.37	16774.66	16921.38
51 V	# 2	20	20	ug/l	1.48	1800.00		32965.65	33059.18	33650.20
52 Cr	# 2	19.84	19.84	ug/l	0.37	1800.00		38460.55	39416.98	39552.87
55 Mn	# 3	746.9	746.9	ug/l	0.70	1800.00		10759737.00	10928584.00	11010517.00
56 Fe	# 1	3608	3608	ug/l	0.59	81000.00		41189808.00	41722512.00	42189532.00
59 Co	# 3	9.486	9.486	ug/l	0.87	1800.00		102695.40	101645.53	102131.84
60 Ni	# 2	20.18	20.18	ug/l	0.14	1800.00		16816.59	17328.15	17307.06
63 Cu	# 2	20.04	20.04	ug/l	0.74	1800.00		44148.11	45306.52	45948.07
66 Zn	# 3	20.54	20.54	ug/l	0.98	1800.00		27124.00	27167.43	26930.43
75 As	# 2	20.9	20.9	ug/l	1.45	100.00		3459.00	3636.04	3673.04
78 Se	# 1	19.23	19.23	ug/l	0.72	100.00		6564.19	6572.53	6677.90
88 Sr	# 3	123	123	ug/l	0.76	1800.00		2458054.00	2509566.00	2486092.50
95 Mo	# 3	20.16	20.16	ug/l	1.44	1800.00		57313.19	56386.78	55781.63
107 Ag	# 3	9.875	9.875	ug/l	1.00	100.00		78087.88	79397.38	79674.76
111 Cd	# 3	9.927	9.927	ug/l	2.26	100.00		17103.76	17417.83	16660.61
118 Sn	# 3	19.78	19.78	ug/l	0.34	1800.00		108609.34	108586.42	108059.30
121 Sb	# 3	11.03	11.03	ug/l	1.46	100.00		55824.02	55593.15	57155.16
137 Ba	# 3	54.03	54.03	ug/l	0.98	1800.00		146512.31	144850.19	143911.52
202 Hg	# 3	1.046	1.046	ug/l	2.41	5.00		1901.45	1921.45	1851.45
205 Tl	# 3	7.608	7.608	ug/l	2.46	20.00		118782.72	118188.28	119481.05
208 Pb	# 3	9.64	9.64	ug/l	1.82	1800.00		209293.06	207053.48	205487.36
232 Th	# 3	19.16	19.16	ug/l	0.78	#VALUE!		485453.63	487190.09	484573.75
238 U	# 3	19.74	19.74	ug/l	0.97	#VALUE!		508505.66	505527.81	501716.13

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	436898.97	3.30	572657.25	76.3	60 - 125		422051.41	437784.94	450860.63
45 Sc	# 1	467920.72	1.45	523286.00	89.4	60 - 125		460129.50	471037.75	472594.88
45 Sc	# 3	545005.75	1.05	603286.69	90.3	60 - 125		539585.63	544465.56	550965.94
74 Ge	# 1	151243.50	0.70	170650.48	88.6	60 - 125		150033.64	151709.59	151987.25
74 Ge	# 2	21499.77	1.82	24862.19	86.5	60 - 125		21047.77	21731.86	21719.67
74 Ge	# 3	140304.02	0.54	155795.36	90.1	60 - 125		139642.06	140132.30	141137.67
89 Y	# 3	937244.69	1.10	1011968.20	92.6	60 - 125		925710.19	940393.31	945630.63
115 In	# 3	893454.88	0.07	989458.81	90.3	60 - 125		892743.44	893650.38	893970.94
159 Tb	# 3	1273159.50	1.93	1388283.80	91.7	60 - 125		1270749.40	1298805.60	1249923.40
209 Bi	# 3	713026.06	0.50	829936.50	85.9	60 - 125		713952.69	709073.44	716052.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\142SMPL.D\142SMPL.D#
Date Acquired: Dec 28 2012 10:31 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-1-c msd
Misc Info: 3005 1/5
Vial Number: 3410
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.26	10.26	ug/l	1.23	100.00		18839.55	19283.33	20024.13
11 B # 3	164.5	164.5	ug/l	1.65	1800.00		314140.63	316474.50	324720.38
23 Na # 1	2164	2164	ug/l	1.92	81000.00		10245795.00	10249732.00	10765146.00
24 Mg # 1	7527	7527	ug/l	0.27	81000.00		23672476.00	24250314.00	24446966.00
27 Al # 1	943.7	943.7	ug/l	0.53	81000.00		3415690.00	3507688.30	3511482.00
39 K # 2	5137	5137	ug/l	5.77	81000.00		1187469.10	1237842.00	1236857.80
40 Ca # 1	39320	39320	ug/l	1.02	81000.00		297036220.00	299560800.00	299830460.00
45 Sc # 2	-----	--------		--------	#VALUE!		30562.75	31668.14	34187.67
47 Ti # 3	19.94	19.94	ug/l	1.89	1620.00		16681.18	16310.84	16390.95
51 V # 2	20.62	20.62	ug/l	5.05	1800.00		32045.18	32731.95	33150.41
52 Cr # 2	20.51	20.51	ug/l	5.68	1800.00		38134.32	38694.41	38751.16
55 Mn # 3	724	724	ug/l	1.31	1800.00		10522117.00	10618021.00	10715324.00
56 Fe # 1	3556	3556	ug/l	0.55	81000.00		40529600.00	40476564.00	41538240.00
59 Co # 3	9.344	9.344	ug/l	1.31	1800.00		100443.21	100914.71	102078.20
60 Ni # 2	20.43	20.43	ug/l	5.21	1800.00		16424.03	16497.41	16707.63
63 Cu # 2	20.28	20.28	ug/l	4.98	1800.00		43249.37	43258.27	44064.57
66 Zn # 3	19.83	19.83	ug/l	0.99	1800.00		26539.87	26182.62	26112.56
75 As # 2	21.57	21.57	ug/l	5.22	100.00		3465.00	3541.69	3575.02
78 Se # 1	18.85	18.85	ug/l	0.81	100.00		6380.79	6464.83	6457.15
88 Sr # 3	119	119	ug/l	3.08	1800.00		2434410.00	2442594.50	2454105.00
95 Mo # 3	19.91	19.91	ug/l	1.73	1800.00		56577.13	55544.08	54795.02
107 Ag # 3	9.745	9.745	ug/l	1.16	100.00		77327.88	78489.63	77542.20
111 Cd # 3	9.752	9.752	ug/l	0.52	100.00		16636.87	16720.71	16780.98
118 Sn # 3	19.63	19.63	ug/l	0.36	1800.00		107572.55	107103.36	107210.55
121 Sb # 3	10.77	10.77	ug/l	1.59	100.00		54463.06	55486.02	54278.98
137 Ba # 3	53.28	53.28	ug/l	1.25	1800.00		142341.98	144027.00	141674.55
202 Hg # 3	1.047	1.047	ug/l	1.92	5.00		1895.12	1926.12	1851.45
205 Tl # 3	7.494	7.494	ug/l	1.99	20.00		117530.47	117557.89	116963.60
208 Pb # 3	9.494	9.494	ug/l	1.67	1800.00		203905.16	204797.39	205287.91
232 Th # 3	18.83	18.83	ug/l	0.57	#VALUE!		477670.09	474427.75	478867.59
238 U # 3	19.23	19.23	ug/l	0.54	#VALUE!		491407.69	489741.09	493982.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	443114.16	2.75	572657.25	77.4	60 - 125		429519.41	446845.50	452977.44
45 Sc # 1	466063.09	1.50	523286.00	89.1	60 - 125		458559.19	467210.91	472419.25
45 Sc # 3	548239.31	1.19	603286.69	90.9	60 - 125		544760.19	544203.44	555754.25
74 Ge # 1	150324.22	1.03	170650.48	88.1	60 - 125		149107.67	149803.28	152061.67
74 Ge # 2	20522.44	6.11	24862.19	82.5	60 - 125		20022.20	19595.16	21949.97
74 Ge # 3	141020.25	0.59	155795.36	90.5	60 - 125		141001.45	141865.83	140193.44
89 Y # 3	953114.13	2.78	1011968.20	94.2	60 - 125		983722.69	938508.31	937111.31
115 In # 3	890943.31	0.40	989458.81	90.0	60 - 125		891829.38	887062.06	893938.50
159 Tb # 3	1276444.80	1.74	1388283.80	91.9	60 - 125		1277204.00	1253889.60	1298240.60
209 Bi # 3	712277.50	0.11	829936.50	85.8	60 - 125		712605.88	712825.31	711401.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\143SMPL.D\143SMPL.D#
Date Acquired: Dec 28 2012 10:38 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-2-a
Misc Info: 3005 1/5
Vial Number: 3411
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.03839	0.03839	ug/l	24.31	100.00		93.34	70.00	63.34
11 B	# 3	25.49	25.49	ug/l	2.31	1800.00		53645.45	55072.31	54367.00
23 Na	# 1	2248	2248	ug/l	0.66	81000.00		10737170.00	10812718.00	11050090.00
24 Mg	# 1	7898	7898	ug/l	0.64	81000.00		25146630.00	25536240.00	25552596.00
27 Al	# 1	621.7	621.7	ug/l	1.83	81000.00		2285550.50	2337318.80	2280021.50
39 K	# 2	1340	1340	ug/l	0.37	81000.00		340331.72	342327.25	351510.75
40 Ca	# 1	38700	38700	ug/l	0.82	81000.00		292739360.00	297228030.00	295956060.00
45 Sc	# 2	----	--------		--------	#VALUE!		34565.72	33090.16	35240.66
47 Ti	# 3	12.12	12.12	ug/l	1.60	1620.00		9880.22	10308.85	10207.55
51 V	# 2	1.607	1.607	ug/l	0.90	1800.00		2772.45	2815.79	2870.25
52 Cr	# 2	0.9249	0.9249	ug/l	2.82	1800.00		1943.45	1969.01	1926.78
55 Mn	# 3	129	129	ug/l	1.22	1800.00		1889406.30	1906098.50	1936272.00
56 Fe	# 1	1069	1069	ug/l	0.85	81000.00		12200056.00	12396890.00	12401696.00
59 Co	# 3	0.5775	0.5775	ug/l	4.13	1800.00		6544.71	6227.89	6231.24
60 Ni	# 2	2.197	2.197	ug/l	2.36	1800.00		1962.34	2035.69	2020.13
63 Cu	# 2	1.783	1.783	ug/l	2.00	1800.00		4478.36	4598.39	4588.39
66 Zn	# 3	111.1	111.1	ug/l	1.71	1800.00		148231.59	147263.88	146700.41
75 As	# 2	0.8732	0.8732	ug/l	5.60	100.00		159.00	171.00	159.67
78 Se	# 1	0.08702	0.08702	ug/l	16.95	100.00		47.67	57.33	50.67
88 Sr	# 3	130.9	130.9	ug/l	0.87	1800.00		2744713.80	2730152.00	2689090.30
95 Mo	# 3	3.972	3.972	ug/l	2.37	1800.00		11333.90	11043.71	11600.77
107 Ag	# 3	0.004652	0.004652	ug/l	17.87	100.00		43.33	56.67	50.00
111 Cd	# 3	0.03446	0.03446	ug/l	11.22	100.00		93.04	79.80	89.62
118 Sn	# 3	0.1176	0.1176	ug/l	14.70	1800.00		933.39	910.05	756.70
121 Sb	# 3	0.1907	0.1907	ug/l	4.26	100.00		1123.40	1176.74	1203.42
137 Ba	# 3	16.35	16.35	ug/l	0.78	1800.00		44285.27	44833.48	44562.81
202 Hg	# 3	0.01103	0.01103	ug/l	31.01	5.00		60.33	48.67	56.33
205 Tl	# 3	0.06526	0.06526	ug/l	6.24	20.00		1046.73	1156.75	1053.40
208 Pb	# 3	1.076	1.076	ug/l	0.08	1800.00		23667.62	23597.58	23800.88
232 Th	# 3	0.2317	0.2317	ug/l	1.54	#VALUE!		5951.36	6068.06	6168.12
238 U	# 3	1.778	1.778	ug/l	1.68	#VALUE!		45879.20	45963.11	44745.98

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	453047.34	2.74	572657.25	79.1	60 - 125		439505.63	455686.59	463949.69
45 Sc	# 1	467953.25	0.85	523286.00	89.4	60 - 125		464672.59	466811.16	472376.06
45 Sc	# 3	555001.19	0.94	603286.69	92.0	60 - 125		549589.50	555464.25	559949.81
74 Ge	# 1	150855.94	0.44	170650.48	88.4	60 - 125		150542.56	150400.27	151624.95
74 Ge	# 2	21873.62	1.73	24862.19	88.0	60 - 125		21670.91	21639.54	22310.41
74 Ge	# 3	142368.66	1.27	155795.36	91.4	60 - 125		140406.44	143948.70	142750.83
89 Y	# 3	965021.13	1.59	1011968.20	95.4	60 - 125		982186.56	960218.13	952658.94
115 In	# 3	906703.50	0.17	989458.81	91.6	60 - 125		908105.38	905084.56	906920.69
159 Tb	# 3	1293050.00	0.36	1388283.80	93.1	60 - 125		1291833.40	1289143.50	1298173.30
209 Bi	# 3	713296.94	0.34	829936.50	85.9	60 - 125		710491.13	714621.44	714778.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\144SMPL.D\144SMPL.D#
Date Acquired: Dec 28 2012 10:45 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-3-a
Misc Info: 3005 1/5
Vial Number: 3412
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.004883	0.004883	ug/l	78.29	100.00		6.67	6.67	20.00
11 B	# 3	71.46	71.46	ug/l	0.85	1800.00		138199.64	140427.56	145876.22
23 Na	# 1	3935	3935	ug/l	1.04	81000.00		18367754.00	18750832.00	18601760.00
24 Mg	# 1	9389	9389	ug/l	0.29	81000.00		29162866.00	29831542.00	30002390.00
27 Al	# 1	24.73	24.73	ug/l	5.97	81000.00		85261.93	97005.32	89918.11
39 K	# 2	1435	1435	ug/l	0.13	81000.00		347857.34	357506.59	363383.22
40 Ca	# 1	47370	47370	ug/l	0.37	81000.00		347876320.00	356405500.00	360633950.00
45 Sc	# 2	----	--------		--------	#VALUE!		32925.43	33291.63	34123.11
47 Ti	# 3	0.8082	0.8082	ug/l	3.18	1620.00		630.03	663.36	686.70
51 V	# 2	0.2081	0.2081	ug/l	7.84	1800.00		406.68	468.90	466.68
52 Cr	# 2	0.07234	0.07234	ug/l	21.99	1800.00		200.00	225.56	271.12
55 Mn	# 3	335.4	335.4	ug/l	1.18	1800.00		4792686.00	4780166.00	4843146.50
56 Fe	# 1	2556	2556	ug/l	0.28	81000.00		28578812.00	28633246.00	29030586.00
59 Co	# 3	0.1188	0.1188	ug/l	2.16	1800.00		1243.41	1286.75	1316.75
60 Ni	# 2	0.6049	0.6049	ug/l	5.13	1800.00		628.91	614.46	606.68
63 Cu	# 2	-0.03497	-0.03497	ug/l	24.72	1800.00		428.90	403.34	428.90
66 Zn	# 3	8.629	8.629	ug/l	1.64	1800.00		11277.06	11190.34	11460.55
75 As	# 2	0.9114	0.9114	ug/l	6.53	100.00		149.33	167.33	176.33
78 Se	# 1	0.0448	0.0448	ug/l	17.91	100.00		36.00	39.33	34.33
88 Sr	# 3	176.4	176.4	ug/l	1.03	1800.00		3485551.80	3481387.00	3457821.30
95 Mo	# 3	0.3057	0.3057	ug/l	15.18	1800.00		953.39	936.72	730.04
107 Ag	# 3	0.004161	0.004161	ug/l	42.68	100.00		60.00	33.33	40.00
111 Cd	# 3	0.009797	0.009797	ug/l	100.46	100.00		26.36	43.03	59.77
118 Sn	# 3	0.05971	0.05971	ug/l	4.32	1800.00		536.69	530.02	513.35
121 Sb	# 3	0.1583	0.1583	ug/l	3.38	100.00		993.39	940.05	966.72
137 Ba	# 3	16.98	16.98	ug/l	0.88	1800.00		44699.75	44936.80	44465.70
202 Hg	# 3	0.004655	0.004655	ug/l	45.24	5.00		46.33	39.67	41.33
205 Tl	# 3	0.0194	0.0194	ug/l	7.57	20.00		316.68	363.35	346.68
208 Pb	# 3	0.1827	0.1827	ug/l	3.58	1800.00		3893.65	3983.67	4120.35
232 Th	# 3	0.05406	0.05406	ug/l	2.37	#VALUE!		1523.46	1523.46	1480.12
238 U	# 3	0.5439	0.5439	ug/l	1.53	#VALUE!		13216.10	13676.51	13626.45

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	445036.41	3.31	572657.25	77.7	60 - 125		430602.59	444429.16	460077.44
45 Sc	# 1	459512.69	1.48	523286.00	87.8	60 - 125		452261.94	460568.63	465707.59
45 Sc	# 3	535080.50	1.21	603286.69	88.7	60 - 125		527894.88	536938.69	540408.00
74 Ge	# 1	147170.11	0.59	170650.48	86.2	60 - 125		146485.69	146883.30	148141.39
74 Ge	# 2	21131.95	2.32	24862.19	85.0	60 - 125		20608.37	21204.64	21582.84
74 Ge	# 3	137756.27	1.05	155795.36	88.4	60 - 125		136118.39	138869.05	138281.34
89 Y	# 3	914023.63	0.67	1011968.20	90.3	60 - 125		907083.63	916410.63	918576.75
115 In	# 3	875773.63	0.37	989458.81	88.5	60 - 125		874215.50	873606.44	879498.94
159 Tb	# 3	1234538.40	0.93	1388283.80	88.9	60 - 125		1232557.10	1246869.10	1224188.60
209 Bi	# 3	691376.38	0.48	829936.50	83.3	60 - 125		688134.13	691237.00	694758.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\145SMPL.D\145SMPL.D#
Date Acquired: Dec 28 2012 10:53 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-4-a
Misc Info: 3005 1/5
Vial Number: 3501
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.002549	0.002549	ug/l	65.52	100.00		3.33	10.00	6.67
11 B # 3	90.8	90.8	ug/l	1.10	1800.00		174254.42	185057.97	182349.55
23 Na # 1	4742	4742	ug/l	0.86	81000.00		21916892.00	22309276.00	22309878.00
24 Mg # 1	7325	7325	ug/l	0.36	81000.00		22847178.00	22916416.00	23114822.00
27 Al # 1	6.63	6.63	ug/l	1.75	81000.00		24419.39	25147.61	24736.50
39 K # 2	2033	2033	ug/l	2.23	81000.00		493509.31	501361.91	511208.59
40 Ca # 1	40060	40060	ug/l	0.63	81000.00		297754560.00	294981310.00	300600420.00
45 Sc # 2	----	--------		--------	#VALUE!		31443.48	32908.76	33776.95
47 Ti # 3	0.4205	0.4205	ug/l	3.38	1620.00		363.35	343.35	350.01
51 V # 2	0.1824	0.1824	ug/l	9.36	1800.00		422.23	397.79	394.45
52 Cr # 2	0.02524	0.02524	ug/l	5.28	1800.00		133.34	146.67	142.22
55 Mn # 3	649	649	ug/l	1.32	1800.00		9435372.00	9380523.00	9522349.00
56 Fe # 1	5664	5664	ug/l	0.58	81000.00		63346344.00	63402760.00	64154804.00
59 Co # 3	0.2129	0.2129	ug/l	5.50	1800.00		2200.19	2333.55	2403.55
60 Ni # 2	0.3414	0.3414	ug/l	19.05	1800.00		441.12	358.90	392.23
63 Cu # 2	-0.1736	-0.1736	ug/l	2.44	1800.00		110.00	112.22	128.89
66 Zn # 3	0.6877	0.6877	ug/l	6.01	1800.00		1106.73	1190.07	1146.73
75 As # 2	5.413	5.413	ug/l	3.78	100.00		900.36	903.69	960.03
78 Se # 1	0.03452	0.03452	ug/l	30.97	100.00		36.33	33.67	29.33
88 Sr # 3	255.5	255.5	ug/l	2.61	1800.00		5158500.50	5197696.00	5108573.50
95 Mo # 3	3.382	3.382	ug/l	0.73	1800.00		9392.74	9432.79	9289.33
107 Ag # 3	0.002852	0.002852	ug/l	80.58	100.00		16.67	53.33	33.33
111 Cd # 3	-0.001793	-0.001793	ug/l	188.79	100.00		27.00	26.98	17.03
118 Sn # 3	0.06636	0.06636	ug/l	8.57	1800.00		546.69	550.03	600.03
121 Sb # 3	0.1265	0.1265	ug/l	3.20	100.00		813.37	796.71	830.04
137 Ba # 3	30.36	30.36	ug/l	0.59	1800.00		79580.19	81455.86	80152.34
202 Hg # 3	0.0002581	0.0002581	ug/l	1318.10	5.00		41.67	31.33	32.33
205 Tl # 3	0.01187	0.01187	ug/l	4.80	20.00		233.34	213.34	236.68
208 Pb # 3	0.005526	0.005526	ug/l	28.83	1800.00		280.01	303.34	340.01
232 Th # 3	0.02947	0.02947	ug/l	7.50	#VALUE!		916.73	966.73	850.05
238 U # 3	0.09197	0.09197	ug/l	2.57	#VALUE!		2276.91	2390.26	2253.58

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	449945.66	3.06	572657.25	78.6	60 - 125		434135.72	456320.00	459381.28
45 Sc # 1	455833.91	0.96	523286.00	87.1	60 - 125		452651.31	454019.91	460830.47
45 Sc # 3	542260.38	0.42	603286.69	89.9	60 - 125		540170.63	544676.81	541933.56
74 Ge # 1	147054.75	0.28	170650.48	86.2	60 - 125		147202.02	146590.80	147371.47
74 Ge # 2	21136.81	3.08	24862.19	85.0	60 - 125		20399.38	21631.78	21379.26
74 Ge # 3	139953.16	1.13	155795.36	89.8	60 - 125		141744.53	138771.75	139343.17
89 Y # 3	936533.81	2.56	1011968.20	92.5	60 - 125		964230.38	922782.25	922588.94
115 In # 3	880843.63	0.61	989458.81	89.0	60 - 125		876341.25	886731.94	879457.69
159 Tb # 3	1231983.10	2.51	1388283.80	88.7	60 - 125		1261723.40	1199994.60	1234231.50
209 Bi # 3	696231.25	0.67	829936.50	83.9	60 - 125		692411.00	701447.25	694835.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\146_CCV.D\146_CCV.D#
Date Acquired: Dec 28 2012 11:00 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.5 ug/l	0.63	50.00	90 - 110		102746.80	105101.78	106767.59
11 B	100.9 ug/l	0.90	100.00	90 - 110		211769.80	216982.67	221356.14
23 Na	4889 ug/l	0.37	5000.00	90 - 110		22832802.00	22997122.00	23164450.00
24 Mg	4915 ug/l	1.47	5000.00	90 - 110		15357135.00	15707061.00	15432476.00
27 Al	495.9 ug/l	1.31	500.00	90 - 110		1766175.60	1808079.50	1822410.80
39 K	5017 ug/l	1.68	5000.00	90 - 110		1246118.90	1263431.10	1302184.80
40 Ca	5008 ug/l	0.39	5000.00	90 - 110		37295228.00	37368848.00	37944780.00
45 Sc	--------	--------		--- ##### - #####		33864.90	35095.94	35930.87
47 Ti	49.72 ug/l	0.54	50.00	90 - 110		41981.39	42295.15	42008.04
51 V	48.74 ug/l	1.02	50.00	90 - 110		80813.19	81968.91	83359.36
52 Cr	48.52 ug/l	1.71	50.00	90 - 110		94832.83	97150.95	99120.02
55 Mn	499.5 ug/l	0.66	500.00	90 - 110		7490006.50	7408170.00	7480973.00
56 Fe	4948 ug/l	1.13	5000.00	90 - 110		56283280.00	57109704.00	57242612.00
59 Co	48.05 ug/l	0.36	50.00	90 - 110		527173.06	531363.88	529945.50
60 Ni	49.15 ug/l	0.46	50.00	90 - 110		41851.57	42226.81	42651.22
63 Cu	49.19 ug/l	0.72	50.00	90 - 110		110361.86	111893.43	112920.45
66 Zn	49.46 ug/l	0.43	50.00	90 - 110		66357.24	66664.98	66029.26
75 As	48.6 ug/l	1.30	50.00	90 - 110		8313.90	8425.29	8625.38
78 Se	48.86 ug/l	0.29	50.00	90 - 110		16707.99	16600.22	16672.30
88 Sr	48.63 ug/l	1.61	50.00	90 - 110		987983.63	970546.31	990345.19
95 Mo	49.62 ug/l	0.28	50.00	90 - 110		140878.89	140176.75	139144.11
107 Ag	49.9 ug/l	0.36	50.00	90 - 110		402399.38	403802.97	401074.28
111 Cd	49.68 ug/l	1.30	50.00	90 - 110		86590.00	85002.54	86178.34
118 Sn	49.08 ug/l	0.71	50.00	90 - 110		270759.06	270402.13	270941.41
121 Sb	48.86 ug/l	1.00	50.00	90 - 110		249184.30	250151.19	251240.59
137 Ba	49.5 ug/l	1.01	50.00	90 - 110		132959.89	134579.83	134258.03
202 Hg	2.409 ug/l	0.57	2.50	90 - 110		4277.25	4345.60	4325.93
205 Tl	9.954 ug/l	1.94	10.00	90 - 110		150001.66	151842.53	152342.53
208 Pb	49.83 ug/l	2.20	50.00	90 - 110		1039157.90	1045601.40	1042703.80
232 Th	47.51 ug/l	1.14		--- ##### - #####		1209536.10	1200871.10	1207524.60
238 U	47.43 ug/l	1.10		--- ##### - #####		1216870.60	1210768.40	1218524.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	487062.38	1.74	572657.25	85.1	60 - 125		477326.44	491157.19	492703.47
45 Sc	458583.25	0.56	523286.00	87.6	60 - 125		457133.16	457049.63	461567.00
45 Sc	562322.31	0.52	603286.69	93.2	60 - 125		559017.81	563249.75	564699.56
74 Ge	150465.33	0.52	170650.48	88.2	60 - 125		150745.17	149578.11	151072.70
74 Ge	21823.12	0.60	24862.19	87.8	60 - 125		21736.35	21759.68	21973.32
74 Ge	143585.27	0.06	155795.36	92.2	60 - 125		143540.39	143686.59	143528.86
89 Y	937950.94	0.62	1011968.20	92.7	60 - 125		931770.94	943305.94	938776.00
115 In	900261.63	0.62	989458.81	91.0	60 - 125		903221.25	903754.56	893809.06
159 Tb	1240078.40	2.51	1388283.80	89.3	60 - 125		1208373.80	1270563.40	1241297.80
209 Bi	714000.88	0.78	829936.50	86.0	60 - 125		710564.75	720395.38	711042.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\147_CCB.D\147_CCB.D#
Date Acquired: Dec 28 2012 11:08 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0244	0.0244	ug/l	10.37	#VALUE!		56.67	56.67	50.00
11 B # 3	2.038	2.038	ug/l	4.10	#VALUE!		9259.13	9786.05	9802.78
23 Na # 1	-6.839	-6.839	ug/l	3.35	#VALUE!		99643.37	100203.15	102712.27
24 Mg # 1	1.5	1.5	ug/l	6.14	#VALUE!		5090.80	5037.45	5614.29
27 Al # 1	0.1609	0.1609	ug/l	15.44	#VALUE!		1360.12	1453.42	1566.77
39 K # 2	2.586	2.586	ug/l	15.41	#VALUE!		6551.30	6854.80	6854.75
40 Ca # 1	4.129	4.129	ug/l	2.37	#VALUE!		129685.26	130519.88	132262.73
45 Sc # 2	----	--------		--------	#VALUE!		30952.19	34040.73	34248.89
47 Ti # 3	0.0531	0.0531	ug/l	45.67	#VALUE!		30.00	66.67	66.67
51 V # 2	0.02124	0.02124	ug/l	23.47	#VALUE!		145.56	148.89	140.00
52 Cr # 2	0.007957	0.007957	ug/l	102.15	#VALUE!		117.78	93.33	114.45
55 Mn # 3	0.2798	0.2798	ug/l	5.71	#VALUE!		4970.81	4600.72	5220.87
56 Fe # 1	1.296	1.296	ug/l	3.17	#VALUE!		25718.44	25514.74	26412.84
59 Co # 3	0.02051	0.02051	ug/l	19.10	#VALUE!		303.34	233.34	236.67
60 Ni # 2	-0.06053	-0.06053	ug/l	7.64	#VALUE!		60.00	65.56	72.22
63 Cu # 2	-0.1877	-0.1877	ug/l	3.10	#VALUE!		86.67	74.45	101.11
66 Zn # 3	0.0479	0.0479	ug/l	17.32	#VALUE!		323.34	336.68	326.68
75 As # 2	0.03838	0.03838	ug/l	27.38	#VALUE!		17.33	19.33	16.00
78 Se # 1	0.03114	0.03114	ug/l	17.14	#VALUE!		32.67	34.67	31.00
88 Sr # 3	0.0401	0.0401	ug/l	4.49	#VALUE!		830.04	906.72	946.72
95 Mo # 3	0.07987	0.07987	ug/l	13.02	#VALUE!		273.34	286.68	240.01
107 Ag # 3	0.02675	0.02675	ug/l	3.02	#VALUE!		233.34	233.34	233.34
111 Cd # 3	0.02752	0.02752	ug/l	16.64	#VALUE!		76.58	83.24	69.93
118 Sn # 3	0.05115	0.05115	ug/l	6.31	#VALUE!		473.36	510.02	536.69
121 Sb # 3	0.383	0.383	ug/l	8.53	#VALUE!		2323.55	2143.53	2113.52
137 Ba # 3	0.02338	0.02338	ug/l	34.55	#VALUE!		86.67	96.67	56.67
202 Hg # 3	0.02349	0.02349	ug/l	14.78	#VALUE!		82.67	85.00	75.67
205 Tl # 3	0.01168	0.01168	ug/l	12.47	#VALUE!		203.34	230.01	263.34
208 Pb # 3	0.02706	0.02706	ug/l	2.71	#VALUE!		756.70	786.70	793.37
232 Th # 3	0.09544	0.09544	ug/l	8.01	#VALUE!		2893.70	2723.65	2593.63
238 U # 3	0.02216	0.02216	ug/l	11.00	#VALUE!		640.03	630.03	543.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	505736.41	3.28	572657.25	88.3	60 - 125		490146.75	503853.47	523208.94
45 Sc # 1	456819.41	1.04	523286.00	87.3	60 - 125		451396.09	458704.28	460357.75
45 Sc # 3	561952.31	2.86	603286.69	93.1	60 - 125		550825.38	554650.63	580380.75
74 Ge # 1	150693.83	0.98	170650.48	88.3	60 - 125		148993.33	151621.55	151466.63
74 Ge # 2	21444.93	3.96	24862.19	86.3	60 - 125		20472.70	21814.19	22047.88
74 Ge # 3	146228.78	2.50	155795.36	93.9	60 - 125		143580.28	144712.17	150393.91
89 Y # 3	958030.94	4.05	1011968.20	94.7	60 - 125		932382.06	939064.38	1002646.30
115 In # 3	922369.44	2.88	989458.81	93.2	60 - 125		898705.81	917312.69	951090.00
159 Tb # 3	1269998.10	3.28	1388283.80	91.5	60 - 125		1237845.80	1255089.80	1317058.90
209 Bi # 3	749858.81	2.19	829936.50	90.4	60 - 125		738866.00	742004.81	768705.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\148SMPL.D\148SMPL.D#
Date Acquired: Dec 28 2012 11:15 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-5-a
Misc Info: 3005 1/5
Vial Number: 3502
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01134	0.01134	ug/l	59.29	100.00		20.00	13.33	40.00
11 B # 3	80.65	80.65	ug/l	1.40	1800.00		163324.84	168389.53	168915.63
23 Na # 1	3342	3342	ug/l	0.71	81000.00		15641201.00	15883035.00	16099743.00
24 Mg # 1	9858	9858	ug/l	1.36	81000.00		30683642.00	31224300.00	32010426.00
27 Al # 1	216	216	ug/l	1.57	81000.00		776073.75	782000.63	810307.06
39 K # 2	588.2	588.2	ug/l	1.25	81000.00		149411.19	154695.97	156757.92
40 Ca # 1	31550	31550	ug/l	0.77	81000.00		234090930.00	237324260.00	241352290.00
45 Sc # 2	----	--------		--------	#VALUE!		32455.76	33609.98	34921.20
47 Ti # 3	3.611	3.611	ug/l	5.67	1620.00		3070.35	3067.04	2856.96
51 V # 2	0.548	0.548	ug/l	3.16	1800.00		991.15	1010.04	1082.27
52 Cr # 2	0.3025	0.3025	ug/l	3.09	1800.00		657.80	693.35	736.69
55 Mn # 3	45.4	45.4	ug/l	1.30	1800.00		665188.56	676137.38	669891.06
56 Fe # 1	349.5	349.5	ug/l	0.49	81000.00		3979416.50	3989199.00	4020452.80
59 Co # 3	0.4524	0.4524	ug/l	2.52	1800.00		4920.80	4867.43	5067.49
60 Ni # 2	1.183	1.183	ug/l	4.18	1800.00		1115.60	1095.60	1167.82
63 Cu # 2	0.1883	0.1883	ug/l	7.17	1800.00		900.03	975.59	926.70
66 Zn # 3	2.43	2.43	ug/l	3.62	1800.00		3453.76	3573.80	3363.73
75 As # 2	0.4465	0.4465	ug/l	0.30	100.00		84.67	89.33	91.00
78 Se # 1	0.02184	0.02184	ug/l	13.60	100.00		28.67	28.67	30.67
88 Sr # 3	107.5	107.5	ug/l	1.85	1800.00		2164165.00	2176935.50	2171418.80
95 Mo # 3	2.177	2.177	ug/l	2.55	1800.00		6117.90	6024.53	6244.58
107 Ag # 3	0.005283	0.005283	ug/l	57.75	100.00		40.00	40.00	83.34
111 Cd # 3	0.01102	0.01102	ug/l	61.92	100.00		58.04	38.07	41.34
118 Sn # 3	0.08972	0.08972	ug/l	14.53	1800.00		686.70	636.70	780.04
121 Sb # 3	0.3233	0.3233	ug/l	5.43	100.00		1883.49	1803.49	1780.15
137 Ba # 3	6.397	6.397	ug/l	0.93	1800.00		16988.97	17289.23	17269.28
202 Hg # 3	0.007052	0.007052	ug/l	9.62	5.00		47.00	46.33	48.33
205 Tl # 3	0.01778	0.01778	ug/l	12.28	20.00		353.35	300.01	310.01
208 Pb # 3	0.1496	0.1496	ug/l	3.25	1800.00		3370.25	3286.91	3390.25
232 Th # 3	0.1179	0.1179	ug/l	6.52	#VALUE!		3300.45	3107.07	2953.73
238 U # 3	0.6305	0.6305	ug/l	1.89	#VALUE!		15478.26	15928.73	16209.09

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	466833.94	3.18	572657.25	81.5	60 - 125		449760.94	473909.84	476831.03
45 Sc # 1	461795.78	0.77	523286.00	88.2	60 - 125		458550.50	461249.22	465587.63
45 Sc # 3	550213.50	2.68	603286.69	91.2	60 - 125		533443.31	561309.50	555887.63
74 Ge # 1	149277.45	0.82	170650.48	87.5	60 - 125		147892.08	149705.00	150235.33
74 Ge # 2	21712.65	3.62	24862.19	87.3	60 - 125		20821.97	22010.03	22305.94
74 Ge # 3	141853.91	1.91	155795.36	91.1	60 - 125		138732.92	143552.45	143276.36
89 Y # 3	937435.50	2.09	1011968.20	92.6	60 - 125		914816.94	949852.06	947637.25
115 In # 3	893091.63	1.90	989458.81	90.3	60 - 125		873508.19	903388.31	902378.31
159 Tb # 3	1249257.40	1.63	1388283.80	90.0	60 - 125		1229224.10	1269919.00	1248629.00
209 Bi # 3	700992.50	0.83	829936.50	84.5	60 - 125		694964.06	706646.75	701366.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\149SMPL.D\149SMPL.D#
Date Acquired: Dec 28 2012 11:23 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-6-a
Misc Info: 3005 1/5
Vial Number: 3503
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.00741	0.00741	ug/l	37.21	100.00		10.00	20.00	20.00
11 B # 3	63.11	63.11	ug/l	1.32	1800.00		128964.48	134473.48	132864.77
23 Na # 1	2157	2157	ug/l	1.47	81000.00		10345192.00	10213222.00	10506265.00
24 Mg # 1	6308	6308	ug/l	0.95	81000.00		19997944.00	20034640.00	20418584.00
27 Al # 1	3.489	3.489	ug/l	2.95	81000.00		13228.26	13809.68	14089.64
39 K # 2	431.7	431.7	ug/l	6.57	81000.00		110928.59	114332.55	116156.80
40 Ca # 1	29580	29580	ug/l	2.25	81000.00		217135540.00	227002130.00	228258580.00
45 Sc # 2	----	--------		--------	#VALUE!		35576.14	32469.11	34549.36
47 Ti # 3	0.461	0.461	ug/l	7.63	1620.00		370.02	423.35	383.35
51 V # 2	0.1895	0.1895	ug/l	7.00	1800.00		422.23	425.56	430.01
52 Cr # 2	0.06796	0.06796	ug/l	27.74	1800.00		213.34	256.67	212.23
55 Mn # 3	660.2	660.2	ug/l	2.18	1800.00		9697537.00	9772755.00	9883355.00
56 Fe # 1	3718	3718	ug/l	1.03	81000.00		42378244.00	42151040.00	43202360.00
59 Co # 3	0.125	0.125	ug/l	9.16	1800.00		1276.75	1406.76	1496.77
60 Ni # 2	0.3225	0.3225	ug/l	0.51	1800.00		406.68	368.90	400.01
63 Cu # 2	0.007982	0.007982	ug/l	266.35	1800.00		540.01	545.57	491.12
66 Zn # 3	0.5184	0.5184	ug/l	5.80	1800.00		936.72	976.72	920.05
75 As # 2	1.934	1.934	ug/l	6.48	100.00		338.34	347.67	344.34
78 Se # 1	0.03494	0.03494	ug/l	22.63	100.00		32.33	37.00	32.33
88 Sr # 3	285.3	285.3	ug/l	2.72	1800.00		5819589.00	5821680.50	5804649.00
95 Mo # 3	2.024	2.024	ug/l	3.28	1800.00		5631.08	5774.41	5911.15
107 Ag # 3	0.0008287	0.0008287	ug/l	31.83	100.00		16.67	20.00	20.00
111 Cd # 3	0.001707	0.001707	ug/l	70.06	100.00		31.53	31.49	28.11
118 Sn # 3	0.06642	0.06642	ug/l	5.31	1800.00		600.03	583.36	560.03
121 Sb # 3	0.1896	0.1896	ug/l	13.01	100.00		1166.74	1270.09	1040.06
137 Ba # 3	19.35	19.35	ug/l	2.66	1800.00		52067.41	53281.20	52501.98
202 Hg # 3	0.002559	0.002559	ug/l	68.19	5.00		41.67	42.00	36.67
205 Tl # 3	0.00337	0.00337	ug/l	14.49	20.00		96.67	106.67	103.34
208 Pb # 3	0.003972	0.003972	ug/l	14.80	1800.00		303.34	280.01	270.01
232 Th # 3	0.02904	0.02904	ug/l	1.83	#VALUE!		943.39	916.72	910.06
238 U # 3	0.1005	0.1005	ug/l	1.31	#VALUE!		2640.30	2560.29	2553.63

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	468390.47	2.12	572657.25	81.8	60 - 125		457510.25	470672.84	476988.31
45 Sc # 1	464568.41	0.48	523286.00	88.8	60 - 125		461986.44	465800.06	465918.72
45 Sc # 3	552095.19	0.57	603286.69	91.5	60 - 125		555708.44	550482.06	550095.13
74 Ge # 1	149870.84	0.49	170650.48	87.8	60 - 125		149103.78	149950.72	150558.05
74 Ge # 2	21634.44	4.90	24862.19	87.0	60 - 125		22459.55	20439.32	22004.46
74 Ge # 3	142525.11	1.55	155795.36	91.5	60 - 125		144868.84	140488.47	142218.02
89 Y # 3	946310.50	2.80	1011968.20	93.5	60 - 125		976468.13	926998.13	935465.19
115 In # 3	904558.13	1.48	989458.81	91.4	60 - 125		916615.19	890202.88	906856.13
159 Tb # 3	1270352.10	2.50	1388283.80	91.5	60 - 125		1303727.10	1240356.50	1266972.60
209 Bi # 3	714019.63	1.02	829936.50	86.0	60 - 125		720628.50	706166.31	715264.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\150SMPL.D\150SMPL.D#
Date Acquired: Dec 28 2012 11:32 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-7-a
Misc Info: 3005 1/5
Vial Number: 3504
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006435	0.006435	ug/l	43.73	100.00		20.00	13.33	10.00
11 B # 3	79.9	79.9	ug/l	1.98	1800.00		162176.84	166868.09	165666.48
23 Na # 1	4483	4483	ug/l	2.38	81000.00		20790436.00	21146460.00	21299312.00
24 Mg # 1	7100	7100	ug/l	2.43	81000.00		22082226.00	22486548.00	22536746.00
27 Al # 1	7.681	7.681	ug/l	2.76	81000.00		28392.77	29032.55	28689.15
39 K # 2	1466	1466	ug/l	2.05	81000.00		363436.59	367988.66	375320.63
40 Ca # 1	38060	38060	ug/l	2.43	81000.00		280637020.00	284933150.00	287487170.00
45 Sc # 2	----	--------		--------	#VALUE!		31129.15	33443.03	35284.08
47 Ti # 3	0.4205	0.4205	ug/l	4.43	1620.00		360.02	370.01	336.68
51 V # 2	0.2169	0.2169	ug/l	9.26	1800.00		475.57	432.23	495.57
52 Cr # 2	0.07016	0.07016	ug/l	9.08	1800.00		211.11	230.00	252.23
55 Mn # 3	665.8	665.8	ug/l	0.30	1800.00		9672446.00	9851643.00	9769471.00
56 Fe # 1	3700	3700	ug/l	0.78	81000.00		41276324.00	42479304.00	42312728.00
59 Co # 3	0.1806	0.1806	ug/l	1.45	1800.00		1933.49	1996.83	2013.50
60 Ni # 2	0.2708	0.2708	ug/l	9.87	1800.00		333.34	367.78	332.23
63 Cu # 2	0.2312	0.2312	ug/l	11.27	1800.00		961.14	1086.71	1004.48
66 Zn # 3	0.7223	0.7223	ug/l	2.79	1800.00		1190.08	1183.40	1233.41
75 As # 2	1.502	1.502	ug/l	4.02	100.00		267.67	267.34	266.00
78 Se # 1	0.03875	0.03875	ug/l	40.75	100.00		36.33	29.00	39.33
88 Sr # 3	214.3	214.3	ug/l	1.98	1800.00		4374226.50	4405453.50	4325953.00
95 Mo # 3	1.572	1.572	ug/l	3.22	1800.00		4427.36	4300.65	4554.04
107 Ag # 3	0.001413	0.001413	ug/l	127.53	100.00		16.67	40.00	13.33
111 Cd # 3	-0.001657	-0.001657	ug/l	490.04	100.00		28.58	8.62	35.21
118 Sn # 3	0.05414	0.05414	ug/l	6.62	1800.00		520.03	486.69	510.02
121 Sb # 3	0.1684	0.1684	ug/l	6.83	100.00		966.72	1090.07	1050.07
137 Ba # 3	25.13	25.13	ug/l	0.78	1800.00		67541.61	67143.56	67320.27
202 Hg # 3	0.001809	0.001809	ug/l	45.54	5.00		38.33	36.67	39.33
205 Tl # 3	0.002696	0.002696	ug/l	8.63	20.00		93.34	83.34	90.00
208 Pb # 3	0.01115	0.01115	ug/l	30.16	1800.00		376.68	396.68	496.69
232 Th # 3	0.02755	0.02755	ug/l	12.90	#VALUE!		933.39	906.72	770.05
238 U # 3	0.195	0.195	ug/l	3.30	#VALUE!		4854.23	5121.04	4787.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	465530.47	3.01	572657.25	81.3	60 - 125		450150.41	468890.66	477550.41
45 Sc # 1	458428.25	3.48	523286.00	87.6	60 - 125		439987.47	467391.09	467906.13
45 Sc # 3	547294.81	0.90	603286.69	90.7	60 - 125		543710.81	552914.81	545258.94
74 Ge # 1	148656.86	1.96	170650.48	87.1	60 - 125		145405.05	149529.05	151036.47
74 Ge # 2	21434.51	3.54	24862.19	86.2	60 - 125		20639.52	21513.85	22150.15
74 Ge # 3	141011.45	0.78	155795.36	90.5	60 - 125		139761.02	141810.08	141463.30
89 Y # 3	946153.44	2.21	1011968.20	93.5	60 - 125		969113.19	941122.56	928224.44
115 In # 3	891298.19	0.49	989458.81	90.1	60 - 125		887484.75	896042.69	890367.19
159 Tb # 3	1228875.90	2.39	1388283.80	88.5	60 - 125		1262392.80	1207524.00	1216710.90
209 Bi # 3	701661.00	0.42	829936.50	84.5	60 - 125		698570.00	704474.75	701938.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\151SMPL.D\151SMPL.D#
Date Acquired: Dec 28 2012 11:39 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-8-a
Misc Info: 3005 1/5
Vial Number: 3505
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01366	0.01366	ug/l	3.89	100.00		26.67	30.00	30.00
11 B # 3	87.9	87.9	ug/l	2.03	1800.00		177881.03	180313.00	184078.30
23 Na # 1	4681	4681	ug/l	1.00	81000.00		22206004.00	22232044.00	22687580.00
24 Mg # 1	10550	10550	ug/l	1.22	81000.00		33285786.00	33903812.00	34236320.00
27 Al # 1	3.783	3.783	ug/l	2.29	81000.00		14439.13	15059.71	14987.11
39 K # 2	1617	1617	ug/l	0.66	81000.00		401937.91	409217.53	417311.44
40 Ca # 1	45240	45240	ug/l	0.99	81000.00		339421920.00	346635170.00	344840260.00
45 Sc # 2	----	--------		--------	#VALUE!		33428.47	34178.73	34879.97
47 Ti # 3	0.3872	0.3872	ug/l	6.91	1620.00		323.35	310.01	350.01
51 V # 2	0.2599	0.2599	ug/l	8.26	1800.00		492.23	558.90	580.02
52 Cr # 2	0.08393	0.08393	ug/l	14.20	1800.00		281.12	241.11	256.67
55 Mn # 3	723	723	ug/l	0.52	1800.00		10445267.00	10600117.00	10538575.00
56 Fe # 1	8730	8730	ug/l	1.23	81000.00		99339968.00	99218136.00	100640720.00
59 Co # 3	0.3727	0.3727	ug/l	7.57	1800.00		4283.97	4050.55	3753.82
60 Ni # 2	0.5902	0.5902	ug/l	14.53	1800.00		621.13	677.80	553.35
63 Cu # 2	0.3014	0.3014	ug/l	9.56	1800.00		1150.05	1243.39	1153.38
66 Zn # 3	0.755	0.755	ug/l	11.18	1800.00		1330.09	1243.41	1133.40
75 As # 2	5.689	5.689	ug/l	2.97	100.00		980.36	1005.03	981.70
78 Se # 1	0.06802	0.06802	ug/l	22.67	100.00		39.33	46.33	49.33
88 Sr # 3	390.7	390.7	ug/l	1.56	1800.00		7877059.00	7809055.50	7805876.50
95 Mo # 3	2.5	2.5	ug/l	2.41	1800.00		6981.57	7041.56	6718.13
107 Ag # 3	0.002453	0.002453	ug/l	10.96	100.00		30.00	30.00	33.33
111 Cd # 3	-0.001876	-0.001876	ug/l	277.08	100.00		31.10	14.41	24.52
118 Sn # 3	0.05539	0.05539	ug/l	14.16	1800.00		543.36	503.36	466.69
121 Sb # 3	0.1515	0.1515	ug/l	7.42	100.00		933.39	1003.39	870.05
137 Ba # 3	41.62	41.62	ug/l	2.03	1800.00		110672.55	109958.37	108777.81
202 Hg # 3	0.01091	0.01091	ug/l	31.52	5.00		50.67	48.67	59.67
205 Tl # 3	0.001777	0.001777	ug/l	119.41	20.00		43.33	110.00	73.34
208 Pb # 3	0.01116	0.01116	ug/l	25.25	1800.00		403.35	503.35	373.35
232 Th # 3	0.01977	0.01977	ug/l	7.19	#VALUE!		693.37	640.03	656.70
238 U # 3	0.1009	0.1009	ug/l	3.46	#VALUE!		2376.92	2560.30	2573.63

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	465053.28	3.08	572657.25	81.2	60 - 125		448509.00	472923.06	473727.69
45 Sc # 1	465830.22	0.23	523286.00	89.0	60 - 125		464927.56	465564.72	466998.47
45 Sc # 3	546960.94	2.20	603286.69	90.7	60 - 125		533691.56	557094.44	550096.69
74 Ge # 1	149528.95	0.46	170650.48	87.6	60 - 125		149593.52	150181.63	148811.73
74 Ge # 2	21603.26	2.36	24862.19	86.9	60 - 125		21179.04	21460.51	22170.22
74 Ge # 3	140012.27	1.00	155795.36	89.9	60 - 125		138399.77	140647.58	140989.47
89 Y # 3	930173.94	1.11	1011968.20	91.9	60 - 125		920284.06	940865.00	929372.69
115 In # 3	877773.94	1.71	989458.81	88.7	60 - 125		865319.56	894483.75	873518.63
159 Tb # 3	1233873.40	2.17	1388283.80	88.9	60 - 125		1232233.80	1261429.80	1207956.50
209 Bi # 3	688623.56	1.12	829936.50	83.0	60 - 125		680441.75	695707.69	689721.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\152SMPL.D\152SMPL.D#
Date Acquired: Dec 28 2012 11:46 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-9-a
Misc Info: 3005 1/5
Vial Number: 3506
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.007009	0.007009	ug/l	77.90	100.00		26.67	6.67	13.33
11 B	# 3	64.72	64.72	ug/l	1.71	1800.00		132178.84	136993.63	136936.83
23 Na	# 1	4745	4745	ug/l	0.89	81000.00		22573252.00	22968392.00	22791540.00
24 Mg	# 1	5780	5780	ug/l	1.08	81000.00		18250930.00	18806560.00	18737024.00
27 Al	# 1	18.73	18.73	ug/l	1.42	81000.00		70195.91	70607.23	69707.17
39 K	# 2	1293	1293	ug/l	2.74	81000.00		312567.88	319345.09	323171.63
40 Ca	# 1	36920	36920	ug/l	0.23	81000.00		279169280.00	282211100.00	283743460.00
45 Sc	# 2	----	--------		--------	#VALUE!		30736.23	33798.02	34750.90
47 Ti	# 3	0.7332	0.7332	ug/l	7.94	1620.00		633.36	566.69	653.36
51 V	# 2	0.2085	0.2085	ug/l	7.06	1800.00		448.90	432.23	447.79
52 Cr	# 2	0.05554	0.05554	ug/l	13.89	1800.00		204.45	190.00	196.67
55 Mn	# 3	1581	1581	ug/l	1.67	1800.00		23221470.00	23223420.00	23314292.00
56 Fe	# 1	3384	3384	ug/l	0.57	81000.00		38783548.00	39085056.00	39061268.00
59 Co	# 3	0.3211	0.3211	ug/l	3.47	1800.00		3570.46	3500.43	3460.42
60 Ni	# 2	0.2882	0.2882	ug/l	8.32	1800.00		351.12	332.23	368.90
63 Cu	# 2	-0.114	-0.114	ug/l	9.89	1800.00		212.23	273.34	251.12
66 Zn	# 3	0.7724	0.7724	ug/l	5.25	1800.00		1186.74	1300.09	1330.09
75 As	# 2	2.6	2.6	ug/l	3.58	100.00		440.34	439.01	451.67
78 Se	# 1	0.01997	0.01997	ug/l	42.86	100.00		25.67	29.33	32.00
88 Sr	# 3	268.5	268.5	ug/l	3.30	1800.00		5421707.50	5416715.00	5387346.00
95 Mo	# 3	2.502	2.502	ug/l	4.52	1800.00		7071.60	7108.31	6804.78
107 Ag	# 3	0.001295	0.001295	ug/l	51.57	100.00		23.33	26.67	16.67
111 Cd	# 3	0.006895	0.006895	ug/l	152.14	100.00		21.07	57.73	37.82
118 Sn	# 3	0.05021	0.05021	ug/l	17.64	1800.00		420.02	490.02	540.02
121 Sb	# 3	0.1463	0.1463	ug/l	21.13	100.00		1026.73	960.06	766.71
137 Ba	# 3	25.43	25.43	ug/l	3.60	1800.00		68716.23	66751.95	68163.88
202 Hg	# 3	-0.0007777	-0.0007777	ug/l	276.46	5.00		33.33	37.00	30.00
205 Tl	# 3	0.002257	0.002257	ug/l	45.41	20.00		96.67	83.34	70.00
208 Pb	# 3	0.9638	0.9638	ug/l	2.11	1800.00		20269.05	20569.18	20689.30
232 Th	# 3	0.02022	0.02022	ug/l	5.04	#VALUE!		686.70	663.37	703.37
238 U	# 3	0.1719	0.1719	ug/l	3.37	#VALUE!		4224.03	4487.50	4254.07

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	468653.22	3.64	572657.25	81.8	60 - 125		449039.88	477024.72	479895.16
45 Sc	# 1	467904.03	0.94	523286.00	89.4	60 - 125		463623.38	467706.84	472381.84
45 Sc	# 3	551787.38	3.02	603286.69	91.5	60 - 125		533761.63	555038.44	566562.25
74 Ge	# 1	150751.48	0.91	170650.48	88.3	60 - 125		149302.61	150922.05	152029.83
74 Ge	# 2	20936.56	4.34	24862.19	84.2	60 - 125		19955.45	21103.38	21750.85
74 Ge	# 3	141409.56	1.84	155795.36	90.8	60 - 125		138641.92	141784.63	143802.14
89 Y	# 3	935504.13	2.99	1011968.20	92.4	60 - 125		904182.06	944375.31	957954.88
115 In	# 3	888244.75	2.59	989458.81	89.8	60 - 125		862956.00	893935.38	907843.00
159 Tb	# 3	1249500.80	3.03	1388283.80	90.0	60 - 125		1205916.50	1273492.00	1269093.90
209 Bi	# 3	699091.75	2.68	829936.50	84.2	60 - 125		678062.31	705059.88	714153.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\153SMPL.D\153SMPL.D#
Date Acquired: Dec 28 2012 11:54 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85984-c-10-a
Misc Info: 3005 1/5
Vial Number: 3507
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.003065	0.003065	ug/l	141.57	100.00		16.67	0.00	6.67
11	B	# 3	65.46	65.46	ug/l	0.82	1800.00		132912.92	138648.58	139793.47
23	Na	# 1	4990	4990	ug/l	6.36	81000.00		22598306.00	22835832.00	23194870.00
24	Mg	# 1	6082	6082	ug/l	6.75	81000.00		18542380.00	18710736.00	18810274.00
27	Al	# 1	22.34	22.34	ug/l	4.96	81000.00		77306.64	81864.81	80385.25
39	K	# 2	1248	1248	ug/l	0.42	81000.00		312098.59	319427.66	324213.03
40	Ca	# 1	38950	38950	ug/l	6.05	81000.00		279574750.00	284364030.00	287846180.00
45	Sc	# 2	----	--------		--------	#VALUE!		33168.12	33983.97	34768.74
47	Ti	# 3	0.8609	0.8609	ug/l	9.66	1620.00		763.39	656.70	750.03
51	V	# 2	0.2171	0.2171	ug/l	9.89	1800.00		423.34	484.46	514.46
52	Cr	# 2	0.05053	0.05053	ug/l	8.58	1800.00		193.34	185.56	204.45
55	Mn	# 3	1578	1578	ug/l	1.81	1800.00		23465812.00	23316000.00	23430012.00
56	Fe	# 1	3561	3561	ug/l	5.02	81000.00		39049316.00	39582288.00	39412388.00
59	Co	# 3	0.312	0.312	ug/l	2.13	1800.00		3377.06	3550.43	3397.08
60	Ni	# 2	0.3221	0.3221	ug/l	8.16	1800.00		390.01	368.90	417.79
63	Cu	# 2	-0.1158	-0.1158	ug/l	5.35	1800.00		254.45	255.56	238.89
66	Zn	# 3	1.041	1.041	ug/l	2.46	1800.00		1676.79	1623.45	1616.78
75	As	# 2	2.632	2.632	ug/l	2.42	100.00		465.34	465.67	464.67
78	Se	# 1	0.033	0.033	ug/l	24.42	100.00		30.67	30.00	35.67
88	Sr	# 3	267.6	267.6	ug/l	1.74	1800.00		5529114.50	5424216.50	5444336.50
95	Mo	# 3	2.562	2.562	ug/l	3.24	1800.00		7148.28	7118.32	7268.35
107	Ag	# 3	0.003922	0.003922	ug/l	15.90	100.00		46.67	46.67	36.67
111	Cd	# 3	0.006373	0.006373	ug/l	114.08	100.00		31.05	31.06	51.01
118	Sn	# 3	0.05883	0.05883	ug/l	21.15	1800.00		590.03	463.35	536.69
121	Sb	# 3	0.1445	0.1445	ug/l	14.44	100.00		903.38	1043.40	796.71
137	Ba	# 3	26.94	26.94	ug/l	2.43	1800.00		71849.45	71996.91	72354.24
202	Hg	# 3	0.001242	0.001242	ug/l	50.53	5.00		36.00	36.67	37.67
205	Tl	# 3	0.001869	0.001869	ug/l	18.92	20.00		80.00	73.34	80.00
208	Pb	# 3	1.104	1.104	ug/l	3.17	1800.00		23180.65	23374.07	24027.94
232	Th	# 3	0.01832	0.01832	ug/l	12.31	#VALUE!		616.70	703.37	583.36
238	U	# 3	0.175	0.175	ug/l	2.50	#VALUE!		4274.07	4537.48	4314.08

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	469350.88	2.76	572657.25	82.0	60 - 125		454527.03	478537.03	474988.63
45	Sc	# 1	448323.91	7.19	523286.00	85.7	60 - 125		411521.38	461870.06	471580.34
45	Sc	# 3	551690.19	1.61	603286.69	91.4	60 - 125		546957.88	561966.19	546146.50
74	Ge	# 1	144867.89	5.50	170650.48	84.9	60 - 125		135715.16	148701.31	150187.22
74	Ge	# 2	21675.54	2.29	24862.19	87.2	60 - 125		21132.30	21787.50	22106.83
74	Ge	# 3	142594.11	1.60	155795.36	91.5	60 - 125		143245.66	144476.91	140059.80
89	Y	# 3	947966.94	0.85	1011968.20	93.7	60 - 125		940137.56	947504.88	956258.44
115	In	# 3	890041.75	2.10	989458.81	90.0	60 - 125		894863.50	905846.88	869415.00
159	Tb	# 3	1252419.40	2.12	1388283.80	90.2	60 - 125		1235449.80	1283035.30	1238773.30
209	Bi	# 3	695232.69	0.98	829936.50	83.8	60 - 125		694836.50	702209.25	688652.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\154_CCV.D\154_CCV.D#
Date Acquired: Dec 28 2012 12:01 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.16 ug/l	1.04	50.00	90 - 110		104740.59	108973.03	108868.55
11 B	102.1 ug/l	2.41	100.00	90 - 110		219806.03	223364.47	221903.17
23 Na	4943 ug/l	1.46	5000.00	90 - 110		22563332.00	22947440.00	23622722.00
24 Mg	5002 ug/l	1.12	5000.00	90 - 110		15439471.00	15730168.00	15724998.00
27 Al	502.5 ug/l	0.33	500.00	90 - 110		1799208.90	1799116.60	1821188.90
39 K	5153 ug/l	3.58	5000.00	90 - 110		1238056.50	1267258.30	1290298.90
40 Ca	4987 ug/l	1.17	5000.00	90 - 110		37209244.00	36934116.00	37005808.00
45 Sc	--------	--------	---	##### - #####		31486.34	34760.98	35700.41
47 Ti	50.66 ug/l	2.20	50.00	90 - 110		41560.09	42759.46	41907.72
51 V	49.94 ug/l	4.03	50.00	90 - 110		80132.38	81618.71	82737.92
52 Cr	49.98 ug/l	4.57	50.00	90 - 110		95673.52	97301.96	97641.26
55 Mn	504.2 ug/l	1.89	500.00	90 - 110		7431299.00	7457438.00	7581656.50
56 Fe	4938 ug/l	1.16	5000.00	90 - 110		55530024.00	56236772.00	55958040.00
59 Co	48.43 ug/l	2.34	50.00	90 - 110		531383.50	528188.13	532691.69
60 Ni	50.59 ug/l	3.80	50.00	90 - 110		41381.57	42072.05	42985.21
63 Cu	50.45 ug/l	5.10	50.00	90 - 110		110512.95	110681.54	111910.12
66 Zn	49.3 ug/l	2.67	50.00	90 - 110		66153.12	65444.16	65721.58
75 As	50.27 ug/l	4.38	50.00	90 - 110		8389.60	8363.93	8677.07
78 Se	49.31 ug/l	0.08	50.00	90 - 110		16493.78	16447.08	16739.35
88 Sr	49.08 ug/l	2.70	50.00	90 - 110		973540.50	981526.75	987638.75
95 Mo	50.43 ug/l	3.86	50.00	90 - 110		139288.97	141220.81	138143.02
107 Ag	50.54 ug/l	4.13	50.00	90 - 110		401101.31	399426.19	398184.16
111 Cd	50.14 ug/l	4.22	50.00	90 - 110		85432.03	84613.95	84953.27
118 Sn	49.97 ug/l	3.74	50.00	90 - 110		270097.34	269663.19	270866.41
121 Sb	49.8 ug/l	4.00	50.00	90 - 110		250540.13	249894.78	249381.92
137 Ba	50.07 ug/l	4.33	50.00	90 - 110		133626.41	132269.28	132474.31
202 Hg	2.408 ug/l	2.47	2.50	90 - 110		4238.24	4195.89	4255.91
205 Tl	10.12 ug/l	3.91	10.00	90 - 110		149804.31	151398.78	150372.50
208 Pb	50.44 ug/l	4.26	50.00	90 - 110		1030300.40	1030012.20	1034377.10
232 Th	47.63 ug/l	1.95	---	##### - #####		1181607.10	1183324.30	1191113.90
238 U	47.6 ug/l	1.95	---	##### - #####		1191833.40	1200178.40	1195709.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	493028.44	2.89	572657.25	86.1	60 - 125		477336.44	496595.81	505153.00
45 Sc	454506.81	1.03	523286.00	86.9	60 - 125		452089.72	451535.25	459895.47
45 Sc	551769.88	2.95	603286.69	91.5	60 - 125		532969.19	560791.69	561548.81
74 Ge	148179.45	0.90	170650.48	86.8	60 - 125		147718.52	147129.59	149690.23
74 Ge	21187.58	5.56	24862.19	85.2	60 - 125		19930.98	21362.59	22269.17
74 Ge	142858.09	2.09	155795.36	91.7	60 - 125		139498.27	145235.16	143840.86
89 Y	927962.19	3.29	1011968.20	91.7	60 - 125		892681.25	944509.88	946695.38
115 In	883323.13	3.70	989458.81	89.3	60 - 125		845712.56	899111.31	905145.50
159 Tb	1213254.00	4.24	1388283.80	87.4	60 - 125		1154004.00	1247061.60	1238696.00
209 Bi	700163.06	2.19	829936.50	84.4	60 - 125		682479.69	707852.19	710157.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\155_CCB.D\155_CCB.D#
Date Acquired: Dec 28 2012 12:09 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.03151	0.03151	ug/l	28.48	#VALUE!		83.34	50.00	76.67
11 B # 3	2.1	2.1	ug/l	5.80	#VALUE!		9666.00	9819.39	9949.47
23 Na # 1	-6.587	-6.587	ug/l	4.88	#VALUE!		100222.86	101492.81	104585.61
24 Mg # 1	1.517	1.517	ug/l	9.18	#VALUE!		4810.73	5337.54	5767.71
27 Al # 1	0.1525	0.1525	ug/l	10.28	#VALUE!		1353.42	1470.10	1466.77
39 K # 2	2.224	2.224	ug/l	19.80	#VALUE!		6381.25	6948.12	6794.76
40 Ca # 1	4.192	4.192	ug/l	6.71	#VALUE!		127896.59	132444.17	133826.30
45 Sc # 2	----	--------		--------	#VALUE!		30791.87	34608.48	35203.91
47 Ti # 3	0.02094	0.02094	ug/l	31.65	#VALUE!		23.33	33.33	23.33
51 V # 2	0.02998	0.02998	ug/l	30.12	#VALUE!		143.34	155.56	183.34
52 Cr # 2	0.009283	0.009283	ug/l	72.66	#VALUE!		114.45	100.00	121.11
55 Mn # 3	0.449	0.449	ug/l	4.66	#VALUE!		7555.07	7491.71	7118.25
56 Fe # 1	1.3	1.3	ug/l	13.25	#VALUE!		24106.23	25508.10	28275.42
59 Co # 3	0.02617	0.02617	ug/l	13.03	#VALUE!		346.68	280.01	323.34
60 Ni # 2	-0.03628	-0.03628	ug/l	29.11	#VALUE!		86.67	78.89	94.45
63 Cu # 2	-0.1854	-0.1854	ug/l	2.12	#VALUE!		77.78	100.00	102.22
66 Zn # 3	0.05814	0.05814	ug/l	50.21	#VALUE!		343.35	373.35	296.68
75 As # 2	0.02934	0.02934	ug/l	77.91	#VALUE!		19.33	15.00	13.67
78 Se # 1	0.02715	0.02715	ug/l	39.34	#VALUE!		31.33	35.00	28.00
88 Sr # 3	0.05519	0.05519	ug/l	5.21	#VALUE!		1190.08	1133.40	1196.74
95 Mo # 3	0.1097	0.1097	ug/l	2.02	#VALUE!		336.68	360.01	346.68
107 Ag # 3	0.03481	0.03481	ug/l	22.12	#VALUE!		326.68	330.01	226.68
111 Cd # 3	0.03	0.03	ug/l	31.00	#VALUE!		69.89	69.89	99.89
118 Sn # 3	0.06832	0.06832	ug/l	19.72	#VALUE!		646.70	603.37	526.69
121 Sb # 3	0.3963	0.3963	ug/l	5.66	#VALUE!		2283.56	2223.54	2173.54
137 Ba # 3	0.03632	0.03632	ug/l	9.28	#VALUE!		103.34	126.67	113.34
202 Hg # 3	0.02256	0.02256	ug/l	9.27	#VALUE!		75.33	75.00	81.67
205 Tl # 3	0.007689	0.007689	ug/l	25.84	#VALUE!		170.01	133.34	190.01
208 Pb # 3	0.03092	0.03092	ug/l	11.67	#VALUE!		883.37	836.70	786.70
232 Th # 3	0.09554	0.09554	ug/l	7.51	#VALUE!		2743.66	2780.34	2480.28
238 U # 3	0.03083	0.03083	ug/l	2.22	#VALUE!		790.05	853.39	806.71

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	509135.97	3.94	572657.25	88.9	60 - 125		486046.03	518862.91	522499.00
45 Sc # 1	457109.91	0.79	523286.00	87.4	60 - 125		453278.00	457545.13	460506.59
45 Sc # 3	554007.88	2.88	603286.69	91.8	60 - 125		535965.19	559876.38	566182.06
74 Ge # 1	150872.73	0.55	170650.48	88.4	60 - 125		150429.69	150366.78	151821.78
74 Ge # 2	21587.70	5.38	24862.19	86.8	60 - 125		20246.90	22256.98	22259.22
74 Ge # 3	144052.53	1.47	155795.36	92.5	60 - 125		141615.06	145333.36	145209.14
89 Y # 3	932974.25	2.62	1011968.20	92.2	60 - 125		905083.81	950614.25	943224.75
115 In # 3	907265.94	2.80	989458.81	91.7	60 - 125		877944.69	922597.88	921255.31
159 Tb # 3	1233563.40	3.44	1388283.80	88.9	60 - 125		1184660.10	1260672.10	1255358.30
209 Bi # 3	729987.44	2.51	829936.50	88.0	60 - 125		709583.31	745093.81	735285.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\156SMPL.D\156SMPL.D#
Date Acquired: Dec 28 2012 12:16 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-260349_1-a
Misc Info: 3050 1/5
Vial Number: 2501
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001698	0.001698	ug/l	140.75	100.00		0.00	10.00	6.67
11 B	# 3	1.659	1.659	ug/l	9.40	1800.00		8795.51	8618.79	8488.71
23 Na	# 1	-7.503	-7.503	ug/l	17.71	81000.00		99884.22	101404.15	99837.47
24 Mg	# 1	0.8264	0.8264	ug/l	8.68	81000.00		3183.67	3223.70	3230.37
27 Al	# 1	1.448	1.448	ug/l	10.70	81000.00		6327.86	6107.83	6354.56
39 K	# 2	2.963	2.963	ug/l	21.29	81000.00		6841.45	6974.79	7168.21
40 Ca	# 1	5.284	5.284	ug/l	23.66	81000.00		142640.11	144013.44	142750.45
45 Sc	# 2	----	--------		--------	#VALUE!		33637.87	34777.68	35214.78
47 Ti	# 3	0.06831	0.06831	ug/l	14.79	1620.00		60.00	76.67	63.34
51 V	# 2	0.1254	0.1254	ug/l	15.12	1800.00		288.89	348.90	333.34
52 Cr	# 2	0.08777	0.08777	ug/l	2.58	1800.00		274.45	272.23	266.67
55 Mn	# 3	0.1993	0.1993	ug/l	3.26	1800.00		3643.78	3770.49	3603.79
56 Fe	# 1	12.2	12.2	ug/l	8.75	81000.00		152271.50	148531.92	155873.75
59 Co	# 3	0.003382	0.003382	ug/l	26.01	1800.00		56.67	63.34	76.67
60 Ni	# 2	0.05851	0.05851	ug/l	23.02	1800.00		183.34	162.22	163.34
63 Cu	# 2	-0.1356	-0.1356	ug/l	5.95	1800.00		215.56	185.56	221.11
66 Zn	# 3	0.4526	0.4526	ug/l	7.25	1800.00		890.05	820.04	906.71
75 As	# 2	0.09415	0.09415	ug/l	23.11	100.00		23.33	29.67	30.00
78 Se	# 1	0.007149	0.007149	ug/l	58.36	100.00		23.33	26.00	25.00
88 Sr	# 3	0.006242	0.006242	ug/l	27.67	1800.00		160.01	193.34	230.01
95 Mo	# 3	0.04508	0.04508	ug/l	6.73	1800.00		176.67	160.01	163.34
107 Ag	# 3	0.002259	0.002259	ug/l	41.04	100.00		26.67	40.00	26.67
111 Cd	# 3	-0.0007676	-0.0007676	ug/l	1271.80	100.00		46.61	16.62	16.61
118 Sn	# 3	2.135	2.135	ug/l	2.87	1800.00		12364.77	11914.45	12558.28
121 Sb	# 3	0.2621	0.2621	ug/l	8.01	100.00		1670.14	1573.45	1446.77
137 Ba	# 3	0.01322	0.01322	ug/l	5.39	1800.00		53.34	50.00	53.34
202 Hg	# 3	0.01627	0.01627	ug/l	13.95	5.00		62.67	69.00	69.33
205 Tl	# 3	0.001944	0.001944	ug/l	127.88	20.00		123.34	70.00	50.00
208 Pb	# 3	0.005292	0.005292	ug/l	36.58	1800.00		326.68	353.35	273.34
232 Th	# 3	0.04567	0.04567	ug/l	10.69	#VALUE!		1533.46	1406.78	1256.76
238 U	# 3	0.0009563	0.0009563	ug/l	74.40	#VALUE!		56.67	23.33	23.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	496926.81	2.07	572657.25	86.8	60 - 125		485881.88	498721.13	506177.44
45 Sc	# 1	470479.25	7.27	523286.00	89.9	60 - 125		463278.81	507729.56	440429.44
45 Sc	# 3	558081.00	0.47	603286.69	92.5	60 - 125		556088.75	561032.31	557122.00
74 Ge	# 1	151989.09	5.82	170650.48	89.1	60 - 125		150441.78	161502.92	144022.58
74 Ge	# 2	21899.60	0.42	24862.19	88.1	60 - 125		21939.96	21794.23	21964.62
74 Ge	# 3	144965.33	0.58	155795.36	93.0	60 - 125		144251.98	144757.03	145886.95
89 Y	# 3	954331.63	0.25	1011968.20	94.3	60 - 125		956438.75	954805.06	951751.31
115 In	# 3	922731.13	0.15	989458.81	93.3	60 - 125		923301.25	923784.44	921107.56
159 Tb	# 3	1291902.30	1.49	1388283.80	93.1	60 - 125		1269903.60	1300156.90	1305646.50
209 Bi	# 3	742041.00	0.71	829936.50	89.4	60 - 125		747639.00	741252.56	737231.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\157SMPL.D\157SMPL.D#
Date Acquired: Dec 28 2012 12:24 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-260349_2-a
Misc Info: 3050 1/5
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.32	10.32	ug/l	2.98	100.00		21685.83	21575.79	22079.61
11 B # 3	42.19	42.19	ug/l	3.47	1800.00		95004.16	94796.12	95278.91
23 Na # 1	1051	1051	ug/l	2.51	81000.00		5049825.50	5089979.00	5382700.00
24 Mg # 1	1071	1071	ug/l	1.69	81000.00		3397063.30	3521313.80	3457855.80
27 Al # 1	1034	1034	ug/l	1.59	81000.00		3761742.00	3907461.50	3857177.00
39 K # 2	1057	1057	ug/l	2.02	81000.00		265308.34	270267.28	278096.28
40 Ca # 1	1045	1045	ug/l	1.28	81000.00		8011384.00	8196472.50	8097051.50
45 Sc # 2	----	--------		--------	#VALUE!		31854.79	35462.24	36232.60
47 Ti # 3	20.82	20.82	ug/l	1.84	1620.00		17455.23	17298.40	18022.40
51 V # 2	20.82	20.82	ug/l	2.15	1800.00		34260.24	34811.30	35753.04
52 Cr # 2	21.25	21.25	ug/l	2.36	1800.00		41631.73	42498.15	42896.86
55 Mn # 3	110.3	110.3	ug/l	1.11	1800.00		1664662.50	1666240.10	1653162.60
56 Fe # 1	1033	1033	ug/l	1.70	81000.00		12093894.00	11808580.00	12107856.00
59 Co # 3	10.3	10.3	ug/l	1.02	1800.00		114298.67	114456.76	114406.04
60 Ni # 2	21.77	21.77	ug/l	1.56	1800.00		18204.61	18831.86	19029.85
63 Cu # 2	21.56	21.56	ug/l	3.11	1800.00		48585.91	49116.11	49361.32
66 Zn # 3	21.04	21.04	ug/l	0.15	1800.00		28302.47	28940.16	28526.11
75 As # 2	20.6	20.6	ug/l	3.43	100.00		3545.35	3507.68	3663.37
78 Se # 1	18.86	18.86	ug/l	0.90	100.00		6445.15	6568.20	6507.17
88 Sr # 3	19.22	19.22	ug/l	1.16	1800.00		404710.34	402759.88	396428.44
95 Mo # 3	20.79	20.79	ug/l	1.29	1800.00		59236.11	59637.24	60269.55
107 Ag # 3	10.8	10.8	ug/l	1.65	100.00		88376.24	88560.60	88858.87
111 Cd # 3	10.23	10.23	ug/l	1.48	100.00		17937.35	18060.63	18047.21
118 Sn # 3	22.85	22.85	ug/l	1.60	1800.00		127859.92	128084.19	128991.00
121 Sb # 3	11.29	11.29	ug/l	2.33	100.00		59195.50	59275.73	58382.66
137 Ba # 3	21.05	21.05	ug/l	2.07	1800.00		58093.46	57942.67	57812.19
202 Hg # 3	1.154	1.154	ug/l	1.74	5.00		2175.15	2138.82	2179.15
205 Tl # 3	8.057	8.057	ug/l	0.42	20.00		129442.73	127833.32	130161.88
208 Pb # 3	10.3	10.3	ug/l	1.49	1800.00		228289.47	228590.47	225151.69
232 Th # 3	19.49	19.49	ug/l	0.65	#VALUE!		510991.66	515647.81	513540.56
238 U # 3	20.14	20.14	ug/l	0.66	#VALUE!		532929.31	538121.50	535493.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	495438.75	3.28	572657.25	86.5	60 - 125		476929.56	502128.38	507258.38
45 Sc # 1	469762.78	1.14	523286.00	89.8	60 - 125		464738.06	469190.53	475359.81
45 Sc # 3	560898.31	1.64	603286.69	93.0	60 - 125		550668.06	563482.94	568543.88
74 Ge # 1	151948.14	0.94	170650.48	89.0	60 - 125		150480.78	152019.25	153344.41
74 Ge # 2	21729.71	3.83	24862.19	87.4	60 - 125		20794.13	22011.15	22383.84
74 Ge # 3	144702.23	1.09	155795.36	92.9	60 - 125		143171.83	146310.28	144624.56
89 Y # 3	968682.81	1.15	1011968.20	95.7	60 - 125		981084.56	959509.69	965454.13
115 In # 3	915943.19	1.84	989458.81	92.6	60 - 125		896548.31	926202.69	925078.75
159 Tb # 3	1306337.50	0.66	1388283.80	94.1	60 - 125		1304322.00	1298890.90	1315799.50
209 Bi # 3	740737.44	1.01	829936.50	89.3	60 - 125		732078.75	744877.25	745256.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\158SMPL.D\158SMPL.D#
Date Acquired: Dec 28 2012 12:31 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mdlv 680-260349_13-a
Misc Info: 3050 1/10
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.1281	0.1281	ug/l	8.91	100.00		300.01	260.01	290.01
11 B # 3	7.806	7.806	ug/l	0.90	1800.00		21869.66	22804.02	23191.17
23 Na # 1	59.4	59.4	ug/l	1.10	81000.00		421143.94	423587.06	430163.22
24 Mg # 1	71.27	71.27	ug/l	0.79	81000.00		229424.86	234624.31	234678.92
27 Al # 1	15.18	15.18	ug/l	1.79	81000.00		55785.10	58874.38	58844.56
39 K # 2	67.56	67.56	ug/l	1.86	81000.00		23421.68	23825.56	24202.77
40 Ca # 1	81.29	81.29	ug/l	0.69	81000.00		722858.31	734241.19	739437.50
45 Sc # 2	----	--------		--------	#VALUE!		33884.27	35122.70	37042.00
47 Ti # 3	1.37	1.37	ug/l	5.45	1620.00		1223.41	1123.40	1266.74
51 V # 2	1.362	1.362	ug/l	2.52	1800.00		2441.30	2474.63	2464.63
52 Cr # 2	1.464	1.464	ug/l	9.04	1800.00		2925.81	3417.45	2940.26
55 Mn # 3	1.418	1.418	ug/l	1.15	1800.00		22574.23	22497.55	22827.77
56 Fe # 1	11.68	11.68	ug/l	1.33	81000.00		147649.66	149542.92	147939.84
59 Co # 3	1.319	1.319	ug/l	1.52	1800.00		14903.00	15133.22	15236.63
60 Ni # 2	1.505	1.505	ug/l	0.89	1800.00		1384.51	1455.63	1490.07
63 Cu # 2	1.217	1.217	ug/l	2.65	1800.00		3298.11	3388.12	3344.78
66 Zn # 3	1.575	1.575	ug/l	1.97	1800.00		2466.89	2490.25	2393.56
75 As # 2	1.352	1.352	ug/l	2.89	100.00		239.00	251.34	266.67
78 Se # 1	0.6568	0.6568	ug/l	5.56	100.00		250.00	263.00	240.67
88 Sr # 3	1.225	1.225	ug/l	3.73	1800.00		26076.22	26620.34	26046.26
95 Mo # 3	1.348	1.348	ug/l	3.11	1800.00		3937.22	4123.92	4023.92
107 Ag # 3	1.316	1.316	ug/l	1.75	100.00		11344.00	11233.94	10873.72
111 Cd # 3	0.6413	0.6413	ug/l	3.56	100.00		1242.16	1192.09	1142.11
118 Sn # 3	2.331	2.331	ug/l	2.74	1800.00		13412.16	13902.60	13779.17
121 Sb # 3	0.7518	0.7518	ug/l	2.94	100.00		4384.03	4220.63	4083.92
137 Ba # 3	1.34	1.34	ug/l	3.90	1800.00		4030.60	3727.19	3703.86
202 Hg # 3	0.1073	0.1073	ug/l	3.95	5.00		234.67	250.34	235.34
205 Tl # 3	0.2942	0.2942	ug/l	2.07	20.00		4730.86	4884.26	4734.20
208 Pb # 3	0.3997	0.3997	ug/l	0.66	1800.00		9077.97	9044.63	9024.65
232 Th # 3	1.268	1.268	ug/l	1.27	#VALUE!		33857.84	34656.30	34556.20
238 U # 3	1.232	1.232	ug/l	0.72	#VALUE!		33303.56	33928.32	33360.39

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	515729.47	2.34	572657.25	90.1	60 - 125		502125.97	519856.66	525205.75
45 Sc # 1	474177.66	1.71	523286.00	90.6	60 - 125		465873.81	474635.47	482023.66
45 Sc # 3	579129.00	0.87	603286.69	96.0	60 - 125		577098.25	575442.00	584846.81
74 Ge # 1	153826.48	1.04	170650.48	90.1	60 - 125		152355.27	153599.14	155525.03
74 Ge # 2	22361.98	2.93	24862.19	89.9	60 - 125		21646.38	22510.62	22928.95
74 Ge # 3	148804.94	0.41	155795.36	95.5	60 - 125		149363.94	148885.22	148165.64
89 Y # 3	992680.06	2.95	1011968.20	98.1	60 - 125		1026338.20	972955.94	978746.25
115 In # 3	944518.81	0.87	989458.81	95.5	60 - 125		953978.44	939714.88	939863.13
159 Tb # 3	1311259.50	0.93	1388283.80	94.5	60 - 125		1323350.90	1311572.10	1298855.50
209 Bi # 3	757902.50	0.40	829936.50	91.3	60 - 125		757695.81	761062.75	754948.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\159SMPL.D\159SMPL.D#
Date Acquired: Dec 28 2012 12:38 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mdlv 680-260349_14-a
Misc Info: 3050 1/10
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.273	0.273	ug/l	13.62	100.00		686.70	573.36	576.69
11 B # 3	13.45	13.45	ug/l	1.77	1800.00		35259.66	35917.31	36301.48
23 Na # 1	132	132	ug/l	0.41	81000.00		761409.75	769402.88	779992.81
24 Mg # 1	148	148	ug/l	0.10	81000.00		476094.47	477453.31	484158.94
27 Al # 1	29.42	29.42	ug/l	0.47	81000.00		109796.45	109364.96	111869.62
39 K # 2	134.3	134.3	ug/l	1.13	81000.00		40297.00	41433.06	42678.88
40 Ca # 1	164.3	164.3	ug/l	0.90	81000.00		1346481.30	1371854.00	1372425.30
45 Sc # 2	----	--------		--------	#VALUE!		33933.88	35100.47	36223.67
47 Ti # 3	2.651	2.651	ug/l	3.96	1620.00		2360.21	2243.53	2383.55
51 V # 2	2.699	2.699	ug/l	1.02	1800.00		4657.29	4819.55	4952.92
52 Cr # 2	2.752	2.752	ug/l	3.27	1800.00		5829.84	5809.84	5708.70
55 Mn # 3	3.104	3.104	ug/l	13.01	1800.00		55166.94	48474.38	43321.13
56 Fe # 1	19.42	19.42	ug/l	1.02	81000.00		237593.98	238120.28	243787.28
59 Co # 3	2.618	2.618	ug/l	1.49	1800.00		30315.57	29981.82	30011.51
60 Ni # 2	2.874	2.874	ug/l	2.05	1800.00		2657.99	2684.66	2669.11
63 Cu # 2	2.575	2.575	ug/l	2.07	1800.00		6520.09	6577.90	6555.66
66 Zn # 3	2.993	2.993	ug/l	2.42	1800.00		4427.34	4557.36	4337.28
75 As # 2	2.556	2.556	ug/l	4.08	100.00		471.67	452.34	488.67
78 Se # 1	1.295	1.295	ug/l	0.56	100.00		469.01	474.67	479.67
88 Sr # 3	2.565	2.565	ug/l	4.62	1800.00		56236.21	54527.11	53276.57
95 Mo # 3	2.69	2.69	ug/l	3.05	1800.00		8022.05	8158.77	7885.30
107 Ag # 3	2.641	2.641	ug/l	3.26	100.00		22671.83	22161.29	22398.17
111 Cd # 3	1.25	1.25	ug/l	3.45	100.00		2310.99	2340.95	2254.35
118 Sn # 3	3.505	3.505	ug/l	3.94	1800.00		20863.04	20596.01	20152.21
121 Sb # 3	1.462	1.462	ug/l	2.68	100.00		8035.44	8178.83	7962.07
137 Ba # 3	2.622	2.622	ug/l	3.35	1800.00		7568.57	7428.49	7428.54
202 Hg # 3	0.2095	0.2095	ug/l	4.67	5.00		448.34	431.34	418.34
205 Tl # 3	0.5269	0.5269	ug/l	0.86	20.00		8529.24	8545.89	8645.96
208 Pb # 3	0.8045	0.8045	ug/l	1.99	1800.00		18394.80	17927.79	18004.60
232 Th # 3	2.447	2.447	ug/l	1.18	#VALUE!		66721.45	65245.27	66255.99
238 U # 3	2.448	2.448	ug/l	2.44	#VALUE!		67766.50	66307.28	65607.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	525695.50	2.91	572657.25	91.8	60 - 125		508422.34	531041.56	537622.63
45 Sc # 1	470526.31	0.99	523286.00	89.9	60 - 125		466911.44	468875.38	475792.13
45 Sc # 3	581317.31	1.83	603286.69	96.4	60 - 125		569313.50	584989.38	589649.00
74 Ge # 1	154103.88	0.60	170650.48	90.3	60 - 125		153121.48	154230.80	154959.34
74 Ge # 2	22577.39	2.22	24862.19	90.8	60 - 125		22018.92	22723.12	22990.13
74 Ge # 3	149709.84	0.88	155795.36	96.1	60 - 125		148263.16	150844.11	150022.22
89 Y # 3	988595.06	1.88	1011968.20	97.7	60 - 125		968851.31	991075.00	1005859.10
115 In # 3	947136.94	2.24	989458.81	95.7	60 - 125		923046.00	955418.81	962945.81
159 Tb # 3	1318848.40	1.42	1388283.80	95.0	60 - 125		1315493.80	1302056.40	1338995.40
209 Bi # 3	757477.63	1.12	829936.50	91.3	60 - 125		754945.13	750569.75	766917.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\160SMPL.D\160SMPL.D#
Date Acquired: Dec 28 2012 12:46 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mdlv 680-260349_15-a
Misc Info: 3050 1/10
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.5149	0.5149	ug/l	4.01	100.00		1150.07	1156.73	1136.73
11	B	# 3	25.88	25.88	ug/l	3.32	1800.00		63040.81	63271.27	64317.75
23	Na	# 1	268.2	268.2	ug/l	0.34	81000.00		1413809.60	1439573.50	1447550.00
24	Mg	# 1	273.7	273.7	ug/l	0.92	81000.00		875423.44	902654.75	898863.13
27	Al	# 1	57.57	57.57	ug/l	2.26	81000.00		213651.89	221581.30	214306.63
39	K	# 2	261.1	261.1	ug/l	1.88	81000.00		73162.31	74521.07	75140.13
40	Ca	# 1	315.1	315.1	ug/l	0.52	81000.00		2513640.80	2543093.50	2555675.50
45	Sc	# 2	----	--------		--------	#VALUE!		33042.31	35988.77	36379.52
47	Ti	# 3	5.35	5.35	ug/l	4.03	1620.00		4550.68	4510.66	4877.45
51	V	# 2	5.221	5.221	ug/l	1.41	1800.00		8972.22	9155.64	9380.18
52	Cr	# 2	5.157	5.157	ug/l	2.52	1800.00		10650.89	10766.51	10748.73
55	Mn	# 3	5.158	5.158	ug/l	2.33	1800.00		81285.41	80842.88	80210.41
56	Fe	# 1	32.06	32.06	ug/l	1.14	81000.00		390631.97	387153.59	390470.75
59	Co	# 3	5.082	5.082	ug/l	1.40	1800.00		58092.41	58048.42	58653.76
60	Ni	# 2	5.317	5.317	ug/l	0.51	1800.00		4683.96	4868.46	4918.47
63	Cu	# 2	5.125	5.125	ug/l	2.31	1800.00		12362.00	12464.28	12612.16
66	Zn	# 3	5.449	5.449	ug/l	3.97	1800.00		7895.28	8028.63	7595.09
75	As	# 2	5.059	5.059	ug/l	0.91	100.00		886.02	939.03	930.03
78	Se	# 1	2.416	2.416	ug/l	2.01	100.00		858.69	852.69	890.02
88	Sr	# 3	4.919	4.919	ug/l	3.00	1800.00		103642.60	103568.54	102299.23
95	Mo	# 3	5.113	5.113	ug/l	1.39	1800.00		14633.10	14959.95	15243.61
107	Ag	# 3	5.234	5.234	ug/l	2.16	100.00		43153.82	44490.47	43237.29
111	Cd	# 3	2.456	2.456	ug/l	0.61	100.00		4305.98	4462.57	4479.17
118	Sn	# 3	6.086	6.086	ug/l	3.44	1800.00		35066.12	35239.86	34294.86
121	Sb	# 3	2.759	2.759	ug/l	3.11	100.00		14790.09	14599.94	14920.17
137	Ba	# 3	5.102	5.102	ug/l	4.01	1800.00		14459.90	14039.50	14316.42
202	Hg	# 3	0.3938	0.3938	ug/l	2.66	5.00		771.69	758.02	776.02
205	Tl	# 3	1.031	1.031	ug/l	5.52	20.00		16458.96	16155.37	16485.73
208	Pb	# 3	1.547	1.547	ug/l	4.42	1800.00		33755.29	34075.30	33908.64
232	Th	# 3	4.735	4.735	ug/l	2.04	#VALUE!		125937.46	125158.28	126253.37
238	U	# 3	4.775	4.775	ug/l	1.98	#VALUE!		128017.42	127496.02	128193.30

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	522440.47	3.62	572657.25	91.2	60 - 125		500685.19	531982.00	534654.06
45	Sc	# 1	473774.88	1.31	523286.00	90.5	60 - 125		467327.63	474239.81	479757.13
45	Sc	# 3	575951.88	3.93	603286.69	95.5	60 - 125		549998.88	586089.13	591767.56
74	Ge	# 1	154410.56	0.83	170650.48	90.5	60 - 125		152973.84	154837.23	155420.58
74	Ge	# 2	22516.95	3.01	24862.19	90.6	60 - 125		21740.81	22811.00	22999.03
74	Ge	# 3	149328.38	1.67	155795.36	95.8	60 - 125		146517.14	150192.70	151275.27
89	Y	# 3	973083.44	2.48	1011968.20	96.2	60 - 125		945217.06	986161.25	987872.06
115	In	# 3	930376.56	2.66	989458.81	94.0	60 - 125		901829.75	946053.19	943246.63
159	Tb	# 3	1293145.80	4.70	1388283.80	93.1	60 - 125		1223407.80	1335357.10	1320672.10
209	Bi	# 3	746385.31	1.85	829936.50	89.9	60 - 125		730440.94	754742.44	753972.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\161_CCV.D\161_CCV.D#
Date Acquired: Dec 28 2012 12:53 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.24 ug/l	3.11	50.00	90 - 110		112837.86	113025.86	114058.02
11 B	101.3 ug/l	3.01	100.00	90 - 110		230289.42	230017.67	234260.20
23 Na	5008 ug/l	1.18	5000.00	90 - 110		23546396.00	24279620.00	24421842.00
24 Mg	5010 ug/l	1.10	5000.00	90 - 110		16001938.00	15919195.00	16534693.00
27 Al	501.9 ug/l	2.11	500.00	90 - 110		1886216.30	1825189.10	1872105.80
39 K	5158 ug/l	1.97	5000.00	90 - 110		1303405.50	1314974.80	1386073.80
40 Ca	4957 ug/l	1.60	5000.00	90 - 110		38245308.00	37778464.00	37928640.00
45 Sc	--------	--------		--- ##### - #####		34702.00	36506.34	37125.41
47 Ti	51.36 ug/l	2.74	50.00	90 - 110		44647.11	43989.09	44968.17
51 V	49.8 ug/l	0.85	50.00	90 - 110		84415.20	85876.13	86677.77
52 Cr	49.42 ug/l	1.26	50.00	90 - 110		100023.72	100859.23	102062.41
55 Mn	506.9 ug/l	0.90	500.00	90 - 110		7741053.00	7764660.50	7938999.00
56 Fe	4984 ug/l	1.37	5000.00	90 - 110		57550520.00	58846480.00	58222072.00
59 Co	48.92 ug/l	1.77	50.00	90 - 110		557662.63	551626.75	560062.00
60 Ni	49.97 ug/l	0.99	50.00	90 - 110		43242.47	44142.39	44246.04
63 Cu	50.17 ug/l	1.30	50.00	90 - 110		115241.20	116781.24	117243.94
66 Zn	50.01 ug/l	1.92	50.00	90 - 110		69475.65	69013.44	69221.19
75 As	50.09 ug/l	1.32	50.00	90 - 110		8817.14	8925.85	8966.54
78 Se	49.46 ug/l	0.29	50.00	90 - 110		17061.64	17020.94	17326.23
88 Sr	49.6 ug/l	2.91	50.00	90 - 110		1022072.10	1002428.90	1030995.00
95 Mo	50.64 ug/l	2.20	50.00	90 - 110		142988.34	144473.39	144450.13
107 Ag	51.17 ug/l	2.49	50.00	90 - 110		415460.69	413711.75	417685.66
111 Cd	50.24 ug/l	4.09	50.00	90 - 110		89158.76	85238.44	88079.20
118 Sn	50.25 ug/l	2.80	50.00	90 - 110		278855.59	280088.44	278324.41
121 Sb	49.64 ug/l	2.66	50.00	90 - 110		255802.70	256080.83	256011.41
137 Ba	50.11 ug/l	2.77	50.00	90 - 110		136656.44	136499.33	136479.48
202 Hg	2.424 ug/l	2.37	2.50	90 - 110		4360.60	4321.26	4356.94
205 Tl	9.879 ug/l	3.47	10.00	90 - 110		154901.77	153184.66	153563.78
208 Pb	49.37 ug/l	3.37	50.00	90 - 110		1064997.80	1050760.90	1058076.40
232 Th	48.23 ug/l	2.17		--- ##### - #####		1226899.10	1218455.90	1230701.10
238 U	47.81 ug/l	2.66		--- ##### - #####		1233864.60	1223509.30	1221719.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	519028.78	3.53	572657.25	90.6	60 - 125		499025.25	522996.03	535065.13
45 Sc	468853.72	1.19	523286.00	89.6	60 - 125		464096.03	467483.38	474981.81
45 Sc	576111.44	2.78	603286.69	95.5	60 - 125		559635.13	577142.38	591556.88
74 Ge	152874.56	1.03	170650.48	89.6	60 - 125		151724.47	152229.08	154670.16
74 Ge	22303.34	2.18	24862.19	89.7	60 - 125		21770.83	22418.33	22720.86
74 Ge	148236.28	1.66	155795.36	95.1	60 - 125		145579.45	148681.13	150448.25
89 Y	953304.69	2.57	1011968.20	94.2	60 - 125		926090.69	960266.00	973557.50
115 In	907006.94	2.70	989458.81	91.7	60 - 125		882264.88	907574.25	931181.75
159 Tb	1270574.60	3.07	1388283.80	91.5	60 - 125		1235073.90	1264277.40	1312372.50
209 Bi	714849.88	2.10	829936.50	86.1	60 - 125		698056.94	719471.06	727021.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\162_CCB.D\162_CCB.D#
Date Acquired: Dec 28 2012 01:01 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01815	0.01815	ug/l	16.31	#VALUE!		46.67	46.67	36.67
11 B # 3	1.628	1.628	ug/l	3.40	#VALUE!		8832.27	9449.23	9399.20
23 Na # 1	-6.745	-6.745	ug/l	1.65	#VALUE!		102521.74	103660.83	105323.42
24 Mg # 1	1.046	1.046	ug/l	4.19	#VALUE!		3917.17	3767.13	4063.87
27 Al # 1	0.1344	0.1344	ug/l	3.52	#VALUE!		1366.76	1420.10	1406.76
39 K # 2	1.704	1.704	ug/l	25.73	#VALUE!		6744.73	7118.18	6864.75
40 Ca # 1	2.611	2.611	ug/l	4.42	#VALUE!		120733.91	122246.98	124587.93
45 Sc # 2	----	--------		--------	#VALUE!		34268.89	35326.41	35925.36
47 Ti # 3	0.04501	0.04501	ug/l	48.37	#VALUE!		33.33	70.00	43.33
51 V # 2	0.01885	0.01885	ug/l	43.84	#VALUE!		130.00	163.34	154.45
52 Cr # 2	0.006048	0.006048	ug/l	99.14	#VALUE!		101.11	105.56	126.67
55 Mn # 3	0.239	0.239	ug/l	5.72	#VALUE!		4137.25	4594.04	4420.64
56 Fe # 1	0.9502	0.9502	ug/l	0.77	#VALUE!		22150.47	22270.59	22380.73
59 Co # 3	0.02142	0.02142	ug/l	22.38	#VALUE!		223.34	333.35	263.34
60 Ni # 2	-0.05821	-0.05821	ug/l	34.39	#VALUE!		52.22	73.33	90.00
63 Cu # 2	-0.1859	-0.1859	ug/l	3.77	#VALUE!		86.67	86.67	116.67
66 Zn # 3	0.03404	0.03404	ug/l	54.99	#VALUE!		330.01	330.01	286.68
75 As # 2	0.04136	0.04136	ug/l	0.39	#VALUE!		18.67	19.33	19.33
78 Se # 1	0.05266	0.05266	ug/l	18.14	#VALUE!		41.67	43.33	37.33
88 Sr # 3	0.02549	0.02549	ug/l	14.50	#VALUE!		540.03	690.04	576.69
95 Mo # 3	0.09562	0.09562	ug/l	7.19	#VALUE!		336.68	310.01	300.01
107 Ag # 3	0.02701	0.02701	ug/l	11.95	#VALUE!		206.67	256.68	250.01
111 Cd # 3	0.02642	0.02642	ug/l	15.77	#VALUE!		79.90	66.57	79.91
118 Sn # 3	0.05427	0.05427	ug/l	15.51	#VALUE!		566.69	473.35	546.69
121 Sb # 3	0.4042	0.4042	ug/l	6.69	#VALUE!		2430.24	2373.57	2180.20
137 Ba # 3	0.02616	0.02616	ug/l	11.33	#VALUE!		96.67	80.00	90.00
202 Hg # 3	0.03173	0.03173	ug/l	15.85	#VALUE!		106.33	88.00	95.67
205 Tl # 3	0.008744	0.008744	ug/l	27.14	#VALUE!		226.68	163.34	173.34
208 Pb # 3	0.02431	0.02431	ug/l	8.15	#VALUE!		666.69	766.70	753.36
232 Th # 3	0.1135	0.1135	ug/l	6.29	#VALUE!		3397.14	3217.11	3053.73
238 U # 3	0.02342	0.02342	ug/l	5.76	#VALUE!		613.36	620.04	686.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	534827.50	3.08	572657.25	93.4	60 - 125		516631.03	539176.81	548674.56
45 Sc # 1	468277.09	1.00	523286.00	89.5	60 - 125		463130.81	469422.97	472277.47
45 Sc # 3	579741.94	0.45	603286.69	96.1	60 - 125		577701.06	578834.69	582689.88
74 Ge # 1	153218.28	0.55	170650.48	89.8	60 - 125		152892.03	152587.05	154175.72
74 Ge # 2	22663.03	2.03	24862.19	91.2	60 - 125		22132.40	22963.34	22893.33
74 Ge # 3	148789.34	0.50	155795.36	95.5	60 - 125		147928.16	149157.67	149282.20
89 Y # 3	973481.44	0.54	1011968.20	96.2	60 - 125		968118.94	973616.31	978708.94
115 In # 3	930853.13	0.58	989458.81	94.1	60 - 125		928664.56	926940.63	936954.13
159 Tb # 3	1284731.50	1.61	1388283.80	92.5	60 - 125		1261009.60	1298755.30	1294429.60
209 Bi # 3	750607.13	0.64	829936.50	90.4	60 - 125		747252.25	748421.94	756147.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\163SMPL.D\163SMPL.D#
Date Acquired: Dec 28 2012 01:08 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85886-b-10-a
Misc Info: 3050 1/25
Vial Number: 2512
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.0855	0.2171	ug/l	3.07	100.00		490.02	476.69	506.69
11 B # 3	37.735	7.547	ug/l	0.64	1800.00		21966.29	22607.03	23177.66
23 Na # 1	12340	2468	ug/l	0.70	81000.00		12178198.00	12415059.00	12509680.00
24 Mg # 1	45750	9150	ug/l	0.29	81000.00		29900600.00	30597200.00	31194536.00
27 Al # 1	18885	3777	ug/l	0.45	81000.00		14276780.00	14531220.00	14713576.00
39 K # 2	6040	1208	ug/l	1.72	81000.00		314112.56	319332.56	332400.69
40 Ca # 1	108650	21730	ug/l	0.20	81000.00		168861070.00	172384450.00	175230030.00
45 Sc # 2	----	--------		--------	#VALUE!		36387.27	36960.63	37783.38
47 Ti # 3	371.3	74.26	ug/l	0.97	1620.00		68759.87	67873.30	67749.47
51 V # 2	42.26	8.452	ug/l	1.21	1800.00		14768.14	14691.41	15069.48
52 Cr # 2	33.61	6.722	ug/l	1.87	1800.00		13759.60	13819.63	14481.25
55 Mn # 3	553	110.6	ug/l	0.18	1800.00		1713651.60	1744924.00	1738538.50
56 Fe # 1	36135	7227	ug/l	1.05	81000.00		81829856.00	84215568.00	84360856.00
59 Co # 3	16.095	3.219	ug/l	1.39	1800.00		36299.68	38009.68	37308.13
60 Ni # 2	43.765	8.753	ug/l	0.77	1800.00		7781.69	7977.32	7937.33
63 Cu # 2	28.945	5.789	ug/l	0.42	1800.00		13907.54	14175.53	14215.55
66 Zn # 3	121.35	24.27	ug/l	1.18	1800.00		34256.02	34102.33	34419.38
75 As # 2	13.135	2.627	ug/l	2.61	100.00		464.01	497.01	493.67
78 Se # 1	0.588	0.1176	ug/l	28.52	100.00		55.33	75.67	56.33
88 Sr # 3	77.05	15.41	ug/l	2.59	1800.00		351747.44	351786.13	357711.97
95 Mo # 3	5.315	1.063	ug/l	5.14	1800.00		3250.40	3210.38	2977.00
107 Ag # 3	0.08015	0.01603	ug/l	28.22	100.00		130.00	120.00	190.01
111 Cd # 3	0.3213	0.06426	ug/l	15.23	100.00		145.63	125.64	159.05
118 Sn # 3	2.8215	0.5643	ug/l	1.60	1800.00		3383.76	3540.47	3413.77
121 Sb # 3	1.434	0.2868	ug/l	6.30	100.00		1800.15	1696.80	1640.13
137 Ba # 3	68.1	13.62	ug/l	0.93	1800.00		37792.88	38250.54	38624.79
202 Hg # 3	0.10755	0.02151	ug/l	12.72	5.00		70.00	74.33	80.33
205 Tl # 3	0.6215	0.1243	ug/l	3.50	20.00		2023.54	2016.87	2123.54
208 Pb # 3	21.275	4.255	ug/l	1.30	1800.00		93991.91	94458.09	95081.13
232 Th # 3	8.38	1.676	ug/l	0.35	#VALUE!		43184.49	43482.07	43348.47
238 U # 3	1.729	0.3458	ug/l	3.79	#VALUE!		9323.13	8839.43	8832.79

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	528380.13	2.36	572657.25	92.3	60 - 125		514787.06	531017.50	539335.94
45 Sc # 1	485754.94	1.90	523286.00	92.8	60 - 125		476770.81	485277.00	495217.00
45 Sc # 3	609317.00	0.24	603286.69	101.0	60 - 125		608151.88	610941.75	608857.50
74 Ge # 1	151165.86	0.87	170650.48	88.6	60 - 125		149889.17	151099.09	152509.31
74 Ge # 2	22622.23	1.45	24862.19	91.0	60 - 125		22268.11	22684.15	22914.45
74 Ge # 3	150502.84	0.93	155795.36	96.6	60 - 125		149009.75	151772.16	150726.61
89 Y # 3	1065712.40	2.09	1011968.20	105.3	60 - 125		1050286.40	1091247.30	1055603.50
115 In # 3	933663.44	1.09	989458.81	94.4	60 - 125		922984.69	943157.81	934847.81
159 Tb # 3	1313672.10	1.36	1388283.80	94.6	60 - 125		1297265.80	1332682.30	1311068.50
209 Bi # 3	724452.31	0.69	829936.50	87.3	60 - 125		719077.06	728970.75	725309.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\164_CCV.D\164_CCV.D#
Date Acquired: Dec 28 2012 01:16 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.46 ug/l	4.91	50.00	90 - 110		111189.11	114446.74	116402.82
11 B	99.43 ug/l	3.49	100.00	90 - 110		230534.81	232992.97	233748.48
23 Na	4959 ug/l	2.18	5000.00	90 - 110		23752440.00	24327290.00	23692276.00
24 Mg	5002 ug/l	0.99	5000.00	90 - 110		15896081.00	16240200.00	16404653.00
27 Al	512.8 ug/l	0.48	500.00	90 - 110		1893715.40	1889860.60	1940485.40
39 K	5030 ug/l	4.35	5000.00	90 - 110		1293603.40	1326552.80	1352454.40
40 Ca	5070 ug/l	0.57	5000.00	90 - 110		38516736.00	38737228.00	39693048.00
45 Sc	--------	--------		--- ##### - #####		35849.62	38940.78	35298.66
47 Ti	50.39 ug/l	5.50	50.00	90 - 110		43818.53	45121.97	44239.77
51 V	49.04 ug/l	5.03	50.00	90 - 110		84714.27	84892.97	87764.95
52 Cr	48.71 ug/l	4.39	50.00	90 - 110		99593.95	101031.27	103157.33
55 Mn	507.3 ug/l	4.07	500.00	90 - 110		7787490.00	7825482.50	7887113.00
56 Fe	5018 ug/l	0.38	5000.00	90 - 110		58723572.00	58705672.00	58651604.00
59 Co	49.14 ug/l	4.07	50.00	90 - 110		556334.81	562971.38	560389.50
60 Ni	49.39 ug/l	4.49	50.00	90 - 110		43368.42	43985.33	44994.46
63 Cu	49.14 ug/l	3.98	50.00	90 - 110		114894.84	115975.84	117224.93
66 Zn	50.23 ug/l	3.85	50.00	90 - 110		69418.31	70004.16	69582.37
75 As	49.46 ug/l	4.74	50.00	90 - 110		8863.83	8862.82	9098.94
78 Se	49.5 ug/l	0.53	50.00	90 - 110		17224.80	17074.66	17224.14
88 Sr	47.98 ug/l	5.38	50.00	90 - 110		1022807.50	1029882.10	1024370.40
95 Mo	50.66 ug/l	5.16	50.00	90 - 110		144125.16	144562.88	145414.84
107 Ag	50.91 ug/l	5.02	50.00	90 - 110		414467.91	415478.06	416620.94
111 Cd	50.33 ug/l	6.05	50.00	90 - 110		86780.02	88468.76	88949.93
118 Sn	49.9 ug/l	5.55	50.00	90 - 110		276049.34	280071.66	279386.06
121 Sb	49.57 ug/l	4.48	50.00	90 - 110		257986.61	257645.52	255153.13
137 Ba	49.83 ug/l	5.33	50.00	90 - 110		135668.31	136129.30	137560.59
202 Hg	2.41 ug/l	5.07	2.50	90 - 110		4336.60	4338.93	4399.28
205 Tl	9.851 ug/l	4.52	10.00	90 - 110		154234.33	153020.88	153507.84
208 Pb	49.16 ug/l	5.37	50.00	90 - 110		1048240.90	1057525.30	1056654.30
232 Th	47.7 ug/l	5.22		--- ##### - #####		1211893.40	1226981.10	1226067.60
238 U	47.37 ug/l	4.53		--- ##### - #####		1225511.30	1224838.30	1225592.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	530408.81	2.74	572657.25	92.6	60 - 125		547181.69	522824.88	521219.84
45 Sc	470383.06	1.04	523286.00	89.9	60 - 125		467114.78	468032.97	476001.44
45 Sc	585999.13	4.45	603286.69	97.1	60 - 125		616064.06	571662.94	570270.38
74 Ge	153098.45	0.31	170650.48	89.7	60 - 125		152701.08	152963.23	153631.06
74 Ge	22707.98	3.82	24862.19	91.3	60 - 125		22241.41	23709.03	22173.51
74 Ge	148596.31	3.61	155795.36	95.4	60 - 125		154783.95	145741.67	145263.31
89 Y	993801.00	5.01	1011968.20	98.2	60 - 125		1042616.10	943165.38	995621.31
115 In	912601.56	4.94	989458.81	92.2	60 - 125		964669.38	887462.06	885673.31
159 Tb	1272770.90	4.98	1388283.80	91.7	60 - 125		1341334.10	1216367.10	1260611.50
209 Bi	721593.06	4.67	829936.50	86.9	60 - 125		760496.00	702583.69	701699.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\165_CCB.D\165_CCB.D#
Date Acquired: Dec 28 2012 01:23 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01913	0.01913	ug/l	22.23	#VALUE!		36.67	56.67	43.33
11 B	# 3	1.436	1.436	ug/l	4.05	#VALUE!		8662.18	8725.54	8855.60
23 Na	# 1	-6.508	-6.508	ug/l	1.30	#VALUE!		103647.46	104850.66	106704.05
24 Mg	# 1	1.519	1.519	ug/l	2.38	#VALUE!		5524.29	5330.86	5474.27
27 Al	# 1	0.247	0.247	ug/l	15.57	#VALUE!		1953.49	1780.13	1713.46
39 K	# 2	1.358	1.358	ug/l	43.60	#VALUE!		6851.44	6638.04	7031.48
40 Ca	# 1	3.43	3.43	ug/l	3.34	#VALUE!		128081.60	128981.41	129604.80
45 Sc	# 2	----	--------		--------	#VALUE!		34362.39	35191.70	35817.31
47 Ti	# 3	0.04418	0.04418	ug/l	13.88	#VALUE!		46.67	53.34	43.33
51 V	# 2	0.01392	0.01392	ug/l	58.46	#VALUE!		124.45	140.00	158.89
52 Cr	# 2	0.007868	0.007868	ug/l	23.62	#VALUE!		110.00	118.89	116.67
55 Mn	# 3	0.1771	0.1771	ug/l	8.09	#VALUE!		3610.47	3260.38	3293.73
56 Fe	# 1	1.409	1.409	ug/l	1.93	#VALUE!		27818.18	27200.51	27828.06
59 Co	# 3	0.01756	0.01756	ug/l	8.17	#VALUE!		243.34	216.67	220.01
60 Ni	# 2	-0.04499	-0.04499	ug/l	32.99	#VALUE!		71.11	97.78	82.22
63 Cu	# 2	-0.1907	-0.1907	ug/l	1.63	#VALUE!		91.11	85.56	80.00
66 Zn	# 3	0.01535	0.01535	ug/l	99.41	#VALUE!		303.35	263.34	293.34
75 As	# 2	0.02447	0.02447	ug/l	56.52	#VALUE!		18.00	13.33	17.00
78 Se	# 1	0.05265	0.05265	ug/l	24.39	#VALUE!		37.33	38.67	46.33
88 Sr	# 3	0.01841	0.01841	ug/l	11.99	#VALUE!		493.35	440.02	413.35
95 Mo	# 3	0.09315	0.09315	ug/l	13.54	#VALUE!		303.34	343.35	273.34
107 Ag	# 3	0.02046	0.02046	ug/l	14.24	#VALUE!		210.01	166.67	170.01
111 Cd	# 3	0.02167	0.02167	ug/l	40.13	#VALUE!		79.91	69.89	49.91
118 Sn	# 3	0.05461	0.05461	ug/l	19.32	#VALUE!		546.70	573.36	463.36
121 Sb	# 3	0.4234	0.4234	ug/l	8.29	#VALUE!		2500.25	2533.60	2216.87
137 Ba	# 3	0.01795	0.01795	ug/l	27.21	#VALUE!		80.00	63.34	53.34
202 Hg	# 3	0.03478	0.03478	ug/l	7.27	#VALUE!		106.33	101.67	97.67
205 Tl	# 3	0.007184	0.007184	ug/l	3.56	#VALUE!		156.67	166.67	160.01
208 Pb	# 3	0.01794	0.01794	ug/l	16.30	#VALUE!		646.69	563.36	533.35
232 Th	# 3	0.1004	0.1004	ug/l	5.50	#VALUE!		3020.40	2790.34	2770.34
238 U	# 3	0.01698	0.01698	ug/l	12.89	#VALUE!		520.03	403.35	470.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	532735.56	2.45	572657.25	93.0	60 - 125		518277.38	536331.88	543597.44
45 Sc	# 1	468724.88	1.18	523286.00	89.6	60 - 125		464456.78	466740.78	474977.06
45 Sc	# 3	575259.81	0.77	603286.69	95.4	60 - 125		571865.06	573682.94	580231.63
74 Ge	# 1	153071.44	0.96	170650.48	89.7	60 - 125		152243.47	152202.02	154768.84
74 Ge	# 2	22736.46	2.13	24862.19	91.4	60 - 125		22321.48	22619.66	23268.25
74 Ge	# 3	147221.42	1.15	155795.36	94.5	60 - 125		145941.36	146585.81	149137.08
89 Y	# 3	963881.88	1.10	1011968.20	95.2	60 - 125		951948.31	967540.69	972156.31
115 In	# 3	926018.50	0.49	989458.81	93.6	60 - 125		925522.88	921760.50	930772.25
159 Tb	# 3	1264981.00	0.74	1388283.80	91.1	60 - 125		1255081.60	1273572.90	1266288.60
209 Bi	# 3	747231.31	0.40	829936.50	90.0	60 - 125		745223.63	745762.75	750707.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\166SMPL.D\166SMPL.D#
Date Acquired: Dec 28 2012 01:31 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

	Tune Step
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02511	0.02511	ug/l	8.04	100.00		56.67	56.67	66.67
11 B	# 3	0.8506	0.8506	ug/l	9.64	1800.00		7278.23	7711.75	7555.04
23 Na	# 1	108.1	108.1	ug/l	0.16	81000.00		644341.19	644542.63	655859.56
24 Mg	# 1	22.13	22.13	ug/l	0.40	81000.00		70532.95	71008.59	72493.81
27 Al	# 1	5.218	5.218	ug/l	1.37	81000.00		19650.51	20070.99	20551.49
39 K	# 2	9.761	9.761	ug/l	7.45	81000.00		9049.11	8852.35	9329.24
40 Ca	# 1	20.61	20.61	ug/l	0.96	81000.00		257215.72	257865.70	259607.59
45 Sc	# 2	----	--------		--------	#VALUE!		34454.75	35183.95	35959.87
47 Ti	# 3	0.1446	0.1446	ug/l	20.22	1620.00		163.34	130.00	113.34
51 V	# 2	0.04404	0.04404	ug/l	42.33	1800.00		188.89	163.34	231.11
52 Cr	# 2	0.03379	0.03379	ug/l	25.33	1800.00		164.45	188.89	155.56
55 Mn	# 3	0.317	0.317	ug/l	1.27	1800.00		5524.33	5620.99	5651.03
56 Fe	# 1	7.875	7.875	ug/l	0.13	81000.00		102536.28	102183.97	103575.24
59 Co	# 3	0.03308	0.03308	ug/l	7.06	1800.00		410.02	426.68	383.35
60 Ni	# 2	-0.01306	-0.01306	ug/l	79.56	1800.00		111.11	103.33	123.34
63 Cu	# 2	-0.1618	-0.1618	ug/l	2.37	1800.00		143.34	154.45	164.45
66 Zn	# 3	0.0007764	0.0007764	ug/l	1450.30	1800.00		280.01	250.01	280.01
75 As	# 2	0.05052	0.05052	ug/l	21.85	100.00		23.00	19.67	20.00
78 Se	# 1	0.0246	0.0246	ug/l	15.52	100.00		31.33	31.67	29.67
88 Sr	# 3	0.1644	0.1644	ug/l	2.91	1800.00		3530.46	3600.45	3417.09
95 Mo	# 3	0.1486	0.1486	ug/l	6.93	1800.00		446.68	503.35	456.69
107 Ag	# 3	0.02228	0.02228	ug/l	9.28	100.00		216.67	190.01	186.67
111 Cd	# 3	0.01467	0.01467	ug/l	52.87	100.00		43.19	69.84	49.86
118 Sn	# 3	0.04729	0.04729	ug/l	19.61	1800.00		463.35	450.02	550.03
121 Sb	# 3	0.1742	0.1742	ug/l	1.81	100.00		1123.40	1096.73	1106.74
137 Ba	# 3	0.06448	0.06448	ug/l	12.04	1800.00		190.01	176.67	220.01
202 Hg	# 3	0.01837	0.01837	ug/l	22.48	5.00		72.33	64.33	79.67
205 Tl	# 3	0.008367	0.008367	ug/l	28.55	20.00		203.34	140.00	203.34
208 Pb	# 3	0.03291	0.03291	ug/l	3.06	1800.00		913.37	896.71	936.71
232 Th	# 3	0.05648	0.05648	ug/l	2.93	#VALUE!		1750.15	1660.14	1726.82
238 U	# 3	0.01668	0.01668	ug/l	12.52	#VALUE!		480.03	506.69	396.69

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	540624.19	1.97	572657.25	94.4	60 - 125		530929.44	538943.25	551999.81
45 Sc	# 1	465305.41	1.06	523286.00	88.9	60 - 125		461865.88	463123.28	470927.03
45 Sc	# 3	578843.44	0.06	603286.69	95.9	60 - 125		578655.38	579220.13	578654.81
74 Ge	# 1	152399.41	0.81	170650.48	89.3	60 - 125		151921.48	151470.84	153805.86
74 Ge	# 2	22810.60	0.99	24862.19	91.7	60 - 125		22600.71	22783.13	23047.94
74 Ge	# 3	149005.81	1.26	155795.36	95.6	60 - 125		148164.95	147702.81	151149.72
89 Y	# 3	973438.00	0.23	1011968.20	96.2	60 - 125		973265.06	971315.63	975733.19
115 In	# 3	928236.25	0.39	989458.81	93.8	60 - 125		924516.94	928356.94	931834.88
159 Tb	# 3	1285792.80	1.53	1388283.80	92.6	60 - 125		1263309.00	1294723.60	1299346.00
209 Bi	# 3	754819.63	0.34	829936.50	90.9	60 - 125		757645.69	754220.38	752592.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\167SMPL.D\167SMPL.D#
Date Acquired: Dec 28 2012 01:38 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01202	0.01202	ug/l	18.71	100.00		23.33	33.33	33.33
11 B	# 3	0.65	0.65	ug/l	7.63	1800.00		6771.37	7124.81	7358.25
23 Na	# 1	111	111	ug/l	8.96	81000.00		644236.44	662340.94	655613.00
24 Mg	# 1	22.35	22.35	ug/l	7.59	81000.00		69743.34	72299.79	71452.75
27 Al	# 1	5.185	5.185	ug/l	7.13	81000.00		19433.68	19857.43	19894.23
39 K	# 2	10.69	10.69	ug/l	6.06	81000.00		9205.83	9039.06	9502.62
40 Ca	# 1	20.49	20.49	ug/l	10.98	81000.00		251453.53	255995.95	255412.13
45 Sc	# 2	----	--------		--------	#VALUE!		34491.55	35022.52	35855.10
47 Ti	# 3	0.1427	0.1427	ug/l	23.08	1620.00		136.67	160.01	103.34
51 V	# 2	0.03815	0.03815	ug/l	25.79	1800.00		187.78	162.22	197.78
52 Cr	# 2	0.03261	0.03261	ug/l	5.94	1800.00		170.00	164.45	163.34
55 Mn	# 3	0.2788	0.2788	ug/l	3.39	1800.00		4900.77	5000.82	5150.86
56 Fe	# 1	7.965	7.965	ug/l	6.00	81000.00		101617.56	102479.30	102137.21
59 Co	# 3	0.03211	0.03211	ug/l	9.00	1800.00		416.68	360.01	413.35
60 Ni	# 2	0.003767	0.003767	ug/l	381.21	1800.00		112.22	130.00	137.78
63 Cu	# 2	-0.1673	-0.1673	ug/l	4.62	1800.00		124.45	158.89	136.67
66 Zn	# 3	0.02369	0.02369	ug/l	152.47	1800.00		286.68	263.34	356.68
75 As	# 2	0.04154	0.04154	ug/l	24.19	100.00		19.33	20.67	17.33
78 Se	# 1	0.0171	0.0171	ug/l	8.15	100.00		29.00	26.00	28.67
88 Sr	# 3	0.1512	0.1512	ug/l	3.12	1800.00		3187.05	3317.06	3243.71
95 Mo	# 3	0.1318	0.1318	ug/l	9.64	1800.00		463.35	400.02	400.02
107 Ag	# 3	0.021	0.021	ug/l	19.16	100.00		176.67	160.01	226.67
111 Cd	# 3	0.01145	0.01145	ug/l	116.24	100.00		36.52	33.21	76.54
118 Sn	# 3	0.05038	0.05038	ug/l	23.90	1800.00		566.69	430.02	523.36
121 Sb	# 3	0.1109	0.1109	ug/l	4.60	100.00		746.71	796.71	786.71
137 Ba	# 3	0.05794	0.05794	ug/l	16.87	1800.00		146.67	186.67	200.01
202 Hg	# 3	0.01877	0.01877	ug/l	1.31	5.00		72.00	73.00	72.33
205 Tl	# 3	0.004843	0.004843	ug/l	23.40	20.00		110.00	146.67	123.34
208 Pb	# 3	0.03252	0.03252	ug/l	7.90	1800.00		960.05	856.70	900.04
232 Th	# 3	0.04035	0.04035	ug/l	1.51	#VALUE!		1273.44	1280.10	1263.43
238 U	# 3	0.01494	0.01494	ug/l	8.84	#VALUE!		446.69	393.35	393.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	543293.06	2.76	572657.25	94.9	60 - 125		529394.38	541294.00	559190.81
45 Sc	# 1	460912.53	5.74	523286.00	88.1	60 - 125		487015.94	434136.34	461585.25
45 Sc	# 3	576508.19	0.60	603286.69	95.6	60 - 125		572551.38	578024.50	578948.56
74 Ge	# 1	150109.20	4.88	170650.48	88.0	60 - 125		156588.70	142163.14	151575.73
74 Ge	# 2	22634.10	0.71	24862.19	91.0	60 - 125		22617.41	22482.81	22802.08
74 Ge	# 3	149340.33	0.50	155795.36	95.9	60 - 125		149560.09	149956.28	148504.59
89 Y	# 3	977189.25	2.69	1011968.20	96.6	60 - 125		956267.69	968552.06	1006748.00
115 In	# 3	930667.38	0.57	989458.81	94.1	60 - 125		929612.38	925929.75	936460.19
159 Tb	# 3	1283603.40	0.67	1388283.80	92.5	60 - 125		1281333.60	1293101.30	1276375.30
209 Bi	# 3	750579.50	1.12	829936.50	90.4	60 - 125		740990.69	756866.63	753881.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\168SMPL.D\168SMPL.D#
Date Acquired: Dec 28 2012 01:46 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01251	0.01251	ug/l	42.48	100.00		16.67	40.00	36.67
11 B	# 3	0.4928	0.4928	ug/l	22.02	1800.00		6808.05	6687.96	6591.31
23 Na	# 1	108.4	108.4	ug/l	0.26	81000.00		640622.63	650542.06	656078.56
24 Mg	# 1	22.33	22.33	ug/l	1.09	81000.00		70566.72	71747.63	73447.30
27 Al	# 1	5.159	5.159	ug/l	2.64	81000.00		19220.17	19767.38	20588.31
39 K	# 2	10.17	10.17	ug/l	4.14	81000.00		9132.46	9109.10	9202.47
40 Ca	# 1	20.19	20.19	ug/l	1.59	81000.00		253600.63	252547.55	258284.73
45 Sc	# 2	----	--------		--------	#VALUE!		34736.47	35142.72	35791.72
47 Ti	# 3	0.1206	0.1206	ug/l	23.53	1620.00		126.67	130.00	86.67
51 V	# 2	0.03612	0.03612	ug/l	14.23	1800.00		178.89	186.67	173.34
52 Cr	# 2	0.03372	0.03372	ug/l	4.06	1800.00		170.00	166.67	170.00
55 Mn	# 3	0.2879	0.2879	ug/l	3.59	1800.00		5150.87	5017.51	5450.97
56 Fe	# 1	7.876	7.876	ug/l	0.98	81000.00		101256.22	102309.09	103417.60
59 Co	# 3	0.02904	0.02904	ug/l	12.90	1800.00		393.35	380.02	320.01
60 Ni	# 2	-0.006068	-0.006068	ug/l	242.75	1800.00		103.33	118.89	133.34
63 Cu	# 2	-0.1653	-0.1653	ug/l	9.23	1800.00		122.22	185.56	127.78
66 Zn	# 3	0.008474	0.008474	ug/l	461.29	1800.00		333.35	286.68	230.01
75 As	# 2	0.04549	0.04549	ug/l	43.00	100.00		23.67	17.33	18.67
78 Se	# 1	0.01851	0.01851	ug/l	32.98	100.00		28.00	27.00	31.00
88 Sr	# 3	0.1581	0.1581	ug/l	2.82	1800.00		3453.77	3283.73	3383.75
95 Mo	# 3	0.1216	0.1216	ug/l	7.05	1800.00		403.35	363.35	406.68
107 Ag	# 3	0.01822	0.01822	ug/l	10.38	100.00		146.67	170.01	176.67
111 Cd	# 3	0.01026	0.01026	ug/l	31.10	100.00		49.87	49.89	39.87
118 Sn	# 3	0.04867	0.04867	ug/l	7.36	1800.00		476.69	496.69	516.69
121 Sb	# 3	0.06846	0.06846	ug/l	10.12	100.00		593.36	540.02	523.36
137 Ba	# 3	0.06393	0.06393	ug/l	15.72	1800.00		226.68	176.67	180.01
202 Hg	# 3	0.01447	0.01447	ug/l	30.03	5.00		55.00	67.00	71.33
205 Tl	# 3	0.005733	0.005733	ug/l	20.79	20.00		153.34	120.00	146.67
208 Pb	# 3	0.0334	0.0334	ug/l	3.57	1800.00		923.37	943.37	896.71
232 Th	# 3	0.03556	0.03556	ug/l	1.10	#VALUE!		1140.08	1126.74	1166.75
238 U	# 3	0.01455	0.01455	ug/l	9.53	#VALUE!		356.68	423.35	423.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	542018.69	2.18	572657.25	94.6	60 - 125		530860.13	540835.56	554360.44
45 Sc	# 1	464866.84	1.00	523286.00	88.8	60 - 125		459779.81	465863.06	468957.69
45 Sc	# 3	578308.38	0.60	603286.69	95.9	60 - 125		575948.69	576688.75	582287.63
74 Ge	# 1	151724.92	0.43	170650.48	88.9	60 - 125		151023.91	152332.23	151818.63
74 Ge	# 2	22726.09	1.68	24862.19	91.4	60 - 125		22441.66	22576.25	23160.36
74 Ge	# 3	150675.44	1.26	155795.36	96.7	60 - 125		149466.13	149704.08	152856.13
89 Y	# 3	970662.50	0.52	1011968.20	95.9	60 - 125		971954.13	974913.31	965120.06
115 In	# 3	930512.69	0.24	989458.81	94.0	60 - 125		929901.63	933020.94	928615.69
159 Tb	# 3	1278838.40	1.08	1388283.80	92.1	60 - 125		1262917.50	1287345.90	1286251.50
209 Bi	# 3	750545.94	0.90	829936.50	90.4	60 - 125		747472.81	745846.44	758318.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\169_CCV.D\169_CCV.D#
Date Acquired: Dec 28 2012 01:53 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.15 ug/l	2.27	50.00	90 - 110		110705.61	113722.88	114776.25
11 B	97.55 ug/l	2.50	100.00	90 - 110		227521.03	233039.39	235946.56
23 Na	5191 ug/l	2.91	5000.00	90 - 110		23221066.00	24387086.00	24303156.00
24 Mg	5164 ug/l	6.02	5000.00	90 - 110		16043643.00	15972678.00	15896473.00
27 Al	525.1 ug/l	5.60	500.00	90 - 110		1868639.50	1841750.60	1895061.60
39 K	5003 ug/l	0.99	5000.00	90 - 110		1276371.40	1331276.60	1362498.00
40 Ca	5224 ug/l	6.59	5000.00	90 - 110		38792752.00	37466772.00	38935388.00
45 Sc	--------	--------		--- ##### - #####		35493.31	36457.46	38605.64
47 Ti	49.82 ug/l	0.92	50.00	90 - 110		43414.07	43651.64	43925.49
51 V	48.26 ug/l	1.81	50.00	90 - 110		83674.35	85112.95	85722.22
52 Cr	48.04 ug/l	1.55	50.00	90 - 110		99036.30	100166.59	101770.87
55 Mn	502.1 ug/l	1.22	500.00	90 - 110		7724323.00	7696728.00	7785438.00
56 Fe	5207 ug/l	2.41	5000.00	90 - 110		57491572.00	59222880.00	59571604.00
59 Co	48.81 ug/l	0.60	50.00	90 - 110		554489.50	555264.81	554626.06
60 Ni	48.38 ug/l	2.67	50.00	90 - 110		43323.73	43372.94	43535.36
63 Cu	48 ug/l	1.85	50.00	90 - 110		112686.67	113748.70	115130.95
66 Zn	49.61 ug/l	1.17	50.00	90 - 110		69247.61	68314.49	68381.39
75 As	48.86 ug/l	2.17	50.00	90 - 110		8831.81	8832.48	8962.20
78 Se	50.4 ug/l	3.77	50.00	90 - 110		16764.71	16922.52	16908.84
88 Sr	47.87 ug/l	2.91	50.00	90 - 110		1008060.30	1009909.60	1014445.00
95 Mo	49.75 ug/l	0.34	50.00	90 - 110		143142.36	142141.14	142057.30
107 Ag	50.38 ug/l	0.93	50.00	90 - 110		412634.94	408605.00	415216.25
111 Cd	49.41 ug/l	0.64	50.00	90 - 110		87222.87	86109.86	86677.11
118 Sn	49.44 ug/l	0.36	50.00	90 - 110		275927.34	277825.84	276120.97
121 Sb	48.88 ug/l	0.88	50.00	90 - 110		251881.34	254044.14	255600.64
137 Ba	49.54 ug/l	0.37	50.00	90 - 110		135826.72	135773.00	136300.11
202 Hg	2.378 ug/l	0.74	2.50	90 - 110		4292.25	4341.26	4327.59
205 Tl	9.725 ug/l	1.26	10.00	90 - 110		154427.14	152498.52	154571.98
208 Pb	48.46 ug/l	0.82	50.00	90 - 110		1054350.40	1053284.10	1056120.40
232 Th	47.47 ug/l	0.24		--- ##### - #####		1220504.00	1222518.80	1220934.50
238 U	47.11 ug/l	0.49		--- ##### - #####		1219068.40	1223572.90	1228732.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	539714.50	3.21	572657.25	94.2	60 - 125		522531.13	557155.06	539457.31
45 Sc	450768.25	5.43	523286.00	86.1	60 - 125		422786.53	461334.44	468183.78
45 Sc	582043.31	0.68	603286.69	96.5	60 - 125		579857.75	586590.56	579681.63
74 Ge	147803.98	4.19	170650.48	86.6	60 - 125		140655.13	151540.83	151216.00
74 Ge	22795.14	2.93	24862.19	91.7	60 - 125		22184.68	22691.96	23508.78
74 Ge	148110.19	0.67	155795.36	95.1	60 - 125		147793.09	149227.61	147309.89
89 Y	980335.19	2.85	1011968.20	96.9	60 - 125		965166.63	1012625.00	963214.06
115 In	913148.94	0.16	989458.81	92.3	60 - 125		914189.56	913804.38	911453.00
159 Tb	1289351.60	0.70	1388283.80	92.9	60 - 125		1295029.10	1294020.30	1279005.50
209 Bi	723706.31	0.15	829936.50	87.2	60 - 125		724840.38	722599.81	723678.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\170_CCB.D\170_CCB.D#
Date Acquired: Dec 28 2012 02:01 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02347	0.02347	ug/l	12.55	#VALUE!		60.00	60.00	50.00
11 B # 3	1.214	1.214	ug/l	3.30	#VALUE!		8255.30	8378.71	8718.87
23 Na # 1	-6.702	-6.702	ug/l	3.15	#VALUE!		101271.88	103272.31	104525.44
24 Mg # 1	1.157	1.157	ug/l	1.57	#VALUE!		4143.89	4263.92	4283.93
27 Al # 1	0.1902	0.1902	ug/l	1.91	#VALUE!		1566.78	1580.11	1620.11
39 K # 2	0.9003	0.9003	ug/l	13.15	#VALUE!		6691.35	6858.10	6774.72
40 Ca # 1	2.772	2.772	ug/l	1.85	#VALUE!		121582.17	122403.72	123622.39
45 Sc # 2	----	--------		--------	#VALUE!		34690.82	35320.82	35839.55
47 Ti # 3	0.04992	0.04992	ug/l	23.40	#VALUE!		53.34	63.34	43.33
51 V # 2	0.01357	0.01357	ug/l	41.98	#VALUE!		133.34	154.45	136.67
52 Cr # 2	0.002808	0.002808	ug/l	183.26	#VALUE!		94.45	104.45	117.78
55 Mn # 3	0.2568	0.2568	ug/l	4.24	#VALUE!		4464.03	4824.11	4821.59
56 Fe # 1	1.121	1.121	ug/l	2.37	#VALUE!		23612.22	24052.76	24039.47
59 Co # 3	0.02544	0.02544	ug/l	12.63	#VALUE!		276.68	343.35	346.68
60 Ni # 2	-0.05934	-0.05934	ug/l	9.12	#VALUE!		65.56	72.22	76.67
63 Cu # 2	-0.195	-0.195	ug/l	1.14	#VALUE!		73.33	72.22	82.22
66 Zn # 3	0.06129	0.06129	ug/l	41.34	#VALUE!		333.35	336.68	400.02
75 As # 2	0.03404	0.03404	ug/l	15.06	#VALUE!		16.67	18.67	18.67
78 Se # 1	0.03625	0.03625	ug/l	53.38	#VALUE!		27.00	38.33	38.33
88 Sr # 3	0.02638	0.02638	ug/l	1.69	#VALUE!		610.03	623.36	633.36
95 Mo # 3	0.1085	0.1085	ug/l	6.45	#VALUE!		373.35	336.68	353.35
107 Ag # 3	0.02742	0.02742	ug/l	13.84	#VALUE!		223.34	223.34	280.01
111 Cd # 3	0.02314	0.02314	ug/l	12.84	#VALUE!		63.22	73.23	73.22
118 Sn # 3	0.0662	0.0662	ug/l	22.52	#VALUE!		676.70	513.36	606.70
121 Sb # 3	0.4192	0.4192	ug/l	3.36	#VALUE!		2386.92	2506.92	2360.23
137 Ba # 3	0.02842	0.02842	ug/l	17.61	#VALUE!		100.00	106.67	80.00
202 Hg # 3	0.02862	0.02862	ug/l	6.86	#VALUE!		93.33	91.67	86.33
205 Tl # 3	0.005465	0.005465	ug/l	27.81	#VALUE!		163.34	126.67	116.67
208 Pb # 3	0.0246	0.0246	ug/l	8.67	#VALUE!		733.36	766.70	686.70
232 Th # 3	0.1037	0.1037	ug/l	3.40	#VALUE!		2937.03	3050.39	2863.69
238 U # 3	0.02349	0.02349	ug/l	3.74	#VALUE!		643.37	660.04	613.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	546329.50	2.44	572657.25	95.4	60 - 125		532086.56	548450.50	558451.44
45 Sc # 1	463692.09	0.93	523286.00	88.6	60 - 125		460893.94	461505.25	468677.13
45 Sc # 3	581817.31	0.82	603286.69	96.4	60 - 125		577448.63	581093.25	586910.13
74 Ge # 1	150880.48	0.31	170650.48	88.4	60 - 125		151247.25	150350.98	151043.19
74 Ge # 2	22920.01	1.28	24862.19	92.2	60 - 125		22586.26	23131.38	23042.40
74 Ge # 3	150135.23	0.83	155795.36	96.4	60 - 125		148733.02	150559.02	151113.69
89 Y # 3	975650.38	0.38	1011968.20	96.4	60 - 125		972020.50	975527.69	979402.88
115 In # 3	934642.19	0.67	989458.81	94.5	60 - 125		927410.19	937917.81	938598.75
159 Tb # 3	1275011.10	1.04	1388283.80	91.8	60 - 125		1285207.60	1259985.10	1279840.60
209 Bi # 3	747144.25	0.02	829936.50	90.0	60 - 125		747066.50	747310.94	747055.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\171SMPL.D\171SMPL.D#
Date Acquired: Dec 28 2012 02:08 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-c-14-a
Misc Info: 3010 1/500
Vial Number: 4101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.1478	0.001478	ug/l	57.63	100.00		6.67	6.67	3.33
11 B	# 3	971.7	9.717	ug/l	2.47	1800.00		28561.70	28845.46	28571.63
23 Na	# 1	2301000	23010	ug/l	0.38	81000.00		107579520.00	109033600.00	111405210.00
24 Mg	# 1	275600	2756	ug/l	0.58	81000.00		8719510.00	8784465.00	8960086.00
27 Al	# 1	118.7	1.187	ug/l	0.59	81000.00		5164.17	5250.85	5377.56
39 K	# 2	83310	833.1	ug/l	0.54	81000.00		218114.66	224128.13	227257.23
40 Ca	# 1	100100	1001	ug/l	0.60	81000.00		7610021.50	7668152.50	7802918.00
45 Sc	# 2	----	--------		--------	#VALUE!		34639.59	35071.54	36493.01
47 Ti	# 3	4.281	0.04281	ug/l	30.11	1620.00		46.67	36.67	60.00
51 V	# 2	2.058	0.02058	ug/l	59.62	1800.00		166.67	127.78	158.89
52 Cr	# 2	-0.1635	-0.001635	ug/l	540.24	1800.00		110.00	75.56	97.78
55 Mn	# 3	30.5	0.305	ug/l	1.11	1800.00		5377.61	5420.92	5417.61
56 Fe	# 1	309.2	3.092	ug/l	2.08	81000.00		46081.27	45560.00	47430.93
59 Co	# 3	0.3429	0.003429	ug/l	13.12	1800.00		73.34	66.67	63.34
60 Ni	# 2	19.96	0.1996	ug/l	8.82	1800.00		304.45	281.12	312.23
63 Cu	# 2	-18.57	-0.1857	ug/l	3.72	1800.00		108.89	78.89	101.11
66 Zn	# 3	31.07	0.3107	ug/l	19.88	1800.00		796.71	626.70	673.37
75 As	# 2	1.968	0.01968	ug/l	15.52	100.00		14.33	15.67	15.33
78 Se	# 1	0.7048	0.007048	ug/l	127.62	100.00		27.00	21.33	25.00
88 Sr	# 3	1632	16.32	ug/l	0.60	1800.00		341341.03	338795.44	341654.69
95 Mo	# 3	4.752	0.04752	ug/l	9.84	1800.00		170.01	186.67	160.01
107 Ag	# 3	0.2969	0.002969	ug/l	59.62	100.00		30.00	53.33	26.67
111 Cd	# 3	-0.000338	-3.38E-006	ug/l	64320.00	100.00		23.28	29.94	29.95
118 Sn	# 3	1.286	0.01286	ug/l	25.14	1800.00		270.01	286.68	306.68
121 Sb	# 3	15.19	0.1519	ug/l	14.35	100.00		1103.41	936.72	890.05
137 Ba	# 3	7.927	0.07927	ug/l	5.64	1800.00		246.68	230.01	223.34
202 Hg	# 3	1.996	0.01996	ug/l	10.29	5.00		66.00	74.00	72.67
205 Tl	# 3	0.09465	0.0009465	ug/l	35.74	20.00		60.00	70.00	60.00
208 Pb	# 3	2.026	0.02026	ug/l	15.13	1800.00		670.03	620.03	570.03
232 Th	# 3	3.972	0.03972	ug/l	8.13	#VALUE!		1246.76	1220.09	1106.74
238 U	# 3	0.7141	0.007141	ug/l	16.43	#VALUE!		186.67	163.34	223.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	550351.38	1.97	572657.25	96.1	60 - 125		539120.13	551199.38	560734.56
45 Sc	# 1	465434.50	1.68	523286.00	88.9	60 - 125		457317.44	466115.88	472870.19
45 Sc	# 3	589337.31	0.94	603286.69	97.7	60 - 125		583521.69	589992.31	594497.94
74 Ge	# 1	150062.70	1.44	170650.48	87.9	60 - 125		147820.63	150233.39	152134.08
74 Ge	# 2	22528.80	1.82	24862.19	90.6	60 - 125		22131.29	22506.16	22948.93
74 Ge	# 3	148789.89	0.72	155795.36	95.5	60 - 125		149096.28	147592.47	149680.92
89 Y	# 3	968188.44	0.18	1011968.20	95.7	60 - 125		966390.31	969760.38	968414.56
115 In	# 3	914751.13	0.12	989458.81	92.4	60 - 125		913508.81	915497.56	915246.94
159 Tb	# 3	1245205.50	2.45	1388283.80	89.7	60 - 125		1210029.80	1261738.80	1263848.10
209 Bi	# 3	712318.50	0.94	829936.50	85.8	60 - 125		704562.00	716531.63	715861.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\172SMPL.D\172SMPL.D#
Date Acquired: Dec 28 2012 02:15 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-a-16-a
Misc Info: 3010 1/500
Vial Number: 4102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.04546	-0.0004546	ug/l	169.25	100.00		0.00	0.00	3.33
11 B	# 3	1107	11.07	ug/l	3.46	1800.00		32564.77	33810.36	32878.79
23 Na	# 1	2566000	25660	ug/l	0.67	81000.00		121898180.00	122857680.00	124272820.00
24 Mg	# 1	307700	3077	ug/l	1.15	81000.00		9787499.00	10003643.00	10013495.00
27 Al	# 1	85.97	0.8597	ug/l	4.78	81000.00		3933.84	4083.87	4263.93
39 K	# 2	92830	928.3	ug/l	1.66	81000.00		249414.77	252240.28	255928.67
40 Ca	# 1	101600	1016	ug/l	0.47	81000.00		7824528.00	7871176.50	7943341.50
45 Sc	# 2	----	--------		--------	#VALUE!		35202.87	36120.12	36463.01
47 Ti	# 3	5.019	0.05019	ug/l	33.79	1620.00		40.00	73.34	56.67
51 V	# 2	0.5928	0.005928	ug/l	24.17	1800.00		127.78	123.33	133.34
52 Cr	# 2	-0.08756	-0.0008756	ug/l	569.78	1800.00		93.33	107.78	92.22
55 Mn	# 3	5.619	0.05619	ug/l	9.64	1800.00		1566.78	1533.44	1716.80
56 Fe	# 1	50.13	0.5013	ug/l	4.10	81000.00		16607.90	16921.45	17131.72
59 Co	# 3	0.003443	3.443E-005	ug/l	1354.60	1800.00		26.67	26.67	36.67
60 Ni	# 2	20.06	0.2006	ug/l	9.36	1800.00		290.01	297.78	330.01
63 Cu	# 2	-19.41	-0.1941	ug/l	2.08	1800.00		81.11	84.45	68.89
66 Zn	# 3	3.304	0.03304	ug/l	11.37	1800.00		320.01	320.01	333.35
75 As	# 2	0.4682	0.004682	ug/l	183.26	100.00		11.33	12.00	14.67
78 Se	# 1	0.2513	0.002513	ug/l	390.81	100.00		26.67	20.00	23.00
88 Sr	# 3	1646	16.46	ug/l	2.56	1800.00		359717.59	360954.09	357692.19
95 Mo	# 3	3.72	0.0372	ug/l	17.87	1800.00		163.34	150.00	126.67
107 Ag	# 3	0.2194	0.002194	ug/l	53.51	100.00		36.67	20.00	36.67
111 Cd	# 3	-0.5372	-0.005372	ug/l	37.38	100.00		16.61	23.29	16.63
118 Sn	# 3	1.028	0.01028	ug/l	24.23	1800.00		293.35	273.34	276.68
121 Sb	# 3	8.686	0.08686	ug/l	8.70	100.00		690.04	626.70	653.37
137 Ba	# 3	4.832	0.04832	ug/l	28.35	1800.00		190.01	116.67	150.01
202 Hg	# 3	1.436	0.01436	ug/l	28.94	5.00		58.00	57.00	71.00
205 Tl	# 3	-0.00422	-4.22E-005	ug/l	1835.80	20.00		56.67	36.67	56.67
208 Pb	# 3	0.1446	0.001446	ug/l	134.44	1800.00		203.34	220.01	280.01
232 Th	# 3	2.759	0.02759	ug/l	6.30	#VALUE!		840.06	950.06	910.06
238 U	# 3	0.5226	0.005226	ug/l	12.36	#VALUE!		160.01	143.34	130.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	571416.38	3.24	572657.25	99.8	60 - 125		550775.56	576821.75	586651.88
45 Sc	# 1	469465.88	0.36	523286.00	89.7	60 - 125		468543.72	468455.13	471398.81
45 Sc	# 3	612927.38	1.90	603286.69	101.6	60 - 125		600125.75	622975.19	615681.13
74 Ge	# 1	152072.28	0.18	170650.48	89.1	60 - 125		151759.09	152269.91	152187.83
74 Ge	# 2	22951.90	1.93	24862.19	92.3	60 - 125		22946.71	22510.60	23398.39
74 Ge	# 3	153619.20	1.06	155795.36	98.6	60 - 125		151885.70	153867.39	155104.53
89 Y	# 3	1013681.00	2.41	1011968.20	100.2	60 - 125		985437.56	1027302.30	1028303.20
115 In	# 3	941205.06	1.30	989458.81	95.1	60 - 125		928270.94	952608.13	942736.25
159 Tb	# 3	1295051.30	1.77	1388283.80	93.3	60 - 125		1284168.40	1321336.40	1279648.90
209 Bi	# 3	724498.75	1.31	829936.50	87.3	60 - 125		713566.25	730555.50	729374.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\173SMPL.D\173SMPL.D#
Date Acquired: Dec 28 2012 02:23 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-c-16-a
Misc Info: 3010 1/500
Vial Number: 4103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.08989	-0.0008989	ug/l	0.00	100.00		0.00	0.00	0.00
11 B	# 3	996.2	9.962	ug/l	2.27	1800.00		30147.26	30695.09	31225.90
23 Na	# 1	2341000	23410	ug/l	1.36	81000.00		112025570.00	110620140.00	114237260.00
24 Mg	# 1	282800	2828	ug/l	0.80	81000.00		9097505.00	9134512.00	9183534.00
27 Al	# 1	105.3	1.053	ug/l	4.25	81000.00		4607.34	4780.72	5057.47
39 K	# 2	84700	847	ug/l	0.77	81000.00		228374.77	232478.17	234595.41
40 Ca	# 1	95380	953.8	ug/l	0.31	81000.00		7305418.00	7437070.00	7485417.50
45 Sc	# 2	----	--------		--------	#VALUE!		35556.82	36840.44	37078.62
47 Ti	# 3	2.881	0.02881	ug/l	20.15	1620.00		33.33	33.33	43.34
51 V	# 2	1.354	0.01354	ug/l	89.29	1800.00		136.67	122.22	167.78
52 Cr	# 2	-0.2333	-0.002333	ug/l	57.14	1800.00		91.11	95.56	98.89
55 Mn	# 3	9.778	0.09778	ug/l	4.61	1800.00		2330.22	2196.86	2253.54
56 Fe	# 1	65.39	0.6539	ug/l	1.64	81000.00		18616.43	18609.73	18823.34
59 Co	# 3	0.1564	0.001564	ug/l	29.39	1800.00		46.67	53.34	43.33
60 Ni	# 2	25.92	0.2592	ug/l	6.25	1800.00		358.90	342.23	378.90
63 Cu	# 2	-20.28	-0.2028	ug/l	2.55	1800.00		54.45	46.67	72.22
66 Zn	# 3	4.578	0.04578	ug/l	23.66	1800.00		346.68	350.01	326.68
75 As	# 2	0.7538	0.007538	ug/l	116.86	100.00		14.33	11.33	14.00
78 Se	# 1	0.04216	0.0004216	ug/l	2098.90	100.00		21.00	20.33	26.33
88 Sr	# 3	1548	15.48	ug/l	2.48	1800.00		333910.41	337189.34	333380.63
95 Mo	# 3	2.323	0.02323	ug/l	24.42	1800.00		100.00	90.00	123.34
107 Ag	# 3	0.009446	9.446E-005	ug/l	14.97	100.00		13.33	13.33	13.33
111 Cd	# 3	-0.3361	-0.003361	ug/l	86.61	100.00		26.64	16.64	23.29
118 Sn	# 3	0.4822	0.004822	ug/l	239.94	1800.00		320.01	206.67	213.34
121 Sb	# 3	6.444	0.06444	ug/l	6.22	100.00		550.03	516.69	526.69
137 Ba	# 3	3.485	0.03485	ug/l	27.01	1800.00		90.00	106.67	143.34
202 Hg	# 3	1.361	0.01361	ug/l	15.81	5.00		55.67	63.33	62.33
205 Tl	# 3	0.06837	0.0006837	ug/l	95.93	20.00		73.34	56.67	53.34
208 Pb	# 3	0.1386	0.001386	ug/l	21.72	1800.00		240.01	226.67	226.68
232 Th	# 3	1.669	0.01669	ug/l	9.68	#VALUE!		570.03	653.37	626.70
238 U	# 3	0.3271	0.003271	ug/l	14.55	#VALUE!		86.67	106.67	86.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	577745.31	3.59	572657.25	100.9	60 - 125		557599.38	576604.81	599031.69
45 Sc	# 1	469890.84	1.27	523286.00	89.8	60 - 125		463843.06	470042.91	475786.59
45 Sc	# 3	611084.38	1.26	603286.69	101.3	60 - 125		603402.81	610991.63	618858.75
74 Ge	# 1	152274.02	1.16	170650.48	89.2	60 - 125		150570.55	152145.47	154106.05
74 Ge	# 2	23030.91	1.35	24862.19	92.6	60 - 125		22806.56	22901.13	23385.06
74 Ge	# 3	152977.92	0.85	155795.36	98.2	60 - 125		152212.08	152242.45	154479.25
89 Y	# 3	1004031.60	2.24	1011968.20	99.2	60 - 125		984706.44	998727.69	1028660.60
115 In	# 3	930901.88	0.88	989458.81	94.1	60 - 125		921932.19	932726.56	938046.88
159 Tb	# 3	1282538.80	1.51	1388283.80	92.4	60 - 125		1294257.30	1260256.40	1293102.50
209 Bi	# 3	722005.25	1.63	829936.50	87.0	60 - 125		714522.06	715928.00	735565.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\174SMPL.D\174SMPL.D#
Date Acquired: Dec 28 2012 02:30 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-c-17-a
Misc Info: 3010 1/500
Vial Number: 4104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.04608	0.0004608	ug/l	292.10	100.00		3.33	0.00	6.67
11 B	# 3	1093	10.93	ug/l	1.02	1800.00		31980.52	33466.20	33362.91
23 Na	# 1	2235000	22350	ug/l	1.71	81000.00		105360850.00	107680090.00	110643730.00
24 Mg	# 1	266300	2663	ug/l	0.90	81000.00		8493208.00	8703900.00	8776343.00
27 Al	# 1	111.8	1.118	ug/l	7.94	81000.00		4784.05	4987.45	5497.97
39 K	# 2	81940	819.4	ug/l	0.99	81000.00		220902.70	225079.89	230448.77
40 Ca	# 1	80070	800.7	ug/l	0.16	81000.00		6226755.50	6276342.50	6317747.50
45 Sc	# 2	----	--------		--------	#VALUE!		35963.16	35944.23	36695.70
47 Ti	# 3	5.364	0.05364	ug/l	14.85	1620.00		66.67	53.34	56.67
51 V	# 2	1.367	0.01367	ug/l	27.35	1800.00		137.78	138.89	152.22
52 Cr	# 2	-0.04614	-0.0004614	ug/l	805.59	1800.00		88.89	105.56	104.45
55 Mn	# 3	17.38	0.1738	ug/l	2.80	1800.00		3410.40	3497.10	3567.13
56 Fe	# 1	66.91	0.6691	ug/l	4.96	81000.00		18649.83	18683.11	19313.91
59 Co	# 3	0.01273	0.0001273	ug/l	1048.70	1800.00		43.33	36.67	13.33
60 Ni	# 2	19.84	0.1984	ug/l	13.20	1800.00		295.56	334.45	288.89
63 Cu	# 2	-19.83	-0.1983	ug/l	0.78	1800.00		67.78	65.56	73.33
66 Zn	# 3	8.298	0.08298	ug/l	54.48	1800.00		456.69	326.68	406.68
75 As	# 2	0.05961	0.0005961	ug/l	1190.10	100.00		12.00	10.67	13.33
78 Se	# 1	-0.08779	-0.0008779	ug/l	345.48	100.00		22.67	21.00	22.67
88 Sr	# 3	1315	13.15	ug/l	0.06	1800.00		279550.50	280338.25	280353.66
95 Mo	# 3	1.572	0.01572	ug/l	22.25	1800.00		93.34	73.34	80.00
107 Ag	# 3	0.02329	0.0002329	ug/l	358.35	100.00		20.00	16.67	6.67
111 Cd	# 3	0.2282	0.002282	ug/l	125.28	100.00		26.64	33.31	36.64
118 Sn	# 3	0.8216	0.008216	ug/l	16.55	1800.00		256.68	270.01	270.01
121 Sb	# 3	3.798	0.03798	ug/l	5.02	100.00		380.01	400.01	390.02
137 Ba	# 3	12.23	0.1223	ug/l	9.34	1800.00		336.68	393.35	340.01
202 Hg	# 3	1.089	0.01089	ug/l	11.62	5.00		54.33	52.67	57.33
205 Tl	# 3	0.08134	0.0008134	ug/l	92.51	20.00		50.00	73.34	63.34
208 Pb	# 3	0.2324	0.002324	ug/l	52.50	1800.00		246.68	223.34	273.34
232 Th	# 3	1.417	0.01417	ug/l	11.25	#VALUE!		590.03	533.36	510.03
238 U	# 3	0.4145	0.004145	ug/l	11.43	#VALUE!		103.34	126.67	113.34

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	574692.06	1.73	572657.25	100.4	60 - 125		563249.75	579784.50	581042.00
45 Sc	# 1	472697.03	0.80	523286.00	90.3	60 - 125		468502.38	473716.09	475872.63
45 Sc	# 3	605303.75	0.66	603286.69	100.3	60 - 125		601260.00	605356.56	609294.63
74 Ge	# 1	152450.69	0.43	170650.48	89.3	60 - 125		151834.30	153134.84	152382.91
74 Ge	# 2	23132.53	1.57	24862.19	93.0	60 - 125		22718.68	23282.73	23396.18
74 Ge	# 3	153914.63	0.27	155795.36	98.8	60 - 125		154077.19	153435.53	154231.14
89 Y	# 3	988535.06	0.14	1011968.20	97.7	60 - 125		987016.94	989823.94	988764.38
115 In	# 3	928069.38	0.01	989458.81	93.8	60 - 125		928183.50	927925.06	928099.38
159 Tb	# 3	1264310.30	0.42	1388283.80	91.1	60 - 125		1266620.50	1268053.40	1258257.30
209 Bi	# 3	712075.88	0.35	829936.50	85.8	60 - 125		713921.56	709204.56	713101.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\175SMPL.D\175SMPL.D#
Date Acquired: Dec 28 2012 02:38 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-e-18-a
Misc Info: 3010 1/500
Vial Number: 4105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: ~~100.00~~ 500
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.08989	-0.0008989	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	232	2.32	ug/l	4.81	1800.00		11777.21	11777.21	11994.06
23 Na # 1	449100	4491	ug/l	4.87	81000.00		21824066.00	22133476.00	22374870.00
24 Mg # 1	55600	556	ug/l	5.06	81000.00		1827967.00	1822452.30	1853387.00
27 Al # 1	75.65	0.7565	ug/l	5.03	81000.00		3827.15	3797.17	3753.80
39 K # 2	16180	161.8	ug/l	0.82	81000.00		50280.91	50665.30	51531.18
40 Ca # 1	16980	169.8	ug/l	5.12	81000.00		1408468.90	1439949.90	1450439.80
45 Sc # 2	----	--------		--------	#VALUE!		36154.67	36736.84	38189.41
47 Ti # 3	4.965	0.04965	ug/l	54.84	1620.00		26.67	70.00	70.00
51 V # 2	0.8695	0.008695	ug/l	60.14	1800.00		133.34	145.56	131.11
52 Cr # 2	-0.5111	-0.005111	ug/l	59.44	1800.00		85.56	97.78	91.11
55 Mn # 3	5.367	0.05367	ug/l	6.18	1800.00		1646.79	1546.78	1566.78
56 Fe # 1	22.92	0.2292	ug/l	22.61	81000.00		14102.41	13972.40	14215.84
59 Co # 3	-0.04615	-0.0004615	ug/l	126.67	1800.00		30.00	26.67	16.67
60 Ni # 2	22.97	0.2297	ug/l	3.52	1800.00		330.01	341.12	353.34
63 Cu # 2	-20.06	-0.2006	ug/l	3.15	1800.00		74.45	71.11	47.78
66 Zn # 3	0.4617	0.004617	ug/l	620.53	1800.00		263.34	263.34	336.68
75 As # 2	1.459	0.01459	ug/l	78.89	100.00		15.33	12.33	17.00
78 Se # 1	-0.816	-0.00816	ug/l	72.62	100.00		17.67	22.33	20.33
88 Sr # 3	259.3	2.593	ug/l	2.78	1800.00		57406.18	56810.65	56723.98
95 Mo # 3	0.9804	0.009804	ug/l	68.20	1800.00		86.67	46.67	66.67
107 Ag # 3	0.08418	0.0008418	ug/l	80.47	100.00		23.33	23.33	13.33
111 Cd # 3	-0.3637	-0.003637	ug/l	202.45	100.00		29.97	6.65	29.98
118 Sn # 3	0.4584	0.004584	ug/l	109.21	1800.00		226.68	243.34	283.34
121 Sb # 3	3.41	0.0341	ug/l	21.43	100.00		400.02	403.35	333.35
137 Ba # 3	2.236	0.02236	ug/l	18.05	1800.00		73.34	73.34	93.34
202 Hg # 3	0.8813	0.008813	ug/l	26.79	5.00		53.00	59.00	50.33
205 Tl # 3	0.05634	0.0005634	ug/l	72.20	20.00		60.00	66.67	53.34
208 Pb # 3	0.05175	0.0005175	ug/l	388.79	1800.00		260.01	220.01	166.67
232 Th # 3	0.9986	0.009986	ug/l	19.87	#VALUE!		490.02	500.02	403.35
238 U # 3	0.1226	0.001226	ug/l	49.57	#VALUE!		50.00	23.33	53.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	585940.75	2.33	572657.25	102.3	60 - 125		571078.88	598016.38	588727.00
45 Sc # 1	480391.00	4.26	523286.00	91.8	60 - 125		477712.00	502052.34	461408.66
45 Sc # 3	607867.88	1.07	603286.69	100.8	60 - 125		605850.81	602631.06	615121.69
74 Ge # 1	156355.70	3.53	170650.48	91.6	60 - 125		156073.38	162014.38	150979.38
74 Ge # 2	23597.95	1.70	24862.19	94.9	60 - 125		23397.26	23336.08	24060.52
74 Ge # 3	155739.72	0.27	155795.36	100.0	60 - 125		155586.97	155423.16	156209.09
89 Y # 3	1018995.80	2.50	1011968.20	100.7	60 - 125		1004620.00	1048426.30	1003941.30
115 In # 3	951543.94	0.09	989458.81	96.2	60 - 125		952333.00	950687.69	951610.94
159 Tb # 3	1299897.80	1.30	1388283.80	93.6	60 - 125		1318259.90	1296429.90	1285003.50
209 Bi # 3	754130.38	0.03	829936.50	90.9	60 - 125		753890.25	754301.06	754199.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\176SMPL.D\176SMPL.D#
Date Acquired: Dec 28 2012 02:45 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-e-18-a ~~.80~~ A
Misc Info: 3010 1/2500
Vial Number: 4106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: ~~500.00~~ 100
Autodil Factor: Undiluted
Final Dil Factor: 500.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10295	20.59	ug/l	2.04	100.00		47789.01	49997.70	49630.65
11 B # 3	25640	51.28	ug/l	1.55	1800.00		126368.42	130718.98	130929.42
23 Na # 1	11630000	23260	ug/l	1.51	81000.00		110435690.00	108991340.00	112318210.00
24 Mg # 1	2302000	4604	ug/l	0.38	81000.00		14633788.00	14808616.00	14773123.00
27 Al # 1	105150	210.3	ug/l	0.41	81000.00		770387.63	774112.06	780007.94
39 K # 2	1474000	2948	ug/l	2.75	81000.00		749242.13	762436.00	776408.44
40 Ca # 1	1431500	2863	ug/l	0.18	81000.00		21596684.00	21871686.00	22023814.00
45 Sc # 2	----	--------		--------	#VALUE!		33308.32	36394.03	36871.57
47 Ti # 3	10730	21.46	ug/l	2.10	1620.00		19043.41	19170.23	19030.01
51 V # 2	10530	21.06	ug/l	3.55	1800.00		35853.23	35974.54	36633.64
52 Cr # 2	10435	20.87	ug/l	2.94	1800.00		41909.05	42401.17	43333.33
55 Mn # 3	108850	217.7	ug/l	1.82	1800.00		3336342.00	3364651.30	3336381.80
56 Fe # 1	1052000	2104	ug/l	0.90	81000.00		24002056.00	24070486.00	24519462.00
59 Co # 3	10325	20.65	ug/l	1.36	1800.00		234483.36	234358.84	233818.25
60 Ni # 2	10555	21.11	ug/l	3.09	1800.00		18202.33	18753.98	18663.91
63 Cu # 2	10275	20.55	ug/l	3.26	1800.00		47227.82	47828.29	48419.84
66 Zn # 3	10930	21.86	ug/l	1.45	1800.00		30208.84	30175.45	30589.43
75 As # 2	10620	21.24	ug/l	3.17	100.00		3671.38	3861.08	3774.06
78 Se # 1	10375	20.75	ug/l	0.07	100.00		7075.05	7084.72	7103.39
88 Sr # 3	16400	32.8	ug/l	3.52	1800.00		690506.38	691351.00	687735.44
95 Mo # 3	10850	21.7	ug/l	2.11	1800.00		61330.22	61012.27	60520.13
107 Ag # 3	9225	18.45	ug/l	1.66	100.00		147729.86	147207.98	149089.42
111 Cd # 3	10700	21.4	ug/l	0.68	100.00		37277.42	36282.25	36957.25
118 Sn # 3	10370	20.74	ug/l	1.65	1800.00		114160.98	113464.11	114148.19
121 Sb # 3	10650	21.3	ug/l	2.62	100.00		108472.49	109355.16	107895.70
137 Ba # 3	10545	21.09	ug/l	2.10	1800.00		56551.36	56788.63	56989.91
202 Hg # 3	509.5	1.019	ug/l	0.38	5.00		1835.44	1797.44	1840.11
205 Tl # 3	2075	4.15	ug/l	4.68	20.00		62657.86	63461.02	63189.90
208 Pb # 3	10410	20.82	ug/l	4.47	1800.00		435725.25	436872.47	433631.81
232 Th # 3	10040	20.08	ug/l	2.17	#VALUE!		503165.97	507086.75	500974.69
238 U # 3	9975	19.95	ug/l	2.01	#VALUE!		504549.69	507538.31	503116.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	559779.31	2.25	572657.25	97.8	60 - 125		549108.88	556550.38	573678.75
45 Sc # 1	465567.59	0.87	523286.00	89.0	60 - 125		460992.00	467012.00	468698.78
45 Sc # 3	590534.38	1.72	603286.69	97.9	60 - 125		591050.31	580158.19	600394.56
74 Ge # 1	150465.41	0.26	170650.48	88.2	60 - 125		150186.05	150298.13	150912.09
74 Ge # 2	22233.26	4.39	24862.19	89.4	60 - 125		21167.92	22450.53	23081.32
74 Ge # 3	147787.30	1.36	155795.36	94.9	60 - 125		149679.13	145689.14	147993.64
89 Y # 3	976663.50	3.50	1011968.20	96.5	60 - 125		1013148.30	945389.75	971452.50
115 In # 3	895670.50	1.98	989458.81	90.5	60 - 125		908051.63	875414.06	903545.69
159 Tb # 3	1240333.30	4.07	1388283.80	89.3	60 - 125		1268672.30	1182122.80	1270204.60
209 Bi # 3	705536.50	1.57	829936.50	85.0	60 - 125		712598.31	692731.25	711279.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\177SMPL.D\177SMPL.D#
Date Acquired: Dec 28 2012 02:53 pm
Acq. Method: EPA2002C.M
Operator: RM MS
Sample Name: 680-85793-e-18-a ~~PDS~~
Misc Info: 3010 1/500
Vial Number: 4107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	12.52	0.1252	ug/l	15.52	100.00		283.34	356.68	270.01
11 B	# 3	1144	11.44	ug/l	3.65	1800.00		33142.41	33736.91	33833.55
23 Na	# 1	2189000	21890	ug/l	1.64	81000.00		102127280.00	103338300.00	106157860.00
24 Mg	# 1	262300	2623	ug/l	0.51	81000.00		8307931.50	8382657.50	8458057.00
27 Al	# 1	1175	11.75	ug/l	1.08	81000.00		43293.09	44415.53	44509.07
39 K	# 2	80110	801.1	ug/l	0.70	81000.00		214332.80	219037.36	223560.91
40 Ca	# 1	78470	784.7	ug/l	0.92	81000.00		5958693.00	6115164.50	6067268.50
45 Sc	# 2	----	--------		--------	#VALUE!		34292.32	36249.25	35772.83
47 Ti	# 3	26.99	0.2699	ug/l	10.77	1620.00		236.68	226.67	283.34
51 V	# 2	22.56	0.2256	ug/l	6.29	1800.00		486.68	511.12	553.35
52 Cr	# 2	19.59	0.1959	ug/l	6.39	1800.00		494.46	538.90	501.12
55 Mn	# 3	131.2	1.312	ug/l	3.72	1800.00		21296.00	21079.17	20908.96
56 Fe	# 1	1137	11.37	ug/l	0.86	81000.00		141133.86	140317.41	143961.09
59 Co	# 3	11.75	0.1175	ug/l	7.90	1800.00		1276.75	1516.78	1340.08
60 Ni	# 2	39.85	0.3985	ug/l	1.15	1800.00		474.46	486.68	492.23
63 Cu	# 2	0.7467	0.007467	ug/l	93.32	1800.00		534.46	554.46	585.57
66 Zn	# 3	38.66	0.3866	ug/l	8.06	1800.00		736.70	830.04	860.05
75 As	# 2	22.44	0.2244	ug/l	13.51	100.00		58.33	50.33	49.67
78 Se	# 1	23.8	0.238	ug/l	6.51	100.00		108.00	103.67	98.33
88 Sr	# 3	1322	13.22	ug/l	1.94	1800.00		272242.81	272337.50	278326.81
95 Mo	# 3	28.49	0.2849	ug/l	5.11	1800.00		783.37	856.71	903.38
107 Ag	# 3	13	0.13	ug/l	4.59	100.00		1063.40	1113.40	1033.40
111 Cd	# 3	12.61	0.1261	ug/l	11.06	100.00		243.09	273.07	226.39
118 Sn	# 3	23.27	0.2327	ug/l	3.14	1800.00		1476.77	1476.77	1573.45
121 Sb	# 3	31	0.31	ug/l	4.11	100.00		1796.82	1813.49	1746.81
137 Ba	# 3	34.27	0.3427	ug/l	1.58	1800.00		940.06	943.39	970.05
202 Hg	# 3	2.764	0.02764	ug/l	10.10	5.00		76.33	87.00	86.67
205 Tl	# 3	8.922	0.08922	ug/l	2.27	20.00		1340.10	1346.76	1466.77
208 Pb	# 3	11.63	0.1163	ug/l	10.34	1800.00		2753.51	2470.16	2520.16
232 Th	# 3	27.43	0.2743	ug/l	2.21	#VALUE!		7038.50	6908.41	7138.56
238 U	# 3	22.17	0.2217	ug/l	3.04	#VALUE!		5464.47	5817.95	5504.47

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	564490.88	4.08	572657.25	98.6	60 - 125		539348.69	569608.63	584515.38
45 Sc	# 1	464761.06	0.48	523286.00	88.8	60 - 125		462217.47	465838.19	466227.47
45 Sc	# 3	587981.25	3.30	603286.69	97.5	60 - 125		566442.31	593439.63	604061.81
74 Ge	# 1	150696.14	0.55	170650.48	88.3	60 - 125		150405.63	150045.02	151637.83
74 Ge	# 2	22963.78	1.66	24862.19	92.4	60 - 125		22650.78	22853.27	23387.29
74 Ge	# 3	149591.19	2.67	155795.36	96.0	60 - 125		145041.03	151245.03	152487.53
89 Y	# 3	962858.13	2.61	1011968.20	95.1	60 - 125		934861.00	970406.56	983306.88
115 In	# 3	908664.44	2.33	989458.81	91.8	60 - 125		884823.31	915947.50	925222.69
159 Tb	# 3	1221383.30	4.23	1388283.80	88.0	60 - 125		1171089.80	1218695.60	1274364.40
209 Bi	# 3	702214.44	1.50	829936.50	84.6	60 - 125		690171.69	706763.81	709707.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\178SMPL.D\178SMPL.D#
Date Acquired: Dec 28 2012 03:00 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-e-18-b ms
Misc Info: 3010 1/500
Vial Number: 4108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.37	0.1137	ug/l	2.78	100.00		280.01	273.34	293.34
11 B # 3	1089	10.89	ug/l	0.85	1800.00		32507.74	32738.30	33760.11
23 Na # 1	2144000	21440	ug/l	0.79	81000.00		102695810.00	102576980.00	104155650.00
24 Mg # 1	256900	2569	ug/l	0.21	81000.00		8306090.00	8310530.50	8348030.00
27 Al # 1	1178	11.78	ug/l	1.17	81000.00		44128.18	45000.41	45153.93
39 K # 2	79470	794.7	ug/l	1.49	81000.00		212798.20	217914.47	222748.53
40 Ca # 1	77170	771.7	ug/l	0.68	81000.00		5978396.50	6040876.50	6067707.50
45 Sc # 2	----	--------		--------	#VALUE!		36061.17	36161.27	37058.68
47 Ti # 3	25.22	0.2522	ug/l	4.10	1620.00		243.34	243.34	230.01
51 V # 2	21.79	0.2179	ug/l	7.83	1800.00		526.68	502.23	483.34
52 Cr # 2	19.66	0.1966	ug/l	6.26	1800.00		532.23	502.23	507.79
55 Mn # 3	123.1	1.231	ug/l	2.25	1800.00		20331.59	20631.89	19974.51
56 Fe # 1	1099	10.99	ug/l	0.49	81000.00		138097.95	139300.27	139367.09
59 Co # 3	11.09	0.1109	ug/l	3.18	1800.00		1386.76	1286.74	1326.76
60 Ni # 2	29.74	0.2974	ug/l	4.07	1800.00		396.67	388.90	396.68
63 Cu # 2	1.732	0.01732	ug/l	106.87	1800.00		583.35	541.12	623.35
66 Zn # 3	33.07	0.3307	ug/l	6.14	1800.00		720.04	750.04	773.37
75 As # 2	24.89	0.2489	ug/l	18.33	100.00		65.33	51.33	55.33
78 Se # 1	20.19	0.2019	ug/l	9.00	100.00		84.67	95.67	95.67
88 Sr # 3	1274	12.74	ug/l	0.62	1800.00		272404.75	272935.91	270906.84
95 Mo # 3	23.38	0.2338	ug/l	11.14	1800.00		743.37	770.04	633.36
107 Ag # 3	11.56	0.1156	ug/l	4.60	100.00		980.06	1006.72	930.05
111 Cd # 3	10.21	0.1021	ug/l	11.68	100.00		226.44	216.43	186.47
118 Sn # 3	22.6	0.226	ug/l	7.42	1800.00		1460.10	1426.77	1616.80
121 Sb # 3	18.73	0.1873	ug/l	7.04	100.00		1220.08	1206.74	1100.07
137 Ba # 3	32.47	0.3247	ug/l	5.98	1800.00		863.38	926.72	970.06
202 Hg # 3	1.975	0.01975	ug/l	11.87	5.00		69.67	68.00	75.67
205 Tl # 3	8.272	0.08272	ug/l	3.74	20.00		1390.11	1306.77	1350.10
208 Pb # 3	10.51	0.1051	ug/l	4.90	1800.00		2420.15	2396.82	2600.17
232 Th # 3	22.09	0.2209	ug/l	1.67	#VALUE!		5761.27	5914.67	5811.30
238 U # 3	21.57	0.2157	ug/l	1.68	#VALUE!		5504.50	5561.18	5647.89

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	577677.75	1.92	572657.25	100.9	60 - 125		566569.06	577723.00	588741.13
45 Sc # 1	471049.56	0.09	523286.00	90.0	60 - 125		470565.88	471151.38	471431.47
45 Sc # 3	603074.50	0.76	603286.69	100.0	60 - 125		598915.31	602277.00	608031.06
74 Ge # 1	152329.55	0.18	170650.48	89.3	60 - 125		152154.61	152647.38	152186.63
74 Ge # 2	23019.79	1.89	24862.19	92.6	60 - 125		22526.20	23345.01	23188.14
74 Ge # 3	153198.75	0.72	155795.36	98.3	60 - 125		154116.13	151974.23	153505.89
89 Y # 3	990788.63	0.26	1011968.20	97.9	60 - 125		991743.50	987904.06	992718.50
115 In # 3	926777.69	0.64	989458.81	93.7	60 - 125		929840.19	919967.06	930525.81
159 Tb # 3	1280288.90	0.52	1388283.80	92.2	60 - 125		1273111.30	1286281.50	1281473.50
209 Bi # 3	718526.00	0.41	829936.50	86.6	60 - 125		721827.38	717487.19	716263.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\179SMPL.D\179SMPL.D#
Date Acquired: Dec 28 2012 03:08 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-e-~~18-c msd~~ 9
Misc Info: 3010 1/500
Vial Number: 4109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.1337	0.001337	ug/l	151.31	100.00		6.67	0.00	10.00
11 B # 3	1158	11.58	ug/l	0.62	1800.00		34094.02	34615.18	35850.73
23 Na # 1	2348000	23480	ug/l	1.16	81000.00		110128620.00	112752440.00	114767180.00
24 Mg # 1	279400	2794	ug/l	0.64	81000.00		8884972.00	8969451.00	9212481.00
27 Al # 1	85.86	0.8586	ug/l	3.49	81000.00		3933.86	4090.56	4247.27
39 K # 2	87190	871.9	ug/l	1.42	81000.00		233486.77	238928.05	241686.25
40 Ca # 1	83430	834.3	ug/l	1.04	81000.00		6404793.00	6520074.50	6540120.00
45 Sc # 2	----	--------		--------	#VALUE!		36304.89	36243.64	36909.42
47 Ti # 3	4.423	0.04423	ug/l	30.82	1620.00		36.67	60.00	56.67
51 V # 2	1.329	0.01329	ug/l	82.69	1800.00		151.11	117.78	155.56
52 Cr # 2	-0.3274	-0.003274	ug/l	99.42	1800.00		94.45	97.78	86.67
55 Mn # 3	20.23	0.2023	ug/l	3.14	1800.00		3897.20	4047.22	3903.85
56 Fe # 1	59.58	0.5958	ug/l	3.35	81000.00		17712.31	18059.20	18292.78
59 Co # 3	0.07824	0.0007824	ug/l	74.00	1800.00		46.67	33.33	36.67
60 Ni # 2	12.1	0.121	ug/l	9.17	1800.00		243.34	232.23	227.78
63 Cu # 2	-17.48	-0.1748	ug/l	4.23	1800.00		141.11	105.56	126.67
66 Zn # 3	12.1	0.121	ug/l	3.98	1800.00		446.68	456.68	450.02
75 As # 2	1.602	0.01602	ug/l	133.52	100.00		15.67	10.33	18.33
78 Se # 1	-0.02209	-0.0002209	ug/l	1211.00	100.00		21.33	22.33	23.33
88 Sr # 3	1375	13.75	ug/l	0.61	1800.00		294922.25	291787.56	296572.50
95 Mo # 3	1.961	0.01961	ug/l	52.22	1800.00		116.67	60.00	103.34
107 Ag # 3	0.1708	0.001708	ug/l	61.65	100.00		20.00	23.33	36.67
111 Cd # 3	-0.2062	-0.002062	ug/l	277.06	100.00		13.30	33.32	26.63
118 Sn # 3	1.047	0.01047	ug/l	22.46	1800.00		286.68	283.35	263.34
121 Sb # 3	5.313	0.05313	ug/l	12.53	100.00		483.36	493.36	430.02
137 Ba # 3	12.85	0.1285	ug/l	6.40	1800.00		393.35	376.68	350.01
202 Hg # 3	0.9655	0.009655	ug/l	21.28	5.00		52.00	49.67	57.00
205 Tl # 3	-0.02409	-0.0002409	ug/l	296.31	20.00		43.33	36.67	60.00
208 Pb # 3	0.06184	0.0006184	ug/l	257.76	1800.00		176.67	240.01	226.67
232 Th # 3	2.163	0.02163	ug/l	9.11	#VALUE!		783.38	676.71	753.38
238 U # 3	0.5286	0.005286	ug/l	1.61	#VALUE!		143.34	143.34	146.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	579768.19	2.67	572657.25	101.2	60 - 125		564668.75	579077.94	595557.81
45 Sc # 1	469514.41	1.32	523286.00	89.7	60 - 125		465585.91	466316.50	476640.69
45 Sc # 3	614534.81	1.09	603286.69	101.9	60 - 125		612497.56	609064.94	622042.06
74 Ge # 1	152386.91	0.35	170650.48	89.3	60 - 125		151919.17	152266.92	152974.61
74 Ge # 2	22991.23	1.28	24862.19	92.5	60 - 125		22876.68	22770.93	23326.10
74 Ge # 3	153973.67	0.43	155795.36	98.8	60 - 125		154267.80	153217.11	154436.11
89 Y # 3	993731.31	0.33	1011968.20	98.2	60 - 125		991795.50	991860.19	997538.13
115 In # 3	926110.63	0.29	989458.81	93.6	60 - 125		923423.31	926201.63	928706.88
159 Tb # 3	1282933.80	1.64	1388283.80	92.4	60 - 125		1283283.40	1261702.30	1303815.50
209 Bi # 3	716148.06	0.70	829936.50	86.3	60 - 125		721210.63	711201.88	716031.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\180SMPL.D\180SMPL.D#
Date Acquired: Dec 28 2012 03:15 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-e-~~19~~-a 20
Misc Info: 3010 1/500
Vial Number: 4110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.001467	-1.467E-005	ug/l	5236.50	100.00		3.33	0.00	3.33
11 B	# 3	1109	11.09	ug/l	4.20	1800.00		33513.07	34828.82	34431.42
23 Na	# 1	2793000	27930	ug/l	3.22	81000.00		133498140.00	134173280.00	134421650.00
24 Mg	# 1	340800	3408	ug/l	4.46	81000.00		10824597.00	10999548.00	11226576.00
27 Al	# 1	127.3	1.273	ug/l	6.90	81000.00		5407.57	5671.00	5824.39
39 K	# 2	105700	1057	ug/l	0.62	81000.00		284909.38	293394.75	291609.84
40 Ca	# 1	155000	1550	ug/l	4.13	81000.00		11712223.00	12069665.00	12165445.00
45 Sc	# 2	----	--------		--------	#VALUE!		35911.92	36534.30	36779.19
47 Ti	# 3	5.428	0.05428	ug/l	24.01	1620.00		53.34	73.34	53.34
51 V	# 2	1.091	0.01091	ug/l	68.73	1800.00		124.45	137.78	153.34
52 Cr	# 2	1.545	0.01545	ug/l	21.22	1800.00		126.67	132.22	142.22
55 Mn	# 3	7.839	0.07839	ug/l	5.77	1800.00		2010.17	1880.15	2016.83
56 Fe	# 1	91.82	0.9182	ug/l	10.47	81000.00		20905.62	21125.86	22440.86
59 Co	# 3	0.1433	0.001433	ug/l	39.03	1800.00		46.67	40.00	53.33
60 Ni	# 2	20.77	0.2077	ug/l	8.81	1800.00		328.90	301.12	316.67
63 Cu	# 2	-20.47	-0.2047	ug/l	1.57	1800.00		61.11	53.33	46.67
66 Zn	# 3	11.64	0.1164	ug/l	8.81	1800.00		430.02	453.35	453.35
75 As	# 2	42.74	0.4274	ug/l	0.78	100.00		90.33	91.67	90.67
78 Se	# 1	-0.7197	-0.007197	ug/l	79.12	100.00		21.67	18.00	19.33
88 Sr	# 3	2438	24.38	ug/l	3.27	1800.00		527873.63	529619.06	525343.44
95 Mo	# 3	4.269	0.04269	ug/l	7.78	1800.00		163.34	150.01	166.67
107 Ag	# 3	0.2253	0.002253	ug/l	10.20	100.00		33.33	30.00	30.00
111 Cd	# 3	-0.3916	-0.003916	ug/l	55.64	100.00		16.61	23.29	23.28
118 Sn	# 3	0.6264	0.006264	ug/l	78.83	1800.00		243.34	233.34	283.34
121 Sb	# 3	3.046	0.03046	ug/l	8.76	100.00		363.35	336.68	346.68
137 Ba	# 3	9.153	0.09153	ug/l	22.35	1800.00		320.01	283.34	206.67
202 Hg	# 3	0.5342	0.005342	ug/l	3.50	5.00		45.00	44.33	44.33
205 Tl	# 3	-0.0003318	-3.318E-006	ug/l	25335.00	20.00		36.67	50.00	63.34
208 Pb	# 3	-0.0565	-0.000565	ug/l	124.96	1800.00		170.01	193.34	200.01
232 Th	# 3	1.307	0.01307	ug/l	20.61	#VALUE!		496.69	453.36	586.70
238 U	# 3	0.177	0.00177	ug/l	26.60	#VALUE!		66.67	43.33	50.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	591307.63	4.63	572657.25	103.3	60 - 125		563378.56	592500.44	618043.94
45 Sc	# 1	470466.34	3.08	523286.00	89.9	60 - 125		470938.31	484708.41	455752.28
45 Sc	# 3	611009.19	0.88	603286.69	101.3	60 - 125		609590.44	606474.06	616963.13
74 Ge	# 1	150468.45	1.41	170650.48	88.2	60 - 125		150661.20	152491.14	148252.98
74 Ge	# 2	23206.31	0.97	24862.19	93.3	60 - 125		22945.60	23346.13	23327.19
74 Ge	# 3	154309.44	0.31	155795.36	99.0	60 - 125		154820.80	153870.11	154237.45
89 Y	# 3	1004934.80	2.93	1011968.20	99.3	60 - 125		991241.88	984798.63	1038763.90
115 In	# 3	924306.25	0.57	989458.81	93.4	60 - 125		925219.25	929035.94	918663.63
159 Tb	# 3	1274798.50	0.38	1388283.80	91.8	60 - 125		1271033.90	1273044.60	1280317.10
209 Bi	# 3	705966.81	0.18	829936.50	85.1	60 - 125		707066.63	704590.06	706243.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\181_CCV.D\181_CCV.D#
Date Acquired: Dec 28 2012 03:23 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.48 ug/l	1.02	50.00	90 - 110		116552.43	118421.02	119430.75
11 B	99.01 ug/l	1.11	100.00	90 - 110		236428.02	240445.78	242144.03
23 Na	5011 ug/l	0.33	5000.00	90 - 110		23926932.00	24071272.00	24174742.00
24 Mg	4998 ug/l	0.79	5000.00	90 - 110		15855886.00	16057810.00	16358230.00
27 Al	508.8 ug/l	1.39	500.00	90 - 110		1849787.60	1872821.90	1929331.60
39 K	5152 ug/l	1.40	5000.00	90 - 110		1342573.60	1358650.90	1393734.60
40 Ca	5065 ug/l	1.41	5000.00	90 - 110		37956432.00	38667280.00	39641452.00
45 Sc	--------	--------		--- ##### - #####		36633.32	37078.66	37823.41
47 Ti	50.2 ug/l	1.00	50.00	90 - 110		45332.15	44847.59	44934.43
51 V	49.3 ug/l	1.20	50.00	90 - 110		85618.32	86455.71	88429.08
52 Cr	48.85 ug/l	1.04	50.00	90 - 110		101594.20	101629.08	103434.48
55 Mn	505.9 ug/l	0.45	500.00	90 - 110		7931185.00	7898605.00	7868290.50
56 Fe	5026 ug/l	0.40	5000.00	90 - 110		58154320.00	58345672.00	58860680.00
59 Co	49.01 ug/l	0.84	50.00	90 - 110		561185.31	569539.38	563466.75
60 Ni	49.1 ug/l	1.72	50.00	90 - 110		44158.05	43557.72	44741.61
63 Cu	48.86 ug/l	0.83	50.00	90 - 110		114816.84	115857.39	117678.95
66 Zn	50.07 ug/l	0.84	50.00	90 - 110		70395.48	70633.41	69629.70
75 As	49.64 ug/l	1.14	50.00	90 - 110		9048.25	9046.58	9010.89
78 Se	49.23 ug/l	0.86	50.00	90 - 110		16896.48	16844.78	17204.77
88 Sr	48.77 ug/l	0.29	50.00	90 - 110		1023912.70	1022497.30	1017068.80
95 Mo	50.73 ug/l	1.03	50.00	90 - 110		143680.14	146284.33	145559.64
107 Ag	50.45 ug/l	1.18	50.00	90 - 110		411892.06	408909.84	416811.13
111 Cd	49.62 ug/l	0.32	50.00	90 - 110		87453.37	87037.52	86538.66
118 Sn	49.16 ug/l	0.25	50.00	90 - 110		274624.13	275287.41	274815.56
121 Sb	48.91 ug/l	0.45	50.00	90 - 110		254049.27	253225.16	254498.38
137 Ba	49.55 ug/l	0.34	50.00	90 - 110		136639.89	136041.05	135138.02
202 Hg	2.376 ug/l	1.39	2.50	90 - 110		4278.91	4215.23	4235.24
205 Tl	9.821 ug/l	0.07	10.00	90 - 110		152313.91	153491.89	151457.47
208 Pb	48.89 ug/l	0.52	50.00	90 - 110		1041268.90	1047637.20	1042643.30
232 Th	47.73 ug/l	0.57		--- ##### - #####		1204517.10	1205662.50	1212267.10
238 U	47.31 ug/l	0.98		--- ##### - #####		1213376.60	1204929.00	1206136.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	548935.00	2.02	572657.25	95.9	60 - 125		539806.69	545707.50	561290.81
45 Sc	468118.66	0.78	523286.00	89.5	60 - 125		464943.66	467277.69	472134.63
45 Sc	595854.81	0.42	603286.69	98.8	60 - 125		592986.06	597566.63	597011.69
74 Ge	152215.84	0.29	170650.48	89.2	60 - 125		152069.44	151872.14	152705.94
74 Ge	22835.10	1.00	24862.19	91.8	60 - 125		22572.90	22977.88	22954.52
74 Ge	150131.00	0.10	155795.36	96.4	60 - 125		150130.97	149987.28	150274.77
89 Y	971588.75	0.46	1011968.20	96.0	60 - 125		971776.88	975914.69	967074.56
115 In	912770.63	0.24	989458.81	92.2	60 - 125		914236.44	913772.69	910302.81
159 Tb	1265037.80	0.74	1388283.80	91.1	60 - 125		1263972.90	1274869.40	1256271.10
209 Bi	711537.06	0.61	829936.50	85.7	60 - 125		706742.81	715107.50	712760.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\182_CCB.D\182_CCB.D#
Date Acquired: Dec 28 2012 03:30 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01294	0.01294	ug/l	1.48	#VALUE!		33.33	33.33	33.33
11 B	# 3	1.073	1.073	ug/l	7.81	#VALUE!		8475.40	8422.05	8285.32
23 Na	# 1	-5.988	-5.988	ug/l	2.71	#VALUE!		105902.97	107196.06	107240.57
24 Mg	# 1	1.114	1.114	ug/l	3.28	#VALUE!		4143.90	3973.85	4213.93
27 Al	# 1	0.195	0.195	ug/l	5.95	#VALUE!		1633.45	1566.78	1636.78
39 K	# 2	1.187	1.187	ug/l	32.98	#VALUE!		6691.34	6834.77	7064.85
40 Ca	# 1	3.211	3.211	ug/l	7.24	#VALUE!		126668.87	124591.98	127678.24
45 Sc	# 2	----	--------		--------	#VALUE!		34942.31	35574.68	36118.98
47 Ti	# 3	0.03154	0.03154	ug/l	24.39	#VALUE!		30.00	40.00	43.33
51 V	# 2	0.01424	0.01424	ug/l	70.58	#VALUE!		121.11	154.45	153.34
52 Cr	# 2	0.00501	0.00501	ug/l	88.40	#VALUE!		106.67	102.22	122.22
55 Mn	# 3	0.1644	0.1644	ug/l	16.46	#VALUE!		3563.79	3443.74	2816.96
56 Fe	# 1	1.044	1.044	ug/l	1.68	#VALUE!		23034.87	23488.68	23291.97
59 Co	# 3	0.01512	0.01512	ug/l	13.18	#VALUE!		190.01	190.01	233.34
60 Ni	# 2	-0.07965	-0.07965	ug/l	13.22	#VALUE!		44.44	51.11	64.45
63 Cu	# 2	-0.1952	-0.1952	ug/l	3.78	#VALUE!		55.56	81.11	91.11
66 Zn	# 3	0.05365	0.05365	ug/l	28.63	#VALUE!		330.01	366.68	346.68
75 As	# 2	0.01815	0.01815	ug/l	45.63	#VALUE!		16.67	14.00	14.67
78 Se	# 1	0.03633	0.03633	ug/l	46.60	#VALUE!		35.00	29.00	41.00
88 Sr	# 3	0.01924	0.01924	ug/l	27.83	#VALUE!		580.02	476.69	356.68
95 Mo	# 3	0.07812	0.07812	ug/l	19.34	#VALUE!		293.35	286.68	213.34
107 Ag	# 3	0.02155	0.02155	ug/l	43.15	#VALUE!		226.68	246.68	103.34
111 Cd	# 3	0.01527	0.01527	ug/l	18.98	#VALUE!		49.91	59.91	56.60
118 Sn	# 3	0.05472	0.05472	ug/l	21.35	#VALUE!		533.36	596.69	463.35
121 Sb	# 3	0.3782	0.3782	ug/l	10.10	#VALUE!		2363.57	2243.55	1963.51
137 Ba	# 3	0.0214	0.0214	ug/l	46.58	#VALUE!		93.34	90.00	43.33
202 Hg	# 3	0.02414	0.02414	ug/l	11.38	#VALUE!		81.00	87.33	77.00
205 Tl	# 3	0.003945	0.003945	ug/l	50.65	#VALUE!		126.67	130.00	76.67
208 Pb	# 3	0.01853	0.01853	ug/l	31.87	#VALUE!		606.69	706.70	473.35
232 Th	# 3	0.09105	0.09105	ug/l	5.90	#VALUE!		2710.33	2656.98	2440.27
238 U	# 3	0.01473	0.01473	ug/l	7.77	#VALUE!		436.69	390.02	380.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	565045.69	1.37	572657.25	98.7	60 - 125		556161.75	568416.00	570559.38
45 Sc	# 1	465403.22	1.23	523286.00	88.9	60 - 125		459864.28	465040.47	471304.91
45 Sc	# 3	589564.81	0.40	603286.69	97.7	60 - 125		588003.88	588380.81	592309.56
74 Ge	# 1	152588.34	0.69	170650.48	89.4	60 - 125		151601.14	152479.69	153684.19
74 Ge	# 2	22960.43	1.23	24862.19	92.4	60 - 125		22711.97	22901.10	23268.22
74 Ge	# 3	151025.50	1.19	155795.36	96.9	60 - 125		151418.55	149059.92	152598.08
89 Y	# 3	973643.75	0.16	1011968.20	96.2	60 - 125		971927.25	974906.94	974097.06
115 In	# 3	930364.69	0.18	989458.81	94.0	60 - 125		932275.00	929758.31	929060.81
159 Tb	# 3	1271153.50	1.66	1388283.80	91.6	60 - 125		1276636.40	1247862.80	1288961.50
209 Bi	# 3	744068.75	0.17	829936.50	89.7	60 - 125		743259.56	745503.31	743443.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\183SMPL.D\183SMPL.D#
Date Acquired: Dec 28 2012 03:38 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-e-20-a
Misc Info: 3010 1/500
Vial Number: 4111
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.52	0.0152	ug/l	36.29	100.00		46.67	43.33	23.33
11 B	# 3	56.25	0.5625	ug/l	5.30	1800.00		6898.07	7091.49	6961.45
23 Na	# 1	28310	283.1	ug/l	1.44	81000.00		1513543.90	1506770.80	1510839.50
24 Mg	# 1	4297	42.97	ug/l	0.36	81000.00		139907.03	140802.47	142339.97
27 Al	# 1	142.1	1.421	ug/l	2.16	81000.00		6231.20	6114.49	6414.60
39 K	# 2	1379	13.79	ug/l	9.61	81000.00		9779.48	10416.52	10566.53
40 Ca	# 1	2299	22.99	ug/l	1.00	81000.00		280073.00	283063.50	283838.69
45 Sc	# 2	----	--------		--------	#VALUE!		35344.19	36049.94	37370.31
47 Ti	# 3	50.78	0.5078	ug/l	11.68	1620.00		406.68	463.35	516.69
51 V	# 2	14.8	0.148	ug/l	5.05	1800.00		391.12	381.12	371.12
52 Cr	# 2	10	0.1	ug/l	15.53	1800.00		322.23	278.89	332.23
55 Mn	# 3	4.285	0.04285	ug/l	15.24	1800.00		1510.10	1350.08	1296.75
56 Fe	# 1	295.2	2.952	ug/l	1.27	81000.00		45322.77	46161.47	46061.23
59 Co	# 3	0.1952	0.001952	ug/l	118.49	1800.00		23.33	56.67	76.67
60 Ni	# 2	7.396	0.07396	ug/l	55.12	1800.00		188.89	234.45	155.56
63 Cu	# 2	32.77	0.3277	ug/l	3.40	1800.00		1314.50	1373.40	1290.06
66 Zn	# 3	50.28	0.5028	ug/l	8.42	1800.00		1043.40	1010.06	920.05
75 As	# 2	13.97	0.1397	ug/l	18.42	100.00		36.33	43.33	33.00
78 Se	# 1	0.4026	0.004026	ug/l	160.11	100.00		26.00	21.67	24.33
88 Sr	# 3	25.08	0.2508	ug/l	2.23	1800.00		5307.57	5561.04	5330.93
95 Mo	# 3	5.462	0.05462	ug/l	16.22	1800.00		223.34	203.34	170.01
107 Ag	# 3	0.9402	0.009402	ug/l	19.94	100.00		83.34	83.34	110.00
111 Cd	# 3	-0.2946	-0.002946	ug/l	64.46	100.00		23.26	19.94	26.61
118 Sn	# 3	16.5	0.165	ug/l	4.48	1800.00		1190.07	1216.75	1123.41
121 Sb	# 3	33.09	0.3309	ug/l	4.93	100.00		2066.85	1960.18	1880.15
137 Ba	# 3	57.97	0.5797	ug/l	2.22	1800.00		1656.80	1706.81	1620.13
202 Hg	# 3	1.216	0.01216	ug/l	16.54	5.00		65.00	58.33	59.33
205 Tl	# 3	0.04772	0.0004772	ug/l	104.25	20.00		60.00	50.00	66.67
208 Pb	# 3	0.2467	0.002467	ug/l	46.66	1800.00		256.68	283.34	236.67
232 Th	# 3	4.558	0.04558	ug/l	2.82	#VALUE!		1453.45	1433.44	1403.44
238 U	# 3	0.1174	0.001174	ug/l	22.45	#VALUE!		43.33	46.67	33.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	551657.00	1.89	572657.25	96.3	60 - 125		539771.44	559364.25	555835.31
45 Sc	# 1	475383.88	1.22	523286.00	90.8	60 - 125		469861.84	474873.53	481416.22
45 Sc	# 3	591637.19	0.79	603286.69	98.1	60 - 125		586526.69	595745.38	592639.50
74 Ge	# 1	153716.36	1.13	170650.48	90.1	60 - 125		152342.59	153133.53	155672.98
74 Ge	# 2	23068.73	1.67	24862.19	92.8	60 - 125		22754.23	23497.45	22954.51
74 Ge	# 3	152854.22	0.51	155795.36	98.1	60 - 125		153757.97	152424.25	152380.42
89 Y	# 3	986308.31	0.40	1011968.20	97.5	60 - 125		984443.81	990794.69	983686.56
115 In	# 3	944369.25	0.47	989458.81	95.4	60 - 125		946065.94	947683.19	939358.50
159 Tb	# 3	1305292.40	1.24	1388283.80	94.0	60 - 125		1291379.30	1301443.40	1323054.60
209 Bi	# 3	760345.19	0.71	829936.50	91.6	60 - 125		756979.44	757500.94	766555.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\184SMPL.D\184SMPL.D#
Date Acquired: Dec 28 2012 03:45 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-e-~~21~~22-a
Misc Info: 3010 1/500
Vial Number: 4112
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.08971	0.0008971	ug/l	346.78	100.00		0.00	0.00	13.33
11 B	# 3	1562	15.62	ug/l	0.62	1800.00		43656.39	44532.23	44826.04
23 Na	# 1	3726000	37260	ug/l	0.49	81000.00		176107040.00	178807330.00	181242370.00
24 Mg	# 1	442700	4427	ug/l	0.31	81000.00		14137321.00	14327956.00	14446881.00
27 Al	# 1	98.3	0.983	ug/l	6.35	81000.00		4710.70	4597.35	4353.94
39 K	# 2	135600	1356	ug/l	1.52	81000.00		360943.91	365194.09	376504.44
40 Ca	# 1	150700	1507	ug/l	0.27	81000.00		11462245.00	11743910.00	11740283.00
45 Sc	# 2	----	--------		--------	#VALUE!		35885.18	36819.19	37464.94
47 Ti	# 3	5.359	0.05359	ug/l	9.00	1620.00		63.34	56.67	56.67
51 V	# 2	0.7447	0.007447	ug/l	177.12	1800.00		105.56	135.56	153.34
52 Cr	# 2	-0.3955	-0.003955	ug/l	98.43	1800.00		101.11	85.56	88.89
55 Mn	# 3	9.624	0.09624	ug/l	1.21	1800.00		2210.20	2166.84	2220.20
56 Fe	# 1	94.11	0.9411	ug/l	1.64	81000.00		21509.73	22133.71	21860.13
59 Co	# 3	0.2878	0.002878	ug/l	37.04	1800.00		53.33	56.67	76.67
60 Ni	# 2	10.58	0.1058	ug/l	12.72	1800.00		226.67	205.56	232.23
63 Cu	# 2	-19.52	-0.1952	ug/l	0.68	1800.00		72.22	77.78	77.78
66 Zn	# 3	9.663	0.09663	ug/l	29.29	1800.00		380.02	450.02	390.01
75 As	# 2	1.884	0.01884	ug/l	130.73	100.00		18.00	10.00	18.00
78 Se	# 1	0.11	0.0011	ug/l	1278.20	100.00		27.33	22.33	18.00
88 Sr	# 3	2489	24.89	ug/l	0.55	1800.00		526413.13	519079.38	529492.69
95 Mo	# 3	5.135	0.05135	ug/l	11.88	1800.00		203.34	173.34	173.34
107 Ag	# 3	0.107	0.00107	ug/l	58.16	100.00		16.67	26.67	20.00
111 Cd	# 3	0.2511	0.002511	ug/l	115.29	100.00		26.60	36.61	33.28
118 Sn	# 3	1.223	0.01223	ug/l	22.03	1800.00		300.01	270.01	283.34
121 Sb	# 3	7.893	0.07893	ug/l	4.33	100.00		600.03	613.36	580.03
137 Ba	# 3	7.435	0.07435	ug/l	3.43	1800.00		220.01	226.67	213.34
202 Hg	# 3	0.7547	0.007547	ug/l	9.41	5.00		46.00	48.33	48.67
205 Tl	# 3	-0.1127	-0.001127	ug/l	13.51	20.00		33.33	33.33	30.00
208 Pb	# 3	0.2945	0.002945	ug/l	43.43	1800.00		236.68	253.34	296.68
232 Th	# 3	2.091	0.02091	ug/l	2.59	#VALUE!		693.37	713.37	686.71
238 U	# 3	0.6619	0.006619	ug/l	14.93	#VALUE!		193.34	146.67	180.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	571992.69	1.91	572657.25	99.9	60 - 125		559681.06	575885.13	580411.88
45 Sc	# 1	469931.44	1.23	523286.00	89.8	60 - 125		463314.72	472336.44	474143.19
45 Sc	# 3	605784.81	1.00	603286.69	100.4	60 - 125		599615.88	605996.38	611742.06
74 Ge	# 1	150955.64	0.67	170650.48	88.5	60 - 125		149812.83	151697.27	151356.80
74 Ge	# 2	23058.34	1.00	24862.19	92.7	60 - 125		23015.71	22851.03	23308.29
74 Ge	# 3	150457.45	0.53	155795.36	96.6	60 - 125		150407.36	149688.00	151277.02
89 Y	# 3	978809.69	0.51	1011968.20	96.7	60 - 125		981637.06	973031.56	981760.38
115 In	# 3	915482.06	0.18	989458.81	92.5	60 - 125		914475.63	914553.75	917416.75
159 Tb	# 3	1268726.60	1.45	1388283.80	91.4	60 - 125		1261448.40	1255061.50	1289670.00
209 Bi	# 3	694778.31	0.48	829936.50	83.7	60 - 125		690910.69	696614.00	696810.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\185SMPL.D\185SMPL.D#
Date Acquired: Dec 28 2012 03:52 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-e-23-a
Misc Info: 3010 1/500
Vial Number: 4201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.00117	-1.17E-005	ug/l	13137.00	100.00		0.00	0.00	6.67
11 B # 3	1110	11.1	ug/l	1.27	1800.00		32775.36	34017.36	34501.41
23 Na # 1	2575000	25750	ug/l	0.75	81000.00		123386370.00	123744730.00	125612720.00
24 Mg # 1	310000	3100	ug/l	0.32	81000.00		9918820.00	10153020.00	10146637.00
27 Al # 1	89.43	0.8943	ug/l	2.20	81000.00		4230.58	4183.93	4333.95
39 K # 2	95040	950.4	ug/l	1.42	81000.00		257064.97	260683.25	266857.50
40 Ca # 1	104600	1046	ug/l	0.27	81000.00		8080615.50	8199230.00	8204749.00
45 Sc # 2	----	--------		--------	#VALUE!		35743.86	36952.78	37541.75
47 Ti # 3	5.039	0.05039	ug/l	13.63	1620.00		56.67	50.00	63.34
51 V # 2	1.332	0.01332	ug/l	68.13	1800.00		126.67	141.11	161.11
52 Cr # 2	-0.5666	-0.005666	ug/l	3.48	1800.00		87.78	90.00	88.89
55 Mn # 3	6.906	0.06906	ug/l	14.20	1800.00		1883.49	1886.81	1620.11
56 Fe # 1	66.52	0.6652	ug/l	2.09	81000.00		18736.59	18846.73	18706.53
59 Co # 3	0.1386	0.001386	ug/l	77.49	1800.00		36.67	40.00	60.00
60 Ni # 2	4.361	0.04361	ug/l	20.90	1800.00		166.67	174.45	157.78
63 Cu # 2	-19.83	-0.1983	ug/l	3.63	1800.00		52.22	67.78	87.78
66 Zn # 3	17.19	0.1719	ug/l	9.53	1800.00		496.69	516.69	543.36
75 As # 2	1.231	0.01231	ug/l	53.42	100.00		13.00	15.67	14.00
78 Se # 1	0.4525	0.004525	ug/l	134.67	100.00		21.67	26.00	24.00
88 Sr # 3	1729	17.29	ug/l	0.92	1800.00		370344.94	369066.50	368184.31
95 Mo # 3	2.91	0.0291	ug/l	9.16	1800.00		123.34	126.67	113.34
107 Ag # 3	0.05058	0.0005058	ug/l	240.61	100.00		16.67	26.67	6.67
111 Cd # 3	0.04075	0.0004075	ug/l	960.49	100.00		36.63	26.63	23.30
118 Sn # 3	0.6058	0.006058	ug/l	33.89	1800.00		266.68	243.34	250.01
121 Sb # 3	5.001	0.05001	ug/l	28.93	100.00		530.02	450.02	380.02
137 Ba # 3	5.333	0.05333	ug/l	6.58	1800.00		156.67	160.01	176.67
202 Hg # 3	1.18	0.0118	ug/l	13.80	5.00		54.00	55.00	59.33
205 Tl # 3	-0.05926	-0.0005926	ug/l	87.40	20.00		33.33	40.00	50.00
208 Pb # 3	0.07997	0.0007997	ug/l	59.90	1800.00		206.67	220.01	230.01
232 Th # 3	1.441	0.01441	ug/l	2.54	#VALUE!		553.36	553.36	536.69
238 U # 3	0.4689	0.004689	ug/l	27.85	#VALUE!		93.34	160.01	130.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	581608.50	2.30	572657.25	101.6	60 - 125		566274.25	591076.63	587474.56
45 Sc # 1	472529.19	1.10	523286.00	90.3	60 - 125		466611.53	474636.13	476339.84
45 Sc # 3	612775.75	0.86	603286.69	101.6	60 - 125		608181.75	611580.81	618564.81
74 Ge # 1	151855.27	0.69	170650.48	89.0	60 - 125		150821.47	151835.08	152909.25
74 Ge # 2	23226.71	1.09	24862.19	93.4	60 - 125		22937.82	23406.19	23336.11
74 Ge # 3	152424.06	0.25	155795.36	97.8	60 - 125		152623.30	151987.66	152661.25
89 Y # 3	990611.44	0.75	1011968.20	97.9	60 - 125		983924.75	998646.00	989263.50
115 In # 3	928183.44	0.71	989458.81	93.8	60 - 125		928171.75	921564.13	934814.44
159 Tb # 3	1285023.60	0.65	1388283.80	92.6	60 - 125		1275510.10	1288702.90	1290857.90
209 Bi # 3	708551.81	0.15	829936.50	85.4	60 - 125		708007.06	709775.00	707873.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\186SMPL.D\186SMPL.D#
Date Acquired: Dec 28 2012 04:00 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-e-23-a No SAMPLE
Misc Info: 3010 1/500
Vial Number: 4202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.07481	-0.0007481	ug/l	34.92	100.00		0.00	3.33	0.00
11 B	# 3	-193.8	-1.938	ug/l	2.35	1800.00		3050.34	3487.09	3627.12
23 Na	# 1	-959	-9.59	ug/l	5.57	81000.00		242464.47	248107.19	256913.84
24 Mg	# 1	0.06875	0.0006875	ug/l	24727.00	81000.00		676.70	610.03	3285.66
27 Al	# 1	36.54	0.3654	ug/l	128.00	81000.00		3691.83	3215.34	11817.20
39 K	# 2	-1741	-17.41	ug/l	1.12	81000.00		5244.22	5307.59	5370.87
40 Ca	# 1	-691.8	-6.918	ug/l	3.36	81000.00		133300.73	135522.06	143463.78
45 Sc	# 2	----	--------		--------	#VALUE!		98091.23	95752.63	94986.15
47 Ti	# 3	1.879	0.01879	ug/l	170.84	1620.00		140.12	23.33	36.67
51 V	# 2	-6.425	-0.06425	ug/l	1.02	1800.00		14.44	11.11	7.78
52 Cr	# 2	-4.086	-0.04086	ug/l	1.66	1800.00		34.44	38.89	41.11
55 Mn	# 3	-0.2232	-0.002232	ug/l	281.85	1800.00		1650.12	1783.47	1743.46
56 Fe	# 1	-66.55	-0.6655	ug/l	13.73	81000.00		7969.52	7255.07	13020.25
59 Co	# 3	-0.1738	-0.001738	ug/l	13.04	1800.00		26.67	16.67	26.67
60 Ni	# 2	-13.09	-0.1309	ug/l	1.86	1800.00		14.44	25.56	17.78
63 Cu	# 2	-21.03	-0.2103	ug/l	1.01	1800.00		101.11	123.33	103.33
66 Zn	# 3	-10.98	-0.1098	ug/l	24.34	1800.00		330.02	336.68	240.01
75 As	# 2	-5.548	-0.05548	ug/l	3.78	100.00		3.67	4.33	5.67
78 Se	# 1	-4.501	-0.04501	ug/l	6.25	100.00		16.33	21.00	20.67
88 Sr	# 3	-0.1359	-0.001359	ug/l	29.92	1800.00		90.00	116.67	93.34
95 Mo	# 3	-0.8733	-0.008733	ug/l	16.31	1800.00		26.67	36.67	20.00
107 Ag	# 3	-0.003774	-3.774E-005	ug/l	1439.10	100.00		23.33	43.34	26.67
111 Cd	# 3	-1.443	-0.01443	ug/l	6.60	100.00		3.32	3.32	13.33
118 Sn	# 3	-1.319	-0.01319	ug/l	13.69	1800.00		306.68	343.35	476.69
121 Sb	# 3	-0.803	-0.00803	ug/l	62.12	100.00		386.68	360.01	376.68
137 Ba	# 3	-0.2494	-0.002494	ug/l	41.58	1800.00		16.67	30.00	20.00
202 Hg	# 3	-0.2633	-0.002633	ug/l	82.49	5.00		76.67	82.00	87.00
205 Tl	# 3	-0.1644	-0.001644	ug/l	30.97	20.00		70.00	40.00	66.67
208 Pb	# 3	-0.1553	-0.001553	ug/l	54.51	1800.00		373.35	406.68	433.35
232 Th	# 3	0.8965	0.008965	ug/l	4.67	#VALUE!		930.07	1066.74	1346.77
238 U	# 3	-0.005881	-5.881E-005	ug/l	113.11	#VALUE!		20.00	13.33	23.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	1814828.90	18.21	572657.25	316.9	60 - 125	IS F	1536451.00	1728031.40	2180004.50
45 Sc	# 1	1292907.60	0.98	523286.00	247.1	60 - 125	IS F	1298591.60	1278345.10	1301786.40
45 Sc	# 3	1627916.10	18.69	603286.69	269.8	60 - 125	IS F	1392590.90	1519556.40	1971600.80
74 Ge	# 1	428478.00	1.79	170650.48	251.1	60 - 125	IS F	430422.84	420017.53	434993.66
74 Ge	# 2	63138.67	1.77	24862.19	254.0	60 - 125	IS F	64361.29	62162.67	62892.05
74 Ge	# 3	401558.16	17.85	155795.36	257.7	60 - 125	IS F	342145.06	381373.53	481155.81
89 Y	# 3	2551640.50	18.32	1011968.20	252.1	60 - 125	IS F	2145611.30	2446736.30	3062574.00
115 In	# 3	2404629.30	16.75	989458.81	243.0	60 - 125	IS F	2047398.30	2325311.00	2841178.30
159 Tb	# 3	3137988.80	18.52	1388283.80	226.0	60 - 125	IS F	2700146.80	2916724.00	3797095.30
209 Bi	# 3	1923937.30	19.51	829936.50	231.8	60 - 125	IS F	1635295.80	1788201.90	2348314.30

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
10 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\187_CCV.D\187_CCV.D#
Date Acquired: Dec 28 2012 04:07 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.3 ug/l	2.59	50.00	90 - 110		116609.23	118641.86	118846.73
11 B	97.68 ug/l	1.31	100.00	90 - 110		237473.64	241035.48	247548.95
23 Na	5074 ug/l	1.36	5000.00	90 - 110		23915836.00	24656426.00	24214792.00
24 Mg	4981 ug/l	1.42	5000.00	90 - 110		15993675.00	15722606.00	16191236.00
27 Al	504.5 ug/l	1.36	500.00	90 - 110		1838982.90	1840621.90	1903490.00
39 K	5169 ug/l	0.74	5000.00	90 - 110		1353182.00	1353126.60	1416834.40
40 Ca	4995 ug/l	1.62	5000.00	90 - 110		37791052.00	37466888.00	38973180.00
45 Sc	--------	--------		--- ##### - #####		35939.72	37001.81	37087.60
47 Ti	50.41 ug/l	0.32	50.00	90 - 110		44453.44	45021.49	46080.49
51 V	48.76 ug/l	1.29	50.00	90 - 110		84705.73	86166.63	87649.09
52 Cr	48.76 ug/l	1.59	50.00	90 - 110		101427.84	101798.78	103872.38
55 Mn	497.1 ug/l	1.14	500.00	90 - 110		7731733.00	7847635.00	7938762.50
56 Fe	5034 ug/l	0.83	5000.00	90 - 110		58337644.00	58354892.00	57924740.00
59 Co	48.51 ug/l	0.15	50.00	90 - 110		561693.25	567765.44	564187.00
60 Ni	48.88 ug/l	2.23	50.00	90 - 110		44156.85	43438.56	44710.47
63 Cu	48.41 ug/l	2.17	50.00	90 - 110		114707.90	115285.88	116296.63
66 Zn	49.52 ug/l	0.33	50.00	90 - 110		70010.72	70161.38	70288.34
75 As	49.23 ug/l	1.24	50.00	90 - 110		8868.83	8949.86	9152.63
78 Se	48.88 ug/l	0.55	50.00	90 - 110		16736.68	16851.11	16706.66
88 Sr	48.84 ug/l	0.69	50.00	90 - 110		1014235.80	1030440.90	1024216.30
95 Mo	50.54 ug/l	0.47	50.00	90 - 110		143985.91	143240.22	144123.38
107 Ag	51.05 ug/l	1.16	50.00	90 - 110		412725.34	417241.13	414988.00
111 Cd	50.21 ug/l	0.62	50.00	90 - 110		87155.55	87456.99	87989.21
118 Sn	49.36 ug/l	0.49	50.00	90 - 110		274753.63	273510.38	275083.44
121 Sb	49.47 ug/l	1.11	50.00	90 - 110		254548.48	256464.06	254938.02
137 Ba	49.61 ug/l	0.73	50.00	90 - 110		134903.13	135370.05	135634.77
202 Hg	2.342 ug/l	0.46	2.50	90 - 110		4204.56	4187.22	4222.57
205 Tl	9.763 ug/l	1.77	10.00	90 - 110		152080.34	149682.27	152864.19
208 Pb	48.87 ug/l	1.43	50.00	90 - 110		1039499.10	1040108.50	1050913.60
232 Th	47.55 ug/l	0.10		--- ##### - #####		1204223.40	1207560.60	1215500.90
238 U	47.21 ug/l	0.67		--- ##### - #####		1210326.40	1215385.30	1209703.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	561808.06	3.41	572657.25	98.1	60 - 125		545121.19	557598.75	582704.19
45 Sc	466291.66	0.83	523286.00	89.1	60 - 125		462272.09	466650.69	469952.22
45 Sc	595226.69	1.54	603286.69	98.7	60 - 125		587731.31	592489.50	605459.25
74 Ge	151344.91	0.59	170650.48	88.7	60 - 125		150323.98	152001.16	151709.59
74 Ge	22917.05	2.88	24862.19	92.2	60 - 125		22383.82	22711.95	23655.39
74 Ge	151631.17	0.40	155795.36	97.3	60 - 125		151018.03	152229.25	151646.22
89 Y	972009.25	0.41	1011968.20	96.1	60 - 125		968382.50	971441.44	976203.94
115 In	907419.88	0.77	989458.81	91.7	60 - 125		907737.81	900255.38	914266.44
159 Tb	1265367.10	2.04	1388283.80	91.1	60 - 125		1244889.80	1256903.80	1294308.00
209 Bi	715161.00	0.57	829936.50	86.2	60 - 125		711452.56	714546.13	719484.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\188_CCB.D\188_CCB.D#
Date Acquired: Dec 28 2012 04:15 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01248	0.01248	ug/l	46.32	#VALUE!		46.67	30.00	20.00
11 B # 3	1.059	1.059	ug/l	5.95	#VALUE!		8242.00	8605.49	8315.32
23 Na # 1	-6.521	-6.521	ug/l	2.00	#VALUE!		103724.58	104977.86	106422.38
24 Mg # 1	1.183	1.183	ug/l	6.96	#VALUE!		4337.28	4634.04	4117.22
27 Al # 1	0.1994	0.1994	ug/l	13.42	#VALUE!		1526.77	1743.46	1653.45
39 K # 2	1.473	1.473	ug/l	58.91	#VALUE!		6938.15	6781.45	7301.62
40 Ca # 1	2.949	2.949	ug/l	1.74	#VALUE!		124541.43	125207.55	126054.16
45 Sc # 2	----	--------		--------	#VALUE!		35323.07	36262.65	36568.80
47 Ti # 3	0.03871	0.03871	ug/l	23.27	#VALUE!		36.67	53.33	43.33
51 V # 2	0.01156	0.01156	ug/l	62.41	#VALUE!		123.33	142.22	153.34
52 Cr # 2	0.004844	0.004844	ug/l	74.57	#VALUE!		101.11	118.89	113.33
55 Mn # 3	0.1632	0.1632	ug/l	12.29	#VALUE!		3627.13	3250.37	2973.67
56 Fe # 1	1.108	1.108	ug/l	2.91	#VALUE!		23735.70	24409.98	23799.06
59 Co # 3	0.0148	0.0148	ug/l	23.34	#VALUE!		213.34	236.67	156.67
60 Ni # 2	-0.09836	-0.09836	ug/l	8.28	#VALUE!		44.44	32.22	33.33
63 Cu # 2	-0.1985	-0.1985	ug/l	1.35	#VALUE!		73.33	62.22	70.00
66 Zn # 3	0.03831	0.03831	ug/l	54.61	#VALUE!		350.01	343.35	293.34
75 As # 2	0.02151	0.02151	ug/l	28.77	#VALUE!		16.00	14.67	17.00
78 Se # 1	0.04721	0.04721	ug/l	18.70	#VALUE!		41.67	38.00	36.33
88 Sr # 3	0.017	0.017	ug/l	12.88	#VALUE!		443.35	483.35	376.69
95 Mo # 3	0.08761	0.08761	ug/l	19.20	#VALUE!		340.01	243.34	300.01
107 Ag # 3	0.01779	0.01779	ug/l	20.05	#VALUE!		150.01	196.67	140.00
111 Cd # 3	0.02117	0.02117	ug/l	61.08	#VALUE!		66.56	43.26	89.91
118 Sn # 3	0.05241	0.05241	ug/l	17.81	#VALUE!		580.03	506.69	480.02
121 Sb # 3	0.3798	0.3798	ug/l	4.44	#VALUE!		2260.21	2273.56	2116.86
137 Ba # 3	0.01763	0.01763	ug/l	37.78	#VALUE!		50.00	86.67	60.00
202 Hg # 3	0.02242	0.02242	ug/l	12.24	#VALUE!		76.67	86.00	76.33
205 Tl # 3	0.004051	0.004051	ug/l	21.65	#VALUE!		130.00	103.34	113.34
208 Pb # 3	0.01566	0.01566	ug/l	18.42	#VALUE!		520.02	626.69	496.69
232 Th # 3	0.09081	0.09081	ug/l	8.44	#VALUE!		2870.36	2546.96	2476.94
238 U # 3	0.01395	0.01395	ug/l	15.36	#VALUE!		450.02	376.68	333.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	566820.44	1.37	572657.25	99.0	60 - 125		557913.44	570633.00	571914.88
45 Sc # 1	468896.41	0.79	523286.00	89.6	60 - 125		464716.16	470143.25	471829.78
45 Sc # 3	593262.94	0.75	603286.69	98.3	60 - 125		589031.50	597929.25	592828.06
74 Ge # 1	152351.55	0.80	170650.48	89.3	60 - 125		151045.27	152560.06	153449.28
74 Ge # 2	23187.02	1.69	24862.19	93.3	60 - 125		22752.04	23297.16	23511.87
74 Ge # 3	152162.58	0.44	155795.36	97.7	60 - 125		152479.17	152623.08	151385.50
89 Y # 3	995995.06	2.11	1011968.20	98.4	60 - 125		983980.63	1020276.80	983727.69
115 In # 3	938246.44	0.35	989458.81	94.8	60 - 125		934495.38	940321.13	939922.69
159 Tb # 3	1300073.40	1.10	1388283.80	93.6	60 - 125		1299178.50	1314794.80	1286247.10
209 Bi # 3	754123.88	0.54	829936.50	90.9	60 - 125		754960.25	757680.38	749731.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\189SMPL.D\189SMPL.D#
Date Acquired: Dec 28 2012 04:22 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261232_1-a
Misc Info: 200.8TR 1/5
Vial Number: 4301
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005531	0.005531	ug/l	71.56	100.00		10.00	26.67	10.00
11 B	# 3	0.5982	0.5982	ug/l	8.50	1800.00		7184.86	7304.89	7301.56
23 Na	# 1	-6.52	-6.52	ug/l	4.67	81000.00		103926.05	104435.32	106621.04
24 Mg	# 1	0.4765	0.4765	ug/l	9.73	81000.00		2030.16	1970.16	2250.19
27 Al	# 1	0.6973	0.6973	ug/l	4.02	81000.00		3477.09	3390.40	3587.10
39 K	# 2	1.049	1.049	ug/l	91.04	81000.00		6721.39	6844.75	7211.59
40 Ca	# 1	4.275	4.275	ug/l	3.30	81000.00		133810.38	136099.67	136096.78
45 Sc	# 2	----	--------		--------	#VALUE!		35762.82	36420.68	37262.36
47 Ti	# 3	0.03262	0.03262	ug/l	15.86	1620.00		43.33	36.67	36.67
51 V	# 2	0.007545	0.007545	ug/l	34.75	1800.00		132.22	138.89	127.78
52 Cr	# 2	0.006681	0.006681	ug/l	66.01	1800.00		104.45	125.56	116.67
55 Mn	# 3	0.0252	0.0252	ug/l	33.33	1800.00		1223.41	1000.05	1060.06
56 Fe	# 1	0.3138	0.3138	ug/l	2.93	81000.00		14812.88	14892.99	14746.24
59 Co	# 3	-0.0001233	-0.0001233	ug/l	334.39	1800.00		23.33	33.33	26.67
60 Ni	# 2	0.1346	0.1346	ug/l	8.04	1800.00		258.89	247.78	243.34
63 Cu	# 2	0.01796	0.01796	ug/l	58.07	1800.00		558.90	602.24	613.35
66 Zn	# 3	0.173	0.173	ug/l	7.58	1800.00		490.02	540.02	523.36
75 As	# 2	0.017	0.017	ug/l	146.24	100.00		14.33	11.00	20.00
78 Se	# 1	0.006806	0.006806	ug/l	107.41	100.00		24.33	22.67	27.67
88 Sr	# 3	0.003622	0.003622	ug/l	11.42	1800.00		143.34	153.34	136.67
95 Mo	# 3	0.02596	0.02596	ug/l	32.51	1800.00		83.34	130.01	126.67
107 Ag	# 3	0.002332	0.002332	ug/l	42.09	100.00		33.33	23.33	40.00
111 Cd	# 3	-0.003396	-0.003396	ug/l	212.84	100.00		36.64	13.29	16.63
118 Sn	# 3	0.01241	0.01241	ug/l	7.16	1800.00		290.01	296.68	290.01
121 Sb	# 3	0.1432	0.1432	ug/l	11.36	100.00		1023.40	960.06	876.72
137 Ba	# 3	0.01093	0.01093	ug/l	35.66	1800.00		40.00	40.00	60.00
202 Hg	# 3	0.01139	0.01139	ug/l	16.89	5.00		54.67	58.00	63.67
205 Tl	# 3	0.0005079	0.0005079	ug/l	206.14	20.00		46.67	76.67	50.00
208 Pb	# 3	0.0006341	0.0006341	ug/l	273.14	1800.00		246.68	206.67	183.34
232 Th	# 3	0.03349	0.03349	ug/l	9.61	#VALUE!		1086.74	1000.06	1186.75
238 U	# 3	0.002136	0.002136	ug/l	10.65	#VALUE!		60.00	73.34	66.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	567000.63	2.51	572657.25	99.0	60 - 125		551992.31	568672.44	580337.00
45 Sc	# 1	468666.44	0.26	523286.00	89.6	60 - 125		467597.31	469975.16	468426.84
45 Sc	# 3	592972.06	1.91	603286.69	98.3	60 - 125		580353.19	596329.50	602233.56
74 Ge	# 1	153205.25	0.36	170650.48	89.8	60 - 125		153801.47	152705.50	153108.81
74 Ge	# 2	23297.17	1.07	24862.19	93.7	60 - 125		23067.98	23561.96	23261.57
74 Ge	# 3	151622.16	1.50	155795.36	97.3	60 - 125		148995.47	152858.03	153013.00
89 Y	# 3	980333.13	0.77	1011968.20	96.9	60 - 125		972330.81	981355.50	987313.13
115 In	# 3	937240.50	1.40	989458.81	94.7	60 - 125		923037.38	939736.44	948947.88
159 Tb	# 3	1270346.00	2.33	1388283.80	91.5	60 - 125		1239984.80	1271869.90	1299183.50
209 Bi	# 3	751531.06	1.66	829936.50	90.6	60 - 125		738481.94	752772.81	763338.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\190SMPL.D\190SMPL.D#
Date Acquired: Dec 28 2012 04:30 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261232_2-a
Misc Info: 200.8TR 1/5
Vial Number: 4302
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	9.706	9.706	ug/l	4.17	100.00		23541.33	24098.80	23878.44
11 B	# 3	37.43	37.43	ug/l	2.59	1800.00		97460.61	97988.91	100974.50
23 Na	# 1	985.8	985.8	ug/l	2.37	81000.00		4909048.50	4743554.00	4914257.50
24 Mg	# 1	986.8	986.8	ug/l	4.54	81000.00		3011075.30	3330128.30	3218043.00
27 Al	# 1	976.5	976.5	ug/l	4.08	81000.00		3447729.80	3778570.30	3650674.00
39 K	# 2	959.7	959.7	ug/l	1.65	81000.00		260321.53	266751.63	272317.41
40 Ca	# 1	998.3	998.3	ug/l	1.61	81000.00		7572786.50	7895140.50	7760538.00
45 Sc	# 2	----	--------		--------	#VALUE!		36076.70	36593.28	37257.80
47 Ti	# 3	19.48	19.48	ug/l	1.33	1620.00		17792.16	17515.28	17528.63
51 V	# 2	18.67	18.67	ug/l	0.93	1800.00		33400.91	33692.54	34422.68
52 Cr	# 2	18.94	18.94	ug/l	1.14	1800.00		40454.75	40588.35	41177.40
55 Mn	# 3	103.2	103.2	ug/l	0.68	1800.00		1661731.40	1644212.00	1639332.90
56 Fe	# 1	960.2	960.2	ug/l	1.49	81000.00		11396570.00	11144945.00	11302011.00
59 Co	# 3	9.657	9.657	ug/l	0.52	1800.00		114939.53	113840.08	112746.53
60 Ni	# 2	19.44	19.44	ug/l	1.15	1800.00		17736.34	17982.14	18339.13
63 Cu	# 2	19.15	19.15	ug/l	0.63	1800.00		46629.75	46670.97	47855.09
66 Zn	# 3	21.62	21.62	ug/l	1.84	1800.00		31040.31	30950.20	31517.60
75 As	# 2	19.99	19.99	ug/l	1.40	100.00		3661.71	3736.39	3830.74
78 Se	# 1	19.96	19.96	ug/l	0.35	100.00		6905.65	7005.02	6978.01
88 Sr	# 3	17.86	17.86	ug/l	2.75	1800.00		385150.16	386841.13	383282.06
95 Mo	# 3	19.35	19.35	ug/l	0.80	1800.00		57590.98	56336.70	57517.15
107 Ag	# 3	10.1	10.1	ug/l	0.26	100.00		85894.67	84359.83	85200.95
111 Cd	# 3	10.19	10.19	ug/l	1.40	100.00		18378.50	18565.68	18411.80
118 Sn	# 3	19.19	19.19	ug/l	0.83	1800.00		110897.30	110641.14	110923.98
121 Sb	# 3	10.57	10.57	ug/l	1.33	100.00		57021.02	57178.65	56088.34
137 Ba	# 3	19.28	19.28	ug/l	2.01	1800.00		53866.13	54923.21	54922.73
202 Hg	# 3	0.9486	0.9486	ug/l	1.59	5.00		1852.78	1817.44	1817.78
205 Tl	# 3	7.603	7.603	ug/l	0.23	20.00		120382.50	121661.73	123069.06
208 Pb	# 3	9.68	9.68	ug/l	0.44	1800.00		212184.78	212616.48	215117.98
232 Th	# 3	17.65	17.65	ug/l	0.80	#VALUE!		472304.47	477079.78	479623.44
238 U	# 3	18.17	18.17	ug/l	0.56	#VALUE!		493719.16	493939.06	496839.47

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	576712.94	4.41	572657.25	100.7	60 - 125		558984.19	565316.94	605837.81
45 Sc	# 1	469438.06	0.64	523286.00	89.7	60 - 125		466015.03	470732.47	471566.72
45 Sc	# 3	600364.19	0.83	603286.69	99.5	60 - 125		598914.50	596246.81	605931.38
74 Ge	# 1	153647.08	0.40	170650.48	90.0	60 - 125		152935.78	154064.95	153940.50
74 Ge	# 2	23443.65	1.97	24862.19	94.3	60 - 125		23271.59	23092.44	23966.92
74 Ge	# 3	153574.17	0.84	155795.36	98.6	60 - 125		154258.34	154380.44	152083.75
89 Y	# 3	1000803.20	2.31	1011968.20	98.9	60 - 125		994929.44	981184.56	1026295.60
115 In	# 3	941421.56	0.92	989458.81	95.1	60 - 125		950975.94	934112.56	939176.25
159 Tb	# 3	1304639.60	0.91	1388283.80	94.0	60 - 125		1292045.90	1306129.00	1315744.00
209 Bi	# 3	758817.25	0.88	829936.50	91.4	60 - 125		757029.19	753201.06	766221.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\191SMPL.D\191SMPL.D#
Date Acquired: Dec 28 2012 04:37 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8470-e-1-a
Misc Info: 200.8TR 1/5
Vial Number: 4303
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.007335	0.007335	ug/l	37.03	100.00		20.00	13.33	26.67
11 B	# 3	19.97	19.97	ug/l	1.86	1800.00		54273.49	54644.79	55353.59
23 Na	# 1	2904	2904	ug/l	0.93	81000.00		13899308.00	14351020.00	14464536.00
24 Mg	# 1	6629	6629	ug/l	0.78	81000.00		21457990.00	21659000.00	21979624.00
27 Al	# 1	1.117	1.117	ug/l	5.48	81000.00		4900.75	4970.78	5500.94
39 K	# 2	3959	3959	ug/l	6.91	81000.00		1032036.30	1087176.80	1088734.40
40 Ca	# 1	13850	13850	ug/l	1.39	81000.00		103957720.00	108110170.00	110871490.00
45 Sc	# 2	----	--------		--------	#VALUE!		38796.86	34512.71	36126.79
47 Ti	# 3	0.1135	0.1135	ug/l	12.09	1620.00		103.34	116.67	123.34
51 V	# 2	0.05787	0.05787	ug/l	22.45	1800.00		205.56	226.67	235.56
52 Cr	# 2	0.07078	0.07078	ug/l	6.48	1800.00		252.23	252.23	251.12
55 Mn	# 3	236.8	236.8	ug/l	2.60	1800.00		3756837.80	3775520.00	3838618.30
56 Fe	# 1	1.357	1.357	ug/l	4.52	81000.00		26002.11	27197.30	27918.76
59 Co	# 3	0.158	0.158	ug/l	5.30	1800.00		2003.51	1906.82	1780.14
60 Ni	# 2	0.469	0.469	ug/l	12.59	1800.00		530.01	531.12	603.35
63 Cu	# 2	0.4008	0.4008	ug/l	10.27	1800.00		1471.18	1554.52	1511.19
66 Zn	# 3	1.585	1.585	ug/l	5.80	1800.00		2453.58	2603.60	2583.59
75 As	# 2	0.08545	0.08545	ug/l	9.73	100.00		27.33	27.33	28.67
78 Se	# 1	0.2141	0.2141	ug/l	5.93	100.00		101.00	94.33	95.00
88 Sr	# 3	32.15	32.15	ug/l	5.44	1800.00		686891.88	696561.56	705767.88
95 Mo	# 3	0.2674	0.2674	ug/l	2.18	1800.00		863.38	783.37	836.71
107 Ag	# 3	0.004364	0.004364	ug/l	60.93	100.00		76.67	30.00	43.33
111 Cd	# 3	0.006659	0.006659	ug/l	86.92	100.00		53.06	29.75	39.73
118 Sn	# 3	0.02562	0.02562	ug/l	16.89	1800.00		353.35	363.35	393.35
121 Sb	# 3	0.08009	0.08009	ug/l	8.03	100.00		633.36	573.36	660.03
137 Ba	# 3	13.62	13.62	ug/l	3.62	1800.00		38360.78	38868.35	38557.82
202 Hg	# 3	0.01262	0.01262	ug/l	2.77	5.00		60.67	59.00	58.67
205 Tl	# 3	0.03142	0.03142	ug/l	13.71	20.00		586.70	583.36	480.02
208 Pb	# 3	0.0272	0.0272	ug/l	18.05	1800.00		940.04	760.03	700.03
232 Th	# 3	0.07739	0.07739	ug/l	8.34	#VALUE!		2463.60	2076.87	2080.20
238 U	# 3	0.1448	0.1448	ug/l	1.73	#VALUE!		3843.93	3753.91	3840.61

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	569004.25	1.07	572657.25	99.4	60 - 125		574955.81	562813.00	569243.88
45 Sc	# 1	476098.28	1.99	523286.00	91.0	60 - 125		467320.09	474830.19	486144.59
45 Sc	# 3	611654.38	2.83	603286.69	101.4	60 - 125		630308.88	596156.06	608498.06
74 Ge	# 1	153241.33	1.07	170650.48	89.8	60 - 125		151944.13	152705.25	155074.61
74 Ge	# 2	23289.80	4.04	24862.19	93.7	60 - 125		24362.01	22607.42	22899.97
74 Ge	# 3	153946.77	2.07	155795.36	98.8	60 - 125		157248.45	150877.70	153714.17
89 Y	# 3	1006856.30	4.57	1011968.20	99.5	60 - 125		1056686.10	965948.31	997934.44
115 In	# 3	942998.00	2.95	989458.81	95.3	60 - 125		970199.38	914583.50	944211.13
159 Tb	# 3	1297441.30	3.98	1388283.80	93.5	60 - 125		1342297.90	1240956.10	1309069.60
209 Bi	# 3	731885.31	2.45	829936.50	88.2	60 - 125		751954.06	717448.94	726252.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\192SMPL.D\192SMPL.D#
Date Acquired: Dec 28 2012 04:45 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8470-e-1-a SD
Misc Info: 200.8TR 1/25
Vial Number: 4304
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00694	0.001388	ug/l	149.50	100.00		6.67	0.00	10.00
11 B	# 3	21.92	4.384	ug/l	1.96	1800.00		16117.08	16847.71	16700.86
23 Na	# 1	3006.5	601.3	ug/l	4.73	81000.00		2995964.00	3054179.00	3057699.50
24 Mg	# 1	7010	1402	ug/l	5.77	81000.00		4451143.00	4550771.00	4667810.50
27 Al	# 1	3.1185	0.6237	ug/l	12.51	81000.00		3153.69	3130.33	3423.74
39 K	# 2	3914	782.8	ug/l	1.48	81000.00		213489.70	217950.05	220331.09
40 Ca	# 1	14160	2832	ug/l	6.02	81000.00		21491360.00	21797134.00	22470442.00
45 Sc	# 2	----	--------		--------	#VALUE!		35571.24	36470.78	37358.02
47 Ti	# 3	0.33815	0.06763	ug/l	13.54	1620.00		66.67	80.00	66.67
51 V	# 2	0.09755	0.01951	ug/l	5.94	1800.00		151.11	154.45	157.78
52 Cr	# 2	0.0656	0.01312	ug/l	14.89	1800.00		132.22	123.33	132.22
55 Mn	# 3	231.4	46.28	ug/l	0.98	1800.00		741087.50	743652.81	742701.19
56 Fe	# 1	1.5845	0.3169	ug/l	24.72	81000.00		14649.49	14859.68	15797.18
59 Co	# 3	0.16025	0.03205	ug/l	6.22	1800.00		376.68	423.35	426.68
60 Ni	# 2	0.653	0.1306	ug/l	15.80	1800.00		265.56	236.67	236.67
63 Cu	# 2	-0.41645	-0.08329	ug/l	10.79	1800.00		323.34	364.45	353.34
66 Zn	# 3	1.5975	0.3195	ug/l	13.73	1800.00		670.03	730.04	810.04
75 As	# 2	0.07615	0.01523	ug/l	80.30	100.00		14.33	17.00	13.00
78 Se	# 1	0.20215	0.04043	ug/l	14.42	100.00		38.00	39.67	34.00
88 Sr	# 3	32.825	6.565	ug/l	2.44	1800.00		141213.48	143344.02	141018.27
95 Mo	# 3	0.2985	0.0597	ug/l	4.97	1800.00		203.34	216.68	223.34
107 Ag	# 3	0.006215	0.001243	ug/l	61.59	100.00		16.67	23.33	30.00
111 Cd	# 3	-0.014865	-0.002973	ug/l	125.33	100.00		23.27	29.93	16.60
118 Sn	# 3	0.039195	0.007839	ug/l	138.28	1800.00		196.67	316.68	293.35
121 Sb	# 3	0.20015	0.04003	ug/l	18.21	100.00		446.69	370.02	410.02
137 Ba	# 3	14.025	2.805	ug/l	3.35	1800.00		7945.40	7711.99	8335.62
202 Hg	# 3	0.0647	0.01294	ug/l	8.73	5.00		59.33	64.00	60.67
205 Tl	# 3	0.040065	0.008013	ug/l	19.67	20.00		190.01	190.01	150.01
208 Pb	# 3	0.025015	0.005003	ug/l	29.50	1800.00		326.68	326.68	276.68
232 Th	# 3	0.14395	0.02879	ug/l	7.86	#VALUE!		1023.40	940.06	916.72
238 U	# 3	0.14345	0.02869	ug/l	2.84	#VALUE!		756.71	776.71	803.38

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	568512.44	2.09	572657.25	99.3	60 - 125		555823.88	570393.56	579319.81
45 Sc	# 1	473365.84	4.75	523286.00	90.5	60 - 125		464929.44	498853.44	456314.72
45 Sc	# 3	601024.13	1.29	603286.69	99.6	60 - 125		597216.50	595883.69	609972.06
74 Ge	# 1	155910.36	2.68	170650.48	91.4	60 - 125		155073.38	160442.13	152215.55
74 Ge	# 2	23302.35	1.86	24862.19	93.7	60 - 125		23113.60	22995.64	23797.82
74 Ge	# 3	154122.16	1.11	155795.36	98.9	60 - 125		152168.64	154797.06	155400.75
89 Y	# 3	1002540.80	1.97	1011968.20	99.1	60 - 125		987368.81	995437.50	1024816.30
115 In	# 3	946792.19	0.75	989458.81	95.7	60 - 125		941251.63	944390.69	954733.94
159 Tb	# 3	1286003.60	1.15	1388283.80	92.6	60 - 125		1283378.40	1272693.80	1301939.00
209 Bi	# 3	747691.38	0.51	829936.50	90.1	60 - 125		743765.06	751376.63	747932.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\193SMPL.D\193SMPL.D#
Date Acquired: Dec 28 2012 04:52 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8470-e-1-a PDS
Misc Info: 200.8TR 1/5
Vial Number: 4305
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	21.23	21.23	ug/l	0.03	100.00		48985.51	50813.08	51167.58
11 B # 3	60.8	60.8	ug/l	0.85	1800.00		147793.23	151384.25	154680.55
23 Na # 1	4886	4886	ug/l	3.18	81000.00		23710570.00	24120336.00	24426656.00
24 Mg # 1	8530	8530	ug/l	4.66	81000.00		27931600.00	28518826.00	28075542.00
27 Al # 1	204.3	204.3	ug/l	3.84	81000.00		772118.63	776329.56	782029.06
39 K # 2	6003	6003	ug/l	0.67	81000.00		1603948.90	1650386.00	1610801.90
40 Ca # 1	15620	15620	ug/l	3.57	81000.00		121224120.00	122478920.00	123606900.00
45 Sc # 2	----	--------		--------	#VALUE!		35854.09	37363.64	37748.89
47 Ti # 3	21.11	21.11	ug/l	2.45	1620.00		19487.23	18876.61	19540.59
51 V # 2	20.34	20.34	ug/l	1.29	1800.00		35941.08	36766.00	37152.32
52 Cr # 2	20.2	20.2	ug/l	1.96	1800.00		42601.62	42853.44	44061.75
55 Mn # 3	443.8	443.8	ug/l	1.35	1800.00		7058053.00	7105255.50	7276148.00
56 Fe # 1	2063	2063	ug/l	2.51	81000.00		24154022.00	24265988.00	24537068.00
59 Co # 3	20.33	20.33	ug/l	0.23	1800.00		240200.63	242282.19	242335.63
60 Ni # 2	20.43	20.43	ug/l	0.36	1800.00		18572.74	19002.06	18889.71
63 Cu # 2	20.2	20.2	ug/l	0.34	1800.00		48790.87	49663.21	49451.47
66 Zn # 3	22.43	22.43	ug/l	1.54	1800.00		32329.03	33257.33	32188.91
75 As # 2	20.77	20.77	ug/l	1.19	100.00		3791.40	3885.75	3915.43
78 Se # 1	21.01	21.01	ug/l	3.37	100.00		7370.17	7341.49	7358.16
88 Sr # 3	54.68	54.68	ug/l	0.87	1800.00		1155359.00	1191887.80	1227185.60
95 Mo # 3	21.34	21.34	ug/l	0.16	1800.00		61436.66	62516.94	62165.89
107 Ag # 3	17.56	17.56	ug/l	0.38	100.00		144539.64	147198.23	145727.36
111 Cd # 3	21.25	21.25	ug/l	0.84	100.00		37508.04	38406.63	37671.37
118 Sn # 3	20.52	20.52	ug/l	0.92	1800.00		114758.70	116969.61	118295.63
121 Sb # 3	20.95	20.95	ug/l	0.87	100.00		108885.09	110769.77	112065.48
137 Ba # 3	34.51	34.51	ug/l	1.99	1800.00		97238.37	94938.45	96269.15
202 Hg # 3	1.002	1.002	ug/l	0.82	5.00		1810.77	1823.44	1817.77
205 Tl # 3	4.003	4.003	ug/l	1.21	20.00		63447.73	64060.14	63521.41
208 Pb # 3	19.91	19.91	ug/l	1.34	1800.00		431402.38	436746.44	438378.63
232 Th # 3	19.84	19.84	ug/l	1.13	#VALUE!		500972.91	503767.69	506555.63
238 U # 3	19.89	19.89	ug/l	1.43	#VALUE!		507930.81	508022.59	513637.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	556011.81	2.31	572657.25	97.1	60 - 125		541321.00	561569.25	565145.19
45 Sc # 1	481040.69	4.54	523286.00	91.9	60 - 125		464725.78	472523.81	505872.50
45 Sc # 3	607216.13	0.98	603286.69	100.7	60 - 125		600346.69	610210.75	611091.00
74 Ge # 1	154350.09	3.35	170650.48	90.4	60 - 125		150081.75	152860.33	160108.23
74 Ge # 2	23296.80	1.06	24862.19	93.7	60 - 125		23054.64	23546.39	23289.39
74 Ge # 3	154823.70	0.71	155795.36	99.4	60 - 125		153573.81	155620.39	155276.88
89 Y # 3	1011160.40	2.74	1011968.20	99.9	60 - 125		988793.75	1002548.80	1042138.80
115 In # 3	926865.19	0.84	989458.81	93.7	60 - 125		918004.44	932470.31	930120.94
159 Tb # 3	1295846.30	0.69	1388283.80	93.3	60 - 125		1303310.00	1285994.00	1298234.80
209 Bi # 3	714225.81	1.13	829936.50	86.1	60 - 125		707759.88	723269.06	711648.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\194SMPL.D\194SMPL.D#
Date Acquired: Dec 28 2012 04:59 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8470-e-1-b ms
Misc Info: 200.8TR 1/5
Vial Number: 4306
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.1	10.1	ug/l	3.81	100.00		24786.18	24389.00	24619.54
11 B	# 3	59.5	59.5	ug/l	1.77	1800.00		149870.17	151926.17	155098.59
23 Na	# 1	3924	3924	ug/l	3.32	81000.00		18548040.00	19127674.00	19511842.00
24 Mg	# 1	7913	7913	ug/l	3.71	81000.00		25671222.00	25400560.00	26110576.00
27 Al	# 1	1018	1018	ug/l	3.26	81000.00		3731718.30	3803378.80	3887144.00
39 K	# 2	5091	5091	ug/l	1.65	81000.00		1368441.00	1354694.40	1372182.10
40 Ca	# 1	15450	15450	ug/l	2.31	81000.00		116903650.00	120189610.00	120529260.00
45 Sc	# 2	----	--------		--------	#VALUE!		36574.33	36381.75	37526.20
47 Ti	# 3	19.51	19.51	ug/l	1.89	1620.00		17628.71	18349.37	18612.97
51 V	# 2	19.68	19.68	ug/l	0.29	1800.00		34707.64	35165.21	35629.41
52 Cr	# 2	19.54	19.54	ug/l	0.41	1800.00		40951.36	41390.12	41959.11
55 Mn	# 3	340.1	340.1	ug/l	1.56	1800.00		5439471.00	5522429.50	5528340.00
56 Fe	# 1	965.5	965.5	ug/l	2.41	81000.00		11015438.00	11325385.00	11432381.00
59 Co	# 3	9.785	9.785	ug/l	1.52	1800.00		115634.09	117108.80	117368.24
60 Ni	# 2	19.98	19.98	ug/l	0.61	1800.00		17841.96	18379.19	18553.81
63 Cu	# 2	19.84	19.84	ug/l	0.65	1800.00		47603.39	48004.32	48524.59
66 Zn	# 3	22.95	22.95	ug/l	2.56	1800.00		33975.32	32950.09	33437.87
75 As	# 2	21.1	21.1	ug/l	0.91	100.00		3818.41	3871.09	3993.45
78 Se	# 1	20.6	20.6	ug/l	1.96	100.00		7071.72	7131.07	7190.76
88 Sr	# 3	54.23	54.23	ug/l	2.82	1800.00		1175619.40	1184992.40	1190476.00
95 Mo	# 3	20.4	20.4	ug/l	1.26	1800.00		60115.36	59978.55	60008.28
107 Ag	# 3	10.04	10.04	ug/l	1.09	100.00		84416.68	84139.27	84477.10
111 Cd	# 3	10.05	10.05	ug/l	1.96	100.00		18080.69	18307.54	18003.87
118 Sn	# 3	19.72	19.72	ug/l	1.07	1800.00		113477.45	113312.20	113688.72
121 Sb	# 3	11.03	11.03	ug/l	1.61	100.00		58747.07	59429.43	58837.12
137 Ba	# 3	34.01	34.01	ug/l	2.26	1800.00		96483.34	96440.27	94716.92
202 Hg	# 3	0.9893	0.9893	ug/l	1.19	5.00		1801.44	1839.44	1842.11
205 Tl	# 3	7.56	7.56	ug/l	0.82	20.00		121117.62	122505.05	122041.14
208 Pb	# 3	9.544	9.544	ug/l	0.74	1800.00		211325.44	212390.56	211806.63
232 Th	# 3	18.77	18.77	ug/l	0.40	#VALUE!		484985.25	482283.69	489460.00
238 U	# 3	19.35	19.35	ug/l	1.04	#VALUE!		502396.44	507382.19	506208.91

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	571697.38	3.43	572657.25	99.8	60 - 125		552953.56	570086.38	592052.31
45 Sc	# 1	473148.56	2.60	523286.00	90.4	60 - 125		465312.41	487324.22	466809.00
45 Sc	# 3	619188.94	1.49	603286.69	102.6	60 - 125		612826.75	614977.06	629763.00
74 Ge	# 1	152509.53	1.62	170650.48	89.4	60 - 125		151548.38	155316.77	150663.44
74 Ge	# 2	23113.98	1.58	24862.19	93.0	60 - 125		22736.49	23140.33	23465.12
74 Ge	# 3	155397.75	1.92	155795.36	99.7	60 - 125		153553.23	153800.66	158839.34
89 Y	# 3	1013483.80	3.43	1011968.20	100.1	60 - 125		985467.38	1002567.70	1052416.50
115 In	# 3	938154.56	1.23	989458.81	94.8	60 - 125		932288.31	930715.06	951460.31
159 Tb	# 3	1314100.00	0.67	1388283.80	94.7	60 - 125		1309312.50	1308667.80	1324319.60
209 Bi	# 3	727572.94	1.04	829936.50	87.7	60 - 125		723709.38	722755.63	736253.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\195SMPL.D\195SMPL.D#
Date Acquired: Dec 28 2012 05:07 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8470-e-1-c msd
Misc Info: 200.8TR 1/5
Vial Number: 4307
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.826	9.826	ug/l	5.52	100.00		23791.57	24222.28	23684.80
11 B # 3	58.34	58.34	ug/l	4.10	1800.00		147161.81	149821.83	150728.64
23 Na # 1	3887	3887	ug/l	3.82	81000.00		18922540.00	19191282.00	19112488.00
24 Mg # 1	7750	7750	ug/l	3.28	81000.00		25424700.00	25245622.00	25714104.00
27 Al # 1	990.3	990.3	ug/l	3.04	81000.00		3721572.50	3717700.00	3786255.00
39 K # 2	5111	5111	ug/l	2.26	81000.00		1317254.00	1374762.10	1396291.90
40 Ca # 1	15100	15100	ug/l	2.85	81000.00		116305170.00	117607760.00	119281040.00
45 Sc # 2	----	--------		--------	#VALUE!		35501.16	36469.72	37434.87
47 Ti # 3	19.75	19.75	ug/l	0.62	1620.00		18159.16	17745.54	18059.14
51 V # 2	19.68	19.68	ug/l	1.12	1800.00		34250.24	35246.50	35372.27
52 Cr # 2	19.32	19.32	ug/l	0.79	1800.00		40140.73	41056.04	40999.23
55 Mn # 3	342.8	342.8	ug/l	0.70	1800.00		5458628.50	5456949.00	5464308.00
56 Fe # 1	944.8	944.8	ug/l	3.08	81000.00		10921121.00	11286351.00	11235226.00
59 Co # 3	9.811	9.811	ug/l	1.91	1800.00		113839.69	116682.95	115381.76
60 Ni # 2	19.78	19.78	ug/l	1.60	1800.00		17700.73	18286.89	17925.40
63 Cu # 2	19.6	19.6	ug/l	0.70	1800.00		46509.38	47170.00	47924.18
66 Zn # 3	22.58	22.58	ug/l	2.23	1800.00		31951.90	32943.74	32452.84
75 As # 2	21.26	21.26	ug/l	0.41	100.00		3852.08	3909.09	3939.77
78 Se # 1	20.14	20.14	ug/l	1.69	100.00		6969.67	7003.02	7201.77
88 Sr # 3	52.58	52.58	ug/l	6.15	1800.00		1163655.00	1146050.50	1107730.30
95 Mo # 3	20.47	20.47	ug/l	0.40	1800.00		59279.43	58403.10	58978.46
107 Ag # 3	10.2	10.2	ug/l	0.90	100.00		84865.64	83016.89	83609.30
111 Cd # 3	10.15	10.15	ug/l	0.35	100.00		17974.13	17800.81	17927.47
118 Sn # 3	19.64	19.64	ug/l	0.89	1800.00		109636.45	110323.45	111380.69
121 Sb # 3	10.99	10.99	ug/l	1.33	100.00		58138.32	57395.74	56924.48
137 Ba # 3	34.04	34.04	ug/l	1.67	1800.00		92274.03	93701.79	95474.49
202 Hg # 3	1.004	1.004	ug/l	1.62	5.00		1827.11	1786.44	1828.11
205 Tl # 3	7.648	7.648	ug/l	1.18	20.00		119710.27	119825.35	120496.73
208 Pb # 3	9.662	9.662	ug/l	0.90	1800.00		207866.31	208015.56	210233.25
232 Th # 3	18.84	18.84	ug/l	0.24	#VALUE!		477797.22	477011.59	475766.44
238 U # 3	19.35	19.35	ug/l	0.55	#VALUE!		492074.94	494963.84	495735.66

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	571480.44	5.07	572657.25	99.8	60 - 125		547156.38	563762.94	603521.81
45 Sc # 1	478188.03	4.10	523286.00	91.4	60 - 125		464126.69	469872.97	500564.47
45 Sc # 3	604723.44	0.61	603286.69	100.2	60 - 125		606915.69	600442.13	606812.50
74 Ge # 1	154386.94	3.49	170650.48	90.5	60 - 125		150874.92	151690.69	160595.19
74 Ge # 2	22976.75	0.81	24862.19	92.4	60 - 125		22798.76	22961.16	23170.34
74 Ge # 3	153110.36	0.75	155795.36	98.3	60 - 125		153748.52	151792.77	153789.80
89 Y # 3	1006902.90	3.80	1011968.20	99.5	60 - 125		981243.50	988530.19	1050934.90
115 In # 3	916980.81	0.72	989458.81	92.7	60 - 125		919395.31	909504.06	922043.19
159 Tb # 3	1278993.50	1.53	1388283.80	92.1	60 - 125		1268563.90	1266789.00	1301627.80
209 Bi # 3	711714.13	0.31	829936.50	85.8	60 - 125		711766.63	713891.94	709483.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\196SMPL.D\196SMPL.D#
Date Acquired: Dec 28 2012 05:14 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8470-e-2-a
Misc Info: 200.8TR 1/5
Vial Number: 4308
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.002778	0.002778	ug/l	75.23	100.00		10.00	13.33	3.33
11 B	# 3	14.19	14.19	ug/l	1.89	1800.00		39304.35	40549.82	41715.67
23 Na	# 1	4548	4548	ug/l	0.85	81000.00		21441896.00	21913378.00	21918736.00
24 Mg	# 1	9034	9034	ug/l	1.31	81000.00		28565746.00	29317300.00	29004286.00
27 Al	# 1	1.009	1.009	ug/l	4.24	81000.00		4420.63	4600.67	4834.08
39 K	# 2	857.6	857.6	ug/l	0.63	81000.00		228519.77	232681.11	237801.56
40 Ca	# 1	16670	16670	ug/l	0.76	81000.00		125684900.00	127372340.00	127258020.00
45 Sc	# 2	----	--------		--------	#VALUE!		35205.11	36209.18	36612.13
47 Ti	# 3	0.1379	0.1379	ug/l	18.16	1620.00		156.67	113.34	133.34
51 V	# 2	0.03178	0.03178	ug/l	26.53	1800.00		157.78	170.00	192.23
52 Cr	# 2	0.04667	0.04667	ug/l	5.22	1800.00		197.78	192.23	201.11
55 Mn	# 3	0.8493	0.8493	ug/l	1.65	1800.00		14089.03	14382.63	13828.88
56 Fe	# 1	3.022	3.022	ug/l	2.30	81000.00		44594.67	46058.36	46676.53
59 Co	# 3	0.02889	0.02889	ug/l	5.61	1800.00		373.35	380.01	343.35
60 Ni	# 2	0.2207	0.2207	ug/l	8.59	1800.00		297.78	332.23	338.90
63 Cu	# 2	-0.04497	-0.04497	ug/l	25.93	1800.00		448.90	436.68	407.79
66 Zn	# 3	0.9723	0.9723	ug/l	6.14	1800.00		1660.12	1730.13	1550.11
75 As	# 2	0.05272	0.05272	ug/l	23.58	100.00		22.33	22.67	19.00
78 Se	# 1	0.3392	0.3392	ug/l	3.43	100.00		137.33	141.33	135.00
88 Sr	# 3	49.34	49.34	ug/l	0.71	1800.00		1039056.60	1035138.80	1037312.50
95 Mo	# 3	0.1364	0.1364	ug/l	7.10	1800.00		456.69	423.35	400.02
107 Ag	# 3	0.01004	0.01004	ug/l	20.61	100.00		76.67	96.67	110.00
111 Cd	# 3	0.006936	0.006936	ug/l	47.94	100.00		36.52	36.53	46.54
118 Sn	# 3	0.03675	0.03675	ug/l	10.08	1800.00		416.68	403.35	443.35
121 Sb	# 3	0.06888	0.06888	ug/l	6.47	100.00		520.02	550.03	563.36
137 Ba	# 3	32.45	32.45	ug/l	1.02	1800.00		88269.25	89729.84	89401.84
202 Hg	# 3	0.01914	0.01914	ug/l	30.43	5.00		73.33	76.00	57.67
205 Tl	# 3	0.028	0.028	ug/l	4.10	20.00		453.35	500.02	473.35
208 Pb	# 3	0.02662	0.02662	ug/l	13.67	1800.00		733.36	680.03	846.71
232 Th	# 3	0.08694	0.08694	ug/l	9.66	#VALUE!		2463.60	2510.28	2146.90
238 U	# 3	0.1519	0.1519	ug/l	1.34	#VALUE!		3823.94	3937.30	3853.93

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	567900.13	2.42	572657.25	99.2	60 - 125		552100.63	576876.69	574723.00
45 Sc	# 1	466228.81	1.08	523286.00	89.1	60 - 125		461888.38	465046.63	471751.44
45 Sc	# 3	600088.88	0.76	603286.69	99.5	60 - 125		594832.94	602230.25	603203.56
74 Ge	# 1	150755.61	0.77	170650.48	88.3	60 - 125		149889.17	150307.14	152070.50
74 Ge	# 2	22867.73	1.63	24862.19	92.0	60 - 125		22457.21	22961.20	23184.78
74 Ge	# 3	151720.77	0.92	155795.36	97.4	60 - 125		150420.81	153198.98	151542.50
89 Y	# 3	975577.50	0.56	1011968.20	96.4	60 - 125		969336.63	977627.88	979767.88
115 In	# 3	913800.38	0.18	989458.81	92.4	60 - 125		915589.56	913345.06	912466.56
159 Tb	# 3	1242852.40	3.18	1388283.80	89.5	60 - 125		1198664.10	1255107.60	1274785.40
209 Bi	# 3	708466.63	0.94	829936.50	85.4	60 - 125		701096.31	710368.63	713934.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\197SMPL.D\197SMPL.D#
Date Acquired: Dec 28 2012 05:22 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8470-e-3-a
Misc Info: 200.8TR 1/5
Vial Number: 4309
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.004959	0.004959	ug/l	61.48	100.00		10.00	10.00	23.33
11 B	# 3	13.64	13.64	ug/l	1.49	1800.00		38639.15	39781.70	40820.71
23 Na	# 1	4621	4621	ug/l	1.13	81000.00		21243476.00	21678702.00	21934600.00
24 Mg	# 1	7940	7940	ug/l	1.70	81000.00		24613776.00	24918962.00	25128606.00
27 Al	# 1	1.885	1.885	ug/l	1.45	81000.00		7545.01	7711.75	7755.09
39 K	# 2	797.9	797.9	ug/l	3.79	81000.00		217446.53	222797.91	221968.53
40 Ca	# 1	15430	15430	ug/l	1.82	81000.00		113006960.00	116324450.00	115049040.00
45 Sc	# 2	----	--------		--------	#VALUE!		35384.25	35953.19	39580.73
47 Ti	# 3	0.1455	0.1455	ug/l	26.28	1620.00		103.34	170.01	153.34
51 V	# 2	0.03679	0.03679	ug/l	22.98	1800.00		191.11	165.56	198.89
52 Cr	# 2	0.04189	0.04189	ug/l	6.06	1800.00		186.67	181.11	203.34
55 Mn	# 3	12.03	12.03	ug/l	1.41	1800.00		190010.45	190056.92	191098.52
56 Fe	# 1	55.89	55.89	ug/l	1.29	81000.00		635085.44	643735.44	641224.19
59 Co	# 3	0.03973	0.03973	ug/l	4.27	1800.00		500.02	496.69	476.69
60 Ni	# 2	0.2317	0.2317	ug/l	8.11	1800.00		320.01	352.23	342.23
63 Cu	# 2	0.1417	0.1417	ug/l	14.93	1800.00		916.70	846.69	900.03
66 Zn	# 3	0.906	0.906	ug/l	3.94	1800.00		1523.44	1583.45	1546.78
75 As	# 2	0.04358	0.04358	ug/l	16.08	100.00		19.33	21.00	19.67
78 Se	# 1	0.2723	0.2723	ug/l	9.84	100.00		118.67	104.67	114.00
88 Sr	# 3	41.79	41.79	ug/l	2.71	1800.00		895387.50	889230.06	903583.13
95 Mo	# 3	0.1095	0.1095	ug/l	7.24	1800.00		376.68	330.01	343.35
107 Ag	# 3	0.00134	0.00134	ug/l	59.72	100.00		23.33	16.67	30.00
111 Cd	# 3	0.0005896	0.0005896	ug/l	477.78	100.00		33.21	23.23	29.89
118 Sn	# 3	0.01666	0.01666	ug/l	40.22	1800.00		290.01	350.01	286.68
121 Sb	# 3	0.05059	0.05059	ug/l	4.89	100.00		453.35	433.35	463.35
137 Ba	# 3	52.92	52.92	ug/l	1.68	1800.00		144363.16	147324.94	144736.92
202 Hg	# 3	0.008589	0.008589	ug/l	10.61	5.00		53.00	49.33	50.33
205 Tl	# 3	0.01549	0.01549	ug/l	13.41	20.00		253.34	316.68	293.35
208 Pb	# 3	0.02281	0.02281	ug/l	5.31	1800.00		700.03	650.03	690.03
232 Th	# 3	0.03903	0.03903	ug/l	4.80	#VALUE!		1133.41	1210.09	1190.08
238 U	# 3	0.117	0.117	ug/l	1.05	#VALUE!		3053.72	2980.39	2993.71

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	576115.13	1.58	572657.25	100.6	60 - 125		565982.00	578845.50	583517.81
45 Sc	# 1	455985.91	2.71	523286.00	87.1	60 - 125		442310.47	459310.03	466337.22
45 Sc	# 3	603487.63	0.35	603286.69	100.0	60 - 125		602877.31	601777.00	605808.63
74 Ge	# 1	147419.70	1.91	170650.48	86.4	60 - 125		144165.67	149132.52	148960.89
74 Ge	# 2	23263.11	4.31	24862.19	93.6	60 - 125		22502.84	22886.66	24399.83
74 Ge	# 3	151597.45	1.67	155795.36	97.3	60 - 125		151485.98	149117.27	154189.14
89 Y	# 3	995671.75	3.53	1011968.20	98.4	60 - 125		981639.75	969727.06	1035648.30
115 In	# 3	914696.13	0.57	989458.81	92.4	60 - 125		917372.50	908716.63	917999.38
159 Tb	# 3	1255377.60	1.88	1388283.80	90.4	60 - 125		1241623.10	1241918.40	1282591.40
209 Bi	# 3	714711.94	0.91	829936.50	86.1	60 - 125		718072.50	707248.75	718814.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\198SMPL.D\198SMPL.D#
Date Acquired: Dec 28 2012 05:29 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8470-e-4-a
Misc Info: 200.8TR 1/5
Vial Number: 4310
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.004527	0.004527	ug/l	50.30	100.00		6.67	16.67	16.67
11 B	# 3	23.56	23.56	ug/l	1.15	1800.00		63200.44	64033.68	64765.66
23 Na	# 1	4396	4396	ug/l	0.65	81000.00		20600026.00	20968296.00	21506294.00
24 Mg	# 1	6737	6737	ug/l	0.57	81000.00		21283364.00	21429750.00	22038244.00
27 Al	# 1	0.7108	0.7108	ug/l	2.07	81000.00		3417.07	3497.08	3630.45
39 K	# 2	1113	1113	ug/l	1.31	81000.00		292956.31	298951.34	302474.75
40 Ca	# 1	15510	15510	ug/l	0.60	81000.00		116231780.00	118419090.00	119001900.00
45 Sc	# 2	----	--------		--------	#VALUE!		34617.28	36017.72	36850.38
47 Ti	# 3	0.1177	0.1177	ug/l	19.59	1620.00		103.34	140.01	103.34
51 V	# 2	0.03257	0.03257	ug/l	35.83	1800.00		154.45	195.56	170.00
52 Cr	# 2	0.0297	0.0297	ug/l	8.21	1800.00		154.45	161.11	165.56
55 Mn	# 3	46.16	46.16	ug/l	0.78	1800.00		725947.88	719923.44	716453.13
56 Fe	# 1	192.6	192.6	ug/l	0.24	81000.00		2191224.80	2214769.30	2236787.50
59 Co	# 3	0.161	0.161	ug/l	3.97	1800.00		1866.81	1810.15	1970.16
60 Ni	# 2	0.2643	0.2643	ug/l	17.33	1800.00		346.67	325.56	405.56
63 Cu	# 2	0.09452	0.09452	ug/l	3.80	1800.00		746.69	754.47	767.80
66 Zn	# 3	1.252	1.252	ug/l	1.44	1800.00		2050.17	2010.17	1996.83
75 As	# 2	0.06891	0.06891	ug/l	36.28	100.00		29.00	20.33	23.00
78 Se	# 1	0.1792	0.1792	ug/l	9.56	100.00		76.00	88.00	84.33
88 Sr	# 3	45.93	45.93	ug/l	0.69	1800.00		958469.56	945670.38	958536.25
95 Mo	# 3	0.1488	0.1488	ug/l	24.90	1800.00		573.36	433.35	360.01
107 Ag	# 3	0.0009849	0.0009849	ug/l	114.63	100.00		13.33	30.00	16.67
111 Cd	# 3	0.004714	0.004714	ug/l	65.08	100.00		36.48	39.86	29.89
118 Sn	# 3	0.01204	0.01204	ug/l	55.95	1800.00		296.68	233.34	306.68
121 Sb	# 3	0.04032	0.04032	ug/l	23.94	100.00		340.01	396.68	433.35
137 Ba	# 3	41.85	41.85	ug/l	0.10	1800.00		114579.20	111860.55	113276.41
202 Hg	# 3	0.00999	0.00999	ug/l	15.85	5.00		55.00	54.33	50.00
205 Tl	# 3	0.01013	0.01013	ug/l	17.24	20.00		173.34	210.01	216.68
208 Pb	# 3	0.02184	0.02184	ug/l	9.43	1800.00		636.69	673.36	620.03
232 Th	# 3	0.02545	0.02545	ug/l	4.66	#VALUE!		836.72	853.39	796.71
238 U	# 3	0.08733	0.08733	ug/l	2.99	#VALUE!		2156.88	2266.92	2290.24

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	573030.38	2.16	572657.25	100.1	60 - 125		559056.88	577350.75	582683.56
45 Sc	# 1	465925.88	1.53	523286.00	89.0	60 - 125		459065.53	465425.69	473286.44
45 Sc	# 3	596172.31	0.70	603286.69	98.8	60 - 125		591338.94	598752.25	598425.69
74 Ge	# 1	149732.89	0.83	170650.48	87.7	60 - 125		148594.61	149545.31	151058.75
74 Ge	# 2	22700.10	0.34	24862.19	91.3	60 - 125		22612.94	22727.55	22759.80
74 Ge	# 3	150003.88	0.65	155795.36	96.3	60 - 125		150713.03	148884.95	150413.66
89 Y	# 3	963989.06	0.24	1011968.20	95.3	60 - 125		966619.56	962699.56	962648.00
115 In	# 3	900128.75	1.25	989458.81	91.0	60 - 125		910648.94	888318.50	901418.75
159 Tb	# 3	1225663.40	2.50	1388283.80	88.3	60 - 125		1249580.30	1191107.80	1236302.50
209 Bi	# 3	711200.88	0.21	829936.50	85.7	60 - 125		709578.25	711584.25	712440.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\199_CCV.D\199_CCV.D#
Date Acquired: Dec 28 2012 05:37 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.47 ug/l	3.28	50.00	90 - 110		116928.46	118168.88	117582.27
11 B	97.18 ug/l	4.03	100.00	90 - 110		234332.81	238689.73	243971.11
23 Na	5034 ug/l	1.05	5000.00	90 - 110		23217096.00	23343266.00	24067070.00
24 Mg	5091 ug/l	2.40	5000.00	90 - 110		15560506.00	16426035.00	15902078.00
27 Al	516.2 ug/l	2.04	500.00	90 - 110		1807481.00	1906311.60	1871354.40
39 K	5114 ug/l	4.61	5000.00	90 - 110		1293208.00	1418313.50	1295593.80
40 Ca	5104 ug/l	0.30	5000.00	90 - 110		37433572.00	38122300.00	38544452.00
45 Sc	--------	--------		--- ##### - #####		35603.59	35974.23	38123.53
47 Ti	50.48 ug/l	1.96	50.00	90 - 110		44222.78	44931.11	44747.29
51 V	48.53 ug/l	1.04	50.00	90 - 110		83312.77	84742.46	84644.32
52 Cr	48.05 ug/l	1.92	50.00	90 - 110		98762.70	98382.96	100083.99
55 Mn	508.6 ug/l	2.27	500.00	90 - 110		7709390.00	7843161.50	7816754.00
56 Fe	5026 ug/l	1.94	5000.00	90 - 110		55922344.00	55610584.00	58516124.00
59 Co	49.17 ug/l	2.76	50.00	90 - 110		557625.50	553028.25	556208.00
60 Ni	48.54 ug/l	2.35	50.00	90 - 110		43181.22	42958.63	42892.84
63 Cu	48.32 ug/l	1.21	50.00	90 - 110		112144.99	113486.20	113907.86
66 Zn	50.01 ug/l	3.24	50.00	90 - 110		69348.57	68053.36	68960.16
75 As	49.14 ug/l	0.78	50.00	90 - 110		8684.07	8850.15	8913.18
78 Se	49.29 ug/l	0.43	50.00	90 - 110		16343.32	16521.15	16599.22
88 Sr	48.05 ug/l	4.65	50.00	90 - 110		997452.50	998904.44	1001476.60
95 Mo	50.62 ug/l	2.62	50.00	90 - 110		142285.38	141899.02	142658.77
107 Ag	50.62 ug/l	1.75	50.00	90 - 110		408390.63	408311.44	403025.88
111 Cd	49.79 ug/l	3.03	50.00	90 - 110		86870.84	84784.18	85597.91
118 Sn	49.22 ug/l	2.22	50.00	90 - 110		270997.56	270421.47	269687.78
121 Sb	49.11 ug/l	2.37	50.00	90 - 110		251411.77	249968.69	249932.03
137 Ba	49.55 ug/l	1.56	50.00	90 - 110		134365.45	134342.44	131960.81
202 Hg	2.341 ug/l	1.50	2.50	90 - 110		4108.20	4139.21	4110.54
205 Tl	10.11 ug/l	4.48	10.00	90 - 110		148847.89	150444.97	149755.95
208 Pb	50.28 ug/l	4.92	50.00	90 - 110		1023746.40	1023324.40	1025516.90
232 Th	47.37 ug/l	2.29		--- ##### - #####		1181032.10	1174167.60	1185057.60
238 U	47.14 ug/l	2.38		--- ##### - #####		1174964.60	1185823.00	1196289.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	557872.00	3.84	572657.25	97.4	60 - 125		540932.31	581941.31	550742.56
45 Sc	455939.19	1.19	523286.00	87.1	60 - 125		450264.44	456531.97	461021.16
45 Sc	587373.94	2.27	603286.69	97.4	60 - 125		582755.75	602406.69	576959.50
74 Ge	147598.53	0.97	170650.48	86.5	60 - 125		146389.23	147223.53	149182.84
74 Ge	22506.26	1.97	24862.19	90.5	60 - 125		21994.44	22766.51	22757.84
74 Ge	147306.05	2.43	155795.36	94.6	60 - 125		146531.63	151212.52	144173.98
89 Y	966490.63	4.67	1011968.20	95.5	60 - 125		950002.50	1017561.60	931907.69
115 In	896853.19	2.35	989458.81	90.6	60 - 125		896271.63	918221.94	876066.00
159 Tb	1208813.40	4.95	1388283.80	87.1	60 - 125		1184764.50	1276939.40	1164736.10
209 Bi	700959.44	1.83	829936.50	84.5	60 - 125		700141.63	714148.06	688588.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\200_CCB.D\200_CCB.D#
Date Acquired: Dec 28 2012 05:45 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01395	0.01395	ug/l	35.60	#VALUE!		26.67	50.00	33.33
11 B # 3	1.211	1.211	ug/l	12.41	#VALUE!		8908.94	8989.00	8938.90
23 Na # 1	-7.009	-7.009	ug/l	13.13	#VALUE!		101245.45	100872.62	101406.02
24 Mg # 1	1.401	1.401	ug/l	8.13	#VALUE!		4987.47	5160.86	4807.43
27 Al # 1	0.1893	0.1893	ug/l	23.87	#VALUE!		1520.10	1686.79	1523.44
39 K # 2	1.328	1.328	ug/l	71.97	#VALUE!		6591.33	6731.42	7261.60
40 Ca # 1	3.657	3.657	ug/l	23.15	#VALUE!		128832.80	129642.34	127638.11
45 Sc # 2	----	--------		--------	#VALUE!		34774.19	35591.27	36478.64
47 Ti # 3	0.03428	0.03428	ug/l	30.60	#VALUE!		46.67	30.00	46.67
51 V # 2	0.01668	0.01668	ug/l	37.81	#VALUE!		156.67	134.45	147.78
52 Cr # 2	0.002657	0.002657	ug/l	233.38	#VALUE!		111.11	88.89	114.45
55 Mn # 3	0.1625	0.1625	ug/l	22.25	#VALUE!		3777.17	3327.06	2736.95
56 Fe # 1	1.16	1.16	ug/l	6.81	#VALUE!		24176.28	24396.80	24249.77
59 Co # 3	0.01115	0.01115	ug/l	15.20	#VALUE!		180.01	153.34	146.67
60 Ni # 2	-0.08147	-0.08147	ug/l	23.32	#VALUE!		41.11	41.11	72.22
63 Cu # 2	-0.1974	-0.1974	ug/l	1.16	#VALUE!		70.00	74.45	65.56
66 Zn # 3	0.03853	0.03853	ug/l	101.35	#VALUE!		346.68	370.01	273.34
75 As # 2	0.0426	0.0426	ug/l	35.28	#VALUE!		20.33	21.33	16.67
78 Se # 1	0.04161	0.04161	ug/l	2.68	#VALUE!		37.67	34.67	36.67
88 Sr # 3	0.01819	0.01819	ug/l	25.05	#VALUE!		556.69	423.35	396.68
95 Mo # 3	0.0796	0.0796	ug/l	14.30	#VALUE!		303.34	250.01	263.34
107 Ag # 3	0.02027	0.02027	ug/l	18.84	#VALUE!		206.67	186.67	156.67
111 Cd # 3	0.01182	0.01182	ug/l	24.72	#VALUE!		53.24	49.92	46.58
118 Sn # 3	0.05491	0.05491	ug/l	4.12	#VALUE!		540.02	523.36	556.69
121 Sb # 3	0.377	0.377	ug/l	10.66	#VALUE!		2390.23	2106.86	2140.21
137 Ba # 3	0.01768	0.01768	ug/l	41.27	#VALUE!		83.34	66.67	46.67
202 Hg # 3	0.02246	0.02246	ug/l	3.77	#VALUE!		79.67	78.00	79.67
205 Tl # 3	0.004132	0.004132	ug/l	38.92	#VALUE!		120.00	133.34	90.00
208 Pb # 3	0.01538	0.01538	ug/l	21.50	#VALUE!		600.02	506.69	486.69
232 Th # 3	0.09314	0.09314	ug/l	6.64	#VALUE!		2646.98	2790.34	2576.97
238 U # 3	0.01418	0.01418	ug/l	14.54	#VALUE!		443.35	333.35	393.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	579616.06	4.30	572657.25	101.2	60 - 125		559374.44	572000.13	607473.69
45 Sc # 1	462498.34	4.46	523286.00	88.4	60 - 125		481995.19	440921.78	464578.06
45 Sc # 3	602790.50	2.56	603286.69	99.9	60 - 125		589561.88	599070.56	619739.00
74 Ge # 1	150586.39	3.26	170650.48	88.2	60 - 125		155245.94	145465.48	151047.73
74 Ge # 2	22823.98	1.53	24862.19	91.8	60 - 125		22647.46	22597.42	23227.06
74 Ge # 3	152861.13	1.81	155795.36	98.1	60 - 125		150962.14	151590.73	156030.48
89 Y # 3	998917.19	3.57	1011968.20	98.7	60 - 125		975218.81	981559.75	1039972.70
115 In # 3	944612.50	4.51	989458.81	95.5	60 - 125		919657.50	920339.75	993840.19
159 Tb # 3	1278293.60	3.04	1388283.80	92.1	60 - 125		1257154.10	1254588.10	1323138.50
209 Bi # 3	748574.25	2.44	829936.50	90.2	60 - 125		739512.81	736637.44	769572.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\201SMPL.D\201SMPL.D#
Date Acquired: Dec 28 2012 05:52 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8459-d-1-a
Misc Info: 200.8TR 1/5
Vial Number: 4311
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005584	0.005584	ug/l	76.16	100.00		26.67	10.00	10.00
11 B	# 3	11.11	11.11	ug/l	5.16	1800.00		32831.90	33559.93	33068.97
23 Na	# 1	7450	7450	ug/l	0.67	81000.00		34465988.00	35024496.00	35210728.00
24 Mg	# 1	3461	3461	ug/l	0.37	81000.00		10757039.00	10882958.00	11035048.00
27 Al	# 1	8.813	8.813	ug/l	7.47	81000.00		34924.50	31631.15	31667.11
39 K	# 2	1117	1117	ug/l	0.40	81000.00		296126.56	299995.75	305142.09
40 Ca	# 1	5519	5519	ug/l	0.54	81000.00		40848648.00	41079980.00	41873860.00
45 Sc	# 2	----	--------		--------	#VALUE!		34775.37	35688.20	36220.25
47 Ti	# 3	0.4831	0.4831	ug/l	6.85	1620.00		423.35	476.69	443.35
51 V	# 2	0.2035	0.2035	ug/l	7.99	1800.00		448.90	505.57	466.68
52 Cr	# 2	0.007387	0.007387	ug/l	29.34	1800.00		107.78	114.45	121.11
55 Mn	# 3	24.8	24.8	ug/l	2.07	1800.00		397445.94	396248.16	396605.31
56 Fe	# 1	10.26	10.26	ug/l	0.52	81000.00		127543.25	127686.70	128030.86
59 Co	# 3	0.09733	0.09733	ug/l	9.51	1800.00		1216.74	1036.72	1280.08
60 Ni	# 2	0.2003	0.2003	ug/l	8.33	1800.00		281.12	313.34	315.56
63 Cu	# 2	-0.1447	-0.1447	ug/l	2.21	1800.00		197.78	194.45	190.00
66 Zn	# 3	0.4952	0.4952	ug/l	16.92	1800.00		1076.73	1000.06	873.38
75 As	# 2	0.04704	0.04704	ug/l	14.28	100.00		21.00	20.33	19.33
78 Se	# 1	0.1102	0.1102	ug/l	10.92	100.00		61.33	54.67	61.33
88 Sr	# 3	29.42	29.42	ug/l	4.34	1800.00		630828.00	629597.44	634751.25
95 Mo	# 3	0.03781	0.03781	ug/l	23.70	1800.00		173.34	126.67	140.00
107 Ag	# 3	0.003824	0.003824	ug/l	29.73	100.00		50.00	33.33	50.00
111 Cd	# 3	-0.0009511	-0.0009511	ug/l	481.02	100.00		23.28	19.96	36.62
118 Sn	# 3	0.01802	0.01802	ug/l	35.27	1800.00		286.68	360.02	320.01
121 Sb	# 3	0.1306	0.1306	ug/l	13.85	100.00		966.72	856.72	816.71
137 Ba	# 3	5.25	5.25	ug/l	1.15	1800.00		14346.42	14796.99	14956.99
202 Hg	# 3	0.0153	0.0153	ug/l	23.55	5.00		70.33	61.33	60.00
205 Tl	# 3	0.0149	0.0149	ug/l	18.04	20.00		283.34	313.35	246.68
208 Pb	# 3	0.03119	0.03119	ug/l	2.10	1800.00		850.04	856.70	896.71
232 Th	# 3	0.03453	0.03453	ug/l	6.47	#VALUE!		1113.41	1093.41	1040.07
238 U	# 3	0.003382	0.003382	ug/l	35.72	#VALUE!		126.67	96.67	66.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	571473.81	4.38	572657.25	99.8	60 - 125		549009.25	566919.13	598493.06
45 Sc	# 1	457626.50	1.65	523286.00	87.5	60 - 125		450194.72	457434.28	465250.53
45 Sc	# 3	602351.13	2.85	603286.69	99.8	60 - 125		590175.13	594894.56	621983.75
74 Ge	# 1	149113.14	0.58	170650.48	87.4	60 - 125		148131.70	149725.11	149482.61
74 Ge	# 2	22777.62	1.89	24862.19	91.6	60 - 125		22373.77	22727.57	23231.53
74 Ge	# 3	153591.05	2.07	155795.36	98.6	60 - 125		152110.81	151428.80	157233.52
89 Y	# 3	997684.25	4.88	1011968.20	98.6	60 - 125		976328.13	963333.44	1053391.30
115 In	# 3	930751.00	2.27	989458.81	94.1	60 - 125		913365.00	924593.00	954295.06
159 Tb	# 3	1270310.80	3.08	1388283.80	91.5	60 - 125		1264927.80	1234207.90	1311796.50
209 Bi	# 3	727656.19	1.90	829936.50	87.7	60 - 125		718144.88	721326.94	743496.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\202SMPL.D\202SMPL.D#
Date Acquired: Dec 28 2012 06:00 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8459-d-2-a
Misc Info: 200.8TR 1/5
Vial Number: 4312
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005901	0.005901	ug/l	24.81	100.00		20.00	16.67	13.33
11 B	# 3	12.65	12.65	ug/l	2.40	1800.00		35970.89	37750.83	38141.45
23 Na	# 1	7015	7015	ug/l	2.14	81000.00		32329666.00	33602836.00	33914712.00
24 Mg	# 1	5837	5837	ug/l	1.85	81000.00		18150062.00	18851338.00	18792046.00
27 Al	# 1	1.019	1.019	ug/l	1.89	81000.00		4523.98	4650.69	4697.38
39 K	# 2	1615	1615	ug/l	0.39	81000.00		427164.91	436372.19	443733.44
40 Ca	# 1	10580	10580	ug/l	0.77	81000.00		79291736.00	79547776.00	81301344.00
45 Sc	# 2	----	--------		--------	#VALUE!		35137.16	35954.28	36161.32
47 Ti	# 3	0.0661	0.0661	ug/l	19.70	1620.00		60.00	66.67	83.34
51 V	# 2	0.1209	0.1209	ug/l	13.76	1800.00		296.67	334.45	366.67
52 Cr	# 2	0.006	0.006	ug/l	29.43	1800.00		113.33	114.45	110.00
55 Mn	# 3	113.6	113.6	ug/l	0.35	1800.00		1802048.90	1812614.40	1817485.00
56 Fe	# 1	18.38	18.38	ug/l	0.76	81000.00		219652.20	222124.42	222988.06
59 Co	# 3	0.14	0.14	ug/l	3.75	1800.00		1730.13	1616.79	1676.80
60 Ni	# 2	0.2099	0.2099	ug/l	11.00	1800.00		290.00	338.90	316.67
63 Cu	# 2	0.06401	0.06401	ug/l	19.42	1800.00		653.35	728.91	700.02
66 Zn	# 3	0.3344	0.3344	ug/l	15.85	1800.00		706.70	706.70	846.71
75 As	# 2	0.05995	0.05995	ug/l	27.57	100.00		24.67	24.00	19.67
78 Se	# 1	0.5375	0.5375	ug/l	2.07	100.00		206.00	199.67	208.34
88 Sr	# 3	36.28	36.28	ug/l	0.68	1800.00		771705.06	771366.88	769756.56
95 Mo	# 3	0.04603	0.04603	ug/l	18.05	1800.00		170.01	193.34	146.67
107 Ag	# 3	0.0007678	0.0007678	ug/l	119.28	100.00		23.33	10.00	23.33
111 Cd	# 3	-0.005193	-0.005193	ug/l	41.85	100.00		16.61	16.61	23.29
118 Sn	# 3	0.008666	0.008666	ug/l	72.56	1800.00		310.01	236.68	256.68
121 Sb	# 3	0.08379	0.08379	ug/l	15.54	100.00		566.69	693.37	630.03
137 Ba	# 3	9.606	9.606	ug/l	1.73	1800.00		26457.88	26698.30	27105.61
202 Hg	# 3	0.01349	0.01349	ug/l	28.40	5.00		67.67	55.00	56.00
205 Tl	# 3	0.01344	0.01344	ug/l	5.89	20.00		243.34	253.34	280.01
208 Pb	# 3	0.02461	0.02461	ug/l	9.35	1800.00		660.03	753.37	763.37
232 Th	# 3	0.02448	0.02448	ug/l	6.80	#VALUE!		860.05	780.04	783.38
238 U	# 3	0.0246	0.0246	ug/l	11.07	#VALUE!		596.70	716.71	603.37

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	576260.44	1.71	572657.25	100.6	60 - 125		568385.06	573097.63	587298.56
45 Sc	# 1	463351.00	0.60	523286.00	88.5	60 - 125		461463.06	462073.81	466516.03
45 Sc	# 3	602851.25	0.76	603286.69	99.9	60 - 125		605121.13	597593.88	605838.75
74 Ge	# 1	150073.34	0.38	170650.48	87.9	60 - 125		149972.11	149559.80	150688.13
74 Ge	# 2	23009.37	1.74	24862.19	92.5	60 - 125		22562.88	23126.91	23338.33
74 Ge	# 3	153179.53	0.71	155795.36	98.3	60 - 125		152221.77	152957.09	154359.72
89 Y	# 3	986073.94	0.63	1011968.20	97.4	60 - 125		990151.75	978956.13	989113.81
115 In	# 3	926233.94	0.83	989458.81	93.6	60 - 125		934100.38	918815.94	925785.63
159 Tb	# 3	1267822.10	2.67	1388283.80	91.3	60 - 125		1248348.80	1248184.90	1306932.60
209 Bi	# 3	714035.69	0.40	829936.50	86.0	60 - 125		717001.31	711259.25	713846.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\203SMPL.D\203SMPL.D#
Date Acquired: Dec 28 2012 06:07 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8459-d-3-a
Misc Info: 200.8TR 1/5
Vial Number: 4401
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0009117	0.0009117	ug/l	92.50	100.00		6.67	3.33	3.33
11 B	# 3	17.35	17.35	ug/l	1.46	1800.00		48160.88	49858.57	50019.04
23 Na	# 1	7105	7105	ug/l	1.44	81000.00		33656868.00	33309646.00	34393660.00
24 Mg	# 1	4622	4622	ug/l	0.97	81000.00		14536555.00	14599876.00	15145711.00
27 Al	# 1	0.9663	0.9663	ug/l	4.41	81000.00		4493.99	4477.34	4347.30
39 K	# 2	754	754	ug/l	2.44	81000.00		205121.58	206682.63	212489.42
40 Ca	# 1	6637	6637	ug/l	0.72	81000.00		49558672.00	50636452.00	50853012.00
45 Sc	# 2	----	--------		--------	#VALUE!		35179.44	38106.66	35415.53
47 Ti	# 3	0.1007	0.1007	ug/l	21.87	1620.00		113.34	76.67	113.34
51 V	# 2	0.01842	0.01842	ug/l	14.94	1800.00		145.56	156.67	152.22
52 Cr	# 2	-0.008681	-0.008681	ug/l	66.95	1800.00		91.11	87.78	67.78
55 Mn	# 3	320.4	320.4	ug/l	1.04	1800.00		5054377.00	5078672.50	5136185.00
56 Fe	# 1	93.37	93.37	ug/l	3.45	81000.00		1103223.00	1045840.50	1099956.50
59 Co	# 3	0.4136	0.4136	ug/l	1.37	1800.00		4937.44	4740.74	4954.16
60 Ni	# 2	0.2774	0.2774	ug/l	6.81	1800.00		368.90	370.01	395.56
63 Cu	# 2	-0.1717	-0.1717	ug/l	3.76	1800.00		145.56	116.67	135.56
66 Zn	# 3	0.2986	0.2986	ug/l	5.25	1800.00		726.70	686.70	686.70
75 As	# 2	0.06757	0.06757	ug/l	23.13	100.00		26.67	21.33	25.00
78 Se	# 1	0.09175	0.09175	ug/l	10.30	100.00		50.00	57.00	53.00
88 Sr	# 3	27.2	27.2	ug/l	2.80	1800.00		582201.06	585110.31	590909.94
95 Mo	# 3	0.05652	0.05652	ug/l	29.99	1800.00		233.34	220.01	143.34
107 Ag	# 3	0.001879	0.001879	ug/l	67.91	100.00		16.67	36.67	30.00
111 Cd	# 3	-0.006395	-0.006395	ug/l	77.47	100.00		13.26	9.93	26.62
118 Sn	# 3	0.004497	0.004497	ug/l	141.69	1800.00		233.34	210.01	283.34
121 Sb	# 3	0.05526	0.05526	ug/l	21.82	100.00		546.69	466.69	416.68
137 Ba	# 3	14.34	14.34	ug/l	0.50	1800.00		40068.25	39229.45	39580.18
202 Hg	# 3	0.01215	0.01215	ug/l	24.65	5.00		56.33	62.33	53.00
205 Tl	# 3	0.008007	0.008007	ug/l	20.83	20.00		176.67	146.67	190.01
208 Pb	# 3	0.0029	0.0029	ug/l	93.10	1800.00		216.67	240.01	310.01
232 Th	# 3	0.01643	0.01643	ug/l	17.20	#VALUE!		560.03	563.36	690.04
238 U	# 3	0.004126	0.004126	ug/l	15.00	#VALUE!		123.34	123.34	96.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	580956.94	3.01	572657.25	101.4	60 - 125		561596.13	595597.63	585677.06
45 Sc	# 1	464457.53	1.81	523286.00	88.8	60 - 125		456046.31	464453.19	472873.03
45 Sc	# 3	600001.38	1.51	603286.69	99.5	60 - 125		602259.19	590048.06	607696.75
74 Ge	# 1	150329.48	1.13	170650.48	88.1	60 - 125		148485.80	150651.02	151851.70
74 Ge	# 2	23145.16	0.78	24862.19	93.1	60 - 125		23083.58	23347.31	23004.60
74 Ge	# 3	152740.39	1.12	155795.36	98.0	60 - 125		153250.23	150831.97	154138.97
89 Y	# 3	1000124.90	2.54	1011968.20	98.8	60 - 125		987270.19	1029346.90	983757.50
115 In	# 3	919106.25	1.31	989458.81	92.9	60 - 125		928861.94	905592.38	922864.38
159 Tb	# 3	1247500.30	2.94	1388283.80	89.9	60 - 125		1277693.50	1258165.80	1206641.50
209 Bi	# 3	715243.94	1.13	829936.50	86.2	60 - 125		721116.75	706036.44	718578.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\204SMPL.D\204SMPL.D#
Date Acquired: Dec 28 2012 06:14 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8461-d-1-a
Misc Info: 200.8TR 1/5
Vial Number: 4402
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005488	0.005488	ug/l	27.30	100.00		13.33	20.00	13.33
11 B	# 3	7.303	7.303	ug/l	3.09	1800.00		23584.90	24372.66	23364.71
23 Na	# 1	17460	17460	ug/l	1.63	81000.00		81106560.00	81409976.00	84057080.00
24 Mg	# 1	5147	5147	ug/l	0.56	81000.00		16037126.00	16361710.00	16541506.00
27 Al	# 1	3.801	3.801	ug/l	2.02	81000.00		14175.59	15006.29	15036.25
39 K	# 2	974.3	974.3	ug/l	2.34	81000.00		255581.58	262344.59	270140.19
40 Ca	# 1	8413	8413	ug/l	1.05	81000.00		62138012.00	63253852.00	64561060.00
45 Sc	# 2	----	--------		--------	#VALUE!		35143.83	35688.16	36242.49
47 Ti	# 3	0.1435	0.1435	ug/l	8.09	1620.00		150.00	130.00	136.67
51 V	# 2	0.03118	0.03118	ug/l	16.47	1800.00		158.89	181.11	174.45
52 Cr	# 2	0.02736	0.02736	ug/l	19.04	1800.00		164.45	157.78	145.56
55 Mn	# 3	186.4	186.4	ug/l	1.17	1800.00		2921270.50	2920081.50	2912188.50
56 Fe	# 1	9.19	9.19	ug/l	0.98	81000.00		114858.16	114841.17	115749.95
59 Co	# 3	0.1603	0.1603	ug/l	3.90	1800.00		1943.49	1900.16	1796.81
60 Ni	# 2	0.1855	0.1855	ug/l	12.55	1800.00		267.78	288.89	313.34
63 Cu	# 2	-0.09403	-0.09403	ug/l	14.50	1800.00		292.23	355.58	294.45
66 Zn	# 3	2.261	2.261	ug/l	2.48	1800.00		3563.79	3383.73	3367.07
75 As	# 2	0.03539	0.03539	ug/l	14.61	100.00		18.67	17.33	18.33
78 Se	# 1	0.5076	0.5076	ug/l	6.13	100.00		179.33	198.00	200.67
88 Sr	# 3	39.51	39.51	ug/l	0.43	1800.00		822829.69	824961.94	831313.00
95 Mo	# 3	0.02002	0.02002	ug/l	23.45	1800.00		90.00	106.67	80.00
107 Ag	# 3	0.007835	0.007835	ug/l	26.01	100.00		86.67	56.67	83.34
111 Cd	# 3	0.01497	0.01497	ug/l	80.63	100.00		29.97	59.97	69.98
118 Sn	# 3	0.0087	0.0087	ug/l	38.28	1800.00		243.34	280.01	260.01
121 Sb	# 3	0.04932	0.04932	ug/l	8.48	100.00		463.35	423.35	426.68
137 Ba	# 3	14.6	14.6	ug/l	1.21	1800.00		39182.66	39970.95	39807.49
202 Hg	# 3	0.007397	0.007397	ug/l	54.31	5.00		55.67	42.00	45.67
205 Tl	# 3	0.01724	0.01724	ug/l	16.73	20.00		306.68	350.01	260.01
208 Pb	# 3	0.005196	0.005196	ug/l	17.62	1800.00		313.34	276.68	303.34
232 Th	# 3	0.01253	0.01253	ug/l	11.99	#VALUE!		503.36	526.69	453.35
238 U	# 3	0.007316	0.007316	ug/l	8.68	#VALUE!		180.01	210.01	186.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	570313.56	2.04	572657.25	99.6	60 - 125		556934.19	578170.31	575836.13
45 Sc	# 1	460918.56	1.43	523286.00	88.1	60 - 125		453302.94	464768.31	464684.50
45 Sc	# 3	597132.81	0.19	603286.69	99.0	60 - 125		596084.69	598318.56	596995.25
74 Ge	# 1	148635.20	0.78	170650.48	87.1	60 - 125		147457.73	149760.27	148687.58
74 Ge	# 2	22771.69	1.43	24862.19	91.6	60 - 125		22424.98	23073.56	22816.54
74 Ge	# 3	150458.70	1.17	155795.36	96.6	60 - 125		152225.59	148700.38	150450.11
89 Y	# 3	970495.50	0.17	1011968.20	95.9	60 - 125		970531.13	968791.44	972164.13
115 In	# 3	903204.13	0.30	989458.81	91.3	60 - 125		905135.19	904378.63	900098.63
159 Tb	# 3	1218023.10	1.14	1388283.80	87.7	60 - 125		1230621.90	1220377.40	1203070.10
209 Bi	# 3	700166.06	0.15	829936.50	84.4	60 - 125		701351.25	699547.06	699600.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\205SMPL.D\205SMPL.D#
Date Acquired: Dec 28 2012 06:22 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8461-d-2-a
Misc Info: 200.8TR 1/5
Vial Number: 4403
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01309	0.01309	ug/l	47.74	100.00		40.00	43.33	16.67
11 B	# 3	13	13	ug/l	0.98	1800.00		36622.06	37163.07	37847.57
23 Na	# 1	25000	25000	ug/l	1.15	81000.00		114711730.00	117414680.00	117635810.00
24 Mg	# 1	2879	2879	ug/l	0.36	81000.00		9032827.00	8978651.00	9113261.00
27 Al	# 1	3.734	3.734	ug/l	0.66	81000.00		14312.34	14228.97	14539.20
39 K	# 2	1617	1617	ug/l	1.14	81000.00		418746.41	426828.53	434832.22
40 Ca	# 1	5861	5861	ug/l	0.12	81000.00		43604008.00	43548608.00	44045008.00
45 Sc	# 2	----	--------		--------	#VALUE!		34929.00	36122.39	36073.33
47 Ti	# 3	0.2134	0.2134	ug/l	18.69	1620.00		190.01	170.01	233.34
51 V	# 2	0.06729	0.06729	ug/l	20.24	1800.00		203.34	254.45	238.89
52 Cr	# 2	0.07135	0.07135	ug/l	1.26	1800.00		243.34	246.67	244.45
55 Mn	# 3	967.5	967.5	ug/l	2.02	1800.00		14645438.00	14815295.00	14990718.00
56 Fe	# 1	680.9	680.9	ug/l	1.12	81000.00		7605682.50	7760741.50	7626920.00
59 Co	# 3	3.127	3.127	ug/l	1.28	1800.00		35544.93	35107.26	35448.16
60 Ni	# 2	0.6318	0.6318	ug/l	2.71	1800.00		667.80	703.35	672.24
63 Cu	# 2	-0.1411	-0.1411	ug/l	0.26	1800.00		196.67	202.23	202.23
66 Zn	# 3	0.7422	0.7422	ug/l	7.92	1800.00		1230.08	1256.75	1360.09
75 As	# 2	0.1829	0.1829	ug/l	12.46	100.00		45.00	48.00	40.00
78 Se	# 1	0.3167	0.3167	ug/l	3.26	100.00		127.00	123.67	130.67
88 Sr	# 3	26.06	26.06	ug/l	1.36	1800.00		540622.31	548633.13	547832.56
95 Mo	# 3	0.06725	0.06725	ug/l	12.16	1800.00		210.01	250.01	206.67
107 Ag	# 3	0.00101	0.00101	ug/l	82.54	100.00		13.33	26.67	20.00
111 Cd	# 3	0.003735	0.003735	ug/l	189.18	100.00		19.93	43.25	36.60
118 Sn	# 3	0.01521	0.01521	ug/l	35.06	1800.00		326.68	270.01	280.01
121 Sb	# 3	0.06856	0.06856	ug/l	7.71	100.00		560.03	526.69	496.69
137 Ba	# 3	20.42	20.42	ug/l	1.10	1800.00		54314.12	54832.68	54407.93
202 Hg	# 3	0.006527	0.006527	ug/l	20.24	5.00		43.33	46.00	47.00
205 Tl	# 3	0.003321	0.003321	ug/l	35.38	20.00		93.34	120.00	83.34
208 Pb	# 3	0.982	0.982	ug/l	0.44	1800.00		20755.94	20779.20	20435.78
232 Th	# 3	0.01184	0.01184	ug/l	19.84	#VALUE!		443.35	433.36	530.03
238 U	# 3	0.007213	0.007213	ug/l	26.88	#VALUE!		220.01	210.01	130.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	561933.25	2.43	572657.25	98.1	60 - 125		547801.19	562923.88	575074.81
45 Sc	# 1	456685.66	0.56	523286.00	87.3	60 - 125		455052.47	455387.38	459617.06
45 Sc	# 3	586367.50	1.49	603286.69	97.2	60 - 125		584668.69	595857.00	578576.94
74 Ge	# 1	147154.72	0.06	170650.48	86.2	60 - 125		147102.39	147104.92	147256.86
74 Ge	# 2	22508.77	1.20	24862.19	90.5	60 - 125		22199.13	22686.40	22640.79
74 Ge	# 3	147256.91	0.91	155795.36	94.5	60 - 125		148031.31	148031.33	145708.06
89 Y	# 3	971926.44	1.56	1011968.20	96.0	60 - 125		962089.13	964276.25	989413.81
115 In	# 3	888132.81	1.15	989458.81	89.8	60 - 125		894270.06	893761.44	876366.75
159 Tb	# 3	1234875.10	1.26	1388283.80	88.9	60 - 125		1238193.50	1248454.40	1217977.30
209 Bi	# 3	688095.00	0.91	829936.50	82.9	60 - 125		693244.06	689874.75	681166.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\206SMPL.D\206SMPL.D#
Date Acquired: Dec 28 2012 06:29 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8461-d-3-a
Misc Info: 200.8TR 1/5
Vial Number: 4404
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.00778	0.00778	ug/l	54.61	100.00		13.33	16.67	33.33
11 B # 3	6.19	6.19	ug/l	2.30	1800.00		20421.16	20658.23	21732.77
23 Na # 1	36280	36280	ug/l	0.95	81000.00		169316590.00	169447710.00	171333180.00
24 Mg # 1	3855	3855	ug/l	1.13	81000.00		12059835.00	12134361.00	12325580.00
27 Al # 1	2.952	2.952	ug/l	2.65	81000.00		11620.48	11360.30	11813.95
39 K # 2	1840	1840	ug/l	0.17	81000.00		479245.41	490740.19	499686.97
40 Ca # 1	8582	8582	ug/l	1.13	81000.00		63866464.00	64073440.00	65086112.00
45 Sc # 2	----	--------		--------	#VALUE!		35000.20	35917.47	36086.72
47 Ti # 3	0.1641	0.1641	ug/l	26.59	1620.00		170.01	186.67	113.34
51 V # 2	0.05427	0.05427	ug/l	29.08	1800.00		214.45	235.56	184.45
52 Cr # 2	0.01531	0.01531	ug/l	5.83	1800.00		128.89	128.89	134.45
55 Mn # 3	420.2	420.2	ug/l	1.04	1800.00		6481254.00	6541378.00	6495265.50
56 Fe # 1	2.854	2.854	ug/l	2.95	81000.00		41640.88	42990.85	43595.38
59 Co # 3	1.882	1.882	ug/l	1.78	1800.00		21262.78	21606.48	21693.12
60 Ni # 2	0.7131	0.7131	ug/l	7.47	1800.00		775.58	786.69	718.91
63 Cu # 2	0.06436	0.06436	ug/l	8.37	1800.00		684.46	690.02	685.57
66 Zn # 3	1.447	1.447	ug/l	7.12	1800.00		2126.86	2330.22	2360.22
75 As # 2	0.03664	0.03664	ug/l	44.84	100.00		19.00	15.00	21.00
78 Se # 1	0.4486	0.4486	ug/l	2.51	100.00		167.00	171.00	174.67
88 Sr # 3	41.03	41.03	ug/l	1.15	1800.00		853663.81	851891.56	855514.44
95 Mo # 3	0.03905	0.03905	ug/l	27.35	1800.00		113.34	166.67	153.34
107 Ag # 3	0.00639	0.00639	ug/l	22.30	100.00		70.00	70.00	50.00
111 Cd # 3	0.02045	0.02045	ug/l	33.13	100.00		49.97	69.95	66.62
118 Sn # 3	0.005201	0.005201	ug/l	108.96	1800.00		280.01	213.34	226.68
121 Sb # 3	0.02998	0.02998	ug/l	12.91	100.00		333.35	316.68	356.68
137 Ba # 3	23.88	23.88	ug/l	2.35	1800.00		63864.03	64777.17	64104.74
202 Hg # 3	0.006042	0.006042	ug/l	60.28	5.00		38.00	49.33	46.00
205 Tl # 3	0.01426	0.01426	ug/l	7.89	20.00		266.68	276.68	250.01
208 Pb # 3	0.002899	0.002899	ug/l	39.26	1800.00		266.68	223.34	273.34
232 Th # 3	0.0078	0.0078	ug/l	22.03	#VALUE!		350.01	413.35	343.35
238 U # 3	0.01289	0.01289	ug/l	5.80	#VALUE!		330.02	303.35	343.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	567350.81	1.77	572657.25	99.1	60 - 125		557946.75	566146.44	577959.25
45 Sc # 1	459203.25	0.78	523286.00	87.8	60 - 125		455471.00	462628.59	459510.19
45 Sc # 3	594697.75	0.80	603286.69	98.6	60 - 125		598665.19	589427.75	596000.31
74 Ge # 1	147002.19	0.41	170650.48	86.1	60 - 125		146543.70	147681.80	146781.03
74 Ge # 2	22748.69	1.93	24862.19	91.5	60 - 125		22288.12	22797.64	23160.31
74 Ge # 3	148854.38	0.72	155795.36	95.5	60 - 125		150054.45	148528.86	147979.80
89 Y # 3	965514.88	1.22	1011968.20	95.4	60 - 125		977951.00	954547.06	964046.63
115 In # 3	895310.69	1.68	989458.81	90.5	60 - 125		911753.31	882320.81	891857.88
159 Tb # 3	1235739.60	1.43	1388283.80	89.0	60 - 125		1240867.10	1216059.00	1250292.80
209 Bi # 3	685879.69	0.95	829936.50	82.6	60 - 125		692104.81	679108.88	686425.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\207SMPL.D\207SMPL.D#
Date Acquired: Dec 28 2012 06:37 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8461-d-4-a
Misc Info: 200.8TR 1/5
Vial Number: 4405
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.009206	0.009206	ug/l	35.64	100.00		16.67	33.33	23.33
11 B	# 3	4.773	4.773	ug/l	4.52	1800.00		17374.84	17101.17	17698.45
23 Na	# 1	34670	34670	ug/l	1.15	81000.00		156095330.00	162185360.00	164675420.00
24 Mg	# 1	3490	3490	ug/l	1.08	81000.00		10615702.00	11061388.00	11073982.00
27 Al	# 1	6.636	6.636	ug/l	1.19	81000.00		24255.84	25103.65	24856.56
39 K	# 2	1777	1777	ug/l	1.44	81000.00		459651.44	468078.22	474882.84
40 Ca	# 1	8029	8029	ug/l	0.79	81000.00		59125540.00	59634672.00	60150400.00
45 Sc	# 2	----	--------		--------	#VALUE!		35278.55	35844.02	36214.75
47 Ti	# 3	0.7224	0.7224	ug/l	4.07	1620.00		636.69	683.36	636.70
51 V	# 2	0.04415	0.04415	ug/l	38.03	1800.00		200.00	160.00	214.45
52 Cr	# 2	0.03067	0.03067	ug/l	17.68	1800.00		156.67	173.34	152.22
55 Mn	# 3	277	277	ug/l	1.63	1800.00		4237116.00	4267014.00	4330717.50
56 Fe	# 1	37.25	37.25	ug/l	1.46	81000.00		420619.16	430169.09	432496.28
59 Co	# 3	2.659	2.659	ug/l	1.54	1800.00		30749.58	30191.92	30045.06
60 Ni	# 2	0.8848	0.8848	ug/l	2.40	1800.00		862.25	904.47	944.48
63 Cu	# 2	0.2059	0.2059	ug/l	2.90	1800.00		961.15	1033.37	1031.15
66 Zn	# 3	0.7356	0.7356	ug/l	3.84	1800.00		1240.08	1333.42	1280.08
75 As	# 2	0.03827	0.03827	ug/l	40.84	100.00		15.67	17.67	22.00
78 Se	# 1	0.3269	0.3269	ug/l	5.91	100.00		130.67	123.00	136.33
88 Sr	# 3	37.94	37.94	ug/l	0.28	1800.00		787143.31	785170.06	797287.81
95 Mo	# 3	0.0585	0.0585	ug/l	28.68	1800.00		153.34	193.34	246.68
107 Ag	# 3	0.003521	0.003521	ug/l	19.97	100.00		46.67	36.67	36.67
111 Cd	# 3	0.0265	0.0265	ug/l	17.64	100.00		73.29	63.27	79.92
118 Sn	# 3	0.008274	0.008274	ug/l	31.10	1800.00		240.01	256.68	266.68
121 Sb	# 3	0.03357	0.03357	ug/l	18.80	100.00		346.68	320.01	386.68
137 Ba	# 3	25.17	25.17	ug/l	1.55	1800.00		66557.67	67759.34	67263.82
202 Hg	# 3	0.006352	0.006352	ug/l	16.92	5.00		47.33	44.00	43.67
205 Tl	# 3	0.04618	0.04618	ug/l	3.13	20.00		736.71	753.38	696.70
208 Pb	# 3	0.003363	0.003363	ug/l	33.24	1800.00		273.34	240.01	256.68
232 Th	# 3	0.006247	0.006247	ug/l	27.20	#VALUE!		320.01	376.68	296.68
238 U	# 3	0.005809	0.005809	ug/l	19.14	#VALUE!		126.67	180.01	146.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	564939.31	2.12	572657.25	98.7	60 - 125		551660.00	575009.38	568148.56
45 Sc	# 1	454889.53	1.63	523286.00	86.9	60 - 125		447046.78	455884.78	461737.00
45 Sc	# 3	590733.50	0.56	603286.69	97.9	60 - 125		587047.25	591784.81	593368.31
74 Ge	# 1	146580.58	0.22	170650.48	85.9	60 - 125		146544.78	146272.45	146924.52
74 Ge	# 2	22478.74	2.87	24862.19	90.4	60 - 125		21743.01	22743.16	22950.06
74 Ge	# 3	148489.58	0.81	155795.36	95.3	60 - 125		148072.75	149842.09	147553.89
89 Y	# 3	965977.06	0.61	1011968.20	95.5	60 - 125		961879.75	963273.75	972777.56
115 In	# 3	888216.25	0.70	989458.81	89.8	60 - 125		892533.13	881097.88	891017.81
159 Tb	# 3	1203586.80	2.65	1388283.80	86.7	60 - 125		1183628.50	1240391.90	1186739.80
209 Bi	# 3	685612.25	0.42	829936.50	82.6	60 - 125		688927.88	684286.75	683622.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\208SMPL.D\208SMPL.D#
Date Acquired: Dec 28 2012 06:44 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8461-d-4-b ms
Misc Info: 200.8TR 1/5
Vial Number: 4406
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.08	10.08	ug/l	0.91	100.00		23527.94	24378.99	24382.47
11 B	# 3	43.42	43.42	ug/l	1.16	1800.00		109881.25	110180.10	111676.08
23 Na	# 1	36820	36820	ug/l	1.00	81000.00		169955760.00	172413630.00	172088480.00
24 Mg	# 1	4648	4648	ug/l	0.72	81000.00		14196826.00	14696495.00	14866490.00
27 Al	# 1	1010	1010	ug/l	0.79	81000.00		3551540.80	3660403.30	3726539.00
39 K	# 2	2828	2828	ug/l	0.27	81000.00		726962.69	740999.31	760716.25
40 Ca	# 1	9231	9231	ug/l	1.15	81000.00		66735100.00	69110096.00	70527240.00
45 Sc	# 2	----	--------		--------	#VALUE!		35191.70	35933.14	36821.41
47 Ti	# 3	20.88	20.88	ug/l	2.51	1620.00		18729.84	18222.58	19287.20
51 V	# 2	19.61	19.61	ug/l	1.45	1800.00		33435.38	34592.98	34498.39
52 Cr	# 2	19.29	19.29	ug/l	1.31	1800.00		38832.43	40361.22	40532.66
55 Mn	# 3	388.4	388.4	ug/l	0.94	1800.00		5936616.50	6077081.50	6011114.50
56 Fe	# 1	977.8	977.8	ug/l	0.62	81000.00		10729838.00	10872920.00	11098722.00
59 Co	# 3	12.53	12.53	ug/l	0.59	1800.00		143137.17	142553.17	143460.81
60 Ni	# 2	20.1	20.1	ug/l	1.14	1800.00		17580.61	18063.34	18116.69
63 Cu	# 2	19.11	19.11	ug/l	0.98	1800.00		44717.19	45115.05	45686.37
66 Zn	# 3	21.91	21.91	ug/l	1.85	1800.00		30756.38	30061.83	30973.42
75 As	# 2	20.99	20.99	ug/l	0.92	100.00		3743.39	3769.06	3826.74
78 Se	# 1	20.67	20.67	ug/l	1.72	100.00		6898.98	6732.26	6898.32
88 Sr	# 3	61.26	61.26	ug/l	0.32	1800.00		1273915.50	1284272.50	1288329.10
95 Mo	# 3	20.75	20.75	ug/l	0.88	1800.00		57373.65	57921.55	58189.22
107 Ag	# 3	9.931	9.931	ug/l	0.48	100.00		78724.35	79383.86	79035.44
111 Cd	# 3	9.949	9.949	ug/l	1.48	100.00		16893.69	16910.09	17193.69
118 Sn	# 3	19.85	19.85	ug/l	0.90	1800.00		108069.06	108109.23	108320.63
121 Sb	# 3	10.9	10.9	ug/l	2.10	100.00		55984.42	54586.95	55081.82
137 Ba	# 3	45.9	45.9	ug/l	1.96	1800.00		123812.31	121122.89	122707.62
202 Hg	# 3	1.005	1.005	ug/l	2.93	5.00		1767.44	1694.76	1775.44
205 Tl	# 3	7.963	7.963	ug/l	0.97	20.00		116090.59	115633.62	115435.98
208 Pb	# 3	10.02	10.02	ug/l	1.01	1800.00		200842.80	201817.42	198739.81
232 Th	# 3	19.15	19.15	ug/l	0.40	#VALUE!		464818.78	466702.97	467265.63
238 U	# 3	19.65	19.65	ug/l	0.48	#VALUE!		482335.63	482380.16	484051.44

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	560741.44	1.83	572657.25	97.9	60 - 125		550188.56	561392.94	570642.94
45 Sc	# 1	456389.91	1.67	523286.00	87.2	60 - 125		447872.44	458692.06	462605.19
45 Sc	# 3	595951.38	0.62	603286.69	98.8	60 - 125		592477.06	595554.00	599823.25
74 Ge	# 1	145784.23	1.08	170650.48	85.4	60 - 125		144286.31	145629.22	147437.19
74 Ge	# 2	22548.45	2.05	24862.19	90.7	60 - 125		22133.51	22466.11	23045.75
74 Ge	# 3	148727.67	0.28	155795.36	95.5	60 - 125		148481.20	149213.67	148488.13
89 Y	# 3	971224.13	0.69	1011968.20	96.0	60 - 125		963616.13	976328.13	973728.19
115 In	# 3	888347.38	0.87	989458.81	89.8	60 - 125		882345.19	897112.88	885583.94
159 Tb	# 3	1184367.10	0.71	1388283.80	85.3	60 - 125		1175119.60	1191533.50	1186448.40
209 Bi	# 3	684580.63	0.33	829936.50	82.5	60 - 125		683723.63	687138.94	682879.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\209SMPL.D\209SMPL.D#
Date Acquired: Dec 28 2012 06:52 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8461-d-4-c msd
Misc Info: 200.8TR 1/5
Vial Number: 4407
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.925	9.925	ug/l	0.64	100.00		23387.77	24108.64	24626.03
11 B # 3	43.86	43.86	ug/l	1.19	1800.00		110314.50	112166.23	116909.24
23 Na # 1	37360	37360	ug/l	1.04	81000.00		172541650.00	176556370.00	173679730.00
24 Mg # 1	4588	4588	ug/l	2.17	81000.00		14220456.00	14215820.00	14818940.00
27 Al # 1	1002	1002	ug/l	2.04	81000.00		3556390.00	3583574.00	3728491.50
39 K # 2	2852	2852	ug/l	0.49	81000.00		734327.56	743471.00	757218.94
40 Ca # 1	9341	9341	ug/l	2.08	81000.00		68122896.00	69104104.00	71884016.00
45 Sc # 2	----	--------		--------	#VALUE!		35393.15	35899.72	36165.79
47 Ti # 3	20.18	20.18	ug/l	1.07	1620.00		18376.10	18286.08	18259.37
51 V # 2	19.87	19.87	ug/l	0.42	1800.00		33941.86	34552.97	34820.10
52 Cr # 2	19.41	19.41	ug/l	0.23	1800.00		39166.45	40170.70	40471.42
55 Mn # 3	391.2	391.2	ug/l	1.29	1800.00		6046483.00	6023959.00	6137620.50
56 Fe # 1	1010	1010	ug/l	1.33	81000.00		11191143.00	11451728.00	11172236.00
59 Co # 3	12.69	12.69	ug/l	0.74	1800.00		145022.11	144910.66	146089.72
60 Ni # 2	20.28	20.28	ug/l	0.84	1800.00		17815.32	17946.53	18166.77
63 Cu # 2	19.63	19.63	ug/l	1.20	1800.00		45883.34	46105.17	46396.89
66 Zn # 3	21.98	21.98	ug/l	2.13	1800.00		30208.71	30739.90	31384.23
75 As # 2	21.14	21.14	ug/l	1.03	100.00		3735.39	3753.40	3869.75
78 Se # 1	20.52	20.52	ug/l	0.19	100.00		6738.59	6845.96	6830.29
88 Sr # 3	61.76	61.76	ug/l	0.37	1800.00		1292065.30	1288310.00	1298950.90
95 Mo # 3	20.89	20.89	ug/l	2.13	1800.00		57253.04	58567.31	58767.66
107 Ag # 3	9.932	9.932	ug/l	1.65	100.00		78399.06	78981.33	79711.45
111 Cd # 3	10.09	10.09	ug/l	1.03	100.00		17153.92	17340.34	17216.82
118 Sn # 3	19.95	19.95	ug/l	0.90	1800.00		108548.67	108756.57	108723.73
121 Sb # 3	10.96	10.96	ug/l	1.27	100.00		55426.18	55325.96	55817.36
137 Ba # 3	46.67	46.67	ug/l	0.36	1800.00		125219.54	125400.41	123127.74
202 Hg # 3	1.013	1.013	ug/l	1.40	5.00		1749.10	1785.10	1745.43
205 Tl # 3	7.844	7.844	ug/l	2.16	20.00		115298.11	116265.18	115837.90
208 Pb # 3	9.985	9.985	ug/l	2.64	1800.00		201605.33	201437.89	205736.38
232 Th # 3	19.4	19.4	ug/l	0.65	#VALUE!		470496.19	472895.31	473695.94
238 U # 3	19.83	19.83	ug/l	0.61	#VALUE!		486866.59	485620.88	489767.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	568034.50	2.01	572657.25	99.2	60 - 125		556736.56	567792.38	579574.69
45 Sc # 1	457067.00	1.56	523286.00	87.3	60 - 125		448828.81	461464.94	460907.28
45 Sc # 3	602351.69	0.80	603286.69	99.8	60 - 125		597589.56	607230.13	602235.31
74 Ge # 1	146021.75	0.95	170650.48	85.6	60 - 125		144428.95	146743.17	146893.11
74 Ge # 2	22424.59	1.71	24862.19	90.2	60 - 125		22008.88	22497.28	22767.61
74 Ge # 3	149169.27	0.31	155795.36	95.7	60 - 125		149180.31	149627.48	148700.00
89 Y # 3	971652.06	0.59	1011968.20	96.0	60 - 125		966685.38	970308.44	977962.56
115 In # 3	888175.94	0.83	989458.81	89.8	60 - 125		894153.50	890387.25	879986.88
159 Tb # 3	1203560.00	1.81	1388283.80	86.7	60 - 125		1228667.30	1192561.30	1189451.50
209 Bi # 3	684642.00	0.30	829936.50	82.5	60 - 125		686990.13	683689.88	683246.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\210_CCV.D\210_CCV.D#
Date Acquired: Dec 28 2012 06:59 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.82 ug/l	3.64	50.00	90 - 110		115854.84	118695.23	118437.19
11 B	97.15 ug/l	3.34	100.00	90 - 110		239672.27	242409.42	244888.91
23 Na	5018 ug/l	2.75	5000.00	90 - 110		23612042.00	23554476.00	23385816.00
24 Mg	5019 ug/l	1.66	5000.00	90 - 110		15488333.00	15712376.00	16121600.00
27 Al	513.5 ug/l	1.66	500.00	90 - 110		1822627.90	1849463.30	1898118.50
39 K	5128 ug/l	1.02	5000.00	90 - 110		1292504.50	1325403.10	1368519.10
40 Ca	5089 ug/l	1.41	5000.00	90 - 110		37181100.00	37995024.00	38886712.00
45 Sc	--------	--------		--- ##### - #####		35562.46	36764.65	37070.87
47 Ti	50.21 ug/l	0.60	50.00	90 - 110		44339.77	45171.86	44777.53
51 V	49.11 ug/l	1.30	50.00	90 - 110		83771.39	85020.27	84946.62
52 Cr	48.69 ug/l	0.88	50.00	90 - 110		98367.32	99128.00	101359.96
55 Mn	500.9 ug/l	0.32	500.00	90 - 110		7805289.00	7749861.50	7824500.50
56 Fe	5027 ug/l	0.20	5000.00	90 - 110		56173280.00	57397112.00	57237632.00
59 Co	48.79 ug/l	0.32	50.00	90 - 110		560350.81	557281.06	562705.13
60 Ni	48.87 ug/l	0.99	50.00	90 - 110		42499.66	42736.90	43685.77
63 Cu	49.11 ug/l	1.72	50.00	90 - 110		113702.05	114334.72	114350.45
66 Zn	49.98 ug/l	0.57	50.00	90 - 110		69451.89	69987.59	70094.24
75 As	49.83 ug/l	0.87	50.00	90 - 110		8766.11	8846.15	8997.22
78 Se	49.1 ug/l	1.00	50.00	90 - 110		16316.96	16481.11	16694.96
88 Sr	48.87 ug/l	0.57	50.00	90 - 110		1004057.20	1006681.90	1020874.90
95 Mo	50.51 ug/l	1.35	50.00	90 - 110		142353.31	141063.23	143651.13
107 Ag	50.62 ug/l	1.29	50.00	90 - 110		410340.16	404112.19	408254.06
111 Cd	49.65 ug/l	1.28	50.00	90 - 110		85279.91	85195.99	86703.37
118 Sn	49.15 ug/l	1.30	50.00	90 - 110		271379.91	268195.41	272339.94
121 Sb	49.16 ug/l	0.74	50.00	90 - 110		251373.67	250678.56	251939.66
137 Ba	49.41 ug/l	0.80	50.00	90 - 110		132877.67	133290.52	134341.97
202 Hg	2.319 ug/l	0.95	2.50	90 - 110		4115.20	4142.21	4058.86
205 Tl	9.959 ug/l	2.56	10.00	90 - 110		150681.67	150564.67	149749.08
208 Pb	49.53 ug/l	2.95	50.00	90 - 110		1025748.40	1030515.10	1029405.00
232 Th	47.15 ug/l	0.44		--- ##### - #####		1181216.30	1186821.00	1179157.80
238 U	46.97 ug/l	0.95		--- ##### - #####		1185355.10	1184697.10	1196873.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	565836.88	4.31	572657.25	98.8	60 - 125		548210.75	555655.81	593643.94
45 Sc	457160.88	2.35	523286.00	87.4	60 - 125		444772.63	464198.94	462511.13
45 Sc	592018.25	0.41	603286.69	98.1	60 - 125		589194.06	593432.31	593428.44
74 Ge	148250.72	1.32	170650.48	86.9	60 - 125		146057.84	149789.95	148904.38
74 Ge	22331.51	2.00	24862.19	89.8	60 - 125		21850.93	22408.27	22735.35
74 Ge	149583.77	0.18	155795.36	96.0	60 - 125		149717.69	149267.77	149765.81
89 Y	959461.25	0.32	1011968.20	94.8	60 - 125		957019.25	958411.31	962953.13
115 In	898825.06	0.52	989458.81	90.8	60 - 125		895320.19	904178.50	896976.44
159 Tb	1231013.40	2.85	1388283.80	88.7	60 - 125		1246889.80	1255335.00	1190815.40
209 Bi	705324.00	0.66	829936.50	85.0	60 - 125		701123.13	710314.69	704534.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\211_CCB.D\211_CCB.D#
Date Acquired: Dec 28 2012 07:07 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02076	0.02076	ug/l	21.33	#VALUE!		63.34	46.67	46.67
11 B # 3	1.137	1.137	ug/l	14.03	#VALUE!		8818.90	8248.65	8668.83
23 Na # 1	-6.451	-6.451	ug/l	2.95	#VALUE!		103286.14	102806.74	103895.44
24 Mg # 1	1.26	1.26	ug/l	2.68	#VALUE!		4360.64	4580.68	4620.69
27 Al # 1	0.2162	0.2162	ug/l	5.17	#VALUE!		1673.46	1630.11	1706.80
39 K # 2	1.774	1.774	ug/l	19.91	#VALUE!		6788.11	6868.11	7148.21
40 Ca # 1	3.537	3.537	ug/l	3.43	#VALUE!		125453.88	127427.03	128873.58
45 Sc # 2	----	--------		--------	#VALUE!		34908.95	35484.45	36371.66
47 Ti # 3	0.03564	0.03564	ug/l	49.05	#VALUE!		50.00	50.00	23.33
51 V # 2	0.01308	0.01308	ug/l	70.68	#VALUE!		131.11	126.67	160.00
52 Cr # 2	0.01405	0.01405	ug/l	68.63	#VALUE!		141.11	104.45	137.78
55 Mn # 3	0.2414	0.2414	ug/l	12.76	#VALUE!		4790.75	4624.03	3883.85
56 Fe # 1	1.17	1.17	ug/l	4.81	#VALUE!		24650.31	23545.54	24413.43
59 Co # 3	0.01709	0.01709	ug/l	14.21	#VALUE!		233.34	246.68	193.34
60 Ni # 2	-0.06319	-0.06319	ug/l	24.50	#VALUE!		60.00	57.78	84.45
63 Cu # 2	-0.1899	-0.1899	ug/l	2.61	#VALUE!		81.11	78.89	102.22
66 Zn # 3	0.06534	0.06534	ug/l	40.65	#VALUE!		383.35	316.68	380.02
75 As # 2	0.04302	0.04302	ug/l	29.03	#VALUE!		16.67	20.33	21.33
78 Se # 1	0.05208	0.05208	ug/l	20.14	#VALUE!		43.33	39.00	36.33
88 Sr # 3	0.02472	0.02472	ug/l	12.47	#VALUE!		626.70	603.36	506.69
95 Mo # 3	0.09908	0.09908	ug/l	10.62	#VALUE!		330.01	343.35	286.68
107 Ag # 3	0.02398	0.02398	ug/l	28.81	#VALUE!		270.01	200.01	156.67
111 Cd # 3	0.01708	0.01708	ug/l	63.88	#VALUE!		36.56	73.23	63.24
118 Sn # 3	0.06305	0.06305	ug/l	14.44	#VALUE!		630.03	540.03	536.69
121 Sb # 3	0.3796	0.3796	ug/l	5.91	#VALUE!		2240.21	2213.55	2026.85
137 Ba # 3	0.02794	0.02794	ug/l	5.50	#VALUE!		90.00	96.67	90.00
202 Hg # 3	0.0271	0.0271	ug/l	13.66	#VALUE!		89.33	90.00	79.00
205 Tl # 3	0.01415	0.01415	ug/l	11.31	#VALUE!		273.34	290.01	243.34
208 Pb # 3	0.02213	0.02213	ug/l	9.39	#VALUE!		686.69	700.03	623.36
232 Th # 3	0.1021	0.1021	ug/l	3.15	#VALUE!		2933.70	2830.35	2803.68
238 U # 3	0.02021	0.02021	ug/l	16.28	#VALUE!		560.03	613.37	450.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	567060.88	2.11	572657.25	99.0	60 - 125		555054.31	567195.44	578932.81
45 Sc # 1	459806.38	0.75	523286.00	87.9	60 - 125		455852.00	461618.09	461949.00
45 Sc # 3	585418.25	0.52	603286.69	97.0	60 - 125		588374.31	582285.75	585594.69
74 Ge # 1	149315.97	0.26	170650.48	87.5	60 - 125		149121.00	149766.52	149060.39
74 Ge # 2	22684.53	1.38	24862.19	91.2	60 - 125		22444.96	22568.45	23040.17
74 Ge # 3	149205.06	0.27	155795.36	95.8	60 - 125		149649.53	148865.55	149100.11
89 Y # 3	961808.81	0.06	1011968.20	95.0	60 - 125		961709.56	961312.25	962404.75
115 In # 3	914660.00	0.43	989458.81	92.4	60 - 125		918239.69	910505.06	915235.19
159 Tb # 3	1264032.90	0.59	1388283.80	91.1	60 - 125		1257510.90	1262361.60	1272226.30
209 Bi # 3	734523.56	0.73	829936.50	88.5	60 - 125		731390.06	731478.00	740702.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\212_CCV.D\212_CCV.D#
Date Acquired: Dec 28 2012 07:14 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.67 ug/l	1.85	50.00	90 - 110		117079.34	116871.53	117605.78
11 B	99.08 ug/l	1.39	100.00	90 - 110		240204.11	241511.72	243741.25
23 Na	4990 ug/l	0.92	5000.00	90 - 110		23191826.00	23369514.00	23156736.00
24 Mg	5110 ug/l	1.73	5000.00	90 - 110		15658006.00	15892678.00	16313638.00
27 Al	523.6 ug/l	1.37	500.00	90 - 110		1848864.80	1891563.50	1901627.00
39 K	5217 ug/l	3.22	5000.00	90 - 110		1319258.80	1326338.50	1406927.00
40 Ca	5157 ug/l	0.92	5000.00	90 - 110		37843440.00	38210816.00	38778448.00
45 Sc	--------	--------		--- ##### - #####		35320.84	36629.96	37270.12
47 Ti	50.53 ug/l	0.30	50.00	90 - 110		44516.90	44770.63	44600.38
51 V	49.14 ug/l	1.28	50.00	90 - 110		83636.38	84029.15	86098.38
52 Cr	49.04 ug/l	1.18	50.00	90 - 110		98607.34	100094.09	102163.08
55 Mn	508.8 ug/l	0.20	500.00	90 - 110		7773241.50	7796706.50	7840480.00
56 Fe	5071 ug/l	0.67	5000.00	90 - 110		56474084.00	56828320.00	57315572.00
59 Co	49.15 ug/l	0.13	50.00	90 - 110		556163.38	554547.81	558090.38
60 Ni	49.06 ug/l	0.63	50.00	90 - 110		42921.82	43243.58	43164.57
63 Cu	49.08 ug/l	0.46	50.00	90 - 110		113067.96	114914.91	113990.41
66 Zn	49.93 ug/l	0.60	50.00	90 - 110		68766.11	68177.61	69408.54
75 As	49.86 ug/l	0.73	50.00	90 - 110		8837.48	8906.84	8861.82
78 Se	49.5 ug/l	0.71	50.00	90 - 110		16382.35	16419.39	16598.56
88 Sr	48.72 ug/l	0.16	50.00	90 - 110		1001380.00	1002344.10	1004796.30
95 Mo	51.04 ug/l	1.13	50.00	90 - 110		142242.09	143313.84	141049.13
107 Ag	51.02 ug/l	0.57	50.00	90 - 110		405774.06	407192.34	405589.09
111 Cd	49.83 ug/l	0.38	50.00	90 - 110		84914.38	85079.24	85200.14
118 Sn	49.32 ug/l	0.18	50.00	90 - 110		268541.47	267301.34	269785.88
121 Sb	49.83 ug/l	0.66	50.00	90 - 110		250596.72	252541.41	252445.95
137 Ba	49.38 ug/l	0.74	50.00	90 - 110		131197.53	132416.20	132060.38
202 Hg	2.346 ug/l	0.42	2.50	90 - 110		4158.88	4137.54	4149.21
205 Tl	10.03 ug/l	2.51	10.00	90 - 110		148180.92	148211.59	150014.95
208 Pb	50.19 ug/l	2.62	50.00	90 - 110		1022422.10	1019093.10	1031297.50
232 Th	47.19 ug/l	0.53		--- ##### - #####		1185872.40	1178882.90	1180424.00
238 U	46.94 ug/l	0.70		--- ##### - #####		1191522.10	1185773.00	1183018.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	553527.63	2.10	572657.25	96.7	60 - 125		542858.13	551824.69	565900.06
45 Sc	454077.88	0.47	523286.00	86.8	60 - 125		453493.72	452288.31	456451.50
45 Sc	586550.75	0.20	603286.69	97.2	60 - 125		585420.50	586518.50	587713.44
74 Ge	146786.16	0.28	170650.48	86.0	60 - 125		146373.75	147188.78	146795.97
74 Ge	22317.04	1.00	24862.19	89.8	60 - 125		22058.95	22460.56	22431.62
74 Ge	147454.56	0.34	155795.36	94.6	60 - 125		147214.58	147114.02	148035.13
89 Y	955091.75	0.19	1011968.20	94.4	60 - 125		955339.44	953169.69	956766.00
115 In	888630.69	0.35	989458.81	89.8	60 - 125		889840.69	885080.31	890971.13
159 Tb	1209842.60	3.26	1388283.80	87.1	60 - 125		1188761.50	1185389.40	1255377.00
209 Bi	704363.69	0.47	829936.50	84.9	60 - 125		704107.25	701174.38	707809.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\213_CCB.D\213_CCB.D#
Date Acquired: Dec 28 2012 07:21 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01896	0.01896	ug/l	18.34	#VALUE!		46.67	40.00	56.67
11 B	# 3	1.344	1.344	ug/l	2.69	#VALUE!		8842.23	9089.02	9215.77
23 Na	# 1	-5.487	-5.487	ug/l	12.46	#VALUE!		110169.92	107541.80	105786.06
24 Mg	# 1	1.699	1.699	ug/l	11.95	#VALUE!		6621.29	5590.97	5514.30
27 Al	# 1	0.2546	0.2546	ug/l	19.56	#VALUE!		2010.16	1713.45	1703.46
39 K	# 2	2.796	2.796	ug/l	28.27	#VALUE!		6964.81	7071.52	7445.00
40 Ca	# 1	4.156	4.156	ug/l	7.82	#VALUE!		132873.78	131807.14	130923.76
45 Sc	# 2	----	--------		--------	#VALUE!		34987.97	35626.92	36201.35
47 Ti	# 3	0.05079	0.05079	ug/l	42.76	#VALUE!		70.00	60.00	33.33
51 V	# 2	0.02343	0.02343	ug/l	8.13	#VALUE!		152.22	155.56	161.11
52 Cr	# 2	0.01155	0.01155	ug/l	5.69	#VALUE!		118.89	123.34	123.33
55 Mn	# 3	0.2639	0.2639	ug/l	14.07	#VALUE!		5324.26	4950.82	4153.91
56 Fe	# 1	1.568	1.568	ug/l	7.81	#VALUE!		30111.71	28472.45	27874.82
59 Co	# 3	0.02268	0.02268	ug/l	8.64	#VALUE!		300.01	306.68	263.34
60 Ni	# 2	-0.051	-0.051	ug/l	43.02	#VALUE!		61.11	72.22	100.00
63 Cu	# 2	-0.1847	-0.1847	ug/l	0.90	#VALUE!		93.33	102.22	101.11
66 Zn	# 3	0.05845	0.05845	ug/l	9.35	#VALUE!		356.68	343.35	356.68
75 As	# 2	0.04	0.04	ug/l	11.86	#VALUE!		17.67	19.67	19.00
78 Se	# 1	0.05671	0.05671	ug/l	9.04	#VALUE!		42.67	41.00	40.00
88 Sr	# 3	0.02814	0.02814	ug/l	2.93	#VALUE!		640.03	670.03	646.69
95 Mo	# 3	0.1104	0.1104	ug/l	13.94	#VALUE!		396.68	350.01	313.34
107 Ag	# 3	0.03096	0.03096	ug/l	19.08	#VALUE!		303.34	283.34	213.34
111 Cd	# 3	0.02078	0.02078	ug/l	65.06	#VALUE!		86.54	66.56	39.90
118 Sn	# 3	0.06216	0.06216	ug/l	5.68	#VALUE!		556.69	590.03	550.03
121 Sb	# 3	0.4343	0.4343	ug/l	7.68	#VALUE!		2613.60	2440.25	2300.23
137 Ba	# 3	0.03027	0.03027	ug/l	12.49	#VALUE!		110.00	93.34	93.34
202 Hg	# 3	0.03267	0.03267	ug/l	2.57	#VALUE!		96.67	94.00	96.67
205 Tl	# 3	0.008049	0.008049	ug/l	34.38	#VALUE!		206.67	166.67	130.00
208 Pb	# 3	0.02749	0.02749	ug/l	8.44	#VALUE!		760.03	783.37	726.70
232 Th	# 3	0.1101	0.1101	ug/l	6.84	#VALUE!		3267.11	3003.72	2880.36
238 U	# 3	0.02242	0.02242	ug/l	19.51	#VALUE!		710.04	600.03	480.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	564572.75	1.74	572657.25	98.6	60 - 125		553336.13	571583.94	568798.25
45 Sc	# 1	459819.84	1.31	523286.00	87.9	60 - 125		458421.66	454634.16	466403.69
45 Sc	# 3	585872.88	0.47	603286.69	97.1	60 - 125		584178.25	584404.25	589036.06
74 Ge	# 1	149730.83	1.25	170650.48	87.7	60 - 125		148904.72	148415.38	151872.38
74 Ge	# 2	22552.19	1.00	24862.19	90.7	60 - 125		22291.50	22667.51	22697.55
74 Ge	# 3	149988.86	0.43	155795.36	96.3	60 - 125		150679.13	149878.17	149409.27
89 Y	# 3	965221.00	0.36	1011968.20	95.4	60 - 125		964224.13	962379.44	969059.25
115 In	# 3	917450.50	0.76	989458.81	92.7	60 - 125		909383.50	922077.88	920890.06
159 Tb	# 3	1220481.10	2.67	1388283.80	87.9	60 - 125		1207059.30	1196780.90	1257603.40
209 Bi	# 3	730430.19	0.07	829936.50	88.0	60 - 125		730984.56	730293.44	730012.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\214_ICV.D\214_ICV.D#
Date Acquired: Dec 28 2012 07:29 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: ICSA
Misc Info:
Vial Number: 4510
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: ICV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	0.004455 ug/l	22.03	---	##### - #####		13.33	10.00	10.00
11 B	0.2988 ug/l	24.68	---	##### - #####		5390.89	5757.67	5700.98
23 Na	96820 ug/l	1.57	#########	80 - 120		400580510.00	405433920.00	415901310.00
24 Mg	92550 ug/l	2.06	#########	80 - 120		254849380.00	265676320.00	266832210.00
27 Al	91070 ug/l	1.55	#########	80 - 120		290074300.00	300827260.00	299905410.00
39 K	105100 ug/l	1.73	#########	80 - 120		21979428.00	22794862.00	22454040.00
40 Ca	96200 ug/l	0.91	#########	80 - 120		637307260.00	653898940.00	649246210.00
45 Sc	--------	--------	---	##### - #####		31622.10	32278.74	32564.80
47 Ti	2108 ug/l	1.17	2000.00	80 - 120		1724645.90	1705893.50	1703014.50
51 V	0.2176 ug/l	15.00	---	##### - #####		443.34	367.78	398.90
52 Cr	1.181 ug/l	2.03	---	##### - #####		1974.56	2114.58	2141.25
55 Mn	0.1988 ug/l	4.89	---	##### - #####		3217.04	3150.35	2960.33
56 Fe	97280 ug/l	0.77	#########	80 - 120		884381180.00	880976510.00	893915070.00
59 Co	0.1267 ug/l	6.72	---	##### - #####		1133.41	1246.74	1276.76
60 Ni	0.7366 ug/l	4.83	---	##### - #####		604.46	621.13	678.91
63 Cu	0.02724 ug/l	38.40	---	##### - #####		452.23	492.23	515.57
66 Zn	3.419 ug/l	3.01	---	##### - #####		4283.96	4093.91	4023.88
75 As	0.4623 ug/l	3.90	---	##### - #####		75.00	75.33	82.00
78 Se	0.05069 ug/l	25.27	---	##### - #####		35.00	30.33	28.33
88 Sr	0.3141 ug/l	1.34	---	##### - #####		5767.74	5967.80	5871.14
95 Mo	2246 ug/l	0.24	2000.00	80 - 120		5226433.50	5282114.00	5242646.00
107 Ag	0.05754 ug/l	10.21	---	##### - #####		350.01	406.68	426.69
111 Cd	0.4801 ug/l	1.83	---	##### - #####		704.44	726.63	699.25
118 Sn	0.1194 ug/l	9.86	---	##### - #####		726.70	773.37	663.36
121 Sb	0.527 ug/l	1.81	---	##### - #####		2400.23	2420.26	2336.89
137 Ba	0.1982 ug/l	4.33	---	##### - #####		433.35	470.02	466.69
202 Hg	0.02464 ug/l	3.69	---	##### - #####		61.33	58.00	59.67
205 Tl	0.01318 ug/l	30.11	---	##### - #####		240.01	236.68	150.01
208 Pb	0.1218 ug/l	0.85	---	##### - #####		2290.13	2306.81	2300.15
232 Th	0.1235 ug/l	6.68	---	##### - #####		2456.93	2650.31	2380.27
238 U	0.003415 ug/l	33.65	---	##### - #####		53.34	66.67	96.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	487281.50	1.05	572657.25	85.1	60 - 125		482055.88	487488.53	492300.09
45 Sc	412366.06	0.47	523286.00	78.8	60 - 125		410156.69	413279.16	413662.41
45 Sc	539140.13	0.55	603286.69	89.4	60 - 125		536734.50	538260.75	542425.25
74 Ge	119282.91	0.14	170650.48	69.9	60 - 125		119101.01	119424.13	119323.61
74 Ge	18459.42	2.50	24862.19	74.2	60 - 125		17958.90	18551.74	18867.62
74 Ge	122949.01	0.41	155795.36	78.9	60 - 125		123529.61	122680.59	122636.80
89 Y	858240.06	0.38	1011968.20	84.8	60 - 125		854714.69	861209.38	858796.13
115 In	745641.75	0.31	989458.81	75.4	60 - 125		743769.88	748231.31	744924.06
159 Tb	1039465.60	0.45	1388283.80	74.9	60 - 125		1044831.80	1036829.40	1036735.60
209 Bi	536771.81	0.80	829936.50	64.7	60 - 125		540266.69	531990.13	538058.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\215SMPL.D\215SMPL.D#
Date Acquired: Dec 28 2012 07:36 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: ICSAB
Misc Info:
Vial Number: 4511
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.003095	0.003095	ug/l	73.64	100.00		3.33	6.67	13.33
11 B	# 3	0.2041	0.2041	ug/l	161.93	1800.00		4727.38	4804.05	4940.74
23 Na	# 1	95050	95050	ug/l	0.63	81000.00		398134850.00	393452060.00	400684100.00
24 Mg	# 1	92930	92930	ug/l	1.97	81000.00		258344370.00	266645010.00	260712820.00
27 Al	# 1	92010	92010	ug/l	1.74	81000.00	Fail	293354400.00	297533820.00	303567260.00
39 K	# 2	107700	107700	ug/l	2.57	81000.00		21117082.00	22349238.00	22519132.00
40 Ca	# 1	96740	96740	ug/l	1.95	81000.00		640373180.00	636913150.00	662154180.00
45 Sc	# 2	----	--------		--------	#VALUE!		30858.61	31400.59	32008.29
47 Ti	# 3	2314	2314	ug/l	11.95	1620.00	Fail	1704027.50	1711985.40	1677263.60
51 V	# 2	0.2287	0.2287	ug/l	11.22	1800.00		371.12	440.01	395.56
52 Cr	# 2	21.78	21.78	ug/l	0.11	1800.00		34902.50	35211.94	35905.50
55 Mn	# 3	22.56	22.56	ug/l	13.37	1800.00		263110.75	259437.50	262141.58
56 Fe	# 1	97650	97650	ug/l	1.70	81000.00	Fail	879069760.00	870054720.00	894693700.00
59 Co	# 3	21.81	21.81	ug/l	12.77	1800.00		186243.72	186129.22	186693.27
60 Ni	# 2	20.36	20.36	ug/l	1.35	1800.00		14146.59	14323.37	14229.98
63 Cu	# 2	18.31	18.31	ug/l	1.27	1800.00		34015.72	33830.97	34056.91
66 Zn	# 3	22.92	22.92	ug/l	12.41	1800.00		23809.31	24059.60	23976.15
75 As	# 2	21.01	21.01	ug/l	0.54	100.00		2929.24	2941.91	3029.93
78 Se	# 1	0.06017	0.06017	ug/l	28.15	100.00		29.33	33.00	38.00
88 Sr	# 3	0.3329	0.3329	ug/l	10.32	1800.00		5557.68	5607.69	5821.09
95 Mo	# 3	2420	2420	ug/l	11.02	1800.00	Fail	5187683.50	5203987.50	5185261.00
107 Ag	# 3	18.83	18.83	ug/l	11.73	100.00		116213.91	115136.05	114869.30
111 Cd	# 3	19.27	19.27	ug/l	13.06	100.00		25848.87	25239.23	24871.35
118 Sn	# 3	0.1218	0.1218	ug/l	4.63	1800.00		620.03	693.36	713.37
121 Sb	# 3	0.4676	0.4676	ug/l	2.34	100.00		1716.81	2123.53	2086.86
137 Ba	# 3	0.2188	0.2188	ug/l	23.27	1800.00		506.69	383.35	486.69
202 Hg	# 3	0.03022	0.03022	ug/l	22.30	5.00		60.67	55.67	68.67
205 Tl	# 3	0.01343	0.01343	ug/l	16.17	20.00		160.01	190.01	240.01
208 Pb	# 3	0.133	0.133	ug/l	19.17	1800.00		2433.50	2253.47	2143.45
232 Th	# 3	0.0861	0.0861	ug/l	22.11	#VALUE!		1766.83	1660.15	1450.11
238 U	# 3	0.00205	0.00205	ug/l	27.80	#VALUE!		40.00	53.34	33.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	438999.06	13.58	572657.25	76.7	60 - 125		370475.63	467475.19	479046.41
45 Sc	# 1	409872.13	0.34	523286.00	78.3	60 - 125		410778.25	408267.72	410570.47
45 Sc	# 3	491684.84	10.82	603286.69	81.5	60 - 125		430789.88	515214.47	529050.13
74 Ge	# 1	118140.38	0.61	170650.48	69.2	60 - 125		118966.70	117826.16	117628.29
74 Ge	# 2	17684.59	1.36	24862.19	71.1	60 - 125		17486.24	17615.28	17952.26
74 Ge	# 3	112463.67	11.97	155795.36	72.2	60 - 125		96985.09	119013.52	121392.42
89 Y	# 3	787718.81	11.19	1011968.20	77.8	60 - 125		686514.38	829005.19	847636.81
115 In	# 3	689899.81	10.44	989458.81	69.7	60 - 125		607161.06	723782.06	738756.25
159 Tb	# 3	960280.00	10.76	1388283.80	69.2	60 - 125		841014.06	1016795.80	1023030.00
209 Bi	# 3	496444.88	10.70	829936.50	59.8	60 - 125	IS F	435362.91	522323.13	531648.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

4 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\216SMPL.D\216SMPL.D#
Date Acquired: Dec 28 2012 07:44 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01896	0.01896	ug/l	40.28	100.00		33.33	33.33	63.34
11 B	# 3	0.2556	0.2556	ug/l	30.57	1800.00		5791.02	5851.01	5700.97
23 Na	# 1	122.8	122.8	ug/l	3.92	81000.00		660744.31	687663.94	707272.56
24 Mg	# 1	36.87	36.87	ug/l	10.48	81000.00		101550.19	112253.15	125530.44
27 Al	# 1	15.88	15.88	ug/l	22.36	81000.00		44525.75	55705.38	69604.12
39 K	# 2	45.07	45.07	ug/l	10.03	81000.00		18619.61	17745.41	16767.85
40 Ca	# 1	36.47	36.47	ug/l	10.71	81000.00		332610.78	360783.28	390561.66
45 Sc	# 2	----	--------		--------	#VALUE!		32796.29	34333.43	33851.53
47 Ti	# 3	0.5324	0.5324	ug/l	14.99	1620.00		546.69	433.35	426.68
51 V	# 2	0.03824	0.03824	ug/l	21.82	1800.00		191.11	170.00	171.11
52 Cr	# 2	0.03674	0.03674	ug/l	12.54	1800.00		156.67	174.45	177.78
55 Mn	# 3	0.353	0.353	ug/l	3.82	1800.00		5991.14	6131.20	6441.30
56 Fe	# 1	19.75	19.75	ug/l	18.16	81000.00		194439.91	228883.20	274349.06
59 Co	# 3	0.03559	0.03559	ug/l	8.70	1800.00		466.69	446.69	400.01
60 Ni	# 2	-0.02116	-0.02116	ug/l	37.59	1800.00		107.78	96.67	100.00
63 Cu	# 2	-0.1561	-0.1561	ug/l	1.85	1800.00		163.34	165.56	155.56
66 Zn	# 3	0.9253	0.9253	ug/l	19.92	1800.00		1280.08	1603.44	1796.82
75 As	# 2	0.03431	0.03431	ug/l	43.95	100.00		14.67	17.00	20.33
78 Se	# 1	0.01347	0.01347	ug/l	65.61	100.00		22.67	27.67	28.00
88 Sr	# 3	0.1637	0.1637	ug/l	3.42	1800.00		3553.81	3363.76	3530.44
95 Mo	# 3	1.21	1.21	ug/l	7.97	1800.00		3857.20	3423.75	3353.75
107 Ag	# 3	0.02035	0.02035	ug/l	14.10	100.00		206.67	160.01	176.67
111 Cd	# 3	0.02611	0.02611	ug/l	10.77	100.00		78.77	68.91	75.60
118 Sn	# 3	0.05115	0.05115	ug/l	15.03	1800.00		476.69	556.69	490.02
121 Sb	# 3	0.1029	0.1029	ug/l	5.52	100.00		706.70	716.71	766.71
137 Ba	# 3	0.06074	0.06074	ug/l	19.95	1800.00		153.34	220.01	180.01
202 Hg	# 3	0.0123	0.0123	ug/l	12.89	5.00		62.33	59.67	56.33
205 Tl	# 3	0.006919	0.006919	ug/l	18.51	20.00		166.67	133.34	166.67
208 Pb	# 3	0.03546	0.03546	ug/l	5.27	1800.00		976.71	950.04	913.37
232 Th	# 3	0.03453	0.03453	ug/l	6.72	#VALUE!		1093.41	1166.75	1040.08
238 U	# 3	0.01738	0.01738	ug/l	9.83	#VALUE!		446.69	523.36	440.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	510067.66	2.41	572657.25	89.1	60 - 125		495944.25	516164.16	518094.56
45 Sc	# 1	444081.94	0.34	523286.00	84.9	60 - 125		442457.31	445393.72	444394.75
45 Sc	# 3	573394.81	0.31	603286.69	95.0	60 - 125		571554.13	573482.31	575148.13
74 Ge	# 1	147053.91	0.45	170650.48	86.2	60 - 125		146671.88	147820.67	146669.16
74 Ge	# 2	21994.43	1.27	24862.19	88.5	60 - 125		21684.03	22071.24	22228.04
74 Ge	# 3	149743.95	0.33	155795.36	96.1	60 - 125		149440.33	149469.50	150322.02
89 Y	# 3	968526.94	0.53	1011968.20	95.7	60 - 125		962680.69	971996.56	970903.50
115 In	# 3	925012.25	0.31	989458.81	93.5	60 - 125		923406.56	923292.81	928337.56
159 Tb	# 3	1253843.00	0.87	1388283.80	90.3	60 - 125		1241492.10	1257764.00	1262272.90
209 Bi	# 3	738975.38	0.25	829936.50	89.0	60 - 125		739250.38	740657.50	737018.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\217SMPL.D\217SMPL.D#
Date Acquired: Dec 28 2012 07:51 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01829	0.01829	ug/l	21.73	100.00		50.00	36.67	36.67
11 B	# 3	0.2082	0.2082	ug/l	24.73	1800.00		5527.59	5497.59	5804.34
23 Na	# 1	111.3	111.3	ug/l	0.99	81000.00		631089.50	642938.31	652492.38
24 Mg	# 1	28.39	28.39	ug/l	0.61	81000.00		88312.70	87730.09	89377.85
27 Al	# 1	8.915	8.915	ug/l	2.26	81000.00		33155.91	32261.31	32424.70
39 K	# 2	15.14	15.14	ug/l	5.65	81000.00		10203.07	10036.24	10739.97
40 Ca	# 1	27.19	27.19	ug/l	0.33	81000.00		296569.66	296904.63	301676.94
45 Sc	# 2	----	--------		--------	#VALUE!		33544.26	33847.07	35138.25
47 Ti	# 3	0.2033	0.2033	ug/l	7.32	1620.00		196.67	186.67	170.01
51 V	# 2	0.04364	0.04364	ug/l	32.95	1800.00		177.78	217.78	175.56
52 Cr	# 2	0.0285	0.0285	ug/l	29.92	1800.00		151.11	138.89	178.89
55 Mn	# 3	0.3641	0.3641	ug/l	0.92	1800.00		6327.93	6291.30	6364.59
56 Fe	# 1	11.91	11.91	ug/l	0.88	81000.00		145529.98	145318.77	148881.30
59 Co	# 3	0.0384	0.0384	ug/l	6.60	1800.00		470.02	496.69	436.69
60 Ni	# 2	-0.03194	-0.03194	ug/l	27.13	1800.00		90.00	102.22	90.00
63 Cu	# 2	-0.1654	-0.1654	ug/l	0.35	1800.00		141.11	143.34	145.56
66 Zn	# 3	1.66	1.66	ug/l	16.86	1800.00		2143.51	2666.93	2900.32
75 As	# 2	0.04228	0.04228	ug/l	29.33	100.00		19.00	16.67	21.67
78 Se	# 1	0.02722	0.02722	ug/l	73.44	100.00		26.00	38.67	28.67
88 Sr	# 3	0.1591	0.1591	ug/l	2.45	1800.00		3330.40	3470.44	3367.09
95 Mo	# 3	0.4609	0.4609	ug/l	8.73	1800.00		1506.77	1316.75	1306.75
107 Ag	# 3	0.02122	0.02122	ug/l	0.98	100.00		190.01	190.01	186.67
111 Cd	# 3	0.01204	0.01204	ug/l	71.58	100.00		66.19	46.25	36.25
118 Sn	# 3	0.04321	0.04321	ug/l	18.54	1800.00		440.02	520.02	433.35
121 Sb	# 3	0.09489	0.09489	ug/l	6.98	100.00		653.37	693.37	723.37
137 Ba	# 3	0.06886	0.06886	ug/l	18.46	1800.00		190.01	250.01	183.34
202 Hg	# 3	0.01093	0.01093	ug/l	3.90	5.00		57.00	58.00	56.00
205 Tl	# 3	0.005798	0.005798	ug/l	7.64	20.00		150.01	136.67	133.34
208 Pb	# 3	0.03792	0.03792	ug/l	5.35	1800.00		976.71	1036.72	1016.71
232 Th	# 3	0.02923	0.02923	ug/l	7.56	#VALUE!		970.06	1020.07	896.72
238 U	# 3	0.01786	0.01786	ug/l	3.76	#VALUE!		476.69	506.69	466.69

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	503796.28	1.98	572657.25	88.0	60 - 125		493283.91	505004.38	513100.56
45 Sc	# 1	450512.72	0.98	523286.00	86.1	60 - 125		446817.47	449292.47	455428.25
45 Sc	# 3	571500.75	0.66	603286.69	94.7	60 - 125		571452.81	575322.00	567727.56
74 Ge	# 1	149140.42	0.55	170650.48	87.4	60 - 125		148655.94	148674.88	150090.45
74 Ge	# 2	22447.23	2.48	24862.19	90.3	60 - 125		21933.27	22371.59	23036.82
74 Ge	# 3	148981.06	0.25	155795.36	95.6	60 - 125		148841.52	149402.30	148699.39
89 Y	# 3	969356.44	0.33	1011968.20	95.8	60 - 125		969524.75	966053.75	972490.81
115 In	# 3	927838.94	0.56	989458.81	93.8	60 - 125		924575.00	933832.88	925108.81
159 Tb	# 3	1268170.80	1.37	1388283.80	91.3	60 - 125		1288139.80	1258839.60	1257532.80
209 Bi	# 3	740149.50	0.73	829936.50	89.2	60 - 125		735502.38	746090.19	738856.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\218SMPL.D\218SMPL.D#
Date Acquired: Dec 28 2012 07:59 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01901	0.01901	ug/l	29.17	100.00		46.67	30.00	53.33
11 B # 3	0.09821	0.09821	ug/l	89.15	1800.00		5510.92	5327.57	5494.28
23 Na # 1	111.9	111.9	ug/l	0.56	81000.00		644670.69	655493.75	659664.38
24 Mg # 1	28.13	28.13	ug/l	0.49	81000.00		88340.20	88319.58	89668.80
27 Al # 1	8.512	8.512	ug/l	0.56	81000.00		31446.53	31429.88	31853.81
39 K # 2	14.73	14.73	ug/l	2.63	81000.00		10209.70	10253.09	10479.90
40 Ca # 1	26.5	26.5	ug/l	0.70	81000.00		293838.19	297918.47	299308.19
45 Sc # 2	----	--------		--------	#VALUE!		34051.81	34421.39	35200.67
47 Ti # 3	0.1897	0.1897	ug/l	10.50	1620.00		163.34	163.34	193.34
51 V # 2	0.04061	0.04061	ug/l	25.54	1800.00		176.67	175.56	208.89
52 Cr # 2	0.0334	0.0334	ug/l	21.45	1800.00		155.56	162.22	185.56
55 Mn # 3	0.3529	0.3529	ug/l	3.61	1800.00		6377.93	6207.89	5961.11
56 Fe # 1	11.6	11.6	ug/l	0.82	81000.00		144006.28	144697.69	145009.84
59 Co # 3	0.03785	0.03785	ug/l	6.13	1800.00		440.02	486.69	463.36
60 Ni # 2	-0.02794	-0.02794	ug/l	40.80	1800.00		108.89	90.00	96.67
63 Cu # 2	-0.1666	-0.1666	ug/l	3.49	1800.00		126.67	143.34	155.56
66 Zn # 3	1.045	1.045	ug/l	25.82	1800.00		1340.09	1753.47	2080.18
75 As # 2	0.03392	0.03392	ug/l	56.69	100.00		13.67	20.00	19.67
78 Se # 1	0.02843	0.02843	ug/l	21.54	100.00		29.33	33.00	33.33
88 Sr # 3	0.1683	0.1683	ug/l	6.93	1800.00		3310.40	3770.51	3700.49
95 Mo # 3	0.3363	0.3363	ug/l	6.79	1800.00		1090.07	1023.40	960.06
107 Ag # 3	0.01928	0.01928	ug/l	9.53	100.00		156.67	180.01	186.67
111 Cd # 3	0.02726	0.02726	ug/l	21.84	100.00		72.99	89.68	69.69
118 Sn # 3	0.05968	0.05968	ug/l	6.63	1800.00		540.02	586.70	563.36
121 Sb # 3	0.07504	0.07504	ug/l	9.99	100.00		546.69	626.70	600.03
137 Ba # 3	0.06186	0.06186	ug/l	10.11	1800.00		196.67	170.01	203.34
202 Hg # 3	0.009392	0.009392	ug/l	28.82	5.00		49.67	54.00	60.00
205 Tl # 3	0.00692	0.00692	ug/l	9.11	20.00		173.34	156.67	153.34
208 Pb # 3	0.03423	0.03423	ug/l	8.76	1800.00		1013.38	966.71	880.04
232 Th # 3	0.02739	0.02739	ug/l	8.10	#VALUE!		853.39	970.06	936.73
238 U # 3	0.01853	0.01853	ug/l	7.14	#VALUE!		543.36	490.03	480.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	510909.31	2.20	572657.25	89.2	60 - 125		498006.50	516236.13	518485.31
45 Sc # 1	456177.38	1.14	523286.00	87.2	60 - 125		451434.56	455369.50	461728.03
45 Sc # 3	573518.38	0.23	603286.69	95.1	60 - 125		571999.88	574549.94	574005.38
74 Ge # 1	150829.70	0.96	170650.48	88.4	60 - 125		150113.67	149878.06	152497.36
74 Ge # 2	22656.01	0.64	24862.19	91.1	60 - 125		22493.98	22703.12	22770.95
74 Ge # 3	149651.73	0.71	155795.36	96.1	60 - 125		150675.72	148548.39	149731.06
89 Y # 3	972583.63	0.12	1011968.20	96.1	60 - 125		971630.38	973820.50	972300.00
115 In # 3	936946.63	0.20	989458.81	94.7	60 - 125		934963.63	937207.25	938669.25
159 Tb # 3	1297977.10	0.49	1388283.80	93.5	60 - 125		1304683.80	1292068.90	1297178.90
209 Bi # 3	745218.06	0.31	829936.50	89.8	60 - 125		743265.19	744669.13	747719.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\219SMPL.D\219SMPL.D#
Date Acquired: Dec 28 2012 08:06 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01887	0.01887	ug/l	27.19	100.00		33.33	40.00	56.67
11 B	# 3	0.04577	0.04577	ug/l	117.35	1800.00		5124.17	5360.88	5560.94
23 Na	# 1	94.86	94.86	ug/l	0.39	81000.00		572746.75	574971.00	578647.56
24 Mg	# 1	22.86	22.86	ug/l	0.81	81000.00		72316.02	71700.76	73360.17
27 Al	# 1	7.425	7.425	ug/l	0.66	81000.00		27326.76	27824.26	28057.74
39 K	# 2	12.08	12.08	ug/l	3.66	81000.00		9405.91	9679.35	9842.80
40 Ca	# 1	23.28	23.28	ug/l	0.34	81000.00		271886.19	274008.41	275562.09
45 Sc	# 2	----	--------		--------	#VALUE!		34687.48	34970.23	35457.74
47 Ti	# 3	0.1979	0.1979	ug/l	2.79	1620.00		180.01	183.34	176.67
51 V	# 2	0.04214	0.04214	ug/l	8.99	1800.00		193.34	191.11	185.56
52 Cr	# 2	0.02472	0.02472	ug/l	15.95	1800.00		147.78	157.78	144.45
55 Mn	# 3	0.3171	0.3171	ug/l	2.29	1800.00		5400.94	5714.36	5744.38
56 Fe	# 1	10.22	10.22	ug/l	1.27	81000.00		127134.01	128509.42	129737.72
59 Co	# 3	0.0309	0.0309	ug/l	3.28	1800.00		366.68	396.68	386.68
60 Ni	# 2	11.8	11.8	ug/l	1.23	1800.00		10382.98	10639.80	10913.29
63 Cu	# 2	-0.1716	-0.1716	ug/l	2.28	1800.00		127.78	121.11	142.22
66 Zn	# 3	0.005085	0.005085	ug/l	295.38	1800.00		280.01	293.35	256.68
75 As	# 2	0.04048	0.04048	ug/l	46.62	100.00		20.33	15.00	21.67
78 Se	# 1	0.01069	0.01069	ug/l	92.23	100.00		27.00	28.33	22.00
88 Sr	# 3	0.1472	0.1472	ug/l	2.06	1800.00		3123.70	3187.05	3073.71
95 Mo	# 3	0.2363	0.2363	ug/l	9.34	1800.00		743.37	663.36	776.71
107 Ag	# 3	0.0158	0.0158	ug/l	22.10	100.00		170.01	116.67	146.67
111 Cd	# 3	0.02309	0.02309	ug/l	13.34	100.00		63.10	76.46	69.75
118 Sn	# 3	0.04562	0.04562	ug/l	11.90	1800.00		470.02	520.02	453.35
121 Sb	# 3	0.03583	0.03583	ug/l	6.48	100.00		360.01	390.02	393.35
137 Ba	# 3	0.05923	0.05923	ug/l	14.30	1800.00		156.67	210.01	180.01
202 Hg	# 3	0.005535	0.005535	ug/l	19.19	5.00		48.33	45.67	48.00
205 Tl	# 3	0.005568	0.005568	ug/l	29.94	20.00		110.00	166.67	140.01
208 Pb	# 3	0.04479	0.04479	ug/l	5.93	1800.00		1156.72	1123.38	1250.07
232 Th	# 3	0.02244	0.02244	ug/l	7.39	#VALUE!		826.71	773.37	763.38
238 U	# 3	0.01735	0.01735	ug/l	11.01	#VALUE!		516.69	426.69	473.36

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	512519.38	3.01	572657.25	89.5	60 - 125		494780.81	522844.22	519933.16
45 Sc	# 1	457490.25	0.82	523286.00	87.4	60 - 125		454071.41	456917.41	461481.97
45 Sc	# 3	572461.00	1.61	603286.69	94.9	60 - 125		561970.44	576141.06	579271.38
74 Ge	# 1	150543.42	0.27	170650.48	88.2	60 - 125		150930.94	150127.22	150572.08
74 Ge	# 2	22704.56	1.40	24862.19	91.3	60 - 125		22456.09	22594.07	23063.50
74 Ge	# 3	149487.30	1.52	155795.36	96.0	60 - 125		147057.45	149833.31	151571.13
89 Y	# 3	965547.50	1.98	1011968.20	95.4	60 - 125		945235.31	983076.44	968330.94
115 In	# 3	933732.19	1.76	989458.81	94.4	60 - 125		915282.81	946868.63	939045.19
159 Tb	# 3	1289212.80	2.15	1388283.80	92.9	60 - 125		1257993.80	1298881.50	1310763.10
209 Bi	# 3	744542.00	1.29	829936.50	89.7	60 - 125		733800.69	752420.50	747404.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\220_CCV.D\220_CCV.D#
Date Acquired: Dec 28 2012 08:14 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.32 ug/l	1.93	50.00	90 - 110		104612.43	106272.08	108614.38
11 B	99.73 ug/l	2.47	100.00	90 - 110		215526.14	220467.39	218789.50
23 Na	4996 ug/l	1.18	5000.00	90 - 110		22908052.00	23167360.00	22627034.00
24 Mg	5041 ug/l	2.29	5000.00	90 - 110		15119143.00	15521965.00	15830471.00
27 Al	512.7 ug/l	1.84	500.00	90 - 110		1775127.30	1822054.40	1840141.00
39 K	5026 ug/l	0.97	5000.00	90 - 110		1257453.10	1279219.80	1300021.60
40 Ca	5119 ug/l	1.29	5000.00	90 - 110		36884320.00	37853784.00	37444164.00
45 Sc	--------	--------	---	##### - #####		34374.69	34846.61	35176.09
47 Ti	50.94 ug/l	3.82	50.00	90 - 110		42555.72	43377.84	43157.11
51 V	48.19 ug/l	0.62	50.00	90 - 110		80427.98	81242.67	82831.64
52 Cr	47.71 ug/l	1.17	50.00	90 - 110		94551.28	96375.89	96617.19
55 Mn	502.5 ug/l	3.32	500.00	90 - 110		7445248.00	7612034.00	7636219.00
56 Fe	5108 ug/l	0.28	5000.00	90 - 110		56797812.00	56778984.00	56805344.00
59 Co	48.55 ug/l	3.19	50.00	90 - 110		535522.00	543518.25	538809.25
60 Ni	48.25 ug/l	0.86	50.00	90 - 110		41112.16	41727.98	42160.09
63 Cu	48.25 ug/l	1.37	50.00	90 - 110		109467.80	110707.68	110128.70
66 Zn	49.84 ug/l	3.13	50.00	90 - 110		67307.61	67896.17	66993.16
75 As	49.19 ug/l	1.55	50.00	90 - 110		8459.63	8680.74	8649.39
78 Se	49.74 ug/l	0.71	50.00	90 - 110		16411.05	16325.98	16475.11
88 Sr	49.39 ug/l	4.11	50.00	90 - 110		990720.81	1005914.60	1009368.90
95 Mo	50.78 ug/l	3.93	50.00	90 - 110		142417.30	143213.58	141275.00
107 Ag	50.54 ug/l	3.95	50.00	90 - 110		403843.97	407063.69	403094.84
111 Cd	50.28 ug/l	4.16	50.00	90 - 110		85390.32	86706.58	86854.78
118 Sn	50.31 ug/l	4.04	50.00	90 - 110		275515.69	277610.31	273365.63
121 Sb	50.08 ug/l	4.88	50.00	90 - 110		251318.22	258305.48	253954.23
137 Ba	50.26 ug/l	3.91	50.00	90 - 110		134402.22	135595.09	135047.28
202 Hg	2.356 ug/l	3.49	2.50	90 - 110		4124.87	4200.23	4140.54
205 Tl	9.852 ug/l	4.05	10.00	90 - 110		151361.36	150893.69	150008.56
208 Pb	49.28 ug/l	4.22	50.00	90 - 110		1033455.40	1039954.80	1038253.00
232 Th	47.73 ug/l	3.38	---	##### - #####		1179379.60	1201947.60	1195579.80
238 U	47.34 ug/l	3.30	---	##### - #####		1187845.10	1205061.50	1188884.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	496443.91	1.57	572657.25	86.7	60 - 125		498439.69	487869.63	503022.38
45 Sc	446904.44	0.02	523286.00	85.4	60 - 125		446824.16	446963.66	446925.47
45 Sc	561425.94	2.90	603286.69	93.1	60 - 125		574615.13	543235.00	566427.69
74 Ge	145516.20	0.26	170650.48	85.3	60 - 125		145400.52	145939.38	145208.73
74 Ge	21926.21	1.23	24862.19	88.2	60 - 125		21788.63	21751.93	22238.08
74 Ge	144812.81	2.44	155795.36	93.0	60 - 125		147035.75	140738.94	146663.77
89 Y	942339.06	3.40	1011968.20	93.1	60 - 125		970154.75	907249.88	949612.69
115 In	894517.81	3.44	989458.81	90.4	60 - 125		921579.69	861079.69	900894.13
159 Tb	1248527.60	3.88	1388283.80	89.9	60 - 125		1279437.30	1192677.30	1273468.30
209 Bi	702948.69	2.47	829936.50	84.7	60 - 125		717355.75	683672.81	707817.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\221_CCB.D\221_CCB.D#
Date Acquired: Dec 28 2012 08:21 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01347	0.01347	ug/l	53.69	#VALUE!		46.67	30.00	16.67
11 B # 3	0.86	0.86	ug/l	2.93	#VALUE!		6954.76	7221.52	7214.87
23 Na # 1	-9.328	-9.328	ug/l	2.44	#VALUE!		86319.34	87219.96	89138.80
24 Mg # 1	1.439	1.439	ug/l	1.01	#VALUE!		4897.43	4947.44	5030.76
27 Al # 1	0.2351	0.2351	ug/l	16.40	#VALUE!		1563.44	1836.80	1683.46
39 K # 2	2.588	2.588	ug/l	49.34	#VALUE!		6524.65	7101.53	7171.54
40 Ca # 1	3.181	3.181	ug/l	6.29	#VALUE!		120388.50	120136.04	123719.70
45 Sc # 2	----	--------		--------	#VALUE!		33543.13	33626.69	34736.47
47 Ti # 3	0.03473	0.03473	ug/l	58.51	#VALUE!		53.33	43.33	20.00
51 V # 2	0.02491	0.02491	ug/l	59.90	#VALUE!		128.89	153.34	183.34
52 Cr # 2	0.006369	0.006369	ug/l	95.09	#VALUE!		114.45	93.33	117.78
55 Mn # 3	0.1594	0.1594	ug/l	8.85	#VALUE!		3303.74	3130.34	2863.64
56 Fe # 1	1.363	1.363	ug/l	0.52	#VALUE!		25778.57	26078.96	25988.83
59 Co # 3	0.01322	0.01322	ug/l	29.48	#VALUE!		226.67	160.01	143.34
60 Ni # 2	-0.05391	-0.05391	ug/l	36.47	#VALUE!		53.33	82.22	84.45
63 Cu # 2	-0.1922	-0.1922	ug/l	1.49	#VALUE!		73.33	85.56	78.89
66 Zn # 3	0.07458	0.07458	ug/l	47.09	#VALUE!		386.68	400.02	310.01
75 As # 2	0.03633	0.03633	ug/l	9.18	#VALUE!		17.67	18.00	17.33
78 Se # 1	0.04712	0.04712	ug/l	8.20	#VALUE!		36.00	37.00	38.67
88 Sr # 3	0.01724	0.01724	ug/l	12.67	#VALUE!		470.02	403.35	386.68
95 Mo # 3	0.1357	0.1357	ug/l	11.70	#VALUE!		456.69	446.69	376.68
107 Ag # 3	0.01889	0.01889	ug/l	9.83	#VALUE!		183.34	156.67	163.34
111 Cd # 3	0.01442	0.01442	ug/l	74.34	#VALUE!		69.86	33.19	56.55
118 Sn # 3	0.04724	0.04724	ug/l	19.96	#VALUE!		503.35	520.02	423.35
121 Sb # 3	0.3507	0.3507	ug/l	10.91	#VALUE!		2196.87	2030.18	1826.83
137 Ba # 3	0.01613	0.01613	ug/l	34.37	#VALUE!		63.34	73.34	43.33
202 Hg # 3	0.02328	0.02328	ug/l	5.82	#VALUE!		78.33	78.00	82.67
205 Tl # 3	0.003805	0.003805	ug/l	41.42	#VALUE!		126.67	110.00	86.67
208 Pb # 3	0.01564	0.01564	ug/l	23.52	#VALUE!		583.36	470.02	533.36
232 Th # 3	0.08992	0.08992	ug/l	2.09	#VALUE!		2553.63	2606.98	2506.96
238 U # 3	0.01441	0.01441	ug/l	15.82	#VALUE!		433.35	416.68	323.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	511456.56	2.16	572657.25	89.3	60 - 125		499431.56	513716.44	521221.59
45 Sc # 1	448117.03	0.46	523286.00	85.6	60 - 125		446544.84	447344.41	450461.81
45 Sc # 3	565842.94	0.62	603286.69	93.8	60 - 125		562683.31	565192.63	569652.94
74 Ge # 1	146711.41	0.29	170650.48	86.0	60 - 125		146235.80	147044.30	146854.09
74 Ge # 2	22001.47	1.49	24862.19	88.5	60 - 125		21866.48	21761.93	22376.02
74 Ge # 3	146287.19	0.24	155795.36	93.9	60 - 125		146548.70	146422.02	145890.83
89 Y # 3	953034.06	0.96	1011968.20	94.2	60 - 125		953113.94	943828.31	962160.00
115 In # 3	918709.69	0.82	989458.81	92.8	60 - 125		910060.81	923066.63	923001.56
159 Tb # 3	1261900.40	4.33	1388283.80	90.9	60 - 125		1198807.50	1293857.10	1293036.80
209 Bi # 3	739223.31	0.60	829936.50	89.1	60 - 125		734193.19	742411.00	741065.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\222SMPL.D\222SMPL.D#
Date Acquired: Dec 28 2012 08:29 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261278_1-a
Misc Info: 3005 1/5
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0008989	-0.0008989	ug/l	0.00	100.00		0.00	0.00	0.00
11 B	# 3	0.584	0.584	ug/l	3.86	1800.00		6107.80	6374.53	6451.23
23 Na	# 1	-11.03	-11.03	ug/l	0.74	81000.00		80401.11	81110.73	80869.44
24 Mg	# 1	0.4393	0.4393	ug/l	9.49	81000.00		1890.14	1780.14	2036.83
27 Al	# 1	1.148	1.148	ug/l	2.83	81000.00		4974.12	5124.17	4884.07
39 K	# 2	0.5709	0.5709	ug/l	64.25	81000.00		6327.92	6277.86	6688.02
40 Ca	# 1	4.122	4.122	ug/l	2.40	81000.00		129433.28	130137.90	130360.00
45 Sc	# 2	----	--------		--------	#VALUE!		34325.74	34225.50	35329.75
47 Ti	# 3	0.07133	0.07133	ug/l	43.32	1620.00		86.67	83.34	40.00
51 V	# 2	0.1211	0.1211	ug/l	14.55	1800.00		291.12	350.01	314.45
52 Cr	# 2	0.01424	0.01424	ug/l	15.25	1800.00		122.22	127.78	123.33
55 Mn	# 3	0.09725	0.09725	ug/l	2.92	1800.00		2163.53	2173.52	2116.85
56 Fe	# 1	0.9531	0.9531	ug/l	2.69	81000.00		21055.91	21529.65	21866.71
59 Co	# 3	-0.0008247	-0.0008247	ug/l	74.61	1800.00		26.67	13.33	16.67
60 Ni	# 2	0.2386	0.2386	ug/l	4.98	1800.00		321.12	313.34	345.56
63 Cu	# 2	-0.1704	-0.1704	ug/l	1.52	1800.00		120.00	132.22	135.56
66 Zn	# 3	0.5856	0.5856	ug/l	10.86	1800.00		1140.06	1066.73	973.39
75 As	# 2	0.1053	0.1053	ug/l	10.62	100.00		30.00	31.00	28.33
78 Se	# 1	0.007545	0.007545	ug/l	145.79	100.00		24.67	27.67	20.33
88 Sr	# 3	0.006074	0.006074	ug/l	13.71	1800.00		206.67	193.34	173.34
95 Mo	# 3	0.09075	0.09075	ug/l	8.77	1800.00		323.34	276.68	300.01
107 Ag	# 3	0.003714	0.003714	ug/l	28.19	100.00		50.00	46.67	33.33
111 Cd	# 3	0.009131	0.009131	ug/l	50.79	100.00		53.23	43.25	36.57
118 Sn	# 3	0.09703	0.09703	ug/l	3.78	1800.00		750.04	770.04	786.71
121 Sb	# 3	0.2894	0.2894	ug/l	1.05	100.00		1713.47	1733.48	1693.46
137 Ba	# 3	0.01553	0.01553	ug/l	23.28	1800.00		56.67	70.00	50.00
202 Hg	# 3	0.03517	0.03517	ug/l	6.33	5.00		98.00	106.00	101.33
205 Tl	# 3	0.0003386	0.0003386	ug/l	180.15	20.00		46.67	66.67	56.67
208 Pb	# 3	0.2634	0.2634	ug/l	1.12	1800.00		5933.96	6103.99	5983.96
232 Th	# 3	0.044	0.044	ug/l	10.54	#VALUE!		1326.77	1483.45	1246.76
238 U	# 3	0.001337	0.001337	ug/l	53.36	#VALUE!		60.00	50.00	23.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	494833.22	2.22	572657.25	86.4	60 - 125		483022.19	496727.69	504749.84
45 Sc	# 1	454039.59	0.89	523286.00	86.8	60 - 125		449403.56	456921.38	455793.88
45 Sc	# 3	565348.81	0.92	603286.69	93.7	60 - 125		559409.81	569002.75	567633.75
74 Ge	# 1	147591.78	0.70	170650.48	86.5	60 - 125		146408.44	148301.77	148065.17
74 Ge	# 2	22038.57	2.47	24862.19	88.6	60 - 125		21600.65	21867.65	22647.42
74 Ge	# 3	146156.42	0.66	155795.36	93.8	60 - 125		146314.19	145127.92	147027.16
89 Y	# 3	954692.06	0.20	1011968.20	94.3	60 - 125		952491.75	955426.88	956157.38
115 In	# 3	926567.38	0.34	989458.81	93.6	60 - 125		928907.88	927767.88	923026.31
159 Tb	# 3	1305350.60	0.43	1388283.80	94.0	60 - 125		1299124.50	1310136.90	1306790.80
209 Bi	# 3	741083.13	0.13	829936.50	89.3	60 - 125		741191.63	740074.63	741983.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\223SMPL.D\223SMPL.D#
Date Acquired: Dec 28 2012 08:36 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261278_2-a
Misc Info: 3005 1/5
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.722	9.722	ug/l	1.03	100.00		20154.21	20214.25	20931.69
11 B # 3	40.19	40.19	ug/l	0.05	1800.00		89018.03	90362.37	91690.91
23 Na # 1	982	982	ug/l	1.80	81000.00		4652420.00	4528649.50	4749233.50
24 Mg # 1	1035	1035	ug/l	2.28	81000.00		3130242.80	3263565.80	3229250.00
27 Al # 1	1010	1010	ug/l	1.48	81000.00		3530501.50	3615831.30	3646737.80
39 K # 2	977.8	977.8	ug/l	2.14	81000.00		244864.16	254987.59	257955.02
40 Ca # 1	1026	1026	ug/l	1.73	81000.00		7477589.00	7699605.00	7735261.50
45 Sc # 2	----	--------		--------	#VALUE!		33331.63	34120.95	34918.94
47 Ti # 3	19.96	19.96	ug/l	1.56	1620.00		16721.18	16721.23	17131.62
51 V # 2	19.12	19.12	ug/l	1.73	1800.00		31583.29	32558.29	32623.95
52 Cr # 2	19.44	19.44	ug/l	0.83	1800.00		38579.69	38840.28	39344.63
55 Mn # 3	105.3	105.3	ug/l	0.28	1800.00		1578050.50	1582144.40	1583490.10
56 Fe # 1	973	973	ug/l	1.35	81000.00		11017559.00	10740248.00	10993407.00
59 Co # 3	9.776	9.776	ug/l	0.32	1800.00		108688.58	107924.07	108246.14
60 Ni # 2	19.82	19.82	ug/l	1.72	1800.00		16705.38	17247.01	17350.43
63 Cu # 2	19.6	19.6	ug/l	0.63	1800.00		44165.96	44667.16	45662.98
66 Zn # 3	19.52	19.52	ug/l	1.63	1800.00		26142.56	26953.65	26329.57
75 As # 2	19.51	19.51	ug/l	0.38	100.00		3357.98	3379.66	3465.34
78 Se # 1	18.29	18.29	ug/l	0.69	100.00		6072.69	6052.68	6161.39
88 Sr # 3	18.5	18.5	ug/l	0.50	1800.00		380022.22	376912.19	378864.56
95 Mo # 3	19.62	19.62	ug/l	0.39	1800.00		56125.92	55921.92	56256.45
107 Ag # 3	10.12	10.12	ug/l	0.49	100.00		82096.13	83174.40	82825.94
111 Cd # 3	9.784	9.784	ug/l	1.98	100.00		17154.21	17464.68	16853.97
118 Sn # 3	19.55	19.55	ug/l	0.59	1800.00		109579.11	108747.82	109595.98
121 Sb # 3	10.65	10.65	ug/l	0.75	100.00		55335.36	54904.57	55874.18
137 Ba # 3	19.99	19.99	ug/l	0.52	1800.00		54424.69	54641.91	55333.85
202 Hg # 3	0.9618	0.9618	ug/l	1.27	5.00		1777.10	1782.44	1810.44
205 Tl # 3	7.638	7.638	ug/l	1.79	20.00		121464.15	120533.52	120738.40
208 Pb # 3	9.738	9.738	ug/l	0.71	1800.00		210317.50	212519.06	213887.72
232 Th # 3	18.44	18.44	ug/l	0.25	#VALUE!		481313.78	479157.44	480285.09
238 U # 3	18.93	18.93	ug/l	1.00	#VALUE!		496656.72	494307.06	502150.09

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	492889.56	1.44	572657.25	86.1	60 - 125		485825.31	492846.13	499997.28
45 Sc # 1	450571.31	0.68	523286.00	86.1	60 - 125		449728.53	448032.91	453952.44
45 Sc # 3	560592.56	0.61	603286.69	92.9	60 - 125		557322.19	564093.63	560361.88
74 Ge # 1	146735.97	0.28	170650.48	86.0	60 - 125		146450.84	146548.75	147208.33
74 Ge # 2	21820.91	1.68	24862.19	87.8	60 - 125		21620.67	21597.31	22244.77
74 Ge # 3	144300.83	0.10	155795.36	92.6	60 - 125		144435.20	144329.78	144137.48
89 Y # 3	949605.94	0.41	1011968.20	93.8	60 - 125		953233.31	950050.81	945533.63
115 In # 3	911656.94	0.37	989458.81	92.1	60 - 125		908177.19	911784.75	915008.75
159 Tb # 3	1290384.60	1.38	1388283.80	92.9	60 - 125		1269911.90	1301621.50	1299620.60
209 Bi # 3	732507.50	0.26	829936.50	88.3	60 - 125		734484.13	732427.13	730611.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\224SMPL.D\224SMPL.D#
Date Acquired: Dec 28 2012 08:44 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-84100-c-1-d
Misc Info: 3005 1/5
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.002843	0.002843	ug/l	67.01	100.00		10.00	10.00	3.33
11 B # 3	23.39	23.39	ug/l	3.55	1800.00		54143.00	53999.57	55496.93
23 Na # 1	10430	10430	ug/l	0.49	81000.00		47823512.00	48142956.00	48427356.00
24 Mg # 1	4609	4609	ug/l	0.26	81000.00		14144436.00	14332560.00	14414086.00
27 Al # 1	1.012	1.012	ug/l	6.33	81000.00		4323.93	4740.70	4367.28
39 K # 2	960.4	960.4	ug/l	0.27	81000.00		245094.53	248389.84	253883.52
40 Ca # 1	14810	14810	ug/l	1.34	81000.00		109323650.00	108898380.00	108858700.00
45 Sc # 2	----	--------		--------	#VALUE!		34090.79	34084.15	35431.08
47 Ti # 3	0.1913	0.1913	ug/l	14.40	1620.00		156.67	156.67	200.01
51 V # 2	0.1992	0.1992	ug/l	10.95	1800.00		430.01	417.79	497.79
52 Cr # 2	0.02386	0.02386	ug/l	16.95	1800.00		140.00	151.11	137.78
55 Mn # 3	0.09797	0.09797	ug/l	8.05	1800.00		2223.53	2040.18	2190.19
56 Fe # 1	4.673	4.673	ug/l	0.84	81000.00		61920.75	62496.19	62452.89
59 Co # 3	0.3902	0.3902	ug/l	4.29	1800.00		4250.62	4307.29	4594.02
60 Ni # 2	2.593	2.593	ug/l	0.74	1800.00		2299.05	2351.28	2397.95
63 Cu # 2	0.06985	0.06985	ug/l	20.10	1800.00		694.46	674.46	651.13
66 Zn # 3	0.6577	0.6577	ug/l	13.37	1800.00		1006.72	1216.74	1236.74
75 As # 2	0.4086	0.4086	ug/l	13.97	100.00		70.33	90.00	87.33
78 Se # 1	0.06308	0.06308	ug/l	6.11	100.00		43.00	41.33	41.67
88 Sr # 3	31.86	31.86	ug/l	1.45	1800.00		650358.19	652071.63	655709.88
95 Mo # 3	3.966	3.966	ug/l	1.21	1800.00		11253.91	11333.88	11313.86
107 Ag # 3	0.003157	0.003157	ug/l	38.87	100.00		43.33	43.33	26.67
111 Cd # 3	0.01281	0.01281	ug/l	65.75	100.00		56.40	33.04	59.72
118 Sn # 3	0.07185	0.07185	ug/l	17.19	1800.00		633.36	536.69	666.70
121 Sb # 3	0.2612	0.2612	ug/l	5.91	100.00		1436.76	1626.79	1530.10
137 Ba # 3	16.35	16.35	ug/l	2.12	1800.00		44733.00	44736.22	44141.38
202 Hg # 3	0.001495	0.001495	ug/l	6.42	5.00		37.00	38.00	37.33
205 Tl # 3	0.04425	0.04425	ug/l	15.04	20.00		820.05	783.38	646.70
208 Pb # 3	0.01306	0.01306	ug/l	14.82	1800.00		486.68	450.02	523.35
232 Th # 3	0.07842	0.07842	ug/l	9.31	#VALUE!		2323.57	2040.20	2030.20
238 U # 3	0.5733	0.5733	ug/l	1.94	#VALUE!		14607.32	14367.15	14220.24

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	491822.34	3.73	572657.25	85.9	60 - 125		470875.03	499505.78	505086.19
45 Sc # 1	451098.22	1.12	523286.00	86.2	60 - 125		445980.84	451240.75	456073.00
45 Sc # 3	561554.44	2.16	603286.69	93.1	60 - 125		547580.44	568882.31	568200.63
74 Ge # 1	144952.75	1.07	170650.48	84.9	60 - 125		143396.95	144971.28	146490.02
74 Ge # 2	21899.90	1.53	24862.19	88.1	60 - 125		21606.22	21827.60	22265.88
74 Ge # 3	145458.17	1.05	155795.36	93.4	60 - 125		144012.42	147062.63	145299.48
89 Y # 3	950767.56	1.68	1011968.20	94.0	60 - 125		932521.00	962085.63	957696.25
115 In # 3	906283.94	1.52	989458.81	91.6	60 - 125		890647.56	911352.50	916851.75
159 Tb # 3	1291346.10	3.12	1388283.80	93.0	60 - 125		1246188.50	1323412.60	1304437.10
209 Bi # 3	699379.88	0.91	829936.50	84.3	60 - 125		693982.50	706445.81	697711.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\225SMPL.D\225SMPL.D#
Date Acquired: Dec 28 2012 08:51 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-84100-c-1-d SD
Misc Info: 3005 1/25
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.002056	-0.0004112	ug/l	205.40	100.00		0.00	3.33	0.00
11 B	# 3	23.65	4.73	ug/l	3.77	1800.00		16277.36	16220.45	16030.35
23 Na	# 1	10645	2129	ug/l	0.97	81000.00		9979207.00	10171517.00	10298722.00
24 Mg	# 1	4864.5	972.9	ug/l	1.17	81000.00		3036820.30	3111946.30	3108632.00
27 Al	# 1	3.3085	0.6617	ug/l	1.77	81000.00		3300.39	3313.72	3283.70
39 K	# 2	982.5	196.5	ug/l	0.90	81000.00		55585.72	56408.16	57832.55
40 Ca	# 1	15230	3046	ug/l	1.00	81000.00		22600286.00	23035052.00	23363790.00
45 Sc	# 2	----	--------		--------	#VALUE!		33903.77	34562.76	35615.82
47 Ti	# 3	0.44785	0.08957	ug/l	15.50	1620.00		73.34	96.67	93.34
51 V	# 2	0.33995	0.06799	ug/l	4.79	1800.00		227.78	233.34	227.78
52 Cr	# 2	0.09255	0.01851	ug/l	42.51	1800.00		114.45	150.00	137.78
55 Mn	# 3	0.1279	0.02558	ug/l	20.40	1800.00		990.05	1096.73	1150.07
56 Fe	# 1	5.455	1.091	ug/l	4.85	81000.00		23835.91	23101.52	23008.15
59 Co	# 3	0.4108	0.08216	ug/l	3.82	1800.00		996.72	946.72	950.05
60 Ni	# 2	3.067	0.6134	ug/l	3.89	1800.00		651.13	668.91	643.35
63 Cu	# 2	-0.673	-0.1346	ug/l	5.12	1800.00		207.78	228.89	200.00
66 Zn	# 3	0.688	0.1376	ug/l	19.25	1800.00		450.02	430.02	493.36
75 As	# 2	0.5865	0.1173	ug/l	16.94	100.00		29.33	36.33	30.67
78 Se	# 1	0.07305	0.01461	ug/l	60.29	100.00		29.00	28.00	23.67
88 Sr	# 3	32.305	6.461	ug/l	0.14	1800.00		134496.06	136940.80	134737.73
95 Mo	# 3	4.1215	0.8243	ug/l	1.12	1800.00		2460.24	2410.23	2453.57
107 Ag	# 3	0.00914	0.001828	ug/l	55.09	100.00		26.67	36.67	20.00
111 Cd	# 3	0.040125	0.008025	ug/l	46.36	100.00		35.88	42.56	49.22
118 Sn	# 3	0.12625	0.02525	ug/l	13.99	1800.00		363.35	383.35	343.35
121 Sb	# 3	0.3853	0.07706	ug/l	12.89	100.00		540.03	610.03	643.37
137 Ba	# 3	16.115	3.223	ug/l	1.35	1800.00		8992.64	9162.73	8932.64
202 Hg	# 3	0.03644	0.007288	ug/l	16.97	5.00		48.00	50.00	52.33
205 Tl	# 3	0.06465	0.01293	ug/l	13.52	20.00		226.68	276.68	270.01
208 Pb	# 3	0.01134	0.002268	ug/l	58.20	1800.00		286.68	250.01	226.68
232 Th	# 3	0.17035	0.03407	ug/l	3.43	#VALUE!		1106.74	1103.41	1046.74
238 U	# 3	0.559	0.1118	ug/l	4.62	#VALUE!		2857.04	3133.76	2917.04

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	528609.88	1.88	572657.25	92.3	60 - 125		517146.88	534431.44	534251.38
45 Sc	# 1	461195.47	0.89	523286.00	88.1	60 - 125		458484.97	459175.38	465926.03
45 Sc	# 3	579376.00	0.77	603286.69	96.0	60 - 125		575614.31	584287.94	578225.63
74 Ge	# 1	149354.98	0.65	170650.48	87.5	60 - 125		148287.64	149611.66	150165.64
74 Ge	# 2	22166.86	2.29	24862.19	89.2	60 - 125		21612.86	22279.23	22608.48
74 Ge	# 3	148472.27	1.21	155795.36	95.3	60 - 125		147429.22	150547.77	147439.80
89 Y	# 3	971981.75	0.97	1011968.20	96.0	60 - 125		964613.31	982546.94	968784.75
115 In	# 3	930634.44	0.04	989458.81	94.1	60 - 125		930329.38	930466.00	931107.88
159 Tb	# 3	1303800.50	0.49	1388283.80	93.9	60 - 125		1309459.10	1305090.50	1296852.10
209 Bi	# 3	737436.69	0.38	829936.50	88.9	60 - 125		737222.00	740322.69	734765.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\226SMPL.D\226SMPL.D#
Date Acquired: Dec 28 2012 08:58 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-84100-c-1-d PDS
Misc Info: 3005 1/5
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	20.55	20.55	ug/l	1.77	100.00		42687.15	42844.23	44541.31
11 B	# 3	65.34	65.34	ug/l	1.04	1800.00		142697.80	145404.19	144798.67
23 Na	# 1	12370	12370	ug/l	1.79	81000.00		56967880.00	57604384.00	56435264.00
24 Mg	# 1	6685	6685	ug/l	1.36	81000.00		20334146.00	20591460.00	21234936.00
27 Al	# 1	206.4	206.4	ug/l	0.69	81000.00		728142.38	734834.44	746676.56
39 K	# 2	3086	3086	ug/l	0.70	81000.00		763927.63	773148.13	792226.31
40 Ca	# 1	16850	16850	ug/l	0.94	81000.00		122326890.00	123325780.00	126113090.00
45 Sc	# 2	----	--------		--------	#VALUE!		33956.15	34491.56	35698.25
47 Ti	# 3	20.49	20.49	ug/l	3.52	1620.00		17271.75	17171.60	18249.31
51 V	# 2	20.55	20.55	ug/l	1.01	1800.00		33605.68	34609.75	34780.06
52 Cr	# 2	20.47	20.47	ug/l	1.37	1800.00		39588.43	40574.99	41644.00
55 Mn	# 3	213.9	213.9	ug/l	1.41	1800.00		3166235.30	3211052.00	3215404.00
56 Fe	# 1	2105	2105	ug/l	1.72	81000.00		23075416.00	23633084.00	23096156.00
59 Co	# 3	20.64	20.64	ug/l	0.51	1800.00		227757.94	227075.83	228118.92
60 Ni	# 2	22.62	22.62	ug/l	1.09	1800.00		18866.35	19436.94	19637.15
63 Cu	# 2	20.39	20.39	ug/l	0.39	1800.00		45475.79	46102.88	46907.12
66 Zn	# 3	19.46	19.46	ug/l	2.38	1800.00		26179.23	26796.77	25838.71
75 As	# 2	20.93	20.93	ug/l	0.21	100.00		3566.69	3604.03	3665.38
78 Se	# 1	18.98	18.98	ug/l	0.81	100.00		6205.40	6178.39	6319.44
88 Sr	# 3	52.04	52.04	ug/l	0.35	1800.00		1060402.60	1071322.40	1078037.90
95 Mo	# 3	24.78	24.78	ug/l	1.63	1800.00		70905.15	68990.84	69536.53
107 Ag	# 3	17.43	17.43	ug/l	0.36	100.00		140523.47	140208.50	139986.53
111 Cd	# 3	20.09	20.09	ug/l	0.88	100.00		34325.11	34743.42	34976.76
118 Sn	# 3	20.49	20.49	ug/l	0.47	1800.00		112917.73	112551.92	113095.00
121 Sb	# 3	21.56	21.56	ug/l	0.56	100.00		110568.98	109867.81	110206.68
137 Ba	# 3	37.06	37.06	ug/l	0.55	1800.00		99612.09	99926.55	100596.96
202 Hg	# 3	0.9456	0.9456	ug/l	0.47	5.00		1667.76	1662.76	1646.76
205 Tl	# 3	4.088	4.088	ug/l	4.54	20.00		63742.60	62818.31	62872.15
208 Pb	# 3	20.07	20.07	ug/l	4.05	1800.00		427862.91	426899.34	424471.03
232 Th	# 3	20.23	20.23	ug/l	0.76	#VALUE!		494261.09	498405.31	497194.78
238 U	# 3	20.77	20.77	ug/l	0.66	#VALUE!		513021.34	516698.94	514606.50

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	494818.06	1.87	572657.25	86.4	60 - 125		484226.59	498903.75	501323.78
45 Sc	# 1	450762.06	1.35	523286.00	86.1	60 - 125		443800.75	453298.94	455186.50
45 Sc	# 3	569206.38	0.44	603286.69	94.4	60 - 125		566968.94	571921.13	568729.00
74 Ge	# 1	144644.69	0.42	170650.48	84.8	60 - 125		144603.80	144060.77	145269.48
74 Ge	# 2	21611.40	1.17	24862.19	86.9	60 - 125		21375.95	21578.40	21879.83
74 Ge	# 3	143687.77	0.65	155795.36	92.2	60 - 125		144565.94	142709.95	143787.44
89 Y	# 3	954143.81	1.17	1011968.20	94.3	60 - 125		942382.88	955328.94	964719.75
115 In	# 3	898135.31	0.25	989458.81	90.8	60 - 125		896336.88	900629.75	897439.38
159 Tb	# 3	1259693.80	3.63	1388283.80	90.7	60 - 125		1207228.80	1280376.50	1291476.00
209 Bi	# 3	690350.63	0.34	829936.50	83.2	60 - 125		693086.44	689198.25	688767.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\227SMPL.D\227SMPL.D#
Date Acquired: Dec 28 2012 09:06 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-84100-c-1-e ms
Misc Info: 3005 1/5
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.14	10.14	ug/l	1.00	100.00		21031.75	21545.66	21572.30
11 B # 3	64.45	64.45	ug/l	0.67	1800.00		139363.23	143907.19	143953.88
23 Na # 1	11420	11420	ug/l	2.37	81000.00		51597384.00	53705524.00	53976752.00
24 Mg # 1	5630	5630	ug/l	1.24	81000.00		17363098.00	17189012.00	18295710.00
27 Al # 1	993.5	993.5	ug/l	0.95	81000.00		3554608.30	3483403.80	3686219.00
39 K # 2	1990	1990	ug/l	1.69	81000.00		494906.97	507268.63	518848.53
40 Ca # 1	15960	15960	ug/l	1.21	81000.00		118928500.00	116281120.00	120166890.00
45 Sc # 2	----	--------		--------	#VALUE!		34293.47	34401.36	35341.97
47 Ti # 3	20.13	20.13	ug/l	1.58	1620.00		17695.47	17194.94	17441.95
51 V # 2	19.93	19.93	ug/l	1.29	1800.00		32835.48	33655.80	34201.22
52 Cr # 2	19.67	19.67	ug/l	0.79	1800.00		38765.68	39428.13	39797.83
55 Mn # 3	105.5	105.5	ug/l	1.22	1800.00		1611390.80	1597989.90	1595581.60
56 Fe # 1	973.8	973.8	ug/l	2.39	81000.00		10759853.00	10964691.00	10799645.00
59 Co # 3	10.07	10.07	ug/l	0.99	1800.00		113065.70	112729.32	112749.53
60 Ni # 2	22.07	22.07	ug/l	1.63	1800.00		18777.36	18868.60	19355.76
63 Cu # 2	19.75	19.75	ug/l	1.59	1800.00		44536.82	44796.42	45913.67
66 Zn # 3	19.87	19.87	ug/l	0.11	1800.00		27073.89	27561.29	27123.88
75 As # 2	20.23	20.23	ug/l	1.06	100.00		3469.67	3593.36	3495.34
78 Se # 1	18.49	18.49	ug/l	0.98	100.00		6068.69	6099.36	6181.39
88 Sr # 3	50.69	50.69	ug/l	0.58	1800.00		1052250.50	1050307.10	1045710.60
95 Mo # 3	24.27	24.27	ug/l	1.57	1800.00		69295.85	67987.12	69295.80
107 Ag # 3	10.17	10.17	ug/l	1.36	100.00		83338.36	81653.84	82374.33
111 Cd # 3	9.722	9.722	ug/l	0.16	100.00		16926.46	17006.94	16813.05
118 Sn # 3	19.78	19.78	ug/l	0.77	1800.00		110649.11	109846.74	108844.07
121 Sb # 3	10.97	10.97	ug/l	1.55	100.00		56726.83	55901.10	57061.45
137 Ba # 3	36.32	36.32	ug/l	0.57	1800.00		98113.02	99256.04	98901.22
202 Hg # 3	0.9988	0.9988	ug/l	1.63	5.00		1776.10	1753.10	1776.44
205 Tl # 3	7.551	7.551	ug/l	1.16	20.00		119241.00	118323.20	117833.79
208 Pb # 3	9.558	9.558	ug/l	0.51	1800.00		206102.91	207542.05	205706.27
232 Th # 3	19.33	19.33	ug/l	0.82	#VALUE!		478170.09	479702.13	480294.56
238 U # 3	20.4	20.4	ug/l	0.79	#VALUE!		512550.31	512271.34	507649.84

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	494844.53	2.39	572657.25	86.4	60 - 125		481411.28	499444.72	503677.50
45 Sc # 1	454936.19	2.12	523286.00	86.9	60 - 125		450589.78	448216.50	466002.28
45 Sc # 3	575268.56	0.17	603286.69	95.4	60 - 125		574816.88	576401.31	574587.44
74 Ge # 1	145632.34	1.84	170650.48	85.3	60 - 125		144201.66	143967.67	148727.70
74 Ge # 2	21787.92	1.31	24862.19	87.6	60 - 125		21468.30	22018.93	21876.53
74 Ge # 3	145968.61	0.88	155795.36	93.7	60 - 125		145094.83	147437.45	145373.52
89 Y # 3	960659.69	0.26	1011968.20	94.9	60 - 125		958482.88	960081.56	963414.38
115 In # 3	904545.38	0.49	989458.81	91.4	60 - 125		903693.50	909364.44	900578.19
159 Tb # 3	1278773.80	0.98	1388283.80	92.1	60 - 125		1273397.00	1293104.90	1269819.50
209 Bi # 3	697513.56	0.85	829936.50	84.0	60 - 125		693936.38	704370.00	694234.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\228SMPL.D\228SMPL.D#
Date Acquired: Dec 28 2012 09:13 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-84100-c-1-f msd
Misc Info: 3005 1/5
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.888	9.888	ug/l	0.61	100.00		20594.59	21181.90	21145.25
11 B # 3	64.34	64.34	ug/l	1.07	1800.00		139347.45	145027.38	144494.19
23 Na # 1	11350	11350	ug/l	2.01	81000.00		51456340.00	52617968.00	54219444.00
24 Mg # 1	5604	5604	ug/l	2.69	81000.00		17923010.00	17047782.00	17604990.00
27 Al # 1	978.5	978.5	ug/l	1.45	81000.00		3554647.00	3505782.50	3496274.00
39 K # 2	1971	1971	ug/l	0.66	81000.00		486694.88	496148.38	509459.53
40 Ca # 1	15490	15490	ug/l	2.12	81000.00		113381400.00	117469880.00	113861490.00
45 Sc # 2	----	--------		--------	#VALUE!		34273.40	34940.17	35486.72
47 Ti # 3	19.91	19.91	ug/l	1.51	1620.00		16988.10	17084.86	17471.87
51 V # 2	19.79	19.79	ug/l	0.84	1800.00		32625.15	33032.42	33381.99
52 Cr # 2	19.51	19.51	ug/l	0.76	1800.00		37994.09	38716.69	39199.89
55 Mn # 3	104.1	104.1	ug/l	0.51	1800.00		1556375.60	1579532.00	1584895.10
56 Fe # 1	963.9	963.9	ug/l	2.71	81000.00		10417003.00	10927247.00	10784717.00
59 Co # 3	9.96	9.96	ug/l	0.33	1800.00		110327.73	111321.38	111710.77
60 Ni # 2	21.72	21.72	ug/l	0.35	1800.00		18319.15	18434.80	18840.77
63 Cu # 2	19.87	19.87	ug/l	0.16	1800.00		44335.25	44581.41	45931.45
66 Zn # 3	20.03	20.03	ug/l	1.26	1800.00		27517.81	27317.69	27237.62
75 As # 2	19.96	19.96	ug/l	1.16	100.00		3436.33	3406.99	3479.34
78 Se # 1	18.1	18.1	ug/l	1.04	100.00		5936.98	5968.32	6017.34
88 Sr # 3	49.77	49.77	ug/l	1.96	1800.00		1029340.20	1031722.30	1043285.10
95 Mo # 3	24.18	24.18	ug/l	0.91	1800.00		67582.32	67655.86	68412.47
107 Ag # 3	10.08	10.08	ug/l	1.33	100.00		80270.84	81697.67	80528.73
111 Cd # 3	9.577	9.577	ug/l	3.12	100.00		16026.17	16907.04	16543.12
118 Sn # 3	19.64	19.64	ug/l	1.03	1800.00		107804.73	108756.90	107089.75
121 Sb # 3	10.72	10.72	ug/l	0.61	100.00		54633.70	54549.98	54968.02
137 Ba # 3	36.05	36.05	ug/l	1.10	1800.00		96459.92	97758.24	96832.90
202 Hg # 3	0.9778	0.9778	ug/l	1.08	5.00		1731.10	1718.76	1731.77
205 Tl # 3	7.503	7.503	ug/l	0.60	20.00		117237.52	116973.75	117194.84
208 Pb # 3	9.52	9.52	ug/l	0.63	1800.00		204306.58	205377.25	204156.34
232 Th # 3	19.11	19.11	ug/l	0.62	#VALUE!		475065.81	471826.88	470962.50
238 U # 3	20.17	20.17	ug/l	0.82	#VALUE!		503706.34	502987.06	504053.53

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	497454.38	1.53	572657.25	86.9	60 - 125		489185.19	499011.09	504166.88
45 Sc # 1	454770.88	0.63	523286.00	86.9	60 - 125		452376.84	454009.28	457926.50
45 Sc # 3	572887.75	0.51	603286.69	95.0	60 - 125		570053.56	575903.56	572706.25
74 Ge # 1	145312.28	0.36	170650.48	85.2	60 - 125		145816.73	145335.55	144784.55
74 Ge # 2	21585.44	1.82	24862.19	86.8	60 - 125		21280.30	21446.01	22030.01
74 Ge # 3	145347.08	0.75	155795.36	93.3	60 - 125		144408.36	145094.30	146538.61
89 Y # 3	965061.25	2.70	1011968.20	95.4	60 - 125		946702.25	953556.63	994924.69
115 In # 3	895291.63	0.44	989458.81	90.5	60 - 125		899603.31	891973.31	894298.19
159 Tb # 3	1272459.00	0.55	1388283.80	91.7	60 - 125		1264939.90	1273696.40	1278741.00
209 Bi # 3	695529.81	0.73	829936.50	83.8	60 - 125		697544.00	699256.00	689789.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\229SMPL.D\229SMPL.D#
Date Acquired: Dec 28 2012 09:20 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-83568-c-1-f
Misc Info: 3005 1/5
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.00677	0.00677	ug/l	47.55	100.00		23.33	10.00	16.67
11 B # 3	11.26	11.26	ug/l	3.11	1800.00		30197.57	30103.99	29977.19
23 Na # 1	15080	15080	ug/l	6.98	81000.00		68646152.00	69266256.00	69683496.00
24 Mg # 1	11450	11450	ug/l	7.26	81000.00		34675836.00	35216952.00	36154460.00
27 Al # 1	15.85	15.85	ug/l	10.45	81000.00		54057.03	58356.38	58810.47
39 K # 2	147.4	147.4	ug/l	3.93	81000.00		41599.80	43266.76	44165.64
40 Ca # 1	27600	27600	ug/l	8.08	81000.00		197300340.00	203749020.00	205285570.00
45 Sc # 2	----	--------		--------	#VALUE!		33519.81	35670.51	33857.47
47 Ti # 3	0.39	0.39	ug/l	3.71	1620.00		356.68	360.01	333.36
51 V # 2	0.235	0.235	ug/l	9.14	1800.00		473.34	496.68	537.79
52 Cr # 2	0.6695	0.6695	ug/l	4.88	1800.00		1425.62	1384.51	1450.07
55 Mn # 3	0.1407	0.1407	ug/l	1.70	1800.00		2813.63	2753.61	2816.96
56 Fe # 1	18.19	18.19	ug/l	6.29	81000.00		207562.20	209250.67	211855.78
59 Co # 3	0.122	0.122	ug/l	2.22	1800.00		1423.42	1356.76	1383.42
60 Ni # 2	3.218	3.218	ug/l	3.27	1800.00		2908.03	2862.47	2789.13
63 Cu # 2	0.1428	0.1428	ug/l	6.79	1800.00		811.14	833.36	843.36
66 Zn # 3	0.3965	0.3965	ug/l	8.21	1800.00		750.03	820.04	823.37
75 As # 2	0.2338	0.2338	ug/l	13.78	100.00		44.67	54.00	55.67
78 Se # 1	0.0822	0.0822	ug/l	6.84	100.00		48.33	46.67	48.33
88 Sr # 3	54.66	54.66	ug/l	6.51	1800.00		1175630.90	1110938.90	1153120.90
95 Mo # 3	2.004	2.004	ug/l	5.67	1800.00		5404.32	5691.06	5981.18
107 Ag # 3	0.001657	0.001657	ug/l	86.54	100.00		36.67	26.67	13.33
111 Cd # 3	0.009509	0.009509	ug/l	43.08	100.00		41.61	38.18	51.42
118 Sn # 3	0.07048	0.07048	ug/l	17.64	1800.00		556.69	680.03	566.69
121 Sb # 3	0.1144	0.1144	ug/l	6.00	100.00		746.70	810.04	753.37
137 Ba # 3	16.69	16.69	ug/l	0.73	1800.00		45401.47	44896.94	45268.01
202 Hg # 3	0.002946	0.002946	ug/l	15.82	5.00		38.67	38.33	39.33
205 Tl # 3	0.04057	0.04057	ug/l	2.82	20.00		696.71	676.70	650.03
208 Pb # 3	0.002287	0.002287	ug/l	30.50	1800.00		263.34	243.34	230.01
232 Th # 3	0.1053	0.1053	ug/l	3.06	#VALUE!		2770.33	2766.99	2616.98
238 U # 3	0.1748	0.1748	ug/l	1.46	#VALUE!		4230.74	4254.08	4310.75

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	512412.84	2.22	572657.25	89.5	60 - 125		499336.41	518189.38	519712.69
45 Sc # 1	450506.22	6.51	523286.00	86.1	60 - 125		477270.06	419180.34	455068.34
45 Sc # 3	579759.31	1.03	603286.69	96.1	60 - 125		576602.13	586628.56	576047.25
74 Ge # 1	143643.59	5.61	170650.48	84.2	60 - 125		150932.08	134992.83	145005.86
74 Ge # 2	21650.75	2.41	24862.19	87.1	60 - 125		21304.71	22251.45	21396.07
74 Ge # 3	145227.16	0.36	155795.36	93.2	60 - 125		145782.25	145137.69	144761.55
89 Y # 3	975131.75	4.03	1011968.20	96.4	60 - 125		959679.75	1019812.70	945902.81
115 In # 3	900829.88	0.57	989458.81	91.0	60 - 125		905752.50	901221.00	895516.25
159 Tb # 3	1256219.40	0.89	1388283.80	90.5	60 - 125		1265135.90	1259859.60	1243662.60
209 Bi # 3	678581.13	0.82	829936.50	81.8	60 - 125		675916.69	684953.88	674872.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\230SMPL.D\230SMPL.D#
Date Acquired: Dec 28 2012 09:28 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-83568-d-2-d
Misc Info: 3005 1/5
Vial Number: 2109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0006105	0.0006105	ug/l	428.17	100.00		0.00	10.00	0.00
11 B # 3	10.67	10.67	ug/l	1.53	1800.00		28882.24	29519.90	29643.43
23 Na # 1	9623	9623	ug/l	3.89	81000.00		45336524.00	46567104.00	46382708.00
24 Mg # 1	6022	6022	ug/l	3.11	81000.00		19069822.00	19418524.00	19702424.00
27 Al # 1	1.66	1.66	ug/l	12.53	81000.00		6811.70	7705.05	6591.37
39 K # 2	342.3	342.3	ug/l	0.47	81000.00		90225.71	92543.59	94255.23
40 Ca # 1	13300	13300	ug/l	4.38	81000.00		101247220.00	101723820.00	101817640.00
45 Sc # 2	----	--------		--------	#VALUE!		33318.32	35278.56	35514.57
47 Ti # 3	0.1834	0.1834	ug/l	10.63	1620.00		153.34	170.01	183.34
51 V # 2	0.2393	0.2393	ug/l	8.75	1800.00		475.57	503.35	562.24
52 Cr # 2	0.01809	0.01809	ug/l	7.95	1800.00		131.11	127.78	133.34
55 Mn # 3	0.8241	0.8241	ug/l	3.37	1800.00		12981.54	13498.56	13058.22
56 Fe # 1	1.535	1.535	ug/l	4.67	81000.00		28439.69	28041.83	28799.73
59 Co # 3	0.3729	0.3729	ug/l	4.39	1800.00		4073.89	4340.63	4197.27
60 Ni # 2	2.198	2.198	ug/l	5.96	1800.00		2067.91	1882.34	2045.69
63 Cu # 2	0.3032	0.3032	ug/l	5.76	1800.00		1162.27	1241.16	1186.72
66 Zn # 3	0.5603	0.5603	ug/l	8.63	1800.00		1066.73	1060.06	946.72
75 As # 2	0.1935	0.1935	ug/l	10.99	100.00		45.00	40.67	48.67
78 Se # 1	0.109	0.109	ug/l	11.97	100.00		57.33	62.67	56.67
88 Sr # 3	25.93	25.93	ug/l	4.24	1800.00		537949.94	543705.50	538560.50
95 Mo # 3	1.506	1.506	ug/l	2.28	1800.00		4327.32	4290.66	4247.30
107 Ag # 3	-2.042E-006	-2.042E-006	ug/l	40343.00	100.00		20.00	6.67	10.00
111 Cd # 3	0.007813	0.007813	ug/l	70.08	100.00		35.28	35.29	51.98
118 Sn # 3	0.06446	0.06446	ug/l	12.12	1800.00		530.02	570.02	603.37
121 Sb # 3	0.2058	0.2058	ug/l	5.76	100.00		1263.42	1266.75	1183.41
137 Ba # 3	10.28	10.28	ug/l	2.48	1800.00		27779.87	27873.39	27923.70
202 Hg # 3	0.003335	0.003335	ug/l	113.43	5.00		47.00	41.00	33.33
205 Tl # 3	0.03682	0.03682	ug/l	8.99	20.00		576.69	603.36	666.70
208 Pb # 3	0.002944	0.002944	ug/l	22.50	1800.00		253.34	266.68	256.68
232 Th # 3	0.04074	0.04074	ug/l	2.43	#VALUE!		1220.08	1136.74	1210.09
238 U # 3	0.274	0.274	ug/l	4.61	#VALUE!		6628.31	6971.79	6938.45

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	522212.03	1.23	572657.25	91.2	60 - 125		519065.41	517962.50	529608.13
45 Sc # 1	468849.00	4.71	523286.00	89.6	60 - 125		450425.97	462827.31	493293.72
45 Sc # 3	577516.69	2.32	603286.69	95.7	60 - 125		589915.44	563320.31	579314.38
74 Ge # 1	149721.58	3.61	170650.48	87.7	60 - 125		145251.25	148181.56	155731.94
74 Ge # 2	21786.04	1.79	24862.19	87.6	60 - 125		21395.96	21786.41	22175.75
74 Ge # 3	145960.06	1.22	155795.36	93.7	60 - 125		147906.05	144429.48	145544.67
89 Y # 3	967317.50	3.77	1011968.20	95.6	60 - 125		1006808.50	934815.38	960328.63
115 In # 3	901220.19	2.32	989458.81	91.1	60 - 125		919802.19	878529.44	905329.06
159 Tb # 3	1254973.40	2.71	1388283.80	90.4	60 - 125		1286246.00	1218822.60	1259851.30
209 Bi # 3	695545.31	2.01	829936.50	83.8	60 - 125		708810.25	680931.44	696894.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\231SMPL.D\231SMPL.D#
Date Acquired: Dec 28 2012 09:35 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-83568-d-3-d
Misc Info: 3005 1/5
Vial Number: 2110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0001206	0.0001206	ug/l	733.66	100.00		3.33	0.00	3.33
11 B	# 3	30.3	30.3	ug/l	2.74	1800.00		71369.03	72971.72	73299.56
23 Na	# 1	8833	8833	ug/l	0.07	81000.00		40548744.00	41242680.00	41556196.00
24 Mg	# 1	7889	7889	ug/l	0.83	81000.00		24122886.00	24862112.00	25060220.00
27 Al	# 1	2.402	2.402	ug/l	2.26	81000.00		9480.61	9319.51	9742.69
39 K	# 2	116	116	ug/l	1.58	81000.00		34755.94	35053.30	35734.37
40 Ca	# 1	19400	19400	ug/l	0.77	81000.00		141472980.00	143874670.00	146747410.00
45 Sc	# 2	----	--------		--------	#VALUE!		33414.02	34618.43	35087.02
47 Ti	# 3	0.2236	0.2236	ug/l	19.83	1620.00		233.34	196.67	170.01
51 V	# 2	0.1862	0.1862	ug/l	4.93	1800.00		395.56	433.34	436.68
52 Cr	# 2	0.2457	0.2457	ug/l	0.85	1800.00		573.35	584.46	585.57
55 Mn	# 3	0.1684	0.1684	ug/l	4.67	1800.00		3047.00	3137.02	3313.73
56 Fe	# 1	4.044	4.044	ug/l	3.00	81000.00		54233.65	56558.17	54812.68
59 Co	# 3	0.0921	0.0921	ug/l	8.21	1800.00		1060.06	966.72	1086.73
60 Ni	# 2	1.828	1.828	ug/l	4.68	1800.00		1714.54	1626.75	1674.54
63 Cu	# 2	-0.02415	-0.02415	ug/l	20.53	1800.00		455.57	462.23	447.79
66 Zn	# 3	0.2574	0.2574	ug/l	22.59	1800.00		530.02	706.70	570.03
75 As	# 2	0.1969	0.1969	ug/l	7.32	100.00		41.33	47.33	46.67
78 Se	# 1	0.029	0.029	ug/l	38.00	100.00		30.67	27.00	34.67
88 Sr	# 3	37.81	37.81	ug/l	0.82	1800.00		779417.56	774332.56	777563.88
95 Mo	# 3	0.7951	0.7951	ug/l	2.71	1800.00		2196.88	2216.87	2303.56
107 Ag	# 3	0.001585	0.001585	ug/l	33.14	100.00		26.67	26.67	20.00
111 Cd	# 3	0.008741	0.008741	ug/l	55.77	100.00		49.30	35.96	39.26
118 Sn	# 3	0.04871	0.04871	ug/l	11.41	1800.00		476.69	496.69	443.35
121 Sb	# 3	0.08667	0.08667	ug/l	12.52	100.00		656.70	593.36	596.69
137 Ba	# 3	10.78	10.78	ug/l	2.19	1800.00		28364.31	28704.99	28915.36
202 Hg	# 3	0.0007313	0.0007313	ug/l	76.51	5.00		34.33	36.00	34.67
205 Tl	# 3	0.01434	0.01434	ug/l	13.41	20.00		276.68	233.34	283.35
208 Pb	# 3	-0.0002353	-0.0002353	ug/l	575.44	1800.00		210.01	193.34	160.01
232 Th	# 3	0.03043	0.03043	ug/l	5.90	#VALUE!		893.39	956.72	880.05
238 U	# 3	0.1543	0.1543	ug/l	5.12	#VALUE!		3830.59	3760.58	3683.89

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	515794.06	3.91	572657.25	90.1	60 - 125		492881.34	523507.75	530993.00
45 Sc	# 1	454954.53	1.19	523286.00	86.9	60 - 125		448990.22	456373.72	459499.56
45 Sc	# 3	568412.50	3.09	603286.69	94.2	60 - 125		548135.44	579507.00	577594.94
74 Ge	# 1	144643.61	0.97	170650.48	84.8	60 - 125		143525.36	144196.55	146208.94
74 Ge	# 2	21658.12	1.84	24862.19	87.1	60 - 125		21197.95	21904.33	21872.06
74 Ge	# 3	143117.78	2.83	155795.36	91.9	60 - 125		138694.14	146636.45	144022.75
89 Y	# 3	953762.56	0.54	1011968.20	94.2	60 - 125		947801.63	956620.06	956866.25
115 In	# 3	884744.75	2.94	989458.81	89.4	60 - 125		855103.69	903504.69	895626.00
159 Tb	# 3	1230332.10	1.72	1388283.80	88.6	60 - 125		1205867.90	1242066.30	1243062.00
209 Bi	# 3	678058.56	3.20	829936.50	81.7	60 - 125		653134.38	688215.81	692825.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\232_CCV.D\232_CCV.D#
Date Acquired: Dec 28 2012 09:43 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.03 ug/l	0.61	50.00	90 - 110		110353.54	113404.91	114211.66
11 B	98.49 ug/l	0.56	100.00	90 - 110		224718.61	230187.81	233376.30
23 Na	5014 ug/l	1.99	5000.00	90 - 110		22314632.00	23706610.00	23346396.00
24 Mg	5030 ug/l	2.97	5000.00	90 - 110		15722011.00	15171306.00	15750970.00
27 Al	509.4 ug/l	2.68	500.00	90 - 110		1828417.00	1773606.30	1831309.50
39 K	5158 ug/l	0.81	5000.00	90 - 110		1279625.40	1302434.80	1328955.00
40 Ca	5092 ug/l	1.70	5000.00	90 - 110		37170752.00	37030236.00	38047428.00
45 Sc	--------	--------	---	##### - #####		34995.80	35290.73	35808.36
47 Ti	50.58 ug/l	0.77	50.00	90 - 110		43274.10	43784.90	43921.84
51 V	49.31 ug/l	0.65	50.00	90 - 110		81599.53	82850.73	84092.81
52 Cr	48.64 ug/l	1.07	50.00	90 - 110		95864.48	96630.73	98804.98
55 Mn	504.8 ug/l	0.29	500.00	90 - 110		7622647.50	7634609.00	7662885.00
56 Fe	5051 ug/l	2.72	5000.00	90 - 110		54346412.00	57235792.00	56514432.00
59 Co	49.14 ug/l	0.50	50.00	90 - 110		545013.81	550049.50	551126.56
60 Ni	49.06 ug/l	0.61	50.00	90 - 110		41388.27	42111.01	42758.06
63 Cu	49.44 ug/l	0.90	50.00	90 - 110		110945.64	111969.66	113371.07
66 Zn	49.57 ug/l	0.41	50.00	90 - 110		67524.90	67571.19	67076.85
75 As	49.74 ug/l	0.97	50.00	90 - 110		8466.30	8622.71	8826.80
78 Se	49.61 ug/l	0.71	50.00	90 - 110		16371.02	16343.33	16257.58
88 Sr	48.71 ug/l	0.37	50.00	90 - 110		985103.13	987968.13	991307.25
95 Mo	50.62 ug/l	0.55	50.00	90 - 110		140024.16	138975.58	140571.81
107 Ag	50.88 ug/l	1.09	50.00	90 - 110		398201.13	402888.38	403703.44
111 Cd	49.95 ug/l	0.36	50.00	90 - 110		84701.03	84647.75	84282.23
118 Sn	49.36 ug/l	1.12	50.00	90 - 110		264702.88	268753.34	265906.16
121 Sb	49.17 ug/l	0.11	50.00	90 - 110		247122.39	245818.64	246273.02
137 Ba	49.55 ug/l	0.70	50.00	90 - 110		132823.84	130404.55	130434.69
202 Hg	2.315 ug/l	0.89	2.50	90 - 110		3967.83	3963.50	4032.52
205 Tl	10.05 ug/l	2.78	10.00	90 - 110		147235.66	145482.78	147826.44
208 Pb	50.21 ug/l	2.42	50.00	90 - 110		1015579.40	1005771.00	1005754.90
232 Th	47.63 ug/l	0.42	---	##### - #####		1160619.40	1167131.50	1158804.00
238 U	47.26 ug/l	0.27	---	##### - #####		1160579.60	1167637.90	1164318.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	528086.75	1.40	572657.25	92.2	60 - 125		520521.81	528464.00	535274.50
45 Sc	449585.09	1.16	523286.00	85.9	60 - 125		443726.63	453622.84	451405.84
45 Sc	573234.81	0.66	603286.69	95.0	60 - 125		572144.25	570137.94	577422.00
74 Ge	145202.59	0.37	170650.48	85.1	60 - 125		145062.97	144742.92	145801.91
74 Ge	21784.93	1.69	24862.19	87.6	60 - 125		21363.68	21949.97	22041.14
74 Ge	145511.59	0.16	155795.36	93.4	60 - 125		145300.53	145749.80	145484.47
89 Y	941287.38	0.28	1011968.20	93.0	60 - 125		942253.31	938276.75	943332.25
115 In	881117.81	0.37	989458.81	89.1	60 - 125		884798.13	878513.94	880041.31
159 Tb	1191140.90	3.02	1388283.80	85.8	60 - 125		1232459.30	1167227.30	1173736.00
209 Bi	686307.25	0.10	829936.50	82.7	60 - 125		685654.50	686247.06	687020.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\233_CCB.D\233_CCB.D#
Date Acquired: Dec 28 2012 09:50 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02178	0.02178	ug/l	37.65	#VALUE!		70.00	53.33	33.33
11 B # 3	1.125	1.125	ug/l	4.97	#VALUE!		7931.81	8315.30	8255.29
23 Na # 1	-10.08	-10.08	ug/l	1.09	#VALUE!		84123.14	85013.96	85797.27
24 Mg # 1	1.453	1.453	ug/l	2.94	#VALUE!		5150.82	4894.10	5110.82
27 Al # 1	0.2463	0.2463	ug/l	9.98	#VALUE!		1793.47	1640.11	1823.47
39 K # 2	1.552	1.552	ug/l	69.52	#VALUE!		6417.94	6878.14	6944.80
40 Ca # 1	3.944	3.944	ug/l	4.10	#VALUE!		128058.54	128111.65	128708.80
45 Sc # 2	----	--------		--------	#VALUE!		33873.74	34058.53	35583.52
47 Ti # 3	0.04795	0.04795	ug/l	46.07	#VALUE!		40.00	40.00	73.34
51 V # 2	0.03699	0.03699	ug/l	25.51	#VALUE!		182.23	188.89	161.11
52 Cr # 2	0.007796	0.007796	ug/l	51.83	#VALUE!		104.45	120.00	113.33
55 Mn # 3	0.1622	0.1622	ug/l	18.42	#VALUE!		3690.46	2906.97	2846.97
56 Fe # 1	1.339	1.339	ug/l	4.25	#VALUE!		25498.01	26499.45	25654.99
59 Co # 3	0.01517	0.01517	ug/l	25.56	#VALUE!		250.01	170.01	176.67
60 Ni # 2	-0.08537	-0.08537	ug/l	12.36	#VALUE!		36.67	47.78	55.56
63 Cu # 2	-0.1917	-0.1917	ug/l	0.99	#VALUE!		85.56	81.11	77.78
66 Zn # 3	0.06511	0.06511	ug/l	27.74	#VALUE!		356.68	380.02	323.34
75 As # 2	0.02822	0.02822	ug/l	11.06	#VALUE!		16.67	15.67	17.00
78 Se # 1	0.04561	0.04561	ug/l	21.77	#VALUE!		34.67	40.67	35.67
88 Sr # 3	0.0157	0.0157	ug/l	23.34	#VALUE!		473.35	330.01	363.35
95 Mo # 3	0.08929	0.08929	ug/l	13.75	#VALUE!		320.01	253.34	296.68
107 Ag # 3	0.01623	0.01623	ug/l	15.71	#VALUE!		156.67	156.67	120.00
111 Cd # 3	0.01729	0.01729	ug/l	75.65	#VALUE!		83.23	39.92	49.91
118 Sn # 3	0.04836	0.04836	ug/l	8.60	#VALUE!		490.02	460.02	500.02
121 Sb # 3	0.35	0.35	ug/l	8.91	#VALUE!		2166.87	1963.51	1850.15
137 Ba # 3	0.01678	0.01678	ug/l	36.40	#VALUE!		53.33	50.00	80.00
202 Hg # 3	0.02155	0.02155	ug/l	8.96	#VALUE!		72.67	72.33	78.33
205 Tl # 3	0.007485	0.007485	ug/l	19.95	#VALUE!		180.01	146.67	143.34
208 Pb # 3	0.01652	0.01652	ug/l	16.28	#VALUE!		576.69	476.68	510.02
232 Th # 3	0.09318	0.09318	ug/l	3.55	#VALUE!		2663.65	2553.61	2496.94
238 U # 3	0.01545	0.01545	ug/l	12.46	#VALUE!		433.35	440.02	350.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	541404.69	1.09	572657.25	94.5	60 - 125		534821.50	543114.13	546278.44
45 Sc # 1	452769.44	1.22	523286.00	86.5	60 - 125		449282.84	449898.59	459126.84
45 Sc # 3	575559.00	0.64	603286.69	95.4	60 - 125		571449.38	578501.38	576726.31
74 Ge # 1	147859.95	0.94	170650.48	86.6	60 - 125		146887.81	147241.83	149450.23
74 Ge # 2	22258.84	0.99	24862.19	89.5	60 - 125		22220.30	22061.17	22495.06
74 Ge # 3	146516.91	1.16	155795.36	94.0	60 - 125		147231.13	147749.02	144570.61
89 Y # 3	954248.19	0.88	1011968.20	94.3	60 - 125		955030.63	962188.50	945525.50
115 In # 3	908831.75	0.49	989458.81	91.9	60 - 125		907071.13	913920.06	905503.94
159 Tb # 3	1196725.80	1.36	1388283.80	86.2	60 - 125		1184521.00	1190429.90	1215226.40
209 Bi # 3	719640.38	0.15	829936.50	86.7	60 - 125		719294.25	720865.75	718761.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\234SMPL.D\234SMPL.D#
Date Acquired: Dec 28 2012 09:58 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86061-c-4-d
Misc Info: 3005 1/5
Vial Number: 2111
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02161	0.02161	ug/l	41.77	100.00		46.67	30.00	70.00
11 B # 3	47.18	47.18	ug/l	2.51	1800.00		106214.99	110633.33	109291.09
23 Na # 1	94790	94790	ug/l	1.33	81000.00		419524190.00	417879200.00	422078180.00
24 Mg # 1	7535	7535	ug/l	1.41	81000.00		21799786.00	22704360.00	22999712.00
27 Al # 1	423.6	423.6	ug/l	3.54	81000.00		1384822.10	1506812.50	1474078.90
39 K # 2	453	453	ug/l	1.00	81000.00		112849.30	115246.74	115131.94
40 Ca # 1	10640	10640	ug/l	0.56	81000.00		74518480.00	75598328.00	76207656.00
45 Sc # 2	----	--------		--------	#VALUE!		33673.37	33730.13	34952.44
47 Ti # 3	10.91	10.91	ug/l	24.55	1620.00		7216.01	8933.82	11963.13
51 V # 2	3.928	3.928	ug/l	2.66	1800.00		6083.26	6447.82	6625.67
52 Cr # 2	0.5879	0.5879	ug/l	1.86	1800.00		1177.83	1191.16	1251.17
55 Mn # 3	10.54	10.54	ug/l	2.17	1800.00		153668.09	153008.28	153507.02
56 Fe # 1	482.7	482.7	ug/l	1.84	81000.00		5060155.00	5022892.50	5014243.50
59 Co # 3	0.7545	0.7545	ug/l	4.54	1800.00		8335.43	8028.61	7915.25
60 Ni # 2	4.07	4.07	ug/l	1.66	1800.00		3428.13	3391.45	3463.69
63 Cu # 2	5.036	5.036	ug/l	0.43	1800.00		11150.10	11271.29	11513.65
66 Zn # 3	2.917	2.917	ug/l	5.40	1800.00		4177.26	3957.21	3963.87
75 As # 2	2.167	2.167	ug/l	1.77	100.00		362.34	375.00	368.34
78 Se # 1	0.4063	0.4063	ug/l	7.94	100.00		138.33	139.67	158.00
88 Sr # 3	16.76	16.76	ug/l	0.91	1800.00		342738.75	340831.78	342063.84
95 Mo # 3	14.78	14.78	ug/l	2.93	1800.00		39354.17	39000.15	39093.74
107 Ag # 3	0.01703	0.01703	ug/l	13.99	100.00		156.67	133.34	130.00
111 Cd # 3	0.04359	0.04359	ug/l	29.89	100.00		97.41	117.52	74.16
118 Sn # 3	0.08974	0.08974	ug/l	3.25	1800.00		646.70	660.04	683.37
121 Sb # 3	0.3503	0.3503	ug/l	2.63	100.00		1816.82	1926.83	1820.15
137 Ba # 3	2.918	2.918	ug/l	1.52	1800.00		7301.84	7435.22	7531.95
202 Hg # 3	0.01794	0.01794	ug/l	25.13	5.00		65.33	56.67	54.00
205 Tl # 3	0.02156	0.02156	ug/l	7.95	20.00		363.35	373.35	320.01
208 Pb # 3	0.2606	0.2606	ug/l	2.34	1800.00		5420.55	5350.63	5070.49
232 Th # 3	0.2011	0.2011	ug/l	3.62	#VALUE!		4554.23	4504.16	4766.45
238 U # 3	0.5687	0.5687	ug/l	3.27	#VALUE!		12799.14	12452.09	12842.55

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	509670.25	4.29	572657.25	89.0	60 - 125		484443.84	523310.56	521256.34
45 Sc # 1	434223.53	1.60	523286.00	83.0	60 - 125		427583.66	433613.31	441473.59
45 Sc # 3	568843.94	2.29	603286.69	94.3	60 - 125		554298.94	579390.25	572842.69
74 Ge # 1	136219.63	1.34	170650.48	79.8	60 - 125		134115.95	137221.22	137321.70
74 Ge # 2	20744.07	1.77	24862.19	83.4	60 - 125		20369.21	20760.75	21102.26
74 Ge # 3	139387.27	1.95	155795.36	89.5	60 - 125		136358.56	141596.91	140206.34
89 Y # 3	946270.38	0.63	1011968.20	93.5	60 - 125		941141.75	952774.75	944894.44
115 In # 3	844872.25	2.43	989458.81	85.4	60 - 125		821766.94	861003.19	851846.56
159 Tb # 3	1159224.90	1.27	1388283.80	83.5	60 - 125		1169856.10	1165337.40	1142481.10
209 Bi # 3	621932.50	1.90	829936.50	74.9	60 - 125		608996.81	632088.94	624711.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\235SMPL.D\235SMPL.D#
Date Acquired: Dec 28 2012 10:05 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86061-c-5-d
Misc Info: 3005 1/5
Vial Number: 2112
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00123	0.00123	ug/l	150.00	100.00		0.00	6.67	6.67
11 B	# 3	36.18	36.18	ug/l	2.89	1800.00		80085.56	81310.56	81182.77
23 Na	# 1	----	--------	ug/l	--------	81000.00		--------	--------	--------
24 Mg	# 1	39.53	39.53	ug/l	1.32	81000.00		109566.80	109980.10	111461.16
27 Al	# 1	9.206	9.206	ug/l	13.77	81000.00		25901.41	33988.12	30725.19
39 K	# 2	3211	3211	ug/l	1.62	81000.00		622435.00	638193.00	645975.56
40 Ca	# 1	227.7	227.7	ug/l	1.52	81000.00		1565767.50	1594704.30	1607257.30
45 Sc	# 2	----	--------		--------	#VALUE!		31599.79	31958.15	33099.07
47 Ti	# 3	1.484	1.484	ug/l	4.50	1620.00		1240.08	1206.75	1203.43
51 V	# 2	31.27	31.27	ug/l	1.71	1800.00		40159.57	41340.99	41681.80
52 Cr	# 2	0.1304	0.1304	ug/l	8.56	1800.00		258.89	276.67	295.56
55 Mn	# 3	0.5539	0.5539	ug/l	2.01	1800.00		6884.81	6628.04	6774.75
56 Fe	# 1	8.441	8.441	ug/l	0.79	81000.00		76618.59	75582.23	77823.53
59 Co	# 3	0.7286	0.7286	ug/l	4.29	1800.00		6137.87	6204.54	5944.46
60 Ni	# 2	11.88	11.88	ug/l	2.58	1800.00		7776.13	8138.52	8178.53
63 Cu	# 2	5.872	5.872	ug/l	1.17	1800.00		10626.47	10686.49	10932.19
66 Zn	# 3	0.9906	0.9906	ug/l	11.67	1800.00		1150.07	1303.42	1136.74
75 As	# 2	58.46	58.46	ug/l	0.69	100.00		7845.02	7948.07	7982.42
78 Se	# 1	3.383	3.383	ug/l	1.65	100.00		841.02	824.69	835.69
88 Sr	# 3	1.765	1.765	ug/l	4.04	1800.00		29090.90	29174.26	28616.76
95 Mo	# 3	125.2	125.2	ug/l	4.56	1800.00		249734.84	249782.59	244160.20
107 Ag	# 3	0.005185	0.005185	ug/l	16.91	100.00		40.00	40.00	33.33
111 Cd	# 3	0.07187	0.07187	ug/l	19.33	100.00		90.09	120.08	108.54
118 Sn	# 3	0.2272	0.2272	ug/l	15.11	1800.00		1173.41	893.39	1020.06
121 Sb	# 3	1.317	1.317	ug/l	6.84	100.00		4997.54	4914.17	4647.43
137 Ba	# 3	4.84	4.84	ug/l	5.45	1800.00		9639.67	8975.95	8985.97
202 Hg	# 3	0.03766	0.03766	ug/l	11.02	5.00		65.33	54.67	62.33
205 Tl	# 3	0.01915	0.01915	ug/l	21.49	20.00		246.68	276.68	203.34
208 Pb	# 3	0.171	0.171	ug/l	4.89	1800.00		2836.85	2503.49	2760.19
232 Th	# 3	0.09713	0.09713	ug/l	4.05	#VALUE!		1606.81	1553.47	1550.13
238 U	# 3	8.732	8.732	ug/l	4.10	#VALUE!		134447.06	132537.19	130510.13

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	487195.78	2.83	572657.25	85.1	60 - 125		481489.41	477176.50	502921.41
45 Sc	# 1	404289.28	2.22	523286.00	77.3	60 - 125		398486.44	399773.28	414608.22
45 Sc	# 3	541006.88	3.82	603286.69	89.7	60 - 125		536587.94	522885.00	563547.69
74 Ge	# 1	106860.74	1.49	170650.48	62.6	60 - 125		105938.86	105941.98	108701.39
74 Ge	# 2	17008.74	0.39	24862.19	68.4	60 - 125		16969.08	16972.40	17084.75
74 Ge	# 3	108710.06	2.12	155795.36	69.8	60 - 125		108699.26	106412.80	111018.13
89 Y	# 3	760906.63	3.05	1011968.20	75.2	60 - 125		758244.75	739113.44	785361.63
115 In	# 3	632224.19	3.39	989458.81	63.9	60 - 125		629930.19	612047.31	654695.19
159 Tb	# 3	887287.50	3.32	1388283.80	63.9	60 - 125		887597.38	857660.19	916605.00
209 Bi	# 3	423103.00	3.21	829936.50	51.0	60 - 125	IS F	423687.91	409244.72	436376.41

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\236SMPL.D\236SMPL.D#
Date Acquired: Dec 28 2012 10:13 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86055-b-1-b
Misc Info: 3005 1/5
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.005961	0.005961	ug/l	82.03	100.00		3.33	26.67	20.00
11 B	# 3	186.2	186.2	ug/l	1.90	1800.00		449895.94	459868.00	459348.75
23 Na	# 1	206700	206700	ug/l	0.71	81000.00		1036922900.00	1062495900.00	1062757800.00
24 Mg	# 1	54660	54660	ug/l	0.85	81000.00		185266500.00	188116480.00	190358940.00
27 Al	# 1	15.55	15.55	ug/l	0.65	81000.00		61495.72	62786.50	63007.66
39 K	# 2	19370	19370	ug/l	0.55	81000.00		4671171.00	4736779.00	4800916.00
40 Ca	# 1	22760	22760	ug/l	0.25	81000.00		183959890.00	186179860.00	186781680.00
45 Sc	# 2	----	--------		--------	#VALUE!		36871.54	37266.82	37918.01
47 Ti	# 3	6.689	6.689	ug/l	1.82	1620.00		6047.80	6281.22	6117.81
51 V	# 2	8.715	8.715	ug/l	1.14	1800.00		14122.08	14386.73	14402.29
52 Cr	# 2	7.108	7.108	ug/l	1.48	1800.00		13526.08	13990.89	14043.12
55 Mn	# 3	51.93	51.93	ug/l	0.65	1800.00		733145.38	740325.06	736969.75
56 Fe	# 1	1136	1136	ug/l	0.63	81000.00		12277846.00	12337056.00	12471329.00
59 Co	# 3	1.932	1.932	ug/l	1.76	1800.00		20178.14	20678.65	19871.26
60 Ni	# 2	9.358	9.358	ug/l	1.27	1800.00		7859.51	7725.01	8076.26
63 Cu	# 2	1.967	1.967	ug/l	2.67	1800.00		4663.96	4906.25	4850.69
66 Zn	# 3	1.368	1.368	ug/l	2.97	1800.00		1903.49	2006.84	2033.50
75 As	# 2	1.242	1.242	ug/l	4.65	100.00		219.67	208.00	232.34
78 Se	# 1	0.1086	0.1086	ug/l	5.52	100.00		56.00	54.00	57.67
88 Sr	# 3	240.3	240.3	ug/l	2.99	1800.00		4752258.50	4725917.00	4738101.00
95 Mo	# 3	1.531	1.531	ug/l	2.80	1800.00		3863.86	3820.52	3817.20
107 Ag	# 3	0.02653	0.02653	ug/l	7.37	100.00		210.01	193.34	193.34
111 Cd	# 3	0.01416	0.01416	ug/l	74.08	100.00		58.77	48.78	28.78
118 Sn	# 3	0.2279	0.2279	ug/l	8.00	1800.00		1353.43	1303.42	1220.07
121 Sb	# 3	0.1956	0.1956	ug/l	3.07	100.00		1003.39	1043.40	1083.40
137 Ba	# 3	12.59	12.59	ug/l	2.34	1800.00		30094.02	30147.38	29783.57
202 Hg	# 3	0.01893	0.01893	ug/l	5.18	5.00		50.67	54.00	55.00
205 Tl	# 3	0.004166	0.004166	ug/l	13.39	20.00		90.00	93.34	106.67
208 Pb	# 3	0.1486	0.1486	ug/l	1.10	1800.00		2783.51	2906.86	2860.19
232 Th	# 3	0.03767	0.03767	ug/l	14.93	#VALUE!		983.40	826.72	820.05
238 U	# 3	0.4351	0.4351	ug/l	3.14	#VALUE!		8679.35	8422.54	8626.10

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	562100.81	3.07	572657.25	98.2	60 - 125		542201.38	571319.88	572781.31
45 Sc	# 1	499954.38	0.71	523286.00	95.5	60 - 125		495862.00	502410.19	501590.94
45 Sc	# 3	609791.88	2.66	603286.69	101.1	60 - 125		591032.13	619169.00	619174.50
74 Ge	# 1	142301.58	0.83	170650.48	83.4	60 - 125		140947.92	143039.63	142917.20
74 Ge	# 2	21147.89	1.53	24862.19	85.1	60 - 125		20908.73	21017.71	21517.22
74 Ge	# 3	136318.92	1.13	155795.36	87.5	60 - 125		134661.77	137716.64	136578.33
89 Y	# 3	915605.50	2.68	1011968.20	90.5	60 - 125		887294.25	931502.50	928020.00
115 In	# 3	792792.19	2.08	989458.81	80.1	60 - 125		774024.88	804983.94	799367.69
159 Tb	# 3	1069473.30	2.38	1388283.80	77.0	60 - 125		1040166.30	1082351.40	1085901.90
209 Bi	# 3	548848.06	1.84	829936.50	66.1	60 - 125		537189.88	554613.94	554740.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\237_CCV.D\237_CCV.D#
Date Acquired: Dec 28 2012 10:20 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.31 ug/l	0.52	50.00	90 - 110		117779.22	119510.20	120357.66
11 B	99.97 ug/l	0.83	100.00	90 - 110		241146.50	248007.75	245795.78
23 Na	5237 ug/l	1.03	5000.00	90 - 110		25288282.00	25212442.00	25000880.00
24 Mg	5085 ug/l	1.32	5000.00	90 - 110		16257140.00	16238333.00	16672896.00
27 Al	519 ug/l	0.52	500.00	90 - 110		1906510.80	1924707.60	1941739.80
39 K	5192 ug/l	1.11	5000.00	90 - 110		1315971.30	1348524.10	1360078.50
40 Ca	5160 ug/l	0.27	5000.00	90 - 110		39379256.00	39523020.00	39682912.00
45 Sc	--------	--------	---	##### - #####		35717.13	36783.60	36997.36
47 Ti	50.76 ug/l	0.27	50.00	90 - 110		45238.65	45362.16	45482.28
51 V	49.62 ug/l	1.42	50.00	90 - 110		83733.28	85100.79	86855.14
52 Cr	49.04 ug/l	1.07	50.00	90 - 110		98113.71	100776.44	101313.97
55 Mn	513.8 ug/l	0.39	500.00	90 - 110		7925988.00	7901470.00	7903169.00
56 Fe	4991 ug/l	0.18	5000.00	90 - 110		57702144.00	57363560.00	57351244.00
59 Co	49.94 ug/l	0.82	50.00	90 - 110		564195.06	570246.94	567511.06
60 Ni	49.47 ug/l	1.28	50.00	90 - 110		42819.44	43209.16	44134.55
63 Cu	49.45 ug/l	0.22	50.00	90 - 110		113766.89	114945.09	115128.53
66 Zn	50.12 ug/l	0.46	50.00	90 - 110		69953.61	69247.71	68732.10
75 As	49.89 ug/l	0.79	50.00	90 - 110		8745.44	8864.49	8961.54
78 Se	48.93 ug/l	0.74	50.00	90 - 110		16795.40	16565.85	16782.04
88 Sr	49.21 ug/l	0.56	50.00	90 - 110		1003533.20	1012149.10	1002415.20
95 Mo	51.44 ug/l	0.10	50.00	90 - 110		141079.83	141379.02	140058.39
107 Ag	51.46 ug/l	0.35	50.00	90 - 110		402191.53	405141.16	400575.97
111 Cd	49.8 ug/l	1.10	50.00	90 - 110		83042.98	83518.46	84054.55
118 Sn	50 ug/l	0.59	50.00	90 - 110		266698.69	269985.09	265974.31
121 Sb	49.74 ug/l	0.56	50.00	90 - 110		246290.67	248117.66	246793.80
137 Ba	49.76 ug/l	0.76	50.00	90 - 110		130004.88	131002.70	130803.70
202 Hg	2.29 ug/l	0.85	2.50	90 - 110		3853.47	3826.13	3865.81
205 Tl	10.24 ug/l	0.52	10.00	90 - 110		143994.23	144518.09	141463.89
208 Pb	51.12 ug/l	0.71	50.00	90 - 110		981738.81	985885.06	984952.50
232 Th	47.61 ug/l	0.37	---	##### - #####		1127421.90	1134348.40	1137458.10
238 U	47.33 ug/l	0.63	---	##### - #####		1133534.10	1134316.10	1143748.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	555781.56	1.60	572657.25	97.1	60 - 125		545757.69	558898.31	562688.56
45 Sc	468736.78	0.51	523286.00	89.6	60 - 125		465965.13	470059.81	470185.41
45 Sc	593535.88	0.27	603286.69	98.4	60 - 125		593536.88	591924.38	595146.38
74 Ge	150724.28	0.18	170650.48	88.3	60 - 125		151022.88	150656.70	150493.27
74 Ge	22269.95	0.71	24862.19	89.6	60 - 125		22090.08	22389.38	22330.40
74 Ge	148031.22	0.48	155795.36	95.0	60 - 125		148615.67	148243.16	147234.81
89 Y	948609.38	0.41	1011968.20	93.7	60 - 125		944104.13	950414.38	951309.56
115 In	873286.00	0.54	989458.81	88.3	60 - 125		875743.75	876227.69	867886.44
159 Tb	1140699.00	0.71	1388283.80	82.2	60 - 125		1140958.10	1148704.10	1132434.80
209 Bi	669387.56	0.38	829936.50	80.7	60 - 125		666992.50	672030.19	669139.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\238_CCB.D\238_CCB.D#
Date Acquired: Dec 28 2012 10:28 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 27 2012 06:55 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02148	0.02148	ug/l	13.64	#VALUE!		60.00	43.33	46.67
11 B	# 3	1.976	1.976	ug/l	26.97	#VALUE!		9779.38	9682.62	9759.38
23 Na	# 1	12.74	12.74	ug/l	9.77	#VALUE!		179441.09	190389.06	188893.67
24 Mg	# 1	2.07	2.07	ug/l	6.15	#VALUE!		7171.70	6798.08	6491.28
27 Al	# 1	0.2886	0.2886	ug/l	9.29	#VALUE!		1753.46	1936.82	1896.81
39 K	# 2	2.986	2.986	ug/l	19.15	#VALUE!		6798.07	7081.54	7284.95
40 Ca	# 1	4.822	4.822	ug/l	0.49	#VALUE!		131098.50	131330.95	133115.78
45 Sc	# 2	----	--------		--------	#VALUE!		33852.66	34252.19	34804.34
47 Ti	# 3	0.05839	0.05839	ug/l	28.41	#VALUE!		53.34	60.00	53.34
51 V	# 2	0.02038	0.02038	ug/l	62.76	#VALUE!		123.33	166.67	153.34
52 Cr	# 2	0.003576	0.003576	ug/l	237.00	#VALUE!		91.11	93.33	125.56
55 Mn	# 3	0.1871	0.1871	ug/l	21.01	#VALUE!		3540.44	3327.05	3003.66
56 Fe	# 1	1.518	1.518	ug/l	3.28	#VALUE!		26696.52	27874.77	27244.01
59 Co	# 3	0.01325	0.01325	ug/l	29.94	#VALUE!		183.34	176.67	133.34
60 Ni	# 2	-0.04609	-0.04609	ug/l	22.87	#VALUE!		70.00	80.00	91.11
63 Cu	# 2	-0.1849	-0.1849	ug/l	1.91	#VALUE!		103.33	87.78	97.78
66 Zn	# 3	0.06912	0.06912	ug/l	63.11	#VALUE!		350.01	340.01	313.35
75 As	# 2	0.03491	0.03491	ug/l	42.60	#VALUE!		17.67	19.67	15.00
78 Se	# 1	0.04884	0.04884	ug/l	5.35	#VALUE!		37.00	36.33	38.33
88 Sr	# 3	0.01977	0.01977	ug/l	8.58	#VALUE!		506.69	376.68	433.35
95 Mo	# 3	0.1113	0.1113	ug/l	19.68	#VALUE!		326.68	323.35	303.34
107 Ag	# 3	0.01615	0.01615	ug/l	25.43	#VALUE!		180.01	106.67	110.00
111 Cd	# 3	0.01275	0.01275	ug/l	22.07	#VALUE!		53.23	39.90	43.24
118 Sn	# 3	0.06613	0.06613	ug/l	13.81	#VALUE!		610.03	470.02	513.36
121 Sb	# 3	0.4224	0.4224	ug/l	17.00	#VALUE!		2156.86	2130.19	2120.20
137 Ba	# 3	0.02101	0.02101	ug/l	29.28	#VALUE!		76.67	66.67	53.33
202 Hg	# 3	0.02814	0.02814	ug/l	17.21	#VALUE!		81.67	74.00	77.67
205 Tl	# 3	0.005932	0.005932	ug/l	29.60	#VALUE!		106.67	106.67	150.01
208 Pb	# 3	0.01722	0.01722	ug/l	11.51	#VALUE!		533.36	436.68	483.35
232 Th	# 3	0.1072	0.1072	ug/l	16.09	#VALUE!		2787.00	2626.99	2480.28
238 U	# 3	0.01873	0.01873	ug/l	12.89	#VALUE!		476.69	430.02	423.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	524599.13	11.91	572657.25	91.6	60 - 125		557105.31	452544.25	564147.69
45 Sc	# 1	442909.28	0.84	523286.00	84.6	60 - 125		440929.78	440575.81	447222.28
45 Sc	# 3	544867.94	15.07	603286.69	90.3	60 - 125		594525.31	450115.81	589962.63
74 Ge	# 1	144495.55	0.65	170650.48	84.7	60 - 125		143616.27	144383.47	145486.91
74 Ge	# 2	22066.00	1.91	24862.19	88.8	60 - 125		21784.20	21862.05	22551.76
74 Ge	# 3	138574.88	13.26	155795.36	88.9	60 - 125		149737.42	117356.53	148630.66
89 Y	# 3	887587.38	14.32	1011968.20	87.7	60 - 125		967411.00	741068.56	954282.69
115 In	# 3	832528.00	14.64	989458.81	84.1	60 - 125		914701.88	692475.25	890406.94
159 Tb	# 3	1090129.60	15.12	1388283.80	78.5	60 - 125		1211751.10	902591.13	1156046.90
209 Bi	# 3	654562.19	13.30	829936.50	78.9	60 - 125		708470.63	554131.44	701084.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\241_CCV.D\241_CCV.D#
Date Acquired: Dec 31 2012 10:26 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.52 ug/l	2.38	50.00	90 - 110		124446.88	126573.67	126332.17
11 B	88.32 ug/l	1.33	100.00	90 - 110	Fail	252317.55	250935.00	256203.95
23 Na	4967 ug/l	3.63	5000.00	90 - 110		20859514.00	20977062.00	21318850.00
24 Mg	5045 ug/l	3.58	5000.00	90 - 110		14150006.00	14247996.00	14442043.00
27 Al	530.6 ug/l	3.39	500.00	90 - 110		1701500.40	1717894.40	1744494.80
39 K	5082 ug/l	1.73	5000.00	90 - 110		1335302.00	1369488.10	1371714.10
40 Ca	5204 ug/l	3.21	5000.00	90 - 110		34195028.00	34997364.00	34771536.00
45 Sc	--------	--------		--- ##### - #####		38108.58	39220.74	39168.43
47 Ti	51.99 ug/l	1.38	50.00	90 - 110		48346.53	48984.66	49198.77
51 V	47.01 ug/l	1.80	50.00	90 - 110		82798.07	83904.13	85128.49
52 Cr	46.21 ug/l	1.61	50.00	90 - 110		96399.49	97698.24	98765.02
55 Mn	505.5 ug/l	0.33	500.00	90 - 110		7986905.00	7934553.00	7946303.00
56 Fe	4841 ug/l	2.98	5000.00	90 - 110		47978780.00	48352976.00	49039232.00
59 Co	52.77 ug/l	0.08	50.00	90 - 110		595403.88	589629.94	588911.00
60 Ni	44.4 ug/l	1.73	50.00	90 - 110	Fail	40165.67	40987.47	41274.73
63 Cu	43.9 ug/l	1.48	50.00	90 - 110	Fail	106422.55	106874.81	108389.41
66 Zn	50.83 ug/l	0.30	50.00	90 - 110		71265.06	70786.67	70167.98
75 As	49.46 ug/l	1.48	50.00	90 - 110		8861.16	9128.95	9017.90
78 Se	47.2 ug/l	2.96	50.00	90 - 110		13706.16	13805.57	14049.76
88 Sr	49.91 ug/l	1.11	50.00	90 - 110		974371.63	978176.56	978243.75
95 Mo	53.58 ug/l	1.14	50.00	90 - 110		138755.19	136850.03	139476.94
107 Ag	52.83 ug/l	0.35	50.00	90 - 110		393894.06	389952.03	391392.06
111 Cd	50.31 ug/l	1.01	50.00	90 - 110		79055.06	79430.81	79593.83
118 Sn	50.93 ug/l	0.63	50.00	90 - 110		255513.06	252370.59	254777.59
121 Sb	50.82 ug/l	0.67	50.00	90 - 110		243320.41	244034.03	241285.13
137 Ba	51.73 ug/l	0.35	50.00	90 - 110		127302.50	126871.73	126323.03
202 Hg	2.386 ug/l	1.55	2.50	90 - 110		4189.56	4047.85	4120.54
205 Tl	10.82 ug/l	0.72	10.00	90 - 110		140530.61	139308.89	140899.58
208 Pb	54.36 ug/l	0.37	50.00	90 - 110		973477.50	967498.13	967893.44
232 Th	48.37 ug/l	1.15		--- ##### - #####		1100184.00	1105383.10	1114795.60
238 U	47.95 ug/l	1.30		--- ##### - #####		1117524.40	1104308.30	1126973.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	639923.31	1.64	572657.25	111.7	60 - 125		647150.75	627907.94	644711.25
45 Sc	434431.84	4.24	523286.00	83.0	60 - 125		413165.53	444532.84	445597.22
45 Sc	662615.06	0.50	603286.69	109.8	60 - 125		666395.63	660220.75	661228.88
74 Ge	138402.72	3.68	170650.48	81.1	60 - 125		132522.22	141384.77	141301.20
74 Ge	24494.69	0.52	24862.19	98.5	60 - 125		24527.71	24603.34	24353.00
74 Ge	159304.05	0.60	155795.36	102.3	60 - 125		160379.20	158994.95	158537.98
89 Y	959168.94	0.89	1011968.20	94.8	60 - 125		968896.00	952876.25	955734.44
115 In	875067.56	0.66	989458.81	88.4	60 - 125		881676.63	872766.56	870759.38
159 Tb	1145229.00	0.72	1388283.80	82.5	60 - 125		1154629.10	1139608.10	1141449.60
209 Bi	688823.19	0.48	829936.50	83.0	60 - 125		692137.56	688859.25	685472.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\242_CCB.D\242_CCB.D#
Date Acquired: Dec 31 2012 10:33 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.002651	-0.002651	ug/l	28.30	#VALUE!		3.33	0.00	3.33
11 B # 3	0.6245	0.6245	ug/l	19.47	#VALUE!		9209.11	9245.78	9032.32
23 Na # 1	-7.253	-7.253	ug/l	32.61	#VALUE!		152458.25	147318.72	144826.34
24 Mg # 1	-1.685	-1.685	ug/l	13.34	#VALUE!		2976.98	2183.52	1513.43
27 Al # 1	-0.3708	-0.3708	ug/l	12.63	#VALUE!		1136.73	1043.39	840.05
39 K # 2	-3.183	-3.183	ug/l	29.96	#VALUE!		6618.00	6864.79	6981.50
40 Ca # 1	-0.5928	-0.5928	ug/l	260.46	#VALUE!		113094.45	115453.52	114404.06
45 Sc # 2	----	--------		--------	#VALUE!		35107.94	39277.36	38456.08
47 Ti # 3	0.005327	0.005327	ug/l	248.92	#VALUE!		56.67	46.67	73.34
51 V # 2	-0.005838	-0.005838	ug/l	187.05	#VALUE!		137.78	156.67	191.11
52 Cr # 2	0.003974	0.003974	ug/l	423.75	#VALUE!		198.89	165.56	154.45
55 Mn # 3	-0.02874	-0.02874	ug/l	19.90	#VALUE!		1956.83	1870.14	2116.85
56 Fe # 1	-0.5231	-0.5231	ug/l	27.59	#VALUE!		18422.93	16567.89	15606.96
59 Co # 3	0.03158	0.03158	ug/l	5.38	#VALUE!		503.36	450.02	490.02
60 Ni # 2	-0.3358	-0.3358	ug/l	0.83	#VALUE!		10.00	6.67	6.67
63 Cu # 2	-1.184	-1.184	ug/l	0.11	#VALUE!		53.33	55.56	53.33
66 Zn # 3	-0.2091	-0.2091	ug/l	7.89	#VALUE!		340.01	296.68	353.35
75 As # 2	0.03128	0.03128	ug/l	8.17	#VALUE!		20.00	23.00	22.67
78 Se # 1	0.03972	0.03972	ug/l	30.04	#VALUE!		31.67	33.33	33.33
88 Sr # 3	-0.01739	-0.01739	ug/l	1.11	#VALUE!		70.00	63.34	73.34
95 Mo # 3	0.06469	0.06469	ug/l	13.16	#VALUE!		250.01	243.34	213.34
107 Ag # 3	-0.0003698	-0.0003698	ug/l	310.98	#VALUE!		100.00	80.00	93.34
111 Cd # 3	0.006578	0.006578	ug/l	68.59	#VALUE!		43.25	36.59	53.27
118 Sn # 3	0.01469	0.01469	ug/l	47.11	#VALUE!		443.35	460.02	406.68
121 Sb # 3	0.3071	0.3071	ug/l	11.85	#VALUE!		1946.83	1686.80	1610.13
137 Ba # 3	-0.01409	-0.01409	ug/l	24.06	#VALUE!		13.33	30.00	23.33
202 Hg # 3	0.02308	0.02308	ug/l	17.47	#VALUE!		56.00	69.00	64.00
205 Tl # 3	0.007551	0.007551	ug/l	37.84	#VALUE!		193.34	256.68	200.01
208 Pb # 3	0.008232	0.008232	ug/l	21.31	#VALUE!		586.69	603.36	550.02
232 Th # 3	0.1288	0.1288	ug/l	4.50	#VALUE!		3610.52	3727.24	3610.54
238 U # 3	-0.001048	-0.001048	ug/l	103.44	#VALUE!		186.67	163.34	136.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	649821.69	2.65	572657.25	113.5	60 - 125		654997.81	630641.56	663825.63
45 Sc # 1	436421.63	7.91	523286.00	83.4	60 - 125		470627.41	401623.56	437013.88
45 Sc # 3	660030.31	1.96	603286.69	109.4	60 - 125		663446.75	645729.94	670914.31
74 Ge # 1	139479.02	8.18	170650.48	81.7	60 - 125		149399.09	127012.55	142025.41
74 Ge # 2	24046.99	6.14	24862.19	96.7	60 - 125		22355.16	24703.79	25082.02
74 Ge # 3	160278.31	2.11	155795.36	102.9	60 - 125		161579.34	156439.86	162815.73
89 Y # 3	989366.88	1.93	1011968.20	97.8	60 - 125		985285.00	972651.44	1010164.30
115 In # 3	917917.19	2.14	989458.81	92.8	60 - 125		920547.88	897137.50	936066.00
159 Tb # 3	1179974.50	1.45	1388283.80	85.0	60 - 125		1195340.90	1161450.80	1183131.90
209 Bi # 3	723706.56	2.05	829936.50	87.2	60 - 125		724510.56	708470.81	738138.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\243_CCV.D\243_CCV.D#
Date Acquired: Dec 31 2012 10:41 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.05 ug/l	6.06	50.00	90 - 110		124765.80	127417.05	128073.73
11 B	89.44 ug/l	6.16	100.00	90 - 110	Fail	253846.84	257115.39	255570.31
23 Na	5079 ug/l	2.56	5000.00	90 - 110		21351360.00	21631820.00	21920746.00
24 Mg	5162 ug/l	1.99	5000.00	90 - 110		14595380.00	14651151.00	14822630.00
27 Al	538.8 ug/l	1.39	500.00	90 - 110		1755506.00	1755441.60	1761380.10
39 K	5079 ug/l	5.24	5000.00	90 - 110		1331320.00	1361363.00	1351452.90
40 Ca	5356 ug/l	2.32	5000.00	90 - 110		35498968.00	35774408.00	36287776.00
45 Sc	--------	--------	---	##### - #####		40343.84	38134.53	38369.07
47 Ti	52.47 ug/l	4.98	50.00	90 - 110		48894.47	48693.67	48099.23
51 V	47.98 ug/l	5.79	50.00	90 - 110		83414.31	86143.10	85613.97
52 Cr	47.66 ug/l	5.30	50.00	90 - 110		98567.16	100816.02	100423.81
55 Mn	509 ug/l	4.39	500.00	90 - 110		7950631.50	8019456.50	8006615.00
56 Fe	5006 ug/l	2.59	5000.00	90 - 110		50005728.00	50666192.00	51005792.00
59 Co	53.06 ug/l	3.48	50.00	90 - 110		599006.13	591258.06	589825.44
60 Ni	45.96 ug/l	5.67	50.00	90 - 110		41189.00	42447.34	42124.51
63 Cu	45.44 ug/l	5.58	50.00	90 - 110		108375.03	110946.82	110951.14
66 Zn	51.95 ug/l	3.17	50.00	90 - 110		72785.52	71546.65	72072.20
75 As	50.45 ug/l	5.55	50.00	90 - 110		8961.21	9156.30	9229.34
78 Se	49.21 ug/l	2.23	50.00	90 - 110		14474.75	14588.51	14656.23
88 Sr	50.5 ug/l	4.58	50.00	90 - 110		992117.56	994075.31	1002636.40
95 Mo	54.25 ug/l	5.45	50.00	90 - 110		141183.72	141962.84	142092.02
107 Ag	53.23 ug/l	6.31	50.00	90 - 110		395796.72	404835.97	397053.06
111 Cd	51.75 ug/l	5.65	50.00	90 - 110		82276.41	83076.31	82372.91
118 Sn	51.64 ug/l	5.53	50.00	90 - 110		259384.14	261175.52	261689.70
121 Sb	52.03 ug/l	5.49	50.00	90 - 110		250345.83	251884.66	252449.30
137 Ba	51.96 ug/l	6.05	50.00	90 - 110		127617.50	129887.29	129048.88
202 Hg	2.394 ug/l	5.93	2.50	90 - 110		4120.54	4210.90	4189.22
205 Tl	10.92 ug/l	4.91	10.00	90 - 110		142944.98	143990.53	144355.27
208 Pb	54.76 ug/l	5.05	50.00	90 - 110		988359.88	998985.50	988690.19
232 Th	49.38 ug/l	5.04	---	##### - #####		1140577.30	1146347.00	1137441.50
238 U	48.55 ug/l	4.98	---	##### - #####		1142326.80	1146560.00	1136566.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	639301.31	5.24	572657.25	111.6	60 - 125		660835.31	600742.44	656326.25
45 Sc	436382.59	1.24	523286.00	83.4	60 - 125		442228.84	435318.19	431600.75
45 Sc	653839.13	5.05	603286.69	108.4	60 - 125		686579.19	620611.69	654326.44
74 Ge	139586.91	1.60	170650.48	81.8	60 - 125		141741.00	139741.42	137278.31
74 Ge	24352.92	4.22	24862.19	98.0	60 - 125		25535.98	23677.86	23844.93
74 Ge	159118.80	3.94	155795.36	102.1	60 - 125		164849.64	152414.14	160092.63
89 Y	968018.31	4.48	1011968.20	95.7	60 - 125		1009337.90	922824.56	971892.38
115 In	886964.06	5.20	989458.81	89.6	60 - 125		935086.94	843136.63	882668.31
159 Tb	1165068.80	4.55	1388283.80	83.9	60 - 125		1220703.60	1115263.00	1159239.60
209 Bi	696992.44	4.84	829936.50	84.0	60 - 125		732858.94	665823.13	692295.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\244_CCB.D\244_CCB.D#
Date Acquired: Dec 31 2012 10:48 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	-0.0008686	-0.0008686	ug/l	155.77	#VALUE!		6.67	3.33	10.00
11	B	# 3	0.6801	0.6801	ug/l	18.79	#VALUE!		9492.57	9239.07	9279.07
23	Na	# 1	-10.58	-10.58	ug/l	19.20	#VALUE!		148552.36	135087.30	130793.95
24	Mg	# 1	-1.484	-1.484	ug/l	26.50	#VALUE!		4173.92	2610.27	1813.47
27	Al	# 1	-0.2963	-0.2963	ug/l	24.59	#VALUE!		1576.77	1210.07	1070.06
39	K	# 2	-2.329	-2.329	ug/l	64.58	#VALUE!		6898.13	7148.23	7164.92
40	Ca	# 1	-0.1915	-0.1915	ug/l	454.46	#VALUE!		122893.95	121034.57	117626.48
45	Sc	# 2	----	--------		--------	#VALUE!		37725.21	35734.59	38716.42
47	Ti	# 3	-0.00942	-0.00942	ug/l	157.96	#VALUE!		50.00	30.00	53.34
51	V	# 2	-0.0101	-0.0101	ug/l	32.38	#VALUE!		153.34	145.56	164.45
52	Cr	# 2	-0.005477	-0.005477	ug/l	109.40	#VALUE!		164.45	156.67	144.45
55	Mn	# 3	-0.03965	-0.03965	ug/l	27.04	#VALUE!		1983.49	1700.13	1766.80
56	Fe	# 1	-0.4637	-0.4637	ug/l	27.60	#VALUE!		19761.04	17398.64	16931.48
59	Co	# 3	0.02148	0.02148	ug/l	16.98	#VALUE!		330.01	373.35	403.35
60	Ni	# 2	-0.3368	-0.3368	ug/l	0.34	#VALUE!		7.78	5.56	7.78
63	Cu	# 2	-1.191	-1.191	ug/l	0.12	#VALUE!		34.44	37.78	40.00
66	Zn	# 3	-0.2911	-0.2911	ug/l	12.65	#VALUE!		266.68	170.01	213.34
75	As	# 2	0.0235	0.0235	ug/l	29.00	#VALUE!		19.67	20.00	22.00
78	Se	# 1	0.04541	0.04541	ug/l	22.18	#VALUE!		37.67	30.67	39.00
88	Sr	# 3	-0.01723	-0.01723	ug/l	0.12	#VALUE!		73.34	76.67	70.00
95	Mo	# 3	0.08211	0.08211	ug/l	14.94	#VALUE!		303.34	316.68	240.01
107	Ag	# 3	0.002903	0.002903	ug/l	78.06	#VALUE!		96.67	130.00	126.67
111	Cd	# 3	0.003058	0.003058	ug/l	194.64	#VALUE!		49.90	33.23	33.26
118	Sn	# 3	0.02213	0.02213	ug/l	35.38	#VALUE!		466.69	546.69	433.35
121	Sb	# 3	0.3211	0.3211	ug/l	8.62	#VALUE!		1983.52	1800.15	1730.14
137	Ba	# 3	-0.01245	-0.01245	ug/l	53.52	#VALUE!		10.00	26.67	43.33
202	Hg	# 3	0.02624	0.02624	ug/l	14.51	#VALUE!		74.33	63.33	71.00
205	Tl	# 3	0.01048	0.01048	ug/l	32.10	#VALUE!		310.01	233.34	240.01
208	Pb	# 3	0.002239	0.002239	ug/l	187.45	#VALUE!		543.36	516.69	383.35
232	Th	# 3	0.1312	0.1312	ug/l	4.98	#VALUE!		3877.28	3883.95	3513.87
238	U	# 3	-0.001238	-0.001238	ug/l	59.24	#VALUE!		173.34	170.01	136.67

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	651037.50	2.65	572657.25	113.7	60 - 125		637460.13	670454.19	645198.06
45	Sc	# 1	448035.28	4.12	523286.00	85.6	60 - 125		460140.13	426767.22	457198.53
45	Sc	# 3	656927.69	3.24	603286.69	108.9	60 - 125		651458.81	680433.88	638890.38
74	Ge	# 1	143680.92	4.35	170650.48	84.2	60 - 125		147862.33	136503.31	146677.14
74	Ge	# 2	24136.43	4.14	24862.19	97.1	60 - 125		24738.38	22982.64	24688.26
74	Ge	# 3	161248.59	2.73	155795.36	103.5	60 - 125		160489.52	165974.77	157281.50
89	Y	# 3	1007160.70	3.97	1011968.20	99.5	60 - 125		1006691.90	1047414.40	967376.00
115	In	# 3	927972.81	3.40	989458.81	93.8	60 - 125		920941.00	962471.75	900505.38
159	Tb	# 3	1205583.00	3.34	1388283.80	86.8	60 - 125		1193921.40	1250397.50	1172430.40
209	Bi	# 3	733151.19	2.36	829936.50	88.3	60 - 125		728831.25	752193.81	718428.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\245_CCV.D\245_CCV.D#
Date Acquired: Dec 31 2012 10:56 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.14 ug/l	4.51	50.00	90 - 110		128264.50	126312.46	127428.89
11 B	90.36 ug/l	4.12	100.00	90 - 110		258847.20	255462.67	262244.16
23 Na	4897 ug/l	5.28	5000.00	90 - 110		21918446.00	22119654.00	22171978.00
24 Mg	4984 ug/l	6.02	5000.00	90 - 110		14722713.00	15154640.00	15120263.00
27 Al	514.4 ug/l	5.94	500.00	90 - 110		1739859.80	1790698.50	1792280.10
39 K	5088 ug/l	2.37	5000.00	90 - 110		1340898.00	1349567.80	1374035.00
40 Ca	5121 ug/l	5.50	5000.00	90 - 110		35820780.00	36437000.00	36533144.00
45 Sc	--------	--------	---	##### - #####		39320.54	37192.00	39401.43
47 Ti	52.29 ug/l	3.68	50.00	90 - 110		49215.35	48069.03	48530.14
51 V	48 ug/l	2.94	50.00	90 - 110		84349.24	85665.41	86067.06
52 Cr	47.54 ug/l	3.29	50.00	90 - 110		98347.23	100696.32	100976.36
55 Mn	505.5 ug/l	3.03	500.00	90 - 110		7989932.50	8059351.50	7890891.50
56 Fe	4826 ug/l	5.67	5000.00	90 - 110		51820860.00	51821784.00	51504760.00
59 Co	52.75 ug/l	3.73	50.00	90 - 110		594473.88	591678.56	592322.88
60 Ni	45.54 ug/l	3.06	50.00	90 - 110		40995.22	41821.56	42217.97
63 Cu	45.49 ug/l	3.19	50.00	90 - 110		109988.50	111222.60	110451.37
66 Zn	51.46 ug/l	4.20	50.00	90 - 110		72416.84	71406.13	71586.58
75 As	50.06 ug/l	2.60	50.00	90 - 110		8999.22	9074.60	9151.64
78 Se	47.15 ug/l	4.95	50.00	90 - 110		14814.02	14727.96	14925.11
88 Sr	50.1 ug/l	4.80	50.00	90 - 110		1016278.90	991876.31	1005345.80
95 Mo	53.29 ug/l	3.73	50.00	90 - 110		143173.22	141208.95	142645.14
107 Ag	52.46 ug/l	3.11	50.00	90 - 110		403701.72	402600.00	400910.97
111 Cd	51.1 ug/l	4.49	50.00	90 - 110		84662.77	82145.09	83290.39
118 Sn	51.28 ug/l	4.91	50.00	90 - 110		269318.69	259319.78	265425.56
121 Sb	51.42 ug/l	3.77	50.00	90 - 110		257252.08	253087.23	252252.70
137 Ba	51.69 ug/l	3.10	50.00	90 - 110		131056.91	130922.23	131322.66
202 Hg	2.415 ug/l	4.14	2.50	90 - 110		4345.60	4263.58	4287.92
205 Tl	10.71 ug/l	5.05	10.00	90 - 110		146955.95	145834.22	144548.91
208 Pb	53.57 ug/l	5.06	50.00	90 - 110		1010484.90	1000347.20	1000972.30
232 Th	49.15 ug/l	3.88	---	##### - #####		1167663.40	1152518.50	1159941.40
238 U	48.53 ug/l	3.65	---	##### - #####		1170181.80	1160574.80	1164637.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	640496.81	3.77	572657.25	111.8	60 - 125		612622.56	653204.00	655663.94
45 Sc	462288.50	4.91	523286.00	88.3	60 - 125		473043.97	436185.81	477635.69
45 Sc	655980.63	2.53	603286.69	108.7	60 - 125		640928.19	673773.13	653240.63
74 Ge	148382.97	5.31	170650.48	87.0	60 - 125		153222.91	139283.34	152642.67
74 Ge	24405.31	2.58	24862.19	98.2	60 - 125		24646.99	23691.42	24877.51
74 Ge	159907.89	3.55	155795.36	102.6	60 - 125		155083.73	166170.80	158469.14
89 Y	983468.81	3.71	1011968.20	97.2	60 - 125		957230.94	1025104.10	968071.63
115 In	905793.00	3.05	989458.81	91.5	60 - 125		882691.88	936446.13	898241.00
159 Tb	1205080.00	4.47	1388283.80	86.8	60 - 125		1148350.00	1255596.10	1211293.80
209 Bi	711038.88	3.32	829936.50	85.7	60 - 125		693416.56	737861.00	701839.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\246_CCB.D\246_CCB.D#
Date Acquired: Dec 31 2012 11:03 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.002648	0.002648	ug/l	54.61	#VALUE!		13.33	13.33	20.00
11 B # 3	0.8188	0.8188	ug/l	14.16	#VALUE!		9929.47	9575.96	9519.26
23 Na # 1	-15.35	-15.35	ug/l	1.79	#VALUE!		116352.76	120162.42	119216.30
24 Mg # 1	-1.744	-1.744	ug/l	2.23	#VALUE!		2003.50	2096.85	2256.87
27 Al # 1	-0.3821	-0.3821	ug/l	9.30	#VALUE!		1030.06	876.71	1113.40
39 K # 2	-2.119	-2.119	ug/l	60.97	#VALUE!		6951.48	6998.16	7608.41
40 Ca # 1	-0.7819	-0.7819	ug/l	41.82	#VALUE!		115643.48	116458.24	120923.60
45 Sc # 2	----	--------		--------	#VALUE!		37066.50	38521.56	38501.53
47 Ti # 3	0.001019	0.001019	ug/l	1647.70	#VALUE!		66.67	60.00	36.67
51 V # 2	-0.006137	-0.006137	ug/l	226.50	#VALUE!		142.22	154.45	191.11
52 Cr # 2	-0.005357	-0.005357	ug/l	141.63	#VALUE!		168.89	161.11	140.00
55 Mn # 3	-0.03677	-0.03677	ug/l	8.48	#VALUE!		1843.48	1806.81	1890.16
56 Fe # 1	-0.4198	-0.4198	ug/l	3.29	#VALUE!		18549.78	18526.42	18876.75
59 Co # 3	0.01631	0.01631	ug/l	21.04	#VALUE!		320.01	340.01	263.34
60 Ni # 2	-0.3307	-0.3307	ug/l	1.11	#VALUE!		8.89	13.33	15.56
63 Cu # 2	-1.189	-1.189	ug/l	0.07	#VALUE!		44.44	43.33	41.11
66 Zn # 3	-0.3222	-0.3222	ug/l	2.92	#VALUE!		170.01	186.67	160.00
75 As # 2	0.01712	0.01712	ug/l	46.16	#VALUE!		20.33	20.33	18.00
78 Se # 1	0.0429	0.0429	ug/l	24.15	#VALUE!		38.67	33.00	34.00
88 Sr # 3	-0.01597	-0.01597	ug/l	3.16	#VALUE!		96.67	110.00	90.00
95 Mo # 3	0.0899	0.0899	ug/l	15.95	#VALUE!		346.68	306.68	270.01
107 Ag # 3	-0.001219	-0.001219	ug/l	220.75	#VALUE!		86.67	63.34	106.67
111 Cd # 3	0.0169	0.0169	ug/l	48.58	#VALUE!		46.56	66.57	73.25
118 Sn # 3	0.02238	0.02238	ug/l	15.29	#VALUE!		503.36	466.69	480.02
121 Sb # 3	0.3191	0.3191	ug/l	7.74	#VALUE!		1966.83	1793.48	1733.47
137 Ba # 3	-0.0155	-0.0155	ug/l	24.14	#VALUE!		13.33	30.00	13.33
202 Hg # 3	0.02918	0.02918	ug/l	2.99	#VALUE!		74.00	74.00	76.67
205 Tl # 3	0.0122	0.0122	ug/l	27.43	#VALUE!		313.35	310.01	233.34
208 Pb # 3	-0.0007838	-0.0007838	ug/l	144.93	#VALUE!		413.35	410.01	450.02
232 Th # 3	0.1407	0.1407	ug/l	11.95	#VALUE!		4394.11	4000.63	3557.18
238 U # 3	-0.001128	-0.001128	ug/l	89.01	#VALUE!		150.01	190.01	146.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	647120.75	1.23	572657.25	113.0	60 - 125		640480.81	644916.06	655965.44
45 Sc # 1	452061.63	0.76	523286.00	86.4	60 - 125		448132.31	453491.50	454560.97
45 Sc # 3	656479.75	0.41	603286.69	108.8	60 - 125		659569.19	654868.06	655001.88
74 Ge # 1	144925.23	0.48	170650.48	84.9	60 - 125		144169.39	145069.20	145537.09
74 Ge # 2	24304.40	0.88	24862.19	97.8	60 - 125		24059.30	24448.65	24405.26
74 Ge # 3	159740.20	0.52	155795.36	102.5	60 - 125		160471.95	159917.89	158830.80
89 Y # 3	1005202.70	0.90	1011968.20	99.3	60 - 125		995417.81	1006837.90	1013352.30
115 In # 3	929373.75	0.59	989458.81	93.9	60 - 125		928594.44	924305.00	935221.75
159 Tb # 3	1207923.80	0.67	1388283.80	87.0	60 - 125		1214403.80	1198888.40	1210479.30
209 Bi # 3	731941.38	0.50	829936.50	88.2	60 - 125		735626.25	728368.75	731829.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\247_ICV.D\247_ICV.D#
Date Acquired: Dec 31 2012 11:10 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: ICSA
Misc Info:
Vial Number: 4510
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: ICV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	0.001113 ug/l	141.06	---	##### - #####		6.67	13.33	10.00
11 B	-0.1547 ug/l	34.37	---	##### - #####		6021.08	5747.65	6091.10
23 Na	96190 ug/l	2.81	##########	80 - 120		382342910.00	390168830.00	393740670.00
24 Mg	95200 ug/l	2.85	##########	80 - 120		254667140.00	260092020.00	261983360.00
27 Al	95430 ug/l	2.85	##########	80 - 120		292460860.00	298668420.00	300578340.00
39 K	107100 ug/l	3.90	##########	80 - 120		22545602.00	22810782.00	23307530.00
40 Ca	99800 ug/l	2.21	##########	80 - 120		630178050.00	635470910.00	644991550.00
45 Sc	--------	--------	---	##### - #####		35285.77	34187.05	33158.59
47 Ti	2175 ug/l	1.54	2000.00	80 - 120		1798304.50	1798528.30	1795152.00
51 V	0.2056 ug/l	8.24	---	##### - #####		445.56	406.68	453.34
52 Cr	1.185 ug/l	6.45	---	##### - #####		2081.25	2106.80	2246.82
55 Mn	0.1488 ug/l	9.27	---	##### - #####		3893.85	4020.55	3743.83
56 Fe	96230 ug/l	2.37	##########	80 - 120		827459330.00	841737790.00	842890110.00
59 Co	0.1209 ug/l	1.47	---	##### - #####		1210.08	1206.74	1203.40
60 Ni	0.4323 ug/l	4.12	---	##### - #####		595.57	547.79	566.68
63 Cu	-0.9638 ug/l	0.30	---	##### - #####		485.57	456.68	455.57
66 Zn	3.382 ug/l	3.68	---	##### - #####		4420.66	4350.66	4160.59
75 As	0.4042 ug/l	3.95	---	##### - #####		77.00	69.33	71.00
78 Se	0.0733 ug/l	5.30	---	##### - #####		36.33	36.33	38.33
88 Sr	0.3139 ug/l	3.24	---	##### - #####		5867.81	6071.22	5917.83
95 Mo	2285 ug/l	1.96	2000.00	80 - 120		5103370.50	5076081.50	4987617.00
107 Ag	0.05767 ug/l	13.39	---	##### - #####		480.02	463.35	386.68
111 Cd	0.8553 ug/l	5.31	---	##### - #####		1173.90	1122.61	1254.28
118 Sn	0.08554 ug/l	2.10	---	##### - #####		666.70	656.70	656.70
121 Sb	0.4475 ug/l	4.13	---	##### - #####		1993.52	2053.51	1963.50
137 Ba	0.1754 ug/l	17.59	---	##### - #####		350.01	460.02	436.69
202 Hg	0.02509 ug/l	10.67	---	##### - #####		49.00	47.67	54.67
205 Tl	0.01129 ug/l	35.55	---	##### - #####		256.68	263.34	180.01
208 Pb	0.1288 ug/l	8.08	---	##### - #####		2590.17	2480.16	2263.47
232 Th	0.1422 ug/l	8.80	---	##### - #####		3253.78	3017.08	2753.67
238 U	-0.001812 ug/l	62.03	---	##### - #####		110.00	86.67	130.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	555325.81	1.17	572657.25	97.0	60 - 125		553632.38	549833.81	562511.19
45 Sc	417355.38	2.13	523286.00	79.8	60 - 125		421966.81	407104.72	422994.59
45 Sc	583603.25	1.51	603286.69	96.7	60 - 125		591475.38	574121.50	585212.94
74 Ge	120317.24	1.71	170650.48	70.5	60 - 125		121499.51	117937.98	121514.25
74 Ge	19700.91	2.46	24862.19	79.2	60 - 125		20260.36	19446.22	19396.15
74 Ge	130050.98	1.42	155795.36	83.5	60 - 125		131744.84	128087.52	130320.55
89 Y	871950.56	1.31	1011968.20	86.2	60 - 125		883895.69	861155.19	870800.69
115 In	750239.38	1.82	989458.81	75.8	60 - 125		763890.50	736549.44	750278.13
159 Tb	1032066.00	0.50	1388283.80	74.3	60 - 125		1035591.00	1026126.60	1034480.30
209 Bi	547547.38	1.95	829936.50	66.0	60 - 125		558146.25	536818.25	547677.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\248SMPL.D\248SMPL.D#
Date Acquired: Dec 31 2012 11:18 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: ICSAB
Misc Info:
Vial Number: 4511
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0006313	0.0006313	ug/l	625.22	100.00		0.00	16.67	10.00
11 B	# 3	-0.4104	-0.4104	ug/l	18.28	1800.00		5224.18	5370.88	5170.83
23 Na	# 1	94910	94910	ug/l	1.64	81000.00		374956830.00	385424450.00	386066400.00
24 Mg	# 1	93120	93120	ug/l	1.47	81000.00		250144850.00	252210960.00	254533600.00
27 Al	# 1	93000	93000	ug/l	1.95	81000.00	Fail	288779870.00	286767620.00	290065920.00
39 K	# 2	105800	105800	ug/l	0.97	81000.00		21849066.00	22073964.00	22392514.00
40 Ca	# 1	98970	98970	ug/l	2.31	81000.00		630093440.00	628000770.00	629091710.00
45 Sc	# 2	----	--------		--------	#VALUE!		32543.63	32957.69	33072.31
47 Ti	# 3	2114	2114	ug/l	3.45	1620.00	Fail	1747058.90	1754850.00	1728790.10
51 V	# 2	0.1752	0.1752	ug/l	3.79	1800.00		385.56	376.67	385.56
52 Cr	# 2	21.08	21.08	ug/l	0.65	1800.00		34711.04	35470.30	35020.55
55 Mn	# 3	21.12	21.12	ug/l	2.19	1800.00		275849.56	274290.81	270828.72
56 Fe	# 1	94990	94990	ug/l	1.90	81000.00	Fail	829106560.00	829942780.00	818909440.00
59 Co	# 3	21.28	21.28	ug/l	2.46	1800.00		196597.08	196065.31	192349.86
60 Ni	# 2	19.34	19.34	ug/l	1.47	1800.00		13955.32	14010.94	14348.97
63 Cu	# 2	16.41	16.41	ug/l	1.45	1800.00		32878.22	32831.39	33032.84
66 Zn	# 3	21.41	21.41	ug/l	2.61	1800.00		24637.08	24980.85	24326.58
75 As	# 2	20.97	20.97	ug/l	1.42	100.00		2973.92	2988.25	3059.26
78 Se	# 1	0.03364	0.03364	ug/l	40.07	100.00		23.00	27.33	30.33
88 Sr	# 3	0.3008	0.3008	ug/l	7.70	1800.00		5827.78	5987.84	5477.66
95 Mo	# 3	2237	2237	ug/l	3.45	1800.00	Fail	5081070.00	5011850.00	4997818.50
107 Ag	# 3	17.71	17.71	ug/l	3.24	100.00		115970.96	113385.35	114062.46
111 Cd	# 3	18.18	18.18	ug/l	3.76	100.00		25585.82	24596.39	24817.85
118 Sn	# 3	0.07691	0.07691	ug/l	22.64	1800.00		713.37	570.03	616.70
121 Sb	# 3	0.4067	0.4067	ug/l	10.82	100.00		1963.50	1916.83	1713.47
137 Ba	# 3	0.1839	0.1839	ug/l	21.71	1800.00		510.03	450.02	360.02
202 Hg	# 3	0.01774	0.01774	ug/l	19.68	5.00		44.67	40.67	37.33
205 Tl	# 3	0.007692	0.007692	ug/l	71.37	20.00		240.01	216.68	123.34
208 Pb	# 3	0.1175	0.1175	ug/l	7.11	1800.00		2423.49	2220.13	2240.14
232 Th	# 3	0.08358	0.08358	ug/l	12.17	#VALUE!		2110.22	1936.85	1846.84
238 U	# 3	-0.005731	-0.005731	ug/l	8.81	#VALUE!		30.00	46.67	33.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	547281.06	2.12	572657.25	95.6	60 - 125		536915.44	545093.88	559833.94
45 Sc	# 1	415727.16	2.30	523286.00	79.4	60 - 125		408433.41	412188.19	426559.84
45 Sc	# 3	582804.63	2.74	603286.69	96.6	60 - 125		576259.56	571172.69	600981.63
74 Ge	# 1	120228.55	1.17	170650.48	70.5	60 - 125		119438.92	119387.83	121858.88
74 Ge	# 2	19249.13	1.36	24862.19	77.4	60 - 125		18949.94	19434.87	19362.59
74 Ge	# 3	130254.75	1.30	155795.36	83.6	60 - 125		129480.92	129080.61	132202.70
89 Y	# 3	879668.31	2.82	1011968.20	86.9	60 - 125		868075.25	862799.50	908130.19
115 In	# 3	762831.06	3.03	989458.81	77.1	60 - 125		754987.25	744665.00	788841.00
159 Tb	# 3	1047039.80	2.19	1388283.80	75.4	60 - 125		1036570.50	1031182.30	1073366.50
209 Bi	# 3	555292.94	3.46	829936.50	66.9	60 - 125		544883.31	543517.94	577477.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

4 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\249SMPL.D\249SMPL.D#
Date Acquired: Dec 31 2012 11:25 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02277	0.02277	ug/l	35.96	100.00		63.34	40.00	76.67
11 B	# 3	0.1256	0.1256	ug/l	17.82	1800.00		7041.42	6948.06	7028.10
23 Na	# 1	184.6	184.6	ug/l	4.76	81000.00		940828.31	958907.06	1017217.30
24 Mg	# 1	73.14	73.14	ug/l	10.82	81000.00		198003.14	211494.03	244415.08
27 Al	# 1	46.83	46.83	ug/l	15.35	81000.00		135412.44	151698.53	183596.88
39 K	# 2	206.4	206.4	ug/l	1.59	81000.00		56853.09	59477.37	61417.34
40 Ca	# 1	74.94	74.94	ug/l	10.82	81000.00		578873.38	612064.25	690811.25
45 Sc	# 2	----	--------		--------	#VALUE!		34436.29	35180.85	35973.65
47 Ti	# 3	2.835	2.835	ug/l	12.32	1620.00		2763.61	2643.61	2180.19
51 V	# 2	0.02469	0.02469	ug/l	50.06	1800.00		194.45	190.00	236.67
52 Cr	# 2	0.0321	0.0321	ug/l	36.29	1800.00		220.00	245.56	205.56
55 Mn	# 3	0.3725	0.3725	ug/l	1.34	1800.00		8145.35	7968.61	7971.92
56 Fe	# 1	48.73	48.73	ug/l	13.44	81000.00		479029.25	519248.75	610734.31
59 Co	# 3	0.06953	0.06953	ug/l	1.01	1800.00		880.04	880.04	866.71
60 Ni	# 2	-0.2223	-0.2223	ug/l	4.80	1800.00		95.56	102.22	118.89
63 Cu	# 2	-1.118	-1.118	ug/l	0.87	1800.00		193.34	223.34	185.56
66 Zn	# 3	0.9567	0.9567	ug/l	8.27	1800.00		1776.82	1873.49	1980.16
75 As	# 2	0.05336	0.05336	ug/l	20.50	100.00		22.67	24.33	27.67
78 Se	# 1	0.01468	0.01468	ug/l	55.70	100.00		24.33	28.33	27.33
88 Sr	# 3	0.1689	0.1689	ug/l	3.90	1800.00		3683.83	3890.55	3763.85
95 Mo	# 3	3.881	3.881	ug/l	7.72	1800.00		11380.58	10616.80	9682.88
107 Ag	# 3	0.03926	0.03926	ug/l	14.17	100.00		443.35	353.35	400.02
111 Cd	# 3	0.04836	0.04836	ug/l	20.06	100.00		129.70	96.61	113.57
118 Sn	# 3	0.02555	0.02555	ug/l	32.83	1800.00		493.36	536.69	450.02
121 Sb	# 3	0.1039	0.1039	ug/l	8.00	100.00		763.38	680.03	746.71
137 Ba	# 3	0.05858	0.05858	ug/l	22.52	1800.00		223.34	233.34	170.01
202 Hg	# 3	0.0124	0.0124	ug/l	22.98	5.00		40.00	43.33	49.33
205 Tl	# 3	0.004503	0.004503	ug/l	49.37	20.00		156.67	210.01	166.67
208 Pb	# 3	0.04304	0.04304	ug/l	9.37	1800.00		1166.72	1243.40	1280.06
232 Th	# 3	0.03437	0.03437	ug/l	10.02	#VALUE!		1313.43	1456.78	1423.44
238 U	# 3	0.01811	0.01811	ug/l	3.23	#VALUE!		626.70	646.70	640.03

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	586830.19	0.41	572657.25	102.5	60 - 125		589136.44	587067.69	584286.44
45 Sc	# 1	442246.03	1.92	523286.00	84.5	60 - 125		446742.22	432463.81	447532.06
45 Sc	# 3	617223.63	0.24	603286.69	102.3	60 - 125		616718.56	618886.88	616065.44
74 Ge	# 1	145637.67	1.82	170650.48	85.3	60 - 125		148013.22	142787.83	146111.97
74 Ge	# 2	23153.12	2.64	24862.19	93.1	60 - 125		22584.30	23077.09	23797.98
74 Ge	# 3	154448.86	0.33	155795.36	99.1	60 - 125		155009.88	154021.36	154315.34
89 Y	# 3	976675.63	1.08	1011968.20	96.5	60 - 125		988303.75	974149.69	967573.44
115 In	# 3	916820.94	0.49	989458.81	92.7	60 - 125		921934.56	913732.81	914795.19
159 Tb	# 3	1190756.40	1.45	1388283.80	85.8	60 - 125		1210608.30	1182080.90	1179580.00
209 Bi	# 3	731795.75	1.03	829936.50	88.2	60 - 125		738251.75	733605.31	723530.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\250SMPL.D\250SMPL.D#
Date Acquired: Dec 31 2012 11:33 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01848	0.01848	ug/l	51.34	100.00		30.00	80.00	50.00
11 B	# 3	-0.1198	-0.1198	ug/l	112.77	1800.00		6698.02	6581.28	6748.03
23 Na	# 1	148.1	148.1	ug/l	2.94	81000.00		792209.56	802807.50	813207.31
24 Mg	# 1	43.47	43.47	ug/l	5.82	81000.00		124906.02	128210.83	137639.89
27 Al	# 1	21.1	21.1	ug/l	9.18	81000.00		64830.34	69938.86	77446.76
39 K	# 2	48.15	48.15	ug/l	7.86	81000.00		19737.45	19567.23	19507.18
40 Ca	# 1	42.97	42.97	ug/l	5.56	81000.00		392489.22	400886.13	419354.44
45 Sc	# 2	----	--------		--------	#VALUE!		34187.27	37622.80	34523.79
47 Ti	# 3	0.7414	0.7414	ug/l	9.87	1620.00		740.04	670.03	710.03
51 V	# 2	0.03588	0.03588	ug/l	17.84	1800.00		214.45	253.34	215.56
52 Cr	# 2	0.02604	0.02604	ug/l	27.70	1800.00		201.11	215.56	223.34
55 Mn	# 3	0.3507	0.3507	ug/l	5.48	1800.00		7945.29	7831.87	7851.89
56 Fe	# 1	23.28	23.28	ug/l	7.97	81000.00		246448.17	258453.72	281108.22
59 Co	# 3	0.04426	0.04426	ug/l	13.06	1800.00		666.70	583.36	593.36
60 Ni	# 2	-0.2472	-0.2472	ug/l	3.56	1800.00		74.45	96.67	83.33
63 Cu	# 2	-1.141	-1.141	ug/l	1.16	1800.00		177.78	130.00	141.11
66 Zn	# 3	0.8807	0.8807	ug/l	9.46	1800.00		1876.81	1856.82	1716.79
75 As	# 2	0.04369	0.04369	ug/l	28.02	100.00		25.00	22.67	22.33
78 Se	# 1	0.02598	0.02598	ug/l	27.36	100.00		29.67	27.67	31.00
88 Sr	# 3	0.162	0.162	ug/l	5.48	1800.00		3717.16	3787.17	3690.48
95 Mo	# 3	1.073	1.073	ug/l	4.21	1800.00		3023.68	3013.69	2930.32
107 Ag	# 3	0.0217	0.0217	ug/l	12.97	100.00		280.01	256.68	256.68
111 Cd	# 3	0.02138	0.02138	ug/l	52.85	100.00		75.70	49.04	82.40
118 Sn	# 3	0.026	0.026	ug/l	38.14	1800.00		493.36	456.68	550.03
121 Sb	# 3	0.08285	0.08285	ug/l	15.81	100.00		630.03	703.37	560.02
137 Ba	# 3	0.06696	0.06696	ug/l	24.30	1800.00		230.01	193.34	273.34
202 Hg	# 3	0.009703	0.009703	ug/l	28.19	5.00		44.67	37.67	37.00
205 Tl	# 3	0.002497	0.002497	ug/l	79.86	20.00		153.34	183.34	123.34
208 Pb	# 3	0.04147	0.04147	ug/l	9.11	1800.00		1180.05	1186.72	1286.73
232 Th	# 3	0.03136	0.03136	ug/l	8.75	#VALUE!		1313.44	1310.10	1400.11
238 U	# 3	0.01727	0.01727	ug/l	9.59	#VALUE!		600.03	690.04	586.70

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	615094.69	4.51	572657.25	107.4	60 - 125		586818.88	642268.13	616197.00
45 Sc	# 1	435148.16	2.34	523286.00	83.2	60 - 125		426515.81	446383.88	432544.78
45 Sc	# 3	626213.13	4.21	603286.69	103.8	60 - 125		598390.50	650873.94	629374.81
74 Ge	# 1	142180.84	1.75	170650.48	83.3	60 - 125		140748.86	145045.64	140748.00
74 Ge	# 2	23341.73	4.85	24862.19	93.9	60 - 125		22742.32	24647.12	22635.76
74 Ge	# 3	158195.67	3.04	155795.36	101.5	60 - 125		153161.45	162733.88	158691.67
89 Y	# 3	1002475.00	5.61	1011968.20	99.1	60 - 125		945897.25	1058462.10	1003065.50
115 In	# 3	925857.69	3.25	989458.81	93.6	60 - 125		893324.06	952771.25	931477.81
159 Tb	# 3	1207509.50	3.02	1388283.80	87.0	60 - 125		1173598.30	1246114.00	1202816.30
209 Bi	# 3	741117.69	2.58	829936.50	89.3	60 - 125		724819.44	762135.50	736398.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\251SMPL.D\251SMPL.D#
Date Acquired: Dec 31 2012 11:40 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 1
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01968	0.01968	ug/l	6.38	100.00		53.33	56.67	56.67
11 B # 3	-0.1069	-0.1069	ug/l	128.72	1800.00		6734.68	6644.63	6791.39
23 Na # 1	137.1	137.1	ug/l	2.59	81000.00		771238.50	779906.44	786277.81
24 Mg # 1	34.9	34.9	ug/l	2.17	81000.00		106607.66	110114.61	110728.48
27 Al # 1	14.14	14.14	ug/l	4.58	81000.00		48107.75	49030.08	51587.12
39 K # 2	19.43	19.43	ug/l	11.40	81000.00		12838.02	13234.97	12674.60
40 Ca # 1	34.22	34.22	ug/l	3.78	81000.00		352868.22	354936.28	361525.34
45 Sc # 2	----	--------		--------	#VALUE!		36528.42	37088.60	39144.45
47 Ti # 3	0.3449	0.3449	ug/l	1.44	1620.00		356.68	363.35	346.68
51 V # 2	0.02714	0.02714	ug/l	21.55	1800.00		213.34	232.23	221.11
52 Cr # 2	0.003082	0.003082	ug/l	157.66	1800.00		176.67	162.22	186.67
55 Mn # 3	0.3482	0.3482	ug/l	3.62	1800.00		7711.81	7911.94	7881.88
56 Fe # 1	16.54	16.54	ug/l	4.51	81000.00		195846.22	198092.06	203373.42
59 Co # 3	0.04528	0.04528	ug/l	6.85	1800.00		666.70	626.70	586.69
60 Ni # 2	-0.2544	-0.2544	ug/l	2.56	1800.00		82.22	85.56	77.78
63 Cu # 2	-1.15	-1.15	ug/l	0.56	1800.00		131.11	147.78	122.22
66 Zn # 3	0.8523	0.8523	ug/l	7.24	1800.00		1743.46	1913.49	1680.13
75 As # 2	0.01616	0.01616	ug/l	44.06	100.00		20.00	19.67	18.67
78 Se # 1	0.01226	0.01226	ug/l	46.04	100.00		26.67	28.33	23.67
88 Sr # 3	0.1716	0.1716	ug/l	8.81	1800.00		3940.57	3713.84	3890.54
95 Mo # 3	0.5964	0.5964	ug/l	3.04	1800.00		1706.81	1783.48	1593.45
107 Ag # 3	0.02132	0.02132	ug/l	14.51	100.00		283.34	243.34	260.01
111 Cd # 3	0.01923	0.01923	ug/l	119.19	100.00		106.12	62.76	29.49
118 Sn # 3	0.01711	0.01711	ug/l	42.85	1800.00		496.69	436.69	430.02
121 Sb # 3	0.07465	0.07465	ug/l	12.38	100.00		610.03	553.36	606.69
137 Ba # 3	0.05627	0.05627	ug/l	16.84	1800.00		230.01	210.01	176.67
202 Hg # 3	0.01174	0.01174	ug/l	33.46	5.00		42.00	37.33	50.00
205 Tl # 3	0.00317	0.00317	ug/l	79.97	20.00		193.34	130.00	160.01
208 Pb # 3	0.04215	0.04215	ug/l	11.29	1800.00		1213.39	1176.72	1283.40
232 Th # 3	0.03207	0.03207	ug/l	10.99	#VALUE!		1406.78	1280.10	1350.11
238 U # 3	0.01587	0.01587	ug/l	11.80	#VALUE!		633.37	573.36	546.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	616312.94	4.42	572657.25	107.6	60 - 125		612615.63	645247.81	591075.50
45 Sc # 1	448154.13	1.97	523286.00	85.6	60 - 125		441998.91	458246.50	444217.00
45 Sc # 3	623966.38	2.73	603286.69	103.4	60 - 125		617158.44	643353.75	611386.81
74 Ge # 1	147012.53	2.53	170650.48	86.1	60 - 125		146357.77	151013.19	143666.64
74 Ge # 2	24411.23	3.14	24862.19	98.2	60 - 125		23747.01	24237.78	25248.88
74 Ge # 3	158063.16	2.16	155795.36	101.5	60 - 125		158337.11	161335.88	154516.53
89 Y # 3	983010.38	5.22	1011968.20	97.1	60 - 125		969231.44	1039777.80	940021.94
115 In # 3	927837.69	2.86	989458.81	93.8	60 - 125		924971.56	955653.75	902887.56
159 Tb # 3	1202508.50	2.99	1388283.80	86.6	60 - 125		1194256.80	1241850.00	1171419.00
209 Bi # 3	734243.63	2.05	829936.50	88.5	60 - 125		728649.00	751263.81	722817.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

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Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\252SMPL.D\252SMPL.D#
Date Acquired: Dec 31 2012 11:48 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: RINSE
Misc Info:
Vial Number: 2
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.003209	-0.003209	ug/l	16.65	100.00		0.00	0.00	6.67
11 B	# 3	-2.266	-2.266	ug/l	2.24	1800.00		2300.20	2126.85	2506.91
23 Na	# 1	-31.02	-31.02	ug/l	3.15	81000.00		104197.66	106399.30	106995.59
24 Mg	# 1	-2.385	-2.385	ug/l	0.13	81000.00		453.35	566.69	450.02
27 Al	# 1	-0.6055	-0.6055	ug/l	0.27	81000.00		516.79	603.36	496.75
39 K	# 2	-21.39	-21.39	ug/l	11.25	81000.00		4190.58	4183.92	4133.91
40 Ca	# 1	-10.18	-10.18	ug/l	6.68	81000.00		111063.58	111525.05	112141.34
45 Sc	# 2	----	--------		--------	#VALUE!		54641.53	98121.77	75105.77
47 Ti	# 3	-0.04547	-0.04547	ug/l	10.26	1620.00		36.67	16.67	20.00
51 V	# 2	-0.09395	-0.09395	ug/l	1.72	1800.00		15.56	17.78	10.00
52 Cr	# 2	-0.07425	-0.07425	ug/l	0.86	1800.00		21.11	31.11	25.56
55 Mn	# 3	-0.1005	-0.1005	ug/l	11.66	1800.00		1986.83	1826.82	1850.14
56 Fe	# 1	-1.83	-1.83	ug/l	2.12	81000.00		7885.32	8849.04	9242.92
59 Co	# 3	-0.006153	-0.006153	ug/l	18.38	1800.00		143.34	116.67	113.34
60 Ni	# 2	-0.3418	-0.3418	ug/l	0.40	1800.00		5.56	3.33	5.56
63 Cu	# 2	-1.202	-1.202	ug/l	0.25	1800.00		30.00	28.89	12.22
66 Zn	# 3	-0.411	-0.411	ug/l	6.04	1800.00		220.01	50.00	83.34
75 As	# 2	-0.0818	-0.0818	ug/l	7.08	100.00		4.33	2.33	3.00
78 Se	# 1	-0.04763	-0.04763	ug/l	7.83	100.00		18.67	17.33	14.00
88 Sr	# 3	-0.02009	-0.02009	ug/l	0.79	1800.00		26.67	26.67	46.67
95 Mo	# 3	-0.0007113	-0.0007113	ug/l	938.14	1800.00		200.01	83.34	143.34
107 Ag	# 3	-0.01114	-0.01114	ug/l	1.89	100.00		16.67	16.67	16.67
111 Cd	# 3	-0.01894	-0.01894	ug/l	5.93	100.00		6.60	-0.03	9.95
118 Sn	# 3	-0.06008	-0.06008	ug/l	1.58	1800.00		103.34	93.34	130.00
121 Sb	# 3	-0.02534	-0.02534	ug/l	3.90	100.00		200.01	163.34	230.01
137 Ba	# 3	-0.02136	-0.02136	ug/l	4.77	1800.00		16.67	3.33	6.67
202 Hg	# 3	-0.0008798	-0.0008798	ug/l	178.56	5.00		50.67	41.33	46.67
205 Tl	# 3	-0.00768	-0.00768	ug/l	4.30	20.00		23.33	26.67	50.00
208 Pb	# 3	-0.008418	-0.008418	ug/l	50.29	1800.00		680.03	646.69	576.69
232 Th	# 3	0.001075	0.001075	ug/l	135.63	#VALUE!		1550.14	1073.42	1520.12
238 U	# 3	-0.007303	-0.007303	ug/l	2.75	#VALUE!		36.67	16.67	13.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	1541858.30	21.32	572657.25	269.2	60 - 125	IS F	1578360.40	1196385.00	1850829.40
45 Sc	# 1	962413.94	9.34	523286.00	183.9	60 - 125	IS F	910488.38	1066211.30	910542.19
45 Sc	# 3	1443331.80	22.42	603286.69	239.2	60 - 125	IS F	1503854.40	1093693.80	1732447.30
74 Ge	# 1	325983.59	8.68	170650.48	191.0	60 - 125	IS F	309947.09	358676.31	309327.34
74 Ge	# 2	51155.72	28.89	24862.19	205.8	60 - 125	IS F	36517.25	66081.80	50868.10
74 Ge	# 3	370460.25	21.83	155795.36	237.8	60 - 125	IS F	395208.69	280100.19	436071.91
89 Y	# 3	2310895.30	20.58	1011968.20	228.4	60 - 125	IS F	2452788.80	1780546.60	2699350.00
115 In	# 3	2185245.50	20.62	989458.81	220.9	60 - 125	IS F	2315074.30	1683978.80	2556683.80
159 Tb	# 3	2846660.50	22.23	1388283.80	205.0	60 - 125	IS F	3062155.30	2134127.00	3343699.00
209 Bi	# 3	1719463.80	20.26	829936.50	207.2	60 - 125	IS F	1816400.80	1332888.40	2009102.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
10 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\253_CCV.D\253_CCV.D#
Date Acquired: Dec 31 2012 11:55 am
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.76 ug/l	6.26	50.00	90 - 110		118540.98	118595.13	120918.80
11 B	86.48 ug/l	5.73	100.00	90 - 110	Fail	230597.44	234861.69	237430.28
23 Na	5268 ug/l	7.18	5000.00	90 - 110		21646184.00	22105350.00	21775894.00
24 Mg	5340 ug/l	6.87	5000.00	90 - 110		14671366.00	14886728.00	14829926.00
27 Al	551.3 ug/l	6.89	500.00	90 - 110	Fail	1732977.60	1756396.40	1762794.50
39 K	5050 ug/l	1.87	5000.00	90 - 110		1270955.90	1305469.30	1312194.90
40 Ca	5485 ug/l	7.13	5000.00	90 - 110		35304528.00	35950664.00	35980828.00
45 Sc	--------	--------		--- ##### - #####		36368.03	37559.18	38287.45
47 Ti	53.35 ug/l	7.14	50.00	90 - 110		46501.80	45846.61	46638.79
51 V	47.78 ug/l	2.62	50.00	90 - 110		81322.00	82197.86	82179.90
52 Cr	47.45 ug/l	1.67	50.00	90 - 110		94873.88	96160.45	97611.27
55 Mn	516.2 ug/l	6.22	500.00	90 - 110		7821416.50	7804725.00	7821380.50
56 Fe	5216 ug/l	7.04	5000.00	90 - 110		51341268.00	52515632.00	52335564.00
59 Co	52.92 ug/l	6.31	50.00	90 - 110		573002.44	569462.63	569314.94
60 Ni	46.05 ug/l	2.50	50.00	90 - 110		40448.57	40500.78	40884.95
63 Cu	46.01 ug/l	2.41	50.00	90 - 110		106961.10	107773.64	108515.71
66 Zn	51.89 ug/l	6.39	50.00	90 - 110		69512.32	69261.37	69619.27
75 As	49.52 ug/l	1.81	50.00	90 - 110		8528.33	8666.40	8760.77
78 Se	51.3 ug/l	6.50	50.00	90 - 110		14920.45	15110.27	15029.53
88 Sr	50.49 ug/l	7.66	50.00	90 - 110		992863.50	986271.63	987410.81
95 Mo	53.68 ug/l	7.55	50.00	90 - 110		140783.23	140179.42	140484.28
107 Ag	53.15 ug/l	7.18	50.00	90 - 110		399142.09	400315.59	398842.69
111 Cd	51.43 ug/l	6.62	50.00	90 - 110		82134.98	83016.63	81572.70
118 Sn	52.07 ug/l	8.19	50.00	90 - 110		264528.28	260677.39	264653.97
121 Sb	52.36 ug/l	7.79	50.00	90 - 110		253482.13	252190.98	254903.05
137 Ba	52.61 ug/l	7.19	50.00	90 - 110		131090.50	131073.66	130012.97
202 Hg	2.561 ug/l	6.21	2.50	90 - 110		4474.97	4518.31	4497.64
205 Tl	10.99 ug/l	7.80	10.00	90 - 110		148528.08	144771.44	147863.30
208 Pb	54.9 ug/l	7.23	50.00	90 - 110		1018573.20	1002203.20	1011442.70
232 Th	49.67 ug/l	6.71		--- ##### - #####		1158339.90	1155777.80	1155922.40
238 U	49.1 ug/l	7.20		--- ##### - #####		1164241.30	1153989.00	1170202.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	605720.81	6.00	572657.25	105.8	60 - 125		579568.81	647205.06	590388.69
45 Sc	426098.59	6.26	523286.00	81.4	60 - 125		455495.59	403416.78	419383.38
45 Sc	614439.69	6.51	603286.69	101.8	60 - 125		588596.63	660497.06	594225.38
74 Ge	138326.11	6.00	170650.48	81.1	60 - 125		147517.14	131383.83	136077.38
74 Ge	23521.95	3.07	24862.19	94.6	60 - 125		22901.87	23349.15	24314.84
74 Ge	153672.38	6.31	155795.36	98.6	60 - 125		147157.52	164823.69	149035.94
89 Y	963290.38	7.67	1011968.20	95.2	60 - 125		909466.56	1047492.90	932911.56
115 In	890156.94	7.68	989458.81	90.0	60 - 125		846901.31	969012.19	854557.38
159 Tb	1185970.40	6.72	1388283.80	85.4	60 - 125		1132099.50	1277554.00	1148257.80
209 Bi	703093.19	6.85	829936.50	84.7	60 - 125		667445.19	757837.81	683996.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\254_CCB.D\254_CCB.D#
Date Acquired: Dec 31 2012 12:03 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.003584	0.003584	ug/l	40.99	#VALUE!		16.67	20.00	13.33
11 B	# 3	0.5788	0.5788	ug/l	21.89	#VALUE!		8432.04	8642.13	8105.23
23 Na	# 1	-20.25	-20.25	ug/l	1.93	#VALUE!		92745.51	93552.47	93573.35
24 Mg	# 1	-1.604	-1.604	ug/l	2.56	#VALUE!		2426.89	2356.87	2506.89
27 Al	# 1	-0.2784	-0.2784	ug/l	9.22	#VALUE!		1223.40	1430.10	1260.08
39 K	# 2	-3.494	-3.494	ug/l	54.38	#VALUE!		6394.58	6434.59	6634.67
40 Ca	# 1	-0.71	-0.71	ug/l	50.79	#VALUE!		113601.39	113337.02	113507.52
45 Sc	# 2	----	--------		--------	#VALUE!		35881.99	38346.00	33768.09
47 Ti	# 3	-0.001667	-0.001667	ug/l	1547.70	#VALUE!		36.67	33.33	73.34
51 V	# 2	-0.01089	-0.01089	ug/l	104.96	#VALUE!		136.67	142.22	160.00
52 Cr	# 2	-0.001979	-0.001979	ug/l	371.05	#VALUE!		141.11	164.45	162.22
55 Mn	# 3	-0.0239	-0.0239	ug/l	52.47	#VALUE!		1763.47	1970.16	2060.17
56 Fe	# 1	-0.2159	-0.2159	ug/l	24.33	#VALUE!		20481.78	20031.34	19991.26
59 Co	# 3	0.007735	0.007735	ug/l	38.98	#VALUE!		166.67	216.67	213.34
60 Ni	# 2	-0.3353	-0.3353	ug/l	1.41	#VALUE!		6.67	13.33	4.44
63 Cu	# 2	-1.192	-1.192	ug/l	0.21	#VALUE!		35.56	28.89	35.56
66 Zn	# 3	-0.3374	-0.3374	ug/l	5.63	#VALUE!		120.00	163.34	143.34
75 As	# 2	0.005666	0.005666	ug/l	132.28	#VALUE!		18.00	16.67	15.33
78 Se	# 1	0.03883	0.03883	ug/l	29.95	#VALUE!		32.67	37.00	29.33
88 Sr	# 3	-0.01281	-0.01281	ug/l	7.07	#VALUE!		140.00	170.01	163.34
95 Mo	# 3	0.1642	0.1642	ug/l	1.93	#VALUE!		500.02	490.02	483.35
107 Ag	# 3	0.0004099	0.0004099	ug/l	186.92	#VALUE!		103.34	90.00	90.00
111 Cd	# 3	0.01448	0.01448	ug/l	127.56	#VALUE!		23.17	63.18	79.85
118 Sn	# 3	0.01576	0.01576	ug/l	35.99	#VALUE!		406.68	433.35	450.02
121 Sb	# 3	0.2828	0.2828	ug/l	6.76	#VALUE!		1720.13	1533.45	1493.45
137 Ba	# 3	-0.01205	-0.01205	ug/l	24.08	#VALUE!		20.00	33.33	26.67
202 Hg	# 3	0.02657	0.02657	ug/l	12.00	#VALUE!		66.67	73.00	64.00
205 Tl	# 3	0.009886	0.009886	ug/l	26.20	#VALUE!		293.35	236.68	216.68
208 Pb	# 3	-0.001477	-0.001477	ug/l	45.29	#VALUE!		400.02	393.35	413.35
232 Th	# 3	0.1132	0.1132	ug/l	7.51	#VALUE!		3500.52	3137.09	3003.73
238 U	# 3	0.001331	0.001331	ug/l	121.79	#VALUE!		266.68	196.68	186.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	603567.44	2.12	572657.25	105.4	60 - 125		618162.81	594195.38	598344.25
45 Sc	# 1	434265.91	2.02	523286.00	83.0	60 - 125		428310.16	444327.06	430160.53
45 Sc	# 3	603617.56	2.09	603286.69	100.1	60 - 125		615587.06	590444.56	604820.94
74 Ge	# 1	140637.03	1.54	170650.48	82.4	60 - 125		138815.39	143029.95	140065.78
74 Ge	# 2	23175.53	5.80	24862.19	93.2	60 - 125		22995.39	24601.15	21930.06
74 Ge	# 3	150675.50	2.26	155795.36	96.7	60 - 125		154383.64	147686.11	149956.73
89 Y	# 3	969151.31	1.55	1011968.20	95.8	60 - 125		982439.88	952818.13	972196.13
115 In	# 3	892182.06	2.22	989458.81	90.2	60 - 125		912930.31	873440.94	890175.00
159 Tb	# 3	1181484.60	2.79	1388283.80	85.1	60 - 125		1214568.10	1148622.60	1181263.10
209 Bi	# 3	709075.06	2.22	829936.50	85.4	60 - 125		726209.88	695343.56	705671.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\255SMPL.D\255SMPL.D#
Date Acquired: Dec 31 2012 12:10 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261371_1-a
Misc Info: 3050 1/5
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.001603	-0.001603	ug/l	139.49	100.00		3.33	0.00	10.00
11 B # 3	0.2009	0.2009	ug/l	88.10	1800.00		7414.97	7348.22	7731.76
23 Na # 1	-20.32	-20.32	ug/l	10.57	81000.00		99043.99	98668.12	98768.73
24 Mg # 1	4.721	4.721	ug/l	15.57	81000.00		21202.09	21846.29	21782.86
27 Al # 1	2.997	2.997	ug/l	13.59	81000.00		12127.52	12988.05	12881.41
39 K # 2	-0.6356	-0.6356	ug/l	64.99	81000.00		7231.59	7264.93	7168.23
40 Ca # 1	3.755	3.755	ug/l	61.78	81000.00		150835.16	151420.80	153896.48
45 Sc # 2	-----	--------		--------	#VALUE!		35294.95	37786.41	35347.22
47 Ti # 3	0.07224	0.07224	ug/l	68.48	1620.00		93.34	86.67	156.69
51 V # 2	0.1336	0.1336	ug/l	4.08	1800.00		385.56	390.01	395.56
52 Cr # 2	0.1733	0.1733	ug/l	12.33	1800.00		452.23	534.46	531.12
55 Mn # 3	0.05868	0.05868	ug/l	10.53	1800.00		3283.72	3260.38	3257.07
56 Fe # 1	8.462	8.462	ug/l	11.92	81000.00		113817.39	115468.05	116903.85
59 Co # 3	0.0006712	0.0006712	ug/l	131.20	1800.00		136.67	136.67	113.34
60 Ni # 2	-0.1149	-0.1149	ug/l	1.73	1800.00		194.45	202.23	197.78
63 Cu # 2	-1.015	-1.015	ug/l	0.70	1800.00		416.68	431.12	444.45
66 Zn # 3	0.1221	0.1221	ug/l	20.89	1800.00		796.71	740.04	763.37
75 As # 2	0.1514	0.1514	ug/l	21.59	100.00		35.67	48.33	41.33
78 Se # 1	0.01449	0.01449	ug/l	74.33	100.00		26.00	27.33	28.67
88 Sr # 3	-0.00504	-0.00504	ug/l	18.76	1800.00		346.68	323.35	293.35
95 Mo # 3	0.1322	0.1322	ug/l	6.41	1800.00		403.35	453.35	416.68
107 Ag # 3	-0.003366	-0.003366	ug/l	63.13	100.00		60.00	90.00	56.67
111 Cd # 3	0.004424	0.004424	ug/l	258.14	100.00		49.87	19.86	53.20
118 Sn # 3	2.256	2.256	ug/l	1.91	1800.00		12401.42	12418.09	12144.57
121 Sb # 3	0.2609	0.2609	ug/l	6.44	100.00		1486.78	1546.80	1576.79
137 Ba # 3	0.01905	0.01905	ug/l	29.28	1800.00		93.34	120.00	113.34
202 Hg # 3	0.01716	0.01716	ug/l	9.20	5.00		57.00	51.33	53.33
205 Tl # 3	0.0003777	0.0003777	ug/l	181.31	20.00		130.01	140.01	113.34
208 Pb # 3	0.04508	0.04508	ug/l	10.41	1800.00		1230.06	1393.41	1340.06
232 Th # 3	0.05289	0.05289	ug/l	3.65	#VALUE!		1963.52	1913.51	1770.15
238 U # 3	-0.00526	-0.00526	ug/l	12.64	#VALUE!		76.67	43.33	63.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	612182.31	3.44	572657.25	106.9	60 - 125		623682.13	624981.56	587883.31
45 Sc # 1	464330.88	9.35	523286.00	88.7	60 - 125		476457.00	500394.56	416141.09
45 Sc # 3	615870.75	3.28	603286.69	102.1	60 - 125		627047.00	627991.75	592573.50
74 Ge # 1	150421.97	8.32	170650.48	88.1	60 - 125		152519.63	161750.19	136996.13
74 Ge # 2	23168.91	1.90	24862.19	93.2	60 - 125		22915.24	23678.43	22913.05
74 Ge # 3	155739.30	3.11	155795.36	100.0	60 - 125		158718.89	158350.34	150148.67
89 Y # 3	998077.06	4.25	1011968.20	98.6	60 - 125		1008673.10	1034189.10	951368.94
115 In # 3	930632.88	3.06	989458.81	94.1	60 - 125		941998.13	951648.31	898252.38
159 Tb # 3	1240955.40	3.12	1388283.80	89.4	60 - 125		1252528.80	1272567.80	1197769.80
209 Bi # 3	744957.25	2.95	829936.50	89.8	60 - 125		758726.31	756522.00	719623.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\256SMPL.D\256SMPL.D#
Date Acquired: Dec 31 2012 12:17 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261371_2-a
Misc Info: 3050 1/5
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.59	11.59	ug/l	9.31	100.00		25520.48	25844.26	26318.29
11 B # 3	42.63	42.63	ug/l	10.43	1800.00		112689.73	113931.04	112420.44
23 Na # 1	1212	1212	ug/l	11.77	81000.00		5411928.00	5497941.00	5459191.00
24 Mg # 1	1269	1269	ug/l	11.35	81000.00		3690361.50	3755081.50	3720632.80
27 Al # 1	1252	1252	ug/l	11.20	81000.00		4196843.00	4195407.00	4206963.00
39 K # 2	1271	1271	ug/l	3.23	81000.00		307418.03	310659.34	314571.97
40 Ca # 1	1283	1283	ug/l	11.96	81000.00		8826637.00	8994517.00	8977370.00
45 Sc # 2	----	--------		--------	#VALUE!		35181.12	32591.40	34364.07
47 Ti # 3	25.08	25.08	ug/l	10.06	1620.00		21179.17	21075.63	20791.93
51 V # 2	24.39	24.39	ug/l	2.87	1800.00		38914.79	39091.80	39686.45
52 Cr # 2	24.77	24.77	ug/l	3.94	1800.00		46166.76	47376.43	47761.94
55 Mn # 3	128.6	128.6	ug/l	9.14	1800.00		1902737.90	1887208.30	1878467.90
56 Fe # 1	1187	1187	ug/l	10.67	81000.00		12548066.00	12509117.00	12592803.00
59 Co # 3	12.7	12.7	ug/l	9.87	1800.00		134019.94	133813.13	130456.06
60 Ni # 2	23.91	23.91	ug/l	3.11	1800.00		19685.02	19857.39	20112.11
63 Cu # 2	23.31	23.31	ug/l	3.10	1800.00		52401.81	52493.22	52310.43
66 Zn # 3	22.52	22.52	ug/l	10.44	1800.00		29447.36	29838.29	29303.93
75 As # 2	23.35	23.35	ug/l	3.74	100.00		3768.07	3851.08	3864.42
78 Se # 1	19.59	19.59	ug/l	10.31	100.00		6049.01	6148.72	6048.68
88 Sr # 3	22.89	22.89	ug/l	10.32	1800.00		444957.34	444777.38	436474.84
95 Mo # 3	25.12	25.12	ug/l	10.17	1800.00		66612.48	65999.70	65451.20
107 Ag # 3	12.66	12.66	ug/l	10.02	100.00		95590.30	95168.56	96076.66
111 Cd # 3	11.35	11.35	ug/l	8.29	100.00		18565.68	17855.12	18365.87
118 Sn # 3	27.15	27.15	ug/l	9.95	1800.00		138604.88	137440.27	138073.27
121 Sb # 3	12.62	12.62	ug/l	10.36	100.00		61526.55	61479.86	61476.27
137 Ba # 3	25.07	25.07	ug/l	10.68	1800.00		62552.55	62793.75	62244.91
202 Hg # 3	1.094	1.094	ug/l	10.49	5.00		1990.13	1973.79	1943.79
205 Tl # 3	10.09	10.09	ug/l	10.90	20.00		136142.11	137365.86	136288.09
208 Pb # 3	12.98	12.98	ug/l	10.76	1800.00		242838.06	243228.56	240308.13
232 Th # 3	23.14	23.14	ug/l	10.34	#VALUE!		549646.75	549637.63	548889.75
238 U # 3	23.64	23.64	ug/l	10.92	#VALUE!		572155.63	574977.75	564516.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	577314.06	8.73	572657.25	100.8	60 - 125		616422.00	520407.28	595112.94
45 Sc # 1	452862.78	10.82	523286.00	86.5	60 - 125		499212.78	457786.22	401589.34
45 Sc # 3	593992.00	9.52	603286.69	98.5	60 - 125		640368.56	530969.13	610638.25
74 Ge # 1	146986.92	10.23	170650.48	86.1	60 - 125		161318.33	148291.45	131350.97
74 Ge # 2	22033.22	2.77	24862.19	88.6	60 - 125		22494.54	21339.71	22265.41
74 Ge # 3	149415.03	9.05	155795.36	95.9	60 - 125		160881.80	134510.33	152852.98
89 Y # 3	952054.69	9.54	1011968.20	94.1	60 - 125		1027471.80	851281.75	977410.63
115 In # 3	896258.75	9.94	989458.81	90.6	60 - 125		971140.69	797719.88	919915.63
159 Tb # 3	1204794.10	9.85	1388283.80	86.8	60 - 125		1292318.50	1069640.90	1252422.90
209 Bi # 3	719134.06	9.82	829936.50	86.6	60 - 125		773933.25	639459.19	744009.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\257SMPL.D\257SMPL.D#
Date Acquired: Dec 31 2012 12:25 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85585-a-53-e
Misc Info: 3050 1/5
Vial Number: 2103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	5.04	5.04	ug/l	5.70	100.00		10483.07	11163.42	11500.33
11 B # 3	14.06	14.06	ug/l	3.53	1800.00		40426.18	41241.00	40870.45
23 Na # 1	111	111	ug/l	4.58	81000.00		923416.25	952383.00	945737.38
24 Mg # 1	9757	9757	ug/l	3.32	81000.00		40024240.00	40343020.00	40444656.00
27 Al # 1	38460	38460	ug/l	3.15	81000.00		180241500.00	182089280.00	182884990.00
39 K # 2	5594	5594	ug/l	10.78	81000.00		1257567.30	1274930.80	1297253.50
40 Ca # 1	23070	23070	ug/l	2.84	81000.00		220638720.00	224240740.00	225767730.00
45 Sc # 2	----	--------		--------	#VALUE!		48441.53	49449.35	43177.46
47 Ti # 3	378.5	378.5	ug/l	3.64	1620.00		455707.19	444728.53	446658.78
51 V # 2	186.5	186.5	ug/l	10.67	1800.00		280372.59	283131.31	288319.78
52 Cr # 2	138	138	ug/l	10.77	1800.00		246081.09	247147.94	252686.00
55 Mn # 3	5159	5159	ug/l	3.67	1800.00	Fail	72894072.00	72935616.00	72833320.00
56 Fe # 1	122300	122300	ug/l	4.90	81000.00	Fail	1248786800.00	1254927000.00	1247152800.00
59 Co # 3	45.29	45.29	ug/l	3.44	1800.00		457930.41	456380.94	452791.44
60 Ni # 2	45.95	45.95	ug/l	10.34	1800.00		36132.90	35653.13	36407.89
63 Cu # 2	55.3	55.3	ug/l	10.53	1800.00		113930.02	114299.10	116027.60
66 Zn # 3	299.8	299.8	ug/l	3.32	1800.00		373496.88	373029.38	369308.47
75 As # 2	68.54	68.54	ug/l	10.56	100.00		10522.36	10624.09	10798.19
78 Se # 1	1.184	1.184	ug/l	1.94	100.00		362.67	376.00	391.01
88 Sr # 3	23.57	23.57	ug/l	1.29	1800.00		933684.75	932277.81	926197.25
95 Mo # 3	3.768	3.768	ug/l	4.41	1800.00		9426.04	9366.10	9489.46
107 Ag # 3	0.1811	0.1811	ug/l	8.37	100.00		1496.78	1370.10	1276.75
111 Cd # 3	0.8832	0.8832	ug/l	7.47	100.00		1340.41	1340.43	1433.74
118 Sn # 3	24.86	24.86	ug/l	3.95	1800.00		120154.80	119342.91	119721.23
121 Sb # 3	1.152	1.152	ug/l	7.11	100.00		5180.92	5577.75	5727.77
137 Ba # 3	441	441	ug/l	3.86	1800.00		1042165.60	1040097.60	1042370.80
202 Hg # 3	0.1566	0.1566	ug/l	5.16	5.00		281.67	264.67	258.67
205 Tl # 3	0.7359	0.7359	ug/l	3.31	20.00		9773.29	10150.22	9886.75
208 Pb # 3	163.3	163.3	ug/l	3.61	1800.00		3006233.80	3018791.30	2976269.00
232 Th # 3	15.56	15.56	ug/l	4.12	#VALUE!		334910.00	327385.06	328861.41
238 U # 3	3.995	3.995	ug/l	4.37	#VALUE!		87067.20	85498.72	86423.62

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	563459.88	3.77	572657.25	98.4	60 - 125		552596.00	587921.81	549861.94
45 Sc # 1	633535.75	3.82	523286.00	121.1	60 - 125		615419.44	624198.31	660989.56
45 Sc # 3	838147.88	3.30	603286.69	138.9	60 - 125	IS F	840215.81	864760.44	809467.38
74 Ge # 1	141533.14	4.84	170650.48	82.9	60 - 125		136684.58	138545.27	149369.59
74 Ge # 2	21049.24	8.89	24862.19	84.7	60 - 125		21815.98	22415.05	18916.68
74 Ge # 3	143166.91	3.77	155795.36	91.9	60 - 125		142141.53	149006.50	138352.73
89 Y # 3	1934432.60	1.70	1011968.20	191.2	60 - 125	IS F	1956802.50	1949927.60	1896568.10
115 In # 3	844034.75	3.78	989458.81	85.3	60 - 125		838438.25	878340.63	815325.19
159 Tb # 3	1181099.10	4.32	1388283.80	85.1	60 - 125		1177748.00	1233733.10	1131816.30
209 Bi # 3	639044.50	3.82	829936.50	77.0	60 - 125		640588.31	662614.50	613930.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\258SMPL.D\258SMPL.D#
Date Acquired: Dec 31 2012 12:32 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85585-a-53-e SD
Misc Info: 3050 1/25
Vial Number: 2104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	5.185	1.037	ug/l	7.32	100.00		2366.88	2430.22	2443.56
11 B	# 3	13.975	2.795	ug/l	14.73	1800.00		13928.71	14168.93	14018.74
23 Na	# 1	42.355	8.471	ug/l	53.61	81000.00		244221.30	246400.39	248291.25
24 Mg	# 1	13335	2667	ug/l	9.60	81000.00		8526910.00	8717890.00	8827632.00
27 Al	# 1	52600	10520	ug/l	10.09	81000.00		38474716.00	39146128.00	40055488.00
39 K	# 2	5335	1067	ug/l	4.40	81000.00		269255.06	271297.34	278392.38
40 Ca	# 1	31665	6333	ug/l	9.35	81000.00		47641980.00	48759256.00	49127972.00
45 Sc	# 2	----	--------		--------	#VALUE!		40568.03	38138.50	39068.00
47 Ti	# 3	517.5	103.5	ug/l	8.36	1620.00		93797.70	94943.37	95503.09
51 V	# 2	179.9	35.98	ug/l	3.26	1800.00		59947.71	60263.06	60397.91
52 Cr	# 2	134.2	26.84	ug/l	3.53	1800.00		52764.04	53295.54	53401.43
55 Mn	# 3	5365	1073	ug/l	7.40	1800.00		15653300.00	15465125.00	15361373.00
56 Fe	# 1	126350	25270	ug/l	8.89	81000.00		268635070.00	272866530.00	273840480.00
59 Co	# 3	48.08	9.616	ug/l	6.87	1800.00		101350.38	98075.63	97483.59
60 Ni	# 2	45.925	9.185	ug/l	2.30	1800.00		8205.21	8128.53	8086.28
63 Cu	# 2	52.75	10.55	ug/l	3.78	1800.00		26027.29	26249.85	26264.26
66 Zn	# 3	346.65	69.33	ug/l	7.88	1800.00		88513.32	88536.84	87759.63
75 As	# 2	70.6	14.12	ug/l	3.14	100.00		2413.50	2405.16	2434.84
78 Se	# 1	1.26	0.252	ug/l	13.18	100.00		93.67	119.00	95.00
88 Sr	# 3	41.485	8.297	ug/l	7.78	1800.00		196138.44	198915.17	194817.94
95 Mo	# 3	3.9035	0.7807	ug/l	13.95	1800.00		1943.49	2120.19	2040.18
107 Ag	# 3	0.1582	0.03164	ug/l	11.24	100.00		350.01	260.01	356.68
111 Cd	# 3	0.969	0.1938	ug/l	9.49	100.00		316.06	319.33	362.69
118 Sn	# 3	25.985	5.197	ug/l	9.48	1800.00		25703.08	25749.84	26020.19
121 Sb	# 3	1.3815	0.2763	ug/l	9.99	100.00		1450.10	1470.11	1570.12
137 Ba	# 3	458.95	91.79	ug/l	10.12	1800.00		222586.53	222287.42	218883.17
202 Hg	# 3	0.202	0.0404	ug/l	3.63	5.00		90.67	81.33	87.67
205 Tl	# 3	0.8485	0.1697	ug/l	17.91	20.00		2226.90	2556.95	2210.23
208 Pb	# 3	177.9	35.58	ug/l	9.10	1800.00		641360.81	648692.00	639931.38
232 Th	# 3	15.63	3.126	ug/l	8.43	#VALUE!		69593.70	69463.19	68733.16
238 U	# 3	3.903	0.7806	ug/l	7.96	#VALUE!		17584.09	17584.02	17764.11

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	598031.06	6.66	572657.25	104.4	60 - 125		609698.56	553646.06	630748.38
45 Sc	# 1	501985.56	7.90	523286.00	95.9	60 - 125		518497.06	530696.94	456762.69
45 Sc	# 3	648963.44	7.73	603286.69	107.6	60 - 125		680967.50	591169.88	674752.94
74 Ge	# 1	149388.16	8.00	170650.48	87.5	60 - 125		153447.34	158784.66	135932.48
74 Ge	# 2	22950.94	2.94	24862.19	92.3	60 - 125		23729.72	22573.82	22549.28
74 Ge	# 3	146648.05	7.27	155795.36	94.1	60 - 125		153752.56	134390.45	151801.13
89 Y	# 3	1162596.80	6.51	1011968.20	114.9	60 - 125		1215189.50	1075918.80	1196682.10
115 In	# 3	865830.63	9.12	989458.81	87.5	60 - 125		907110.81	774744.56	915636.44
159 Tb	# 3	1166242.80	7.97	1388283.80	84.0	60 - 125		1225677.30	1059118.50	1213932.40
209 Bi	# 3	665183.13	7.78	829936.50	80.1	60 - 125		699982.50	605718.50	689848.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\259SMPL.D\259SMPL.D#
Date Acquired: Dec 31 2012 12:40 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85585-a-53-e PDS
Misc Info: 3050 1/5
Vial Number: 2105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	25.98	25.98	ug/l	0.85	100.00		55061.34	55569.23	55499.24
11 B	# 3	51.32	51.32	ug/l	1.81	1800.00		128480.16	127195.57	129819.41
23 Na	# 1	1682	1682	ug/l	7.76	81000.00		10036768.00	10231934.00	10259358.00
24 Mg	# 1	11270	11270	ug/l	8.14	81000.00		44593148.00	45033380.00	44692892.00
27 Al	# 1	38720	38720	ug/l	9.22	81000.00		173974780.00	179720050.00	174281810.00
39 K	# 2	8196	8196	ug/l	14.96	81000.00		1712660.10	1758785.00	1765258.30
40 Ca	# 1	25050	25050	ug/l	8.16	81000.00		229460770.00	236646450.00	234505700.00
45 Sc	# 2	-----	--------		--------	#VALUE!		46221.89	48641.82	39950.09
47 Ti	# 3	382.6	382.6	ug/l	0.49	1620.00		446309.09	446026.50	444289.72
51 V	# 2	215.1	215.1	ug/l	15.09	1800.00		302813.09	305803.41	309809.44
52 Cr	# 2	164.9	164.9	ug/l	14.79	1800.00		275600.84	277539.53	280066.56
55 Mn	# 3	5191	5191	ug/l	1.29	1800.00	Fail	74146640.00	71433856.00	71518248.00
56 Fe	# 1	122400	122400	ug/l	8.25	81000.00	Fail	1203080400.00	1208834300.00	1205221900.00
59 Co	# 3	66.81	66.81	ug/l	0.73	1800.00		671718.31	657518.75	660491.38
60 Ni	# 2	70.13	70.13	ug/l	14.47	1800.00		50964.25	51471.26	51555.80
63 Cu	# 2	79.14	79.14	ug/l	14.91	1800.00		151974.13	152050.63	153515.63
66 Zn	# 3	308	308	ug/l	0.59	1800.00		380593.94	374748.31	375408.66
75 As	# 2	92.74	92.74	ug/l	14.50	100.00		13495.64	13394.57	13514.33
78 Se	# 1	19.37	19.37	ug/l	8.35	100.00		5633.21	5604.88	5591.87
88 Sr	# 3	34.97	34.97	ug/l	1.86	1800.00		1362278.40	1324857.40	1342396.40
95 Mo	# 3	26.97	26.97	ug/l	1.15	1800.00		67043.40	65641.84	65946.13
107 Ag	# 3	17.4	17.4	ug/l	0.72	100.00		123104.89	121865.02	122918.77
111 Cd	# 3	20.94	20.94	ug/l	1.62	100.00		31988.61	31073.97	31147.39
118 Sn	# 3	45.94	45.94	ug/l	0.43	1800.00		218962.11	217465.06	217286.30
121 Sb	# 3	23.45	23.45	ug/l	0.42	100.00		107140.39	106489.97	106140.44
137 Ba	# 3	446.3	446.3	ug/l	0.82	1800.00		1049289.40	1035598.80	1032632.10
202 Hg	# 3	1.152	1.152	ug/l	1.85	5.00		1848.78	1820.77	1772.44
205 Tl	# 3	5.092	5.092	ug/l	0.74	20.00		66707.48	67034.95	66670.56
208 Pb	# 3	179.2	179.2	ug/l	0.79	1800.00		3237199.50	3224156.80	3232799.00
232 Th	# 3	37.76	37.76	ug/l	0.65	#VALUE!		791068.25	783241.50	778827.00
238 U	# 3	26.34	26.34	ug/l	0.63	#VALUE!		561096.63	555557.25	552892.06

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	547634.81	1.34	572657.25	95.6	60 - 125		539169.50	552249.56	551485.44
45 Sc	# 1	611802.50	8.06	523286.00	116.9	60 - 125		597401.81	571289.69	666715.94
45 Sc	# 3	822048.88	0.74	603286.69	136.3	60 - 125	IS F	825770.19	825306.88	815069.69
74 Ge	# 1	136829.45	8.40	170650.48	80.2	60 - 125		133400.72	127434.11	149653.53
74 Ge	# 2	19814.42	13.36	24862.19	79.7	60 - 125		20473.05	22071.32	16898.88
74 Ge	# 3	141132.38	1.07	155795.36	90.6	60 - 125		142688.16	141046.28	139662.67
89 Y	# 3	1881603.10	0.48	1011968.20	185.9	60 - 125	IS F	1873953.90	1891659.50	1879196.00
115 In	# 3	831466.25	0.22	989458.81	84.0	60 - 125		831760.69	833167.88	829470.06
159 Tb	# 3	1158307.80	0.78	1388283.80	83.4	60 - 125		1165761.60	1160907.90	1148253.80
209 Bi	# 3	625141.19	0.40	829936.50	75.3	60 - 125		625850.06	627199.50	622374.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\260SMPL.D\260SMPL.D#
Date Acquired: Dec 31 2012 12:47 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85585-a-53-f ms
Misc Info: 3050 1/5
Vial Number: 2106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	15.38	15.38	ug/l	3.02	100.00		31969.93	32284.02	31883.23
11 B # 3	49.14	49.14	ug/l	2.20	1800.00		119222.45	120814.06	121757.34
23 Na # 1	943.9	943.9	ug/l	10.03	81000.00		5717104.00	5684566.50	5771259.00
24 Mg # 1	9601	9601	ug/l	9.88	81000.00		37498256.00	37081328.00	37979768.00
27 Al # 1	39210	39210	ug/l	10.49	81000.00		175889570.00	171819550.00	178335810.00
39 K # 2	5860	5860	ug/l	1.37	81000.00		1412591.30	1443732.60	1456327.60
40 Ca # 1	21540	21540	ug/l	9.99	81000.00		198588450.00	195961780.00	198029660.00
45 Sc # 2	----	--------		--------	#VALUE!		46515.48	48328.84	49011.20
47 Ti # 3	381.7	381.7	ug/l	3.01	1620.00		434467.47	425021.44	424607.00
51 V # 2	158.5	158.5	ug/l	1.88	1800.00		257920.52	260931.67	259415.81
52 Cr # 2	139.5	139.5	ug/l	1.90	1800.00		268721.88	271619.03	270513.97
55 Mn # 3	5085	5085	ug/l	2.82	1800.00	Fail	71639672.00	70921168.00	68952408.00
56 Fe # 1	106200	106200	ug/l	11.31	81000.00	Fail	1061692700.00	1039783100.00	1057030000.00
59 Co # 3	52.46	52.46	ug/l	2.79	1800.00		527716.81	516252.59	510135.25
60 Ni # 2	60.44	60.44	ug/l	2.72	1800.00		51075.62	50899.52	50688.97
63 Cu # 2	70.33	70.33	ug/l	2.66	1800.00		156553.03	156347.34	155431.14
66 Zn # 3	312.7	312.7	ug/l	2.04	1800.00		384655.78	379356.44	378037.66
75 As # 2	70.54	70.54	ug/l	3.14	100.00		11871.53	11717.76	11744.11
78 Se # 1	18.69	18.69	ug/l	10.05	100.00		5453.16	5484.50	5427.15
88 Sr # 3	34.78	34.78	ug/l	2.66	1800.00		1299066.00	1298297.80	1274144.90
95 Mo # 3	26.16	26.16	ug/l	2.64	1800.00		63935.55	63045.73	62634.30
107 Ag # 3	11.46	11.46	ug/l	2.63	100.00		80401.30	79085.34	79035.32
111 Cd # 3	11.32	11.32	ug/l	2.77	100.00		16941.51	16648.23	16584.95
118 Sn # 3	45.53	45.53	ug/l	2.69	1800.00		215125.11	212234.03	210303.09
121 Sb # 3	7.989	7.989	ug/l	3.25	100.00		36512.40	35770.91	35303.15
137 Ba # 3	424.2	424.2	ug/l	3.17	1800.00		985816.56	981894.25	948839.25
202 Hg # 3	1.198	1.198	ug/l	4.46	5.00		1940.12	1852.45	1833.44
205 Tl # 3	9.505	9.505	ug/l	1.62	20.00		125518.15	124637.89	121751.78
208 Pb # 3	160.4	160.4	ug/l	1.19	1800.00		2901323.30	2882075.30	2851341.00
232 Th # 3	35.96	35.96	ug/l	2.06	#VALUE!		748732.06	742403.44	738426.63
238 U # 3	27.04	27.04	ug/l	2.31	#VALUE!		574094.81	568251.75	563094.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	535765.75	3.05	572657.25	93.6	60 - 125		516990.25	543533.69	546773.44
45 Sc # 1	603022.44	9.36	523286.00	115.2	60 - 125		548160.75	660953.50	599953.06
45 Sc # 3	791847.94	1.68	603286.69	131.3	60 - 125	IS F	776515.38	799398.81	799629.69
74 Ge # 1	138201.34	10.46	170650.48	81.0	60 - 125		124867.30	153569.42	136167.28
74 Ge # 2	22493.21	2.41	24862.19	90.5	60 - 125		21891.68	22945.72	22642.23
74 Ge # 3	140408.44	1.13	155795.36	90.1	60 - 125		138596.41	141499.09	141129.80
89 Y # 3	1817884.40	1.71	1011968.20	179.6	60 - 125	IS F	1784201.60	1824047.50	1845403.80
115 In # 3	818529.25	1.65	989458.81	82.7	60 - 125		803274.44	828792.38	823520.94
159 Tb # 3	1152359.90	0.89	1388283.80	83.0	60 - 125		1146079.00	1164191.10	1146809.60
209 Bi # 3	622087.13	1.36	829936.50	75.0	60 - 125		612506.06	625382.63	628372.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\261SMPL.D\261SMPL.D#
Date Acquired: Dec 31 2012 12:54 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85585-a-53-g msd
Misc Info: 3050 1/5
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	16.08	16.08	ug/l	13.33	100.00		31789.71	32323.87	32461.00
11 B # 3	49.18	49.18	ug/l	12.28	1800.00		116616.05	116447.95	115121.66
23 Na # 1	922.3	922.3	ug/l	8.79	81000.00		5565098.50	5679585.00	5587567.50
24 Mg # 1	13340	13340	ug/l	10.90	81000.00		50826256.00	52100856.00	53624552.00
27 Al # 1	38610	38610	ug/l	11.15	81000.00		167912080.00	172692510.00	178053730.00
39 K # 2	5829	5829	ug/l	7.70	81000.00		1364304.40	1346298.60	1361219.40
40 Ca # 1	30710	30710	ug/l	10.40	81000.00		275249020.00	282691870.00	287658460.00
45 Sc # 2	----	--------		--------	#VALUE!		44177.45	49174.12	49255.96
47 Ti # 3	381	381	ug/l	10.44	1620.00		422803.81	426972.91	428803.22
51 V # 2	194.8	194.8	ug/l	7.02	1800.00		302707.22	303873.94	301721.72
52 Cr # 2	159.8	159.8	ug/l	7.21	1800.00		294458.94	294919.09	292188.25
55 Mn # 3	6086	6086	ug/l	13.73	1800.00	Fail	79339888.00	80991896.00	81017888.00
56 Fe # 1	132100	132100	ug/l	10.77	81000.00	Fail	1265562000.00	1250643100.00	1242984400.00
59 Co # 3	63.85	63.85	ug/l	12.96	1800.00		600649.88	601875.56	601992.00
60 Ni # 2	63.77	63.77	ug/l	7.93	1800.00		51439.89	50881.67	50544.23
63 Cu # 2	71.95	71.95	ug/l	6.93	1800.00		151321.16	152754.84	150878.33
66 Zn # 3	317.4	317.4	ug/l	13.00	1800.00		369002.91	367651.56	369299.72
75 As # 2	83.17	83.17	ug/l	7.36	100.00		13226.12	13176.09	13153.06
78 Se # 1	19.42	19.42	ug/l	11.70	100.00		5468.50	5340.46	5438.82
88 Sr # 3	36.86	36.86	ug/l	4.79	1800.00		1394815.90	1419689.60	1372849.80
95 Mo # 3	27.37	27.37	ug/l	12.40	1800.00		64359.70	63909.07	63453.58
107 Ag # 3	11.54	11.54	ug/l	12.42	100.00		77833.45	77612.31	76839.13
111 Cd # 3	11.53	11.53	ug/l	13.82	100.00		16170.70	16681.22	16491.24
118 Sn # 3	39.76	39.76	ug/l	13.09	1800.00		178847.38	180153.55	179080.72
121 Sb # 3	8.105	8.105	ug/l	13.81	100.00		35089.82	34879.15	35410.15
137 Ba # 3	491	491	ug/l	12.07	1800.00		1098511.80	1088953.60	1076502.40
202 Hg # 3	1.208	1.208	ug/l	13.63	5.00		1809.11	1838.44	1838.44
205 Tl # 3	9.798	9.798	ug/l	14.31	20.00		124707.55	123777.05	124667.68
208 Pb # 3	184.3	184.3	ug/l	14.31	1800.00		3210052.80	3225226.30	3222362.50
232 Th # 3	39.01	39.01	ug/l	12.63	#VALUE!		780113.63	781508.63	777789.56
238 U # 3	28.74	28.74	ug/l	13.04	#VALUE!		581779.19	585966.13	585037.31

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	519816.75	11.89	572657.25	90.8	60 - 125		574361.69	532388.50	452700.09
45 Sc # 1	603413.50	8.22	523286.00	115.3	60 - 125		653677.38	602014.44	554548.56
45 Sc # 3	794908.31	9.46	603286.69	131.8	60 - 125	IS F	860172.13	811860.19	712692.69
74 Ge # 1	132246.84	11.41	170650.48	77.5	60 - 125		146743.22	133378.47	116618.85
74 Ge # 2	21422.60	6.87	24862.19	86.2	60 - 125		19765.81	22578.52	21923.48
74 Ge # 3	135363.70	12.28	155795.36	86.9	60 - 125		149653.00	139307.17	117130.96
89 Y # 3	1858128.80	5.56	1011968.20	183.6	60 - 125	IS F	1954175.80	1871589.80	1748620.40
115 In # 3	799214.81	12.60	989458.81	80.8	60 - 125		889694.56	817181.31	690768.63
159 Tb # 3	1136214.00	13.48	1388283.80	81.8	60 - 125		1269872.90	1169810.00	968959.38
209 Bi # 3	607886.75	12.35	829936.50	73.2	60 - 125		675689.19	620751.69	527219.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\262SMPL.D\262SMPL.D#
Date Acquired: Dec 31 2012 01:02 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85545-a-1-h
Misc Info: 3050 1/25
Vial Number: 2108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.6735	0.1347	ug/l	8.99	100.00		293.34	313.35	280.01
11 B # 3	54.95	10.99	ug/l	10.91	1800.00		32965.20	32100.32	32501.17
23 Na # 1	4573	914.6	ug/l	32.58	81000.00		3290752.00	3251372.80	3276943.80
24 Mg # 1	10790	2158	ug/l	30.88	81000.00		4977689.00	4904495.50	5044562.00
27 Al # 1	46050	9210	ug/l	30.74	81000.00		24327484.00	24187552.00	24404066.00
39 K # 2	4567.5	913.5	ug/l	22.57	81000.00		212570.64	212810.64	214571.25
40 Ca # 1	48025	9605	ug/l	31.37	81000.00		52292780.00	51336632.00	52239076.00
45 Sc # 2	----	--------		--------	#VALUE!		25849.84	34398.01	40936.75
47 Ti # 3	182.1	36.42	ug/l	10.04	1620.00		31317.77	29831.12	30211.56
51 V # 2	13.5	2.7	ug/l	20.05	1800.00		4117.15	4324.98	4334.98
52 Cr # 2	65.8	13.16	ug/l	23.24	1800.00		23888.64	23795.20	23451.45
55 Mn # 3	130.2	26.04	ug/l	6.02	1800.00		380546.91	375590.34	376667.91
56 Fe # 1	48710	9742	ug/l	32.36	81000.00		81085960.00	79753296.00	80021496.00
59 Co # 3	3.468	0.6936	ug/l	3.35	1800.00		7068.22	7358.36	7291.62
60 Ni # 2	31.785	6.357	ug/l	23.27	1800.00		5209.66	5114.09	5280.80
63 Cu # 2	846	169.2	ug/l	22.82	1800.00		345625.66	345250.16	342593.94
66 Zn # 3	2017.5	403.5	ug/l	5.78	1800.00		513133.28	509331.19	508803.75
75 As # 2	7.94	1.588	ug/l	24.54	100.00		261.34	260.00	256.00
78 Se # 1	10.73	2.146	ug/l	30.12	100.00		520.01	528.01	567.34
88 Sr # 3	652	130.4	ug/l	6.74	1800.00		2713083.80	2638263.80	2633533.30
95 Mo # 3	19.8	3.96	ug/l	7.75	1800.00		10259.93	10146.48	10089.79
107 Ag # 3	12.135	2.427	ug/l	7.30	100.00		17959.70	17916.30	17776.20
111 Cd # 3	3.559	0.7118	ug/l	9.67	100.00		1073.45	1066.82	1293.52
118 Sn # 3	83.35	16.67	ug/l	8.57	1800.00		83986.46	82248.61	81200.91
121 Sb # 3	3.941	0.7882	ug/l	9.72	100.00		4020.58	3847.21	3883.89
137 Ba # 3	1261.5	252.3	ug/l	7.86	1800.00		617880.81	611444.56	604524.00
202 Hg # 3	1.0695	0.2139	ug/l	4.03	5.00		548.01	543.34	560.01
205 Tl # 3	0.45145	0.09029	ug/l	6.76	20.00		1300.10	1296.76	1256.76
208 Pb # 3	81.3	16.26	ug/l	5.38	1800.00		292814.94	291052.75	288974.63
232 Th # 3	0.556	0.1112	ug/l	7.93	#VALUE!		4344.12	4620.91	4120.71
238 U # 3	3.19	0.638	ug/l	2.16	#VALUE!		20914.82	21635.80	21472.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	551517.00	7.25	572657.25	96.3	60 - 125		505372.75	574427.19	574750.88
45 Sc # 1	374547.03	27.63	523286.00	71.6	60 - 125		263308.38	467992.47	392340.19
45 Sc # 3	592222.63	7.16	603286.69	98.2	60 - 125		543307.63	614991.06	618369.00
74 Ge # 1	121350.42	28.82	170650.48	71.1	60 - 125		84584.23	154191.95	125275.06
74 Ge # 2	21507.22	21.26	24862.19	86.5	60 - 125		16767.03	21862.83	25891.81
74 Ge # 3	146228.75	5.15	155795.36	93.9	60 - 125		137570.13	149889.88	151226.23
89 Y # 3	1002764.70	4.88	1011968.20	99.1	60 - 125		946284.38	1030063.40	1031946.10
115 In # 3	868129.81	6.60	989458.81	87.7	60 - 125		802008.44	899185.63	903195.50
159 Tb # 3	1149498.90	4.64	1388283.80	82.8	60 - 125		1088497.60	1172708.40	1187290.90
209 Bi # 3	978614.25	3.80	829936.50	117.9	60 - 125		935702.25	1000767.70	999372.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\263_CCV.D\263_CCV.D#
Date Acquired: Dec 31 2012 01:09 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.89 ug/l	7.04	50.00	90 - 110		116263.84	115702.97	115884.63
11 B	88.94 ug/l	7.77	100.00	90 - 110	Fail	233175.63	231901.72	234453.17
23 Na	5515 ug/l	29.63	5000.00	90 - 110	Fail	21572764.00	21190134.00	21758072.00
24 Mg	5598 ug/l	29.76	5000.00	90 - 110	Fail	14679241.00	14404140.00	14668696.00
27 Al	604.8 ug/l	29.22	500.00	90 - 110	Fail	1809201.30	1775551.40	1837465.40
39 K	5488 ug/l	23.96	5000.00	90 - 110		1246008.40	1282534.00	1326025.50
40 Ca	5835 ug/l	30.16	5000.00	90 - 110	Fail	36084956.00	35175444.00	35916336.00
45 Sc	--------	--------		--- ##### - #####		34335.38	43964.30	27747.06
47 Ti	53.87 ug/l	7.16	50.00	90 - 110		46221.02	46665.45	46942.66
51 V	52.25 ug/l	23.23	50.00	90 - 110		80520.69	81203.37	83590.47
52 Cr	52.09 ug/l	23.48	50.00	90 - 110		95191.06	95236.96	98691.18
55 Mn	515.3 ug/l	7.28	500.00	90 - 110		7824654.00	7771503.00	7779634.00
56 Fe	5598 ug/l	28.76	5000.00	90 - 110	Fail	53286464.00	52125544.00	52576436.00
59 Co	53.27 ug/l	6.48	50.00	90 - 110		578510.88	575234.69	567614.63
60 Ni	51.21 ug/l	23.75	50.00	90 - 110		41020.84	40381.70	42139.97
63 Cu	51.38 ug/l	24.10	50.00	90 - 110		108332.01	108011.70	112209.55
66 Zn	51.54 ug/l	6.93	50.00	90 - 110		69351.73	68896.16	68481.33
75 As	54.09 ug/l	24.18	50.00	90 - 110		8509.32	8454.96	8883.50
78 Se	54.28 ug/l	29.00	50.00	90 - 110		15186.66	14712.61	15008.51
88 Sr	49.66 ug/l	6.12	50.00	90 - 110		1003777.20	992964.25	989100.06
95 Mo	54.11 ug/l	6.69	50.00	90 - 110		141859.09	140525.50	140310.66
107 Ag	53.99 ug/l	6.27	50.00	90 - 110		407994.09	403100.88	400110.94
111 Cd	52.09 ug/l	6.73	50.00	90 - 110		83946.51	82115.29	82480.36
118 Sn	51.9 ug/l	7.02	50.00	90 - 110		261775.33	260720.00	261061.25
121 Sb	52.14 ug/l	6.79	50.00	90 - 110		250857.16	252390.59	250455.09
137 Ba	52.3 ug/l	7.36	50.00	90 - 110		129368.84	128677.85	129674.73
202 Hg	2.655 ug/l	6.10	2.50	90 - 110		4560.32	4508.31	4513.65
205 Tl	10.74 ug/l	7.55	10.00	90 - 110		141766.83	141306.08	143078.94
208 Pb	53.82 ug/l	7.06	50.00	90 - 110		986595.06	973105.38	979608.13
232 Th	50.01 ug/l	6.55		--- ##### - #####		1132322.80	1126806.00	1134449.60
238 U	49.09 ug/l	6.22		--- ##### - #####		1135403.50	1125227.80	1128317.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	587421.88	6.90	572657.25	102.6	60 - 125		592754.13	624997.44	544514.00
45 Sc	420425.50	25.26	523286.00	80.3	60 - 125		299486.91	463218.81	498570.84
45 Sc	612098.50	6.48	603286.69	101.5	60 - 125		621426.75	646297.44	568571.25
74 Ge	136336.72	24.39	170650.48	79.9	60 - 125		98959.51	147420.64	162630.00
74 Ge	22171.91	20.84	24862.19	89.2	60 - 125		22235.65	26761.16	17518.91
74 Ge	153584.64	7.12	155795.36	98.6	60 - 125		156599.08	162686.30	141468.55
89 Y	984520.69	6.32	1011968.20	97.3	60 - 125		999318.94	1038011.60	916231.63
115 In	884981.75	6.78	989458.81	89.4	60 - 125		919944.06	919253.94	815747.50
159 Tb	1172613.00	6.70	1388283.80	84.5	60 - 125		1193862.00	1238320.40	1085656.60
209 Bi	682626.44	6.05	829936.50	82.3	60 - 125		701263.19	711355.63	635260.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

6 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\264_CCB.D\264_CCB.D#
Date Acquired: Dec 31 2012 01:17 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00772	0.00772	ug/l	11.76	#VALUE!		26.67	23.33	26.67
11 B	# 3	0.8113	0.8113	ug/l	6.62	#VALUE!		8798.88	8662.17	8705.49
23 Na	# 1	-25.24	-25.24	ug/l	20.34	#VALUE!		66090.17	67692.32	67829.64
24 Mg	# 1	-1.467	-1.467	ug/l	18.13	#VALUE!		2646.93	2683.59	2573.58
27 Al	# 1	-0.1978	-0.1978	ug/l	78.16	#VALUE!		1460.10	1390.09	1496.77
39 K	# 2	-3.433	-3.433	ug/l	111.77	#VALUE!		6054.49	6254.57	6321.23
40 Ca	# 1	0.5917	0.5917	ug/l	897.58	#VALUE!		113639.18	113799.58	113672.23
45 Sc	# 2	----	--------		--------	#VALUE!		28719.60	38352.82	37261.15
47 Ti	# 3	-0.003261	-0.003261	ug/l	440.36	#VALUE!		60.00	40.00	40.00
51 V	# 2	0.007819	0.007819	ug/l	413.22	#VALUE!		188.89	138.89	174.45
52 Cr	# 2	-0.003228	-0.003228	ug/l	618.03	#VALUE!		156.67	126.67	151.11
55 Mn	# 3	-0.009517	-0.009517	ug/l	29.46	#VALUE!		2220.21	2140.18	2143.51
56 Fe	# 1	0.3544	0.3544	ug/l	205.02	#VALUE!		24593.36	23972.81	24656.98
59 Co	# 3	0.003456	0.003456	ug/l	61.52	#VALUE!		160.01	176.67	130.00
60 Ni	# 2	-0.3232	-0.3232	ug/l	0.35	#VALUE!		15.56	18.89	18.89
63 Cu	# 2	-1.179	-1.179	ug/l	0.78	#VALUE!		67.78	58.89	47.78
66 Zn	# 3	-0.353	-0.353	ug/l	7.13	#VALUE!		90.00	156.67	123.34
75 As	# 2	0.02419	0.02419	ug/l	138.11	#VALUE!		19.67	14.33	22.33
78 Se	# 1	0.04778	0.04778	ug/l	78.34	#VALUE!		33.00	32.33	34.67
88 Sr	# 3	-0.01121	-0.01121	ug/l	5.59	#VALUE!		200.01	180.01	183.34
95 Mo	# 3	0.09494	0.09494	ug/l	11.03	#VALUE!		340.01	306.68	290.01
107 Ag	# 3	0.004065	0.004065	ug/l	66.96	#VALUE!		136.67	133.34	100.00
111 Cd	# 3	0.01871	0.01871	ug/l	29.46	#VALUE!		66.56	53.24	69.91
118 Sn	# 3	0.02877	0.02877	ug/l	15.33	#VALUE!		480.02	530.02	496.69
121 Sb	# 3	0.2782	0.2782	ug/l	7.42	#VALUE!		1573.45	1680.14	1476.77
137 Ba	# 3	-0.003427	-0.003427	ug/l	116.31	#VALUE!		46.67	40.00	60.00
202 Hg	# 3	0.03273	0.03273	ug/l	4.41	#VALUE!		79.67	80.00	75.33
205 Tl	# 3	0.02247	0.02247	ug/l	10.38	#VALUE!		443.35	413.35	386.68
208 Pb	# 3	0.001195	0.001195	ug/l	186.53	#VALUE!		453.35	413.35	480.02
232 Th	# 3	0.1291	0.1291	ug/l	7.42	#VALUE!		3750.57	3617.21	3317.11
238 U	# 3	0.002577	0.002577	ug/l	20.52	#VALUE!		253.34	250.01	230.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	584572.81	0.76	572657.25	102.1	60 - 125		579666.13	588337.94	585714.38
45 Sc	# 1	424516.97	24.88	523286.00	81.1	60 - 125		495625.69	474704.09	303221.16
45 Sc	# 3	609056.75	1.58	603286.69	101.0	60 - 125		598131.00	616171.75	612867.63
74 Ge	# 1	138439.75	24.08	170650.48	81.1	60 - 125		163253.30	151520.50	100545.43
74 Ge	# 2	22414.71	15.59	24862.19	90.2	60 - 125		18380.20	24494.98	24368.95
74 Ge	# 3	152087.88	0.64	155795.36	97.6	60 - 125		152533.50	152755.27	150974.86
89 Y	# 3	960428.31	0.95	1011968.20	94.9	60 - 125		950957.69	961110.81	969216.44
115 In	# 3	902385.00	0.78	989458.81	91.2	60 - 125		894309.13	906394.88	906450.94
159 Tb	# 3	1175806.10	1.92	1388283.80	84.7	60 - 125		1159866.30	1201684.80	1165867.40
209 Bi	# 3	704598.44	0.40	829936.50	84.9	60 - 125		702184.38	707722.38	703888.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\265SMPL.D\265SMPL.D#
Date Acquired: Dec 31 2012 01:24 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261128_1-a
Misc Info: DW STR8
Vial Number: 2201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.03233	0.03233	ug/l	14.79	100.00		90.00	96.67	73.34
11 B	# 3	0.1191	0.1191	ug/l	163.06	1800.00		7324.89	7408.27	7414.95
23 Na	# 1	-20.62	-20.62	ug/l	16.51	81000.00		87347.27	86730.95	89125.81
24 Mg	# 1	0.3997	0.3997	ug/l	135.75	81000.00		7671.75	7351.61	8158.64
27 Al	# 1	2.566	2.566	ug/l	24.22	81000.00		9289.20	9879.45	10990.13
39 K	# 2	-4.066	-4.066	ug/l	77.10	81000.00		6588.01	6234.52	6427.94
40 Ca	# 1	4.683	4.683	ug/l	74.59	81000.00		141080.00	141618.20	145846.20
45 Sc	# 2	----	--------		--------	#VALUE!		37431.79	31000.22	39376.91
47 Ti	# 3	0.0006538	0.0006538	ug/l	2323.30	1620.00		63.34	50.00	40.00
51 V	# 2	-0.0373	-0.0373	ug/l	27.56	1800.00		95.56	104.45	108.89
52 Cr	# 2	-0.0002515	-0.0002515	ug/l	11765.00	1800.00		132.22	195.56	144.45
55 Mn	# 3	0.04577	0.04577	ug/l	90.17	1800.00		3640.46	2860.30	2706.93
56 Fe	# 1	4.584	4.584	ug/l	29.63	81000.00		62402.15	65107.84	73853.81
59 Co	# 3	0.004885	0.004885	ug/l	66.94	1800.00		186.67	143.34	193.34
60 Ni	# 2	-0.02424	-0.02424	ug/l	195.46	1800.00		298.89	273.34	263.34
63 Cu	# 2	0.1594	0.1594	ug/l	98.43	1800.00		3133.62	2991.38	3186.97
66 Zn	# 3	-0.1826	-0.1826	ug/l	6.99	1800.00		360.02	373.35	340.01
75 As	# 2	-0.0178	-0.0178	ug/l	82.58	100.00		12.67	13.33	12.00
78 Se	# 1	0.01911	0.01911	ug/l	109.73	100.00		28.67	24.33	25.67
88 Sr	# 3	-0.005012	-0.005012	ug/l	62.79	1800.00		370.02	300.01	266.68
95 Mo	# 3	0.03289	0.03289	ug/l	28.38	1800.00		160.01	130.00	146.67
107 Ag	# 3	-0.00137	-0.00137	ug/l	100.00	100.00		86.67	76.67	80.00
111 Cd	# 3	-0.003709	-0.003709	ug/l	30.39	100.00		26.62	26.63	26.62
118 Sn	# 3	-0.04006	-0.04006	ug/l	2.29	1800.00		136.67	156.67	150.00
121 Sb	# 3	0.03444	0.03444	ug/l	17.49	100.00		353.35	373.35	396.68
137 Ba	# 3	-0.001621	-0.001621	ug/l	340.90	1800.00		60.00	63.34	36.67
202 Hg	# 3	0.01639	0.01639	ug/l	22.26	5.00		54.33	47.33	50.00
205 Tl	# 3	0.009288	0.009288	ug/l	43.77	20.00		233.34	196.67	280.01
208 Pb	# 3	0.00196	0.00196	ug/l	197.09	1800.00		503.35	506.69	376.68
232 Th	# 3	0.01906	0.01906	ug/l	15.51	#VALUE!		1043.40	1046.73	940.06
238 U	# 3	0.0007144	0.0007144	ug/l	147.12	#VALUE!		223.34	210.01	180.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	622131.13	7.73	572657.25	108.6	60 - 125		577910.94	673292.94	615189.63
45 Sc	# 1	422294.63	15.85	523286.00	80.7	60 - 125		389128.97	499330.06	378424.91
45 Sc	# 3	623891.38	7.11	603286.69	103.4	60 - 125		593062.50	674701.25	603910.44
74 Ge	# 1	139774.94	17.88	170650.48	81.9	60 - 125		123689.31	168568.64	127066.89
74 Ge	# 2	23642.47	13.73	24862.19	95.1	60 - 125		25210.86	19908.64	25807.90
74 Ge	# 3	156631.92	6.02	155795.36	100.5	60 - 125		149123.39	167221.91	153550.45
89 Y	# 3	973629.75	6.34	1011968.20	96.2	60 - 125		933842.81	1044789.40	942257.25
115 In	# 3	899543.75	7.05	989458.81	90.9	60 - 125		847845.81	970296.75	880488.75
159 Tb	# 3	1173337.90	7.09	1388283.80	84.5	60 - 125		1115059.50	1268653.10	1136301.30
209 Bi	# 3	721661.50	6.80	829936.50	87.0	60 - 125		688423.13	778037.81	698523.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\266SMPL.D\266SMPL.D#
Date Acquired: Dec 31 2012 01:32 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: llcs 680-261128_2-a
Misc Info: DW STR8
Vial Number: 2202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.4538	0.4538	ug/l	2.27	100.00		1076.73	1063.40	1136.73
11 B # 3	18.87	18.87	ug/l	4.58	1800.00		57005.14	57252.20	57756.92
23 Na # 1	36.11	36.11	ug/l	39.24	81000.00		304783.88	303164.91	306388.94
24 Mg # 1	59.4	59.4	ug/l	19.28	81000.00		161435.70	159582.55	163423.45
27 Al # 1	13.38	13.38	ug/l	19.48	81000.00		41912.96	41515.67	42681.47
39 K # 2	54.88	54.88	ug/l	26.29	81000.00		18816.50	19497.20	19877.55
40 Ca # 1	309.3	309.3	ug/l	19.50	81000.00		1987081.90	1980902.30	2041698.50
45 Sc # 2	----	--------		--------	#VALUE!		25829.98	35559.49	37274.97
47 Ti # 3	1.09	1.09	ug/l	10.08	1620.00		956.72	1093.39	956.72
51 V # 2	1.097	1.097	ug/l	23.49	1800.00		1872.33	1736.76	1899.00
52 Cr # 2	1.053	1.053	ug/l	23.58	1800.00		2103.47	2002.35	2065.69
55 Mn # 3	2.103	2.103	ug/l	2.33	1800.00		35077.10	34586.18	34633.11
56 Fe # 1	56.79	56.79	ug/l	20.87	81000.00		563034.44	552662.44	569455.50
59 Co # 3	0.437	0.437	ug/l	4.55	1800.00		4877.42	5027.51	4834.08
60 Ni # 2	0.09338	0.09338	ug/l	115.55	1800.00		361.12	313.34	355.56
63 Cu # 2	0.02559	0.02559	ug/l	1030.50	1800.00		2571.31	2436.85	2572.42
66 Zn # 3	26.88	26.88	ug/l	3.28	1800.00		36710.81	37278.59	36717.45
75 As # 2	1.258	1.258	ug/l	24.50	100.00		217.34	207.67	207.67
78 Se # 1	0.6567	0.6567	ug/l	17.53	100.00		202.00	214.34	197.33
88 Sr # 3	0.1886	0.1886	ug/l	2.66	1800.00		4037.24	4260.65	4287.30
95 Mo # 3	1.153	1.153	ug/l	3.84	1800.00		3037.02	3203.73	3250.41
107 Ag # 3	1.08	1.08	ug/l	1.49	100.00		8348.89	8358.90	8625.69
111 Cd # 3	0.1169	0.1169	ug/l	13.85	100.00		252.37	195.65	228.97
118 Sn # 3	1.575	1.575	ug/l	1.95	1800.00		8589.00	8415.62	8639.07
121 Sb # 3	0.6684	0.6684	ug/l	4.91	100.00		3553.80	3583.81	3470.45
137 Ba # 3	2.08	2.08	ug/l	2.82	1800.00		5424.39	5324.33	5374.32
202 Hg # 3	0.1138	0.1138	ug/l	7.21	5.00		238.34	233.67	216.00
205 Tl # 3	0.2263	0.2263	ug/l	3.80	20.00		3147.08	3193.76	3107.06
208 Pb # 3	0.3442	0.3442	ug/l	4.80	1800.00		6954.15	6707.47	6680.79
232 Th # 3	0.01278	0.01278	ug/l	21.74	#VALUE!		813.38	926.72	880.05
238 U # 3	-0.003964	-0.003964	ug/l	9.80	#VALUE!		103.34	83.34	90.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	614063.63	4.76	572657.25	107.2	60 - 125		589721.75	605965.44	646503.69
45 Sc # 1	410372.13	19.61	523286.00	78.4	60 - 125		359607.53	503167.19	368341.69
45 Sc # 3	617455.81	2.40	603286.69	102.3	60 - 125		611150.19	606817.56	634399.75
74 Ge # 1	135459.98	21.06	170650.48	79.4	60 - 125		115354.30	168112.30	122913.33
74 Ge # 2	21671.52	18.49	24862.19	87.2	60 - 125		17241.78	22725.45	25047.33
74 Ge # 3	155997.47	2.33	155795.36	100.1	60 - 125		157211.02	151914.19	158867.22
89 Y # 3	982100.94	2.59	1011968.20	97.0	60 - 125		963828.81	971387.50	1011086.60
115 In # 3	912896.25	3.01	989458.81	92.3	60 - 125		907482.19	888526.63	942680.06
159 Tb # 3	1185847.90	2.61	1388283.80	85.4	60 - 125		1161633.10	1175196.80	1220713.80
209 Bi # 3	732169.00	1.91	829936.50	88.2	60 - 125		733739.94	717467.38	745299.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\267SMPL.D\267SMPL.D#
Date Acquired: Dec 31 2012 01:40 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261128_3-a
Misc Info: DW STR8
Vial Number: 2203
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	23.2	23.2	ug/l	1.08	100.00		53864.80	53727.76	53420.16
11 B	# 3	75.61	75.61	ug/l	1.10	1800.00		203485.17	201988.98	201539.45
23 Na	# 1	2100	2100	ug/l	14.93	81000.00		8979107.00	8971973.00	8973818.00
24 Mg	# 1	2145	2145	ug/l	14.49	81000.00		6048683.00	6072718.00	6046119.00
27 Al	# 1	2132	2132	ug/l	15.29	81000.00		6935986.50	6858793.00	6858724.00
39 K	# 2	2049	2049	ug/l	0.71	81000.00		514147.06	523909.94	532179.63
40 Ca	# 1	2185	2185	ug/l	15.31	81000.00		14657996.00	14545573.00	14489713.00
45 Sc	# 2	----	--------		--------	#VALUE!		36013.28	36083.34	35966.49
47 Ti	# 3	42.84	42.84	ug/l	0.92	1620.00		37347.91	37474.64	37811.98
51 V	# 2	39.56	39.56	ug/l	0.42	1800.00		66092.51	66836.14	67971.49
52 Cr	# 2	39.87	39.87	ug/l	0.45	1800.00		78762.55	79659.53	81047.38
55 Mn	# 3	216.8	216.8	ug/l	0.69	1800.00		3312840.30	3340785.00	3314380.00
56 Fe	# 1	1988	1988	ug/l	13.62	81000.00		21021606.00	20530404.00	20607570.00
59 Co	# 3	21.8	21.8	ug/l	0.72	1800.00		236251.03	239129.63	238075.20
60 Ni	# 2	39.68	39.68	ug/l	0.63	1800.00		34413.05	34639.05	34701.38
63 Cu	# 2	40.44	40.44	ug/l	0.24	1800.00		92953.80	93557.01	94892.77
66 Zn	# 3	53.83	53.83	ug/l	0.27	1800.00		72965.77	72785.17	72844.84
75 As	# 2	46.74	46.74	ug/l	1.31	100.00		8082.47	7956.74	8143.16
78 Se	# 1	48.99	48.99	ug/l	12.49	100.00		15013.86	15004.52	14913.11
88 Sr	# 3	39.51	39.51	ug/l	0.36	1800.00		770181.88	777503.31	775090.75
95 Mo	# 3	43.86	43.86	ug/l	0.39	1800.00		116177.76	115423.13	115825.66
107 Ag	# 3	22.21	22.21	ug/l	0.43	100.00		167820.75	167908.08	169712.61
111 Cd	# 3	22.91	22.91	ug/l	0.90	100.00		37233.20	36589.01	37089.99
118 Sn	# 3	42.34	42.34	ug/l	0.71	1800.00		216386.55	217122.73	214906.19
121 Sb	# 3	23.28	23.28	ug/l	0.17	100.00		113550.71	113976.92	114148.72
137 Ba	# 3	43.05	43.05	ug/l	0.74	1800.00		108532.52	107874.55	107340.63
202 Hg	# 3	2.117	2.117	ug/l	0.68	5.00		3866.81	3855.81	3790.12
205 Tl	# 3	17.87	17.87	ug/l	0.16	20.00		237519.30	237296.34	236358.05
208 Pb	# 3	22.82	22.82	ug/l	0.62	1800.00		419956.81	416763.78	414088.81
232 Th	# 3	39.26	39.26	ug/l	1.08	#VALUE!		936519.56	945206.94	947163.94
238 U	# 3	39.6	39.6	ug/l	0.44	#VALUE!		967661.25	968143.44	966426.56

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	594528.75	0.69	572657.25	103.8	60 - 125		592675.50	591707.94	599202.81
45 Sc	# 1	438312.22	13.45	523286.00	83.8	60 - 125		370217.97	472230.38	472488.31
45 Sc	# 3	617924.75	0.53	603286.69	102.4	60 - 125		621145.63	614615.63	618013.00
74 Ge	# 1	145460.41	11.48	170650.48	85.2	60 - 125		126269.32	156689.28	153422.61
74 Ge	# 2	23206.31	1.03	24862.19	93.3	60 - 125		22966.72	23209.29	23442.91
74 Ge	# 3	155037.84	0.26	155795.36	99.5	60 - 125		154975.28	154672.78	155465.48
89 Y	# 3	960057.38	0.13	1011968.20	94.9	60 - 125		958804.38	961235.38	960132.50
115 In	# 3	894694.69	0.20	989458.81	90.4	60 - 125		893490.69	893851.13	896742.25
159 Tb	# 3	1172234.90	0.22	1388283.80	84.4	60 - 125		1172444.60	1174754.60	1169505.30
209 Bi	# 3	722907.44	0.49	829936.50	87.1	60 - 125		726611.44	722635.19	719475.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\268SMPL.D\268SMPL.D#
Date Acquired: Dec 31 2012 01:47 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 600-65666-m-1-e
Misc Info: DW STR8
Vial Number: 2204
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02205	0.02205	ug/l	43.59	100.00		80.00	30.00	70.00
11 B # 3	129.8	129.8	ug/l	11.00	1800.00		335512.16	334384.16	339801.09
23 Na # 1	115500	115500	ug/l	14.39	81000.00		481074880.00	491376740.00	488206020.00
24 Mg # 1	3234	3234	ug/l	14.22	81000.00		9129974.00	9215188.00	9211566.00
27 Al # 1	5.583	5.583	ug/l	14.34	81000.00		20151.13	20214.49	20805.10
39 K # 2	1279	1279	ug/l	17.57	81000.00		297003.81	302079.06	312870.69
40 Ca # 1	13140	13140	ug/l	14.57	81000.00		88098880.00	87388880.00	87177096.00
45 Sc # 2	----	--------		--------	#VALUE!		36060.50	38926.16	29029.20
47 Ti # 3	0.657	0.657	ug/l	13.30	1620.00		573.36	613.36	650.03
51 V # 2	0.06442	0.06442	ug/l	49.40	1800.00		228.89	262.23	267.78
52 Cr # 2	0.02257	0.02257	ug/l	56.05	1800.00		178.89	206.67	186.67
55 Mn # 3	41.81	41.81	ug/l	12.17	1800.00		595841.50	600325.13	591812.50
56 Fe # 1	28.56	28.56	ug/l	15.29	81000.00		301955.53	303525.47	305481.97
59 Co # 3	0.03478	0.03478	ug/l	26.79	1800.00		470.02	500.02	413.35
60 Ni # 2	0.01268	0.01268	ug/l	331.62	1800.00		285.56	295.56	277.78
63 Cu # 2	-0.6592	-0.6592	ug/l	11.47	1800.00		1130.05	1164.49	1134.49
66 Zn # 3	39.35	39.35	ug/l	10.95	1800.00		49948.70	49243.46	49611.03
75 As # 2	1.041	1.041	ug/l	16.69	100.00		180.33	179.00	181.00
78 Se # 1	0.08247	0.08247	ug/l	22.65	100.00		42.00	45.00	47.33
88 Sr # 3	269.9	269.9	ug/l	13.01	1800.00		5073500.50	5149712.50	4991933.50
95 Mo # 3	3.446	3.446	ug/l	11.27	1800.00		8632.38	8318.83	8185.44
107 Ag # 3	0.01558	0.01558	ug/l	32.11	100.00		203.34	200.01	170.01
111 Cd # 3	0.02541	0.02541	ug/l	42.03	100.00		83.91	64.01	54.05
118 Sn # 3	0.1202	0.1202	ug/l	21.48	1800.00		1013.39	830.04	810.04
121 Sb # 3	0.1063	0.1063	ug/l	17.02	100.00		743.37	630.03	620.03
137 Ba # 3	189.9	189.9	ug/l	11.18	1800.00		434452.72	435555.09	436305.94
202 Hg # 3	0.02807	0.02807	ug/l	18.42	5.00		67.33	60.00	57.33
205 Tl # 3	0.06164	0.06164	ug/l	20.28	20.00		1020.06	850.05	763.38
208 Pb # 3	0.2639	0.2639	ug/l	17.22	1800.00		5020.47	5097.13	4640.42
232 Th # 3	0.1971	0.1971	ug/l	12.15	#VALUE!		4980.95	4294.07	4314.08
238 U # 3	0.04954	0.04954	ug/l	25.80	#VALUE!		1376.78	1223.42	970.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	588843.25	10.85	572657.25	102.8	60 - 125		611856.75	516649.78	638023.25
45 Sc # 1	441835.66	15.40	523286.00	84.4	60 - 125		413651.78	392408.81	519446.31
45 Sc # 3	609775.00	11.07	603286.69	101.1	60 - 125		631869.50	534029.81	663425.63
74 Ge # 1	138531.83	15.59	170650.48	81.2	60 - 125		130716.45	121937.39	162941.64
74 Ge # 2	21761.93	14.32	24862.19	87.5	60 - 125		22120.09	24683.57	18482.13
74 Ge # 3	145057.61	10.82	155795.36	93.1	60 - 125		150534.20	127349.75	157288.86
89 Y # 3	929907.50	10.94	1011968.20	91.9	60 - 125		961053.13	816303.69	1012365.60
115 In # 3	825393.81	10.59	989458.81	83.4	60 - 125		858629.88	726264.75	891286.75
159 Tb # 3	1112882.30	11.11	1388283.80	80.2	60 - 125		1158281.30	973030.31	1207335.30
209 Bi # 3	622967.69	10.79	829936.50	75.1	60 - 125		648087.19	546789.94	674026.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\269SMPL.D\269SMPL.D#
Date Acquired: Dec 31 2012 01:54 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 600-65666-m-1-f ms
Misc Info: DW STR8
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	22.02	22.02	ug/l	0.27	100.00		48243.24	49429.72	49383.00
11 B # 3	208.3	208.3	ug/l	0.93	1800.00		520496.66	528933.44	525096.69
23 Na # 1	142700	142700	ug/l	32.55	81000.00		494372510.00	488897380.00	500028320.00
24 Mg # 1	6405	6405	ug/l	32.49	81000.00		14945081.00	14811161.00	15086811.00
27 Al # 1	2506	2506	ug/l	32.29	81000.00		6686463.50	6656902.50	6761077.00
39 K # 2	3747	3747	ug/l	28.56	81000.00		794945.94	806165.31	829108.81
40 Ca # 1	18510	18510	ug/l	33.20	81000.00		102054290.00	99725064.00	102004220.00
45 Sc # 2	----	--------		--------	#VALUE!		38406.80	37246.02	24406.86
47 Ti # 3	42.05	42.05	ug/l	2.58	1620.00		37889.02	36105.55	37825.32
51 V # 2	46.57	46.57	ug/l	28.65	1800.00		65701.16	66735.93	68844.61
52 Cr # 2	45.06	45.06	ug/l	28.74	1800.00		74900.05	76578.77	78848.26
55 Mn # 3	255.3	255.3	ug/l	1.85	1800.00		3708680.80	3643820.30	3721758.80
56 Fe # 1	2487	2487	ug/l	34.68	81000.00		20076544.00	19631644.00	20237360.00
59 Co # 3	21.63	21.63	ug/l	0.87	1800.00		221717.81	224755.09	221382.31
60 Ni # 2	42.84	42.84	ug/l	29.41	1800.00		30873.51	31596.98	32764.51
63 Cu # 2	42.93	42.93	ug/l	28.91	1800.00		83071.85	84570.84	86494.08
66 Zn # 3	83.83	83.83	ug/l	1.36	1800.00		106431.21	106585.32	107255.87
75 As # 2	51.91	51.91	ug/l	28.22	100.00		7459.53	7627.27	7790.67
78 Se # 1	53.51	53.51	ug/l	34.57	100.00		12690.42	12499.30	12625.05
88 Sr # 3	307.3	307.3	ug/l	0.36	1800.00		5834208.00	5808627.50	5795398.00
95 Mo # 3	49.28	49.28	ug/l	0.96	1800.00		120358.87	120996.23	120775.55
107 Ag # 3	20.74	20.74	ug/l	0.07	100.00		146901.53	146071.36	144844.84
111 Cd # 3	21.19	21.19	ug/l	0.90	100.00		31651.01	31777.57	31730.81
118 Sn # 3	43.15	43.15	ug/l	0.87	1800.00		203767.77	205246.81	203897.31
121 Sb # 3	23.28	23.28	ug/l	0.83	100.00		105440.69	106449.30	105007.81
137 Ba # 3	229.2	229.2	ug/l	0.50	1800.00		533628.44	535198.06	529196.44
202 Hg # 3	2.219	2.219	ug/l	0.82	5.00		3485.05	3478.39	3505.73
205 Tl # 3	16.95	16.95	ug/l	0.58	20.00		213298.45	213675.05	212284.50
208 Pb # 3	21.82	21.82	ug/l	0.97	1800.00		376532.59	379103.75	377698.22
232 Th # 3	43.16	43.16	ug/l	0.65	#VALUE!		900797.19	895911.94	901981.63
238 U # 3	43.65	43.65	ug/l	0.21	#VALUE!		929133.19	923757.88	923082.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	572042.50	1.44	572657.25	99.9	60 - 125		562620.94	575511.75	577994.81
45 Sc # 1	385742.06	33.78	523286.00	73.7	60 - 125		270635.16	527205.63	359385.47
45 Sc # 3	624960.94	0.65	603286.69	103.6	60 - 125		629570.19	623530.88	621781.81
74 Ge # 1	120495.99	34.80	170650.48	70.6	60 - 125		82492.25	165480.67	113515.05
74 Ge # 2	20651.91	22.68	24862.19	83.1	60 - 125		23409.98	23301.68	15244.07
74 Ge # 3	146302.63	0.94	155795.36	93.9	60 - 125		147180.31	147006.59	144720.97
89 Y # 3	927069.44	0.41	1011968.20	91.6	60 - 125		928089.44	930257.50	922861.44
115 In # 3	829924.50	0.77	989458.81	83.9	60 - 125		836053.81	830478.19	823241.44
159 Tb # 3	1111148.80	0.87	1388283.80	80.0	60 - 125		1118222.10	1115024.60	1100199.60
209 Bi # 3	627302.38	0.46	829936.50	75.6	60 - 125		630132.00	627429.63	624345.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\270SMPL.D\270SMPL.D#
Date Acquired: Dec 31 2012 02:02 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 600-65666-m-1-g msd
Misc Info: DW STR8
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	22.46	22.46	ug/l	3.94	100.00		48300.22	49413.14	49309.46
11 B	# 3	216.7	216.7	ug/l	3.03	1800.00		533186.75	535225.19	536657.94
23 Na	# 1	126300	126300	ug/l	35.56	81000.00		492033380.00	516860740.00	506639360.00
24 Mg	# 1	5567	5567	ug/l	35.35	81000.00		14694086.00	15321223.00	14990196.00
27 Al	# 1	2160	2160	ug/l	34.79	81000.00		6562674.00	6776655.50	6680741.50
39 K	# 2	3309	3309	ug/l	7.66	81000.00		804490.38	813100.06	829406.00
40 Ca	# 1	16230	16230	ug/l	34.35	81000.00		101454740.00	103948490.00	103151500.00
45 Sc	# 2	----	--------		--------	#VALUE!		35435.45	39302.40	34462.47
47 Ti	# 3	45.59	45.59	ug/l	2.95	1620.00		38947.79	38089.39	38183.03
51 V	# 2	40.45	40.45	ug/l	8.02	1800.00		65322.16	65916.28	67978.07
52 Cr	# 2	39.28	39.28	ug/l	7.49	1800.00		75068.44	76175.02	77619.78
55 Mn	# 3	271.8	271.8	ug/l	3.70	1800.00		3759954.00	3776325.00	3769306.50
56 Fe	# 1	2138	2138	ug/l	36.01	81000.00		19227584.00	20183248.00	19499832.00
59 Co	# 3	22.89	22.89	ug/l	3.37	1800.00		226403.33	225786.58	225994.78
60 Ni	# 2	37.27	37.27	ug/l	7.86	1800.00		31299.76	31345.46	31943.07
63 Cu	# 2	37.47	37.47	ug/l	7.33	1800.00		83738.13	84722.70	85111.07
66 Zn	# 3	87.32	87.32	ug/l	3.28	1800.00		106823.48	106374.05	106726.05
75 As	# 2	45.56	45.56	ug/l	7.95	100.00		7568.91	7563.91	7732.98
78 Se	# 1	46.54	46.54	ug/l	35.24	100.00		12337.85	12790.16	12508.30
88 Sr	# 3	323.1	323.1	ug/l	2.31	1800.00		5973706.00	5883235.50	5907362.50
95 Mo	# 3	52.87	52.87	ug/l	3.36	1800.00		123322.15	121929.11	121624.14
107 Ag	# 3	21.96	21.96	ug/l	3.78	100.00		147832.39	146380.08	143430.81
111 Cd	# 3	22.29	22.29	ug/l	4.50	100.00		31877.10	31867.42	30758.77
118 Sn	# 3	45.17	45.17	ug/l	2.82	1800.00		204544.22	200177.78	201276.61
121 Sb	# 3	24.47	24.47	ug/l	3.84	100.00		105061.09	104940.44	104508.39
137 Ba	# 3	247.4	247.4	ug/l	4.25	1800.00		545079.00	547214.19	536855.13
202 Hg	# 3	2.322	2.322	ug/l	4.85	5.00		3434.04	3480.72	3377.36
205 Tl	# 3	17.61	17.61	ug/l	2.73	20.00		210898.48	211886.42	213095.95
208 Pb	# 3	22.71	22.71	ug/l	2.97	1800.00		378752.88	376219.63	374198.13
232 Th	# 3	45.7	45.7	ug/l	3.90	#VALUE!		893458.94	895951.88	895413.75
238 U	# 3	46.12	46.12	ug/l	4.21	#VALUE!		916368.63	923736.25	915991.13

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	561014.94	2.75	572657.25	98.0	60 - 125		578782.69	551169.56	553092.63
45 Sc	# 1	443284.72	29.01	523286.00	84.7	60 - 125		551723.13	301253.09	476877.94
45 Sc	# 3	594529.13	3.53	603286.69	98.5	60 - 125		608311.44	570389.50	604886.38
74 Ge	# 1	136357.27	29.46	170650.48	79.9	60 - 125		171697.97	92675.38	144698.45
74 Ge	# 2	22598.49	7.66	24862.19	90.9	60 - 125		21430.41	24587.10	21777.96
74 Ge	# 3	140429.64	3.45	155795.36	90.1	60 - 125		144493.08	135076.75	141719.06
89 Y	# 3	898584.13	2.78	1011968.20	88.8	60 - 125		913194.75	869785.75	912771.94
115 In	# 3	784382.25	3.84	989458.81	79.3	60 - 125		813716.06	753546.31	785884.38
159 Tb	# 3	1064127.10	2.78	1388283.80	76.7	60 - 125		1074319.50	1030742.50	1087319.40
209 Bi	# 3	590079.81	3.73	829936.50	71.1	60 - 125		610326.19	566658.56	593254.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\271SMPL.D\271SMPL.D#
Date Acquired: Dec 31 2012 02:09 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 600-65667-m-1-c
Misc Info: DW STR8
Vial Number: 2207
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.03118	0.03118	ug/l	29.29	100.00		100.00	73.34	63.34
11 B	# 3	116.3	116.3	ug/l	6.58	1800.00		302840.84	301601.81	303877.28
23 Na	# 1	99450	99450	ug/l	12.75	81000.00		415663840.00	410588190.00	410626720.00
24 Mg	# 1	4108	4108	ug/l	11.29	81000.00		11403455.00	11444275.00	11596303.00
27 Al	# 1	5.468	5.468	ug/l	7.63	81000.00		18752.91	19540.47	20925.28
39 K	# 2	1183	1183	ug/l	8.88	81000.00		284016.69	291391.19	289766.31
40 Ca	# 1	20620	20620	ug/l	11.58	81000.00		134644210.00	134795390.00	136110960.00
45 Sc	# 2	----	--------		--------	#VALUE!		33400.26	32091.19	40244.32
47 Ti	# 3	0.8544	0.8544	ug/l	12.49	1620.00		876.72	770.04	790.04
51 V	# 2	0.09322	0.09322	ug/l	14.49	1800.00		302.23	301.12	312.23
52 Cr	# 2	0.0458	0.0458	ug/l	30.94	1800.00		244.45	236.67	231.12
55 Mn	# 3	51.39	51.39	ug/l	5.65	1800.00		766548.75	756309.50	759236.88
56 Fe	# 1	51.44	51.44	ug/l	13.78	81000.00		514825.72	513137.19	519646.59
59 Co	# 3	0.04324	0.04324	ug/l	18.44	1800.00		650.03	523.35	536.69
60 Ni	# 2	-0.07244	-0.07244	ug/l	37.71	1800.00		223.34	223.34	218.89
63 Cu	# 2	-0.8171	-0.8171	ug/l	4.58	1800.00		797.80	860.03	832.25
66 Zn	# 3	0.751	0.751	ug/l	8.00	1800.00		1516.77	1570.11	1563.45
75 As	# 2	0.4227	0.4227	ug/l	5.21	100.00		77.33	83.33	91.00
78 Se	# 1	0.1099	0.1099	ug/l	14.94	100.00		47.00	54.33	53.00
88 Sr	# 3	225.9	225.9	ug/l	7.08	1800.00		4346671.00	4275308.50	4310206.50
95 Mo	# 3	3.928	3.928	ug/l	7.68	1800.00		10186.54	9662.87	9592.82
107 Ag	# 3	0.02149	0.02149	ug/l	7.22	100.00		246.68	250.01	223.34
111 Cd	# 3	0.02281	0.02281	ug/l	72.64	100.00		86.74	73.58	36.93
118 Sn	# 3	0.1034	0.1034	ug/l	10.62	1800.00		823.38	826.71	830.05
121 Sb	# 3	0.09516	0.09516	ug/l	10.45	100.00		666.70	663.37	566.69
137 Ba	# 3	138.1	138.1	ug/l	6.83	1800.00		329970.94	323173.44	324325.78
202 Hg	# 3	0.02941	0.02941	ug/l	15.08	5.00		71.33	62.33	61.67
205 Tl	# 3	0.07841	0.07841	ug/l	8.52	20.00		1160.08	1093.41	1063.40
208 Pb	# 3	0.02359	0.02359	ug/l	19.47	1800.00		826.70	786.70	843.37
232 Th	# 3	0.2096	0.2096	ug/l	7.56	#VALUE!		5194.36	5030.99	4480.79
238 U	# 3	0.06466	0.06466	ug/l	8.05	#VALUE!		1630.14	1526.79	1486.78

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	586824.75	6.32	572657.25	102.5	60 - 125		568226.25	629515.06	562732.94
45 Sc	# 1	432342.34	11.88	523286.00	82.6	60 - 125		379756.88	434892.56	482377.63
45 Sc	# 3	631704.25	6.42	603286.69	104.7	60 - 125		610228.13	678467.38	606417.31
74 Ge	# 1	134561.09	13.70	170650.48	78.9	60 - 125		116827.83	133231.42	153624.03
74 Ge	# 2	22029.16	9.43	24862.19	88.6	60 - 125		20832.69	20826.06	24428.73
74 Ge	# 3	149717.95	5.39	155795.36	96.1	60 - 125		147320.95	158719.64	143113.28
89 Y	# 3	938373.81	6.65	1011968.20	92.7	60 - 125		905800.94	1010346.60	898974.13
115 In	# 3	844668.13	6.47	989458.81	85.4	60 - 125		823595.06	906725.31	803684.00
159 Tb	# 3	1125313.60	6.52	1388283.80	81.1	60 - 125		1099561.80	1208086.90	1068292.10
209 Bi	# 3	634478.94	5.58	829936.50	76.4	60 - 125		623061.56	674183.63	606191.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\272SMPL.D\272SMPL.D#
Date Acquired: Dec 31 2012 02:16 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 600-65667-m-1-c SD
Misc Info: DW STR8 1/5
Vial Number: 2208
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.01236	-0.002472	ug/l	36.63	100.00		3.33	0.00	3.33
11 B	# 3	130.8	26.16	ug/l	14.39	1800.00		73152.01	72177.95	73971.96
23 Na	# 1	100550	20110	ug/l	10.46	81000.00		83833536.00	83727480.00	85018544.00
24 Mg	# 1	4304.5	860.9	ug/l	10.70	81000.00		2426981.30	2456423.00	2400626.30
27 Al	# 1	3.72	0.744	ug/l	15.77	81000.00		4470.64	4684.04	4630.70
39 K	# 2	1191.5	238.3	ug/l	3.28	81000.00		62601.30	63721.51	63922.15
40 Ca	# 1	20905	4181	ug/l	9.74	81000.00		27415106.00	28140922.00	27602352.00
45 Sc	# 2	----	--------		--------	#VALUE!		33082.43	31978.27	36307.73
47 Ti	# 3	0.6985	0.1397	ug/l	20.82	1620.00		170.01	163.34	173.34
51 V	# 2	0.04991	0.009982	ug/l	63.65	1800.00		173.34	176.67	164.45
52 Cr	# 2	-0.09665	-0.01933	ug/l	34.03	1800.00		124.45	116.67	102.22
55 Mn	# 3	53.7	10.74	ug/l	13.27	1800.00		161713.78	161052.31	161079.42
56 Fe	# 1	47.22	9.444	ug/l	15.96	81000.00		113576.22	115772.77	114588.32
59 Co	# 3	0.009765	0.001953	ug/l	66.16	1800.00		136.67	143.34	133.34
60 Ni	# 2	-0.44055	-0.08811	ug/l	7.51	1800.00		211.11	207.78	206.67
63 Cu	# 2	-5.58	-1.116	ug/l	0.49	1800.00		205.56	191.11	184.45
66 Zn	# 3	1.3375	0.2675	ug/l	42.54	1800.00		926.72	890.05	956.72
75 As	# 2	0.27895	0.05579	ug/l	34.81	100.00		24.33	20.00	27.33
78 Se	# 1	0.028575	0.005715	ug/l	224.67	100.00		21.67	20.67	24.67
88 Sr	# 3	227.55	45.51	ug/l	13.16	1800.00		889867.50	875468.94	879383.81
95 Mo	# 3	4.1135	0.8227	ug/l	15.60	1800.00		2190.21	2080.18	2196.86
107 Ag	# 3	-0.038675	-0.007735	ug/l	24.96	100.00		16.67	36.67	43.33
111 Cd	# 3	-0.00628	-0.001256	ug/l	553.98	100.00		32.63	42.67	15.96
118 Sn	# 3	0.06295	0.01259	ug/l	154.96	1800.00		456.69	350.01	390.02
121 Sb	# 3	0.3491	0.06982	ug/l	26.73	100.00		570.03	510.02	503.36
137 Ba	# 3	137.45	27.49	ug/l	12.53	1800.00		67012.52	66711.51	66661.66
202 Hg	# 3	0.1373	0.02746	ug/l	11.80	5.00		60.33	70.00	66.33
205 Tl	# 3	0.131	0.0262	ug/l	19.21	20.00		440.02	443.36	466.69
208 Pb	# 3	-0.037435	-0.007487	ug/l	24.78	1800.00		286.68	286.68	273.34
232 Th	# 3	0.29085	0.05817	ug/l	19.10	#VALUE!		1896.85	1780.15	1713.49
238 U	# 3	-0.02046	-0.004092	ug/l	17.49	#VALUE!		93.34	83.34	66.67

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	590455.44	12.99	572657.25	103.1	60 - 125		540717.38	678810.00	551838.88
45 Sc	# 1	434518.22	10.14	523286.00	83.0	60 - 125		383932.72	464421.31	455200.59
45 Sc	# 3	612465.75	13.05	603286.69	101.5	60 - 125		562862.56	704656.25	569878.63
74 Ge	# 1	137729.22	13.48	170650.48	80.7	60 - 125		118246.13	155235.23	139706.28
74 Ge	# 2	21839.09	2.44	24862.19	87.8	60 - 125		22047.14	21234.19	22235.93
74 Ge	# 3	151725.13	13.99	155795.36	97.4	60 - 125		138801.02	176232.20	140142.17
89 Y	# 3	960372.50	13.59	1011968.20	94.9	60 - 125		887774.75	1110998.60	882344.06
115 In	# 3	876507.50	13.35	989458.81	88.6	60 - 125		806101.00	1011620.10	811801.25
159 Tb	# 3	1154707.40	13.78	1388283.80	83.2	60 - 125		1067540.30	1338408.50	1058173.50
209 Bi	# 3	672420.00	12.75	829936.50	81.0	60 - 125		624225.13	771441.25	621593.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\273SMPL.D\273SMPL.D#
Date Acquired: Dec 31 2012 02:24 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 600-65667-m-1-c PDS
Misc Info: DW STR8
Vial Number: 2209
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	22.56	22.56	ug/l	1.18	100.00		50281.62	50635.97	50157.81
11 B	# 3	154	154	ug/l	1.03	1800.00		391726.38	388208.06	392364.25
23 Na	# 1	105300	105300	ug/l	35.25	81000.00		412151870.00	407694560.00	419972260.00
24 Mg	# 1	6495	6495	ug/l	35.23	81000.00		17121854.00	16926130.00	17434924.00
27 Al	# 1	239.3	239.3	ug/l	35.58	81000.00		725972.69	711709.25	738641.13
39 K	# 2	3374	3374	ug/l	0.55	81000.00		805842.88	809135.50	818763.31
40 Ca	# 1	23780	23780	ug/l	35.73	81000.00		146735300.00	144838780.00	150429310.00
45 Sc	# 2	----	--------		--------	#VALUE!		35365.38	36078.95	35701.59
47 Ti	# 3	22.72	22.72	ug/l	1.38	1620.00		20495.00	20749.47	20027.90
51 V	# 2	21.41	21.41	ug/l	0.35	1800.00		34204.57	34204.55	34683.15
52 Cr	# 2	20.82	20.82	ug/l	1.63	1800.00		38736.66	39736.55	40089.50
55 Mn	# 3	270.5	270.5	ug/l	1.26	1800.00		3944277.50	3967652.80	3977759.00
56 Fe	# 1	2382	2382	ug/l	37.83	81000.00		21263476.00	21065064.00	22022076.00
59 Co	# 3	22.26	22.26	ug/l	0.98	1800.00		232269.38	231266.42	233082.86
60 Ni	# 2	19.8	19.8	ug/l	0.65	1800.00		16346.20	16305.06	16765.48
63 Cu	# 2	19.4	19.4	ug/l	1.27	1800.00		43888.72	44053.48	43855.23
66 Zn	# 3	23.64	23.64	ug/l	1.42	1800.00		30839.87	30746.46	31190.46
75 As	# 2	23.09	23.09	ug/l	1.59	100.00		3700.72	3762.73	3864.75
78 Se	# 1	24.65	24.65	ug/l	36.22	100.00		6531.51	6488.50	6597.54
88 Sr	# 3	241.9	241.9	ug/l	1.91	1800.00		4551980.00	4689406.50	4645006.50
95 Mo	# 3	27.21	27.21	ug/l	1.36	1800.00		66695.87	67290.88	68151.02
107 Ag	# 3	16.59	16.59	ug/l	0.10	100.00		118358.13	117663.27	117830.83
111 Cd	# 3	21.48	21.48	ug/l	1.71	100.00		33114.11	31848.20	32502.62
118 Sn	# 3	22.02	22.02	ug/l	0.55	1800.00		105976.08	104775.60	105882.93
121 Sb	# 3	21.87	21.87	ug/l	1.06	100.00		99401.33	100840.15	100547.74
137 Ba	# 3	157.5	157.5	ug/l	0.33	1800.00		370268.91	369318.66	370626.75
202 Hg	# 3	1.059	1.059	ug/l	1.20	5.00		1660.09	1681.76	1678.09
205 Tl	# 3	4.464	4.464	ug/l	0.37	20.00		56220.60	56745.73	56585.25
208 Pb	# 3	22.17	22.17	ug/l	0.34	1800.00		387052.88	385368.69	385764.63
232 Th	# 3	22.28	22.28	ug/l	0.57	#VALUE!		463815.97	465346.34	462882.03
238 U	# 3	21.82	21.82	ug/l	1.17	#VALUE!		462246.25	459737.28	464037.81

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	573584.81	0.94	572657.25	100.2	60 - 125		568320.25	573297.31	579136.88
45 Sc	# 1	435408.34	29.83	523286.00	83.2	60 - 125		461085.34	550518.50	294621.16
45 Sc	# 3	633010.44	0.49	603286.69	104.9	60 - 125		635176.06	634399.69	629455.44
74 Ge	# 1	134647.30	30.46	170650.48	78.9	60 - 125		145613.13	169058.47	89270.32
74 Ge	# 2	21960.71	0.99	24862.19	88.3	60 - 125		21913.23	21771.96	22196.93
74 Ge	# 3	148276.78	0.83	155795.36	95.2	60 - 125		149652.20	147886.28	147291.84
89 Y	# 3	937853.63	0.61	1011968.20	92.7	60 - 125		943060.06	938832.69	931668.13
115 In	# 3	838668.19	0.31	989458.81	84.8	60 - 125		841682.69	837369.69	836952.31
159 Tb	# 3	1117353.90	0.11	1388283.80	80.5	60 - 125		1116056.10	1118526.90	1117478.60
209 Bi	# 3	626585.00	0.75	829936.50	75.5	60 - 125		629269.44	629354.75	621130.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File:	C:\ICPCHEM\1\DATA\12L27r00.B\274SMPL.D\274SMPL.D#		
Date Acquired:	Dec 31 2012 02:31 pm		
Acq. Method:	EPA2002C.M		
Operator:	RM		
Sample Name:	660-51800-j-1-a		
Misc Info:	DW STR8		
Vial Number:	2210		
Current Method:	C:\ICPCHEM\1\METHODS\EPA2002C.M		
Calibration File:	C:\ICPCHEM\1\CALIB\EPA2002C.C		
Last Cal. Update:	Dec 31 2012 01:37 pm		
Sample Type:	Sample		Tune Step
Dilution Factor:	1.00	1	babh2.u
Autodil Factor:	Undiluted	2	babhe.u
Final Dil Factor:	1.00	3	babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.258	0.258	ug/l	9.12	100.00		550.02	683.37	693.36
11	B	# 3	14.77	14.77	ug/l	10.56	1800.00		47355.28	47615.90	47452.10
23	Na	# 1	4707	4707	ug/l	18.83	81000.00		22408536.00	23156686.00	22933372.00
24	Mg	# 1	920.6	920.6	ug/l	20.00	81000.00		2925906.50	3064608.80	2958477.00
27	Al	# 1	3767	3767	ug/l	19.79	81000.00		13629306.00	14312925.00	13895163.00
39	K	# 2	266.5	266.5	ug/l	25.37	81000.00		73704.34	75391.27	74922.81
40	Ca	# 1	3744	3744	ug/l	19.20	81000.00		28171382.00	29049930.00	28410226.00
45	Sc	# 2	----	--------		--------	#VALUE!		41316.76	30389.26	43545.42
47	Ti	# 3	16.9	16.9	ug/l	7.54	1620.00		16464.83	16535.04	16444.86
51	V	# 2	4.841	4.841	ug/l	23.57	1800.00		8254.10	8458.65	8354.15
52	Cr	# 2	11.07	11.07	ug/l	24.88	1800.00		21699.30	22919.65	22189.89
55	Mn	# 3	10.2	10.2	ug/l	9.14	1800.00		164941.28	163484.44	162931.02
56	Fe	# 1	1351	1351	ug/l	17.77	81000.00		14833515.00	15518558.00	15036171.00
59	Co	# 3	0.1644	0.1644	ug/l	13.11	1800.00		2040.18	1993.50	1886.82
60	Ni	# 2	0.5395	0.5395	ug/l	39.35	1800.00		747.80	781.13	764.47
63	Cu	# 2	-0.6882	-0.6882	ug/l	19.99	1800.00		1096.71	1221.16	1182.27
66	Zn	# 3	2.254	2.254	ug/l	11.33	1800.00		3673.80	3870.53	3693.81
75	As	# 2	1.548	1.548	ug/l	22.53	100.00		281.67	281.34	287.00
78	Se	# 1	0.1821	0.1821	ug/l	29.15	100.00		80.00	88.00	80.67
88	Sr	# 3	119.1	119.1	ug/l	6.81	1800.00		3066303.30	3054984.50	3075099.00
95	Mo	# 3	1.285	1.285	ug/l	9.35	1800.00		3640.48	3527.12	3533.79
107	Ag	# 3	0.1637	0.1637	ug/l	15.05	100.00		1476.78	1346.76	1296.76
111	Cd	# 3	0.04344	0.04344	ug/l	26.98	100.00		118.84	102.21	95.54
118	Sn	# 3	0.212	0.212	ug/l	16.76	1800.00		1523.44	1513.45	1393.44
121	Sb	# 3	0.3014	0.3014	ug/l	9.54	100.00		1756.81	1710.14	1733.47
137	Ba	# 3	86.64	86.64	ug/l	8.15	1800.00		224571.72	224865.98	224069.70
202	Hg	# 3	0.01975	0.01975	ug/l	18.70	5.00		59.33	57.67	55.00
205	Tl	# 3	0.02863	0.02863	ug/l	13.12	20.00		516.69	540.03	503.35
208	Pb	# 3	5.257	5.257	ug/l	8.61	1800.00		102451.76	101441.95	99921.75
232	Th	# 3	1.855	1.855	ug/l	7.97	#VALUE!		45718.69	44969.51	45691.60
238	U	# 3	2.878	2.878	ug/l	8.93	#VALUE!		71205.59	71547.27	70341.90

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	631125.88	9.37	572657.25	110.2	60 - 125		584845.63	610814.38	697717.69
45	Sc	# 1	506922.25	16.77	523286.00	96.9	60 - 125		519876.78	416188.81	584701.06
45	Sc	# 3	688703.88	7.66	603286.69	114.2	60 - 125		651868.94	665088.94	749153.56
74	Ge	# 1	157350.09	15.53	170650.48	92.2	60 - 125		157615.89	132786.09	181648.31
74	Ge	# 2	23967.87	19.47	24862.19	96.4	60 - 125		26608.51	18579.99	26715.13
74	Ge	# 3	161058.30	8.84	155795.36	103.4	60 - 125		150368.33	155597.84	177208.70
89	Y	# 3	1265145.80	7.29	1011968.20	125.0	60 - 125	IS F	1198855.60	1226169.50	1370412.10
115	In	# 3	929228.44	8.34	989458.81	93.9	60 - 125		873262.19	896700.19	1017722.90
159	Tb	# 3	1237495.90	7.71	1388283.80	89.1	60 - 125		1171652.10	1193957.60	1346877.90
209	Bi	# 3	732207.50	8.52	829936.50	88.2	60 - 125		690450.44	702266.00	803906.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures	0 :Max. Number of Failures Allowed
1 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\275_CCV.D\275_CCV.D#
Date Acquired: Dec 31 2012 02:39 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.76 ug/l	3.53	50.00	90 - 110		118808.88	121069.14	117993.50
11 B	91.66 ug/l	2.47	100.00	90 - 110		240431.14	244883.20	243554.89
23 Na	4572 ug/l	0.95	5000.00	90 - 110		21637250.00	21676824.00	21802212.00
24 Mg	4593 ug/l	0.70	5000.00	90 - 110		14507823.00	14482983.00	14665980.00
27 Al	481.4 ug/l	0.92	500.00	90 - 110		1736183.80	1739588.90	1768985.80
39 K	5216 ug/l	7.92	5000.00	90 - 110		1283578.10	1289600.60	1295422.10
40 Ca	4761 ug/l	1.48	5000.00	90 - 110		35077604.00	35566128.00	35844240.00
45 Sc	--------	--------	---	##### - #####		32218.17	38647.29	37967.06
47 Ti	52.39 ug/l	1.26	50.00	90 - 110		45632.97	46387.96	45659.69
51 V	49.29 ug/l	7.70	50.00	90 - 110		80760.57	81144.49	82333.91
52 Cr	48.9 ug/l	7.98	50.00	90 - 110		95088.27	95124.13	96319.08
55 Mn	517.6 ug/l	0.45	500.00	90 - 110		7872203.00	7745375.00	7725071.50
56 Fe	4557 ug/l	3.79	5000.00	90 - 110		52221368.00	51820384.00	51742452.00
59 Co	53.47 ug/l	1.39	50.00	90 - 110		571879.94	571548.06	573456.69
60 Ni	48.21 ug/l	8.79	50.00	90 - 110		41106.55	40595.42	41098.76
63 Cu	47.94 ug/l	8.27	50.00	90 - 110		107759.07	107845.91	108519.99
66 Zn	52.31 ug/l	1.55	50.00	90 - 110		69375.03	69143.57	69980.32
75 As	52.09 ug/l	8.58	50.00	90 - 110		8792.12	8732.42	8766.11
78 Se	45.15 ug/l	3.51	50.00	90 - 110		15136.28	14970.48	15167.98
88 Sr	50.27 ug/l	0.45	50.00	90 - 110		983061.00	971793.00	973052.81
95 Mo	53.4 ug/l	0.41	50.00	90 - 110		139251.92	139140.98	138011.84
107 Ag	53.06 ug/l	0.97	50.00	90 - 110		398751.59	393128.75	396229.72
111 Cd	51.6 ug/l	0.48	50.00	90 - 110		82450.43	82537.86	80826.47
118 Sn	50.92 ug/l	0.96	50.00	90 - 110		254973.48	257405.47	255181.81
121 Sb	51.59 ug/l	0.46	50.00	90 - 110		248896.27	248704.11	246933.14
137 Ba	51.65 ug/l	1.12	50.00	90 - 110		128479.13	126253.84	127626.61
202 Hg	2.754 ug/l	0.54	2.50	90 - 110	Fail	4708.70	4719.04	4702.03
205 Tl	10.78 ug/l	1.53	10.00	90 - 110		139442.38	140568.58	140741.64
208 Pb	54.17 ug/l	0.73	50.00	90 - 110		974384.25	969190.00	966305.81
232 Th	49.34 ug/l	0.85	---	##### - #####		1118094.80	1128331.40	1112035.30
238 U	48.48 ug/l	0.56	---	##### - #####		1122494.90	1124694.40	1110297.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	592591.75	2.62	572657.25	103.5	60 - 125		581416.00	586011.06	610348.19
45 Sc	485821.19	1.07	523286.00	92.8	60 - 125		487507.63	479980.28	489975.69
45 Sc	617854.63	0.62	603286.69	102.4	60 - 125		622154.50	616666.13	614743.25
74 Ge	157623.78	4.07	170650.48	92.4	60 - 125		163553.19	150824.44	158493.72
74 Ge	22746.62	7.92	24862.19	91.5	60 - 125		20703.28	24104.86	23431.73
74 Ge	152159.36	1.35	155795.36	97.7	60 - 125		154500.55	150706.69	151270.84
89 Y	951256.44	0.31	1011968.20	94.0	60 - 125		954042.69	951550.38	948176.13
115 In	880834.06	0.87	989458.81	89.0	60 - 125		887496.31	882561.13	872444.75
159 Tb	1149778.40	1.09	1388283.80	82.8	60 - 125		1160146.50	1153407.10	1135781.60
209 Bi	683032.63	0.53	829936.50	82.3	60 - 125		687079.06	682011.25	680007.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\276_CCB.D\276_CCB.D#
Date Acquired: Dec 31 2012 02:46 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.008957	0.008957	ug/l	39.28	#VALUE!		20.00	36.67	30.00
11 B # 3	2.421	2.421	ug/l	4.62	#VALUE!		13168.14	12897.95	12994.65
23 Na # 1	-20.92	-20.92	ug/l	2.62	#VALUE!		89688.70	87615.59	92010.56
24 Mg # 1	-1.117	-1.117	ug/l	9.82	#VALUE!		3597.10	3610.47	4133.91
27 Al # 1	0.02936	0.02936	ug/l	470.71	#VALUE!		1950.16	2113.51	2786.98
39 K # 2	-2.579	-2.579	ug/l	18.53	#VALUE!		6394.62	6264.56	6581.37
40 Ca # 1	0.04682	0.04682	ug/l	521.57	#VALUE!		116827.76	116662.95	119396.98
45 Sc # 2	----	--------		--------	#VALUE!		34561.64	34847.74	35276.34
47 Ti # 3	0.001822	0.001822	ug/l	234.36	#VALUE!		46.67	53.34	53.34
51 V # 2	0.01522	0.01522	ug/l	29.15	#VALUE!		182.23	173.34	190.00
52 Cr # 2	-0.002861	-0.002861	ug/l	202.41	#VALUE!		136.67	158.89	145.56
55 Mn # 3	0.02191	0.02191	ug/l	23.64	#VALUE!		2586.93	2726.95	2570.24
56 Fe # 1	0.6217	0.6217	ug/l	33.52	#VALUE!		27070.36	27130.47	30813.42
59 Co # 3	0.006042	0.006042	ug/l	29.68	#VALUE!		163.34	183.34	200.01
60 Ni # 2	-0.3342	-0.3342	ug/l	0.80	#VALUE!		7.78	6.67	11.11
63 Cu # 2	-1.188	-1.188	ug/l	0.13	#VALUE!		43.33	37.78	38.89
66 Zn # 3	-0.3162	-0.3162	ug/l	6.65	#VALUE!		203.34	156.67	153.34
75 As # 2	0.03764	0.03764	ug/l	10.29	#VALUE!		21.33	21.33	20.67
78 Se # 1	0.0437	0.0437	ug/l	21.97	#VALUE!		33.67	31.33	37.00
88 Sr # 3	-0.008105	-0.008105	ug/l	23.74	#VALUE!		203.34	256.68	276.68
95 Mo # 3	0.0982	0.0982	ug/l	24.30	#VALUE!		296.68	263.34	386.68
107 Ag # 3	0.006276	0.006276	ug/l	28.24	#VALUE!		123.34	146.67	143.34
111 Cd # 3	0.01312	0.01312	ug/l	83.16	#VALUE!		73.24	46.58	39.88
118 Sn # 3	0.03844	0.03844	ug/l	11.03	#VALUE!		560.03	513.35	553.36
121 Sb # 3	0.3316	0.3316	ug/l	6.71	#VALUE!		1940.17	1746.81	1736.81
137 Ba # 3	-0.00665	-0.00665	ug/l	145.37	#VALUE!		60.00	46.67	13.33
202 Hg # 3	0.04679	0.04679	ug/l	7.02	#VALUE!		107.67	96.00	103.33
205 Tl # 3	0.01531	0.01531	ug/l	25.00	#VALUE!		370.02	270.01	296.68
208 Pb # 3	-0.0005615	-0.0005615	ug/l	405.70	#VALUE!		456.68	393.35	373.35
232 Th # 3	0.1304	0.1304	ug/l	9.62	#VALUE!		3890.62	3493.84	3317.13
238 U # 3	0.005045	0.005045	ug/l	26.22	#VALUE!		336.68	290.01	276.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	593931.31	1.22	572657.25	103.7	60 - 125		585632.31	597216.38	598945.13
45 Sc # 1	430931.19	0.11	523286.00	82.4	60 - 125		430656.31	431486.44	430650.81
45 Sc # 3	608141.50	0.35	603286.69	100.8	60 - 125		605674.00	609378.31	609372.19
74 Ge # 1	138879.78	0.29	170650.48	81.4	60 - 125		138418.92	139069.38	139151.05
74 Ge # 2	22065.26	1.24	24862.19	88.8	60 - 125		21828.67	22003.33	22363.78
74 Ge # 3	151387.45	0.50	155795.36	97.2	60 - 125		151714.33	151926.33	150521.69
89 Y # 3	947707.56	0.38	1011968.20	93.6	60 - 125		945288.00	946017.88	951817.06
115 In # 3	886454.13	0.72	989458.81	89.6	60 - 125		890781.44	879095.69	889485.50
159 Tb # 3	1148737.40	0.65	1388283.80	82.7	60 - 125		1157369.80	1145169.00	1143673.50
209 Bi # 3	699704.81	0.17	829936.50	84.3	60 - 125		700514.88	698336.69	700262.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\277SMPL.D\277SMPL.D#
Date Acquired: Dec 31 2012 02:54 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 660-51800-j-2-a
Misc Info: DW STR8
Vial Number: 2211
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.1285	0.1285	ug/l	17.85	100.00		250.01	360.01	293.34
11 B # 3	33.43	33.43	ug/l	1.26	1800.00		92380.49	91992.58	91110.67
23 Na # 1	14660	14660	ug/l	0.52	81000.00		61294752.00	62123004.00	62613632.00
24 Mg # 1	4151	4151	ug/l	0.23	81000.00		11685638.00	11855471.00	11829646.00
27 Al # 1	336.1	336.1	ug/l	0.57	81000.00		1085179.90	1105285.90	1094444.60
39 K # 2	2478	2478	ug/l	1.15	81000.00		585051.25	599280.50	606917.19
40 Ca # 1	39290	39290	ug/l	0.25	81000.00		259282820.00	262497330.00	263479280.00
45 Sc # 2	----	--------		--------	#VALUE!		34135.44	34848.83	35198.42
47 Ti # 3	0.55	0.55	ug/l	9.25	1620.00		583.36	500.02	513.36
51 V # 2	3.703	3.703	ug/l	1.53	1800.00		6003.23	6172.18	6029.90
52 Cr # 2	0.1084	0.1084	ug/l	12.13	1800.00		378.90	355.56	334.45
55 Mn # 3	23	23	ug/l	0.70	1800.00		344499.63	341395.84	341010.53
56 Fe # 1	180.8	180.8	ug/l	1.27	81000.00		1794751.60	1818042.00	1841903.80
59 Co # 3	1.543	1.543	ug/l	0.84	1800.00		16230.87	16557.85	16304.22
60 Ni # 2	2.272	2.272	ug/l	2.83	1800.00		2141.26	2179.04	2092.36
63 Cu # 2	4.481	4.481	ug/l	1.53	1800.00		11895.04	12284.17	12169.65
66 Zn # 3	47.96	47.96	ug/l	1.56	1800.00		63303.22	63370.09	61583.83
75 As # 2	0.1784	0.1784	ug/l	20.73	100.00		50.33	39.33	42.00
78 Se # 1	0.5146	0.5146	ug/l	2.33	100.00		170.00	167.33	174.67
88 Sr # 3	258.2	258.2	ug/l	1.53	1800.00		4910388.50	4960079.00	5057251.00
95 Mo # 3	1.291	1.291	ug/l	5.32	1800.00		3483.77	3203.72	3447.08
107 Ag # 3	0.01138	0.01138	ug/l	37.91	100.00		210.01	156.67	153.34
111 Cd # 3	0.8669	0.8669	ug/l	1.95	100.00		1388.98	1435.75	1358.99
118 Sn # 3	0.03085	0.03085	ug/l	28.13	1800.00		520.03	450.02	516.69
121 Sb # 3	0.1746	0.1746	ug/l	4.80	100.00		986.73	1050.07	1056.73
137 Ba # 3	6.625	6.625	ug/l	3.39	1800.00		16498.43	15751.05	16465.15
202 Hg # 3	0.05554	0.05554	ug/l	0.31	5.00		114.33	114.00	113.00
205 Tl # 3	0.08255	0.08255	ug/l	3.81	20.00		1156.74	1186.74	1223.42
208 Pb # 3	0.7217	0.7217	ug/l	2.55	1800.00		13492.66	13729.43	12875.79
232 Th # 3	0.04973	0.04973	ug/l	5.07	#VALUE!		1680.15	1673.48	1563.47
238 U # 3	0.6286	0.6286	ug/l	2.36	#VALUE!		14547.36	14924.32	14193.64

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	585521.75	1.04	572657.25	102.2	60 - 125		581553.63	592513.13	582498.56
45 Sc # 1	435477.41	0.61	523286.00	83.2	60 - 125		432401.31	436778.31	437252.63
45 Sc # 3	618641.25	0.52	603286.69	102.5	60 - 125		619438.88	621397.94	615086.94
74 Ge # 1	137345.64	0.13	170650.48	80.5	60 - 125		137373.55	137151.42	137511.95
74 Ge # 2	21944.77	0.73	24862.19	88.3	60 - 125		21776.37	21963.30	22094.63
74 Ge # 3	149699.42	0.21	155795.36	96.1	60 - 125		149472.20	150059.98	149566.09
89 Y # 3	944693.44	0.44	1011968.20	93.4	60 - 125		941322.25	949303.50	943454.56
115 In # 3	872381.31	0.87	989458.81	88.2	60 - 125		871736.13	880240.19	865167.56
159 Tb # 3	1152270.90	0.84	1388283.80	83.0	60 - 125		1154067.40	1160953.60	1141791.60
209 Bi # 3	676989.63	0.68	829936.50	81.6	60 - 125		681871.13	676446.13	672651.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\278SMPL.D\278SMPL.D#
Date Acquired: Dec 31 2012 03:01 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 660-51800-j-3-a
Misc Info: DW STR8
Vial Number: 2212
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.2811	0.2811	ug/l	11.01	100.00		723.37	643.36	600.03
11 B	# 3	13.65	13.65	ug/l	2.23	1800.00		41759.09	42514.00	41535.22
23 Na	# 1	4775	4775	ug/l	0.32	81000.00		20985788.00	21079304.00	21335874.00
24 Mg	# 1	972.8	972.8	ug/l	0.53	81000.00		2862305.80	2882220.50	2897426.80
27 Al	# 1	4497	4497	ug/l	0.71	81000.00		15038355.00	15154555.00	15447161.00
39 K	# 2	274.4	274.4	ug/l	0.74	81000.00		73027.84	74108.77	74915.71
40 Ca	# 1	3945	3945	ug/l	0.17	81000.00		27402952.00	27312336.00	27665286.00
45 Sc	# 2	----	--------		--------	#VALUE!		35757.16	36326.03	36259.22
47 Ti	# 3	23.19	23.19	ug/l	1.95	1620.00		21614.97	21525.21	20695.82
51 V	# 2	5.327	5.327	ug/l	1.14	1800.00		8817.70	8843.25	8922.21
52 Cr	# 2	12.29	12.29	ug/l	1.39	1800.00		23888.64	24039.97	23816.38
55 Mn	# 3	10.02	10.02	ug/l	0.70	1800.00		152023.59	152046.78	151842.20
56 Fe	# 1	1517	1517	ug/l	0.33	81000.00		15359120.00	15316976.00	15345055.00
59 Co	# 3	0.1523	0.1523	ug/l	4.03	1800.00		1703.46	1693.46	1820.14
60 Ni	# 2	0.527	0.527	ug/l	6.02	1800.00		742.24	707.80	735.58
63 Cu	# 2	-0.7396	-0.7396	ug/l	0.59	1800.00		1007.81	1017.82	1033.37
66 Zn	# 3	2.263	2.263	ug/l	2.78	1800.00		3500.45	3493.77	3657.14
75 As	# 2	1.557	1.557	ug/l	7.53	100.00		288.67	278.00	256.34
78 Se	# 1	0.1382	0.1382	ug/l	1.03	100.00		62.00	62.33	62.00
88 Sr	# 3	132.1	132.1	ug/l	2.63	1800.00		3262597.00	3320431.50	3235975.80
95 Mo	# 3	1.137	1.137	ug/l	3.00	1800.00		2983.67	3120.36	2970.33
107 Ag	# 3	0.1677	0.1677	ug/l	7.11	100.00		1420.10	1246.75	1373.43
111 Cd	# 3	0.02037	0.02037	ug/l	36.75	100.00		75.71	65.67	52.38
118 Sn	# 3	0.1978	0.1978	ug/l	14.06	1800.00		1486.78	1210.08	1333.43
121 Sb	# 3	0.1295	0.1295	ug/l	5.35	100.00		803.37	810.05	870.05
137 Ba	# 3	96.91	96.91	ug/l	0.50	1800.00		240764.94	238739.70	240670.55
202 Hg	# 3	0.02033	0.02033	ug/l	16.66	5.00		59.67	49.00	59.00
205 Tl	# 3	0.01782	0.01782	ug/l	9.00	20.00		363.35	356.68	326.68
208 Pb	# 3	6.128	6.128	ug/l	0.43	1800.00		110627.13	111706.99	111807.85
232 Th	# 3	2.065	2.065	ug/l	0.63	#VALUE!		48152.31	48299.74	48329.64
238 U	# 3	3.221	3.221	ug/l	0.48	#VALUE!		75150.88	75757.19	76953.09

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	592550.25	1.30	572657.25	103.5	60 - 125		584402.06	593499.88	599748.88
45 Sc	# 1	453124.53	0.81	523286.00	86.6	60 - 125		451442.22	450597.22	457334.19
45 Sc	# 3	646275.00	0.51	603286.69	107.1	60 - 125		649567.19	646222.75	643034.94
74 Ge	# 1	139564.27	0.40	170650.48	81.8	60 - 125		139525.89	139032.38	140134.50
74 Ge	# 2	22453.53	1.41	24862.19	90.3	60 - 125		22087.88	22654.14	22618.57
74 Ge	# 3	151297.11	0.65	155795.36	97.1	60 - 125		150161.75	151801.06	151928.50
89 Y	# 3	1214575.60	1.32	1011968.20	120.0	60 - 125		1223458.00	1196035.60	1224233.00
115 In	# 3	884280.38	0.39	989458.81	89.4	60 - 125		881861.75	882791.44	888187.81
159 Tb	# 3	1163052.80	0.46	1388283.80	83.8	60 - 125		1159143.00	1160851.80	1169163.60
209 Bi	# 3	696169.13	0.76	829936.50	83.9	60 - 125		692276.88	694037.50	702192.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\279SMPL.D\279SMPL.D#
Date Acquired: Dec 31 2012 03:08 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86065-a-1-a
Misc Info: DW STR8
Vial Number: 2301
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.03248	0.03248	ug/l	31.44	100.00		100.00	56.67	93.34
11 B # 3	76.56	76.56	ug/l	0.86	1800.00		205057.42	205055.17	205187.89
23 Na # 1	82480	82480	ug/l	1.34	81000.00		357052640.00	364350460.00	368990240.00
24 Mg # 1	239.3	239.3	ug/l	0.43	81000.00		712010.06	717829.75	721086.81
27 Al # 1	4.092	4.092	ug/l	10.28	81000.00		14715.96	16223.89	17695.18
39 K # 2	3958	3958	ug/l	0.38	81000.00		935899.75	957896.13	965958.19
40 Ca # 1	679.7	679.7	ug/l	1.14	81000.00		4780894.00	4884408.50	4890652.00
45 Sc # 2	----	--------		--------	#VALUE!		34774.27	35462.20	35415.43
47 Ti # 3	2.115	2.115	ug/l	6.76	1620.00		2100.19	1853.48	2090.17
51 V # 2	10.09	10.09	ug/l	1.52	1800.00		16272.70	16174.82	16518.51
52 Cr # 2	1.475	1.475	ug/l	2.34	1800.00		2846.91	2925.81	3078.05
55 Mn # 3	0.2557	0.2557	ug/l	5.82	1800.00		6264.58	6034.48	5814.40
56 Fe # 1	8.538	8.538	ug/l	2.14	81000.00		104742.07	106202.38	108690.20
59 Co # 3	0.01729	0.01729	ug/l	20.82	1800.00		266.68	286.68	340.01
60 Ni # 2	7.821	7.821	ug/l	2.06	1800.00		6713.49	6623.45	6752.39
63 Cu # 2	92.85	92.85	ug/l	1.23	1800.00		199859.02	200587.17	202859.02
66 Zn # 3	1246	1246	ug/l	2.71	1800.00		1567878.50	1633800.10	1631127.30
75 As # 2	3.176	3.176	ug/l	2.77	100.00		523.34	520.68	558.01
78 Se # 1	1.415	1.415	ug/l	2.77	100.00		419.34	435.67	441.67
88 Sr # 3	8.766	8.766	ug/l	0.08	1800.00		169941.44	167436.86	168071.56
95 Mo # 3	1.791	1.791	ug/l	1.85	1800.00		4634.09	4450.70	4547.37
107 Ag # 3	0.002132	0.002132	ug/l	88.60	100.00		100.00	90.00	116.67
111 Cd # 3	0.01516	0.01516	ug/l	107.92	100.00		55.19	78.58	28.55
118 Sn # 3	0.009865	0.009865	ug/l	60.01	1800.00		366.68	363.35	413.35
121 Sb # 3	0.1701	0.1701	ug/l	2.59	100.00		1010.06	970.06	970.05
137 Ba # 3	22	22	ug/l	0.89	1800.00		52067.23	52391.40	52719.19
202 Hg # 3	0.01391	0.01391	ug/l	11.74	5.00		39.00	43.67	41.33
205 Tl # 3	0.001429	0.001429	ug/l	71.87	20.00		140.00	133.34	113.34
208 Pb # 3	10.37	10.37	ug/l	0.50	1800.00		182392.25	182709.39	180328.67
232 Th # 3	0.05707	0.05707	ug/l	7.93	#VALUE!		1790.16	1746.82	1606.80
238 U # 3	1.581	1.581	ug/l	1.15	#VALUE!		34619.74	34720.00	34312.47

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	595453.56	0.85	572657.25	104.0	60 - 125		589713.88	597362.94	599283.94
45 Sc # 1	454895.84	0.44	523286.00	86.9	60 - 125		453803.19	453690.13	457194.28
45 Sc # 3	654577.56	0.41	603286.69	108.5	60 - 125		657264.81	651854.00	654613.88
74 Ge # 1	137183.55	0.37	170650.48	80.4	60 - 125		137245.80	136653.73	137651.14
74 Ge # 2	22030.79	1.89	24862.19	88.6	60 - 125		21591.76	22080.09	22420.50
74 Ge # 3	149253.56	0.53	155795.36	95.8	60 - 125		149868.69	148366.17	149525.86
89 Y # 3	939878.94	0.71	1011968.20	92.9	60 - 125		947405.00	934896.56	937335.31
115 In # 3	849307.25	0.27	989458.81	85.8	60 - 125		851945.13	848440.81	847535.69
159 Tb # 3	1123202.30	0.72	1388283.80	80.9	60 - 125		1131596.00	1122560.40	1115450.40
209 Bi # 3	643510.13	0.71	829936.50	77.5	60 - 125		647260.31	638445.44	644824.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\280SMPL.D\280SMPL.D#
Date Acquired: Dec 31 2012 03:16 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86065-a-2-a
Misc Info: DW STR8
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.04185	0.04185	ug/l	34.43	100.00		66.67	120.00	130.00
11 B # 3	74.79	74.79	ug/l	0.37	1800.00		199334.73	201974.81	202069.89
23 Na # 1	80180	80180	ug/l	0.89	81000.00		344908290.00	352392060.00	350021920.00
24 Mg # 1	287.4	287.4	ug/l	0.27	81000.00		834093.94	854733.00	859199.13
27 Al # 1	1.686	1.686	ug/l	4.61	81000.00		7618.37	7868.54	8342.04
39 K # 2	3986	3986	ug/l	0.20	81000.00		948184.75	972054.44	992636.00
40 Ca # 1	655.6	655.6	ug/l	0.69	81000.00		4582549.50	4610625.00	4689909.00
45 Sc # 2	----	--------		--------	#VALUE!		34453.74	34801.00	35621.40
47 Ti # 3	1.927	1.927	ug/l	1.78	1620.00		1833.48	1783.47	1830.14
51 V # 2	10.04	10.04	ug/l	0.46	1800.00		16129.23	16446.20	16714.24
52 Cr # 2	1.339	1.339	ug/l	2.92	1800.00		2581.31	2744.67	2844.69
55 Mn # 3	0.4252	0.4252	ug/l	0.86	1800.00		8512.14	8522.21	8548.83
56 Fe # 1	16.03	16.03	ug/l	0.47	81000.00		177420.42	180278.92	180869.00
59 Co # 3	0.006725	0.006725	ug/l	25.55	1800.00		173.34	180.01	206.67
60 Ni # 2	0.703	0.703	ug/l	7.32	1800.00		885.58	821.14	900.03
63 Cu # 2	17.46	17.46	ug/l	1.06	1800.00		39823.90	40454.27	40831.66
66 Zn # 3	832.2	832.2	ug/l	0.36	1800.00		1077430.40	1069699.60	1077911.80
75 As # 2	3.017	3.017	ug/l	1.55	100.00		509.01	504.67	527.34
78 Se # 1	1.427	1.427	ug/l	2.18	100.00		434.67	423.01	439.34
88 Sr # 3	8.159	8.159	ug/l	0.57	1800.00		155729.31	156049.52	153713.94
95 Mo # 3	1.82	1.82	ug/l	1.74	1800.00		4524.06	4604.11	4594.08
107 Ag # 3	-0.003184	-0.003184	ug/l	41.11	100.00		60.00	56.67	73.34
111 Cd # 3	0.3319	0.3319	ug/l	8.19	100.00		565.24	555.22	481.89
118 Sn # 3	-0.02373	-0.02373	ug/l	18.87	1800.00		230.01	230.01	190.01
121 Sb # 3	0.1561	0.1561	ug/l	5.20	100.00		890.05	953.39	886.72
137 Ba # 3	19.1	19.1	ug/l	0.38	1800.00		45381.35	45300.93	44512.58
202 Hg # 3	0.01657	0.01657	ug/l	5.28	5.00		44.67	44.67	46.67
205 Tl # 3	-0.0004411	-0.0004411	ug/l	350.26	20.00		126.67	90.00	96.67
208 Pb # 3	0.8083	0.8083	ug/l	1.78	1800.00		14526.40	14219.65	14613.18
232 Th # 3	0.02804	0.02804	ug/l	4.68	#VALUE!		1086.74	1123.41	1053.40
238 U # 3	1.488	1.488	ug/l	1.25	#VALUE!		32394.97	32100.90	32448.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	597176.25	0.67	572657.25	104.3	60 - 125		593171.25	597221.38	601136.19
45 Sc # 1	449456.00	1.48	523286.00	85.9	60 - 125		442208.25	450931.31	455228.41
45 Sc # 3	646123.38	0.50	603286.69	107.1	60 - 125		648712.06	647185.44	642472.69
74 Ge # 1	136149.84	0.62	170650.48	79.8	60 - 125		135193.39	136478.20	136777.95
74 Ge # 2	22280.38	2.21	24862.19	89.6	60 - 125		21798.68	22259.24	22783.20
74 Ge # 3	149109.41	0.50	155795.36	95.7	60 - 125		149925.84	148481.58	148920.81
89 Y # 3	929855.63	0.68	1011968.20	91.9	60 - 125		927250.94	937038.13	925277.81
115 In # 3	841447.63	0.89	989458.81	85.0	60 - 125		848523.00	842236.56	833583.38
159 Tb # 3	1116457.00	0.33	1388283.80	80.4	60 - 125		1117315.80	1119646.30	1112409.00
209 Bi # 3	639598.94	0.67	829936.50	77.1	60 - 125		638548.19	644298.63	635950.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\281SMPL.D\281SMPL.D#
Date Acquired: Dec 31 2012 03:23 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86091-a-1-a
Misc Info: DW STR8
Vial Number: 2303
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.03468	0.03468	ug/l	36.22	100.00		120.00	70.00	73.34
11 B	# 3	22.59	22.59	ug/l	2.40	1800.00		65213.37	63631.68	65789.66
23 Na	# 1	122300	122300	ug/l	1.09	81000.00		496836420.00	506461630.00	505049120.00
24 Mg	# 1	191.3	191.3	ug/l	1.50	81000.00		524428.31	532470.69	551163.13
27 Al	# 1	2.608	2.608	ug/l	2.90	81000.00		10612.06	10216.40	10419.79
39 K	# 2	410.3	410.3	ug/l	1.58	81000.00		98761.70	101945.16	104401.98
40 Ca	# 1	492.4	492.4	ug/l	0.17	81000.00		3285588.50	3298595.30	3346547.30
45 Sc	# 2	----	--------		--------	#VALUE!		33875.98	34104.16	34941.28
47 Ti	# 3	0.7002	0.7002	ug/l	7.26	1620.00		706.70	620.03	646.70
51 V	# 2	0.04503	0.04503	ug/l	13.65	1800.00		220.00	212.23	233.34
52 Cr	# 2	0.1064	0.1064	ug/l	13.10	1800.00		366.67	327.78	332.23
55 Mn	# 3	5.162	5.162	ug/l	1.73	1800.00		75717.45	75945.88	75858.36
56 Fe	# 1	41.23	41.23	ug/l	0.66	81000.00		410766.94	414775.97	413182.44
59 Co	# 3	0.01867	0.01867	ug/l	6.10	1800.00		293.35	300.01	313.35
60 Ni	# 2	-0.01997	-0.01997	ug/l	165.25	1800.00		278.89	260.00	233.34
63 Cu	# 2	0.7447	0.7447	ug/l	5.22	1800.00		4036.03	4084.93	3992.69
66 Zn	# 3	23.3	23.3	ug/l	2.09	1800.00		30195.40	29758.00	29166.96
75 As	# 2	0.5636	0.5636	ug/l	3.75	100.00		99.00	107.33	104.33
78 Se	# 1	-0.007953	-0.007953	ug/l	218.79	100.00		21.33	19.67	12.33
88 Sr	# 3	1.696	1.696	ug/l	0.41	1800.00		32202.85	31905.83	31832.29
95 Mo	# 3	0.8657	0.8657	ug/l	2.41	1800.00		2193.53	2176.86	2096.85
107 Ag	# 3	-0.009204	-0.009204	ug/l	10.54	100.00		20.00	26.67	13.33
111 Cd	# 3	1.427	1.427	ug/l	3.46	100.00		2199.51	2046.15	2192.86
118 Sn	# 3	-0.02407	-0.02407	ug/l	33.32	1800.00		170.01	240.01	220.01
121 Sb	# 3	0.1155	0.1155	ug/l	7.82	100.00		760.04	673.37	690.03
137 Ba	# 3	0.4541	0.4541	ug/l	12.33	1800.00		1043.39	1006.72	1246.76
202 Hg	# 3	0.01927	0.01927	ug/l	6.35	5.00		47.33	46.00	49.67
205 Tl	# 3	-0.001095	-0.001095	ug/l	145.39	20.00		100.00	110.00	73.34
208 Pb	# 3	0.0387	0.0387	ug/l	6.93	1800.00		1036.71	1100.05	1043.38
232 Th	# 3	0.02248	0.02248	ug/l	16.27	#VALUE!		973.40	976.73	843.38
238 U	# 3	-0.001639	-0.001639	ug/l	63.15	#VALUE!		113.34	113.34	150.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	591684.63	0.92	572657.25	103.3	60 - 125		585393.44	594808.94	594851.44
45 Sc	# 1	424328.91	1.11	523286.00	81.1	60 - 125		421100.97	422173.19	429712.56
45 Sc	# 3	612960.13	0.15	603286.69	101.6	60 - 125		612963.88	612068.19	613848.25
74 Ge	# 1	131447.09	0.41	170650.48	77.0	60 - 125		131177.11	131096.09	132068.09
74 Ge	# 2	21312.15	1.32	24862.19	85.7	60 - 125		21008.86	21364.79	21562.82
74 Ge	# 3	144473.72	1.52	155795.36	92.7	60 - 125		146361.52	142052.66	145007.00
89 Y	# 3	913222.88	0.55	1011968.20	90.2	60 - 125		918227.25	908254.75	913186.63
115 In	# 3	822882.69	0.78	989458.81	83.2	60 - 125		829543.13	816702.25	822402.69
159 Tb	# 3	1097601.80	1.04	1388283.80	79.1	60 - 125		1102162.90	1084639.40	1106002.90
209 Bi	# 3	614208.69	0.71	829936.50	74.0	60 - 125		619103.81	610850.31	612672.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\282SMPL.D\282SMPL.D#
Date Acquired: Dec 31 2012 03:31 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85999-i-11-a
Misc Info: DW STR8
Vial Number: 2304
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.03673	0.03673	ug/l	31.15	100.00		80.00	126.67	73.34
11 B	# 3	22.22	22.22	ug/l	3.34	1800.00		64939.84	63615.30	63658.19
23 Na	# 1	17590	17590	ug/l	1.69	81000.00		72281264.00	73933560.00	74805824.00
24 Mg	# 1	1894	1894	ug/l	1.19	81000.00		5271070.00	5316096.00	5415252.50
27 Al	# 1	357.7	357.7	ug/l	0.81	81000.00		1144058.40	1155513.50	1163649.30
39 K	# 2	2500	2500	ug/l	0.46	81000.00		603674.00	616558.88	617687.63
40 Ca	# 1	8166	8166	ug/l	0.57	81000.00		53698240.00	53780384.00	54487452.00
45 Sc	# 2	----	--------		--------	#VALUE!		34168.72	34576.11	35191.71
47 Ti	# 3	12.83	12.83	ug/l	4.20	1620.00		11013.81	11283.73	11314.23
51 V	# 2	2.037	2.037	ug/l	0.78	1800.00		3412.56	3480.35	3509.25
52 Cr	# 2	0.7	0.7	ug/l	4.35	1800.00		1446.74	1478.96	1572.30
55 Mn	# 3	92.72	92.72	ug/l	3.10	1800.00		1392621.50	1356959.60	1369242.30
56 Fe	# 1	1300	1300	ug/l	1.00	81000.00		12966261.00	13108781.00	13072135.00
59 Co	# 3	0.4935	0.4935	ug/l	4.46	1800.00		5450.96	5167.52	5314.23
60 Ni	# 2	0.7132	0.7132	ug/l	3.64	1800.00		885.59	860.03	891.14
63 Cu	# 2	0.3477	0.3477	ug/l	9.28	1800.00		3286.99	3358.12	3461.46
66 Zn	# 3	5.401	5.401	ug/l	3.89	1800.00		7598.46	7481.72	7655.13
75 As	# 2	0.3944	0.3944	ug/l	10.53	100.00		72.00	83.00	86.33
78 Se	# 1	0.1208	0.1208	ug/l	5.78	100.00		54.67	58.33	56.67
88 Sr	# 3	38.5	38.5	ug/l	3.14	1800.00		744880.94	743480.88	748417.38
95 Mo	# 3	0.3035	0.3035	ug/l	5.86	1800.00		850.04	803.38	833.38
107 Ag	# 3	-0.004295	-0.004295	ug/l	47.24	100.00		43.33	56.67	70.00
111 Cd	# 3	0.005457	0.005457	ug/l	161.02	100.00		53.06	26.41	39.74
118 Sn	# 3	-0.01061	-0.01061	ug/l	59.06	1800.00		323.35	273.34	263.34
121 Sb	# 3	0.1415	0.1415	ug/l	6.44	100.00		916.72	856.71	820.05
137 Ba	# 3	24.78	24.78	ug/l	3.69	1800.00		60695.81	59360.88	59645.52
202 Hg	# 3	0.01643	0.01643	ug/l	16.43	5.00		50.67	44.00	48.67
205 Tl	# 3	0.007186	0.007186	ug/l	13.13	20.00		203.34	226.68	186.67
208 Pb	# 3	0.5624	0.5624	ug/l	4.72	1800.00		10461.69	10298.33	10431.69
232 Th	# 3	0.06397	0.06397	ug/l	10.31	#VALUE!		1786.82	2103.54	2000.19
238 U	# 3	0.05641	0.05641	ug/l	5.39	#VALUE!		1540.12	1453.45	1413.44

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	593206.44	2.56	572657.25	103.6	60 - 125		590008.00	609709.56	579901.81
45 Sc	# 1	431435.06	0.39	523286.00	82.4	60 - 125		431603.59	429675.25	433026.31
45 Sc	# 3	614490.63	3.69	603286.69	101.9	60 - 125		614876.69	636968.31	591626.81
74 Ge	# 1	138577.73	0.45	170650.48	81.2	60 - 125		139289.08	138283.73	138160.39
74 Ge	# 2	22316.68	0.90	24862.19	89.8	60 - 125		22089.00	22462.79	22398.24
74 Ge	# 3	149748.34	2.45	155795.36	96.1	60 - 125		149898.75	153341.86	146004.42
89 Y	# 3	949238.44	2.82	1011968.20	93.8	60 - 125		946802.56	977145.69	923767.06
115 In	# 3	863194.44	3.41	989458.81	87.2	60 - 125		866933.75	890583.31	832066.13
159 Tb	# 3	1141607.10	3.89	1388283.80	82.2	60 - 125		1144468.80	1184529.00	1095823.60
209 Bi	# 3	678556.31	3.14	829936.50	81.8	60 - 125		676431.06	700835.94	658402.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\283_CCV.D\283_CCV.D#
Date Acquired: Dec 31 2012 03:38 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.69 ug/l	1.84	50.00	90 - 110		114956.74	118586.84	116092.84
11 B	91.99 ug/l	0.98	100.00	90 - 110		235332.91	240042.75	240051.88
23 Na	5144 ug/l	0.14	5000.00	90 - 110		20849050.00	20984450.00	21212566.00
24 Mg	5160 ug/l	0.42	5000.00	90 - 110		13920061.00	14133613.00	14194810.00
27 Al	532.5 ug/l	0.12	500.00	90 - 110		1655891.40	1663322.30	1678195.60
39 K	5258 ug/l	0.63	5000.00	90 - 110		1222908.80	1240457.30	1255174.10
40 Ca	5286 ug/l	0.65	5000.00	90 - 110		33890428.00	33955588.00	33967012.00
45 Sc	--------	--------	---	##### - #####		34308.87	34538.32	35277.37
47 Ti	52.13 ug/l	1.33	50.00	90 - 110		44393.13	44830.91	43407.55
51 V	49.45 ug/l	1.16	50.00	90 - 110		76315.42	78148.31	79151.55
52 Cr	48.93 ug/l	0.93	50.00	90 - 110		89933.26	91611.31	91826.85
55 Mn	519.7 ug/l	1.24	500.00	90 - 110		7562366.50	7525240.00	7461107.50
56 Fe	5026 ug/l	0.97	5000.00	90 - 110		49847060.00	49231160.00	49813224.00
59 Co	53.61 ug/l	1.09	50.00	90 - 110		553185.63	553136.31	549892.69
60 Ni	48.08 ug/l	0.85	50.00	90 - 110		38577.88	39104.47	39154.57
63 Cu	47.92 ug/l	0.82	50.00	90 - 110		101849.08	103385.27	103743.85
66 Zn	52.7 ug/l	0.71	50.00	90 - 110		67397.52	67263.91	67458.18
75 As	51.9 ug/l	0.22	50.00	90 - 110		8252.54	8302.23	8433.29
78 Se	50.13 ug/l	0.35	50.00	90 - 110		14482.09	14538.13	14531.79
88 Sr	50.15 ug/l	0.29	50.00	90 - 110		956550.00	946597.50	951394.13
95 Mo	53.08 ug/l	0.53	50.00	90 - 110		135616.88	134233.27	134522.45
107 Ag	52.84 ug/l	0.96	50.00	90 - 110		389461.09	381219.06	385105.78
111 Cd	51.46 ug/l	0.78	50.00	90 - 110		80482.84	79575.53	79408.14
118 Sn	51.4 ug/l	0.39	50.00	90 - 110		252034.22	252720.39	252087.39
121 Sb	51.4 ug/l	0.51	50.00	90 - 110		242961.61	240549.22	241111.30
137 Ba	51.38 ug/l	1.01	50.00	90 - 110		122644.16	124782.15	124137.27
202 Hg	2.806 ug/l	1.06	2.50	90 - 110	Fail	4727.71	4768.72	4710.37
205 Tl	10.95 ug/l	0.45	10.00	90 - 110		139944.27	139443.09	140169.02
208 Pb	54.72 ug/l	0.41	50.00	90 - 110		963032.50	960276.88	961486.63
232 Th	49.11 ug/l	0.39	---	##### - #####		1102419.60	1093353.00	1102918.30
238 U	48.53 ug/l	0.44	---	##### - #####		1106435.10	1101974.40	1107642.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	579389.13	0.71	572657.25	101.2	60 - 125		576779.56	577288.44	584099.25
45 Sc	418495.03	0.76	523286.00	80.0	60 - 125		415437.00	418288.72	421759.28
45 Sc	598178.38	0.32	603286.69	99.2	60 - 125		598257.00	600074.31	596203.94
74 Ge	136468.55	0.53	170650.48	80.0	60 - 125		135687.89	136609.89	137107.86
74 Ge	21599.53	1.07	24862.19	86.9	60 - 125		21448.21	21483.86	21866.51
74 Ge	146395.16	0.85	155795.36	94.0	60 - 125		146907.78	144982.45	147295.25
89 Y	929594.75	0.27	1011968.20	91.9	60 - 125		932483.19	927863.81	928437.38
115 In	860428.63	0.25	989458.81	87.0	60 - 125		860641.44	858154.69	862489.75
159 Tb	1128300.60	0.55	1388283.80	81.3	60 - 125		1134883.50	1122505.50	1127512.60
209 Bi	673953.31	0.56	829936.50	81.2	60 - 125		678049.81	670610.19	673200.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\284_CCB.D\284_CCB.D#
Date Acquired: Dec 31 2012 03:46 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01256	0.01256	ug/l	52.92	#VALUE!		20.00	40.00	50.00
11 B	# 3	1.714	1.714	ug/l	4.91	#VALUE!		11256.88	10920.01	10940.05
23 Na	# 1	-21.93	-21.93	ug/l	0.63	#VALUE!		81285.43	82871.21	82509.66
24 Mg	# 1	-1.158	-1.158	ug/l	2.52	#VALUE!		3523.76	3440.40	3610.45
27 Al	# 1	-0.06807	-0.06807	ug/l	40.21	#VALUE!		1853.47	1990.16	1836.81
39 K	# 2	-2.879	-2.879	ug/l	50.37	#VALUE!		6097.81	5894.40	6511.32
40 Ca	# 1	-0.5456	-0.5456	ug/l	20.62	#VALUE!		108911.49	109943.17	109034.46
45 Sc	# 2	----	--------		--------	#VALUE!		33027.83	33898.22	33873.79
47 Ti	# 3	0.006864	0.006864	ug/l	124.01	#VALUE!		56.67	60.00	46.67
51 V	# 2	0.01251	0.01251	ug/l	37.82	#VALUE!		176.67	166.67	174.45
52 Cr	# 2	0.001666	0.001666	ug/l	410.32	#VALUE!		144.45	167.78	142.22
55 Mn	# 3	0.0433	0.0433	ug/l	24.32	#VALUE!		2983.66	2900.32	2713.61
56 Fe	# 1	0.4886	0.4886	ug/l	6.08	#VALUE!		25711.80	26272.51	25962.14
59 Co	# 3	0.009207	0.009207	ug/l	4.72	#VALUE!		210.01	213.34	206.67
60 Ni	# 2	-0.3312	-0.3312	ug/l	2.30	#VALUE!		7.78	6.67	17.78
63 Cu	# 2	-1.187	-1.187	ug/l	0.20	#VALUE!		35.56	45.56	44.44
66 Zn	# 3	-0.3508	-0.3508	ug/l	1.10	#VALUE!		126.67	116.67	123.34
75 As	# 2	0.0376	0.0376	ug/l	38.01	#VALUE!		17.67	22.33	21.67
78 Se	# 1	0.04431	0.04431	ug/l	29.52	#VALUE!		28.67	35.33	34.67
88 Sr	# 3	-0.005437	-0.005437	ug/l	15.58	#VALUE!		276.68	306.68	296.68
95 Mo	# 3	0.07958	0.07958	ug/l	13.74	#VALUE!		296.68	240.01	256.68
107 Ag	# 3	0.008528	0.008528	ug/l	35.61	#VALUE!		156.67	173.34	130.00
111 Cd	# 3	0.02117	0.02117	ug/l	40.53	#VALUE!		49.91	73.26	73.25
118 Sn	# 3	0.0341	0.0341	ug/l	34.43	#VALUE!		530.03	563.36	453.35
121 Sb	# 3	0.2861	0.2861	ug/l	13.50	#VALUE!		1730.14	1616.79	1373.43
137 Ba	# 3	-0.002449	-0.002449	ug/l	59.66	#VALUE!		50.00	53.34	46.67
202 Hg	# 3	0.0388	0.0388	ug/l	5.53	#VALUE!		91.67	83.00	86.67
205 Tl	# 3	0.006405	0.006405	ug/l	44.51	#VALUE!		236.68	166.67	183.34
208 Pb	# 3	0.00184	0.00184	ug/l	64.40	#VALUE!		453.35	420.02	473.35
232 Th	# 3	0.1117	0.1117	ug/l	4.30	#VALUE!		3233.79	3063.75	2967.05
238 U	# 3	0.005856	0.005856	ug/l	32.75	#VALUE!		306.68	363.35	276.68

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	585688.31	0.45	572657.25	102.3	60 - 125		584266.75	584083.88	588714.44
45 Sc	# 1	414152.78	0.52	523286.00	79.1	60 - 125		411882.41	414394.09	416181.94
45 Sc	# 3	597418.13	0.66	603286.69	99.0	60 - 125		599549.88	592873.44	599831.06
74 Ge	# 1	133652.14	0.22	170650.48	78.3	60 - 125		133846.22	133802.80	133307.42
74 Ge	# 2	21466.03	1.34	24862.19	86.3	60 - 125		21160.12	21728.56	21509.42
74 Ge	# 3	147210.08	0.59	155795.36	94.5	60 - 125		146848.06	146583.27	148198.89
89 Y	# 3	935933.63	1.00	1011968.20	92.5	60 - 125		934352.25	927457.06	945991.63
115 In	# 3	878834.75	0.54	989458.81	88.8	60 - 125		880609.38	873446.13	882448.94
159 Tb	# 3	1144038.40	1.45	1388283.80	82.4	60 - 125		1139376.50	1130232.30	1162506.10
209 Bi	# 3	689499.81	0.86	829936.50	83.1	60 - 125		696347.31	686260.94	685891.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\285SMPL.D\285SMPL.D#
Date Acquired: Dec 31 2012 03:53 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-85793-a-15-a
Misc Info: 3010 1/500
Vial Number: 4212
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 100.00
Autodil Factor: Undiluted
Final Dil Factor: 100.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	-0.1577	-0.001577	ug/l	53.70	100.00		3.33	3.33	6.67
11	B	# 3	997	9.97	ug/l	2.65	1800.00		31653.11	32247.32	32885.12
23	Na	# 1	2447000	24470	ug/l	0.28	81000.00		98135760.00	99237848.00	99765048.00
24	Mg	# 1	291600	2916	ug/l	0.32	81000.00		7869381.50	7950965.00	7998205.00
27	Al	# 1	69.22	0.6922	ug/l	5.90	81000.00		4153.90	4444.62	4233.91
39	K	# 2	90550	905.5	ug/l	0.20	81000.00		215329.23	217976.70	221853.52
40	Ca	# 1	98670	986.7	ug/l	1.01	81000.00		6374109.00	6369912.50	6489475.00
45	Sc	# 2	----	--------		--------	#VALUE!		33372.82	33993.93	34451.41
47	Ti	# 3	-0.263	-0.00263	ug/l	900.76	1620.00		66.67	46.67	26.67
51	V	# 2	0.1438	0.001438	ug/l	799.72	1800.00		147.78	141.11	178.89
52	Cr	# 2	-1.113	-0.01113	ug/l	32.48	1800.00		124.45	122.22	137.78
55	Mn	# 3	-0.8234	-0.008234	ug/l	96.00	1800.00		2013.50	2086.84	2226.86
56	Fe	# 1	-45.57	-0.4557	ug/l	8.11	81000.00		16771.30	16561.18	17268.49
59	Co	# 3	0.04527	0.0004527	ug/l	310.58	1800.00		103.34	130.00	123.34
60	Ni	# 2	-5.214	-0.05214	ug/l	10.52	1800.00		228.89	231.12	243.34
63	Cu	# 2	-118.1	-1.181	ug/l	0.19	1800.00		51.11	58.89	51.11
66	Zn	# 3	-21.39	-0.2139	ug/l	9.43	1800.00		296.68	320.01	270.01
75	As	# 2	1.228	0.01228	ug/l	60.88	100.00		15.00	17.33	17.33
78	Se	# 1	0.8923	0.008923	ug/l	53.64	100.00		21.33	24.00	23.33
88	Sr	# 3	1621	16.21	ug/l	0.49	1800.00		310245.13	309173.66	311452.56
95	Mo	# 3	5.466	0.05466	ug/l	6.22	1800.00		203.34	196.67	186.67
107	Ag	# 3	-0.8262	-0.008262	ug/l	16.98	100.00		36.67	16.67	30.00
111	Cd	# 3	-0.1594	-0.001594	ug/l	337.89	100.00		19.94	36.60	29.94
118	Sn	# 3	-0.2477	-0.002477	ug/l	207.67	1800.00		340.01	340.01	296.68
121	Sb	# 3	11.7	0.117	ug/l	19.00	100.00		803.38	810.04	626.70
137	Ba	# 3	3.996	0.03996	ug/l	12.39	1800.00		163.34	150.01	140.01
202	Hg	# 3	3.001	0.03001	ug/l	1.17	5.00		69.00	68.33	68.67
205	Tl	# 3	0.05234	0.0005234	ug/l	330.91	20.00		116.67	96.67	140.00
208	Pb	# 3	-0.5573	-0.005573	ug/l	5.64	1800.00		306.68	316.68	313.34
232	Th	# 3	3.92	0.0392	ug/l	2.64	#VALUE!		1366.77	1386.77	1333.43
238	U	# 3	-0.164	-0.00164	ug/l	33.39	#VALUE!		133.34	123.34	146.67

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	589112.31	1.70	572657.25	102.9	60 - 125		580232.06	600000.75	587104.25
45	Sc	# 1	417378.88	0.80	523286.00	79.8	60 - 125		413528.59	419379.50	419228.56
45	Sc	# 3	600747.88	0.57	603286.69	99.6	60 - 125		597753.19	604476.63	600013.81
74	Ge	# 1	133761.47	0.15	170650.48	78.4	60 - 125		133535.50	133870.92	133877.97
74	Ge	# 2	21523.14	1.45	24862.19	86.6	60 - 125		21261.35	21438.22	21869.85
74	Ge	# 3	146670.22	0.55	155795.36	94.1	60 - 125		147550.44	145964.66	146495.55
89	Y	# 3	937243.31	0.12	1011968.20	92.6	60 - 125		936876.00	938534.69	936319.13
115	In	# 3	860235.88	0.17	989458.81	86.9	60 - 125		858606.19	861277.75	860823.63
159	Tb	# 3	1127984.10	0.37	1388283.80	81.3	60 - 125		1130776.50	1129994.00	1123182.00
209	Bi	# 3	657796.75	0.40	829936.50	79.3	60 - 125		656587.56	660785.25	656017.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\286SMPL.D\286SMPL.D#
Date Acquired: Dec 31 2012 04:01 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86061-c-5-d
Misc Info: 3005 1/10
Vial Number: 4210
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 2.00
Autodil Factor: Undiluted
Final Dil Factor: 2.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0014586	0.0007293	ug/l	251.61	100.00		6.67	13.33	6.67
11 B	# 3	40.44	20.22	ug/l	0.45	1800.00		52983.15	53731.49	53598.43
23 Na	# 1	1422200	711100	ug/l	1.39	81000.00		2653241100.00	2668215000.00	2752265000.00
24 Mg	# 1	42.68	21.34	ug/l	0.59	81000.00		59733.13	61070.94	61167.61
27 Al	# 1	5.336	2.668	ug/l	1.70	81000.00		9432.58	9971.73	9912.94
39 K	# 2	3476	1738	ug/l	0.84	81000.00		346720.34	348236.38	358179.75
40 Ca	# 1	259	129.5	ug/l	0.69	81000.00		868022.88	883351.94	889451.25
45 Sc	# 2	----	--------		--------	#VALUE!		31792.39	32273.17	32961.09
47 Ti	# 3	1.5992	0.7996	ug/l	12.11	1620.00		686.70	606.70	763.37
51 V	# 2	33.28	16.64	ug/l	1.40	1800.00		21995.23	22252.23	22598.15
52 Cr	# 2	0.09898	0.04949	ug/l	24.85	1800.00		217.78	181.11	214.45
55 Mn	# 3	0.5118	0.2559	ug/l	3.47	1800.00		4904.12	4970.81	4797.43
56 Fe	# 1	6.864	3.432	ug/l	1.93	81000.00		44955.36	44761.75	45124.53
59 Co	# 3	0.8316	0.4158	ug/l	2.67	1800.00		3710.48	3590.45	3583.77
60 Ni	# 2	13.238	6.619	ug/l	2.60	1800.00		4748.43	4729.53	4749.54
63 Cu	# 2	4.46	2.23	ug/l	3.53	1800.00		6145.52	6007.68	6156.63
66 Zn	# 3	0.5658	0.2829	ug/l	20.00	1800.00		810.04	776.70	703.37
75 As	# 2	67.78	33.89	ug/l	1.96	100.00		4574.58	4613.92	4644.27
78 Se	# 1	3.944	1.972	ug/l	1.66	100.00		479.67	478.67	475.34
88 Sr	# 3	2	1	ug/l	0.61	1800.00		16978.48	16938.38	16851.76
95 Mo	# 3	141	70.5	ug/l	1.57	1800.00		147369.91	142890.66	142030.56
107 Ag	# 3	-0.008246	-0.004123	ug/l	68.96	100.00		46.67	30.00	63.34
111 Cd	# 3	0.05848	0.02924	ug/l	38.89	100.00		52.85	54.28	77.89
118 Sn	# 3	0.2272	0.1136	ug/l	7.40	1800.00		693.37	753.37	713.37
121 Sb	# 3	1.5436	0.7718	ug/l	2.66	100.00		3017.02	3147.06	3063.70
137 Ba	# 3	5.216	2.608	ug/l	1.82	1800.00		5024.23	5114.25	5167.65
202 Hg	# 3	0.06516	0.03258	ug/l	11.11	5.00		48.67	57.00	53.00
205 Tl	# 3	0.02048	0.01024	ug/l	25.97	20.00		223.34	213.34	170.01
208 Pb	# 3	0.16706	0.08353	ug/l	5.35	1800.00		1560.08	1640.08	1510.08
232 Th	# 3	0.13366	0.06683	ug/l	6.14	#VALUE!		1496.79	1360.11	1423.45
238 U	# 3	9.372	4.686	ug/l	1.51	#VALUE!		75961.40	76460.55	74732.48

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	537705.56	0.68	572657.25	93.9	60 - 125		533797.94	538237.25	541081.50
45 Sc	# 1	390868.44	1.82	523286.00	74.7	60 - 125		382737.84	393823.09	396044.28
45 Sc	# 3	564719.50	0.43	603286.69	93.6	60 - 125		562042.13	565375.88	566740.38
74 Ge	# 1	110349.33	1.18	170650.48	64.7	60 - 125		108889.34	110774.80	111383.85
74 Ge	# 2	18299.27	2.61	24862.19	73.6	60 - 125		17981.15	18067.93	18848.73
74 Ge	# 3	120855.55	0.66	155795.36	77.6	60 - 125		119999.65	121003.60	121563.41
89 Y	# 3	812559.81	0.31	1011968.20	80.3	60 - 125		813185.06	809767.13	814727.19
115 In	# 3	692617.31	0.43	989458.81	70.0	60 - 125		696058.31	690511.38	691282.31
159 Tb	# 3	943591.00	0.01	1388283.80	68.0	60 - 125		943510.00	943561.88	943701.25
209 Bi	# 3	477390.00	0.37	829936.50	57.5	60 - 125	IS F	477892.53	475426.03	478851.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\287SMPL.D\287SMPL.D#
Date Acquired: Dec 31 2012 04:09 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86061-c-5-d
Misc Info: 3005 1/20
Vial Number: 4211
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 4.00
Autodil Factor: Undiluted
Final Dil Factor: 4.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.006216	-0.001554	ug/l	109.46	100.00		0.00	6.67	6.67
11 B	# 3	41.56	10.39	ug/l	0.92	1800.00		31960.36	32487.85	33659.94
23 Na	# 1	1340000	335000	ug/l	0.58	81000.00		1350775300.00	1351670100.00	1369354000.00
24 Mg	# 1	36.348	9.087	ug/l	1.87	81000.00		30685.05	31846.99	31973.74
27 Al	# 1	5.144	1.286	ug/l	2.85	81000.00		6191.17	6111.13	6117.80
39 K	# 2	3250	812.5	ug/l	1.08	81000.00		179880.02	182423.08	184632.20
40 Ca	# 1	249.56	62.39	ug/l	0.50	81000.00		505289.69	513207.97	520571.75
45 Sc	# 2	----	--------		--------	#VALUE!		33623.30	33970.64	34782.09
47 Ti	# 3	1.39	0.3475	ug/l	20.08	1620.00		320.01	406.68	300.01
51 V	# 2	31.176	7.794	ug/l	0.84	1800.00		11300.16	11435.80	11635.92
52 Cr	# 2	0.036928	0.009232	ug/l	78.09	1800.00		142.22	165.56	153.34
55 Mn	# 3	0.35604	0.08901	ug/l	17.62	1800.00		3107.02	3040.34	3447.08
56 Fe	# 1	4.676	1.169	ug/l	5.59	81000.00		29878.11	30749.49	30158.48
59 Co	# 3	0.7872	0.1968	ug/l	2.16	1800.00		1906.82	1966.83	1973.50
60 Ni	# 2	13.056	3.264	ug/l	2.73	1800.00		2644.66	2722.45	2674.66
63 Cu	# 2	2.0392	0.5098	ug/l	0.37	1800.00		3296.99	3292.55	3389.23
66 Zn	# 3	-0.201	-0.05025	ug/l	70.97	1800.00		493.36	410.02	470.02
75 As	# 2	65.16	16.29	ug/l	0.20	100.00		2410.83	2394.83	2468.51
78 Se	# 1	3.562	0.8905	ug/l	1.78	100.00		255.67	247.00	257.34
88 Sr	# 3	1.8508	0.4627	ug/l	1.48	1800.00		8608.99	8779.07	8735.72
95 Mo	# 3	134.28	33.57	ug/l	1.55	1800.00		76960.52	74965.52	74901.64
107 Ag	# 3	-0.033172	-0.008293	ug/l	9.52	100.00		30.00	23.33	20.00
111 Cd	# 3	0.09448	0.02362	ug/l	28.41	100.00		65.38	49.35	66.03
118 Sn	# 3	0.19376	0.04844	ug/l	31.57	1800.00		570.03	520.02	440.02
121 Sb	# 3	1.4736	0.3684	ug/l	2.97	100.00		1683.47	1753.47	1690.13
137 Ba	# 3	5.228	1.307	ug/l	3.21	1800.00		2740.30	2880.32	2903.67
202 Hg	# 3	0.083	0.02075	ug/l	21.18	5.00		45.67	37.00	48.33
205 Tl	# 3	0.01348	0.00337	ug/l	45.34	20.00		126.67	160.01	133.34
208 Pb	# 3	0.12616	0.03154	ug/l	10.96	1800.00		880.04	816.70	930.04
232 Th	# 3	0.09604	0.02401	ug/l	16.23	#VALUE!		916.72	826.72	780.04
238 U	# 3	8.712	2.178	ug/l	0.48	#VALUE!		39671.90	39424.94	39882.72

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	577762.94	2.30	572657.25	100.9	60 - 125		569419.75	570753.13	593115.88
45 Sc	# 1	418373.81	1.30	523286.00	80.0	60 - 125		413774.31	416994.44	424352.69
45 Sc	# 3	597019.56	0.67	603286.69	99.0	60 - 125		596989.25	593054.50	601015.00
74 Ge	# 1	124228.04	0.58	170650.48	72.8	60 - 125		124306.97	123470.89	124906.28
74 Ge	# 2	19955.45	1.69	24862.19	80.3	60 - 125		19795.28	19728.52	20342.55
74 Ge	# 3	133314.22	0.48	155795.36	85.6	60 - 125		133551.03	132593.23	133798.38
89 Y	# 3	882866.75	0.41	1011968.20	87.2	60 - 125		886686.56	879562.69	882351.13
115 In	# 3	763027.13	0.43	989458.81	77.1	60 - 125		763645.31	759472.56	765963.50
159 Tb	# 3	1024571.30	0.27	1388283.80	73.8	60 - 125		1022421.60	1023564.60	1027727.90
209 Bi	# 3	536920.69	0.10	829936.50	64.7	60 - 125		537113.56	536301.38	537347.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\288_CCV.D\288_CCV.D#
Date Acquired: Dec 31 2012 04:17 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.87 ug/l	0.88	50.00	90 - 110		115194.09	117097.91	118940.84
11 B	91.97 ug/l	1.28	100.00	90 - 110		236862.36	237571.03	241589.78
23 Na	5767 ug/l	1.38	5000.00	90 - 110	Fail	23564014.00	23936022.00	23751622.00
24 Mg	5133 ug/l	1.63	5000.00	90 - 110		13967376.00	14254880.00	14181810.00
27 Al	525.9 ug/l	0.93	500.00	90 - 110		1653465.60	1664541.00	1662139.90
39 K	5231 ug/l	1.18	5000.00	90 - 110		1224386.00	1248209.30	1278183.30
40 Ca	5245 ug/l	1.19	5000.00	90 - 110		33842524.00	34231640.00	33875968.00
45 Sc	--------	--------	---	##### - #####		34471.46	35196.20	36084.47
47 Ti	52.13 ug/l	0.87	50.00	90 - 110		44293.20	45352.10	44610.35
51 V	49.13 ug/l	1.42	50.00	90 - 110		77261.51	78589.15	79472.67
52 Cr	48.65 ug/l	1.22	50.00	90 - 110		90269.38	92038.69	93323.88
55 Mn	525.1 ug/l	1.40	500.00	90 - 110		7771168.00	7740131.50	7624931.50
56 Fe	5048 ug/l	0.21	5000.00	90 - 110		50531280.00	50162404.00	50161972.00
59 Co	53.39 ug/l	0.43	50.00	90 - 110		559024.94	557653.56	558438.75
60 Ni	48.18 ug/l	2.15	50.00	90 - 110		39292.69	39562.11	39838.26
63 Cu	47.99 ug/l	1.45	50.00	90 - 110		102922.78	104473.95	106308.48
66 Zn	51.62 ug/l	0.75	50.00	90 - 110		67066.19	67243.48	66765.27
75 As	51.62 ug/l	1.01	50.00	90 - 110		8223.19	8409.27	8567.68
78 Se	49.9 ug/l	0.73	50.00	90 - 110		14701.92	14595.19	14424.38
88 Sr	50.47 ug/l	0.86	50.00	90 - 110		952441.00	955692.69	961603.00
95 Mo	54.04 ug/l	1.16	50.00	90 - 110		136695.81	136041.08	136635.58
107 Ag	53.49 ug/l	1.28	50.00	90 - 110		391558.50	384973.84	387099.81
111 Cd	51.66 ug/l	1.30	50.00	90 - 110		79012.41	80177.97	79866.11
118 Sn	51.4 ug/l	0.89	50.00	90 - 110		251340.59	250759.94	250492.28
121 Sb	51.99 ug/l	0.37	50.00	90 - 110		243123.59	244624.31	241221.81
137 Ba	51.96 ug/l	1.24	50.00	90 - 110		124215.71	124538.58	124954.38
202 Hg	2.826 ug/l	1.09	2.50	90 - 110	Fail	4697.37	4770.05	4652.69
205 Tl	10.92 ug/l	0.36	10.00	90 - 110		138680.42	138921.47	138131.44
208 Pb	54.25 ug/l	0.27	50.00	90 - 110		950009.69	945472.06	946863.31
232 Th	49.17 ug/l	0.98	---	##### - #####		1086147.30	1079309.00	1093550.60
238 U	48.48 ug/l	0.76	---	##### - #####		1083907.40	1095597.90	1089621.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	580051.19	1.47	572657.25	101.3	60 - 125		570197.69	585556.44	584399.44
45 Sc	422286.38	0.59	523286.00	80.7	60 - 125		424811.16	419862.72	422185.28
45 Sc	605481.19	0.42	603286.69	100.4	60 - 125		604559.44	608337.75	603546.44
74 Ge	137636.67	0.60	170650.48	80.7	60 - 125		138574.05	136998.50	137337.45
74 Ge	21904.72	2.73	24862.19	88.1	60 - 125		21223.54	22144.62	22345.98
74 Ge	148668.53	0.41	155795.36	95.4	60 - 125		148233.19	148410.30	149362.11
89 Y	928641.94	0.49	1011968.20	91.8	60 - 125		933649.13	924887.25	927389.38
115 In	855741.69	0.98	989458.81	86.5	60 - 125		859135.69	861920.94	846168.44
159 Tb	1121467.60	0.07	1388283.80	80.8	60 - 125		1121025.60	1120984.60	1122392.50
209 Bi	665059.19	0.41	829936.50	80.1	60 - 125		667396.81	665667.63	662113.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\289_CCB.D\289_CCB.D#
Date Acquired: Dec 31 2012 04:24 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.00696	0.00696	ug/l	20.47	#VALUE!		20.00	23.33	26.67
11 B	# 3	1.333	1.333	ug/l	4.56	#VALUE!		9555.96	10006.15	9932.78
23 Na	# 1	2.657	2.657	ug/l	634.55	#VALUE!		124009.67	156844.48	255371.48
24 Mg	# 1	-0.8274	-0.8274	ug/l	21.04	#VALUE!		3850.50	4367.30	4860.75
27 Al	# 1	-0.01106	-0.01106	ug/l	615.73	#VALUE!		1866.81	1963.49	2296.87
39 K	# 2	-2.729	-2.729	ug/l	20.48	#VALUE!		5904.43	6181.19	6297.90
40 Ca	# 1	0.6638	0.6638	ug/l	42.51	#VALUE!		112581.63	115207.42	118273.13
45 Sc	# 2	----	--------		--------	#VALUE!		32867.56	32893.13	33629.98
47 Ti	# 3	0.02024	0.02024	ug/l	151.28	#VALUE!		93.34	53.34	46.67
51 V	# 2	0.01945	0.01945	ug/l	63.03	#VALUE!		174.45	201.11	167.78
52 Cr	# 2	0.0001274	0.0001274	ug/l	4465.50	#VALUE!		141.11	157.78	141.11
55 Mn	# 3	0.05472	0.05472	ug/l	27.19	#VALUE!		3233.71	2883.64	2800.28
56 Fe	# 1	0.8119	0.8119	ug/l	16.31	#VALUE!		27200.42	28709.51	30054.87
59 Co	# 3	0.009275	0.009275	ug/l	45.36	#VALUE!		256.68	190.01	173.34
60 Ni	# 2	-0.3216	-0.3216	ug/l	0.44	#VALUE!		16.67	18.89	18.89
63 Cu	# 2	-1.183	-1.183	ug/l	0.16	#VALUE!		52.22	45.56	47.78
66 Zn	# 3	-0.3204	-0.3204	ug/l	1.91	#VALUE!		153.34	153.34	166.67
75 As	# 2	0.04166	0.04166	ug/l	77.89	#VALUE!		19.67	26.33	16.67
78 Se	# 1	0.04781	0.04781	ug/l	46.31	#VALUE!		36.67	37.00	26.33
88 Sr	# 3	-0.003063	-0.003063	ug/l	31.44	#VALUE!		333.35	350.01	313.35
95 Mo	# 3	0.1121	0.1121	ug/l	2.08	#VALUE!		333.35	336.68	343.35
107 Ag	# 3	0.007642	0.007642	ug/l	29.50	#VALUE!		153.34	150.01	123.34
111 Cd	# 3	0.01162	0.01162	ug/l	11.70	#VALUE!		46.56	49.89	49.89
118 Sn	# 3	0.039	0.039	ug/l	7.89	#VALUE!		540.03	506.69	523.36
121 Sb	# 3	0.2695	0.2695	ug/l	12.02	#VALUE!		1610.13	1300.09	1433.44
137 Ba	# 3	0.007991	0.007991	ug/l	17.87	#VALUE!		73.34	76.67	70.00
202 Hg	# 3	0.03964	0.03964	ug/l	4.30	#VALUE!		90.33	83.67	87.00
205 Tl	# 3	0.009065	0.009065	ug/l	7.38	#VALUE!		230.01	213.34	226.68
208 Pb	# 3	0.00543	0.00543	ug/l	40.96	#VALUE!		516.69	523.35	453.35
232 Th	# 3	0.1148	0.1148	ug/l	7.97	#VALUE!		3353.80	2967.06	2993.71
238 U	# 3	0.00678	0.00678	ug/l	29.17	#VALUE!		360.02	353.35	280.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	571881.13	0.93	572657.25	99.9	60 - 125		565801.69	575495.31	574346.38
45 Sc	# 1	408438.22	0.99	523286.00	78.1	60 - 125		404042.28	409330.69	411941.69
45 Sc	# 3	585479.50	0.65	603286.69	97.0	60 - 125		583985.56	589825.44	582627.31
74 Ge	# 1	131549.36	0.66	170650.48	77.1	60 - 125		130554.18	131984.42	132109.45
74 Ge	# 2	21198.69	1.51	24862.19	85.3	60 - 125		20935.45	21106.74	21553.88
74 Ge	# 3	144271.11	0.86	155795.36	92.6	60 - 125		145433.69	142954.08	144425.58
89 Y	# 3	918049.13	0.49	1011968.20	90.7	60 - 125		913043.50	921742.25	919361.63
115 In	# 3	851292.56	0.35	989458.81	86.0	60 - 125		854651.88	848962.25	850263.44
159 Tb	# 3	1110865.80	0.24	1388283.80	80.0	60 - 125		1113793.80	1108761.60	1110041.80
209 Bi	# 3	677402.88	0.63	829936.50	81.6	60 - 125		679775.50	672464.25	679968.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\290SMPL.D\290SMPL.D#
Date Acquired: Dec 31 2012 04:32 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261276_1-a
Misc Info: 3050 1/5
Vial Number: 2401
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.001949	-0.001949	ug/l	81.07	100.00		6.67	3.33	0.00
11 B	# 3	0.8766	0.8766	ug/l	6.92	1800.00		8091.90	8558.76	8545.47
23 Na	# 1	-18.49	-18.49	ug/l	0.98	81000.00		93837.94	92983.68	95040.41
24 Mg	# 1	-1.488	-1.488	ug/l	2.45	81000.00		2546.92	2666.94	2516.91
27 Al	# 1	1.671	1.671	ug/l	3.96	81000.00		6821.38	7228.22	7298.26
39 K	# 2	-2.338	-2.338	ug/l	13.48	81000.00		6107.81	6114.46	6241.26
40 Ca	# 1	2.349	2.349	ug/l	7.63	81000.00		124102.30	125276.88	125256.09
45 Sc	# 2	----	--------		--------	#VALUE!		31935.92	32839.68	33202.55
47 Ti	# 3	0.06731	0.06731	ug/l	26.12	1620.00		93.34	116.67	93.34
51 V	# 2	0.2289	0.2289	ug/l	7.50	1800.00		490.01	478.90	528.90
52 Cr	# 2	0.0741	0.0741	ug/l	2.45	1800.00		274.45	280.00	282.23
55 Mn	# 3	0.02096	0.02096	ug/l	23.01	1800.00		2583.60	2430.23	2470.24
56 Fe	# 1	7.394	7.394	ug/l	1.62	81000.00		92383.13	91673.59	91914.19
59 Co	# 3	-0.002761	-0.002761	ug/l	61.61	1800.00		66.67	100.00	86.67
60 Ni	# 2	-0.1631	-0.1631	ug/l	12.19	1800.00		124.45	145.56	155.56
63 Cu	# 2	-1.168	-1.168	ug/l	0.29	1800.00		85.56	77.78	72.22
66 Zn	# 3	0.0215	0.0215	ug/l	195.53	1800.00		540.02	636.70	580.03
75 As	# 2	0.2227	0.2227	ug/l	6.29	100.00		50.67	46.67	49.33
78 Se	# 1	0.002906	0.002906	ug/l	145.77	100.00		21.00	19.67	22.33
88 Sr	# 3	-0.01176	-0.01176	ug/l	3.16	1800.00		163.34	170.01	176.67
95 Mo	# 3	0.06081	0.06081	ug/l	14.12	1800.00		203.34	236.67	200.01
107 Ag	# 3	-0.001821	-0.001821	ug/l	85.72	100.00		86.67	76.67	63.34
111 Cd	# 3	0.01596	0.01596	ug/l	48.95	100.00		43.27	59.93	66.60
118 Sn	# 3	2.096	2.096	ug/l	1.64	1800.00		10907.05	10720.33	10543.56
121 Sb	# 3	0.279	0.279	ug/l	8.06	100.00		1583.45	1583.45	1403.43
137 Ba	# 3	0.001408	0.001408	ug/l	446.52	1800.00		50.00	50.00	76.67
202 Hg	# 3	0.01127	0.01127	ug/l	20.34	5.00		42.00	40.67	35.00
205 Tl	# 3	0.002401	0.002401	ug/l	74.22	20.00		170.01	133.34	126.67
208 Pb	# 3	-0.006143	-0.006143	ug/l	16.93	1800.00		326.68	286.68	303.34
232 Th	# 3	0.05837	0.05837	ug/l	9.75	#VALUE!		1976.86	1803.49	1743.49
238 U	# 3	-0.005754	-0.005754	ug/l	13.99	#VALUE!		53.34	56.67	23.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	552249.38	1.66	572657.25	96.4	60 - 125		542263.56	554162.25	560322.31
45 Sc	# 1	405257.00	1.17	523286.00	77.4	60 - 125		401452.63	403741.09	410577.28
45 Sc	# 3	572376.75	0.75	603286.69	94.9	60 - 125		573277.00	567680.50	576172.75
74 Ge	# 1	132582.36	1.03	170650.48	77.7	60 - 125		131450.52	132202.61	134093.94
74 Ge	# 2	20985.86	0.32	24862.19	84.4	60 - 125		20910.96	21041.10	21005.51
74 Ge	# 3	144487.13	0.74	155795.36	92.7	60 - 125		145033.38	143262.97	145165.03
89 Y	# 3	922306.63	0.58	1011968.20	91.1	60 - 125		926767.06	916429.69	923723.44
115 In	# 3	869554.94	0.85	989458.81	87.9	60 - 125		876208.31	861572.69	870883.75
159 Tb	# 3	1140196.00	0.73	1388283.80	82.1	60 - 125		1144373.00	1130624.40	1145590.80
209 Bi	# 3	680127.88	0.46	829936.50	81.9	60 - 125		677634.81	679133.06	683615.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\291SMPL.D\291SMPL.D#
Date Acquired: Dec 31 2012 04:39 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261276_2-a
Misc Info: 3050 1/5
Vial Number: 2402
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.55	10.55	ug/l	2.88	100.00		22933.84	22890.53	22423.26
11 B # 3	40.79	40.79	ug/l	1.42	1800.00		104323.44	104001.69	105686.59
23 Na # 1	1161	1161	ug/l	0.11	81000.00		4706946.00	4760281.50	4845152.50
24 Mg # 1	1197	1197	ug/l	1.19	81000.00		3154996.50	3237106.50	3212076.50
27 Al # 1	1185	1185	ug/l	0.45	81000.00		3564155.00	3639691.50	3669743.80
39 K # 2	1145	1145	ug/l	0.30	81000.00		265706.31	269553.06	275346.19
40 Ca # 1	1200	1200	ug/l	1.28	81000.00		7547247.50	7697567.50	7633373.00
45 Sc # 2	----	--------		--------	#VALUE!		33152.47	33527.55	33604.38
47 Ti # 3	23.35	23.35	ug/l	2.48	1620.00		19327.05	18529.58	19433.84
51 V # 2	22.17	22.17	ug/l	1.00	1800.00		34014.21	34454.97	34570.72
52 Cr # 2	22.42	22.42	ug/l	1.38	1800.00		40847.78	41168.48	41195.21
55 Mn # 3	120.6	120.6	ug/l	1.44	1800.00		1738660.40	1708396.00	1688905.60
56 Fe # 1	1154	1154	ug/l	0.93	81000.00		11053294.00	10985531.00	11092613.00
59 Co # 3	11.89	11.89	ug/l	0.46	1800.00		119910.00	120541.59	119913.52
60 Ni # 2	21.75	21.75	ug/l	0.96	1800.00		17287.04	17456.07	17583.95
63 Cu # 2	21.16	21.16	ug/l	1.77	1800.00		45886.94	46207.49	46007.08
66 Zn # 3	21.33	21.33	ug/l	0.46	1800.00		27017.10	27157.30	27023.70
75 As # 2	21.38	21.38	ug/l	0.94	100.00		3346.98	3378.65	3404.99
78 Se # 1	18.95	18.95	ug/l	1.65	100.00		5320.45	5352.80	5295.11
88 Sr # 3	21.2	21.2	ug/l	0.56	1800.00		402482.81	398109.88	398921.66
95 Mo # 3	23.41	23.41	ug/l	1.95	1800.00		60941.67	59603.97	58964.90
107 Ag # 3	11.87	11.87	ug/l	1.81	100.00		88851.41	86112.15	86516.64
111 Cd # 3	10.71	10.71	ug/l	0.71	100.00		16835.77	16569.21	16796.27
118 Sn # 3	24.93	24.93	ug/l	1.20	1800.00		124011.77	123595.12	122091.84
121 Sb # 3	11.46	11.46	ug/l	1.32	100.00		54877.64	54245.70	53784.16
137 Ba # 3	23.04	23.04	ug/l	1.72	1800.00		56785.56	54758.89	56130.17
202 Hg # 3	1.009	1.009	ug/l	1.07	5.00		1729.10	1709.76	1754.10
205 Tl # 3	9.422	9.422	ug/l	0.52	20.00		121353.09	122604.75	122850.20
208 Pb # 3	12.08	12.08	ug/l	1.24	1800.00		217883.09	212992.83	217320.91
232 Th # 3	21.44	21.44	ug/l	0.69	#VALUE!		486571.81	484147.44	483308.63
238 U # 3	21.86	21.86	ug/l	0.63	#VALUE!		503837.66	502581.03	501147.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	554272.94	1.75	572657.25	96.8	60 - 125		544030.13	555486.69	563301.88
45 Sc # 1	409490.75	1.47	523286.00	78.3	60 - 125		403691.09	409080.97	415700.16
45 Sc # 3	576041.56	0.44	603286.69	95.5	60 - 125		573936.69	575365.63	578822.44
74 Ge # 1	132048.09	1.20	170650.48	77.4	60 - 125		130931.21	131343.95	133869.13
74 Ge # 2	21203.52	1.80	24862.19	85.3	60 - 125		20813.04	21223.56	21573.95
74 Ge # 3	143532.50	0.16	155795.36	92.1	60 - 125		143682.50	143272.58	143642.41
89 Y # 3	923566.13	0.02	1011968.20	91.3	60 - 125		923788.75	923430.19	923479.38
115 In # 3	865504.44	0.41	989458.81	87.5	60 - 125		864335.81	862696.63	869480.69
159 Tb # 3	1146561.50	0.17	1388283.80	82.6	60 - 125		1144834.40	1146141.10	1148709.10
209 Bi # 3	680158.75	0.36	829936.50	82.0	60 - 125		678041.75	679592.69	682841.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\292SMPL.D\292SMPL.D#
Date Acquired: Dec 31 2012 04:47 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-1-f
Misc Info: 3050 1/5
Vial Number: 2403
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.6836	0.6836	ug/l	2.43	100.00		1350.08	1430.10	1400.10
11 B	# 3	7.888	7.888	ug/l	0.30	1800.00		23558.13	23748.29	24158.78
23 Na	# 1	325.9	325.9	ug/l	3.31	81000.00		1441268.10	1485612.30	1553600.40
24 Mg	# 1	1869	1869	ug/l	0.14	81000.00		5047415.00	5140791.50	5135410.50
27 Al	# 1	11300	11300	ug/l	0.58	81000.00		34753592.00	35404172.00	35807472.00
39 K	# 2	498.2	498.2	ug/l	1.20	81000.00		113245.63	113419.81	116901.18
40 Ca	# 1	84890	84890	ug/l	0.80	81000.00		537796930.00	541984320.00	550959870.00
45 Sc	# 2	----	--------		--------	#VALUE!		32693.91	33300.48	33764.70
47 Ti	# 3	140.8	140.8	ug/l	0.55	1620.00		117569.36	117559.69	117546.45
51 V	# 2	28.1	28.1	ug/l	1.07	1800.00		40517.06	41163.97	41423.47
52 Cr	# 2	27.01	27.01	ug/l	1.14	1800.00		46202.44	46553.30	47211.61
55 Mn	# 3	193	193	ug/l	0.30	1800.00		2591331.30	2574878.80	2591786.80
56 Fe	# 1	20210	20210	ug/l	0.82	81000.00		179474290.00	181210080.00	183954180.00
59 Co	# 3	2.199	2.199	ug/l	1.05	1800.00		21366.18	20939.11	20892.28
60 Ni	# 2	7.132	7.132	ug/l	3.23	1800.00		5591.99	5613.12	5494.19
63 Cu	# 2	26	26	ug/l	0.96	1800.00		52115.43	52918.76	53429.11
66 Zn	# 3	90.48	90.48	ug/l	0.62	1800.00		107450.17	106812.58	105877.82
75 As	# 2	20.05	20.05	ug/l	1.48	100.00		2954.91	2943.91	3067.60
78 Se	# 1	0.7276	0.7276	ug/l	5.94	100.00		218.67	210.00	202.00
88 Sr	# 3	95.67	95.67	ug/l	2.14	1800.00		2359535.00	2323540.50	2318257.80
95 Mo	# 3	1.321	1.321	ug/l	2.99	1800.00		3337.08	3173.72	3167.03
107 Ag	# 3	0.1045	0.1045	ug/l	8.52	100.00		860.05	810.04	740.04
111 Cd	# 3	1.557	1.557	ug/l	3.03	100.00		2249.14	2295.88	2392.56
118 Sn	# 3	6.81	6.81	ug/l	0.21	1800.00		31849.93	31753.20	32053.54
121 Sb	# 3	1.269	1.269	ug/l	4.07	100.00		5724.43	6061.25	5684.43
137 Ba	# 3	63.36	63.36	ug/l	1.08	1800.00		146016.19	144019.41	143256.02
202 Hg	# 3	0.1341	0.1341	ug/l	3.52	5.00		218.67	229.67	230.34
205 Tl	# 3	0.2584	0.2584	ug/l	0.71	20.00		3333.80	3330.45	3390.45
208 Pb	# 3	91.97	91.97	ug/l	1.23	1800.00		1601848.30	1582872.00	1581946.00
232 Th	# 3	3.388	3.388	ug/l	0.39	#VALUE!		71010.25	69885.20	70357.65
238 U	# 3	12.75	12.75	ug/l	0.58	#VALUE!		267695.94	268364.63	267938.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	521133.69	1.41	572657.25	91.0	60 - 125		514098.91	520552.91	528749.19
45 Sc	# 1	418685.50	1.13	523286.00	80.0	60 - 125		413244.72	421203.38	421608.38
45 Sc	# 3	589348.13	0.54	603286.69	97.7	60 - 125		585882.13	590076.38	592085.88
74 Ge	# 1	124171.20	1.51	170650.48	72.8	60 - 125		122016.85	125099.64	125397.13
74 Ge	# 2	20005.14	2.16	24862.19	80.5	60 - 125		19557.25	20036.64	20421.52
74 Ge	# 3	135530.05	0.20	155795.36	87.0	60 - 125		135846.45	135326.53	135417.16
89 Y	# 3	1195617.10	1.25	1011968.20	118.1	60 - 125		1180035.90	1209712.80	1197103.10
115 In	# 3	813719.06	0.38	989458.81	82.2	60 - 125		814509.56	810271.56	816376.00
159 Tb	# 3	1109597.80	0.54	1388283.80	79.9	60 - 125		1103213.00	1110510.30	1115070.30
209 Bi	# 3	621663.44	0.46	829936.50	74.9	60 - 125		624147.38	618570.38	622272.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\293SMPL.D\293SMPL.D#
Date Acquired: Dec 31 2012 04:54 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-1-f SD
Misc Info: 3050 1/25
Vial Number: 2404
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.7985	0.1597	ug/l	14.71	100.00		286.68	390.01	360.01
11 B	# 3	8.57	1.714	ug/l	2.97	1800.00		10182.88	10329.64	10226.27
23 Na	# 1	265.75	53.15	ug/l	1.25	81000.00		368646.91	372345.56	373314.13
24 Mg	# 1	2234	446.8	ug/l	0.54	81000.00		1161210.40	1175723.40	1189405.60
27 Al	# 1	13130	2626	ug/l	1.21	81000.00		7816321.50	7924956.50	7864061.50
39 K	# 2	515	103	ug/l	2.33	81000.00		28518.78	29129.71	30168.03
40 Ca	# 1	97150	19430	ug/l	1.23	81000.00		118323060.00	120357840.00	119424690.00
45 Sc	# 2	----	--------		--------	#VALUE!		31870.33	32518.03	32897.62
47 Ti	# 3	153.9	30.78	ug/l	0.46	1620.00		25013.86	25097.40	25247.47
51 V	# 2	29.335	5.867	ug/l	0.52	1800.00		8811.04	8813.26	8898.85
52 Cr	# 2	29.07	5.814	ug/l	0.95	1800.00		10344.04	10305.13	10357.40
55 Mn	# 3	195.25	39.05	ug/l	1.41	1800.00		547851.56	549425.25	537008.56
56 Fe	# 1	21715	4343	ug/l	0.65	81000.00		40200976.00	40291172.00	40455228.00
59 Co	# 3	2.2275	0.4455	ug/l	4.70	1800.00		4780.77	4437.32	4340.64
60 Ni	# 2	7.395	1.479	ug/l	1.44	1800.00		1381.18	1386.73	1381.17
63 Cu	# 2	24.58	4.916	ug/l	0.54	1800.00		11968.39	12111.83	12243.03
66 Zn	# 3	104.05	20.81	ug/l	2.18	1800.00		26613.15	25785.33	25304.71
75 As	# 2	22.39	4.478	ug/l	0.72	100.00		683.01	683.68	704.35
78 Se	# 1	0.8595	0.1719	ug/l	11.01	100.00		66.67	70.67	61.33
88 Sr	# 3	123.25	24.65	ug/l	0.28	1800.00		486688.31	482601.81	477649.41
95 Mo	# 3	1.4365	0.2873	ug/l	2.81	1800.00		750.04	780.04	763.37
107 Ag	# 3	0.045355	0.009071	ug/l	27.40	100.00		166.67	153.34	130.00
111 Cd	# 3	1.7225	0.3445	ug/l	8.26	100.00		529.79	523.11	596.45
118 Sn	# 3	7.215	1.443	ug/l	0.47	1800.00		7295.10	7141.70	7181.68
121 Sb	# 3	1.4385	0.2877	ug/l	6.46	100.00		1510.12	1420.10	1586.79
137 Ba	# 3	65	13	ug/l	2.00	1800.00		31433.06	30384.54	29786.70
202 Hg	# 3	0.195	0.039	ug/l	6.27	5.00		87.67	80.00	82.00
205 Tl	# 3	0.2916	0.05832	ug/l	7.37	20.00		786.71	880.05	850.05
208 Pb	# 3	99.45	19.89	ug/l	0.22	1800.00		347390.44	341712.59	340331.72
232 Th	# 3	3.3665	0.6733	ug/l	1.08	#VALUE!		15358.10	15141.24	15037.78
238 U	# 3	12.48	2.496	ug/l	0.88	#VALUE!		56080.04	55417.64	55086.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	543611.19	1.35	572657.25	94.9	60 - 125		535495.13	545492.00	549846.50
45 Sc	# 1	401339.88	1.00	523286.00	76.7	60 - 125		398680.50	399359.09	405980.06
45 Sc	# 3	575081.38	0.11	603286.69	95.3	60 - 125		575436.25	574318.88	575488.94
74 Ge	# 1	128266.69	0.97	170650.48	75.2	60 - 125		127192.83	127972.22	129635.02
74 Ge	# 2	20369.97	1.07	24862.19	81.9	60 - 125		20211.26	20280.24	20618.40
74 Ge	# 3	140712.67	0.65	155795.36	90.3	60 - 125		141681.05	139871.28	140585.70
89 Y	# 3	958335.19	0.68	1011968.20	94.7	60 - 125		964072.69	959662.69	951270.19
115 In	# 3	836854.44	0.77	989458.81	84.6	60 - 125		844277.81	833610.13	832675.50
159 Tb	# 3	1107104.60	0.88	1388283.80	79.7	60 - 125		1118030.30	1103804.40	1099479.50
209 Bi	# 3	656311.50	0.12	829936.50	79.1	60 - 125		656291.38	657128.50	655514.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\294SMPL.D\294SMPL.D#
Date Acquired: Dec 31 2012 05:02 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-1-f PDS
Misc Info: 3050 1/5
Vial Number: 2405
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	21.75	21.75	ug/l	0.79	100.00		43148.12	43679.27	44200.30
11 B	# 3	47.64	47.64	ug/l	2.13	1800.00		113184.48	111753.88	113453.60
23 Na	# 1	2466	2466	ug/l	0.43	81000.00		10099010.00	10067700.00	10182159.00
24 Mg	# 1	3983	3983	ug/l	0.44	81000.00		10770192.00	10806308.00	10893290.00
27 Al	# 1	11460	11460	ug/l	0.53	81000.00		35398804.00	35739228.00	35771672.00
39 K	# 2	2873	2873	ug/l	1.13	81000.00		606711.94	617275.94	628516.13
40 Ca	# 1	86340	86340	ug/l	0.78	81000.00		544869440.00	551008580.00	554496770.00
45 Sc	# 2	----	--------		--------	#VALUE!		32987.70	33023.37	34097.50
47 Ti	# 3	160.8	160.8	ug/l	0.34	1620.00		133307.42	134851.36	134006.00
51 V	# 2	50.59	50.59	ug/l	0.47	1800.00		71390.59	72450.12	72999.11
52 Cr	# 2	49.15	49.15	ug/l	0.16	1800.00		82328.62	83205.76	83680.00
55 Mn	# 3	417.1	417.1	ug/l	1.26	1800.00		5577538.00	5537511.50	5586086.00
56 Fe	# 1	22310	22310	ug/l	0.35	81000.00		198128220.00	198432420.00	198981760.00
59 Co	# 3	25.41	25.41	ug/l	0.71	1800.00		242140.41	241511.34	240948.13
60 Ni	# 2	28.21	28.21	ug/l	0.43	1800.00		20659.36	20799.54	21067.58
63 Cu	# 2	46.88	46.88	ug/l	0.47	1800.00		90962.98	91111.52	92367.54
66 Zn	# 3	107.8	107.8	ug/l	1.19	1800.00		127677.80	125800.71	126402.08
75 As	# 2	41.4	41.4	ug/l	0.84	100.00		6006.00	6078.69	6011.00
78 Se	# 1	19.55	19.55	ug/l	1.03	100.00		5140.74	5127.73	5073.38
88 Sr	# 3	110.2	110.2	ug/l	0.19	1800.00		2698771.80	2674982.00	2717639.50
95 Mo	# 3	25.15	25.15	ug/l	0.54	1800.00		59115.32	59108.85	59674.06
107 Ag	# 3	18.2	18.2	ug/l	0.63	100.00		123557.86	123545.67	122653.09
111 Cd	# 3	22.22	22.22	ug/l	0.67	100.00		31867.36	31870.79	32261.44
118 Sn	# 3	29.55	29.55	ug/l	0.92	1800.00		135488.66	135133.50	133712.23
121 Sb	# 3	23.69	23.69	ug/l	0.59	100.00		103451.61	102981.71	103814.08
137 Ba	# 3	86.02	86.02	ug/l	0.96	1800.00		193669.66	192644.97	190992.77
202 Hg	# 3	1.115	1.115	ug/l	2.38	5.00		1716.76	1673.76	1629.09
205 Tl	# 3	4.828	4.828	ug/l	0.71	20.00		58799.86	59508.89	59759.82
208 Pb	# 3	112.9	112.9	ug/l	1.11	1800.00		1923289.50	1900514.10	1901399.80
232 Th	# 3	26.35	26.35	ug/l	0.14	#VALUE!		522277.84	523909.94	518663.44
238 U	# 3	35.56	35.56	ug/l	0.68	#VALUE!		716818.75	714634.94	715544.44

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	515938.78	1.57	572657.25	90.1	60 - 125		506605.41	520600.31	520610.72
45 Sc	# 1	416604.72	0.17	523286.00	79.6	60 - 125		416308.19	416114.97	417390.97
45 Sc	# 3	588308.38	0.75	603286.69	97.5	60 - 125		585667.25	593384.19	585873.69
74 Ge	# 1	123005.45	0.41	170650.48	72.1	60 - 125		123073.65	122467.38	123475.33
74 Ge	# 2	19599.87	0.66	24862.19	78.8	60 - 125		19460.44	19621.74	19717.42
74 Ge	# 3	135108.45	0.84	155795.36	86.7	60 - 125		135369.23	136087.91	133868.22
89 Y	# 3	1199854.30	0.70	1011968.20	118.6	60 - 125		1198313.40	1192289.30	1208960.30
115 In	# 3	798653.06	0.34	989458.81	80.7	60 - 125		795577.56	800677.19	799704.44
159 Tb	# 3	1085198.10	0.50	1388283.80	78.2	60 - 125		1080571.50	1091182.60	1083840.30
209 Bi	# 3	595563.19	0.61	829936.50	71.8	60 - 125		595712.63	599099.69	591877.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\295SMPL.D\295SMPL.D#
Date Acquired: Dec 31 2012 05:09 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-1-g ms
Misc Info: 3050 1/5
Vial Number: 2406
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.07	11.07	ug/l	2.12	100.00		22196.45	22336.47	22146.26
11 B # 3	43.46	43.46	ug/l	1.42	1800.00		102480.63	103880.77	103859.83
23 Na # 1	1218	1218	ug/l	0.50	81000.00		5024293.00	5028051.00	5065482.50
24 Mg # 1	1998	1998	ug/l	0.61	81000.00		5353948.50	5422216.00	5381827.50
27 Al # 1	11050	11050	ug/l	0.28	81000.00		33995328.00	34191124.00	34016288.00
39 K # 2	1438	1438	ug/l	0.81	81000.00		308290.63	315419.75	316844.44
40 Ca # 1	56710	56710	ug/l	0.68	81000.00		355956740.00	358017700.00	360663300.00
45 Sc # 2	----	--------		--------	#VALUE!		31810.16	32720.59	33028.90
47 Ti # 3	130.7	130.7	ug/l	0.64	1620.00		107332.27	107521.16	108003.52
51 V # 2	43.16	43.16	ug/l	0.76	1800.00		61364.43	62167.07	62351.96
52 Cr # 2	46.61	46.61	ug/l	0.71	1800.00		78755.56	78320.39	80328.73
55 Mn # 3	219.5	219.5	ug/l	0.67	1800.00		2996151.50	2969039.50	2963532.50
56 Fe # 1	8844	8844	ug/l	0.10	81000.00		80417936.00	79607832.00	80201344.00
59 Co # 3	12.55	12.55	ug/l	0.70	1800.00		122208.38	121175.35	120329.73
60 Ni # 2	25.96	25.96	ug/l	1.36	1800.00		19262.33	19312.38	19272.32
63 Cu # 2	45.57	45.57	ug/l	1.07	1800.00		89177.91	89260.22	89682.42
66 Zn # 3	94.88	94.88	ug/l	0.76	1800.00		113955.39	112756.94	112982.23
75 As # 2	33.73	33.73	ug/l	1.03	100.00		4934.01	4875.66	5005.70
78 Se # 1	18.5	18.5	ug/l	1.30	100.00		4900.67	4876.33	5000.03
88 Sr # 3	84.76	84.76	ug/l	1.32	1800.00		1854858.80	1839166.30	1839141.30
95 Mo # 3	23.97	23.97	ug/l	2.05	1800.00		58296.07	56002.12	57483.56
107 Ag # 3	11.22	11.22	ug/l	1.94	100.00		78141.11	76942.44	75877.90
111 Cd # 3	11.28	11.28	ug/l	1.04	100.00		16612.99	16306.79	16493.16
118 Sn # 3	26.56	26.56	ug/l	1.15	1800.00		123523.88	122695.59	121889.71
121 Sb # 3	11.68	11.68	ug/l	0.68	100.00		51985.48	51440.34	51828.22
137 Ba # 3	71.41	71.41	ug/l	0.87	1800.00		162928.33	160756.31	161817.84
202 Hg # 3	1.133	1.133	ug/l	2.63	5.00		1731.43	1795.44	1733.76
205 Tl # 3	9.128	9.128	ug/l	1.19	20.00		112055.41	113028.54	111611.41
208 Pb # 3	101.3	101.3	ug/l	0.58	1800.00		1718249.00	1714183.30	1709878.50
232 Th # 3	21.91	21.91	ug/l	0.25	#VALUE!		449313.78	446156.97	447444.53
238 U # 3	33.31	33.31	ug/l	0.91	#VALUE!		693135.94	694710.75	687873.31

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	515948.13	2.06	572657.25	90.1	60 - 125		504174.41	518856.72	524813.19
45 Sc # 1	412939.97	0.04	523286.00	78.9	60 - 125		412926.72	413098.16	412795.09
45 Sc # 3	581137.56	0.36	603286.69	96.3	60 - 125		581263.25	583166.13	578983.25
74 Ge # 1	125133.86	0.51	170650.48	73.3	60 - 125		125742.65	124477.62	125181.30
74 Ge # 2	19685.89	1.34	24862.19	79.2	60 - 125		19457.13	19625.05	19975.48
74 Ge # 3	137183.19	0.42	155795.36	88.1	60 - 125		137180.03	137763.78	136605.77
89 Y # 3	1066416.30	0.90	1011968.20	105.4	60 - 125		1057679.00	1076692.00	1064877.80
115 In # 3	809006.69	0.52	989458.81	81.8	60 - 125		806380.00	806801.63	813838.50
159 Tb # 3	1086359.30	0.59	1388283.80	78.3	60 - 125		1091599.10	1079193.50	1088285.00
209 Bi # 3	614572.13	0.54	829936.50	74.1	60 - 125		617276.88	610872.69	615566.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\296SMPL.D\296SMPL.D#
Date Acquired: Dec 31 2012 05:16 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-1-h msd
Misc Info: 3050 1/5
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.13	11.13	ug/l	1.72	100.00		21839.26	22406.49	22079.53
11 B # 3	44.71	44.71	ug/l	1.14	1800.00		104631.60	104654.73	105890.88
23 Na # 1	1244	1244	ug/l	0.25	81000.00		5065750.00	5051927.00	5080862.50
24 Mg # 1	2147	2147	ug/l	1.01	81000.00		5620660.00	5707515.00	5771055.50
27 Al # 1	9199	9199	ug/l	0.30	81000.00		27796992.00	27935312.00	28069996.00
39 K # 2	1423	1423	ug/l	1.96	81000.00		298832.59	305543.50	311381.47
40 Ca # 1	71000	71000	ug/l	0.30	81000.00		439168060.00	440735040.00	445149790.00
45 Sc # 2	----	--------		--------	#VALUE!		31036.72	31841.32	32349.98
47 Ti # 3	124.8	124.8	ug/l	0.50	1620.00		101119.05	101486.23	100635.82
51 V # 2	41.59	41.59	ug/l	1.76	1800.00		57990.40	58880.79	59375.88
52 Cr # 2	40.25	40.25	ug/l	1.65	1800.00		66652.71	67315.88	67787.60
55 Mn # 3	232.4	232.4	ug/l	0.90	1800.00		3082033.00	3136140.00	3090270.80
56 Fe # 1	8173	8173	ug/l	0.43	81000.00		72760336.00	72713256.00	72363472.00
59 Co # 3	12.53	12.53	ug/l	1.33	1800.00		118530.83	121207.94	117907.19
60 Ni # 2	25.56	25.56	ug/l	2.15	1800.00		18708.40	18717.26	18622.76
63 Cu # 2	42.74	42.74	ug/l	1.98	1800.00		82058.56	82893.16	82884.40
66 Zn # 3	91.97	91.97	ug/l	0.71	1800.00		109156.02	108130.26	107074.38
75 As # 2	32.78	32.78	ug/l	2.16	100.00		4642.93	4753.63	4771.97
78 Se # 1	18.44	18.44	ug/l	0.83	100.00		4820.32	4844.32	4784.64
88 Sr # 3	103.2	103.2	ug/l	0.34	1800.00		2227707.50	2242165.80	2221779.80
95 Mo # 3	24.39	24.39	ug/l	0.65	1800.00		57804.50	57624.19	56590.73
107 Ag # 3	11.18	11.18	ug/l	0.31	100.00		76088.29	75556.13	74889.97
111 Cd # 3	11.07	11.07	ug/l	1.02	100.00		16019.28	15759.13	15969.60
118 Sn # 3	27.87	27.87	ug/l	0.78	1800.00		126975.82	126089.88	127113.28
121 Sb # 3	11.94	11.94	ug/l	1.11	100.00		52439.88	51510.94	52276.29
137 Ba # 3	69.66	69.66	ug/l	0.48	1800.00		156821.48	155550.89	153797.25
202 Hg # 3	1.117	1.117	ug/l	1.44	5.00		1681.09	1702.76	1713.10
205 Tl # 3	9.133	9.133	ug/l	0.68	20.00		111215.55	110964.14	111951.18
208 Pb # 3	89.34	89.34	ug/l	0.49	1800.00		1511728.40	1494136.40	1490728.10
232 Th # 3	22.39	22.39	ug/l	0.09	#VALUE!		450819.69	449746.56	446484.63
238 U # 3	29.55	29.55	ug/l	0.42	#VALUE!		602606.25	603322.31	601849.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	510280.34	1.67	572657.25	89.1	60 - 125		502272.06	509355.94	519213.00
45 Sc # 1	406725.75	0.47	523286.00	77.7	60 - 125		405799.88	405442.44	408934.88
45 Sc # 3	571475.63	0.64	603286.69	94.7	60 - 125		575000.06	571742.13	567684.63
74 Ge # 1	122787.55	0.29	170650.48	72.0	60 - 125		123100.59	122399.25	122862.84
74 Ge # 2	19371.48	1.87	24862.19	77.9	60 - 125		19339.22	19026.66	19748.56
74 Ge # 3	135112.31	0.29	155795.36	86.7	60 - 125		135376.77	135292.25	134667.92
89 Y # 3	1059664.60	0.30	1011968.20	104.7	60 - 125		1056497.90	1062821.50	1059674.80
115 In # 3	796271.06	0.50	989458.81	80.5	60 - 125		799690.75	797278.06	791844.38
159 Tb # 3	1077387.60	0.28	1388283.80	77.6	60 - 125		1080581.60	1077021.90	1074559.10
209 Bi # 3	603333.19	0.48	829936.50	72.7	60 - 125		606034.44	603681.81	600283.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\297SMPL.D\297SMPL.D#
Date Acquired: Dec 31 2012 05:24 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-2-d
Misc Info: 3050 1/5
Vial Number: 2408
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.5447	0.5447	ug/l	1.36	100.00		1063.39	1080.06	1123.40
11 B # 3	5.899	5.899	ug/l	2.31	1800.00		18879.58	18722.78	19129.86
23 Na # 1	308.7	308.7	ug/l	1.30	81000.00		1389033.50	1393177.50	1388972.60
24 Mg # 1	1734	1734	ug/l	0.81	81000.00		4566577.50	4627683.00	4696918.50
27 Al # 1	9578	9578	ug/l	0.58	81000.00		29000772.00	29297582.00	29440940.00
39 K # 2	364.6	364.6	ug/l	0.49	81000.00		81965.11	83491.42	83920.32
40 Ca # 1	64510	64510	ug/l	0.74	81000.00		401040990.00	403860540.00	405744990.00
45 Sc # 2	----	--------		--------	#VALUE!		31167.95	32148.55	32494.61
47 Ti # 3	121	121	ug/l	0.61	1620.00		98223.49	98843.60	98725.45
51 V # 2	29.71	29.71	ug/l	0.49	1800.00		41434.71	42610.59	42479.09
52 Cr # 2	24.85	24.85	ug/l	0.46	1800.00		41137.29	41931.33	42141.78
55 Mn # 3	126	126	ug/l	0.83	1800.00		1682888.90	1696594.40	1691527.50
56 Fe # 1	8919	8919	ug/l	0.31	81000.00		79393096.00	80490952.00	80346120.00
59 Co # 3	1.881	1.881	ug/l	0.10	1800.00		17802.32	18192.71	18149.35
60 Ni # 2	7.805	7.805	ug/l	2.71	1800.00		5974.34	5784.29	5938.77
63 Cu # 2	20.13	20.13	ug/l	0.94	1800.00		40065.57	40685.81	40038.86
66 Zn # 3	76.62	76.62	ug/l	1.15	1800.00		90375.69	90445.85	90680.23
75 As # 2	17.92	17.92	ug/l	1.55	100.00		2575.19	2572.85	2643.53
78 Se # 1	1.058	1.058	ug/l	4.28	100.00		296.34	310.34	284.34
88 Sr # 3	94.44	94.44	ug/l	0.69	1800.00		2089798.30	2110745.00	2096440.80
95 Mo # 3	1.793	1.793	ug/l	1.71	1800.00		4290.65	4197.29	4327.32
107 Ag # 3	0.09427	0.09427	ug/l	8.50	100.00		653.36	766.71	736.71
111 Cd # 3	1.066	1.066	ug/l	3.57	100.00		1485.40	1602.12	1598.74
118 Sn # 3	4.422	4.422	ug/l	0.51	1800.00		20275.69	20315.65	20622.91
121 Sb # 3	1.05	1.05	ug/l	3.72	100.00		4870.84	4584.07	4810.83
137 Ba # 3	57.07	57.07	ug/l	1.12	1800.00		127895.44	127434.55	127230.45
202 Hg # 3	0.1091	0.1091	ug/l	5.13	5.00		175.33	189.67	176.00
205 Tl # 3	0.3677	0.3677	ug/l	4.89	20.00		4654.17	4327.38	4670.83
208 Pb # 3	83.22	83.22	ug/l	0.83	1800.00		1388444.10	1388392.90	1380376.50
232 Th # 3	2.751	2.751	ug/l	0.62	#VALUE!		54677.48	55383.46	55212.76
238 U # 3	16.01	16.01	ug/l	0.55	#VALUE!		324601.63	323337.88	323574.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	510385.81	1.80	572657.25	89.1	60 - 125		500523.13	511883.28	518751.09
45 Sc # 1	409027.69	1.22	523286.00	78.2	60 - 125		403297.28	412171.38	411614.44
45 Sc # 3	575017.94	0.57	603286.69	95.3	60 - 125		573794.19	572557.63	578702.00
74 Ge # 1	124081.03	0.89	170650.48	72.7	60 - 125		122942.84	125144.63	124155.61
74 Ge # 2	19443.41	1.05	24862.19	78.2	60 - 125		19211.29	19590.60	19528.35
74 Ge # 3	135637.22	1.22	155795.36	87.1	60 - 125		133760.73	136877.63	136273.25
89 Y # 3	1089144.30	0.39	1011968.20	107.6	60 - 125		1086467.40	1086949.60	1094015.90
115 In # 3	797675.31	0.85	989458.81	80.6	60 - 125		790355.69	798821.88	803848.31
159 Tb # 3	1069432.40	0.69	1388283.80	77.0	60 - 125		1061357.30	1075978.30	1070961.90
209 Bi # 3	598151.19	0.41	829936.50	72.1	60 - 125		596322.19	597171.81	600959.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\298SMPL.D\298SMPL.D#
Date Acquired: Dec 31 2012 05:31 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-3-d
Misc Info: 3050 1/5
Vial Number: 2409
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.2449	0.2449	ug/l	7.95	100.00		503.35	526.69	460.02
11 B	# 3	3.162	3.162	ug/l	4.15	1800.00		12377.57	13291.52	13128.06
23 Na	# 1	-1.056	-1.056	ug/l	14.29	81000.00		171285.11	171235.36	172926.45
24 Mg	# 1	693.4	693.4	ug/l	0.74	81000.00		1914632.90	1951746.00	1969062.50
27 Al	# 1	16040	16040	ug/l	0.31	81000.00		50922260.00	51485564.00	51647352.00
39 K	# 2	407.9	407.9	ug/l	1.03	81000.00		91210.28	93819.23	94533.07
40 Ca	# 1	9663	9663	ug/l	0.30	81000.00		63199760.00	63417372.00	63803572.00
45 Sc	# 2	----	--------		--------	#VALUE!		32908.70	33975.02	34730.81
47 Ti	# 3	47.29	47.29	ug/l	0.95	1620.00		40954.05	40487.74	40721.77
51 V	# 2	47.21	47.21	ug/l	1.19	1800.00		66440.41	67920.15	68388.40
52 Cr	# 2	39.77	39.77	ug/l	0.84	1800.00		66239.70	67290.11	68568.14
55 Mn	# 3	88.96	88.96	ug/l	1.05	1800.00		1201186.90	1218957.80	1194448.80
56 Fe	# 1	13920	13920	ug/l	0.53	81000.00		125185920.00	126218080.00	126386860.00
59 Co	# 3	0.6674	0.6674	ug/l	0.73	1800.00		6541.32	6558.04	6497.98
60 Ni	# 2	2.961	2.961	ug/l	2.93	1800.00		2310.17	2489.08	2452.41
63 Cu	# 2	4.619	4.619	ug/l	0.82	1800.00		10901.06	11045.60	11374.70
66 Zn	# 3	1409	1409	ug/l	0.61	1800.00		1672438.30	1673305.40	1664505.10
75 As	# 2	5.776	5.776	ug/l	2.34	100.00		853.69	851.02	858.69
78 Se	# 1	0.6445	0.6445	ug/l	3.45	100.00		193.33	183.33	192.67
88 Sr	# 3	62.85	62.85	ug/l	0.27	1800.00		1234194.00	1248796.60	1240382.90
95 Mo	# 3	1.108	1.108	ug/l	0.80	1800.00		2720.29	2686.95	2740.30
107 Ag	# 3	0.04318	0.04318	ug/l	7.80	100.00		406.68	373.35	363.35
111 Cd	# 3	5.415	5.415	ug/l	2.98	100.00		8024.50	7697.69	8197.96
118 Sn	# 3	3.976	3.976	ug/l	0.78	1800.00		18697.22	18887.41	18700.49
121 Sb	# 3	0.7903	0.7903	ug/l	3.65	100.00		3830.54	3573.80	3690.50
137 Ba	# 3	61.55	61.55	ug/l	0.55	1800.00		141126.36	139564.69	140482.67
202 Hg	# 3	0.07752	0.07752	ug/l	11.71	5.00		145.00	147.00	122.33
205 Tl	# 3	0.1012	0.1012	ug/l	3.48	20.00		1320.10	1320.09	1400.11
208 Pb	# 3	24.38	24.38	ug/l	0.88	1800.00		415069.00	410947.59	408618.03
232 Th	# 3	7.358	7.358	ug/l	0.68	#VALUE!		153268.86	150275.16	152227.63
238 U	# 3	1.181	1.181	ug/l	0.31	#VALUE!		24847.44	24810.65	25011.03

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	514109.25	1.95	572657.25	89.8	60 - 125		503147.50	516396.56	522783.75
45 Sc	# 1	428779.47	0.78	523286.00	81.9	60 - 125		425667.53	428385.59	432285.22
45 Sc	# 3	607325.38	0.54	603286.69	100.7	60 - 125		604195.44	607047.63	610732.94
74 Ge	# 1	125027.66	0.95	170650.48	73.3	60 - 125		123885.83	124940.90	126256.27
74 Ge	# 2	19640.65	2.56	24862.19	79.0	60 - 125		19138.98	19639.55	20143.41
74 Ge	# 3	136891.75	0.42	155795.36	87.9	60 - 125		136233.13	137195.84	137246.30
89 Y	# 3	967690.06	0.43	1011968.20	95.6	60 - 125		965230.69	972501.63	965337.88
115 In	# 3	814175.75	0.25	989458.81	82.3	60 - 125		813332.69	812664.69	816530.00
159 Tb	# 3	1083224.60	0.55	1388283.80	78.0	60 - 125		1086864.10	1076334.90	1086474.80
209 Bi	# 3	619831.75	0.38	829936.50	74.7	60 - 125		620951.75	617138.63	621404.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\299SMPL.D\299SMPL.D#
Date Acquired: Dec 31 2012 05:39 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-4-d
Misc Info: 3050 1/5
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.3394	0.3394	ug/l	10.23	100.00		720.04	673.36	603.36
11 B # 3	4.049	4.049	ug/l	3.09	1800.00		14609.06	14342.27	14489.14
23 Na # 1	182	182	ug/l	2.42	81000.00		874131.44	872359.88	910537.88
24 Mg # 1	1914	1914	ug/l	1.11	81000.00		5044998.00	5158597.00	5072274.00
27 Al # 1	12400	12400	ug/l	1.09	81000.00		37002840.00	38093788.00	38124028.00
39 K # 2	468.3	468.3	ug/l	2.32	81000.00		94563.28	97401.02	97910.38
40 Ca # 1	198300	198300	ug/l	1.38	81000.00		1214494500.00	1256555600.00	1236353200.00
45 Sc # 2	----	--------		--------	#VALUE!		31075.60	31973.79	32004.90
47 Ti # 3	58.71	58.71	ug/l	0.20	1620.00		47163.39	46815.94	47367.27
51 V # 2	25.41	25.41	ug/l	1.34	1800.00		32893.36	33276.19	33422.05
52 Cr # 2	28.28	28.28	ug/l	1.21	1800.00		43511.53	43734.31	43801.06
55 Mn # 3	62.2	62.2	ug/l	0.24	1800.00		770874.38	768957.06	768175.63
56 Fe # 1	10510	10510	ug/l	0.43	81000.00		85240776.00	86666080.00	87000360.00
59 Co # 3	1.165	1.165	ug/l	0.92	1800.00		10226.45	10433.27	10326.50
60 Ni # 2	4.337	4.337	ug/l	3.28	1800.00		3018.06	3106.95	3232.53
63 Cu # 2	31.16	31.16	ug/l	0.76	1800.00		55818.31	55787.02	57010.74
66 Zn # 3	58	58	ug/l	0.23	1800.00		63185.59	63139.11	63352.95
75 As # 2	189.8	189.8	ug/l	1.41	100.00	Fail	24858.52	25202.65	25544.77
78 Se # 1	0.6345	0.6345	ug/l	5.56	100.00		169.33	161.67	178.33
88 Sr # 3	145.8	145.8	ug/l	0.76	1800.00		2889419.00	2881371.30	2905224.00
95 Mo # 3	0.6422	0.6422	ug/l	3.02	1800.00		1480.11	1430.11	1516.78
107 Ag # 3	0.05798	0.05798	ug/l	5.37	100.00		426.69	456.69	456.69
111 Cd # 3	0.5847	0.5847	ug/l	9.67	100.00		896.24	829.59	736.22
118 Sn # 3	8.27	8.27	ug/l	1.77	1800.00		36536.03	34932.41	35807.94
121 Sb # 3	1.486	1.486	ug/l	3.28	100.00		6187.97	6151.30	6488.10
137 Ba # 3	51.73	51.73	ug/l	0.40	1800.00		110232.99	108759.83	108313.87
202 Hg # 3	0.05856	0.05856	ug/l	2.54	5.00		98.33	94.67	94.33
205 Tl # 3	0.1154	0.1154	ug/l	5.60	20.00		1496.78	1333.44	1450.12
208 Pb # 3	228.2	228.2	ug/l	0.38	1800.00		3633445.30	3600850.00	3595945.80
232 Th # 3	4.389	4.389	ug/l	1.38	#VALUE!		79213.20	80630.37	79853.13
238 U # 3	3.098	3.098	ug/l	0.95	#VALUE!		57615.43	57314.49	56768.79

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	499262.66	1.33	572657.25	87.2	60 - 125		493044.25	498472.81	506270.88
45 Sc # 1	407530.81	0.67	523286.00	77.9	60 - 125		404598.09	407965.69	410028.66
45 Sc # 3	566108.00	0.50	603286.69	93.8	60 - 125		565520.13	563626.88	569176.94
74 Ge # 1	113439.45	0.74	170650.48	66.5	60 - 125		112473.94	114018.94	113825.46
74 Ge # 2	17891.83	1.19	24862.19	72.0	60 - 125		17917.75	17667.57	18090.18
74 Ge # 3	124919.38	0.09	155795.36	80.2	60 - 125		124818.52	125037.42	124902.23
89 Y # 3	971895.00	0.58	1011968.20	96.0	60 - 125		978402.19	968338.00	968944.75
115 In # 3	752720.13	0.58	989458.81	76.1	60 - 125		757764.88	749865.06	750530.38
159 Tb # 3	1016305.60	0.90	1388283.80	73.2	60 - 125		1026760.50	1009899.80	1012256.60
209 Bi # 3	545430.44	0.50	829936.50	65.7	60 - 125		547171.31	542259.50	546860.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

1 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\300_CCV.D\300_CCV.D#
Date Acquired: Dec 31 2012 05:46 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.8 ug/l	1.05	50.00	90 - 110		107370.06	108200.74	106816.33
11 B	90.47 ug/l	0.96	100.00	90 - 110		214437.91	214586.58	218631.03
23 Na	5081 ug/l	0.97	5000.00	90 - 110		19043954.00	18996320.00	19166528.00
24 Mg	5146 ug/l	1.35	5000.00	90 - 110		12784323.00	12808913.00	13115026.00
27 Al	554.2 ug/l	1.04	500.00	90 - 110	Fail	1565752.90	1595292.00	1616637.60
39 K	5364 ug/l	1.67	5000.00	90 - 110		1130981.50	1155416.50	1173557.50
40 Ca	5515 ug/l	0.23	5000.00	90 - 110	Fail	32257262.00	32651102.00	32651446.00
45 Sc	--------	--------	---	##### - #####		31533.04	31923.65	32594.79
47 Ti	52.81 ug/l	0.55	50.00	90 - 110		41593.37	41977.66	41660.13
51 V	49.55 ug/l	1.76	50.00	90 - 110		70305.35	71851.28	71338.16
52 Cr	49.12 ug/l	0.92	50.00	90 - 110		83215.80	83427.71	83718.99
55 Mn	518.4 ug/l	0.34	500.00	90 - 110		7056950.50	7008986.50	7015023.00
56 Fe	5069 ug/l	0.86	5000.00	90 - 110		45564360.00	45192264.00	45733960.00
59 Co	53.48 ug/l	0.45	50.00	90 - 110		515760.66	518688.59	514216.34
60 Ni	48.42 ug/l	1.72	50.00	90 - 110		35251.18	36078.32	35994.95
63 Cu	48.18 ug/l	0.86	50.00	90 - 110		94116.31	94344.07	94861.20
66 Zn	51.62 ug/l	0.12	50.00	90 - 110		61884.84	61924.69	61774.65
75 As	51.94 ug/l	1.48	50.00	90 - 110		7510.55	7649.61	7651.27
78 Se	49.78 ug/l	0.77	50.00	90 - 110		13114.06	13036.00	13154.08
88 Sr	50.25 ug/l	0.05	50.00	90 - 110		874197.06	877353.31	876923.50
95 Mo	53.71 ug/l	0.63	50.00	90 - 110		124691.02	122778.59	123446.63
107 Ag	53.65 ug/l	0.21	50.00	90 - 110		355355.91	354621.97	353882.06
111 Cd	50.97 ug/l	0.78	50.00	90 - 110		72156.20	70904.98	71955.80
118 Sn	50.96 ug/l	0.36	50.00	90 - 110		227730.94	226619.78	225859.11
121 Sb	51.62 ug/l	0.10	50.00	90 - 110		220352.91	219657.94	219694.66
137 Ba	51.7 ug/l	0.54	50.00	90 - 110		113741.77	112835.80	112383.77
202 Hg	2.886 ug/l	0.45	2.50	90 - 110	Fail	4377.94	4360.27	4314.59
205 Tl	10.91 ug/l	0.40	10.00	90 - 110		125009.77	125003.62	124370.91
208 Pb	54.44 ug/l	0.31	50.00	90 - 110		856682.25	856741.56	856118.19
232 Th	49.25 ug/l	0.19	---	##### - #####		987511.00	983605.63	984006.63
238 U	48.19 ug/l	0.09	---	##### - #####		984597.19	980259.69	976392.56

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	533061.06	0.87	572657.25	93.1	60 - 125		527737.00	535499.63	535946.56
45 Sc	384423.38	0.86	523286.00	73.5	60 - 125		380669.31	386955.81	385645.06
45 Sc	557543.69	0.06	603286.69	92.4	60 - 125		557577.38	557169.38	557884.25
74 Ge	124027.71	0.66	170650.48	72.7	60 - 125		123120.02	124238.23	124724.89
74 Ge	19703.68	1.07	24862.19	79.3	60 - 125		19692.92	19498.26	19919.85
74 Ge	137215.89	0.03	155795.36	88.1	60 - 125		137270.86	137187.03	137189.81
89 Y	854315.38	0.24	1011968.20	84.4	60 - 125		851900.69	855585.38	855460.06
115 In	780017.63	0.16	989458.81	78.8	60 - 125		781180.63	778691.38	780180.81
159 Tb	1010193.90	0.30	1388283.80	72.8	60 - 125		1013459.10	1007339.40	1009783.40
209 Bi	602052.06	0.33	829936.50	72.5	60 - 125		604052.63	601997.81	600105.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\301_CCB.D\301_CCB.D#
Date Acquired: Dec 31 2012 05:53 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01278	0.01278	ug/l	67.21	#VALUE!		40.00	13.33	46.67
11 B	# 3	0.8807	0.8807	ug/l	11.62	#VALUE!		7975.20	8175.27	7858.46
23 Na	# 1	-20.78	-20.78	ug/l	0.72	#VALUE!		77686.81	76096.81	76806.93
24 Mg	# 1	-0.7168	-0.7168	ug/l	21.18	#VALUE!		3983.87	3967.19	4567.34
27 Al	# 1	0.1589	0.1589	ug/l	109.63	#VALUE!		2140.18	1926.82	2820.29
39 K	# 2	-2.705	-2.705	ug/l	21.45	#VALUE!		5374.27	5657.69	5577.63
40 Ca	# 1	2.556	2.556	ug/l	64.05	#VALUE!		109250.02	108996.21	124013.46
45 Sc	# 2	----	--------		--------	#VALUE!		29410.71	30178.60	30160.83
47 Ti	# 3	0.01973	0.01973	ug/l	226.61	#VALUE!		73.34	83.34	20.00
51 V	# 2	0.01692	0.01692	ug/l	44.91	#VALUE!		167.78	162.22	150.00
52 Cr	# 2	-0.003109	-0.003109	ug/l	317.05	#VALUE!		131.11	140.00	110.00
55 Mn	# 3	0.09203	0.09203	ug/l	19.69	#VALUE!		3200.37	3013.69	3437.09
56 Fe	# 1	1.008	1.008	ug/l	16.64	#VALUE!		26950.19	26629.68	29043.40
59 Co	# 3	0.01132	0.01132	ug/l	34.97	#VALUE!		170.01	246.68	210.01
60 Ni	# 2	-0.3274	-0.3274	ug/l	3.02	#VALUE!		20.00	6.67	10.00
63 Cu	# 2	-1.184	-1.184	ug/l	0.30	#VALUE!		38.89	38.89	51.11
66 Zn	# 3	-0.315	-0.315	ug/l	4.05	#VALUE!		166.67	140.00	146.67
75 As	# 2	0.0401	0.0401	ug/l	47.48	#VALUE!		16.33	21.67	18.00
78 Se	# 1	0.04254	0.04254	ug/l	43.68	#VALUE!		28.33	33.67	24.33
88 Sr	# 3	-0.0003253	-0.0003253	ug/l	1402.40	#VALUE!		296.68	316.68	440.02
95 Mo	# 3	0.06702	0.06702	ug/l	5.52	#VALUE!		213.34	196.67	203.34
107 Ag	# 3	0.01111	0.01111	ug/l	19.25	#VALUE!		163.34	136.67	156.67
111 Cd	# 3	0.01319	0.01319	ug/l	62.84	#VALUE!		33.27	53.27	53.27
118 Sn	# 3	0.03928	0.03928	ug/l	35.44	#VALUE!		523.36	503.36	406.68
121 Sb	# 3	0.2372	0.2372	ug/l	11.39	#VALUE!		1313.42	1106.73	1123.41
137 Ba	# 3	0.01051	0.01051	ug/l	74.21	#VALUE!		56.67	70.00	90.00
202 Hg	# 3	0.039	0.039	ug/l	13.66	#VALUE!		74.00	87.00	72.33
205 Tl	# 3	0.01718	0.01718	ug/l	40.07	#VALUE!		256.68	386.69	243.34
208 Pb	# 3	0.01103	0.01103	ug/l	57.66	#VALUE!		433.35	556.69	630.03
232 Th	# 3	0.1247	0.1247	ug/l	7.20	#VALUE!		3233.77	2960.37	2843.69
238 U	# 3	0.008505	0.008505	ug/l	17.55	#VALUE!		303.35	343.35	360.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	525829.50	1.89	572657.25	91.8	60 - 125		514893.06	528366.38	534229.06
45 Sc	# 1	366543.84	0.68	523286.00	70.0	60 - 125		369312.06	365803.34	364516.16
45 Sc	# 3	538612.94	0.15	603286.69	89.3	60 - 125		538947.13	537673.69	539217.94
74 Ge	# 1	118735.76	0.72	170650.48	69.6	60 - 125		119699.41	118445.81	118062.06
74 Ge	# 2	19137.90	0.95	24862.19	77.0	60 - 125		18965.51	19120.09	19328.09
74 Ge	# 3	132530.95	0.86	155795.36	85.1	60 - 125		132055.98	133831.06	131705.78
89 Y	# 3	840721.50	0.36	1011968.20	83.1	60 - 125		844144.13	838548.50	839471.88
115 In	# 3	775070.44	0.23	989458.81	78.3	60 - 125		775617.94	776525.19	773068.31
159 Tb	# 3	1008998.10	0.21	1388283.80	72.7	60 - 125		1008977.60	1011143.40	1006873.40
209 Bi	# 3	613422.13	0.57	829936.50	73.9	60 - 125		617357.31	612170.13	610738.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\302SMPL.D\302SMPL.D#
Date Acquired: Dec 31 2012 06:01 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-5-b
Misc Info: 3050 1/5
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	1.311	1.311	ug/l	2.11	100.00		2526.91	2483.56	2486.90
11 B	# 3	7.968	7.968	ug/l	0.24	1800.00		22176.42	22657.01	22673.68
23 Na	# 1	114.2	114.2	ug/l	0.74	81000.00		795647.06	808735.81	808784.31
24 Mg	# 1	4480	4480	ug/l	0.24	81000.00		15376386.00	15588675.00	15536113.00
27 Al	# 1	45630	45630	ug/l	0.26	81000.00		179370540.00	181520160.00	181181220.00
39 K	# 2	2996	2996	ug/l	1.33	81000.00		600656.94	608802.50	623251.38
40 Ca	# 1	1932	1932	ug/l	0.41	81000.00		15764210.00	15840953.00	15835236.00
45 Sc	# 2	----	--------		--------	#VALUE!		42053.40	42738.22	42685.96
47 Ti	# 3	21.12	21.12	ug/l	1.30	1620.00		22650.95	23081.38	23462.00
51 V	# 2	42.9	42.9	ug/l	0.99	1800.00		57390.81	58067.15	59140.46
52 Cr	# 2	80.31	80.31	ug/l	0.39	1800.00		126828.64	129458.41	129933.93
55 Mn	# 3	36.92	36.92	ug/l	0.51	1800.00		473891.09	471495.34	477883.38
56 Fe	# 1	29000	29000	ug/l	0.09	81000.00		239862050.00	243524130.00	241926580.00
59 Co	# 3	4.246	4.246	ug/l	0.65	1800.00		38827.93	38737.78	38804.70
60 Ni	# 2	10.83	10.83	ug/l	0.47	1800.00		7642.75	7827.28	7752.80
63 Cu	# 2	1.567	1.567	ug/l	0.39	1800.00		4965.15	5038.51	5025.17
66 Zn	# 3	30.77	30.77	ug/l	2.56	1800.00		35110.74	35698.66	34252.59
75 As	# 2	5.076	5.076	ug/l	0.95	100.00		712.02	716.02	710.68
78 Se	# 1	0.7072	0.7072	ug/l	1.75	100.00		191.33	192.00	187.33
88 Sr	# 3	55.9	55.9	ug/l	1.32	1800.00		1553591.40	1576325.10	1568574.50
95 Mo	# 3	0.7783	0.7783	ug/l	4.49	1800.00		1763.48	1723.48	1866.82
107 Ag	# 3	0.05615	0.05615	ug/l	12.27	100.00		483.36	396.69	430.02
111 Cd	# 3	0.1589	0.1589	ug/l	5.99	100.00		246.11	256.13	229.41
118 Sn	# 3	4.38	4.38	ug/l	1.59	1800.00		18820.71	19247.86	19371.32
121 Sb	# 3	0.3811	0.3811	ug/l	4.57	100.00		1796.81	1666.79	1770.16
137 Ba	# 3	77.83	77.83	ug/l	0.23	1800.00		165082.14	165146.19	163986.89
202 Hg	# 3	0.02254	0.02254	ug/l	16.82	5.00		43.00	53.33	51.67
205 Tl	# 3	0.2996	0.2996	ug/l	2.36	20.00		3497.16	3657.22	3583.86
208 Pb	# 3	30.39	30.39	ug/l	0.51	1800.00		487499.84	485085.50	485826.44
232 Th	# 3	18.17	18.17	ug/l	0.57	#VALUE!		344307.84	348209.75	349773.44
238 U	# 3	4.043	4.043	ug/l	0.57	#VALUE!		77975.27	79046.68	79127.19

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	488555.78	1.14	572657.25	85.3	60 - 125		482212.44	490912.91	492541.88
45 Sc	# 1	530472.50	0.62	523286.00	101.4	60 - 125		527269.31	533842.50	530305.75
45 Sc	# 3	768800.13	0.48	603286.69	127.4	60 - 125	IS F	764691.75	769895.19	771813.50
74 Ge	# 1	115233.05	0.81	170650.48	67.5	60 - 125		114216.05	116067.37	115415.73
74 Ge	# 2	18602.53	0.97	24862.19	74.8	60 - 125		18393.80	18715.25	18698.53
74 Ge	# 3	129555.55	0.62	155795.36	83.2	60 - 125		128812.47	129453.62	130400.57
89 Y	# 3	1372805.00	0.74	1011968.20	135.7	60 - 125	IS F	1382672.30	1373348.60	1362394.10
115 In	# 3	755554.63	0.23	989458.81	76.4	60 - 125		755452.25	757342.38	753869.13
159 Tb	# 3	1026620.40	0.48	1388283.80	73.9	60 - 125		1029319.40	1029664.10	1020877.70
209 Bi	# 3	575121.25	0.25	829936.50	69.3	60 - 125		573455.06	575827.06	576081.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
2 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\303SMPL.D\303SMPL.D#
Date Acquired: Dec 31 2012 06:08 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-6-d
Misc Info: 3050 1/5
Vial Number: 2412
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.2995	0.2995	ug/l	15.30	100.00		593.36	476.69	646.70
11 B # 3	2.816	2.816	ug/l	1.84	1800.00		11330.24	11560.36	11530.36
23 Na # 1	111	111	ug/l	0.46	81000.00		549274.25	554261.19	562462.75
24 Mg # 1	735.4	735.4	ug/l	0.67	81000.00		1786675.10	1784557.50	1822392.50
27 Al # 1	8639	8639	ug/l	0.41	81000.00		24000654.00	24049066.00	24277544.00
39 K # 2	321.5	321.5	ug/l	0.99	81000.00		67019.35	68591.61	69545.13
40 Ca # 1	75950	75950	ug/l	0.30	81000.00		428760190.00	434939200.00	439007200.00
45 Sc # 2	----	--------		--------	#VALUE!		28982.29	30125.13	30194.18
47 Ti # 3	60.8	60.8	ug/l	0.12	1620.00		46708.68	46920.32	46869.07
51 V # 2	19.96	19.96	ug/l	0.62	1800.00		25589.74	26418.67	26622.28
52 Cr # 2	20.96	20.96	ug/l	1.20	1800.00		32078.59	32501.56	33002.45
55 Mn # 3	54.86	54.86	ug/l	0.22	1800.00		686386.88	690569.38	691755.75
56 Fe # 1	12620	12620	ug/l	0.43	81000.00		102540370.00	103090300.00	103250000.00
59 Co # 3	0.9459	0.9459	ug/l	1.82	1800.00		8625.58	8375.45	8622.26
60 Ni # 2	2.952	2.952	ug/l	0.97	1800.00		2165.70	2210.15	2235.71
63 Cu # 2	7.368	7.368	ug/l	1.21	1800.00		14724.85	14959.47	15152.96
66 Zn # 3	42.41	42.41	ug/l	0.60	1800.00		47271.43	47137.81	46867.09
75 As # 2	5.03	5.03	ug/l	0.73	100.00		672.68	689.35	684.35
78 Se # 1	0.5267	0.5267	ug/l	1.65	100.00		145.00	140.67	143.33
88 Sr # 3	84.15	84.15	ug/l	0.44	1800.00		1591019.10	1593098.60	1592383.10
95 Mo # 3	0.803	0.803	ug/l	5.79	1800.00		1940.17	1746.80	1810.14
107 Ag # 3	0.05326	0.05326	ug/l	19.32	100.00		360.02	490.02	400.02
111 Cd # 3	0.5415	0.5415	ug/l	6.02	100.00		772.76	799.49	712.79
118 Sn # 3	4.346	4.346	ug/l	0.63	1800.00		18907.39	18840.62	19041.05
121 Sb # 3	0.5134	0.5134	ug/l	1.88	100.00		2296.89	2310.23	2236.88
137 Ba # 3	35.12	35.12	ug/l	1.53	1800.00		75150.05	73773.72	73284.82
202 Hg # 3	0.06348	0.06348	ug/l	7.31	5.00		110.00	111.33	99.33
205 Tl # 3	0.1177	0.1177	ug/l	7.05	20.00		1446.78	1543.46	1346.77
208 Pb # 3	42.1	42.1	ug/l	0.52	1800.00		663895.38	665695.56	660158.63
232 Th # 3	3.004	3.004	ug/l	1.15	#VALUE!		57434.33	57444.11	56714.63
238 U # 3	5.114	5.114	ug/l	0.84	#VALUE!		98478.56	98485.70	98462.08

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	485288.38	1.88	572657.25	84.7	60 - 125		475125.63	488033.59	492705.94
45 Sc # 1	373805.53	0.91	523286.00	71.4	60 - 125		370358.56	373903.44	377154.63
45 Sc # 3	543313.25	0.35	603286.69	90.1	60 - 125		541116.06	544563.69	544260.06
74 Ge # 1	112758.34	0.49	170650.48	66.1	60 - 125		112553.71	112337.37	113383.96
74 Ge # 2	17957.44	1.90	24862.19	72.2	60 - 125		17566.32	18190.27	18115.73
74 Ge # 3	126906.60	0.20	155795.36	81.5	60 - 125		126614.15	127065.24	127040.41
89 Y # 3	927138.00	0.50	1011968.20	91.6	60 - 125		923751.44	932422.88	925239.56
115 In # 3	752596.94	0.25	989458.81	76.1	60 - 125		750535.13	754184.44	753071.19
159 Tb # 3	1011534.40	0.48	1388283.80	72.9	60 - 125		1006753.80	1016395.80	1011453.50
209 Bi # 3	569044.81	0.85	829936.50	68.6	60 - 125		564120.13	573739.75	569274.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\304SMPL.D\304SMPL.D#
Date Acquired: Dec 31 2012 06:16 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-7-c
Misc Info: 3050 1/5
Vial Number: 2501
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.2921	0.2921	ug/l	4.81	100.00		520.02	540.02	586.69
11 B	# 3	2.959	2.959	ug/l	2.28	1800.00		11430.27	11683.81	11600.43
23 Na	# 1	9.901	9.901	ug/l	54.41	81000.00		193568.14	238251.27	228878.09
24 Mg	# 1	647.3	647.3	ug/l	0.59	81000.00		1817044.80	1844976.60	1857768.50
27 Al	# 1	33070	33070	ug/l	0.54	81000.00		107175450.00	107306250.00	107217450.00
39 K	# 2	593.7	593.7	ug/l	1.10	81000.00		123290.82	123512.84	126001.90
40 Ca	# 1	6256	6256	ug/l	0.16	81000.00		41476928.00	41621248.00	41923220.00
45 Sc	# 2	----	--------		--------	#VALUE!		34150.90	34647.34	35105.95
47 Ti	# 3	73.25	73.25	ug/l	1.92	1620.00		64470.90	64528.56	63490.78
51 V	# 2	98.91	98.91	ug/l	1.13	1800.00		131364.28	132664.22	133110.95
52 Cr	# 2	82.82	82.82	ug/l	0.76	1800.00		129683.09	131405.17	132381.89
55 Mn	# 3	8.971	8.971	ug/l	1.86	1800.00		115450.61	114296.60	113870.45
56 Fe	# 1	29130	29130	ug/l	0.25	81000.00		244870320.00	244782930.00	244792290.00
59 Co	# 3	0.908	0.908	ug/l	1.04	1800.00		8041.99	8322.12	8285.42
60 Ni	# 2	5.533	5.533	ug/l	0.86	1800.00		3950.46	4062.70	4052.70
63 Cu	# 2	-0.43	-0.43	ug/l	6.67	1800.00		1362.29	1441.18	1356.73
66 Zn	# 3	11.53	11.53	ug/l	2.76	1800.00		13295.10	13338.55	12918.25
75 As	# 2	7.285	7.285	ug/l	0.40	100.00		984.03	1013.03	1019.70
78 Se	# 1	1.619	1.619	ug/l	2.51	100.00		411.34	427.34	410.34
88 Sr	# 3	103.6	103.6	ug/l	0.57	1800.00		1863899.80	1895933.10	1883137.90
95 Mo	# 3	2.121	2.121	ug/l	0.24	1800.00		4667.41	4774.12	4717.43
107 Ag	# 3	0.04824	0.04824	ug/l	20.57	100.00		436.68	390.02	316.68
111 Cd	# 3	0.05878	0.05878	ug/l	18.34	100.00		88.51	115.14	115.16
118 Sn	# 3	4.207	4.207	ug/l	1.85	1800.00		18363.54	18143.23	18016.46
121 Sb	# 3	0.5144	0.5144	ug/l	4.81	100.00		2260.21	2176.87	2360.23
137 Ba	# 3	84.27	84.27	ug/l	1.00	1800.00		176154.13	176087.06	176177.89
202 Hg	# 3	0.04571	0.04571	ug/l	2.99	5.00		81.67	85.00	81.33
205 Tl	# 3	0.09461	0.09461	ug/l	10.15	20.00		1186.75	1263.42	1053.40
208 Pb	# 3	38.66	38.66	ug/l	1.40	1800.00		603206.38	604345.81	598182.75
232 Th	# 3	17.88	17.88	ug/l	1.39	#VALUE!		343698.25	342594.72	340906.56
238 U	# 3	2.141	2.141	ug/l	1.31	#VALUE!		41934.56	41523.64	41964.89

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	476909.63	2.16	572657.25	83.3	60 - 125		465048.47	482262.28	483418.00
45 Sc	# 1	434416.41	0.56	523286.00	83.0	60 - 125		431880.03	434665.88	436703.28
45 Sc	# 3	618102.69	1.34	603286.69	102.5	60 - 125		608572.63	623237.25	622498.25
74 Ge	# 1	116164.63	0.24	170650.48	68.1	60 - 125		115964.66	116041.47	116487.74
74 Ge	# 2	18379.71	1.80	24862.19	73.9	60 - 125		18025.66	18431.62	18681.85
74 Ge	# 3	127109.62	1.11	155795.36	81.6	60 - 125		125590.39	127352.04	128386.41
89 Y	# 3	890166.31	1.07	1011968.20	88.0	60 - 125		879333.50	894095.19	897070.31
115 In	# 3	746249.13	0.98	989458.81	75.4	60 - 125		738390.31	752924.06	747433.19
159 Tb	# 3	999688.00	1.10	1388283.80	72.0	60 - 125		986962.06	1005935.80	1006166.10
209 Bi	# 3	575905.13	1.00	829936.50	69.4	60 - 125		569344.31	578207.69	580163.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\305SMPL.D\305SMPL.D#
Date Acquired: Dec 31 2012 06:23 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-8-d
Misc Info: 3050 1/5
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.5456	0.5456	ug/l	9.64	100.00		863.38	1066.73	943.38
11 B # 3	12.05	12.05	ug/l	1.39	1800.00		28417.95	28504.57	28845.22
23 Na # 1	464.5	464.5	ug/l	0.94	81000.00		1771890.10	1816998.30	1806200.10
24 Mg # 1	2743	2743	ug/l	0.30	81000.00		6499360.50	6549430.00	6620223.50
27 Al # 1	15630	15630	ug/l	0.51	81000.00		42581312.00	42544216.00	43135512.00
39 K # 2	592	592	ug/l	1.16	81000.00		106992.00	107220.20	108085.75
40 Ca # 1	260500	260500	ug/l	0.50	81000.00		1452212500.00	1465616900.00	1460116600.00
45 Sc # 2	-----	--------		--------	#VALUE!		27762.64	28121.01	28347.97
47 Ti # 3	116	116	ug/l	0.63	1620.00		84406.84	84949.30	84028.27
51 V # 2	34.48	34.48	ug/l	2.01	1800.00		39565.00	39933.56	40734.13
52 Cr # 2	61.61	61.61	ug/l	1.00	1800.00		84153.38	84648.72	85025.89
55 Mn # 3	681.5	681.5	ug/l	0.85	1800.00		7655780.00	7579615.00	7519440.50
56 Fe # 1	106600	106600	ug/l	0.75	81000.00	Fail	777631740.00	774314300.00	780364480.00
59 Co # 3	19.16	19.16	ug/l	0.68	1800.00		152247.64	152045.98	151535.66
60 Ni # 2	50.13	50.13	ug/l	1.04	1800.00		30245.78	29766.12	29809.53
63 Cu # 2	103.3	103.3	ug/l	0.92	1800.00		161468.98	161252.31	162188.36
66 Zn # 3	190.2	190.2	ug/l	1.31	1800.00		187557.00	184640.72	185708.48
75 As # 2	16.4	16.4	ug/l	0.67	100.00		1962.11	1945.11	1938.44
78 Se # 1	0.7981	0.7981	ug/l	4.10	100.00		192.34	182.67	182.67
88 Sr # 3	221.6	221.6	ug/l	1.18	1800.00		4925265.00	4843116.00	4844622.00
95 Mo # 3	11.78	11.78	ug/l	0.97	1800.00		23723.01	23532.80	23138.87
107 Ag # 3	0.6677	0.6677	ug/l	3.57	100.00		3733.84	3957.23	3947.24
111 Cd # 3	1.979	1.979	ug/l	0.44	100.00		2429.31	2439.38	2412.83
118 Sn # 3	99.21	99.21	ug/l	0.12	1800.00		381918.69	380699.31	380322.09
121 Sb # 3	5.627	5.627	ug/l	2.04	100.00		21390.35	20556.13	20579.46
137 Ba # 3	128.5	128.5	ug/l	0.47	1800.00		241950.41	242689.69	242730.44
202 Hg # 3	0.3824	0.3824	ug/l	4.25	5.00		461.68	500.68	481.34
205 Tl # 3	0.2526	0.2526	ug/l	4.86	20.00		2873.70	2636.96	2630.30
208 Pb # 3	792.6	792.6	ug/l	0.46	1800.00		11395715.00	11363118.00	11233928.00
232 Th # 3	4.013	4.013	ug/l	1.28	#VALUE!		66751.66	65342.06	64742.81
238 U # 3	16.84	16.84	ug/l	0.51	#VALUE!		280628.97	277495.88	277633.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	447912.75	1.52	572657.25	78.2	60 - 125		440044.38	451587.59	452106.25
45 Sc # 1	366352.41	0.69	523286.00	70.0	60 - 125		363676.03	366719.38	368661.81
45 Sc # 3	513935.19	0.09	603286.69	85.2	60 - 125		513893.53	513506.19	514405.81
74 Ge # 1	100859.63	0.83	170650.48	59.1	60 - 125	IS F	100014.55	100876.00	101688.33
74 Ge # 2	15932.24	0.61	24862.19	64.1	60 - 125		15949.30	16019.35	15828.07
74 Ge # 3	112669.44	0.85	155795.36	72.3	60 - 125		112767.98	113569.63	111670.71
89 Y # 3	1077419.90	0.33	1011968.20	106.5	60 - 125		1075180.50	1081567.30	1075511.60
115 In # 3	673670.31	0.31	989458.81	68.1	60 - 125		675719.50	673693.94	671597.50
159 Tb # 3	918318.31	0.42	1388283.80	66.1	60 - 125		922570.69	917333.63	915050.63
209 Bi # 3	489497.53	0.39	829936.50	59.0	60 - 125	IS F	490857.13	490295.19	487340.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\306SMPL.D\306SMPL.D#
Date Acquired: Dec 31 2012 06:31 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-9-c
Misc Info: 3050 1/5
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.5219	0.5219	ug/l	6.34	100.00		1006.72	910.05	956.72
11 B # 3	7.434	7.434	ug/l	0.94	1800.00		20277.69	20417.83	20804.85
23 Na # 1	14.09	14.09	ug/l	3.09	81000.00		253917.20	255713.56	256655.02
24 Mg # 1	1295	1295	ug/l	0.25	81000.00		3904893.80	3944009.50	3991204.00
27 Al # 1	23680	23680	ug/l	0.79	81000.00		81227248.00	82998616.00	83298656.00
39 K # 2	1872	1872	ug/l	0.89	81000.00		367796.28	370635.16	376553.38
40 Ca # 1	3460	3460	ug/l	0.30	81000.00		24623424.00	24664144.00	25170452.00
45 Sc # 2	----	--------		--------	#VALUE!		36550.90	37210.25	37173.25
47 Ti # 3	47.25	47.25	ug/l	1.37	1620.00		45633.03	45315.26	44927.99
51 V # 2	74.81	74.81	ug/l	1.14	1800.00		97767.02	97538.31	99141.00
52 Cr # 2	131.2	131.2	ug/l	0.76	1800.00		201508.45	203183.23	205912.20
55 Mn # 3	10.91	10.91	ug/l	0.28	1800.00		139292.09	138800.30	139959.61
56 Fe # 1	34610	34610	ug/l	1.05	81000.00		284148640.00	285719580.00	283997180.00
59 Co # 3	0.8662	0.8662	ug/l	2.63	1800.00		7618.44	8028.64	7968.59
60 Ni # 2	4.454	4.454	ug/l	0.08	1800.00		3180.30	3236.98	3236.98
63 Cu # 2	1.158	1.158	ug/l	2.05	1800.00		4124.94	4167.17	4114.94
66 Zn # 3	18.72	18.72	ug/l	1.22	1800.00		20815.59	21336.31	21356.23
75 As # 2	8.168	8.168	ug/l	1.83	100.00		1112.37	1103.04	1094.37
78 Se # 1	1.521	1.521	ug/l	1.18	100.00		385.34	380.67	385.00
88 Sr # 3	90.28	90.28	ug/l	0.15	1800.00		1629612.60	1645908.50	1652773.10
95 Mo # 3	2.241	2.241	ug/l	1.58	1800.00		4890.83	5084.21	4987.53
107 Ag # 3	0.05114	0.05114	ug/l	14.75	100.00		403.35	350.01	446.69
111 Cd # 3	0.08103	0.08103	ug/l	6.81	100.00		141.77	128.38	138.41
118 Sn # 3	4.553	4.553	ug/l	1.05	1800.00		19701.60	19738.33	19548.10
121 Sb # 3	0.5518	0.5518	ug/l	6.27	100.00		2376.91	2576.92	2306.88
137 Ba # 3	78.29	78.29	ug/l	1.29	1800.00		164515.78	164439.25	162389.11
202 Hg # 3	0.01718	0.01718	ug/l	3.15	5.00		41.33	41.67	40.67
205 Tl # 3	0.1578	0.1578	ug/l	1.46	20.00		1876.84	1853.50	1916.85
208 Pb # 3	24.22	24.22	ug/l	1.20	1800.00		379300.34	378174.16	374295.25
232 Th # 3	13.37	13.37	ug/l	0.65	#VALUE!		251532.27	254720.05	253316.92
238 U # 3	2.38	2.38	ug/l	0.76	#VALUE!		45869.52	45886.40	46039.82

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	468743.31	1.67	572657.25	81.9	60 - 125		460341.44	469997.13	475891.50
45 Sc # 1	466672.59	1.25	523286.00	89.2	60 - 125		461723.25	465198.72	473095.81
45 Sc # 3	676044.63	0.74	603286.69	112.1	60 - 125		670593.63	680325.44	677214.88
74 Ge # 1	113687.05	0.94	170650.48	66.6	60 - 125		112701.87	113538.41	114820.84
74 Ge # 2	18009.74	1.05	24862.19	72.4	60 - 125		17790.96	18131.40	18106.86
74 Ge # 3	127572.66	0.50	155795.36	81.9	60 - 125		127111.02	127301.91	128305.09
89 Y # 3	891706.25	0.72	1011968.20	88.1	60 - 125		885202.69	891839.13	898076.88
115 In # 3	746828.81	0.65	989458.81	75.5	60 - 125		741489.06	748118.00	750879.25
159 Tb # 3	999787.50	0.51	1388283.80	72.0	60 - 125		994978.50	999178.00	1005205.90
209 Bi # 3	569415.25	0.91	829936.50	68.6	60 - 125		563750.38	570511.13	573984.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\307SMPL.D\307SMPL.D#
Date Acquired: Dec 31 2012 06:38 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-10-d
Misc Info: 3050 1/5
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.4587	0.4587	ug/l	13.18	100.00		710.03	943.38	870.04
11 B # 3	3.411	3.411	ug/l	3.47	1800.00		12294.17	12114.02	12350.94
23 Na # 1	98.34	98.34	ug/l	1.17	81000.00		509152.13	510564.06	518147.28
24 Mg # 1	1381	1381	ug/l	0.43	81000.00		3379157.30	3390072.80	3407029.50
27 Al # 1	10460	10460	ug/l	0.32	81000.00		29255530.00	29398570.00	29420700.00
39 K # 2	358.1	358.1	ug/l	1.13	81000.00		73138.76	75357.13	75461.28
40 Ca # 1	85940	85940	ug/l	0.53	81000.00		491285860.00	493654430.00	498011520.00
45 Sc # 2	----	--------		--------	#VALUE!		28972.26	29504.27	29927.10
47 Ti # 3	91.97	91.97	ug/l	0.26	1620.00		69890.09	70352.52	70091.34
51 V # 2	26.31	26.31	ug/l	1.10	1800.00		33389.78	34393.73	34540.69
52 Cr # 2	28.26	28.26	ug/l	0.38	1800.00		42910.14	43248.73	43782.18
55 Mn # 3	112.4	112.4	ug/l	1.03	1800.00		1403263.80	1401471.60	1374832.90
56 Fe # 1	8186	8186	ug/l	0.39	81000.00		66808484.00	66697592.00	66744032.00
59 Co # 3	1.217	1.217	ug/l	1.64	1800.00		10623.33	11000.24	10866.84
60 Ni # 2	5.583	5.583	ug/l	1.90	1800.00		3810.43	3989.35	3953.79
63 Cu # 2	14.92	14.92	ug/l	1.14	1800.00		27608.47	27520.51	28240.55
66 Zn # 3	111.3	111.3	ug/l	1.04	1800.00		122529.73	121351.06	119965.83
75 As # 2	7.207	7.207	ug/l	1.53	100.00		948.03	951.03	983.70
78 Se # 1	0.4818	0.4818	ug/l	5.39	100.00		139.67	128.33	128.67
88 Sr # 3	75.78	75.78	ug/l	0.77	1800.00		1599566.10	1609691.40	1590522.60
95 Mo # 3	0.9133	0.9133	ug/l	5.91	1800.00		1923.49	2160.19	2060.17
107 Ag # 3	0.1218	0.1218	ug/l	6.86	100.00		870.05	866.71	786.71
111 Cd # 3	1.433	1.433	ug/l	3.31	100.00		1922.88	1879.47	2026.18
118 Sn # 3	12.39	12.39	ug/l	0.60	1800.00		52162.43	52810.92	52978.27
121 Sb # 3	1.106	1.106	ug/l	1.08	100.00		4604.08	4604.08	4740.79
137 Ba # 3	61.97	61.97	ug/l	0.89	1800.00		128710.84	129221.88	128466.78
202 Hg # 3	0.07208	0.07208	ug/l	10.17	5.00		116.67	124.33	104.33
205 Tl # 3	0.1252	0.1252	ug/l	6.18	20.00		1470.12	1596.79	1426.78
208 Pb # 3	134.8	134.8	ug/l	0.34	1800.00		2076765.40	2081588.30	2070792.30
232 Th # 3	2.716	2.716	ug/l	0.81	#VALUE!		49774.29	50446.39	49844.45
238 U # 3	8.286	8.286	ug/l	0.46	#VALUE!		154907.84	153259.23	154225.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	467191.41	1.83	572657.25	81.6	60 - 125		458312.91	467849.00	475412.34
45 Sc # 1	376083.75	0.61	523286.00	71.9	60 - 125		373461.44	377701.56	377088.22
45 Sc # 3	537930.25	0.28	603286.69	89.2	60 - 125		537723.13	539540.38	536527.31
74 Ge # 1	112700.71	0.39	170650.48	66.0	60 - 125		112966.14	112948.07	112187.91
74 Ge # 2	17750.94	0.77	24862.19	71.4	60 - 125		17600.81	17782.06	17869.95
74 Ge # 3	125339.79	0.22	155795.36	80.5	60 - 125		125228.13	125657.84	125133.41
89 Y # 3	1034617.30	0.29	1011968.20	102.2	60 - 125		1031571.60	1034739.80	1037540.50
115 In # 3	741873.31	0.66	989458.81	75.0	60 - 125		738782.69	739336.94	747500.38
159 Tb # 3	989396.00	0.25	1388283.80	71.3	60 - 125		986587.06	991293.81	990307.19
209 Bi # 3	550007.19	0.12	829936.50	66.3	60 - 125		550786.38	549726.69	549508.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\308SMPL.D\308SMPL.D#
Date Acquired: Dec 31 2012 06:45 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-11-b
Misc Info: 3050 1/5
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.1467	0.1467	ug/l	6.53	100.00		270.01	303.34	273.34
11 B	# 3	0.5906	0.5906	ug/l	8.77	1800.00		6647.98	6864.75	6708.00
23 Na	# 1	-3.295	-3.295	ug/l	10.86	81000.00		138337.25	137957.02	141758.33
24 Mg	# 1	168.5	168.5	ug/l	0.76	81000.00		405105.19	407848.84	415967.53
27 Al	# 1	4780	4780	ug/l	0.99	81000.00		12908748.00	13151670.00	13301301.00
39 K	# 2	87.17	87.17	ug/l	1.81	81000.00		23134.67	23264.79	23932.34
40 Ca	# 1	2064	2064	ug/l	0.70	81000.00		11574116.00	11655161.00	11873230.00
45 Sc	# 2	----	--------		--------	#VALUE!		28803.17	29263.82	29583.26
47 Ti	# 3	46.78	46.78	ug/l	1.47	1620.00		35658.73	35848.15	35066.85
51 V	# 2	29.78	29.78	ug/l	1.07	1800.00		39952.57	40098.45	40823.19
52 Cr	# 2	19.7	19.7	ug/l	1.15	1800.00		31359.63	31407.51	31945.05
55 Mn	# 3	59.77	59.77	ug/l	0.41	1800.00		787673.50	775788.19	782024.56
56 Fe	# 1	8159	8159	ug/l	0.03	81000.00		68602696.00	69556536.00	69997800.00
59 Co	# 3	0.2187	0.2187	ug/l	2.83	1800.00		2116.85	2186.86	2100.18
60 Ni	# 2	1.378	1.378	ug/l	4.63	1800.00		1128.93	1192.27	1246.72
63 Cu	# 2	3.074	3.074	ug/l	3.32	1800.00		7772.80	7726.12	7609.40
66 Zn	# 3	69.57	69.57	ug/l	0.65	1800.00		80322.33	80097.98	79826.36
75 As	# 2	8.525	8.525	ug/l	1.06	100.00		1179.37	1184.71	1190.04
78 Se	# 1	0.1378	0.1378	ug/l	20.86	100.00		50.67	45.67	60.33
88 Sr	# 3	9.439	9.439	ug/l	0.62	1800.00		167341.95	166945.42	166240.97
95 Mo	# 3	2.032	2.032	ug/l	2.05	1800.00		4780.78	4740.76	4590.73
107 Ag	# 3	0.04623	0.04623	ug/l	10.68	100.00		370.02	360.02	420.02
111 Cd	# 3	0.1504	0.1504	ug/l	19.39	100.00		191.81	265.16	258.54
118 Sn	# 3	4.062	4.062	ug/l	2.91	1800.00		18840.69	18193.28	17759.51
121 Sb	# 3	0.5509	0.5509	ug/l	3.83	100.00		2610.28	2430.24	2493.59
137 Ba	# 3	37.57	37.57	ug/l	1.01	1800.00		82486.91	81947.88	80711.74
202 Hg	# 3	0.04724	0.04724	ug/l	4.30	5.00		84.67	89.00	88.67
205 Tl	# 3	0.036	0.036	ug/l	11.24	20.00		470.02	560.03	500.03
208 Pb	# 3	28.97	28.97	ug/l	0.06	1800.00		456490.25	455719.22	453630.41
232 Th	# 3	1.811	1.811	ug/l	0.84	#VALUE!		36122.96	36300.04	35999.43
238 U	# 3	0.4903	0.4903	ug/l	0.58	#VALUE!		10000.26	9980.27	9976.89

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	482778.13	1.09	572657.25	84.3	60 - 125		477251.59	483380.25	487702.44
45 Sc	# 1	367624.50	0.63	523286.00	70.3	60 - 125		365884.69	366752.22	370236.59
45 Sc	# 3	535610.63	0.50	603286.69	88.8	60 - 125		537735.38	532597.31	536499.13
74 Ge	# 1	117534.47	1.06	170650.48	68.9	60 - 125		116180.26	117807.55	118615.59
74 Ge	# 2	18537.65	1.43	24862.19	74.6	60 - 125		18232.52	18674.08	18706.36
74 Ge	# 3	132098.27	0.54	155795.36	84.8	60 - 125		132479.53	131276.84	132538.42
89 Y	# 3	864484.06	0.73	1011968.20	85.4	60 - 125		863594.88	871228.94	858628.31
115 In	# 3	776072.31	0.11	989458.81	78.4	60 - 125		776988.75	775957.00	775271.13
159 Tb	# 3	1008629.40	0.30	1388283.80	72.7	60 - 125		1011464.70	1008912.60	1005511.00
209 Bi	# 3	593506.69	0.70	829936.50	71.5	60 - 125		598279.50	591360.44	590880.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\309SMPL.D\309SMPL.D#
Date Acquired: Dec 31 2012 06:53 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-12-d
Misc Info: 3050 1/5
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.09537	0.09537	ug/l	23.23	100.00		183.34	143.34	226.67
11 B # 3	0.8163	0.8163	ug/l	5.89	1800.00		7134.88	7138.17	7214.85
23 Na # 1	-14.04	-14.04	ug/l	2.05	81000.00		98973.84	99385.56	102093.06
24 Mg # 1	232.4	232.4	ug/l	0.69	81000.00		552330.44	557913.94	562194.19
27 Al # 1	4742	4742	ug/l	0.26	81000.00		12830193.00	12815661.00	13039545.00
39 K # 2	149.1	149.1	ug/l	1.65	81000.00		35280.24	35958.17	36405.95
40 Ca # 1	2377	2377	ug/l	0.62	81000.00		13278418.00	13345138.00	13382175.00
45 Sc # 2	----	--------		--------	#VALUE!		28812.05	29148.12	29639.98
47 Ti # 3	63.32	63.32	ug/l	2.15	1620.00		46688.63	49014.41	47209.94
51 V # 2	6.008	6.008	ug/l	1.44	1800.00		8305.24	8255.21	8124.05
52 Cr # 2	8.305	8.305	ug/l	1.87	1800.00		13213.62	13263.67	13632.82
55 Mn # 3	56.64	56.64	ug/l	0.65	1800.00		735594.06	728982.19	730798.75
56 Fe # 1	2324	2324	ug/l	0.53	81000.00		19428888.00	19498144.00	19801314.00
59 Co # 3	0.327	0.327	ug/l	5.10	1800.00		2966.99	3273.72	3067.00
60 Ni # 2	1.64	1.64	ug/l	3.19	1800.00		1380.06	1336.73	1388.95
63 Cu # 2	9.476	9.476	ug/l	0.80	1800.00		19141.09	19188.94	19283.47
66 Zn # 3	139.5	139.5	ug/l	0.57	1800.00		157761.89	159574.47	156958.80
75 As # 2	1.945	1.945	ug/l	1.81	100.00		281.67	276.34	281.34
78 Se # 1	0.1411	0.1411	ug/l	19.06	100.00		52.33	58.67	46.33
88 Sr # 3	10.5	10.5	ug/l	0.91	1800.00		183669.47	183652.56	180618.88
95 Mo # 3	0.2203	0.2203	ug/l	6.86	1800.00		590.03	540.03	523.36
107 Ag # 3	0.07143	0.07143	ug/l	10.63	100.00		513.36	520.02	600.03
111 Cd # 3	0.3675	0.3675	ug/l	3.56	100.00		539.84	519.85	553.19
118 Sn # 3	4.568	4.568	ug/l	2.20	1800.00		19868.56	20442.55	20682.80
121 Sb # 3	0.2897	0.2897	ug/l	4.01	100.00		1436.77	1406.77	1336.75
137 Ba # 3	38.43	38.43	ug/l	0.85	1800.00		83267.36	82276.48	83103.28
202 Hg # 3	0.05128	0.05128	ug/l	7.83	5.00		98.00	95.33	87.67
205 Tl # 3	0.03746	0.03746	ug/l	12.77	20.00		530.02	580.03	466.69
208 Pb # 3	42.96	42.96	ug/l	0.14	1800.00		674880.81	675123.19	670027.31
232 Th # 3	1.173	1.173	ug/l	0.68	#VALUE!		23615.46	23658.70	23662.14
238 U # 3	0.3061	0.3061	ug/l	1.47	#VALUE!		6341.52	6238.12	6348.22

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	479376.28	1.62	572657.25	83.7	60 - 125		470391.19	483813.84	483923.94
45 Sc # 1	364178.31	0.76	523286.00	69.6	60 - 125		363291.50	361950.38	367293.03
45 Sc # 3	530698.38	0.56	603286.69	88.0	60 - 125		527304.19	532843.13	531947.81
74 Ge # 1	116337.23	0.90	170650.48	68.2	60 - 125		116157.80	115389.80	117464.10
74 Ge # 2	18520.95	0.69	24862.19	74.5	60 - 125		18403.78	18656.28	18502.79
74 Ge # 3	130471.02	0.57	155795.36	83.7	60 - 125		130890.40	130917.45	129605.23
89 Y # 3	850587.50	0.09	1011968.20	84.1	60 - 125		851467.38	850310.00	849985.06
115 In # 3	769716.00	0.26	989458.81	77.8	60 - 125		769876.56	771595.06	767676.44
159 Tb # 3	1006328.80	0.46	1388283.80	72.5	60 - 125		1007292.30	1010383.60	1001310.50
209 Bi # 3	595093.38	0.77	829936.50	71.7	60 - 125		589831.69	597057.06	598391.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\310SMPL.D\310SMPL.D#
Date Acquired: Dec 31 2012 07:00 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-81325-a-13-b
Misc Info: 3050 1/5
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.04763	0.04763	ug/l	23.16	100.00		70.00	103.34	110.00
11 B	# 3	0.191	0.191	ug/l	17.65	1800.00		5654.28	5801.02	5914.38
23 Na	# 1	-12.78	-12.78	ug/l	2.02	81000.00		101985.92	102203.48	103027.74
24 Mg	# 1	144.5	144.5	ug/l	1.28	81000.00		341719.59	340546.16	342341.25
27 Al	# 1	4930	4930	ug/l	0.84	81000.00		13068187.00	13110616.00	13197801.00
39 K	# 2	95.44	95.44	ug/l	1.56	81000.00		23762.15	24723.50	24836.88
40 Ca	# 1	655	655	ug/l	0.75	81000.00		3648135.00	3673175.00	3683682.80
45 Sc	# 2	----	--------		--------	#VALUE!		28146.55	28645.10	29161.50
47 Ti	# 3	93.51	93.51	ug/l	0.90	1620.00		68706.64	69211.27	68425.15
51 V	# 2	6.45	6.45	ug/l	2.22	1800.00		8605.36	8419.73	8761.00
52 Cr	# 2	7.227	7.227	ug/l	0.99	1800.00		11284.60	11429.12	11333.50
55 Mn	# 3	17.13	17.13	ug/l	0.83	1800.00		218018.30	216988.17	213522.00
56 Fe	# 1	1672	1672	ug/l	0.27	81000.00		13623968.00	13717186.00	13824098.00
59 Co	# 3	0.1341	0.1341	ug/l	7.62	1800.00		1333.42	1360.10	1186.74
60 Ni	# 2	1.082	1.082	ug/l	2.89	1800.00		945.59	983.37	945.59
63 Cu	# 2	0.04053	0.04053	ug/l	70.00	1800.00		2160.15	2143.48	2253.49
66 Zn	# 3	7.46	7.46	ug/l	0.54	1800.00		8748.97	8612.25	8652.24
75 As	# 2	1.125	1.125	ug/l	3.19	100.00		165.67	159.33	163.33
78 Se	# 1	0.08638	0.08638	ug/l	8.94	100.00		35.67	39.33	39.00
88 Sr	# 3	8.39	8.39	ug/l	1.21	1800.00		144697.09	141579.17	140920.44
95 Mo	# 3	0.1513	0.1513	ug/l	4.34	1800.00		373.35	390.02	400.02
107 Ag	# 3	0.004567	0.004567	ug/l	51.48	100.00		96.67	100.00	123.34
111 Cd	# 3	0.02452	0.02452	ug/l	59.71	100.00		39.88	79.88	63.21
118 Sn	# 3	2.706	2.706	ug/l	4.72	1800.00		12611.64	11740.96	11540.79
121 Sb	# 3	0.1191	0.1191	ug/l	10.76	100.00		720.04	666.70	610.03
137 Ba	# 3	13.11	13.11	ug/l	0.79	1800.00		27883.74	28187.29	27466.15
202 Hg	# 3	0.04115	0.04115	ug/l	13.17	5.00		80.00	86.00	69.67
205 Tl	# 3	0.03297	0.03297	ug/l	4.80	20.00		473.36	483.36	450.02
208 Pb	# 3	4.557	4.557	ug/l	1.18	1800.00		70777.02	71789.06	70212.31
232 Th	# 3	1.763	1.763	ug/l	1.63	#VALUE!		35665.26	34893.43	35177.48
238 U	# 3	0.2268	0.2268	ug/l	4.70	#VALUE!		4934.28	4610.81	4580.83

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	473653.13	1.36	572657.25	82.7	60 - 125		466221.13	477469.84	477268.31
45 Sc	# 1	356591.97	1.22	523286.00	68.1	60 - 125		351650.41	358269.16	359856.38
45 Sc	# 3	519082.59	0.75	603286.69	86.0	60 - 125		514578.13	521096.03	521573.63
74 Ge	# 1	113333.63	0.89	170650.48	66.4	60 - 125		112563.55	112968.71	114468.62
74 Ge	# 2	18042.71	1.24	24862.19	72.6	60 - 125		17788.76	18126.86	18212.51
74 Ge	# 3	126656.72	0.37	155795.36	81.3	60 - 125		127184.40	126480.51	126305.24
89 Y	# 3	829816.81	0.39	1011968.20	82.0	60 - 125		832592.25	826300.31	830557.88
115 In	# 3	756850.50	0.52	989458.81	76.5	60 - 125		757647.88	760327.25	752576.31
159 Tb	# 3	994701.88	0.46	1388283.80	71.6	60 - 125		989387.38	997069.25	997648.94
209 Bi	# 3	594237.13	0.52	829936.50	71.6	60 - 125		591576.81	597664.50	593470.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\311SMPL.D\311SMPL.D#
Date Acquired: Dec 31 2012 07:08 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86061-c-1-d
Misc Info: 3050 1/5
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.8003	0.8003	ug/l	4.41	100.00		1396.75	1363.42	1500.09
11 B # 3	17.54	17.54	ug/l	0.62	1800.00		39450.63	39651.07	40302.04
23 Na # 1	651.3	651.3	ug/l	0.44	81000.00		2509978.80	2516901.80	2559709.30
24 Mg # 1	38370	38370	ug/l	1.13	81000.00		92938728.00	94777808.00	94799184.00
27 Al # 1	19010	19010	ug/l	1.24	81000.00		52710224.00	53859736.00	53748384.00
39 K # 2	3614	3614	ug/l	0.58	81000.00		647638.13	654666.94	662958.56
40 Ca # 1	110100	110100	ug/l	1.02	81000.00		627672130.00	637746820.00	636345090.00
45 Sc # 2	----	--------		--------	#VALUE!		29762.36	29949.35	30631.53
47 Ti # 3	428.6	428.6	ug/l	0.33	1620.00		332728.44	334143.75	335278.53
51 V # 2	51.53	51.53	ug/l	0.76	1800.00		61922.68	62027.68	62709.90
52 Cr # 2	39.83	39.83	ug/l	0.43	1800.00		56049.12	57475.46	57259.32
55 Mn # 3	712.3	712.3	ug/l	0.28	1800.00		8277470.00	8196687.50	8248008.00
56 Fe # 1	26970	26970	ug/l	0.49	81000.00		199436420.00	201121040.00	199708080.00
59 Co # 3	12.53	12.53	ug/l	0.70	1800.00		104289.30	102593.37	103082.88
60 Ni # 2	33.52	33.52	ug/l	1.02	1800.00		20713.85	20758.37	21186.58
63 Cu # 2	24.63	24.63	ug/l	0.28	1800.00		41190.21	41656.73	41800.41
66 Zn # 3	99.18	99.18	ug/l	0.86	1800.00		101559.62	101241.34	100252.63
75 As # 2	11.01	11.01	ug/l	0.90	100.00		1344.72	1362.05	1386.72
78 Se # 1	0.5434	0.5434	ug/l	6.18	100.00		139.67	126.33	135.00
88 Sr # 3	58.93	58.93	ug/l	0.45	1800.00		1209142.30	1206925.60	1214227.10
95 Mo # 3	4.643	4.643	ug/l	1.40	1800.00		9482.76	9135.92	9309.33
107 Ag # 3	0.107	0.107	ug/l	13.28	100.00		616.69	660.03	770.04
111 Cd # 3	0.405	0.405	ug/l	1.15	100.00		523.66	520.44	510.38
118 Sn # 3	1751	1751	ug/l	0.87	1800.00		6739341.50	6787726.50	6713384.00
121 Sb # 3	0.8465	0.8465	ug/l	4.75	100.00		3470.44	3160.37	3210.39
137 Ba # 3	123.7	123.7	ug/l	0.66	1800.00		234070.33	234325.52	234790.67
202 Hg # 3	0.2612	0.2612	ug/l	2.16	5.00		347.67	347.34	335.00
205 Tl # 3	0.4161	0.4161	ug/l	1.44	20.00		4620.81	4507.44	4444.08
208 Pb # 3	24.84	24.84	ug/l	0.32	1800.00		366379.72	362849.78	364184.69
232 Th # 3	6.402	6.402	ug/l	0.55	#VALUE!		107472.31	107535.92	107737.56
238 U # 3	1.59	1.59	ug/l	1.22	#VALUE!		27014.46	27405.23	27261.75

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	453942.81	1.17	572657.25	79.3	60 - 125		448181.09	455008.63	458638.59
45 Sc # 1	376463.25	0.75	523286.00	71.9	60 - 125		375361.09	374360.75	379667.91
45 Sc # 3	550188.88	0.39	603286.69	91.2	60 - 125		549622.00	548372.75	552571.75
74 Ge # 1	102548.52	0.55	170650.48	60.1	60 - 125		101904.93	102802.04	102938.58
74 Ge # 2	16566.11	0.99	24862.19	66.6	60 - 125		16377.41	16652.11	16668.81
74 Ge # 3	117105.47	0.30	155795.36	75.2	60 - 125		117252.03	116698.54	117365.83
89 Y # 3	1006231.90	0.28	1011968.20	99.4	60 - 125		1009465.00	1004474.60	1004756.40
115 In # 3	676404.81	0.54	989458.81	68.4	60 - 125		680608.25	673951.25	674655.00
159 Tb # 3	941772.88	0.58	1388283.80	67.8	60 - 125		947930.50	939764.38	937623.63
209 Bi # 3	504264.84	0.48	829936.50	60.8	60 - 125		506916.75	502100.81	503776.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\312_CCV.D\312_CCV.D#
Date Acquired: Dec 31 2012 07:15 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	52.3 ug/l	1.04	50.00	90 - 110		92959.73	93398.55	92631.81
11 B	91.02 ug/l	1.46	100.00	90 - 110		187169.39	185864.31	185354.30
23 Na	5083 ug/l	0.74	5000.00	90 - 110		16281860.00	16353213.00	16493683.00
24 Mg	5210 ug/l	1.69	5000.00	90 - 110		11010552.00	11237020.00	11384013.00
27 Al	561.8 ug/l	1.60	500.00	90 - 110	Fail	1371294.40	1375980.00	1409308.30
39 K	5271 ug/l	2.43	5000.00	90 - 110		974836.00	998852.50	1021650.60
40 Ca	5460 ug/l	0.79	5000.00	90 - 110		27435462.00	27627518.00	27843100.00
45 Sc	--------	--------		--- ##### - #####		27536.83	27602.42	28236.72
47 Ti	53.11 ug/l	1.57	50.00	90 - 110		37628.33	36990.27	37675.16
51 V	49.26 ug/l	1.41	50.00	90 - 110		61572.79	62282.92	63153.51
52 Cr	48.72 ug/l	0.77	50.00	90 - 110		72756.96	72842.92	73150.64
55 Mn	522 ug/l	0.97	500.00	90 - 110		6270734.00	6343365.00	6380945.00
56 Fe	5058 ug/l	0.75	5000.00	90 - 110		39443028.00	39719072.00	39822756.00
59 Co	53.53 ug/l	0.56	50.00	90 - 110		463899.09	460974.22	462032.81
60 Ni	47.91 ug/l	1.28	50.00	90 - 110		30860.11	31179.50	31517.93
63 Cu	47.84 ug/l	0.68	50.00	90 - 110		82556.20	82460.66	82873.19
66 Zn	51.34 ug/l	2.15	50.00	90 - 110		54835.73	55966.13	54364.02
75 As	52.14 ug/l	1.27	50.00	90 - 110		6653.89	6721.58	6796.94
78 Se	49.68 ug/l	1.24	50.00	90 - 110		11365.22	11329.19	11576.02
88 Sr	50.63 ug/l	0.29	50.00	90 - 110		787002.75	782819.00	780120.81
95 Mo	54.79 ug/l	1.49	50.00	90 - 110		111192.35	110619.58	111877.05
107 Ag	54.25 ug/l	0.69	50.00	90 - 110		316415.09	316937.97	315304.28
111 Cd	51.42 ug/l	0.40	50.00	90 - 110		64273.77	63878.54	63145.31
118 Sn	52.73 ug/l	1.23	50.00	90 - 110		210392.00	205634.97	204634.30
121 Sb	51.83 ug/l	1.61	50.00	90 - 110		194657.05	193426.39	196095.41
137 Ba	52.41 ug/l	0.96	50.00	90 - 110		101046.05	100968.80	101015.83
202 Hg	2.897 ug/l	0.28	2.50	90 - 110	Fail	3990.84	3964.83	3910.49
205 Tl	11.17 ug/l	1.42	10.00	90 - 110	Fail	112940.79	113155.18	114364.88
208 Pb	55.37 ug/l	0.83	50.00	90 - 110	Fail	776352.94	772907.13	772796.94
232 Th	49.28 ug/l	0.53		--- ##### - #####		895598.63	892612.19	889995.94
238 U	48.21 ug/l	0.98		--- ##### - #####		887872.50	887575.00	890136.88

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	456938.22	0.92	572657.25	79.8	60 - 125		452172.91	458610.47	460031.28
45 Sc	329960.78	0.18	523286.00	63.1	60 - 125		329698.75	330642.06	329541.59
45 Sc	497146.13	0.59	603286.69	82.4	60 - 125		497219.84	500060.81	494157.84
74 Ge	108363.24	0.27	170650.48	63.5	60 - 125		108696.03	108128.12	108265.58
74 Ge	17358.34	0.84	24862.19	69.8	60 - 125		17427.28	17191.52	17456.22
74 Ge	122776.90	0.64	155795.36	78.8	60 - 125		122881.96	121949.16	123499.55
89 Y	758038.25	0.50	1011968.20	74.9	60 - 125		760389.13	760065.00	753660.63
115 In	687912.13	0.94	989458.81	69.5	60 - 125		691069.06	692201.13	680466.25
159 Tb	897675.50	0.81	1388283.80	64.7	60 - 125		898013.75	904763.44	890249.38
209 Bi	545374.69	0.84	829936.50	65.7	60 - 125		550017.19	545297.63	540809.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

4 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\313_CCB.D\313_CCB.D#
Date Acquired: Dec 31 2012 07:23 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step	
1	babh2.u
2	babhe.u
3	babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02483	0.02483	ug/l	49.13	#VALUE!		26.67	70.00	53.33
11 B # 3	0.5244	0.5244	ug/l	19.93	#VALUE!		5941.09	6451.25	6151.13
23 Na # 1	-22.12	-22.12	ug/l	0.70	#VALUE!		61612.07	62267.85	62464.92
24 Mg # 1	0.6537	0.6537	ug/l	75.91	#VALUE!		5410.90	7424.98	6407.90
27 Al # 1	0.794	0.794	ug/l	29.03	#VALUE!		2916.98	3990.54	3517.09
39 K # 2	-2.537	-2.537	ug/l	33.97	#VALUE!		4880.77	4810.76	5144.20
40 Ca # 1	7.368	7.368	ug/l	15.35	#VALUE!		117027.63	126932.38	120551.41
45 Sc # 2	----	--------		--------	#VALUE!		26281.73	26487.54	26527.56
47 Ti # 3	0.04328	0.04328	ug/l	120.38	#VALUE!		46.67	50.00	110.01
51 V # 2	0.01732	0.01732	ug/l	31.13	#VALUE!		135.56	142.22	150.00
52 Cr # 2	0.0005138	0.0005138	ug/l	1216.80	#VALUE!		107.78	120.00	126.67
55 Mn # 3	0.2052	0.2052	ug/l	53.80	#VALUE!		3077.02	3907.20	5554.31
56 Fe # 1	2.09	2.09	ug/l	17.37	#VALUE!		29390.51	34409.35	32231.91
59 Co # 3	0.02162	0.02162	ug/l	42.11	#VALUE!		186.67	300.01	326.68
60 Ni # 2	-0.3247	-0.3247	ug/l	1.87	#VALUE!		8.89	12.22	16.67
63 Cu # 2	-1.181	-1.181	ug/l	0.37	#VALUE!		35.56	50.00	44.44
66 Zn # 3	-0.2846	-0.2846	ug/l	9.39	#VALUE!		136.67	190.01	170.01
75 As # 2	0.05236	0.05236	ug/l	12.53	#VALUE!		17.33	19.00	18.00
78 Se # 1	0.05678	0.05678	ug/l	19.66	#VALUE!		26.67	30.67	27.00
88 Sr # 3	0.01134	0.01134	ug/l	62.29	#VALUE!		390.02	480.02	600.03
95 Mo # 3	0.1034	0.1034	ug/l	6.64	#VALUE!		240.01	263.34	260.01
107 Ag # 3	0.02084	0.02084	ug/l	45.74	#VALUE!		136.67	190.01	246.68
111 Cd # 3	0.0247	0.0247	ug/l	21.77	#VALUE!		63.26	49.92	53.25
118 Sn # 3	0.3047	0.3047	ug/l	22.65	#VALUE!		1256.75	1356.77	1763.47
121 Sb # 3	0.238	0.238	ug/l	8.45	#VALUE!		1023.40	986.73	1133.40
137 Ba # 3	0.01545	0.01545	ug/l	159.35	#VALUE!		36.67	56.67	126.67
202 Hg # 3	0.03182	0.03182	ug/l	16.94	#VALUE!		54.33	56.67	69.00
205 Tl # 3	0.008354	0.008354	ug/l	3.42	#VALUE!		173.34	176.67	170.01
208 Pb # 3	0.02014	0.02014	ug/l	51.24	#VALUE!		493.35	563.36	766.70
232 Th # 3	0.1175	0.1175	ug/l	5.47	#VALUE!		2670.30	2556.97	2483.62
238 U # 3	0.01694	0.01694	ug/l	44.21	#VALUE!		336.68	423.36	616.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	451976.72	1.09	572657.25	78.9	60 - 125		446267.69	454822.22	454840.09
45 Sc # 1	315705.34	0.92	523286.00	60.3	60 - 125		314363.44	313703.44	319049.13
45 Sc # 3	482533.13	0.06	603286.69	80.0	60 - 125		482600.94	482238.84	482759.63
74 Ge # 1	103202.67	0.76	170650.48	60.5	60 - 125		103548.48	102300.55	103758.97
74 Ge # 2	16986.52	0.40	24862.19	68.3	60 - 125		16926.84	16972.43	17060.28
74 Ge # 3	118007.23	0.57	155795.36	75.7	60 - 125		118583.91	118162.08	117275.71
89 Y # 3	747820.25	0.48	1011968.20	73.9	60 - 125		751151.00	748250.44	744059.25
115 In # 3	685557.06	0.54	989458.81	69.3	60 - 125		689267.94	681808.63	685594.69
159 Tb # 3	898045.06	0.33	1388283.80	64.7	60 - 125		900141.44	899365.00	894628.75
209 Bi # 3	550567.94	0.90	829936.50	66.3	60 - 125		545180.44	551518.56	555004.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\314_CCV.D\314_CCV.D#
Date Acquired: Dec 31 2012 07:30 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	52.07 ug/l	0.68	50.00	90 - 110		87916.52	89551.06	89986.11
11 B	91.69 ug/l	1.26	100.00	90 - 110		178498.92	182154.83	180790.25
23 Na	5089 ug/l	0.30	5000.00	90 - 110		15157923.00	15194690.00	15424346.00
24 Mg	5183 ug/l	0.16	5000.00	90 - 110		10302173.00	10361092.00	10479988.00
27 Al	545.8 ug/l	0.39	500.00	90 - 110		1242470.30	1256904.40	1259846.30
39 K	5160 ug/l	2.15	5000.00	90 - 110		923445.19	944930.69	961095.63
40 Ca	5363 ug/l	0.54	5000.00	90 - 110		24987780.00	25210902.00	25614242.00
45 Sc	--------	--------	---	##### - #####		26316.16	26380.69	26666.69
47 Ti	52.56 ug/l	1.06	50.00	90 - 110		35013.25	35727.86	36375.88
51 V	48.32 ug/l	1.90	50.00	90 - 110		57939.00	59459.46	59584.05
52 Cr	47.97 ug/l	1.42	50.00	90 - 110		68390.73	69511.48	69905.15
55 Mn	521.4 ug/l	1.22	500.00	90 - 110		5998752.50	6087686.00	5999477.50
56 Fe	5037 ug/l	0.83	5000.00	90 - 110		36697688.00	36714588.00	36766828.00
59 Co	53.66 ug/l	0.98	50.00	90 - 110		441165.72	444161.13	439963.06
60 Ni	46.74 ug/l	0.98	50.00	90 - 110		29148.49	29404.44	29514.63
63 Cu	46.74 ug/l	1.00	50.00	90 - 110		77374.01	78059.18	78361.61
66 Zn	51.68 ug/l	0.74	50.00	90 - 110		52880.00	52853.23	52726.20
75 As	51.97 ug/l	2.09	50.00	90 - 110		6334.44	6484.49	6581.53
78 Se	50.3 ug/l	0.65	50.00	90 - 110		10569.74	10812.22	10883.58
88 Sr	50.34 ug/l	0.31	50.00	90 - 110		746518.56	742782.06	746838.06
95 Mo	53.99 ug/l	0.49	50.00	90 - 110		105709.22	104901.29	105739.26
107 Ag	53.73 ug/l	0.89	50.00	90 - 110		301367.59	302782.25	299972.44
111 Cd	50.82 ug/l	2.08	50.00	90 - 110		60554.93	61686.06	59628.77
118 Sn	51.28 ug/l	0.44	50.00	90 - 110		193955.33	192500.47	194373.58
121 Sb	51.87 ug/l	0.47	50.00	90 - 110		186511.00	188093.13	187896.50
137 Ba	52.39 ug/l	0.96	50.00	90 - 110		95782.56	97361.23	98320.53
202 Hg	2.888 ug/l	1.18	2.50	90 - 110	Fail	3799.13	3872.14	3845.47
205 Tl	11.18 ug/l	1.02	10.00	90 - 110	Fail	109470.39	109845.27	111081.92
208 Pb	55.86 ug/l	0.91	50.00	90 - 110	Fail	750023.31	757399.88	763633.75
232 Th	49.33 ug/l	0.41	---	##### - #####		866598.31	869141.00	874837.88
238 U	48.24 ug/l	0.33	---	##### - #####		863568.19	865481.13	867871.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	439916.56	1.25	572657.25	76.8	60 - 125		435314.38	438460.31	445974.94
45 Sc	307134.28	0.72	523286.00	58.7	60 - 125	IS Fail	305178.53	306703.53	309520.81
45 Sc	479070.31	0.86	603286.69	79.4	60 - 125		474675.78	479731.41	482803.78
74 Ge	100758.74	0.91	170650.48	59.0	60 - 125	IS Fail	99773.45	100909.48	101593.34
74 Ge	16745.54	0.60	24862.19	67.4	60 - 125		16804.50	16629.87	16802.24
74 Ge	117029.77	0.58	155795.36	75.1	60 - 125		116601.53	116678.33	117809.42
89 Y	725471.00	0.61	1011968.20	71.7	60 - 125		727250.06	720418.19	728744.75
115 In	661863.88	0.47	989458.81	66.9	60 - 125		659778.25	660387.31	665426.13
159 Tb	870162.69	0.71	1388283.80	62.7	60 - 125		864730.19	876876.63	868881.25
209 Bi	530972.00	0.35	829936.50	64.0	60 - 125		531305.44	528967.63	532642.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\315_CCB.D\315_CCB.D#
Date Acquired: Dec 31 2012 07:38 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01382	0.01382	ug/l	35.57	#VALUE!		20.00	36.67	33.33
11 B	# 3	0.7309	0.7309	ug/l	12.45	#VALUE!		6534.61	6467.90	6377.86
23 Na	# 1	-21.39	-21.39	ug/l	0.33	#VALUE!		61485.13	61926.63	62822.54
24 Mg	# 1	0.1965	0.1965	ug/l	34.57	#VALUE!		5377.57	5210.83	5254.21
27 Al	# 1	0.5865	0.5865	ug/l	3.95	#VALUE!		2850.29	2813.62	2980.32
39 K	# 2	-2.607	-2.607	ug/l	21.13	#VALUE!		4834.10	4924.12	4740.74
40 Ca	# 1	6.056	6.056	ug/l	6.98	#VALUE!		112150.08	110013.48	111178.02
45 Sc	# 2	----	--------		--------	#VALUE!		25047.86	25327.04	25725.32
47 Ti	# 3	0.02877	0.02877	ug/l	159.58	#VALUE!		40.00	93.34	40.00
51 V	# 2	0.01722	0.01722	ug/l	91.00	#VALUE!		120.00	140.00	158.89
52 Cr	# 2	0.004258	0.004258	ug/l	152.84	#VALUE!		123.33	128.89	111.11
55 Mn	# 3	0.1051	0.1051	ug/l	2.73	#VALUE!		3010.33	2953.66	2977.00
56 Fe	# 1	1.799	1.799	ug/l	2.34	#VALUE!		28823.01	28385.59	29013.24
59 Co	# 3	0.01197	0.01197	ug/l	55.46	#VALUE!		200.01	130.00	236.67
60 Ni	# 2	-0.3189	-0.3189	ug/l	2.82	#VALUE!		16.67	10.00	21.11
63 Cu	# 2	-1.176	-1.176	ug/l	0.18	#VALUE!		53.33	50.00	46.67
66 Zn	# 3	-0.3068	-0.3068	ug/l	12.78	#VALUE!		120.00	116.67	186.67
75 As	# 2	0.05535	0.05535	ug/l	38.81	#VALUE!		21.00	17.33	16.00
78 Se	# 1	0.04527	0.04527	ug/l	48.51	#VALUE!		20.00	29.33	24.67
88 Sr	# 3	0.003856	0.003856	ug/l	57.70	#VALUE!		333.35	376.68	396.68
95 Mo	# 3	0.11	0.11	ug/l	11.72	#VALUE!		263.34	290.01	236.68
107 Ag	# 3	0.009917	0.009917	ug/l	33.39	#VALUE!		116.67	113.34	146.67
111 Cd	# 3	0.01358	0.01358	ug/l	29.88	#VALUE!		39.92	46.58	36.59
118 Sn	# 3	0.1241	0.1241	ug/l	3.03	#VALUE!		736.70	760.04	726.70
121 Sb	# 3	0.276	0.276	ug/l	2.63	#VALUE!		1166.74	1150.07	1193.42
137 Ba	# 3	0.006068	0.006068	ug/l	93.26	#VALUE!		66.67	46.67	50.00
202 Hg	# 3	0.04347	0.04347	ug/l	13.02	#VALUE!		83.67	69.33	71.67
205 Tl	# 3	0.01012	0.01012	ug/l	7.02	#VALUE!		180.01	193.34	190.01
208 Pb	# 3	0.01275	0.01275	ug/l	25.44	#VALUE!		546.69	476.68	463.35
232 Th	# 3	0.1191	0.1191	ug/l	8.10	#VALUE!		2760.33	2506.95	2426.93
238 U	# 3	0.01224	0.01224	ug/l	13.82	#VALUE!		383.35	383.35	330.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	443436.72	1.53	572657.25	77.4	60 - 125		435863.94	445500.41	448945.72
45 Sc	# 1	304584.72	1.37	523286.00	58.2	60 - 125	IS F	301483.94	302926.72	309343.50
45 Sc	# 3	472689.69	0.13	603286.69	78.4	60 - 125		471966.88	473149.47	472952.66
74 Ge	# 1	99388.08	0.48	170650.48	58.2	60 - 125	IS F	98931.06	99359.00	99874.16
74 Ge	# 2	16646.21	0.34	24862.19	67.0	60 - 125		16587.63	16652.14	16698.84
74 Ge	# 3	116545.28	0.17	155795.36	74.8	60 - 125		116393.09	116762.23	116480.52
89 Y	# 3	733440.06	0.26	1011968.20	72.5	60 - 125		735365.81	733425.31	731529.06
115 In	# 3	674123.00	0.41	989458.81	68.1	60 - 125		674901.44	676437.31	671030.31
159 Tb	# 3	881796.00	0.10	1388283.80	63.5	60 - 125		882388.63	880790.50	882208.94
209 Bi	# 3	542778.13	0.09	829936.50	65.4	60 - 125		542954.19	542200.69	543179.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
2 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\316SMPL.D\316SMPL.D#
Date Acquired: Dec 31 2012 07:45 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261515_1-a
Misc Info: 3050 1/5
Vial Number: 3201
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001583	0.001583	ug/l	257.99	100.00		16.67	3.33	6.67
11 B	# 3	0.2789	0.2789	ug/l	7.41	1800.00		5577.64	5687.64	5834.36
23 Na	# 1	-23.83	-23.83	ug/l	1.31	81000.00		58466.13	57021.74	57452.72
24 Mg	# 1	-1.45	-1.45	ug/l	1.19	81000.00		2093.51	2153.52	2096.84
27 Al	# 1	0.8599	0.8599	ug/l	5.62	81000.00		3583.77	3623.78	3833.99
39 K	# 2	-3.232	-3.232	ug/l	23.88	81000.00		4727.38	4707.38	5034.17
40 Ca	# 1	4.102	4.102	ug/l	6.75	81000.00		107799.01	105650.04	108139.40
45 Sc	# 2	----	--------		--------	#VALUE!		25540.68	26085.86	26702.28
47 Ti	# 3	0.04633	0.04633	ug/l	71.06	1620.00		53.33	96.67	63.34
51 V	# 2	0.1715	0.1715	ug/l	16.03	1800.00		297.78	332.23	371.12
52 Cr	# 2	0.07607	0.07607	ug/l	14.63	1800.00		241.11	210.00	235.56
55 Mn	# 3	0.05194	0.05194	ug/l	25.22	1800.00		2593.60	2313.55	2426.89
56 Fe	# 1	8.842	8.842	ug/l	0.92	81000.00		84525.34	83343.48	83598.10
59 Co	# 3	-0.003586	-0.003586	ug/l	44.95	1800.00		63.34	76.67	50.00
60 Ni	# 2	0.01957	0.01957	ug/l	245.12	1800.00		195.56	238.89	257.78
63 Cu	# 2	-1.162	-1.162	ug/l	0.41	1800.00		74.45	66.67	83.33
66 Zn	# 3	0.1623	0.1623	ug/l	9.39	1800.00		646.70	623.36	633.36
75 As	# 2	0.2046	0.2046	ug/l	28.97	100.00		30.67	45.33	36.00
78 Se	# 1	0.02861	0.02861	ug/l	38.34	100.00		21.67	25.00	20.33
88 Sr	# 3	-0.01055	-0.01055	ug/l	18.90	1800.00		183.34	170.01	126.67
95 Mo	# 3	0.04215	0.04215	ug/l	28.80	1800.00		143.34	106.67	156.67
107 Ag	# 3	-0.003227	-0.003227	ug/l	46.20	100.00		60.00	43.33	56.67
111 Cd	# 3	0.003972	0.003972	ug/l	222.53	100.00		19.95	29.97	43.28
118 Sn	# 3	1.919	1.919	ug/l	1.06	1800.00		8035.45	8085.45	8062.06
121 Sb	# 3	0.203	0.203	ug/l	8.51	100.00		1016.73	906.72	930.05
137 Ba	# 3	-0.004367	-0.004367	ug/l	233.11	1800.00		26.67	60.00	23.33
202 Hg	# 3	0.01296	0.01296	ug/l	23.91	5.00		36.33	38.33	30.33
205 Tl	# 3	0.0001918	0.0001918	ug/l	656.41	20.00		90.00	83.34	110.00
208 Pb	# 3	-0.006683	-0.006683	ug/l	6.15	1800.00		233.34	246.68	250.01
232 Th	# 3	0.05322	0.05322	ug/l	3.96	#VALUE!		1423.45	1396.78	1486.79
238 U	# 3	-0.005943	-0.005943	ug/l	10.85	#VALUE!		43.33	36.67	20.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	452160.72	2.08	572657.25	79.0	60 - 125		441730.31	454749.06	460002.75
45 Sc	# 1	320017.22	0.53	523286.00	61.2	60 - 125		318397.38	319852.69	321801.50
45 Sc	# 3	483269.69	0.87	603286.69	80.1	60 - 125		478812.50	483783.00	487213.59
74 Ge	# 1	104951.26	0.16	170650.48	61.5	60 - 125		104940.74	104790.09	105122.93
74 Ge	# 2	17005.41	0.85	24862.19	68.4	60 - 125		16906.80	16939.05	17170.37
74 Ge	# 3	120315.10	0.99	155795.36	77.2	60 - 125		119187.81	120190.91	121566.60
89 Y	# 3	766165.69	1.05	1011968.20	75.7	60 - 125		759008.50	764650.19	774838.19
115 In	# 3	711736.06	1.16	989458.81	71.9	60 - 125		703440.19	711835.06	719933.00
159 Tb	# 3	937436.13	1.18	1388283.80	67.5	60 - 125		924883.75	941888.19	945536.25
209 Bi	# 3	565931.44	1.09	829936.50	68.2	60 - 125		559253.31	567147.63	571393.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\317SMPL.D\317SMPL.D#
Date Acquired: Dec 31 2012 07:53 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261515_2-a
Misc Info: 3050 1/5
Vial Number: 3202
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.55	10.55	ug/l	1.03	100.00		18575.94	18435.80	18629.17
11 B	# 3	39.17	39.17	ug/l	0.67	1800.00		81812.20	81922.36	82525.48
23 Na	# 1	1124	1124	ug/l	1.33	81000.00		3584536.30	3538730.30	3650143.80
24 Mg	# 1	1174	1174	ug/l	0.41	81000.00		2405426.80	2437959.30	2467370.00
27 Al	# 1	1173	1173	ug/l	0.23	81000.00		2767054.30	2778920.50	2807818.30
39 K	# 2	1132	1132	ug/l	1.02	81000.00		207440.88	211188.88	215056.42
40 Ca	# 1	1175	1175	ug/l	0.46	81000.00		5745695.50	5823763.00	5819459.50
45 Sc	# 2	----	--------		--------	#VALUE!		26068.02	26613.28	26728.97
47 Ti	# 3	23.04	23.04	ug/l	1.62	1620.00		15927.14	15543.51	15797.02
51 V	# 2	21.68	21.68	ug/l	0.45	1800.00		26370.83	26445.38	26887.11
52 Cr	# 2	21.75	21.75	ug/l	1.39	1800.00		30744.15	31800.36	31963.98
55 Mn	# 3	120.4	120.4	ug/l	1.56	1800.00		1390022.30	1408944.30	1440734.40
56 Fe	# 1	1105	1105	ug/l	0.07	81000.00		8260045.50	8241104.00	8317996.50
59 Co	# 3	11.94	11.94	ug/l	1.69	1800.00		99741.13	98832.51	100602.63
60 Ni	# 2	21.33	21.33	ug/l	0.31	1800.00		13427.18	13487.21	13672.92
63 Cu	# 2	20.64	20.64	ug/l	1.09	1800.00		35547.47	35143.34	35939.34
66 Zn	# 3	20.54	20.54	ug/l	0.52	1800.00		21362.85	21850.17	21486.33
75 As	# 2	21.48	21.48	ug/l	0.41	100.00		2661.87	2671.87	2714.54
78 Se	# 1	18.48	18.48	ug/l	1.00	100.00		4014.12	4077.80	4092.80
88 Sr	# 3	20.87	20.87	ug/l	0.40	1800.00		324902.41	323383.38	327052.13
95 Mo	# 3	23.08	23.08	ug/l	1.21	1800.00		47955.29	47821.54	48566.80
107 Ag	# 3	11.66	11.66	ug/l	1.17	100.00		69264.38	69943.04	70352.17
111 Cd	# 3	10.58	10.58	ug/l	2.02	100.00		13300.06	13803.80	13349.91
118 Sn	# 3	24.64	24.64	ug/l	0.62	1800.00		99327.04	99179.74	99641.84
121 Sb	# 3	11.14	11.14	ug/l	1.36	100.00		42944.03	42753.54	43562.12
137 Ba	# 3	22.92	22.92	ug/l	1.59	1800.00		44803.27	45391.34	45889.15
202 Hg	# 3	0.996	0.996	ug/l	0.46	5.00		1402.40	1408.73	1423.40
205 Tl	# 3	9.495	9.495	ug/l	1.18	20.00		99920.63	100357.39	99887.87
208 Pb	# 3	12.2	12.2	ug/l	1.45	1800.00		178501.09	175780.48	177109.81
232 Th	# 3	21.26	21.26	ug/l	0.39	#VALUE!		395724.88	395414.78	399669.84
238 U	# 3	21.63	21.63	ug/l	0.60	#VALUE!		410079.97	407994.16	413930.44

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	451572.81	1.05	572657.25	78.9	60 - 125		446936.88	451387.34	456394.25
45 Sc	# 1	317843.44	0.87	523286.00	60.7	60 - 125		315065.00	317898.19	320567.13
45 Sc	# 3	481767.03	0.53	603286.69	79.9	60 - 125		478892.91	482605.72	483802.50
74 Ge	# 1	103324.49	0.51	170650.48	60.5	60 - 125		103238.04	102848.12	103887.30
74 Ge	# 2	16764.46	0.81	24862.19	67.4	60 - 125		16626.55	16768.92	16897.90
74 Ge	# 3	118696.82	1.15	155795.36	76.2	60 - 125		117218.19	119915.74	118956.52
89 Y	# 3	762613.25	0.34	1011968.20	75.4	60 - 125		760298.63	762091.75	765449.38
115 In	# 3	706158.50	0.40	989458.81	71.4	60 - 125		708429.38	707071.94	702974.13
159 Tb	# 3	931093.00	1.07	1388283.80	67.1	60 - 125		923408.13	927536.00	942334.75
209 Bi	# 3	561644.00	0.33	829936.50	67.7	60 - 125		559752.56	561753.56	563425.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\318SMPL.D\318SMPL.D#
Date Acquired: Dec 31 2012 08:00 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 660-51911-g-2-a
Misc Info: 3050 1/5
Vial Number: 3203
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0002769	0.0002769	ug/l	1199.70	100.00		13.33	3.33	3.33
11 B	# 3	2.917	2.917	ug/l	4.72	1800.00		10516.45	11143.44	11140.16
23 Na	# 1	279.1	279.1	ug/l	1.44	81000.00		986534.38	1012619.10	1016526.30
24 Mg	# 1	234.2	234.2	ug/l	0.19	81000.00		495045.19	498664.16	500932.97
27 Al	# 1	190.2	190.2	ug/l	0.86	81000.00		455177.50	458400.97	466999.25
39 K	# 2	370.5	370.5	ug/l	1.09	81000.00		72445.95	74463.56	76060.35
40 Ca	# 1	831.3	831.3	ug/l	0.54	81000.00		4149445.80	4197606.00	4229968.50
45 Sc	# 2	----	--------		--------	#VALUE!		25932.28	26168.15	27001.60
47 Ti	# 3	4.698	4.698	ug/l	52.73	1620.00		5114.03	1975.61	2553.58
51 V	# 2	0.3773	0.3773	ug/l	11.01	1800.00		524.46	633.35	620.02
52 Cr	# 2	0.5391	0.5391	ug/l	5.17	1800.00		938.92	915.59	883.36
55 Mn	# 3	3.045	3.045	ug/l	0.80	1800.00		37491.60	37942.65	38410.28
56 Fe	# 1	130	130	ug/l	1.05	81000.00		1004609.80	1012726.90	1015040.00
59 Co	# 3	0.04076	0.04076	ug/l	12.89	1800.00		470.02	453.35	390.02
60 Ni	# 2	0.1304	0.1304	ug/l	32.52	1800.00		282.23	335.56	291.12
63 Cu	# 2	3.652	3.652	ug/l	2.16	1800.00		8062.93	8128.51	8035.14
66 Zn	# 3	10.4	10.4	ug/l	1.21	1800.00		11237.10	11387.20	11223.74
75 As	# 2	0.2889	0.2889	ug/l	8.45	100.00		44.00	50.00	51.00
78 Se	# 1	0.09244	0.09244	ug/l	14.72	100.00		35.33	40.00	35.00
88 Sr	# 3	7.029	7.029	ug/l	1.39	1800.00		109470.24	110161.37	109171.76
95 Mo	# 3	0.4963	0.4963	ug/l	8.96	1800.00		1120.07	1153.41	990.06
107 Ag	# 3	0.1278	0.1278	ug/l	9.86	100.00		923.39	760.04	846.71
111 Cd	# 3	0.04716	0.04716	ug/l	14.10	100.00		79.64	82.97	96.35
118 Sn	# 3	2.777	2.777	ug/l	2.53	1800.00		11320.66	11717.60	11544.22
121 Sb	# 3	0.2096	0.2096	ug/l	10.32	100.00		1073.40	946.72	910.05
137 Ba	# 3	2.9	2.9	ug/l	1.11	1800.00		5817.85	5834.52	5807.83
202 Hg	# 3	0.01865	0.01865	ug/l	9.76	5.00		46.33	42.67	41.33
205 Tl	# 3	0.03675	0.03675	ug/l	7.87	20.00		496.69	443.35	503.36
208 Pb	# 3	0.4922	0.4922	ug/l	1.25	1800.00		7524.25	7564.28	7440.92
232 Th	# 3	0.09644	0.09644	ug/l	7.12	#VALUE!		2420.28	2203.57	2180.54
238 U	# 3	0.04029	0.04029	ug/l	6.70	#VALUE!		953.40	953.39	870.05

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	453974.72	1.20	572657.25	79.3	60 - 125		449001.25	453128.59	459794.38
45 Sc	# 1	322879.56	0.47	523286.00	61.7	60 - 125		321503.03	322629.63	324506.06
45 Sc	# 3	477230.50	1.32	603286.69	79.1	60 - 125		476306.34	471463.78	483921.34
74 Ge	# 1	105697.77	0.67	170650.48	61.9	60 - 125		106203.73	104893.84	105995.74
74 Ge	# 2	17122.93	1.49	24862.19	68.9	60 - 125		16838.98	17197.07	17332.75
74 Ge	# 3	120126.16	0.53	155795.36	77.1	60 - 125		119700.91	119818.30	120859.24
89 Y	# 3	762055.31	0.92	1011968.20	75.3	60 - 125		763187.38	754568.19	768410.31
115 In	# 3	711185.38	0.87	989458.81	71.9	60 - 125		714177.69	704077.81	715300.75
159 Tb	# 3	935729.38	0.61	1388283.80	67.4	60 - 125		941376.88	929935.06	935875.94
209 Bi	# 3	571065.69	0.61	829936.50	68.8	60 - 125		572133.00	567197.00	573867.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\319SMPL.D\319SMPL.D#
Date Acquired: Dec 31 2012 08:07 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 660-51911-g-2-a SD
Misc Info: 3050 1/25
Vial Number: 3204
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.011205	-0.002241	ug/l	49.35	100.00		3.33	0.00	3.33
11 B	# 3	1.501	0.3002	ug/l	32.77	1800.00		5707.67	5817.69	5517.60
23 Na	# 1	168.25	33.65	ug/l	1.60	81000.00		228258.28	229886.34	230911.19
24 Mg	# 1	237.65	47.53	ug/l	0.81	81000.00		101271.56	101646.93	101827.99
27 Al	# 1	202.55	40.51	ug/l	0.41	81000.00		95621.45	95541.45	96427.23
39 K	# 2	364.1	72.82	ug/l	4.02	81000.00		17825.59	18819.84	18889.92
40 Ca	# 1	899.5	179.9	ug/l	1.42	81000.00		926205.81	944755.50	956988.75
45 Sc	# 2	----	--------		--------	#VALUE!		25516.18	25773.23	26683.35
47 Ti	# 3	2.5895	0.5179	ug/l	41.75	1620.00		433.71	497.01	220.01
51 V	# 2	0.3102	0.06204	ug/l	20.75	1800.00		175.56	203.34	204.45
52 Cr	# 2	0.47605	0.09521	ug/l	9.47	1800.00		254.45	236.67	265.56
55 Mn	# 3	2.8805	0.5761	ug/l	1.87	1800.00		8282.05	8532.19	8355.42
56 Fe	# 1	133.95	26.79	ug/l	0.92	81000.00		213776.95	212962.19	213540.72
59 Co	# 3	0.00572	0.001144	ug/l	463.64	1800.00		50.00	123.34	126.67
60 Ni	# 2	-0.839	-0.1678	ug/l	19.04	1800.00		91.11	106.67	132.22
63 Cu	# 2	-0.9545	-0.1909	ug/l	17.05	1800.00		1691.21	1640.09	1608.97
66 Zn	# 3	9.97	1.994	ug/l	1.63	1800.00		2490.24	2426.91	2460.23
75 As	# 2	0.37695	0.07539	ug/l	35.30	100.00		18.33	19.00	24.67
78 Se	# 1	0.161	0.0322	ug/l	30.08	100.00		21.33	21.00	25.00
88 Sr	# 3	6.875	1.375	ug/l	0.59	1800.00		21032.81	21306.41	20762.53
95 Mo	# 3	0.49495	0.09899	ug/l	11.71	1800.00		220.01	256.68	260.01
107 Ag	# 3	0.10315	0.02063	ug/l	20.06	100.00		163.34	203.34	203.34
111 Cd	# 3	0.0829	0.01658	ug/l	48.50	100.00		56.60	36.59	43.25
118 Sn	# 3	2.678	0.5356	ug/l	3.88	1800.00		2423.58	2403.59	2260.22
121 Sb	# 3	0.26155	0.05231	ug/l	28.29	100.00		400.02	370.02	290.01
137 Ba	# 3	2.8585	0.5717	ug/l	9.66	1800.00		1260.09	1130.07	1036.73
202 Hg	# 3	0.09305	0.01861	ug/l	12.95	5.00		42.67	39.00	45.67
205 Tl	# 3	0.0528	0.01056	ug/l	21.68	20.00		193.34	220.01	173.34
208 Pb	# 3	0.4428	0.08856	ug/l	12.18	1800.00		1720.09	1563.41	1406.74
232 Th	# 3	0.12195	0.02439	ug/l	8.50	#VALUE!		850.05	873.39	923.41
238 U	# 3	0.016285	0.003257	ug/l	43.08	#VALUE!		216.68	176.67	226.68

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	447459.84	1.03	572657.25	78.1	60 - 125		442780.09	447633.53	451965.81
45 Sc	# 1	311741.16	0.89	523286.00	59.6	60 - 125	IS F	310877.31	309490.22	314855.97
45 Sc	# 3	470295.94	0.39	603286.69	78.0	60 - 125		469916.34	472276.44	468695.00
74 Ge	# 1	101785.09	1.03	170650.48	59.6	60 - 125	IS F	102379.93	100574.33	102401.01
74 Ge	# 2	16692.54	0.83	24862.19	67.1	60 - 125		16614.30	16610.99	16852.33
74 Ge	# 3	116374.41	0.21	155795.36	74.7	60 - 125		116491.31	116537.35	116094.58
89 Y	# 3	738711.94	0.74	1011968.20	73.0	60 - 125		740024.31	743434.38	732676.94
115 In	# 3	685956.19	0.55	989458.81	69.3	60 - 125		690256.13	684154.63	683457.69
159 Tb	# 3	897187.25	0.38	1388283.80	64.6	60 - 125		900806.25	896753.94	894001.63
209 Bi	# 3	558719.31	0.11	829936.50	67.3	60 - 125		559394.25	558629.94	558133.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\320SMPL.D\320SMPL.D#
Date Acquired: Dec 31 2012 08:15 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 660-51911-g-2-a PDS
Misc Info: 3050 1/5
Vial Number: 3205
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	21.08	21.08	ug/l	0.87	100.00		35836.78	36484.40	37239.32
11 B	# 3	41.94	41.94	ug/l	1.03	1800.00		85364.06	87336.12	86194.63
23 Na	# 1	2518	2518	ug/l	0.85	81000.00		7774239.00	7861107.50	7957715.50
24 Mg	# 1	2490	2490	ug/l	0.94	81000.00		5106592.50	5126438.00	5228770.00
27 Al	# 1	425.1	425.1	ug/l	0.73	81000.00		997816.56	1008512.20	1019037.40
39 K	# 2	2619	2619	ug/l	1.21	81000.00		476227.03	485330.81	495337.91
40 Ca	# 1	3142	3142	ug/l	0.54	81000.00		15222340.00	15282421.00	15476533.00
45 Sc	# 2	----	--------		--------	#VALUE!		26059.14	26671.15	26872.53
47 Ti	# 3	27.97	27.97	ug/l	10.20	1620.00		17598.44	21275.84	17696.16
51 V	# 2	21.4	21.4	ug/l	1.96	1800.00		26102.73	26724.65	26447.62
52 Cr	# 2	21.72	21.72	ug/l	1.76	1800.00		30922.22	31879.38	32329.05
55 Mn	# 3	235.7	235.7	ug/l	1.76	1800.00		2704121.30	2806165.30	2780226.30
56 Fe	# 1	2387	2387	ug/l	0.76	81000.00		17784580.00	17729800.00	17979666.00
59 Co	# 3	23.28	23.28	ug/l	0.53	1800.00		193447.20	194946.25	194565.88
60 Ni	# 2	20.98	20.98	ug/l	1.83	1800.00		13399.35	13478.31	13369.34
63 Cu	# 2	24.72	24.72	ug/l	1.52	1800.00		41987.61	42779.33	42794.94
66 Zn	# 3	29.88	29.88	ug/l	0.56	1800.00		31300.70	31183.79	30966.78
75 As	# 2	21.02	21.02	ug/l	1.81	100.00		2580.86	2663.87	2692.87
78 Se	# 1	18.39	18.39	ug/l	1.64	100.00		4014.79	3983.78	4109.47
88 Sr	# 3	28.9	28.9	ug/l	0.55	1800.00		442839.31	444201.19	444778.94
95 Mo	# 3	23.91	23.91	ug/l	0.21	1800.00		48687.56	49008.15	48700.74
107 Ag	# 3	16.39	16.39	ug/l	0.45	100.00		96112.66	96293.72	95666.98
111 Cd	# 3	21	21	ug/l	0.47	100.00		26117.95	26364.77	26051.11
118 Sn	# 3	25.25	25.25	ug/l	0.32	1800.00		99564.93	99679.14	99779.98
121 Sb	# 3	22.42	22.42	ug/l	1.20	100.00		85400.51	84000.80	84741.11
137 Ba	# 3	25.86	25.86	ug/l	1.09	1800.00		49943.93	49716.54	50649.42
202 Hg	# 3	0.9447	0.9447	ug/l	2.03	5.00		1345.73	1311.39	1324.06
205 Tl	# 3	4.793	4.793	ug/l	0.59	20.00		49839.17	50450.80	49822.59
208 Pb	# 3	24.49	24.49	ug/l	0.43	1800.00		349862.50	351213.16	353894.94
232 Th	# 3	20.95	20.95	ug/l	0.43	#VALUE!		383394.88	387779.88	391358.31
238 U	# 3	21.07	21.07	ug/l	0.50	#VALUE!		395111.25	396004.06	397731.06

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	445199.72	1.45	572657.25	77.7	60 - 125		437795.00	448126.66	449677.59
45 Sc	# 1	317265.25	0.33	523286.00	60.6	60 - 125		316351.81	317022.75	318421.25
45 Sc	# 3	474726.25	0.92	603286.69	78.7	60 - 125		471211.03	479601.44	473366.25
74 Ge	# 1	103190.56	0.17	170650.48	60.5	60 - 125		103387.56	103042.27	103141.84
74 Ge	# 2	16897.90	1.46	24862.19	68.0	60 - 125		16793.36	16721.05	17179.27
74 Ge	# 3	118634.55	0.55	155795.36	76.1	60 - 125		118490.55	119345.24	118067.88
89 Y	# 3	752315.69	0.41	1011968.20	74.3	60 - 125		752939.00	755065.06	748943.00
115 In	# 3	691172.88	0.37	989458.81	69.9	60 - 125		688467.38	693598.13	691453.00
159 Tb	# 3	921486.88	0.36	1388283.80	66.4	60 - 125		917643.31	923799.69	923017.69
209 Bi	# 3	556453.19	0.74	829936.50	67.0	60 - 125		551719.06	558400.06	559240.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\321SMPL.D\321SMPL.D#
Date Acquired: Dec 31 2012 08:22 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 660-51911-g-2-d ms
Misc Info: 3050 1/5
Vial Number: 3206
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.47	10.47	ug/l	1.27	100.00		18042.06	18565.92	18332.31
11 B # 3	41.58	41.58	ug/l	0.97	1800.00		86378.53	85484.31	87356.33
23 Na # 1	1408	1408	ug/l	0.39	81000.00		4432410.50	4435175.00	4513803.50
24 Mg # 1	1398	1398	ug/l	0.30	81000.00		2895270.80	2889881.50	2911356.00
27 Al # 1	1354	1354	ug/l	0.99	81000.00		3176594.50	3231562.30	3222983.80
39 K # 2	1508	1508	ug/l	2.96	81000.00		275506.72	283692.50	286590.16
40 Ca # 1	2001	2001	ug/l	0.74	81000.00		9696342.00	9823890.00	9879512.00
45 Sc # 2	----	--------		--------	#VALUE!		25691.95	26607.71	26779.08
47 Ti # 3	26.39	26.39	ug/l	3.96	1620.00		18574.87	17246.47	17886.85
51 V # 2	21.16	21.16	ug/l	1.94	1800.00		25905.77	25980.27	26522.17
52 Cr # 2	21.77	21.77	ug/l	2.47	1800.00		31115.86	31822.64	32425.91
55 Mn # 3	121.6	121.6	ug/l	1.18	1800.00		1434984.50	1447812.90	1415685.00
56 Fe # 1	1209	1209	ug/l	0.22	81000.00		9063028.00	9047760.00	9065723.00
59 Co # 3	11.69	11.69	ug/l	0.91	1800.00		97958.68	99084.70	97187.66
60 Ni # 2	21.28	21.28	ug/l	3.36	1800.00		13597.28	13650.68	13553.93
63 Cu # 2	25.31	25.31	ug/l	2.94	1800.00		43338.45	43494.40	43604.63
66 Zn # 3	30.92	30.92	ug/l	1.29	1800.00		32529.42	32228.83	32369.16
75 As # 2	20.72	20.72	ug/l	2.96	100.00		2553.85	2625.86	2644.53
78 Se # 1	18.15	18.15	ug/l	1.17	100.00		4030.12	3947.77	3997.45
88 Sr # 3	28.03	28.03	ug/l	0.16	1800.00		431577.34	434277.84	433093.22
95 Mo # 3	23.32	23.32	ug/l	0.36	1800.00		47925.03	48329.30	48182.79
107 Ag # 3	11.64	11.64	ug/l	0.84	100.00		68313.58	69464.21	69327.93
111 Cd # 3	10.49	10.49	ug/l	0.97	100.00		13223.45	13383.41	13123.20
118 Sn # 3	24.62	24.62	ug/l	0.64	1800.00		98099.84	97892.41	99082.49
121 Sb # 3	10.97	10.97	ug/l	1.15	100.00		42085.18	41507.08	42442.68
137 Ba # 3	25.77	25.77	ug/l	0.38	1800.00		50258.30	50619.25	50679.48
202 Hg # 3	0.9849	0.9849	ug/l	3.66	5.00		1386.40	1465.74	1372.06
205 Tl # 3	9.473	9.473	ug/l	0.48	20.00		98556.23	98592.62	99323.46
208 Pb # 3	12.72	12.72	ug/l	0.84	1800.00		183476.03	183958.39	181262.13
232 Th # 3	16.53	16.53	ug/l	1.18	#VALUE!		310565.16	308338.31	315115.22
238 U # 3	21.13	21.13	ug/l	0.51	#VALUE!		403278.44	404448.78	406244.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	449375.16	0.90	572657.25	78.5	60 - 125		445537.69	448997.91	453589.88
45 Sc # 1	317520.47	0.67	523286.00	60.7	60 - 125		316542.09	316042.22	319977.09
45 Sc # 3	477930.31	0.30	603286.69	79.2	60 - 125		477221.44	479578.22	476991.19
74 Ge # 1	103378.65	0.16	170650.48	60.6	60 - 125		103186.31	103456.89	103492.74
74 Ge # 2	16900.89	2.98	24862.19	68.0	60 - 125		16811.17	16448.61	17442.88
74 Ge # 3	119194.13	0.81	155795.36	76.5	60 - 125		118175.78	120090.45	119316.13
89 Y # 3	756638.75	0.16	1011968.20	74.8	60 - 125		755511.44	757876.13	756528.63
115 In # 3	699321.94	0.07	989458.81	70.7	60 - 125		698759.50	699695.06	699511.38
159 Tb # 3	921649.88	0.30	1388283.80	66.4	60 - 125		918709.44	924107.25	922133.13
209 Bi # 3	566536.75	0.15	829936.50	68.3	60 - 125		567522.31	566202.38	565885.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\322SMPL.D\322SMPL.D#
Date Acquired: Dec 31 2012 08:30 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 660-51911-g-2-e msd
Misc Info: 3050 1/5
Vial Number: 3207
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.3	10.3	ug/l	1.53	100.00		18145.48	18105.47	17955.33
11 B # 3	41.03	41.03	ug/l	1.26	1800.00		85712.68	85581.95	85541.29
23 Na # 1	1382	1382	ug/l	0.88	81000.00		4375834.00	4418955.00	4437479.00
24 Mg # 1	1377	1377	ug/l	1.05	81000.00		2825304.50	2890324.80	2909182.80
27 Al # 1	1338	1338	ug/l	0.53	81000.00		3147482.80	3223432.80	3213825.00
39 K # 2	1480	1480	ug/l	1.11	81000.00		274920.09	278074.97	283506.03
40 Ca # 1	2011	2011	ug/l	0.89	81000.00		9740702.00	9999537.00	10016273.00
45 Sc # 2	----	--------		--------	#VALUE!		25638.59	26378.51	26960.42
47 Ti # 3	27.34	27.34	ug/l	6.39	1620.00		19555.68	18809.42	17357.84
51 V # 2	20.69	20.69	ug/l	1.50	1800.00		25163.64	26005.92	26062.59
52 Cr # 2	21.14	21.14	ug/l	0.18	1800.00		30942.29	31052.44	31269.44
55 Mn # 3	118.5	118.5	ug/l	1.29	1800.00		1405358.00	1382439.00	1414459.50
56 Fe # 1	1203	1203	ug/l	0.19	81000.00		8979140.00	9142928.00	9142755.00
59 Co # 3	11.42	11.42	ug/l	0.80	1800.00		95747.40	95573.02	97050.59
60 Ni # 2	20.78	20.78	ug/l	0.87	1800.00		13186.99	13498.33	13462.73
63 Cu # 2	24.86	24.86	ug/l	0.73	1800.00		42702.60	42878.49	43592.29
66 Zn # 3	31.03	31.03	ug/l	0.81	1800.00		32419.06	32946.75	32422.53
75 As # 2	20.75	20.75	ug/l	1.13	100.00		2610.19	2606.86	2674.54
78 Se # 1	17.66	17.66	ug/l	0.62	100.00		3871.42	3915.43	3964.11
88 Sr # 3	27.96	27.96	ug/l	0.70	1800.00		432848.25	431251.44	432854.31
95 Mo # 3	22.81	22.81	ug/l	1.33	1800.00		46802.38	47467.19	47460.63
107 Ag # 3	11.28	11.28	ug/l	1.48	100.00		66780.95	66771.18	67664.59
111 Cd # 3	10.31	10.31	ug/l	1.74	100.00		13377.20	12953.33	12843.23
118 Sn # 3	24.38	24.38	ug/l	1.66	1800.00		96726.06	97665.10	98663.79
121 Sb # 3	10.9	10.9	ug/l	0.99	100.00		41978.15	41640.81	41961.58
137 Ba # 3	25.56	25.56	ug/l	0.63	1800.00		50201.66	50328.38	50178.22
202 Hg # 3	0.9551	0.9551	ug/l	2.65	5.00		1361.73	1404.07	1324.73
205 Tl # 3	9.208	9.208	ug/l	0.59	20.00		97401.51	96462.73	96640.31
208 Pb # 3	12.42	12.42	ug/l	0.73	1800.00		179387.44	181049.78	179513.45
232 Th # 3	15.82	15.82	ug/l	0.35	#VALUE!		297767.88	297448.56	297224.00
238 U # 3	20.81	20.81	ug/l	0.72	#VALUE!		398506.72	395907.91	398681.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	450880.47	1.07	572657.25	78.7	60 - 125		445328.75	453189.78	454122.91
45 Sc # 1	319768.53	1.15	523286.00	61.1	60 - 125		316118.53	323490.78	319696.34
45 Sc # 3	478803.16	0.88	603286.69	79.4	60 - 125		474626.13	483049.47	478733.91
74 Ge # 1	104220.76	0.85	170650.48	61.1	60 - 125		103197.83	104705.41	104759.03
74 Ge # 2	17018.03	0.50	24862.19	68.4	60 - 125		16925.74	17033.57	17094.76
74 Ge # 3	119573.83	0.26	155795.36	76.8	60 - 125		119214.54	119788.45	119718.48
89 Y # 3	757437.50	0.49	1011968.20	74.8	60 - 125		755353.81	761721.13	755237.50
115 In # 3	701307.75	0.71	989458.81	70.9	60 - 125		704405.38	703913.50	695604.38
159 Tb # 3	929147.06	0.66	1388283.80	66.9	60 - 125		933811.31	931433.50	922196.31
209 Bi # 3	565492.94	0.33	829936.50	68.1	60 - 125		564477.13	567622.94	564378.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\323SMPL.D\323SMPL.D#
Date Acquired: Dec 31 2012 08:37 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 680-86032-a-1-f
Misc Info: 3050 1/5
Vial Number: 3208
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0009829	-0.0009829	ug/l	116.80	100.00		6.67	3.33	3.33
11 B	# 3	1.112	1.112	ug/l	4.84	1800.00		7321.57	7341.58	7388.26
23 Na	# 1	-20.83	-20.83	ug/l	0.19	81000.00		66411.40	67123.98	67314.57
24 Mg	# 1	4.794	4.794	ug/l	1.91	81000.00		15159.63	14996.12	15266.44
27 Al	# 1	1.821	1.821	ug/l	6.40	81000.00		6141.15	6087.82	5701.00
39 K	# 2	-1.196	-1.196	ug/l	57.19	81000.00		5030.85	5257.56	5127.52
40 Ca	# 1	27.73	27.73	ug/l	0.85	81000.00		219799.81	223236.81	225542.63
45 Sc	# 2	----	--------		--------	#VALUE!		25596.33	25936.77	25936.82
47 Ti	# 3	0.139	0.139	ug/l	22.14	1620.00		136.68	150.01	110.00
51 V	# 2	0.1911	0.1911	ug/l	13.31	1800.00		374.45	316.67	370.01
52 Cr	# 2	0.05128	0.05128	ug/l	5.59	1800.00		190.00	193.34	187.78
55 Mn	# 3	0.02485	0.02485	ug/l	25.56	1800.00		2140.19	2026.84	2173.53
56 Fe	# 1	2.3	2.3	ug/l	1.16	81000.00		33985.18	34115.19	34395.85
59 Co	# 3	0.0005314	0.0005314	ug/l	301.09	1800.00		83.34	110.00	100.00
60 Ni	# 2	-0.0505	-0.0505	ug/l	46.44	1800.00		176.67	200.00	175.56
63 Cu	# 2	-0.442	-0.442	ug/l	5.34	1800.00		1256.72	1200.05	1291.17
66 Zn	# 3	17.49	17.49	ug/l	0.16	1800.00		18609.83	18603.24	18593.21
75 As	# 2	0.2296	0.2296	ug/l	18.66	100.00		44.00	41.67	34.33
78 Se	# 1	0.01608	0.01608	ug/l	11.56	100.00		19.00	20.00	19.67
88 Sr	# 3	0.01782	0.01782	ug/l	7.46	1800.00		580.03	616.69	586.69
95 Mo	# 3	0.8043	0.8043	ug/l	5.17	1800.00		1733.47	1786.80	1613.45
107 Ag	# 3	-0.004603	-0.004603	ug/l	45.71	100.00		30.00	50.00	53.34
111 Cd	# 3	0.01541	0.01541	ug/l	64.96	100.00		36.11	39.43	59.49
118 Sn	# 3	2.102	2.102	ug/l	1.73	1800.00		8565.70	8622.39	8839.17
121 Sb	# 3	0.1765	0.1765	ug/l	9.86	100.00		880.05	870.05	760.04
137 Ba	# 3	0.05074	0.05074	ug/l	18.44	1800.00		156.67	153.34	123.34
202 Hg	# 3	0.01081	0.01081	ug/l	9.16	5.00		31.00	31.33	33.67
205 Tl	# 3	0.04387	0.04387	ug/l	11.31	20.00		610.03	526.69	523.36
208 Pb	# 3	0.3019	0.3019	ug/l	3.10	1800.00		4833.79	4703.77	4603.74
232 Th	# 3	0.1488	0.1488	ug/l	6.28	#VALUE!		3370.48	3273.79	3053.74
238 U	# 3	-0.005136	-0.005136	ug/l	4.82	#VALUE!		43.33	53.34	50.00

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	452921.03	1.75	572657.25	79.1	60 - 125		443763.47	457056.88	457942.75
45 Sc	# 1	320063.97	0.88	523286.00	61.2	60 - 125		316829.00	321357.66	322005.25
45 Sc	# 3	475370.88	0.47	603286.69	78.8	60 - 125		473081.81	475446.59	477584.16
74 Ge	# 1	104973.71	0.49	170650.48	61.5	60 - 125		104420.13	105444.85	105056.13
74 Ge	# 2	16812.26	0.82	24862.19	67.6	60 - 125		16731.10	16733.29	16972.41
74 Ge	# 3	119754.61	0.12	155795.36	76.9	60 - 125		119684.44	119663.79	119915.59
89 Y	# 3	754569.38	0.18	1011968.20	74.6	60 - 125		754770.00	753104.25	755833.81
115 In	# 3	701653.31	0.43	989458.81	70.9	60 - 125		698787.50	704853.56	701318.94
159 Tb	# 3	930915.94	0.58	1388283.80	67.1	60 - 125		925130.63	935815.63	931801.63
209 Bi	# 3	566140.63	0.76	829936.50	68.2	60 - 125		561435.13	569919.81	567066.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\324_CCV.D\324_CCV.D#
Date Acquired: Dec 31 2012 08:45 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	52.55 ug/l	0.89	50.00	90 - 110		85733.69	88241.74	87233.79
11 B	92.62 ug/l	0.88	100.00	90 - 110		173861.61	178629.70	176726.89
23 Na	5128 ug/l	1.49	5000.00	90 - 110		14763216.00	15003888.00	15150476.00
24 Mg	5198 ug/l	0.80	5000.00	90 - 110		10091333.00	10140216.00	10186289.00
27 Al	545.4 ug/l	0.13	500.00	90 - 110		1224535.90	1209430.30	1223825.50
39 K	5132 ug/l	0.66	5000.00	90 - 110		907027.69	922220.19	937265.00
40 Ca	5366 ug/l	0.28	5000.00	90 - 110		24630906.00	24494488.00	24747286.00
45 Sc	--------	--------		--- ##### - #####		25796.57	26094.78	26217.17
47 Ti	52.62 ug/l	0.48	50.00	90 - 110		35277.33	34762.82	34943.09
51 V	48.01 ug/l	0.48	50.00	90 - 110		56966.14	57380.72	58538.72
52 Cr	47.28 ug/l	0.77	50.00	90 - 110		65995.66	67047.07	68352.85
55 Mn	523 ug/l	0.37	500.00	90 - 110		5954585.50	5978770.50	5948250.50
56 Fe	5076 ug/l	0.68	5000.00	90 - 110		35824760.00	36190716.00	36164768.00
59 Co	53.07 ug/l	0.77	50.00	90 - 110		428022.69	432259.41	431622.53
60 Ni	46.29 ug/l	0.68	50.00	90 - 110		28192.56	28785.71	28789.07
63 Cu	46.19 ug/l	0.77	50.00	90 - 110		75575.57	75090.34	76570.81
66 Zn	51.07 ug/l	1.28	50.00	90 - 110		51395.57	50907.79	52074.32
75 As	51.22 ug/l	0.58	50.00	90 - 110		6234.07	6274.42	6289.09
78 Se	50.19 ug/l	0.19	50.00	90 - 110		10482.03	10474.02	10409.31
88 Sr	50.4 ug/l	0.38	50.00	90 - 110		724982.50	726622.69	727177.06
95 Mo	54.17 ug/l	0.42	50.00	90 - 110		102943.52	103657.56	102451.14
107 Ag	53.86 ug/l	0.60	50.00	90 - 110		294204.09	293828.19	294206.50
111 Cd	51.21 ug/l	0.45	50.00	90 - 110		59896.91	59756.25	58790.39
118 Sn	51.65 ug/l	0.05	50.00	90 - 110		190486.27	190403.33	188629.92
121 Sb	52.3 ug/l	0.52	50.00	90 - 110		185100.45	183462.69	183622.20
137 Ba	53.16 ug/l	1.26	50.00	90 - 110		95122.42	96255.22	96540.24
202 Hg	2.898 ug/l	0.32	2.50	90 - 110	Fail	3845.80	3829.47	3819.46
205 Tl	11.32 ug/l	0.43	10.00	90 - 110	Fail	109661.21	111112.00	110634.01
208 Pb	55.94 ug/l	0.13	50.00	90 - 110	Fail	748396.31	755816.00	750523.75
232 Th	49.51 ug/l	0.58		--- ##### - #####		863759.25	871841.00	869666.63
238 U	48.45 ug/l	0.74		--- ##### - #####		857822.56	866730.75	868671.94

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	425755.44	1.37	572657.25	74.3	60 - 125		419227.19	427651.41	430387.75
45 Sc	299108.25	0.71	523286.00	57.2	60 - 125	IS Fail	300009.78	296697.63	300617.34
45 Sc	469077.38	0.27	603286.69	77.8	60 - 125		470431.41	467972.59	468828.22
74 Ge	98173.02	0.19	170650.48	57.5	60 - 125	IS Fail	98288.68	98273.30	97957.08
74 Ge	16463.45	0.99	24862.19	66.2	60 - 125		16308.50	16448.64	16633.20
74 Ge	115359.30	0.26	155795.36	74.0	60 - 125		115685.69	115293.58	115098.63
89 Y	706101.75	0.23	1011968.20	69.8	60 - 125		707530.63	706457.06	704317.56
115 In	644360.19	0.56	989458.81	65.1	60 - 125		646875.38	645997.44	640207.81
159 Tb	862692.88	0.49	1388283.80	62.1	60 - 125		860133.13	867525.00	860420.63
209 Bi	527990.50	0.11	829936.50	63.6	60 - 125		528454.00	527351.38	528166.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\325_CCB.D\325_CCB.D#
Date Acquired: Dec 31 2012 08:52 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02128	0.02128	ug/l	24.33	#VALUE!		40.00	50.00	33.33
11 B # 3	0.6858	0.6858	ug/l	20.95	#VALUE!		6257.83	6154.48	5967.76
23 Na # 1	-22.74	-22.74	ug/l	0.37	#VALUE!		55740.86	56533.45	56058.95
24 Mg # 1	0.01017	0.01017	ug/l	884.17	#VALUE!		4910.77	4597.33	4724.03
27 Al # 1	0.4973	0.4973	ug/l	8.34	#VALUE!		2480.24	2610.26	2670.30
39 K # 2	-1.877	-1.877	ug/l	8.14	#VALUE!		4800.77	4874.11	4877.46
40 Ca # 1	5.114	5.114	ug/l	3.60	#VALUE!		101801.41	103906.46	103601.41
45 Sc # 2	----	--------		--------	#VALUE!		24460.36	25032.20	25222.47
47 Ti # 3	0.03143	0.03143	ug/l	108.02	#VALUE!		46.67	83.35	43.34
51 V # 2	0.01121	0.01121	ug/l	71.19	#VALUE!		123.33	140.00	124.45
52 Cr # 2	0.003011	0.003011	ug/l	269.35	#VALUE!		108.89	110.00	131.11
55 Mn # 3	0.1212	0.1212	ug/l	4.98	#VALUE!		3006.99	3107.01	2986.99
56 Fe # 1	1.724	1.724	ug/l	2.73	#VALUE!		26819.95	27247.31	27173.79
59 Co # 3	0.01353	0.01353	ug/l	18.27	#VALUE!		203.34	206.67	170.01
60 Ni # 2	-0.3171	-0.3171	ug/l	0.63	#VALUE!		17.78	15.56	16.67
63 Cu # 2	-1.176	-1.176	ug/l	0.59	#VALUE!		61.11	45.56	41.11
66 Zn # 3	-0.3018	-0.3018	ug/l	8.29	#VALUE!		123.34	130.00	166.67
75 As # 2	0.04227	0.04227	ug/l	35.27	#VALUE!		18.00	15.33	15.00
78 Se # 1	0.03527	0.03527	ug/l	46.27	#VALUE!		25.33	18.67	21.00
88 Sr # 3	0.006481	0.006481	ug/l	23.38	#VALUE!		373.35	416.68	383.35
95 Mo # 3	0.103	0.103	ug/l	11.90	#VALUE!		256.68	253.34	213.34
107 Ag # 3	0.0197	0.0197	ug/l	40.93	#VALUE!		226.68	156.67	143.34
111 Cd # 3	0.0233	0.0233	ug/l	102.75	#VALUE!		33.25	36.59	83.27
118 Sn # 3	0.07259	0.07259	ug/l	23.97	#VALUE!		600.02	480.02	496.69
121 Sb # 3	0.255	0.255	ug/l	7.87	#VALUE!		1050.06	1133.41	986.73
137 Ba # 3	0.008869	0.008869	ug/l	85.20	#VALUE!		73.34	53.34	46.67
202 Hg # 3	0.03906	0.03906	ug/l	12.25	#VALUE!		74.33	67.33	61.67
205 Tl # 3	0.02295	0.02295	ug/l	12.47	#VALUE!		293.35	290.01	340.02
208 Pb # 3	0.01443	0.01443	ug/l	15.68	#VALUE!		483.35	493.35	540.02
232 Th # 3	0.1534	0.1534	ug/l	4.18	#VALUE!		3250.44	3110.43	3027.06
238 U # 3	0.01313	0.01313	ug/l	3.12	#VALUE!		383.35	366.68	376.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	426426.28	1.98	572657.25	74.5	60 - 125		417549.38	427325.66	434403.88
45 Sc # 1	294197.47	0.31	523286.00	56.2	60 - 125	IS F	293205.28	294993.25	294393.81
45 Sc # 3	458444.06	0.23	603286.69	76.0	60 - 125		458136.56	459598.44	457597.13
74 Ge # 1	95436.15	0.38	170650.48	55.9	60 - 125	IS F	95785.91	95068.52	95454.02
74 Ge # 2	16263.65	1.04	24862.19	65.4	60 - 125		16103.87	16247.33	16439.74
74 Ge # 3	111656.48	0.66	155795.36	71.7	60 - 125		112435.96	111556.56	110976.92
89 Y # 3	702633.13	0.30	1011968.20	69.4	60 - 125		700291.75	704296.00	703311.56
115 In # 3	651942.94	0.24	989458.81	65.9	60 - 125		652664.50	652985.19	650179.19
159 Tb # 3	859589.13	0.23	1388283.80	61.9	60 - 125		861392.06	857440.69	859934.69
209 Bi # 3	533886.50	0.34	829936.50	64.3	60 - 125		534547.94	531836.69	535274.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\326SMPL.D\326SMPL.D#
Date Acquired: Dec 31 2012 09:00 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: mb 680-261510_1-a
Misc Info: 200.8 TR 1/5
Vial Number: 3101
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.001801	0.001801	ug/l	230.09	100.00		6.67	16.67	3.33
11 B	# 3	0.167	0.167	ug/l	53.25	1800.00		5314.20	5124.15	5204.17
23 Na	# 1	-28.1	-28.1	ug/l	0.31	81000.00		40720.45	40559.92	40653.48
24 Mg	# 1	-2.004	-2.004	ug/l	2.68	81000.00		753.37	930.05	943.39
27 Al	# 1	0.2252	0.2252	ug/l	22.36	81000.00		1976.83	2090.18	1870.14
39 K	# 2	-3.728	-3.728	ug/l	18.00	81000.00		4447.31	4373.99	4690.72
40 Ca	# 1	2.611	2.611	ug/l	1.96	81000.00		90669.63	91795.90	91651.21
45 Sc	# 2	----	--------		--------	#VALUE!		24131.07	24628.36	25547.36
47 Ti	# 3	0.02231	0.02231	ug/l	31.40	1620.00		46.67	53.34	56.67
51 V	# 2	0.01206	0.01206	ug/l	75.53	1800.00		125.56	141.11	122.22
52 Cr	# 2	-0.02762	-0.02762	ug/l	27.39	1800.00		82.22	62.22	75.56
55 Mn	# 3	-0.01205	-0.01205	ug/l	27.80	1800.00		1566.77	1566.78	1636.78
56 Fe	# 1	-0.865	-0.865	ug/l	2.35	81000.00		9332.61	9089.15	9369.24
59 Co	# 3	0.002277	0.002277	ug/l	137.37	1800.00		83.34	103.34	133.34
60 Ni	# 2	-0.2315	-0.2315	ug/l	1.90	1800.00		70.00	65.56	68.89
63 Cu	# 2	-1.17	-1.17	ug/l	0.78	1800.00		42.22	61.11	72.22
66 Zn	# 3	-0.1517	-0.1517	ug/l	25.31	1800.00		246.68	316.68	306.68
75 As	# 2	0.01122	0.01122	ug/l	115.33	100.00		11.33	11.33	14.33
78 Se	# 1	-0.00301	-0.00301	ug/l	248.74	100.00		14.33	15.33	12.33
88 Sr	# 3	-0.007308	-0.007308	ug/l	23.40	1800.00		200.01	166.67	216.67
95 Mo	# 3	0.02415	0.02415	ug/l	5.70	1800.00		86.67	90.00	93.34
107 Ag	# 3	-0.002667	-0.002667	ug/l	35.15	100.00		56.67	46.67	53.34
111 Cd	# 3	-0.004233	-0.004233	ug/l	276.16	100.00		23.31	3.30	29.97
118 Sn	# 3	0.009108	0.009108	ug/l	85.83	1800.00		310.01	303.34	260.01
121 Sb	# 3	0.08636	0.08636	ug/l	23.94	100.00		540.02	406.69	430.02
137 Ba	# 3	-0.006993	-0.006993	ug/l	106.13	1800.00		36.67	36.67	13.33
202 Hg	# 3	0.02711	0.02711	ug/l	12.74	5.00		54.33	56.00	47.67
205 Tl	# 3	0.01022	0.01022	ug/l	21.94	20.00		160.01	203.34	190.01
208 Pb	# 3	-0.004142	-0.004142	ug/l	53.72	1800.00		256.68	226.67	290.01
232 Th	# 3	0.0438	0.0438	ug/l	7.60	#VALUE!		1180.09	1270.10	1166.75
238 U	# 3	-0.0008381	-0.0008381	ug/l	68.88	#VALUE!		133.34	113.34	130.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	430398.56	1.72	572657.25	75.2	60 - 125		422925.72	430519.63	437750.31
45 Sc	# 1	292684.88	0.43	523286.00	55.9	60 - 125	IS F	291232.41	293400.28	293422.00
45 Sc	# 3	461701.81	1.01	603286.69	76.5	60 - 125		456638.28	462673.91	465793.31
74 Ge	# 1	96005.63	0.38	170650.48	56.3	60 - 125	IS F	96430.10	95781.28	95805.52
74 Ge	# 2	16188.75	1.47	24862.19	65.1	60 - 125		15968.20	16156.14	16441.91
74 Ge	# 3	113542.15	0.18	155795.36	72.9	60 - 125		113447.91	113404.62	113773.89
89 Y	# 3	706070.44	0.49	1011968.20	69.8	60 - 125		704829.13	703398.25	709983.81
115 In	# 3	655295.13	0.76	989458.81	66.2	60 - 125		650753.88	654545.38	660586.25
159 Tb	# 3	861467.25	0.84	1388283.80	62.1	60 - 125		856450.38	858155.50	869795.81
209 Bi	# 3	542210.13	0.54	829936.50	65.3	60 - 125		540241.69	540788.44	545600.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\327SMPL.D\327SMPL.D#
Date Acquired: Dec 31 2012 09:07 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: lcs 680-261510_2-a
Misc Info: 200.8 TR 1/5
Vial Number: 3102
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.29	10.29	ug/l	2.17	100.00		17254.64	16877.66	17151.23
11 B # 3	36.81	36.81	ug/l	0.36	1800.00		71999.81	73515.73	74161.97
23 Na # 1	1040	1040	ug/l	0.79	81000.00		3045492.00	3090072.80	3119375.00
24 Mg # 1	1093	1093	ug/l	0.90	81000.00		2076337.50	2112885.80	2118275.00
27 Al # 1	1101	1101	ug/l	0.61	81000.00		2392581.80	2420910.00	2444802.50
39 K # 2	1037	1037	ug/l	1.98	81000.00		186501.61	189565.72	191879.38
40 Ca # 1	1099	1099	ug/l	0.40	81000.00		5002996.00	5020695.50	5051450.50
45 Sc # 2	----	--------		--------	#VALUE!		24923.21	25452.77	25859.99
47 Ti # 3	21.14	21.14	ug/l	0.53	1620.00		13862.16	13752.03	13942.17
51 V # 2	19.52	19.52	ug/l	2.06	1800.00		23215.56	23179.96	23668.36
52 Cr # 2	19.59	19.59	ug/l	2.17	1800.00		27276.58	27704.96	28167.91
55 Mn # 3	111.8	111.8	ug/l	0.76	1800.00		1252778.50	1265540.60	1253602.60
56 Fe # 1	998	998	ug/l	0.66	81000.00		6947110.50	6943336.50	7054895.00
59 Co # 3	11.1	11.1	ug/l	0.33	1800.00		88531.65	89086.99	89007.12
60 Ni # 2	19.22	19.22	ug/l	1.96	1800.00		11850.54	11848.30	12068.45
63 Cu # 2	18.85	18.85	ug/l	1.91	1800.00		31643.82	31718.41	32211.40
66 Zn # 3	21.57	21.57	ug/l	1.96	1800.00		21713.35	22000.34	21322.90
75 As # 2	20.72	20.72	ug/l	1.96	100.00		2544.18	2496.84	2536.52
78 Se # 1	19.08	19.08	ug/l	0.24	100.00		3902.43	3916.43	3926.77
88 Sr # 3	19.55	19.55	ug/l	0.50	1800.00		281160.31	282585.38	280480.56
95 Mo # 3	21.91	21.91	ug/l	0.66	1800.00		42060.33	41936.81	41519.34
107 Ag # 3	11.05	11.05	ug/l	0.73	100.00		60036.61	61147.31	60621.90
111 Cd # 3	10.15	10.15	ug/l	2.50	100.00		12081.05	11550.76	11901.11
118 Sn # 3	20.84	20.84	ug/l	1.22	1800.00		77630.57	76164.33	77282.29
121 Sb # 3	10.81	10.81	ug/l	0.32	100.00		38102.84	38459.86	38336.42
137 Ba # 3	21.37	21.37	ug/l	0.66	1800.00		38901.69	38901.92	38413.93
202 Hg # 3	0.9537	0.9537	ug/l	2.60	5.00		1280.72	1334.39	1271.72
205 Tl # 3	9.131	9.131	ug/l	0.29	20.00		88644.70	89592.54	89337.81
208 Pb # 3	11.6	11.6	ug/l	0.59	1800.00		155973.92	156952.22	155686.44
232 Th # 3	19.53	19.53	ug/l	0.37	#VALUE!		347475.53	351333.94	349593.56
238 U # 3	19.76	19.76	ug/l	0.58	#VALUE!		358815.50	361024.25	358770.66

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	426893.03	1.54	572657.25	74.5	60 - 125		420279.88	426942.66	433456.59
45 Sc # 1	294280.59	0.80	523286.00	56.2	60 - 125	IS F	292950.38	292886.06	297005.34
45 Sc # 3	461493.00	0.68	603286.69	76.5	60 - 125		459173.69	460260.81	465044.53
74 Ge # 1	96499.07	0.54	170650.48	56.5	60 - 125	IS F	95915.35	96647.87	96933.99
74 Ge # 2	16366.68	1.01	24862.19	65.8	60 - 125		16324.03	16548.69	16227.32
74 Ge # 3	113718.13	0.49	155795.36	73.0	60 - 125		113193.64	113659.73	114300.98
89 Y # 3	704919.44	0.35	1011968.20	69.7	60 - 125		702127.81	705981.69	706648.81
115 In # 3	646551.69	0.23	989458.81	65.3	60 - 125		645613.19	648237.25	645804.63
159 Tb # 3	862980.69	0.42	1388283.80	62.2	60 - 125		859006.44	863960.50	865975.25
209 Bi # 3	538167.94	0.57	829936.50	64.8	60 - 125		534673.13	539283.88	540546.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\328SMPL.D\328SMPL.D#
Date Acquired: Dec 31 2012 09:14 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8477-f-1-d
Misc Info: 200.8 TR 1/5
Vial Number: 3103
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01296	0.01296	ug/l	39.99	100.00		36.67	20.00	26.67
11 B	# 3	5.913	5.913	ug/l	1.61	1800.00		15700.03	16200.49	16454.03
23 Na	# 1	20050	20050	ug/l	0.83	81000.00		57348572.00	57148044.00	58462092.00
24 Mg	# 1	7921	7921	ug/l	0.25	81000.00		15183973.00	15296126.00	15450970.00
27 Al	# 1	0.2603	0.2603	ug/l	18.22	81000.00		2033.49	1993.50	2220.19
39 K	# 2	816	816	ug/l	1.10	81000.00		144644.13	148788.75	152264.88
40 Ca	# 1	19690	19690	ug/l	1.01	81000.00		87336288.00	89764640.00	90934768.00
45 Sc	# 2	----	--------		--------	#VALUE!		24972.15	25548.50	25863.33
47 Ti	# 3	0.1487	0.1487	ug/l	15.52	1620.00		153.34	136.67	123.34
51 V	# 2	0.0127	0.0127	ug/l	80.55	1800.00		127.78	142.22	121.11
52 Cr	# 2	0.007955	0.007955	ug/l	25.12	1800.00		120.00	125.56	123.33
55 Mn	# 3	810.8	810.8	ug/l	0.36	1800.00		9000562.00	9143522.00	9194645.00
56 Fe	# 1	1.392	1.392	ug/l	1.48	81000.00		24409.98	24710.36	24627.06
59 Co	# 3	0.03904	0.03904	ug/l	15.91	1800.00		390.02	356.68	456.69
60 Ni	# 2	-0.01225	-0.01225	ug/l	96.49	1800.00		204.45	192.23	204.45
63 Cu	# 2	-0.9039	-0.9039	ug/l	0.67	1800.00		480.01	465.57	485.57
66 Zn	# 3	0.3429	0.3429	ug/l	22.32	1800.00		806.71	693.37	833.38
75 As	# 2	0.2831	0.2831	ug/l	8.65	100.00		41.00	46.67	47.33
78 Se	# 1	0.01792	0.01792	ug/l	55.31	100.00		17.00	20.33	16.67
88 Sr	# 3	166.4	166.4	ug/l	1.12	1800.00		2379280.50	2413932.50	2422591.00
95 Mo	# 3	5.355	5.355	ug/l	1.60	1800.00		10026.47	10296.61	10296.57
107 Ag	# 3	0.001583	0.001583	ug/l	174.92	100.00		60.00	73.34	90.00
111 Cd	# 3	0.01054	0.01054	ug/l	207.97	100.00		13.46	63.37	30.04
118 Sn	# 3	0.01325	0.01325	ug/l	138.04	1800.00		236.68	296.68	370.02
121 Sb	# 3	0.07062	0.07062	ug/l	14.76	100.00		366.68	436.69	383.35
137 Ba	# 3	58.73	58.73	ug/l	0.83	1800.00		105251.65	105593.29	106760.67
202 Hg	# 3	0.02627	0.02627	ug/l	13.24	5.00		47.67	44.67	53.00
205 Tl	# 3	0.03201	0.03201	ug/l	19.68	20.00		340.01	386.68	460.02
208 Pb	# 3	0.01379	0.01379	ug/l	36.56	1800.00		420.02	523.35	546.69
232 Th	# 3	0.109	0.109	ug/l	2.50	#VALUE!		2240.24	2196.88	2273.57
238 U	# 3	0.4604	0.4604	ug/l	4.45	#VALUE!		7922.28	7835.60	8422.54

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	434231.41	1.32	572657.25	75.8	60 - 125		427679.72	436657.28	438357.19
45 Sc	# 1	296432.25	1.07	523286.00	56.6	60 - 125	IS F	293153.34	296628.44	299514.91
45 Sc	# 3	471786.03	0.54	603286.69	78.2	60 - 125		471418.59	469423.22	474516.25
74 Ge	# 1	94641.98	1.05	170650.48	55.5	60 - 125	IS F	93527.32	94982.68	95415.95
74 Ge	# 2	16192.09	1.72	24862.19	65.1	60 - 125		15961.50	16113.86	16500.89
74 Ge	# 3	113772.82	0.76	155795.36	73.0	60 - 125		112794.63	114112.84	114411.02
89 Y	# 3	708357.63	0.17	1011968.20	70.0	60 - 125		709771.00	707625.63	707676.25
115 In	# 3	643396.88	0.08	989458.81	65.0	60 - 125		643842.25	643516.88	642831.50
159 Tb	# 3	859028.31	0.34	1388283.80	61.9	60 - 125		858275.56	862268.06	856541.31
209 Bi	# 3	509713.63	0.46	829936.50	61.4	60 - 125		511564.41	510504.38	507072.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\329SMPL.D\329SMPL.D#
Date Acquired: Dec 31 2012 09:22 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8477-f-1-d SD
Misc Info: 200.8 TR 1/25
Vial Number: 3104
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	0.009975	0.001995	ug/l	221.55	100.00		16.67	6.67	3.33
11	B	# 3	5.415	1.083	ug/l	13.33	1800.00		6321.17	6838.03	7098.15
23	Na	# 1	21335	4267	ug/l	1.22	81000.00		12026635.00	12092581.00	12294683.00
24	Mg	# 1	8635	1727	ug/l	0.64	81000.00		3261092.50	3278995.00	3299287.50
27	Al	# 1	1.011	0.2022	ug/l	27.34	81000.00		1860.15	1836.81	2053.51
39	K	# 2	824	164.8	ug/l	0.66	81000.00		33156.38	34154.78	34505.62
40	Ca	# 1	21140	4228	ug/l	1.17	81000.00		18651730.00	18944814.00	19057320.00
45	Sc	# 2	----	--------		--------	#VALUE!		24044.26	24554.92	24984.36
47	Ti	# 3	0.1076	0.02152	ug/l	113.24	1620.00		33.33	63.34	56.67
51	V	# 2	-0.00964	-0.001928	ug/l	272.61	1800.00		113.33	117.78	106.67
52	Cr	# 2	-0.08875	-0.01775	ug/l	7.53	1800.00		85.56	85.56	88.89
55	Mn	# 3	875	175	ug/l	0.84	1800.00		1940714.50	1930808.80	1936962.90
56	Fe	# 1	-2.09	-0.418	ug/l	21.49	81000.00		11777.38	11910.83	13028.27
59	Co	# 3	0.009575	0.001915	ug/l	148.51	1800.00		76.67	116.67	113.34
60	Ni	# 2	-0.2538	-0.05076	ug/l	17.89	1800.00		167.78	184.45	176.67
63	Cu	# 2	-5.605	-1.121	ug/l	0.44	1800.00		123.33	143.34	136.67
66	Zn	# 3	-0.9615	-0.1923	ug/l	32.37	1800.00		316.68	220.01	203.34
75	As	# 2	0.3888	0.07776	ug/l	23.80	100.00		18.33	19.33	23.00
78	Se	# 1	-0.025105	-0.005021	ug/l	278.23	100.00		16.67	12.00	11.67
88	Sr	# 3	165.8	33.16	ug/l	0.71	1800.00		467092.19	468267.34	467958.78
95	Mo	# 3	5.66	1.132	ug/l	3.17	1800.00		2220.20	2166.86	2103.51
107	Ag	# 3	-0.045955	-0.009191	ug/l	15.41	100.00		6.67	20.00	20.00
111	Cd	# 3	0.06125	0.01225	ug/l	78.27	100.00		49.29	32.64	29.33
118	Sn	# 3	-0.0633	-0.01266	ug/l	87.76	1800.00		243.34	166.67	200.01
121	Sb	# 3	0.16505	0.03301	ug/l	32.32	100.00		300.01	246.68	233.34
137	Ba	# 3	60.2	12.04	ug/l	2.22	1800.00		21514.20	21103.57	21727.81
202	Hg	# 3	0.10505	0.02101	ug/l	22.14	5.00		36.33	44.33	48.33
205	Tl	# 3	0.05115	0.01023	ug/l	13.84	20.00		173.34	173.34	196.67
208	Pb	# 3	-0.03996	-0.007992	ug/l	13.63	1800.00		186.67	203.34	216.68
232	Th	# 3	0.1941	0.03882	ug/l	8.50	#VALUE!		1103.41	1126.75	1010.06
238	U	# 3	0.43675	0.08735	ug/l	3.93	#VALUE!		1623.47	1686.80	1743.50

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	419075.09	2.16	572657.25	73.2	60 - 125		408617.44	424231.22	424376.66
45	Sc	# 1	290879.41	0.06	523286.00	55.6	60 - 125	IS F	291021.25	290929.91	290687.03
45	Sc	# 3	456723.44	0.54	603286.69	75.7	60 - 125		457713.94	458525.31	453931.09
74	Ge	# 1	94991.36	0.64	170650.48	55.7	60 - 125	IS F	94910.00	94426.94	95637.15
74	Ge	# 2	16106.82	1.97	24862.19	64.8	60 - 125		15740.19	16298.47	16281.80
74	Ge	# 3	111905.57	0.72	155795.36	71.8	60 - 125		112244.59	112489.15	110982.97
89	Y	# 3	691072.63	0.75	1011968.20	68.3	60 - 125		690146.13	696656.38	686415.50
115	In	# 3	635230.25	0.89	989458.81	64.2	60 - 125		630159.63	641315.75	634215.44
159	Tb	# 3	845422.56	0.73	1388283.80	60.9	60 - 125		839286.44	851605.25	845376.13
209	Bi	# 3	524618.63	0.65	829936.50	63.2	60 - 125		522641.44	528573.56	522640.97

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\330SMPL.D\330SMPL.D#
Date Acquired: Dec 31 2012 09:29 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8477-f-1-d PDS
Misc Info: 200.8 TR 1/5
Vial Number: 3105
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	21.12	21.12	ug/l	0.63	100.00		34160.35	34945.20	35472.56
11 B	# 3	43.85	43.85	ug/l	1.41	1800.00		84500.16	85133.36	87577.15
23 Na	# 1	22260	22260	ug/l	0.23	81000.00		62222720.00	62088592.00	63151464.00
24 Mg	# 1	10040	10040	ug/l	0.34	81000.00		18824404.00	18886832.00	19128644.00
27 Al	# 1	216.2	216.2	ug/l	0.33	81000.00		466384.06	467881.13	471736.75
39 K	# 2	2978	2978	ug/l	1.00	81000.00		501152.59	517874.47	528152.94
40 Ca	# 1	21960	21960	ug/l	0.24	81000.00		97018480.00	96479264.00	98257360.00
45 Sc	# 2	----	--------		--------	#VALUE!		24831.95	25074.50	25535.11
47 Ti	# 3	22.22	22.22	ug/l	1.66	1620.00		14892.96	14572.67	14946.31
51 V	# 2	20.02	20.02	ug/l	0.49	1800.00		22593.69	23264.47	23513.72
52 Cr	# 2	19.82	19.82	ug/l	0.10	1800.00		26598.97	27100.77	27511.36
55 Mn	# 3	1055	1055	ug/l	0.78	1800.00		11344786.00	11487066.00	11618343.00
56 Fe	# 1	2082	2082	ug/l	0.25	81000.00		13789938.00	13910745.00	14068503.00
59 Co	# 3	23.1	23.1	ug/l	0.52	1800.00		177593.17	179075.25	180474.23
60 Ni	# 2	19	19	ug/l	0.35	1800.00		11220.13	11379.12	11527.00
63 Cu	# 2	18.23	18.23	ug/l	1.15	1800.00		29417.87	29492.48	30478.50
66 Zn	# 3	20.74	20.74	ug/l	1.24	1800.00		19894.65	20341.74	20401.76
75 As	# 2	20.66	20.66	ug/l	1.12	100.00		2417.50	2412.50	2464.17
78 Se	# 1	19.07	19.07	ug/l	0.44	100.00		3715.39	3729.06	3792.40
88 Sr	# 3	188.3	188.3	ug/l	0.91	1800.00		2660482.00	2685045.80	2735231.80
95 Mo	# 3	28.67	28.67	ug/l	1.42	1800.00		53935.81	52604.98	53681.45
107 Ag	# 3	19.23	19.23	ug/l	5.36	100.00		108078.83	103115.38	97308.77
111 Cd	# 3	20.33	20.33	ug/l	1.28	100.00		22935.08	22965.49	23485.83
118 Sn	# 3	21.63	21.63	ug/l	0.98	1800.00		77028.20	78256.58	78691.75
121 Sb	# 3	20.96	20.96	ug/l	1.27	100.00		71524.71	72020.13	73412.79
137 Ba	# 3	81.32	81.32	ug/l	0.67	1800.00		143353.39	142946.31	144842.22
202 Hg	# 3	0.9861	0.9861	ug/l	1.36	5.00		1236.05	1268.72	1238.39
205 Tl	# 3	4.635	4.635	ug/l	1.49	20.00		44185.51	44496.41	45502.75
208 Pb	# 3	23.03	23.03	ug/l	1.05	1800.00		301821.16	306346.00	308842.84
232 Th	# 3	21.35	21.35	ug/l	1.51	#VALUE!		349973.28	355944.09	361534.63
238 U	# 3	21.47	21.47	ug/l	1.54	#VALUE!		357017.69	365769.22	368731.97

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	424142.88	1.62	572657.25	74.1	60 - 125		416245.00	427512.03	428671.59
45 Sc	# 1	289423.88	0.71	523286.00	55.3	60 - 125	IS F	288686.38	287847.31	291737.91
45 Sc	# 3	469154.63	0.48	603286.69	77.8	60 - 125		466588.38	470737.28	470138.22
74 Ge	# 1	92366.08	1.25	170650.48	54.1	60 - 125	IS F	91221.43	92355.87	93520.97
74 Ge	# 2	15797.29	1.66	24862.19	63.5	60 - 125		15520.02	15832.51	16039.36
74 Ge	# 3	110157.27	0.74	155795.36	70.7	60 - 125		109809.48	109578.70	111083.64
89 Y	# 3	701108.06	0.76	1011968.20	69.3	60 - 125		695017.19	703653.13	704653.81
115 In	# 3	630886.81	0.14	989458.81	63.8	60 - 125		629884.19	631438.44	631337.94
159 Tb	# 3	851710.06	0.16	1388283.80	61.3	60 - 125		850214.69	852943.38	851972.19
209 Bi	# 3	501422.44	0.16	829936.50	60.4	60 - 125		500520.41	502066.44	501680.47

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\331SMPL.D\331SMPL.D#
Date Acquired: Dec 31 2012 09:37 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8477-f-1-e ms
Misc Info: 200.8 TR 1/5
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.03	10.03	ug/l	1.78	100.00		16263.77	16734.13	17134.53
11 B # 3	41.98	41.98	ug/l	1.00	1800.00		82324.39	82026.52	84815.36
23 Na # 1	21210	21210	ug/l	0.45	81000.00		59036144.00	59638300.00	60689244.00
24 Mg # 1	8928	8928	ug/l	0.10	81000.00		16757806.00	16914524.00	17058030.00
27 Al # 1	1023	1023	ug/l	0.34	81000.00		2206679.50	2216433.50	2237035.00
39 K # 2	1821	1821	ug/l	0.94	81000.00		315147.41	322332.78	327355.84
40 Ca # 1	20900	20900	ug/l	0.33	81000.00		91696440.00	92955368.00	94139168.00
45 Sc # 2	----	--------		--------	#VALUE!		24886.48	24905.40	25915.63
47 Ti # 3	20.71	20.71	ug/l	0.71	1620.00		13775.45	13905.46	13925.57
51 V # 2	18.99	18.99	ug/l	0.68	1800.00		21861.69	22115.34	22729.46
52 Cr # 2	18.47	18.47	ug/l	0.96	1800.00		25049.03	25627.60	26049.27
55 Mn # 3	935.7	935.7	ug/l	1.87	1800.00		10168428.00	10263352.00	10470207.00
56 Fe # 1	953	953	ug/l	0.50	81000.00		6356086.50	6467881.50	6417241.50
59 Co # 3	10.8	10.8	ug/l	1.40	1800.00		84375.61	83990.46	85879.16
60 Ni # 2	17.71	17.71	ug/l	0.90	1800.00		10760.96	10646.47	10871.04
63 Cu # 2	16.97	16.97	ug/l	0.53	1800.00		27871.07	28252.76	28628.88
66 Zn # 3	20.83	20.83	ug/l	1.14	1800.00		20405.14	20505.37	20692.20
75 As # 2	19.95	19.95	ug/l	1.22	100.00		2340.82	2350.16	2451.17
78 Se # 1	18.05	18.05	ug/l	0.56	100.00		3551.69	3567.36	3573.02
88 Sr # 3	184.7	184.7	ug/l	1.74	1800.00		2602697.30	2647816.80	2701790.00
95 Mo # 3	27.18	27.18	ug/l	0.57	1800.00		50528.91	51020.34	50896.88
107 Ag # 3	10.35	10.35	ug/l	1.28	100.00		54916.59	56237.67	55609.00
111 Cd # 3	9.777	9.777	ug/l	2.44	100.00		10857.52	11294.34	11377.73
118 Sn # 3	20.07	20.07	ug/l	1.40	1800.00		72271.04	71722.09	73978.41
121 Sb # 3	10.55	10.55	ug/l	0.66	100.00		36549.17	36753.28	36435.66
137 Ba # 3	79.47	79.47	ug/l	0.74	1800.00		139794.38	140764.70	142298.72
202 Hg # 3	0.9758	0.9758	ug/l	0.09	5.00		1242.72	1240.38	1248.72
205 Tl # 3	8.562	8.562	ug/l	0.49	20.00		81938.50	82772.59	82910.00
208 Pb # 3	10.83	10.83	ug/l	0.66	1800.00		142334.03	143877.77	145532.66
232 Th # 3	19.94	19.94	ug/l	0.75	#VALUE!		332249.78	333440.41	338862.88
238 U # 3	20.64	20.64	ug/l	1.38	#VALUE!		346863.06	352841.50	357789.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	428020.41	0.96	572657.25	74.7	60 - 125		425099.00	426259.53	432702.69
45 Sc # 1	290496.16	0.99	523286.00	55.5	60 - 125	IS F	287618.63	290510.00	293359.84
45 Sc # 3	471464.38	0.14	603286.69	78.1	60 - 125		472039.16	471578.94	470775.00
74 Ge # 1	92823.95	0.86	170650.48	54.4	60 - 125	IS F	91903.70	93195.71	93372.47
74 Ge # 2	16010.08	1.36	24862.19	64.4	60 - 125		15850.32	15921.47	16258.45
74 Ge # 3	111449.65	0.48	155795.36	71.5	60 - 125		112062.63	111135.05	111151.25
89 Y # 3	703363.50	0.24	1011968.20	69.5	60 - 125		703273.50	701720.63	705096.50
115 In # 3	633136.88	0.23	989458.81	64.0	60 - 125		632829.75	631868.94	634711.94
159 Tb # 3	851675.94	0.55	1388283.80	61.3	60 - 125		848648.19	849336.00	857043.69
209 Bi # 3	505123.78	0.41	829936.50	60.9	60 - 125		504916.03	503140.41	507314.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
2 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\332SMPL.D\332SMPL.D#
Date Acquired: Dec 31 2012 09:44 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8477-f-1-f msd
Misc Info: 200.8 TR 1/5
Vial Number: 3107
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample Tune Step
Dilution Factor: 1.00 1 babh2.u
Autodil Factor: Undiluted 2 babhe.u
Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.48	10.48	ug/l	2.46	100.00		17338.03	16874.33	17668.32
11 B # 3	43.65	43.65	ug/l	0.55	1800.00		83897.68	86220.95	85966.39
23 Na # 1	22160	22160	ug/l	0.84	81000.00		61496232.00	62365172.00	62921320.00
24 Mg # 1	9427	9427	ug/l	0.69	81000.00		17618282.00	17834184.00	17964710.00
27 Al # 1	1088	1088	ug/l	0.88	81000.00		2345099.00	2368710.50	2349491.50
39 K # 2	1940	1940	ug/l	0.45	81000.00		330456.34	338962.13	344958.28
40 Ca # 1	21880	21880	ug/l	0.51	81000.00		96317024.00	97225328.00	97462144.00
45 Sc # 2	----	--------		--------	#VALUE!		24685.08	25153.52	25544.02
47 Ti # 3	21.62	21.62	ug/l	2.96	1620.00		14716.16	14042.27	14549.31
51 V # 2	20.35	20.35	ug/l	0.02	1800.00		23126.59	23520.41	23983.19
52 Cr # 2	19.84	19.84	ug/l	0.75	1800.00		26512.14	27346.70	27572.60
55 Mn # 3	961.3	961.3	ug/l	0.96	1800.00		10603558.00	10445745.00	10658622.00
56 Fe # 1	992.8	992.8	ug/l	0.41	81000.00		6662207.50	6668835.50	6676489.00
59 Co # 3	11.31	11.31	ug/l	0.64	1800.00		88413.97	88695.42	88828.85
60 Ni # 2	19.22	19.22	ug/l	0.48	1800.00		11329.09	11455.83	11793.83
63 Cu # 2	18.14	18.14	ug/l	0.11	1800.00		29222.01	29659.35	30271.50
66 Zn # 3	21.64	21.64	ug/l	0.73	1800.00		21306.18	21212.77	21349.56
75 As # 2	21.44	21.44	ug/l	0.18	100.00		2477.18	2527.51	2577.19
78 Se # 1	19.08	19.08	ug/l	0.71	100.00		3749.06	3776.40	3754.39
88 Sr # 3	192.5	192.5	ug/l	1.60	1800.00		2732430.00	2710170.00	2775000.80
95 Mo # 3	28.54	28.54	ug/l	0.88	1800.00		52765.47	52384.34	53547.85
107 Ag # 3	10.8	10.8	ug/l	0.91	100.00		57772.42	57277.19	57571.63
111 Cd # 3	10.24	10.24	ug/l	1.87	100.00		11313.74	11620.79	11890.63
118 Sn # 3	21	21	ug/l	0.50	1800.00		74547.45	75786.02	75722.06
121 Sb # 3	10.88	10.88	ug/l	1.04	100.00		37604.84	37093.80	37581.53
137 Ba # 3	83.27	83.27	ug/l	0.29	1800.00		145978.42	146159.39	147223.58
202 Hg # 3	1.013	1.013	ug/l	1.40	5.00		1291.72	1263.39	1281.06
205 Tl # 3	8.957	8.957	ug/l	1.13	20.00		84880.52	86619.84	85088.30
208 Pb # 3	11.34	11.34	ug/l	1.11	1800.00		149158.72	147672.45	150898.53
232 Th # 3	20.86	20.86	ug/l	0.40	#VALUE!		346107.06	346751.97	348044.72
238 U # 3	21.63	21.63	ug/l	0.47	#VALUE!		364057.97	365902.50	367331.53

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	424000.53	1.21	572657.25	74.0	60 - 125		418230.06	425742.81	428028.75
45 Sc # 1	289680.41	0.51	523286.00	55.4	60 - 125	IS F	288928.59	288725.34	291387.28
45 Sc # 3	470194.06	0.73	603286.69	77.9	60 - 125		466262.38	471896.03	472423.69
74 Ge # 1	92662.36	0.51	170650.48	54.3	60 - 125	IS F	92335.88	92445.34	93205.84
74 Ge # 2	15823.25	1.84	24862.19	63.6	60 - 125		15541.15	15806.95	16121.65
74 Ge # 3	111309.85	0.85	155795.36	71.4	60 - 125		110553.97	111007.20	112368.40
89 Y # 3	697543.81	0.83	1011968.20	68.9	60 - 125		691399.38	702895.69	698336.25
115 In # 3	627883.88	0.62	989458.81	63.5	60 - 125		623873.50	628119.50	631658.56
159 Tb # 3	843674.75	0.79	1388283.80	60.8	60 - 125		836337.88	845402.56	849283.75
209 Bi # 3	500353.63	0.27	829936.50	60.3	60 - 125		499367.44	501888.00	499805.47

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\333SMPL.D\333SMPL.D#
Date Acquired: Dec 31 2012 09:51 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8477-f-2-b
Misc Info: 200.8 TR 1/5
Vial Number: 3108
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.007417	0.007417	ug/l	32.64	100.00		20.00	20.00	13.33
11 B	# 3	4.47	4.47	ug/l	2.30	1800.00		12954.60	12811.21	12917.93
23 Na	# 1	24310	24310	ug/l	0.50	81000.00		66320544.00	67027100.00	68033472.00
24 Mg	# 1	3512	3512	ug/l	0.30	81000.00		6451056.50	6528213.00	6584596.50
27 Al	# 1	0.6936	0.6936	ug/l	16.00	81000.00		2710.28	2843.64	3210.36
39 K	# 2	608.7	608.7	ug/l	0.76	81000.00		106593.07	107333.88	111243.07
40 Ca	# 1	9652	9652	ug/l	0.61	81000.00		41540008.00	42041028.00	42702908.00
45 Sc	# 2	----	--------		--------	#VALUE!		24094.35	24789.70	24971.03
47 Ti	# 3	0.1228	0.1228	ug/l	12.46	1620.00		116.67	106.67	126.67
51 V	# 2	0.2312	0.2312	ug/l	10.08	1800.00		342.23	374.45	408.90
52 Cr	# 2	-0.003075	-0.003075	ug/l	252.42	1800.00		102.22	93.33	116.67
55 Mn	# 3	123.6	123.6	ug/l	1.08	1800.00		1328086.10	1339680.00	1378427.30
56 Fe	# 1	-0.03486	-0.03486	ug/l	268.22	81000.00		13928.94	14032.57	15173.32
59 Co	# 3	0.05179	0.05179	ug/l	2.35	1800.00		476.69	483.35	503.35
60 Ni	# 2	-0.0003607	-0.0003607	ug/l	8744.10	1800.00		177.78	216.67	207.78
63 Cu	# 2	-1.076	-1.076	ug/l	0.97	1800.00		186.67	188.89	221.11
66 Zn	# 3	0.009065	0.009065	ug/l	353.56	1800.00		430.02	403.35	473.35
75 As	# 2	0.4395	0.4395	ug/l	11.09	100.00		65.00	63.33	56.33
78 Se	# 1	0.2278	0.2278	ug/l	14.36	100.00		55.00	54.00	66.00
88 Sr	# 3	61.11	61.11	ug/l	0.45	1800.00		850740.06	854218.13	862628.63
95 Mo	# 3	1.697	1.697	ug/l	2.27	1800.00		3157.05	3260.38	3113.69
107 Ag	# 3	0.006985	0.006985	ug/l	36.64	100.00		113.34	103.34	86.67
111 Cd	# 3	0.01635	0.01635	ug/l	89.60	100.00		52.32	22.29	49.01
118 Sn	# 3	0.0507	0.0507	ug/l	19.59	1800.00		423.35	393.35	463.35
121 Sb	# 3	0.1628	0.1628	ug/l	3.99	100.00		716.70	676.70	706.70
137 Ba	# 3	17.64	17.64	ug/l	1.37	1800.00		30818.52	30655.04	31432.98
202 Hg	# 3	0.02541	0.02541	ug/l	13.16	5.00		51.00	45.33	43.67
205 Tl	# 3	0.04028	0.04028	ug/l	10.70	20.00		510.02	450.02	440.02
208 Pb	# 3	0.009862	0.009862	ug/l	28.86	1800.00		426.68	473.35	406.68
232 Th	# 3	0.1212	0.1212	ug/l	10.59	#VALUE!		2610.30	2390.27	2220.23
238 U	# 3	0.8903	0.8903	ug/l	1.02	#VALUE!		15301.47	15184.62	15238.06

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	418178.41	1.00	572657.25	73.0	60 - 125		413361.09	420309.25	420864.84
45 Sc	# 1	284664.44	0.78	523286.00	54.4	60 - 125	IS F	282574.34	284419.16	286999.88
45 Sc	# 3	456767.38	0.39	603286.69	75.7	60 - 125		454762.22	457415.19	458124.63
74 Ge	# 1	91838.87	0.48	170650.48	53.8	60 - 125	IS F	91618.83	91555.27	92342.52
74 Ge	# 2	15650.50	1.82	24862.19	62.9	60 - 125		15385.47	15614.54	15951.49
74 Ge	# 3	110307.41	1.08	155795.36	70.8	60 - 125		109896.45	109377.47	111648.33
89 Y	# 3	686289.38	0.36	1011968.20	67.8	60 - 125		683498.75	687187.19	688182.13
115 In	# 3	626204.13	0.21	989458.81	63.3	60 - 125		624828.56	627489.19	626294.56
159 Tb	# 3	842689.44	1.00	1388283.80	60.7	60 - 125		837405.69	838222.50	852440.19
209 Bi	# 3	502361.75	0.79	829936.50	60.5	60 - 125		498733.31	501781.25	506570.66

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\334SMPL.D\334SMPL.D#
Date Acquired: Dec 31 2012 09:59 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8477-f-3-b
Misc Info: 200.8 TR 1/5
Vial Number: 3109
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.0005734	0.0005734	ug/l	361.18	100.00		6.67	10.00	3.33
11 B	# 3	7.214	7.214	ug/l	1.21	1800.00		17681.78	18078.73	18195.56
23 Na	# 1	31250	31250	ug/l	0.31	81000.00		85936560.00	85769872.00	86920488.00
24 Mg	# 1	7802	7802	ug/l	0.19	81000.00		14405885.00	14420346.00	14600053.00
27 Al	# 1	0.3302	0.3302	ug/l	11.85	81000.00		2200.19	2050.18	2190.19
39 K	# 2	934.4	934.4	ug/l	0.95	81000.00		158397.44	161185.91	165452.11
40 Ca	# 1	20210	20210	ug/l	0.38	81000.00		87643456.00	87488960.00	88916104.00
45 Sc	# 2	----	--------		--------	#VALUE!		24437.00	25136.84	25291.46
47 Ti	# 3	0.1525	0.1525	ug/l	30.87	1620.00		103.34	163.34	146.68
51 V	# 2	0.01849	0.01849	ug/l	31.38	1800.00		123.33	130.00	140.00
52 Cr	# 2	-0.0218	-0.0218	ug/l	27.63	1800.00		80.00	68.89	84.45
55 Mn	# 3	1318	1318	ug/l	1.28	1800.00		14358650.00	14231010.00	14355190.00
56 Fe	# 1	2.029	2.029	ug/l	0.75	81000.00		27878.24	27534.46	27888.22
59 Co	# 3	0.2607	0.2607	ug/l	5.75	1800.00		2123.52	2206.86	1976.82
60 Ni	# 2	0.205	0.205	ug/l	12.98	1800.00		321.12	300.01	327.78
63 Cu	# 2	-1.159	-1.159	ug/l	0.07	1800.00		70.00	72.22	74.45
66 Zn	# 3	0.1125	0.1125	ug/l	59.24	1800.00		600.03	500.02	496.69
75 As	# 2	0.0888	0.0888	ug/l	12.69	100.00		19.00	22.00	21.00
78 Se	# 1	0.01194	0.01194	ug/l	104.52	100.00		18.67	15.67	14.00
88 Sr	# 3	175	175	ug/l	0.35	1800.00		2428569.00	2447175.50	2494863.80
95 Mo	# 3	0.3687	0.3687	ug/l	11.90	1800.00		676.70	810.04	670.03
107 Ag	# 3	-0.007656	-0.007656	ug/l	8.25	100.00		20.00	26.67	23.33
111 Cd	# 3	0.0003742	0.0003742	ug/l	2090.30	100.00		26.45	13.07	29.79
118 Sn	# 3	-0.005692	-0.005692	ug/l	42.15	1800.00		216.68	233.34	223.34
121 Sb	# 3	0.03901	0.03901	ug/l	27.15	100.00		276.68	310.01	240.01
137 Ba	# 3	69.71	69.71	ug/l	0.86	1800.00		122388.68	121437.80	121280.61
202 Hg	# 3	0.02124	0.02124	ug/l	3.11	5.00		39.67	41.67	41.00
205 Tl	# 3	0.01285	0.01285	ug/l	9.18	20.00		196.68	216.68	200.01
208 Pb	# 3	0.02849	0.02849	ug/l	7.87	1800.00		700.03	676.69	653.36
232 Th	# 3	0.04113	0.04113	ug/l	18.45	#VALUE!		1103.41	1143.42	916.73
238 U	# 3	0.1224	0.1224	ug/l	3.54	#VALUE!		2080.21	2183.56	2250.23

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	420442.94	1.70	572657.25	73.4	60 - 125		414500.56	418431.97	428396.28
45 Sc	# 1	284535.28	0.67	523286.00	54.4	60 - 125	IS F	282905.06	284072.84	286627.94
45 Sc	# 3	463231.28	0.90	603286.69	76.8	60 - 125		460988.78	460674.25	468030.72
74 Ge	# 1	90794.53	0.70	170650.48	53.2	60 - 125	IS F	90786.06	90161.74	91435.78
74 Ge	# 2	15456.99	1.54	24862.19	62.2	60 - 125		15194.18	15521.13	15655.68
74 Ge	# 3	109983.29	0.87	155795.36	70.6	60 - 125		108917.71	110748.88	110283.28
89 Y	# 3	688059.75	1.13	1011968.20	68.0	60 - 125		680568.38	687544.38	696066.44
115 In	# 3	623211.50	0.45	989458.81	63.0	60 - 125		621392.94	621775.00	626466.56
159 Tb	# 3	838674.81	0.92	1388283.80	60.4	60 - 125		832686.56	835936.88	847401.00
209 Bi	# 3	494048.13	0.63	829936.50	59.5	60 - 125	IS F	490531.13	495073.63	496539.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\335SMPL.D\335SMPL.D#
Date Acquired: Dec 31 2012 10:06 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: 450-8477-f-4-b
Misc Info: 200.8 TR 1/5
Vial Number: 3110
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0008346	-0.0008346	ug/l	278.46	100.00		0.00	6.67	6.67
11 B	# 3	3.328	3.328	ug/l	1.66	1800.00		10923.27	10839.97	11106.81
23 Na	# 1	19650	19650	ug/l	0.12	81000.00		54003684.00	54663112.00	55924460.00
24 Mg	# 1	2404	2404	ug/l	0.63	81000.00		4416677.50	4528656.00	4600868.50
27 Al	# 1	6.96	6.96	ug/l	5.76	81000.00		16438.50	17017.33	15764.11
39 K	# 2	230.4	230.4	ug/l	1.92	81000.00		43667.86	43794.73	45876.40
40 Ca	# 1	7822	7822	ug/l	0.30	81000.00		34005148.00	34394288.00	35093504.00
45 Sc	# 2	----	--------		--------	#VALUE!		24549.36	24711.78	24982.14
47 Ti	# 3	0.1716	0.1716	ug/l	20.36	1620.00		150.01	126.67	173.34
51 V	# 2	0.1251	0.1251	ug/l	17.03	1800.00		264.45	227.78	275.56
52 Cr	# 2	0.01658	0.01658	ug/l	36.11	1800.00		127.78	124.45	142.22
55 Mn	# 3	1.391	1.391	ug/l	5.51	1800.00		17538.80	17118.28	16127.41
56 Fe	# 1	3.415	3.415	ug/l	3.82	81000.00		36978.26	37040.08	39170.05
59 Co	# 3	0.01783	0.01783	ug/l	12.63	1800.00		226.68	206.67	243.34
60 Ni	# 2	-0.09147	-0.09147	ug/l	59.53	1800.00		112.22	155.56	178.89
63 Cu	# 2	-0.7966	-0.7966	ug/l	1.20	1800.00		633.35	631.13	621.13
66 Zn	# 3	2.181	2.181	ug/l	2.78	1800.00		2466.91	2590.25	2516.92
75 As	# 2	0.09394	0.09394	ug/l	23.95	100.00		20.33	24.67	20.00
78 Se	# 1	0.05186	0.05186	ug/l	20.05	100.00		25.67	25.00	22.33
88 Sr	# 3	50.3	50.3	ug/l	0.14	1800.00		707605.50	709721.31	712714.38
95 Mo	# 3	0.187	0.187	ug/l	5.34	1800.00		380.01	406.68	376.68
107 Ag	# 3	-0.008319	-0.008319	ug/l	14.79	100.00		20.00	13.33	26.67
111 Cd	# 3	0.003222	0.003222	ug/l	469.58	100.00		16.55	16.54	46.55
118 Sn	# 3	-0.01081	-0.01081	ug/l	42.19	1800.00		223.34	190.01	210.01
121 Sb	# 3	0.07238	0.07238	ug/l	28.20	100.00		380.02	326.68	470.02
137 Ba	# 3	11.29	11.29	ug/l	1.29	1800.00		19565.04	19865.39	20212.62
202 Hg	# 3	0.02235	0.02235	ug/l	2.83	5.00		44.33	43.00	43.00
205 Tl	# 3	0.008103	0.008103	ug/l	11.41	20.00		153.34	170.01	156.67
208 Pb	# 3	0.00761	0.00761	ug/l	41.67	1800.00		440.02	360.01	416.68
232 Th	# 3	0.02657	0.02657	ug/l	5.05	#VALUE!		836.72	866.73	820.05
238 U	# 3	0.1356	0.1356	ug/l	2.24	#VALUE!		2403.61	2500.30	2493.62

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	423530.03	1.00	572657.25	74.0	60 - 125		419307.00	423479.63	427803.47
45 Sc	# 1	287791.16	1.90	523286.00	55.0	60 - 125	IS F	283004.44	286637.38	293731.63
45 Sc	# 3	462270.00	0.58	603286.69	76.6	60 - 125		459544.56	462355.09	464910.25
74 Ge	# 1	92902.69	1.28	170650.48	54.4	60 - 125	IS F	91659.65	93011.57	94036.84
74 Ge	# 2	15765.41	1.34	24862.19	63.4	60 - 125		15554.50	15765.79	15975.95
74 Ge	# 3	110943.52	0.70	155795.36	71.2	60 - 125		110189.32	110895.87	111745.32
89 Y	# 3	691622.63	0.26	1011968.20	68.3	60 - 125		690380.00	690821.69	693666.25
115 In	# 3	627729.06	0.62	989458.81	63.4	60 - 125		626916.63	624311.06	631959.50
159 Tb	# 3	841391.94	0.39	1388283.80	60.6	60 - 125		838306.31	841008.50	844860.81
209 Bi	# 3	509310.88	0.13	829936.50	61.4	60 - 125		508898.44	510051.81	508982.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures
2 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\336_CCV.D\336_CCV.D#
Date Acquired: Dec 31 2012 10:14 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	53.18 ug/l	0.36	50.00	90 - 110		82389.52	84043.30	84900.45
11 B	94.72 ug/l	1.23	100.00	90 - 110		171285.19	171751.67	171159.73
23 Na	5192 ug/l	0.82	5000.00	90 - 110		14277806.00	14249015.00	14168846.00
24 Mg	5242 ug/l	0.31	5000.00	90 - 110		9527260.00	9603753.00	9669843.00
27 Al	550.8 ug/l	0.92	500.00	90 - 110	Fail	1147617.50	1168558.00	1151873.10
39 K	5158 ug/l	1.43	5000.00	90 - 110		872447.63	893761.88	906078.50
40 Ca	5432 ug/l	0.46	5000.00	90 - 110		23182316.00	23424686.00	23599842.00
45 Sc	--------	--------		--- ##### - #####		24694.00	25307.04	25387.15
47 Ti	52.76 ug/l	0.74	50.00	90 - 110		33543.88	34024.72	34278.68
51 V	47.62 ug/l	1.21	50.00	90 - 110		54396.27	55483.94	54906.64
52 Cr	47.21 ug/l	1.13	50.00	90 - 110		63354.28	64801.59	65102.55
55 Mn	525.9 ug/l	0.46	500.00	90 - 110		5669137.50	5666440.50	5778104.50
56 Fe	5059 ug/l	0.42	5000.00	90 - 110		33702908.00	33542206.00	33828288.00
59 Co	54.31 ug/l	0.28	50.00	90 - 110		419784.63	416848.75	421853.84
60 Ni	45.84 ug/l	0.24	50.00	90 - 110		27036.40	27097.61	27491.54
63 Cu	45.51 ug/l	0.36	50.00	90 - 110		71190.52	71481.77	72559.19
66 Zn	52.38 ug/l	0.42	50.00	90 - 110		50145.54	50062.10	50476.45
75 As	51.26 ug/l	0.99	50.00	90 - 110		5942.64	6064.35	6071.69
78 Se	50.16 ug/l	0.79	50.00	90 - 110		9753.62	9761.95	9872.34
88 Sr	50.35 ug/l	0.20	50.00	90 - 110		694983.25	693684.06	701292.00
95 Mo	54.5 ug/l	0.74	50.00	90 - 110		100164.82	99058.32	98535.43
107 Ag	54.17 ug/l	0.29	50.00	90 - 110		282904.84	283350.09	283663.03
111 Cd	51.62 ug/l	1.10	50.00	90 - 110		56897.88	57938.36	57423.41
118 Sn	51.36 ug/l	0.09	50.00	90 - 110		180953.97	180574.58	180813.70
121 Sb	51.91 ug/l	0.64	50.00	90 - 110		174573.70	174027.16	176275.94
137 Ba	52.81 ug/l	0.10	50.00	90 - 110		91449.02	91217.33	91247.98
202 Hg	2.941 ug/l	0.84	2.50	90 - 110	Fail	3699.77	3709.10	3792.79
205 Tl	11.3 ug/l	0.90	10.00	90 - 110	Fail	105556.38	104242.20	106892.23
208 Pb	56.3 ug/l	0.27	50.00	90 - 110	Fail	722805.63	720412.13	728144.00
232 Th	49.34 ug/l	0.11		--- ##### - #####		829092.88	828827.63	835811.38
238 U	48.44 ug/l	0.28		--- ##### - #####		825856.56	826945.56	837752.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	404776.13	1.19	572657.25	70.7	60 - 125		399350.31	406365.16	408612.94
45 Sc	280818.94	0.43	523286.00	53.7	60 - 125	IS Fail	279525.28	280988.81	281942.75
45 Sc	453828.06	0.37	603286.69	75.2	60 - 125		451931.56	454444.38	455108.31
74 Ge	92026.28	0.24	170650.48	53.9	60 - 125	IS Fail	92271.15	91852.54	91955.16
74 Ge	15821.01	0.68	24862.19	63.6	60 - 125		15754.67	15762.44	15945.93
74 Ge	109801.70	0.83	155795.36	70.5	60 - 125		109665.36	108964.38	110775.36
89 Y	677923.69	0.56	1011968.20	67.0	60 - 125		675085.13	676441.88	682243.94
115 In	617099.06	0.19	989458.81	62.4	60 - 125		618237.25	615852.94	617207.00
159 Tb	825552.56	0.56	1388283.80	59.5	60 - 125	IS Fail	822110.63	823723.50	830823.50
209 Bi	507161.72	0.56	829936.50	61.1	60 - 125		505979.16	505099.25	510406.66

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

4 :Element Failures 0 :Max. Number of Failures Allowed
3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\337_CCB.D\337_CCB.D#
Date Acquired: Dec 31 2012 10:21 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01302	0.01302	ug/l	15.12	#VALUE!		26.67	23.33	30.00
11 B # 3	0.5647	0.5647	ug/l	25.41	#VALUE!		5944.41	5724.37	5537.59
23 Na # 1	-20.43	-20.43	ug/l	0.68	#VALUE!		60375.03	60024.12	60749.52
24 Mg # 1	0.2759	0.2759	ug/l	13.47	#VALUE!		5107.47	5067.47	5007.48
27 Al # 1	0.4473	0.4473	ug/l	9.24	#VALUE!		2450.23	2410.22	2296.87
39 K # 2	-1.967	-1.967	ug/l	63.04	#VALUE!		4694.06	4864.11	4577.37
40 Ca # 1	5.731	5.731	ug/l	3.04	#VALUE!		102405.22	101778.48	101769.38
45 Sc # 2	----	--------		--------	#VALUE!		24339.11	24039.84	24576.12
47 Ti # 3	0.04358	0.04358	ug/l	55.94	#VALUE!		73.34	73.35	46.67
51 V # 2	0.0172	0.0172	ug/l	4.63	#VALUE!		130.00	132.22	136.67
52 Cr # 2	0.005775	0.005775	ug/l	177.32	#VALUE!		130.00	103.33	118.89
55 Mn # 3	0.1708	0.1708	ug/l	9.24	#VALUE!		3367.07	3643.78	3587.12
56 Fe # 1	1.86	1.86	ug/l	2.53	#VALUE!		27076.99	27280.75	26909.96
59 Co # 3	0.02165	0.02165	ug/l	39.21	#VALUE!		196.67	240.01	323.34
60 Ni # 2	-0.3214	-0.3214	ug/l	1.93	#VALUE!		13.33	10.00	17.78
63 Cu # 2	-1.178	-1.178	ug/l	0.34	#VALUE!		40.00	40.00	52.22
66 Zn # 3	-0.322	-0.322	ug/l	2.47	#VALUE!		113.34	126.67	116.67
75 As # 2	0.03442	0.03442	ug/l	46.22	#VALUE!		16.67	14.00	13.67
78 Se # 1	0.0549	0.0549	ug/l	8.75	#VALUE!		24.00	24.33	26.00
88 Sr # 3	0.007252	0.007252	ug/l	32.86	#VALUE!		383.35	363.35	430.02
95 Mo # 3	0.1149	0.1149	ug/l	11.25	#VALUE!		276.68	260.01	230.01
107 Ag # 3	0.01764	0.01764	ug/l	44.95	#VALUE!		110.00	186.67	180.01
111 Cd # 3	0.02567	0.02567	ug/l	43.40	#VALUE!		43.25	66.59	46.59
118 Sn # 3	0.0578	0.0578	ug/l	7.01	#VALUE!		446.68	446.69	473.35
121 Sb # 3	0.2432	0.2432	ug/l	11.26	#VALUE!		1066.74	880.05	1000.06
137 Ba # 3	0.01746	0.01746	ug/l	26.80	#VALUE!		63.34	70.00	80.00
202 Hg # 3	0.03619	0.03619	ug/l	8.03	#VALUE!		67.00	60.33	60.33
205 Tl # 3	0.01084	0.01084	ug/l	31.85	#VALUE!		170.01	163.34	223.34
208 Pb # 3	0.01672	0.01672	ug/l	17.70	#VALUE!		560.02	523.36	486.69
232 Th # 3	0.1294	0.1294	ug/l	2.81	#VALUE!		2720.34	2606.98	2606.98
238 U # 3	0.01297	0.01297	ug/l	15.68	#VALUE!		336.68	403.35	353.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	414266.13	0.97	572657.25	72.3	60 - 125		410545.19	413728.28	418524.88
45 Sc # 1	283385.63	0.39	523286.00	54.2	60 - 125	IS F	282155.63	283761.53	284239.72
45 Sc # 3	450368.16	0.27	603286.69	74.7	60 - 125		449741.75	449570.94	451791.75
74 Ge # 1	92257.39	0.53	170650.48	54.1	60 - 125	IS F	91972.93	91978.57	92820.66
74 Ge # 2	15857.35	1.92	24862.19	63.8	60 - 125		15622.34	15747.98	16201.72
74 Ge # 3	110184.14	0.75	155795.36	70.7	60 - 125		111144.27	109698.64	109709.50
89 Y # 3	685231.75	0.35	1011968.20	67.7	60 - 125		686862.00	682445.38	686387.94
115 In # 3	631074.50	0.18	989458.81	63.8	60 - 125		630493.50	630342.94	632386.94
159 Tb # 3	839121.00	0.53	1388283.80	60.4	60 - 125		834237.19	842977.56	840148.13
209 Bi # 3	522054.69	0.33	829936.50	62.9	60 - 125		522718.84	520076.50	523368.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

ICV QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\338_CCV.D\338_CCV.D#
Date Acquired: Dec 31 2012 10:29 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	53.63 ug/l	1.22	50.00	90 - 110		84491.95	84380.88	85988.27
11 B	93.9 ug/l	1.12	100.00	90 - 110		169741.64	169942.42	173071.03
23 Na	5186 ug/l	0.26	5000.00	90 - 110		14393863.00	14412348.00	14459943.00
24 Mg	5205 ug/l	0.46	5000.00	90 - 110		9591775.00	9653287.00	9767901.00
27 Al	547.6 ug/l	0.47	500.00	90 - 110		1158657.10	1172312.30	1167360.80
39 K	5178 ug/l	0.99	5000.00	90 - 110		895081.44	908737.69	926455.06
40 Ca	5425 ug/l	0.23	5000.00	90 - 110		23616496.00	23754268.00	23759762.00
45 Sc	--------	--------	---	##### - #####		24994.39	25417.19	25614.15
47 Ti	52.37 ug/l	1.30	50.00	90 - 110		34305.35	33944.68	34041.61
51 V	48.03 ug/l	0.57	50.00	90 - 110		55756.98	56115.72	57304.90
52 Cr	47.29 ug/l	0.78	50.00	90 - 110		64881.69	65872.88	66283.20
55 Mn	528.3 ug/l	1.01	500.00	90 - 110		5785310.50	5822485.50	5795582.50
56 Fe	5113 ug/l	0.25	5000.00	90 - 110		34445868.00	34232524.00	34508768.00
59 Co	53.96 ug/l	1.52	50.00	90 - 110		418323.84	421931.81	425526.06
60 Ni	46.15 ug/l	0.45	50.00	90 - 110		27869.82	27671.78	28084.64
63 Cu	45.65 ug/l	0.88	50.00	90 - 110		72716.53	73525.23	73477.15
66 Zn	51.65 ug/l	1.13	50.00	90 - 110		50042.15	49828.17	50539.73
75 As	51.37 ug/l	0.48	50.00	90 - 110		6080.02	6129.04	6230.40
78 Se	50.46 ug/l	0.36	50.00	90 - 110		10002.75	9932.38	9927.71
88 Sr	50.23 ug/l	0.63	50.00	90 - 110		698715.81	699031.75	703240.56
95 Mo	54.48 ug/l	0.49	50.00	90 - 110		98753.46	99578.03	100275.43
107 Ag	54.1 ug/l	0.62	50.00	90 - 110		281810.81	283278.25	286242.56
111 Cd	50.69 ug/l	0.57	50.00	90 - 110		56443.84	56386.20	56861.47
118 Sn	51.57 ug/l	0.53	50.00	90 - 110		180685.42	182058.88	183525.86
121 Sb	52.27 ug/l	0.55	50.00	90 - 110		175053.53	176989.55	178144.89
137 Ba	52.92 ug/l	0.80	50.00	90 - 110		91231.48	91392.42	92718.90
202 Hg	2.864 ug/l	0.63	2.50	90 - 110	Fail	3688.77	3656.09	3671.10
205 Tl	11.32 ug/l	0.76	10.00	90 - 110	Fail	105217.86	106657.66	106956.77
208 Pb	56.57 ug/l	0.05	50.00	90 - 110	Fail	730128.13	730072.94	732705.25
232 Th	49.51 ug/l	0.25	---	##### - #####		838229.56	844236.75	844467.63
238 U	48.33 ug/l	0.49	---	##### - #####		833747.69	834408.44	841346.94

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	407076.13	1.52	572657.25	71.1	60 - 125		400083.63	409392.97	411751.72
45 Sc	284889.31	0.48	523286.00	54.4	60 - 125	IS Fail	283518.88	284910.44	286238.63
45 Sc	459258.78	0.80	603286.69	76.1	60 - 125		455213.31	460189.78	462373.31
74 Ge	92960.43	0.19	170650.48	54.5	60 - 125	IS Fail	93077.38	92761.16	93042.76
74 Ge	16103.48	0.94	24862.19	64.8	60 - 125		16018.22	16014.88	16277.34
74 Ge	111155.69	0.74	155795.36	71.3	60 - 125		112107.23	110634.30	110725.53
89 Y	683189.19	0.55	1011968.20	67.5	60 - 125		679427.50	686883.50	683256.63
115 In	619023.00	0.46	989458.81	62.6	60 - 125		615761.69	621150.75	620156.50
159 Tb	829729.56	0.17	1388283.80	59.8	60 - 125	IS Fail	828703.19	829162.06	831323.38
209 Bi	512142.38	0.19	829936.50	61.7	60 - 125		511092.03	512980.41	512354.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\12L27r00.B\339_CCB.D\339_CCB.D#
Date Acquired: Dec 31 2012 10:36 pm
Acq. Method: EPA2002C.M
Operator: RM
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
Last Cal. Update: Dec 31 2012 01:37 pm
Sample Type: CCB
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 babh2.u
2 babhe.u
3 babnorm.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.02602	0.02602	ug/l	42.97	#VALUE!		53.33	26.67	60.00
11 B	# 3	0.8133	0.8133	ug/l	9.28	#VALUE!		6077.76	6127.78	5987.71
23 Na	# 1	-20.08	-20.08	ug/l	0.52	#VALUE!		60822.98	60559.11	60441.98
24 Mg	# 1	0.5323	0.5323	ug/l	4.37	#VALUE!		5454.26	5524.27	5427.57
27 Al	# 1	0.633	0.633	ug/l	0.53	#VALUE!		2746.93	2743.61	2746.94
39 K	# 2	-1.66	-1.66	ug/l	47.93	#VALUE!		4557.34	4570.70	4884.11
40 Ca	# 1	5.892	5.892	ug/l	3.07	#VALUE!		100491.99	102427.55	101463.46
45 Sc	# 2	----	--------		--------	#VALUE!		23692.73	23994.21	24562.75
47 Ti	# 3	0.05189	0.05189	ug/l	81.71	#VALUE!		66.67	43.34	96.67
51 V	# 2	0.0202	0.0202	ug/l	47.27	#VALUE!		127.78	125.56	147.78
52 Cr	# 2	-0.00071	-0.00071	ug/l	1853.50	#VALUE!		125.56	95.56	97.78
55 Mn	# 3	0.1885	0.1885	ug/l	3.82	#VALUE!		3573.79	3637.11	3720.48
56 Fe	# 1	2.075	2.075	ug/l	0.54	#VALUE!		28121.98	28188.62	27991.65
59 Co	# 3	0.01869	0.01869	ug/l	13.91	#VALUE!		220.01	210.01	246.68
60 Ni	# 2	-0.3267	-0.3267	ug/l	1.43	#VALUE!		10.00	7.78	13.33
63 Cu	# 2	-1.178	-1.178	ug/l	0.53	#VALUE!		45.56	51.11	33.33
66 Zn	# 3	-0.2717	-0.2717	ug/l	15.11	#VALUE!		193.34	176.67	120.00
75 As	# 2	0.05223	0.05223	ug/l	22.11	#VALUE!		15.00	16.67	18.00
78 Se	# 1	0.04297	0.04297	ug/l	43.15	#VALUE!		26.00	19.00	21.33
88 Sr	# 3	0.009541	0.009541	ug/l	16.30	#VALUE!		433.35	426.68	393.35
95 Mo	# 3	0.1301	0.1301	ug/l	23.84	#VALUE!		333.35	286.68	220.01
107 Ag	# 3	0.01784	0.01784	ug/l	14.29	#VALUE!		146.67	173.34	153.34
111 Cd	# 3	0.0372	0.0372	ug/l	32.34	#VALUE!		49.89	66.58	76.60
118 Sn	# 3	0.07058	0.07058	ug/l	23.15	#VALUE!		536.69	430.02	516.69
121 Sb	# 3	0.2769	0.2769	ug/l	9.85	#VALUE!		1103.40	1166.74	980.06
137 Ba	# 3	0.0161	0.0161	ug/l	106.27	#VALUE!		33.33	83.34	86.67
202 Hg	# 3	0.0482	0.0482	ug/l	11.17	#VALUE!		77.00	70.00	84.33
205 Tl	# 3	0.01133	0.01133	ug/l	39.83	#VALUE!		183.34	146.67	230.01
208 Pb	# 3	0.0185	0.0185	ug/l	17.04	#VALUE!		576.69	500.02	533.35
232 Th	# 3	0.1309	0.1309	ug/l	6.22	#VALUE!		2780.33	2553.62	2566.97
238 U	# 3	0.01703	0.01703	ug/l	3.28	#VALUE!		426.69	440.02	423.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	406254.00	1.51	572657.25	70.9	60 - 125		399298.38	408628.22	410835.44
45 Sc	# 1	280011.94	0.19	523286.00	53.5	60 - 125	IS F	279499.84	280575.06	279960.94
45 Sc	# 3	444683.38	0.43	603286.69	73.7	60 - 125		442528.22	446066.34	445455.50
74 Ge	# 1	90904.40	0.10	170650.48	53.3	60 - 125	IS F	90902.25	90994.67	90816.26
74 Ge	# 2	15533.74	1.11	24862.19	62.5	60 - 125		15393.26	15482.20	15725.77
74 Ge	# 3	107764.25	0.46	155795.36	69.2	60 - 125		107469.20	108341.02	107482.54
89 Y	# 3	674905.00	0.04	1011968.20	66.7	60 - 125		674714.19	675196.88	674803.88
115 In	# 3	622374.31	0.27	989458.81	62.9	60 - 125		621446.69	624322.19	621354.19
159 Tb	# 3	823736.25	0.37	1388283.80	59.3	60 - 125	IS F	820784.75	826861.69	823562.25
209 Bi	# 3	514851.91	0.54	829936.50	62.0	60 - 125		512206.66	514562.38	517786.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L27r00.B\008CALB.D\008CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

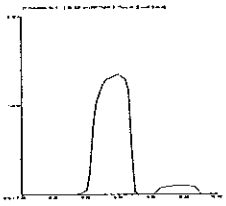
Data Results:
Analytes: Pass
ISTD: Fail

200.8 QC Tune Report ICPMSA

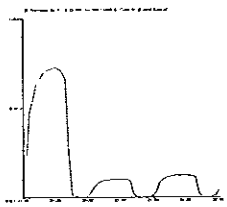
Data File: C:\ICPCHEM\1\DATA\12L21p00.B\001TUNE.D
Date Acquired: Dec 21 2012 03:12 pm
Acq. Method: TN200_8.M
Operator: BR
Sample Name: TUNE
Misc Info:
Vial Number: 1305
Current Method: C:\ICPCHEM\1\METHODS\TN200_8.M

RSD (%)

Element	Actual	Required	Flag	Rep1	Rep2	Rep3	Rep4	Rep5
9 Be	0.57	5.00		75924.63	76711.59	76432.03	76512.66	77124.67
24 Mg	0.70	5.00		424166.00	427320.38	419071.00	423338.88	423027.59
25 Mg	0.98	5.00		59678.25	58717.36	58185.42	58384.20	58631.60
26 Mg	0.33	5.00		74222.90	74698.89	74064.94	74166.74	74196.98
59 Co	0.36	5.00		695966.00	694667.81	699359.75	692836.13	697489.94
113 In		5.00		112681.66	112550.61	112730.14	112008.67	111105.25
115 In	0.74	5.00		2567856.30	2548769.00	2584578.50	2586616.50	2546209.30
206 Pb	0.49	5.00		494874.25	490713.78	490521.28	494497.09	495483.56
207 Pb	0.30	5.00		449918.72	447242.63	447000.03	446583.28	446922.09
208 Pb	0.43	5.00		1026940.50	1022141.90	1025753.50	1016933.60	1027449.90



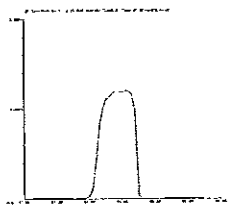
9 Be
Mass Calib.
Actual: 8.95
Required: 8.90 - 9.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:



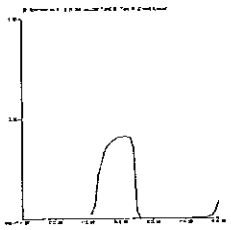
24 Mg
Mass Calib.
Actual: 23.95
Required: 23.90 - 24.10
Flag:
Peak Width at 10% height
Actual: 0.65
Required: 1.00
Flag:

25 Mg
Mass Calib.
Actual: 24.95
Required: 24.90 - 25.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

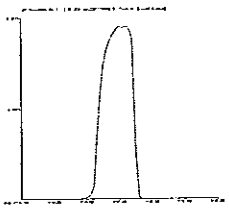
26 Mg
Mass Calib.
Actual: 25.95
Required: 25.90 - 26.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:



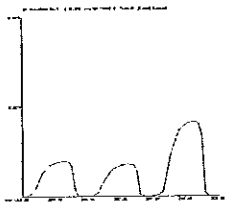
59 Co
Mass Calib.
Actual: 59.00
Required: 58.90 - 59.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:



113 In
Mass Calib.
Actual: 113.05
Required: 112.90 - 113.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:



115 In
Mass Calib.
Actual: 115.05
Required: 114.90 - 115.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:



206 Pb
Mass Calib.
Actual: 206.10
Required: 205.90 - 206.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

207 Pb
Mass Calib.
Actual: 207.10
Required: 206.90 - 207.10
Flag:
Peak Width at 10% height
Actual: 0.55
Required: 1.00
Flag:

208 Pb
Mass Calib.
Actual: 208.10
Required: 207.90 - 208.10
Flag:
Peak Width at 10% height
Actual: 0.55
Required: 1.00
Flag:

Tune Result: Pass

Calibration Blank QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\002CAL
Date Acquired:	Dec 21 2012 03:40 pm
Operator:	BR
Sample Name:	Cal Blk
Misc Info:	
Vial Number:	1
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 21 2012 03:44 pm
Sample Type:	CalBlk
Total Dil Factor:	1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	757458.63	A	5577.00	0.74
7	Li	42641.98	P	573.30	1.34
9	Be	173.34	P	38.44	22.18
11	B	16104.88	P	173.90	1.08
23	Na	1871214.00	A	25160.00	1.34
24	Mg	164505.09	P	789.80	0.48
27	Al	35432.41	P	1105.00	3.12
39	K	25666.51	P	39.15	0.15
40	Ca	500324.59	M	2573.00	0.51
45	Sc	616732.81	A	3336.00	0.54
45	Sc		P		
45	Sc	762837.88	A	8943.00	1.17
47	Ti	258.90	P	34.21	13.21
51	V	691.13	P	24.44	3.54
52	Cr	358.67	P	5.81	1.62
55	Mn	22002.26	P	551.20	2.51
56	Fe	175791.41	P	939.00	0.53
59	Co	960.06	P	56.87	5.92
60	Ni	116.89	P	4.34	3.71
63	Cu	461.12	P	25.99	5.64
66	Zn	924.50	P	15.75	1.70
74	Ge	165266.00	P	370.40	0.22
74	Ge	33476.57	P	351.90	1.05
74	Ge	178383.41	P	659.00	0.37
75	As	34.67	P	2.19	6.31
78	Se	20.33	P	2.65	13.01
88	Sr	7692.14	P	314.40	4.09
89	Y	1061642.00	A	9439.00	0.89
95	Mo	688.93	P	83.36	12.10
107	Ag	228.90	P	8.39	3.66
111	Cd	56.41	P	12.03	21.33
115	In	903958.00	A	6626.00	0.73
118	Sn	830.05	P	10.00	1.20
121	Sb	347.79	P	15.75	4.53
137	Ba	255.57	P	24.11	9.43
159	Tb	1255462.00	A	8510.00	0.68
166	Er		P		
202	Hg	57.89	P	3.17	5.47
205	Tl	645.59	P	63.01	9.76
206	Pb	438.91	P	34.70	7.91
207	Pb	376.68	P	10.00	2.65
208	Pb	1670.09	P	120.30	7.20
209	Bi	708150.69	A	8121.00	1.15

Calibration Blank QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\003CAL
Date Acquired:	Dec 21 2012 03:46 pm
Operator:	BR
Sample Name:	Cal Blk
Misc Info:	
Vial Number:	1
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 21 2012 03:44 pm
Sample Type:	CalBlk
Total Dil Factor:	1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	752082.50	A	13240.00	1.76
7	Li	41900.13	P	659.10	1.57
9	Be	97.78	P	6.94	7.10
11	B	15123.93	P	504.60	3.34
23	Na	1656871.00	A	9035.00	0.55
24	Mg	144623.91	P	1938.00	1.34
27	Al	31893.82	P	1474.00	4.62
39	K	23799.10	P	354.20	1.49
40	Ca	443396.91	P	6663.00	1.50
45	Sc	564340.19	A	3147.00	0.56
45	Sc		P		
45	Sc	758903.19	A	13180.00	1.74
47	Ti	226.68	P	32.15	14.18
51	V	605.57	P	32.00	5.28
52	Cr	310.45	P	20.09	6.47
55	Mn	21112.21	P	223.20	1.06
56	Fe	158005.41	P	2774.00	1.76
59	Co	573.36	P	62.45	10.89
60	Ni	93.33	P	13.33	14.28
63	Cu	366.45	P	21.34	5.82
66	Zn	767.82	P	18.96	2.47
74	Ge	151361.70	P	1496.00	0.99
74	Ge	29335.24	P	1462.00	4.98
74	Ge	176000.70	P	936.60	0.53
75	As	33.33	P	4.37	13.12
78	Se	18.78	P	3.66	19.47
88	Sr	7301.94	P	129.00	1.77
89	Y	1049973.00	A	20150.00	1.92
95	Mo	634.48	P	29.88	4.71
107	Ag	150.01	P	16.67	11.11
111	Cd	43.10	P	9.99	23.18
115	In	916806.88	A	15540.00	1.70
118	Sn	788.94	P	76.77	9.73
121	Sb	314.46	P	37.17	11.82
137	Ba	220.01	P	25.17	11.44
159	Tb	1250640.00	A	14460.00	1.16
166	Er		P		
202	Hg	53.56	P	2.84	5.29
205	Tl	316.68	P	49.11	15.51
206	Pb	316.68	P	63.60	20.08
207	Pb	291.13	P	18.36	6.31
208	Pb	1236.73	P	10.00	0.81
209	Bi	706384.63	A	5492.00	0.78

Calibration Blank QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\004CAL
Date Acquired:	Dec 21 2012 03:53 pm
Operator:	BR
Sample Name:	Cal Blk
Misc Info:	
Vial Number:	1
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 21 2012 03:50 pm
Sample Type:	CalBlk
Total Dil Factor:	1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	754741.50	A	9206.00	1.22
7	Li	41972.67	P	678.80	1.62
9	Be	73.34	P	0.00	0.00
11	B	14121.96	P	75.84	0.54
23	Na	1861183.00	A	16800.00	0.90
24	Mg	164459.70	P	500.90	0.30
27	Al	37259.76	P	695.20	1.87
39	K	24539.11	P	203.70	0.83
40	Ca	501102.31	M	8147.00	1.63
45	Sc	618269.69	A	11220.00	1.81
45	Sc		P		
45	Sc	769221.19	A	6117.00	0.80
47	Ti	257.79	P	38.35	14.88
51	V	711.13	P	4.07	0.57
52	Cr	328.89	P	3.67	1.12
55	Mn	20900.79	P	85.17	0.41
56	Fe	182195.09	P	664.80	0.36
59	Co	510.02	P	90.62	17.77
60	Ni	98.45	P	6.01	6.11
63	Cu	386.23	P	7.73	2.00
66	Zn	746.71	P	70.24	9.41
74	Ge	164559.80	P	983.50	0.60
74	Ge	32921.59	P	441.90	1.34
74	Ge	176881.41	P	1686.00	0.95
75	As	33.11	P	3.47	10.48
78	Se	19.67	P	2.19	11.12
88	Sr	7435.33	P	311.40	4.19
89	Y	1055390.00	A	14770.00	1.40
95	Mo	644.48	P	41.68	6.47
107	Ag	153.34	P	20.28	13.23
111	Cd	55.32	P	12.62	22.81
115	In	921003.13	A	1101.00	0.12
118	Sn	822.27	P	32.89	4.00
121	Sb	317.79	P	46.23	14.55
137	Ba	202.23	P	21.69	10.73
159	Tb	1259734.00	A	11240.00	0.89
166	Er		P		
202	Hg	49.56	P	3.34	6.74
205	Tl	240.01	P	29.63	12.35
206	Pb	257.79	P	28.35	11.00
207	Pb	222.23	P	10.19	4.59
208	Pb	1020.05	P	56.97	5.59
209	Bi	705605.81	A	7841.00	1.11

Calibration Blank QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\005CAL
Date Acquired:	Dec 21 2012 04:00 pm
Operator:	BR
Sample Name:	Cal Blk
Misc Info:	
Vial Number:	2
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 21 2012 03:57 pm
Sample Type:	CalBlk
Total Dil Factor:	1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	767441.13	A	7345.00	0.96
7	Li	42362.49	P	531.70	1.26
9	Be	11.11	P	3.85	34.64
11	B	12488.38	P	63.91	0.51
23	Na	564127.88	A	4589.00	0.81
24	Mg	32009.94	P	643.90	2.01
27	Al	11048.70	P	1442.00	13.05
39	K	18947.12	P	113.70	0.60
40	Ca	88240.25	P	585.60	0.66
45	Sc	619416.19	A	5807.00	0.94
45	Sc		P		
45	Sc	765035.00	A	13770.00	1.80
47	Ti	101.12	P	15.03	14.86
51	V	641.35	P	22.54	3.51
52	Cr	228.89	P	10.69	4.67
55	Mn	5132.08	P	106.00	2.07
56	Fe	39365.42	P	353.20	0.90
59	Co	106.67	P	18.56	17.40
60	Ni	34.44	P	2.69	7.82
63	Cu	220.67	P	16.18	7.33
66	Zn	371.13	P	11.71	3.16
74	Ge	164981.09	P	421.10	0.26
74	Ge	32565.23	P	62.18	0.19
74	Ge	177487.09	P	1858.00	1.05
75	As	23.89	P	5.35	22.38
78	Se	14.00	P	1.86	13.26
88	Sr	975.62	P	25.02	2.56
89	Y	1063212.00	A	5880.00	0.55
95	Mo	255.57	P	10.72	4.19
107	Ag	56.67	P	6.67	11.77
111	Cd	33.24	P	8.82	26.52
115	In	930567.19	A	1710.00	0.18
118	Sn	236.68	P	6.67	2.82
121	Sb	118.89	P	10.18	8.56
137	Ba	52.22	P	7.70	14.74
159	Tb	1263317.00	A	8201.00	0.65
166	Er		P		
202	Hg	29.33	P	1.86	6.33
205	Tl	156.67	P	15.28	9.75
206	Pb	122.23	P	18.36	15.02
207	Pb	98.89	P	16.44	16.62
208	Pb	470.02	P	0.00	0.00
209	Bi	701673.69	A	3827.00	0.55

Calibration Blank QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\006CAL
Date Acquired:	Dec 21 2012 04:06 pm
Operator:	BR
Sample Name:	Cal Blk
Misc Info:	
Vial Number:	2
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 21 2012 04:04 pm
Sample Type:	CalBlk
Total Dil Factor:	1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	753085.13	A	4385.00	0.58
7	Li	41580.39	P	809.80	1.95
9	Be	17.78	P	11.71	65.87
11	B	12015.82	P	183.10	1.52
23	Na	581430.00	A	20030.00	3.45
24	Mg	31406.32	P	448.50	1.43
27	Al	10802.81	P	1256.00	11.63
39	K	18930.45	P	103.00	0.54
40	Ca	87996.90	P	329.70	0.37
45	Sc	606760.38	A	7364.00	1.21
45	Sc		P		
45	Sc	766716.38	A	13690.00	1.79
47	Ti	94.45	P	18.36	19.44
51	V	682.91	P	23.31	3.41
52	Cr	230.45	P	11.50	4.99
55	Mn	5216.55	P	97.58	1.87
56	Fe	39149.68	P	212.00	0.54
59	Co	92.23	P	20.37	22.09
60	Ni	29.11	P	6.47	22.24
63	Cu	209.78	P	1.54	0.73
66	Zn	393.35	P	45.83	11.65
74	Ge	164001.09	P	1567.00	0.96
74	Ge	33066.30	P	506.90	1.53
74	Ge	176700.80	P	546.60	0.31
75	As	23.56	P	0.19	0.82
78	Se	11.44	P	2.14	18.73
88	Sr	981.17	P	81.41	8.30
89	Y	1043979.00	A	3452.00	0.33
95	Mo	261.12	P	24.12	9.24
107	Ag	57.78	P	8.39	14.52
111	Cd	34.35	P	5.10	14.85
115	In	911833.31	A	5294.00	0.58
118	Sn	280.01	P	20.28	7.24
121	Sb	123.34	P	20.82	16.88
137	Ba	55.56	P	12.62	22.72
159	Tb	1248420.00	A	6750.00	0.54
166	Er		P		
202	Hg	33.22	P	1.35	4.05
205	Tl	118.89	P	13.47	11.33
206	Pb	121.12	P	16.44	13.57
207	Pb	95.56	P	8.39	8.78
208	Pb	458.91	P	8.39	1.83
209	Bi	701915.50	A	10400.00	1.48

Calibration Blank QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\007CAL
Date Acquired:	Dec 21 2012 04:13 pm
Operator:	BR
Sample Name:	Cal Blk
Misc Info:	
Vial Number:	4
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 21 2012 04:11 pm
Sample Type:	CalBlk
Total Dil Factor:	1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	762890.69	A	5539.00	0.73
7	Li	43248.11	P	575.80	1.33
9	Be	223.34	P	24.04	10.76
11	B	12211.48	P	159.90	1.31
23	Na	252892.70	P	9914.00	3.92
24	Mg	5704.78	P	2901.00	50.85
27	Al	6122.49	P	1640.00	26.79
39	K	17535.56	P	276.90	1.58
40	Ca	35636.64	P	1244.00	3.49
45	Sc	620105.63	A	2782.00	0.45
45	Sc		P		
45	Sc	771387.50	A	11600.00	1.50
47	Ti	372.24	P	44.76	12.03
51	V	663.80	P	11.67	1.76
52	Cr	224.00	P	19.63	8.76
55	Mn	8674.88	P	1348.00	15.54
56	Fe	14776.15	P	516.70	3.50
59	Co	752.26	P	131.70	17.51
60	Ni	14.00	P	4.67	33.34
63	Cu	165.56	P	16.46	9.94
66	Zn	484.47	P	66.20	13.66
74	Ge	164848.80	P	1465.00	0.89
74	Ge	33226.06	P	121.60	0.37
74	Ge	178474.80	P	508.20	0.28
75	As	23.00	P	1.73	7.53
78	Se	10.33	P	0.58	5.59
88	Sr	2136.89	P	479.20	22.43
89	Y	1057066.00	A	11070.00	1.05
95	Mo	986.73	P	170.20	17.25
107	Ag	292.23	P	78.20	26.76
111	Cd	70.75	P	10.74	15.18
115	In	917456.31	A	10020.00	1.09
118	Sn	345.57	P	37.17	10.76
121	Sb	273.34	P	14.53	5.32
137	Ba	158.90	P	10.18	6.41
159	Tb	1264337.00	A	5937.00	0.47
166	Er		P		
202	Hg	24.67	P	7.26	29.45
205	Tl	494.47	P	70.43	14.24
206	Pb	306.68	P	63.51	20.71
207	Pb	287.79	P	68.83	23.92
208	Pb	1271.18	P	182.10	14.33
209	Bi	698508.81	A	5600.00	0.80

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\008CALS.D\008CALS.D#
Date Acquired: Dec 21 2012 04:20 pm
Operator: BR
Sample Name: RL
Misc Info:
Vial Number: 4501
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 21 2012 04:17 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	762736.81	A	5287.00	0.69
7 Li	42011.52	P	404.90	0.96
9 Be	485.58	P	21.69	4.47
11 B	98557.60	P	1197.00	1.21
23 Na	870983.50	A	891.60	0.10
24 Mg	278529.91	P	4570.00	1.64
27 Al	71667.30	P	2277.00	3.18
39 K	45778.60	P	632.50	1.38
40 Ca	657312.69	A	2493.00	0.38
45 Sc	628229.31	A	7737.00	1.23
45 Sc		P		
45 Sc	779883.88	A	3123.00	0.40
47 Ti	1367.88	P	39.06	2.86
51 V	3642.43	P	55.23	1.52
52 Cr	3877.38	P	40.02	1.03
55 Mn	26265.43	P	320.90	1.22
56 Fe	365805.00	P	547.70	0.15
59 Co	1753.49	P	17.64	1.01
60 Ni	1371.85	P	49.81	3.63
63 Cu	3514.41	P	41.87	1.19
66 Zn	9772.16	P	60.62	0.62
74 Ge	166703.09	P	772.00	0.46
74 Ge	33257.77	P	288.80	0.87
74 Ge	177798.59	P	759.40	0.43
75 As	196.22	P	3.47	1.77
78 Se	230.56	P	2.67	1.16
88 Sr	4563.02	P	62.59	1.37
89 Y	1041199.00	A	8532.00	0.82
95 Mo	3873.94	P	73.13	1.89
107 Ag	1865.73	P	206.00	11.04
111 Cd	234.13	P	13.86	5.92
115 In	917382.50	A	6647.00	0.72
118 Sn	5903.54	P	74.36	1.26
121 Sb	6722.79	P	259.40	3.86
137 Ba	2719.22	P	25.46	0.94
159 Tb	1254621.00	A	8052.00	0.64
166 Er		P		
202 Hg	317.12	P	8.34	2.63
205 Tl	3318.27	P	56.72	1.71
206 Pb	1735.72	P	48.24	2.78
207 Pb	1495.68	P	69.48	4.65
208 Pb	6998.69	P	22.19	0.32
209 Bi	704569.50	A	7802.00	1.11

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	762736.75	0.69	762890.69	100.0	59.6 - 125.4	
45 Sc	628229.25	1.23	620105.56	101.3	59.6 - 125.4	
45 Sc	779883.88	0.40	771387.50	101.1	59.6 - 125.4	
74 Ge	166703.08	0.46	164848.81	101.1	59.6 - 125.4	
74 Ge	33257.77	0.87	33226.06	100.1	59.6 - 125.4	
74 Ge	177798.58	0.43	178474.77	99.6	59.6 - 125.4	
89 Y	1041198.80	0.82	1057065.90	98.5	59.6 - 125.4	
115 In	917382.50	0.72	917456.31	100.0	59.6 - 125.4	
159 Tb	1254620.90	0.64	1264337.30	99.2	59.6 - 125.4	
209 Bi	704569.50	1.11	698508.81	100.9	59.6 - 125.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\009CALS.D\009CALS.D#
Date Acquired: Dec 21 2012 04:26 pm
Operator: BR
Sample Name: 10/1000
Misc Info:
Vial Number: 4502
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 21 2012 04:24 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	769457.31	A	43020.00	5.59
7 Li	227932.00	P	1089.00	0.48
9 Be	41018.99	P	20.46	0.05
11 B	93074.67	P	602.90	0.65
23 Na	6931600.00	A	45590.00	0.66
24 Mg	4472674.00	A	44000.00	0.98
27 Al	464496.09	P	3400.00	0.73
39 K	489468.31	M	6845.00	1.40
40 Ca	10338790.00	A	82380.00	0.80
45 Sc	622433.13	A	5007.00	0.80
45 Sc		P		
45 Sc	783820.63	A	46270.00	5.90
47 Ti	11944.75	P	207.60	1.74
51 V	28717.23	P	104.20	0.36
52 Cr	33442.49	P	153.80	0.46
55 Mn	2096828.00	A	18010.00	0.86
56 Fe	14699520.00	A	129100.00	0.88
59 Co	148141.20	P	656.70	0.44
60 Ni	11748.11	P	31.17	0.27
63 Cu	30523.66	P	139.40	0.46
66 Zn	20144.37	P	85.72	0.43
74 Ge	164280.30	P	313.90	0.19
74 Ge	32910.35	P	118.60	0.36
74 Ge	178051.09	P	9172.00	5.15
75 As	2930.94	P	29.93	1.02
78 Se	4001.96	P	22.01	0.55
88 Sr	203541.70	P	1894.00	0.93
89 Y	1067308.00	A	73960.00	6.93
95 Mo	33819.63	P	423.20	1.25
107 Ag	88495.06	P	688.30	0.78
111 Cd	18743.84	P	144.00	0.77
115 In	929447.00	A	62300.00	6.70
118 Sn	53482.80	P	594.30	1.11
121 Sb	56361.87	P	261.10	0.46
137 Ba	24324.56	P	290.20	1.19
159 Tb	1258254.00	A	63330.00	5.03
166 Er		P		
202 Hg	960.59	P	29.73	3.10
205 Tl	29241.44	P	366.70	1.25
206 Pb	49559.10	P	362.60	0.73
207 Pb	43547.73	P	587.60	1.35
208 Pb	199247.70	P	1276.00	0.64
209 Bi	715275.63	A	38840.00	5.43

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	769457.31	5.59	762890.69	100.9	59.6 - 125.4	
45 Sc	622433.13	0.80	620105.56	100.4	59.6 - 125.4	
45 Sc	783820.63	5.90	771387.50	101.6	59.6 - 125.4	
74 Ge	164280.31	0.19	164848.81	99.7	59.6 - 125.4	
74 Ge	32910.35	0.36	33226.06	99.0	59.6 - 125.4	
74 Ge	178051.08	5.15	178474.77	99.8	59.6 - 125.4	
89 Y	1067308.30	6.93	1057065.90	101.0	59.6 - 125.4	
115 In	929446.94	6.70	917456.31	101.3	59.6 - 125.4	
159 Tb	1258253.80	5.03	1264337.30	99.5	59.6 - 125.4	
209 Bi	715275.56	5.43	698508.81	102.4	59.6 - 125.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\010CALS.D\010CALS.D#
Date Acquired: Dec 21 2012 04:33 pm
Operator: BR
Sample Name: 25/2500
Misc Info:
Vial Number: 4503
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 21 2012 04:31 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	748565.81	A	6806.00	0.91
7 Li	525332.88	A	12600.00	2.40
9 Be	101025.80	P	880.20	0.87
11 B	211784.59	P	997.90	0.47
23 Na	16738970.00	A	338100.00	2.02
24 Mg	11065720.00	A	180800.00	1.63
27 Al	1181687.00	A	20030.00	1.70
39 K	1212785.00	A	10590.00	0.87
40 Ca	25077880.00	A	221700.00	0.88
45 Sc	617127.50	A	2821.00	0.46
45 Sc		P		
45 Sc	762799.50	A	14790.00	1.94
47 Ti	28833.07	P	314.10	1.09
51 V	69319.90	P	520.40	0.75
52 Cr	82400.63	P	209.50	0.25
55 Mn	5104020.00	A	39140.00	0.77
56 Fe	36290880.00	A	214000.00	0.59
59 Co	360930.31	P	3256.00	0.90
60 Ni	28905.05	P	132.10	0.46
63 Cu	74531.96	P	231.00	0.31
66 Zn	48146.71	P	91.07	0.19
74 Ge	162342.30	P	1795.00	1.11
74 Ge	32599.20	P	476.80	1.46
74 Ge	173626.50	P	1910.00	1.10
75 As	7203.75	P	44.78	0.62
78 Se	9830.16	P	78.32	0.80
88 Sr	499323.00	P	4354.00	0.87
89 Y	1037516.00	A	19530.00	1.88
95 Mo	83722.12	P	512.50	0.61
107 Ag	215310.20	P	1308.00	0.61
111 Cd	45118.06	P	276.60	0.61
115 In	898662.81	A	9595.00	1.07
118 Sn	131303.09	P	1056.00	0.80
121 Sb	138855.41	P	577.70	0.42
137 Ba	60362.00	P	887.40	1.47
159 Tb	1237838.00	A	3029.00	0.24
166 Er		P		
202 Hg	2308.64	P	39.22	1.70
205 Tl	71575.54	P	294.60	0.41
206 Pb	120307.70	P	1124.00	0.93
207 Pb	106665.30	P	412.00	0.39
208 Pb	485710.81	P	929.20	0.19
209 Bi	694006.38	A	8278.00	1.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	748565.75	0.91	762890.69	98.1	59.6 - 125.4	
45 Sc	617127.56	0.46	620105.56	99.5	59.6 - 125.4	
45 Sc	762799.44	1.94	771387.50	98.9	59.6 - 125.4	
74 Ge	162342.25	1.11	164848.81	98.5	59.6 - 125.4	
74 Ge	32599.20	1.46	33226.06	98.1	59.6 - 125.4	
74 Ge	173626.52	1.10	178474.77	97.3	59.6 - 125.4	
89 Y	1037516.30	1.88	1057065.90	98.2	59.6 - 125.4	
115 In	898662.81	1.07	917456.31	98.0	59.6 - 125.4	
159 Tb	1237838.00	0.24	1264337.30	97.9	59.6 - 125.4	
209 Bi	694006.38	1.19	698508.81	99.4	59.6 - 125.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\011CALS.D\011CALS.D#
Date Acquired: Dec 21 2012 04:40 pm
Operator: BR
Sample Name: 50/5000
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 21 2012 04:37 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	736302.69	A	4827.00	0.66
7 Li	979953.69	A	8674.00	0.89
9 Be	198758.00	P	215.60	0.11
11 B	407996.69	P	2873.00	0.70
23 Na	32565780.00	A	437100.00	1.34
24 Mg	21298300.00	A	72530.00	0.34
27 Al	2246698.00	A	24550.00	1.09
39 K	2334110.00	A	9483.00	0.41
40 Ca	49141900.00	A	302800.00	0.62
45 Sc	612499.19	A	2457.00	0.40
45 Sc		P		
45 Sc	752829.13	A	6354.00	0.84
47 Ti	56933.10	P	489.60	0.86
51 V	135792.41	P	307.50	0.23
52 Cr	158992.41	P	601.10	0.38
55 Mn	9818949.00	A	37690.00	0.38
56 Fe	70743392.00	A	632800.00	0.89
59 Co	739026.00	A	6311.00	0.85
60 Ni	55483.66	P	555.80	1.00
63 Cu	143411.41	P	938.40	0.65
66 Zn	91335.28	P	745.00	0.82
74 Ge	159542.59	P	1091.00	0.68
74 Ge	31584.35	P	107.50	0.34
74 Ge	169980.41	P	1646.00	0.97
75 As	14125.27	P	97.78	0.69
78 Se	19108.58	P	38.22	0.20
88 Sr	1027932.00	A	15210.00	1.48
89 Y	1021670.00	A	2909.00	0.28
95 Mo	162190.80	P	1848.00	1.14
107 Ag	413884.19	P	2823.00	0.68
111 Cd	88301.62	P	484.60	0.55
115 In	887725.31	A	10320.00	1.16
118 Sn	254542.20	P	2261.00	0.89
121 Sb	270078.59	P	1037.00	0.38
137 Ba	116438.90	P	1424.00	1.22
159 Tb	1233262.00	A	12020.00	0.97
166 Er		P		
202 Hg	4504.26	P	62.23	1.38
205 Tl	138595.70	P	1525.00	1.10
206 Pb	233360.20	P	3242.00	1.39
207 Pb	206943.00	P	2348.00	1.13
208 Pb	982630.88	A	11890.00	1.21
209 Bi	682439.31	A	8027.00	1.18

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	736302.69	0.66	762890.69	96.5	59.6 - 125.4	
45 Sc	612499.19	0.40	620105.56	98.8	59.6 - 125.4	
45 Sc	752829.13	0.84	771387.50	97.6	59.6 - 125.4	
74 Ge	159542.59	0.68	164848.81	96.8	59.6 - 125.4	
74 Ge	31584.35	0.34	33226.06	95.1	59.6 - 125.4	
74 Ge	169980.36	0.97	178474.77	95.2	59.6 - 125.4	
89 Y	1021670.30	0.28	1057065.90	96.7	59.6 - 125.4	
115 In	887725.31	1.16	917456.31	96.8	59.6 - 125.4	
159 Tb	1233261.60	0.97	1264337.30	97.5	59.6 - 125.4	
209 Bi	682439.25	1.18	698508.81	97.7	59.6 - 125.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\012CALS.D\012CALS.D#
Date Acquired: Dec 21 2012 04:46 pm
Operator: BR
Sample Name: 100/10000
Misc Info:
Vial Number: 4505
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 21 2012 04:44 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	712511.63	A	8195.00	1.15
7 Li	1837739.00	A	27230.00	1.48
9 Be	390509.31	P	1893.00	0.48
11 B	833110.13	A	6783.00	0.81
23 Na	63497008.00	A	1204000.00	1.90
24 Mg	42214480.00	A	174100.00	0.41
27 Al	4435316.00	A	43440.00	0.98
39 K	4482267.00	A	9969.00	0.22
40 Ca	98341616.00	A	868000.00	0.88
45 Sc	602878.00	A	1654.00	0.27
45 Sc		P		
45 Sc	735780.31	A	3715.00	0.50
47 Ti	109781.40	P	1090.00	0.99
51 V	265782.41	P	147.80	0.06
52 Cr	310933.81	P	371.10	0.12
55 Mn	19264820.00	A	416600.00	2.16
56 Fe	############	A	536100.00	0.38
59 Co	1424150.00	A	24940.00	1.75
60 Ni	107406.20	P	615.00	0.57
63 Cu	279683.59	P	1951.00	0.70
66 Zn	175766.00	P	1926.00	1.10
74 Ge	157849.59	P	869.00	0.55
74 Ge	31062.76	P	230.50	0.74
74 Ge	165098.30	P	1580.00	0.96
75 As	27480.74	P	73.14	0.27
78 Se	37409.64	P	339.60	0.91
88 Sr	1987152.00	A	15490.00	0.78
89 Y	988197.88	A	3530.00	0.36
95 Mo	319134.19	P	770.00	0.24
107 Ag	872183.81	A	220.30	0.03
111 Cd	168949.41	P	1585.00	0.94
115 In	857651.88	A	4875.00	0.57
118 Sn	522590.00	M	24580.00	4.70
121 Sb	548806.63	M	28890.00	5.26
137 Ba	226851.91	P	1656.00	0.73
159 Tb	1204279.00	A	4632.00	0.38
166 Er		P		
202 Hg	8750.53	P	69.54	0.79
205 Tl	268240.19	P	3981.00	1.48
206 Pb	453650.59	P	4330.00	0.95
207 Pb	400337.50	P	3344.00	0.84
208 Pb	1896316.00	A	7575.00	0.40
209 Bi	654254.13	A	8011.00	1.22

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	712511.63	1.15	762890.69	93.4	59.6 - 125.4	
45 Sc	602878.00	0.27	620105.56	97.2	59.6 - 125.4	
45 Sc	735780.31	0.50	771387.50	95.4	59.6 - 125.4	
74 Ge	157849.59	0.55	164848.81	95.8	59.6 - 125.4	
74 Ge	31062.76	0.74	33226.06	93.5	59.6 - 125.4	
74 Ge	165098.31	0.96	178474.77	92.5	59.6 - 125.4	
89 Y	988197.88	0.36	1057065.90	93.5	59.6 - 125.4	
115 In	857651.94	0.57	917456.31	93.5	59.6 - 125.4	
159 Tb	1204279.10	0.38	1264337.30	95.2	59.6 - 125.4	
209 Bi	654254.19	1.22	698508.81	93.7	59.6 - 125.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\013SMPL.D\013SMPL.D#
Date Acquired:	Dec 21 2012 04:53 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	rinse
Misc Info:	
Vial Number:	1
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.02195	-0.02195	ug/l	25.92	100.00		156.67	110.00	130.00
11 B # 3	3.032	3.032	ug/l	0.53	200.00		24515.35	24532.03	24321.75
23 Na # 1	248.5	248.5	ug/l	0.37	90000.00		1840504.50	1855498.50	1852794.10
24 Mg # 1	39.81	39.81	ug/l	2.16	90000.00		179146.19	174002.42	172788.41
27 Al # 1	7.11	7.11	ug/l	7.22	90000.00		35626.01	37994.68	40240.09
39 K # 2	18.09	18.09	ug/l	5.35	90000.00		25550.77	25337.04	24819.55
40 Ca # 1	50.75	50.75	ug/l	0.90	90000.00		527428.19	532793.25	536153.63
47 Ti # 3	-0.08705	-0.08705	ug/l	10.32	1800.00		280.01	266.68	253.34
51 V # 2	-0.01505	-0.01505	ug/l	10.75	1800.00		603.35	592.01	598.02
52 Cr # 2	0.0516	0.0516	ug/l	11.94	1800.00		376.67	400.67	365.34
55 Mn # 3	0.7351	0.7351	ug/l	3.09	2700.00		23564.42	22816.71	22803.47
56 Fe # 1	14.96	14.96	ug/l	5.40	90000.00		238011.02	222461.80	216510.41
59 Co # 3	0.03039	0.03039	ug/l	8.21	1800.00		696.70	703.37	640.03
60 Ni # 2	0.1	0.1	ug/l	9.74	1800.00		139.33	117.33	126.00
63 Cu # 2	0.094	0.094	ug/l	6.65	1800.00		410.01	440.01	441.34
66 Zn # 3	-0.3566	-0.3566	ug/l	5.28	1800.00		690.04	753.37	706.70
75 As # 2	0.07801	0.07801	ug/l	8.18	1800.00		45.00	45.33	42.33
78 Se # 1	0.1017	0.1017	ug/l	9.43	100.00		47.00	52.00	54.67
88 Sr # 3	0.2663	0.2663	ug/l	2.49	1800.00		7582.07	7355.28	7525.35
95 Mo # 3	0.04738	0.04738	ug/l	32.57	1800.00		1136.75	1140.08	1046.73
107 Ag # 3	0.01184	0.01184	ug/l	48.19	100.00		433.35	363.35	346.68
111 Cd # 3	0.01408	0.01408	ug/l	45.70	100.00		92.92	92.91	72.95
118 Sn # 3	0.1473	0.1473	ug/l	10.37	1800.00		1160.08	1090.08	1006.73
121 Sb # 3	0.7334	0.7334	ug/l	4.04	100.00		4384.11	4274.05	3990.64
137 Ba # 3	0.02128	0.02128	ug/l	40.07	1800.00		206.68	183.34	220.01
202 Hg # 3	0.05802	0.05802	ug/l	5.78	5.00		130.67	134.00	123.33
205 Tl # 3	-0.01929	-0.01929	ug/l	6.77	20.00		210.01	233.34	196.67
208 Pb # 3	0.00118	0.00118	ug/l	425.59	1800.00		1373.41	1223.40	1196.73

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	757472.25	0.74	762890.69	99.3	60 - 125.4		760867.38	760516.44	751032.94
45 Sc # 1	608918.44	0.36	620105.56	98.2	60 - 125.4		607540.25	611413.25	607801.81
45 Sc # 3	757942.81	1.31	771387.50	98.3	60 - 125.4		769340.38	753381.50	751106.63
74 Ge # 1	161299.64	0.56	164848.81	97.8	60 - 125.4		160431.47	162247.77	161219.66
74 Ge # 2	31978.48	0.44	33226.06	96.2	60 - 125.4		32004.08	31827.04	32104.30
74 Ge # 3	171839.48	0.33	178474.77	96.3	60 - 125.4		171738.44	171321.36	172458.67
89 Y # 3	1017934.80	1.05	1057065.90	96.3	60 - 125.4		1027715.20	1019586.80	1006502.20
115 In # 3	887829.38	0.78	917456.31	96.8	60 - 125.4		883188.44	895803.44	884496.31
159 Tb # 3	1212709.10	0.42	1264337.30	95.9	60 - 125.4		1212604.00	1217912.10	1207611.40
209 Bi # 3	682531.25	0.51	698508.81	97.7	60 - 125.4		680803.13	680261.50	686529.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\014_ICV.D\014_ICV.D#
Date Acquired: Dec 21 2012 05:00 pm
Acq. Method: ICPMSB.M
Operator: BR
Sample Name: ICV
Misc Info: MS ICV 00151
Vial Number: 4506
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update: Dec 22 2012 11:02 am
Sample Type: ICV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
7 Li	-0.08558 ug/l	33.92		##### - #####			40760.50	40610.18	40302.94
9 Be	40.36 ug/l	1.68	40.00	89.6 -	110		162319.89	162283.23	161523.63
11 B	80.61 ug/l	1.45	80.00	89.6 -	110		336038.06	333271.06	332464.06
23 Na	4079 ug/l	1.57	4000.00	89.6 -	110		26278000.00	26341552.00	25847884.00
24 Mg	4106 ug/l	2.44	4000.00	89.6 -	110		17143974.00	17262664.00	17367372.00
27 Al	421.8 ug/l	1.21	400.00	89.6 -	110		1843024.10	1913215.00	1865527.60
39 K	4013 ug/l	1.53	4000.00	89.6 -	110		1817289.50	1875122.90	1857211.90
40 Ca	4004 ug/l	2.43	4000.00	89.6 -	110		38702012.00	38594908.00	38762080.00
47 Ti	38.82 ug/l	1.20	40.00	89.6 -	110		43900.29	43238.43	42977.82
51 V	39.62 ug/l	1.17	40.00	89.6 -	110		107658.54	107377.04	107648.71
52 Cr	38.74 ug/l	1.07	40.00	89.6 -	110		122607.77	123043.66	123145.72
55 Mn	409.6 ug/l	0.36	400.00	89.6 -	110		8032560.00	7974981.50	7909004.00
56 Fe	3973 ug/l	1.60	4000.00	89.6 -	110		55580904.00	55661416.00	54616572.00
59 Co	41.54 ug/l	0.26	40.00	89.6 -	110		601735.25	598665.13	593324.50
60 Ni	40.55 ug/l	1.17	40.00	89.6 -	110		44264.64	44614.97	44683.78
63 Cu	40.65 ug/l	0.86	40.00	89.6 -	110		116131.82	116284.91	115886.13
66 Zn	43.39 ug/l	0.17	40.00	89.6 -	110		78711.02	78372.56	77840.00
75 As	42.25 ug/l	1.28	40.00	89.6 -	110		11788.38	11862.76	11910.12
78 Se	40.34 ug/l	0.52	40.00	89.6 -	110		15626.69	15380.78	15551.61
88 Sr	38.74 ug/l	1.00	40.00	89.6 -	110		794588.75	772202.69	787915.00
95 Mo	42.07 ug/l	0.52	40.00	89.6 -	110		135779.72	133679.41	134085.34
107 Ag	42.45 ug/l	1.36	40.00	89.6 -	110		351989.22	347464.84	342831.50
111 Cd	41.84 ug/l	0.71	40.00	89.6 -	110		72922.48	71898.88	71794.46
118 Sn	39.4 ug/l	1.25	40.00	89.6 -	110		199197.72	198722.83	195758.36
121 Sb	44.05 ug/l	0.83	40.00	89.6 -	110		238104.00	235948.44	232317.66
137 Ba	41.71 ug/l	0.89	40.00	89.6 -	110		96902.69	95627.73	95148.60
202 Hg	1.853 ug/l	2.26	2.00	89.6 -	110		3406.08	3511.43	3464.09
205 Tl	8.051 ug/l	1.58	8.00	89.6 -	110		110753.34	108908.99	108401.94
206 Pb	39.71 ug/l	0.84	40.00	89.6 -	110		192350.09	192635.20	190284.86
207 Pb	38.86 ug/l	0.63	40.00	89.6 -	110		167116.25	166087.78	164216.20
208 Pb	37.83 ug/l	0.60	40.00	89.6 -	110		767960.81	764637.44	757174.44

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	744134.75	1.92	762890.69	97.5	59.6 -	125		758453.13	744060.06	729890.94
45 Sc	600340.06	2.23	620105.56	96.8	59.6 -	125		596033.50	615365.31	589621.44
45 Sc	738531.00	0.11	771387.50	95.7	59.6 -	125		737666.25	739275.69	738651.00
74 Ge	158915.27	0.51	164848.81	96.4	59.6 -	125		159848.84	158384.14	158512.84
74 Ge	31622.78	1.03	33226.06	95.2	59.6 -	125		31581.59	31965.67	31321.07
74 Ge	166942.73	0.51	178474.77	93.5	59.6 -	125		167510.19	167350.16	165967.84
89 Y	1008565.40	1.21	1057065.90	95.4	59.6 -	125		1022674.80	1001290.40	1001731.10
115 In	872441.63	0.64	917456.31	95.1	59.6 -	125		876660.19	866056.44	874608.31
159 Tb	1212670.90	1.02	1264337.30	95.9	59.6 -	125		1214433.40	1199481.10	1224098.40
209 Bi	697726.50	0.77	698508.81	99.9	59.6 -	125		703895.50	694241.38	695042.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\015_CCB.D\015_CCB.D#
Date Acquired: Dec 21 2012 05:06 pm
Operator: BR
Sample Name: ICB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.05 ug/l	4.43	0.05	
11 B	1.53 ug/l	4.44	10.00	
23 Na	0.43 ug/l	504.65	25.00	
24 Mg	3.94 ug/l	26.97	25.00	
27 Al	0.25 ug/l	203.89	5.00	
39 K	1.55 ug/l	33.33	25.00	
40 Ca	3.54 ug/l	10.87	25.00	
47 Ti	-0.27 ug/l	1.18	0.50	
51 V	-0.04 ug/l	11.92	0.50	
52 Cr	0.01 ug/l	52.03	0.50	
55 Mn	-0.22 ug/l	1.40	0.50	
56 Fe	3.64 ug/l	7.83	10.00	
59 Co	-0.01 ug/l	28.24	0.05	
60 Ni	0.02 ug/l	31.73	0.50	
63 Cu	0.01 ug/l	71.54	0.50	
66 Zn	-0.55 ug/l	4.45	2.00	
75 As	0.01 ug/l	125.16	0.25	
78 Se	0.05 ug/l	11.66	0.25	
88 Sr	-0.09 ug/l	0.47	0.10	
95 Mo	-0.18 ug/l	12.30	0.50	
107 Ag	-0.02 ug/l	8.03	0.10	
111 Cd	-0.01 ug/l	77.84	0.05	
118 Sn	-0.01 ug/l	69.55	0.50	
121 Sb	0.08 ug/l	7.11	0.50	
137 Ba	-0.05 ug/l	2.90	0.50	
202 Hg	0.04 ug/l	4.89	0.08	
205 Tl	-0.01 ug/l	34.69	0.10	
208 Pb	-0.04 ug/l	7.05	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	775587.88	1.92	762890.69	101.7	59.6 - 125	
45 Sc	615631.69	1.76	620105.56	99.3	59.6 - 125	
45 Sc	759611.81	0.66	771387.50	98.5	59.6 - 125	
74 Ge	162960.70	0.55	164848.81	98.9	59.6 - 125	
74 Ge	32010.28	0.48	33226.06	96.3	59.6 - 125	
74 Ge	173719.02	0.31	178474.77	97.3	59.6 - 125	
89 Y	1019185.90	0.66	1057065.90	96.4	59.6 - 125	
115 In	901356.88	1.02	917456.31	98.2	59.6 - 125	
159 Tb	1234232.60	1.41	1264337.30	97.6	59.6 - 125	
209 Bi	677725.63	0.54	698508.81	97.0	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\016_QCS.D\016_QCS.D#
Date Acquired: Dec 21 2012 05:13 pm
Acq. Method: ICPMSB.M
Operator: BR
Sample Name: CRI
Misc Info: MS-STD1-RL
Vial Number: 4501
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update: Dec 22 2012 11:02 am
Sample Type: QCS
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	0.05 ug/l	28.48	0.10	50 - 150	
11 B	22.10 ug/l	0.89	20.00	50 - 150	
23 Na	54.59 ug/l	4.75	50.00	50 - 150	
24 Mg	54.56 ug/l	1.29	50.00	50 - 150	
27 Al	10.89 ug/l	1.42	10.00	50 - 150	
39 K	56.51 ug/l	0.10	50.00	50 - 150	
40 Ca	57.13 ug/l	1.53	50.00	50 - 150	
47 Ti	0.85 ug/l	9.22	1.00	50 - 150	
51 V	1.04 ug/l	1.56	1.00	50 - 150	
52 Cr	1.08 ug/l	1.42	1.00	50 - 150	
55 Mn	0.84 ug/l	1.00	1.00	50 - 150	
56 Fe	20.48 ug/l	1.92	20.00	50 - 150	
59 Co	0.10 ug/l	4.20	0.10	50 - 150	
60 Ni	1.14 ug/l	1.32	1.00	50 - 150	
63 Cu	1.11 ug/l	1.82	1.00	50 - 150	
66 Zn	4.35 ug/l	4.55	4.00	50 - 150	
75 As	0.58 ug/l	3.78	0.50	50 - 150	
78 Se	0.55 ug/l	3.14	0.50	50 - 150	
88 Sr	0.10 ug/l	11.98	0.20	50 - 150	
95 Mo	0.84 ug/l	2.94	1.00	50 - 150	
107 Ag	0.19 ug/l	2.59	0.20	50 - 150	
111 Cd	0.07 ug/l	17.82	0.10	50 - 150	
118 Sn	1.09 ug/l	3.46	1.00	50 - 150	
121 Sb	1.24 ug/l	0.92	0.50	50 - 150	Fail
137 Ba	1.06 ug/l	2.70	1.00	50 - 150	
202 Hg	0.18 ug/l	1.72	0.16	50 - 150	
205 Tl	0.20 ug/l	2.42	0.20	50 - 150	
208 Pb	0.27 ug/l	3.00	0.30	50 - 150	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	776416.75	1.16	762890.69	101.8	59.6 - 125	
45 Sc	622125.13	1.67	620105.56	100.3	59.6 - 125	
45 Sc	774844.56	1.13	771387.50	100.4	59.6 - 125	
74 Ge	164073.61	0.24	164848.81	99.5	59.6 - 125	
74 Ge	32624.82	0.39	33226.06	98.2	59.6 - 125	
74 Ge	174655.56	0.08	178474.77	97.9	59.6 - 125	
89 Y	1041135.80	0.58	1057065.90	98.5	59.6 - 125	
115 In	910416.13	0.16	917456.31	99.2	59.6 - 125	
159 Tb	1226856.10	1.35	1264337.30	97.0	59.6 - 125	
209 Bi	693347.06	1.03	698508.81	99.3	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\017_CCV.D\017_CCV.D#
Date Acquired: Dec 21 2012 05:20 pm
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	49.81 ug/l	0.90	50.00	89.6 - 110	
11 B	99.60 ug/l	1.06	100.00	89.6 - 110	
23 Na	4926.00 ug/l	0.99	5000.00	89.6 - 110	
24 Mg	4968.00 ug/l	0.25	5000.00	89.6 - 110	
27 Al	496.40 ug/l	0.86	500.00	89.6 - 110	
39 K	5056.00 ug/l	0.72	5000.00	89.6 - 110	
40 Ca	4967.00 ug/l	0.79	5000.00	89.6 - 110	
47 Ti	49.25 ug/l	1.32	50.00	89.6 - 110	
51 V	49.79 ug/l	1.14	50.00	89.6 - 110	
52 Cr	50.22 ug/l	1.14	50.00	89.6 - 110	
55 Mn	499.10 ug/l	1.01	500.00	89.6 - 110	
56 Fe	4907.00 ug/l	1.35	5000.00	89.6 - 110	
59 Co	50.28 ug/l	1.49	50.00	89.6 - 110	
60 Ni	50.28 ug/l	1.09	50.00	89.6 - 110	
63 Cu	50.32 ug/l	1.01	50.00	89.6 - 110	
66 Zn	50.00 ug/l	1.28	50.00	89.6 - 110	
75 As	49.81 ug/l	0.91	50.00	89.6 - 110	
78 Se	49.07 ug/l	0.62	50.00	89.6 - 110	
88 Sr	49.75 ug/l	0.46	50.00	89.6 - 110	
95 Mo	50.47 ug/l	0.34	50.00	89.6 - 110	
107 Ag	49.97 ug/l	0.21	50.00	89.6 - 110	
111 Cd	50.20 ug/l	1.30	50.00	89.6 - 110	
118 Sn	50.28 ug/l	0.69	50.00	89.6 - 110	
121 Sb	49.33 ug/l	0.68	50.00	89.6 - 110	
137 Ba	50.40 ug/l	0.04	50.00	89.6 - 110	
202 Hg	2.46 ug/l	0.78	2.50	89.6 - 110	
205 Tl	10.14 ug/l	0.60	10.00	89.6 - 110	
208 Pb	49.40 ug/l	0.92	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	751793.69	1.59	762890.69	98.5	59.6 - 125	
45 Sc	621637.56	0.78	620105.56	100.2	59.6 - 125	
45 Sc	756501.19	1.31	771387.50	98.1	59.6 - 125	
74 Ge	160816.98	0.45	164848.81	97.6	59.6 - 125	
74 Ge	31771.94	0.93	33226.06	95.6	59.6 - 125	
74 Ge	169813.78	0.87	178474.77	95.1	59.6 - 125	
89 Y	1017910.40	0.55	1057065.90	96.3	59.6 - 125	
115 In	874465.06	0.43	917456.31	95.3	59.6 - 125	
159 Tb	1209048.60	1.07	1264337.30	95.6	59.6 - 125	
209 Bi	682197.75	0.91	698508.81	97.7	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\018_CCB.D\018_CCB.D#
Date Acquired: Dec 21 2012 05:26 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	2.45	0.05	
11 B	1.26 ug/l	9.79	10.00	
23 Na	-0.91 ug/l	306.75	25.00	
24 Mg	2.10 ug/l	30.39	25.00	
27 Al	-0.35 ug/l	60.42	5.00	
39 K	2.28 ug/l	31.50	25.00	
40 Ca	2.29 ug/l	17.44	25.00	
47 Ti	-0.26 ug/l	4.93	0.50	
51 V	-0.04 ug/l	13.50	0.50	
52 Cr	0.01 ug/l	51.34	0.50	
55 Mn	-0.17 ug/l	5.01	0.50	
56 Fe	2.50 ug/l	14.52	10.00	
59 Co	0.00 ug/l	25.33	0.05	
60 Ni	0.02 ug/l	14.01	0.50	
63 Cu	0.01 ug/l	32.40	0.50	
66 Zn	-0.55 ug/l	1.87	2.00	
75 As	0.03 ug/l	21.82	0.25	
78 Se	0.06 ug/l	5.00	0.25	
88 Sr	-0.09 ug/l	2.50	0.10	
95 Mo	-0.16 ug/l	8.47	0.50	
107 Ag	-0.02 ug/l	10.59	0.10	
111 Cd	-0.02 ug/l	10.55	0.05	
118 Sn	-0.01 ug/l	144.36	0.50	
121 Sb	0.34 ug/l	6.61	0.50	
137 Ba	-0.05 ug/l	0.19	0.50	
202 Hg	0.03 ug/l	11.98	0.08	
205 Tl	-0.03 ug/l	0.23	0.10	
208 Pb	-0.03 ug/l	2.09	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	777148.81	1.57	762890.69	101.9	59.6 - 125	
45 Sc	609234.75	1.41	620105.56	98.2	59.6 - 125	
45 Sc	768786.88	0.14	771387.50	99.7	59.6 - 125	
74 Ge	161577.78	0.52	164848.81	98.0	59.6 - 125	
74 Ge	32556.33	1.12	33226.06	98.0	59.6 - 125	
74 Ge	172851.64	0.67	178474.77	96.8	59.6 - 125	
89 Y	1026485.20	0.79	1057065.90	97.1	59.6 - 125	
115 In	889285.63	0.55	917456.31	96.9	59.6 - 125	
159 Tb	1220299.90	1.02	1264337.30	96.5	59.6 - 125	
209 Bi	681714.44	1.75	698508.81	97.6	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\019_ICB.D\019_ICB.D#
Date Acquired: Dec 21 2012 05:34 pm
Acq. Method: ICPMSB.M
Operator: BR
Sample Name: ICSA
Misc Info: 52
Vial Number: 4510
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update: Dec 22 2012 11:02 am
Sample Type: ICB
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
7 Li	0.5943 ug/l	9.70	1.00	
9 Be	-0.04216 ug/l	4.53	1.00	
11 B	0.4061 ug/l	13.17	1.00	
23 Na	103100 ug/l	2.22	1.00	Fail
24 Mg	101900 ug/l	2.53	1.00	Fail
27 Al	101200 ug/l	3.48	1.00	Fail
39 K	104400 ug/l	0.93	1.00	Fail
40 Ca	103400 ug/l	3.01	1.00	Fail
47 Ti	2211 ug/l	0.75	1.00	Fail
51 V	0.1095 ug/l	2.24	1.00	
52 Cr	1.244 ug/l	0.13	1.00	Fail
55 Mn	0.2713 ug/l	7.21	1.00	
56 Fe	97130 ug/l	3.42	1.00	Fail
59 Co	0.09778 ug/l	0.81	1.00	Fail
60 Ni	1.061 ug/l	2.23	1.00	Fail
63 Cu	0.2567 ug/l	1.16	1.00	
66 Zn	2.517 ug/l	1.25	1.00	Fail
75 As	0.5025 ug/l	2.46	1.00	Fail
78 Se	0.1289 ug/l	12.77	1.00	
88 Sr	0.2432 ug/l	2.21	1.00	Fail
95 Mo	2321 ug/l	0.65	1.00	Fail
107 Ag	0.03414 ug/l	11.61	1.00	
111 Cd	-0.06897 ug/l	100.61	1.00	
118 Sn	0.102 ug/l	7.43	1.00	
121 Sb	0.4763 ug/l	1.88	1.00	
137 Ba	0.1537 ug/l	9.99	1.00	
202 Hg	0.03502 ug/l	4.47	1.00	
205 Tl	-0.0163 ug/l	19.98	1.00	
206 Pb	0.1022 ug/l	10.88	1.00	
207 Pb	0.1114 ug/l	11.40	1.00	
208 Pb	0.09625 ug/l	2.03	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	577300.13	3.73	762890.69	75.7	59.6 - 125	
45 Sc	525023.81	3.77	620105.56	84.7	59.6 - 125	
45 Sc	589547.31	2.45	771387.50	76.4	59.6 - 125	
74 Ge	135152.14	0.66	164848.81	82.0	59.6 - 125	
74 Ge	25321.50	0.55	33226.06	76.2	59.6 - 125	
74 Ge	135062.09	1.79	178474.77	75.7	59.6 - 125	
89 Y	852997.63	1.30	1057065.90	80.7	59.6 - 125	
115 In	720010.94	1.70	917456.31	78.5	59.6 - 125	
159 Tb	1039995.50	1.62	1264337.30	82.3	59.6 - 125	
209 Bi	549859.44	2.39	698508.81	78.7	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

14 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

ICS-AB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\020ICSA.D\020ICSA.D#
Date Acquired: Dec 21 2012 05:41 pm
Acq. Method: ICPMSB.M
Operator: BR
Sample Name: ICSAB
Misc Info: 52
Vial Number: 4511
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update: Dec 22 2012 11:02 am
Sample Type: ICS
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag
7 Li	0.58 ug/l	5.58	---	-100 -	100	
9 Be	-0.05 ug/l	3.43	0.20	-100 -	100	
11 B	-0.07 ug/l	162.91	40.00	-100 -	100	
23 Na	104000.00 ug/l	1.33	100000.00	80 -	120	
24 Mg	101200.00 ug/l	0.47	100000.00	80 -	120	
27 Al	100100.00 ug/l	1.19	100000.00	80 -	120	
39 K	101600.00 ug/l	1.20	100000.00	80 -	120	
40 Ca	104400.00 ug/l	1.05	100000.00	80 -	120	
47 Ti	2196.00 ug/l	0.36	2000.00	80 -	120	
51 V	0.07 ug/l	6.99	2.00	-100 -	100	
52 Cr	22.21 ug/l	0.42	2.00	-100 -	100	Fail
55 Mn	19.38 ug/l	0.60	2.00	-100 -	100	Fail
56 Fe	102900.00 ug/l	0.51	100000.00	80 -	120	
59 Co	19.18 ug/l	0.58	0.20	-100 -	100	Fail
60 Ni	21.81 ug/l	1.34	2.00	-100 -	100	Fail
63 Cu	19.95 ug/l	0.54	2.00	-100 -	100	Fail
66 Zn	22.79 ug/l	1.32	8.00	-100 -	100	Fail
75 As	22.09 ug/l	1.48	1.00	-100 -	100	Fail
78 Se	0.10 ug/l	17.85	1.00	-100 -	100	
88 Sr	0.24 ug/l	2.34	0.40	-100 -	100	
95 Mo	2297.00 ug/l	1.37	2000.00	80 -	120	
107 Ag	17.94 ug/l	1.06	0.40	-100 -	100	Fail
111 Cd	19.14 ug/l	0.90	0.20	-100 -	100	Fail
118 Sn	0.09 ug/l	21.74	2.00	-100 -	100	
121 Sb	0.38 ug/l	3.96	2.00	-100 -	100	
137 Ba	0.15 ug/l	20.14	2.00	-100 -	100	
202 Hg	0.03 ug/l	9.55	0.32	-100 -	100	
205 Tl	-0.02 ug/l	17.19	0.40	-100 -	100	
206 Pb	0.09 ug/l	7.96	0.60	-100 -	100	
207 Pb	0.08 ug/l	16.40	0.60	-100 -	100	
208 Pb	0.08 ug/l	7.43	0.60	-100 -	100	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6 Li	529137.88	3.19	762890.69	69.4	59.6 -	125.4	
45 Sc	484689.47	0.24	620105.56	78.2	59.6 -	125.4	
45 Sc	561791.63	3.41	771387.50	72.8	59.6 -	125.4	
74 Ge	132606.19	0.47	164848.81	80.4	59.6 -	125.4	
74 Ge	24028.90	0.99	33226.06	72.3	59.6 -	125.4	
74 Ge	131641.27	2.97	178474.77	73.8	59.6 -	125.4	
89 Y	828324.13	1.55	1057065.90	78.4	59.6 -	125.4	
115 In	722921.06	3.16	917456.31	78.8	59.6 -	125.4	
159 Tb	1048173.20	1.77	1264337.30	82.9	59.6 -	125.4	
209 Bi	545481.00	2.44	698508.81	78.1	59.6 -	125.4	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

9 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\021SMPL.D\021SMPL.D#
Date Acquired:	Dec 21 2012 05:48 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	2 PPM
Misc Info:	
Vial Number:	4512
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04645	-0.04645	ug/l	3.58	100.00		20.00	30.00	26.67
11 B # 3	1967	1967	ug/l	0.54	200.00	Fail	6451121.50	6346517.50	6310988.00
23 Na # 1	123	123	ug/l	3.81	90000.00		871194.13	861462.81	816339.88
24 Mg # 1	116.7	116.7	ug/l	2.80	90000.00		424199.00	407155.81	401226.03
27 Al # 1	112.8	112.8	ug/l	3.61	90000.00		436163.13	412969.22	407027.63
39 K # 2	68.11	68.11	ug/l	11.62	90000.00		43388.86	39769.79	36762.37
40 Ca # 1	125.8	125.8	ug/l	1.86	90000.00		1051909.80	1021588.80	1028942.90
47 Ti # 3	0.5694	0.5694	ug/l	14.10	1800.00		920.05	766.71	833.38
51 V # 2	1956	1956	ug/l	1.39	1800.00	Fail	4379237.50	4455430.00	4404537.50
52 Cr # 2	1995	1995	ug/l	0.32	1800.00	Fail	5306523.50	5290018.00	5252566.00
55 Mn # 3	2942	2942	ug/l	0.34	2700.00	Fail	51938604.00	51903932.00	51127080.00
56 Fe # 1	128.3	128.3	ug/l	2.72	90000.00		1537585.00	1477890.40	1456070.40
59 Co # 3	1900	1900	ug/l	0.72	1800.00	Fail	24777152.00	24917676.00	24368376.00
60 Ni # 2	2174	2174	ug/l	0.83	1800.00	Fail	1992248.60	1995718.40	1995480.10
63 Cu # 2	2128	2128	ug/l	0.86	1800.00	Fail	5097800.50	5032825.00	5089883.50
66 Zn # 3	2347	2347	ug/l	0.36	1800.00	Fail	3773759.00	3781919.50	3729670.30
75 As # 2	1976	1976	ug/l	0.78	1800.00	Fail	462114.91	464101.53	461586.50
78 Se # 1	0.01908	0.01908	ug/l	30.06	100.00		19.00	15.00	17.33
88 Sr # 3	1852	1852	ug/l	0.66	1800.00	Fail	34934348.00	34605216.00	34095468.00
95 Mo # 3	1.769	1.769	ug/l	8.50	1800.00		6658.30	6114.73	5717.88
107 Ag # 3	-0.004052	-0.004052	ug/l	49.73	100.00		240.01	213.34	236.68
111 Cd # 3	-0.004945	-0.004945	ug/l	62.61	100.00		44.20	54.41	47.89
118 Sn # 3	2158	2158	ug/l	1.01	1800.00	Fail	10074486.00	10279456.00	10167402.00
121 Sb # 3	0.1167	0.1167	ug/l	5.42	100.00		853.38	810.05	783.38
137 Ba # 3	2147	2147	ug/l	0.86	1800.00	Fail	4602854.00	4658097.50	4639892.00
202 Hg # 3	0.04281	0.04281	ug/l	6.89	5.00		106.00	100.00	94.33
205 Tl # 3	0.06466	0.06466	ug/l	8.45	20.00		1280.10	1376.78	1213.42
208 Pb # 3	1924	1924	ug/l	0.61	1800.00	Fail	37546440.00	37391140.00	36931704.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	602258.88	1.35	762890.69	78.9	60 - 125.4		611514.50	596365.31	598896.75
45 Sc # 1	497059.16	0.74	620105.56	80.2	60 - 125.4		497284.78	500599.78	493292.91
45 Sc # 3	628432.31	0.31	771387.50	81.5	60 - 125.4		628645.94	626409.25	630241.69
74 Ge # 1	145526.75	0.14	164848.81	88.3	60 - 125.4		145330.02	145506.66	145743.56
74 Ge # 2	26431.12	0.74	33226.06	79.5	60 - 125.4		26642.65	26392.10	26258.61
74 Ge # 3	150752.33	0.66	178474.77	84.5	60 - 125.4		151632.69	150939.80	149684.50
89 Y # 3	930739.69	0.61	1057065.90	88.0	60 - 125.4		934649.13	933304.88	924264.88
115 In # 3	820211.56	0.66	917456.31	89.4	60 - 125.4		821709.00	824721.75	814203.81
159 Tb # 3	1159603.40	0.90	1264337.30	91.7	60 - 125.4		1160374.90	1169611.50	1148823.90
209 Bi # 3	671427.88	0.65	698508.81	96.1	60 - 125.4		676459.88	668983.94	668839.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

13 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\022SMPL.D\022SMPL.D#
Date Acquired:	Dec 21 2012 05:54 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	RINSE
Misc Info:	
Vial Number:	1
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04026	-0.04026	ug/l	9.14	100.00		63.34	53.33	36.67
11 B # 3	18.96	18.96	ug/l	2.93	200.00		81620.70	79075.40	77276.63
23 Na # 1	210.9	210.9	ug/l	1.17	90000.00		1437708.80	1427427.90	1454877.60
24 Mg # 1	40.29	40.29	ug/l	1.86	90000.00		160852.22	156603.91	159170.36
27 Al # 1	15.23	15.23	ug/l	4.16	90000.00		69002.95	66314.94	64668.20
39 K # 2	16.8	16.8	ug/l	5.73	90000.00		22012.12	22643.05	22626.31
40 Ca # 1	49.11	49.11	ug/l	2.13	90000.00		469813.38	458924.06	458002.91
47 Ti # 3	-0.02144	-0.02144	ug/l	105.32	1800.00		333.35	286.68	316.68
51 V # 2	0.2615	0.2615	ug/l	7.88	1800.00		1270.72	1241.39	1181.38
52 Cr # 2	0.3461	0.3461	ug/l	8.15	1800.00		1298.06	1172.05	1146.71
55 Mn # 3	0.8041	0.8041	ug/l	3.01	2700.00		23691.31	23497.77	22739.97
56 Fe # 1	20.67	20.67	ug/l	3.86	90000.00		282986.47	274262.69	265664.91
59 Co # 3	0.2572	0.2572	ug/l	3.09	1800.00		3940.60	3900.60	3717.21
60 Ni # 2	0.397	0.397	ug/l	8.78	1800.00		450.68	414.67	382.67
63 Cu # 2	0.5342	0.5342	ug/l	6.47	1800.00		1562.09	1618.83	1460.74
66 Zn # 3	-0.1296	-0.1296	ug/l	58.40	1800.00		1230.08	1016.73	990.06
75 As # 2	0.6086	0.6086	ug/l	8.00	1800.00		184.34	183.00	163.67
78 Se # 1	0.01473	0.01473	ug/l	14.26	100.00		17.00	16.33	15.33
88 Sr # 3	0.4158	0.4158	ug/l	4.22	1800.00		10654.01	9960.10	9996.80
95 Mo # 3	0.3363	0.3363	ug/l	9.55	1800.00		1970.19	2100.20	1866.84
107 Ag # 3	-0.01839	-0.01839	ug/l	11.50	100.00		136.67	106.67	133.34
111 Cd # 3	-0.006117	-0.006117	ug/l	107.49	100.00		42.61	62.56	42.64
118 Sn # 3	0.7265	0.7265	ug/l	3.85	1800.00		4080.68	3917.28	3753.91
121 Sb # 3	0.03294	0.03294	ug/l	11.85	100.00		433.35	443.35	403.35
137 Ba # 3	0.2493	0.2493	ug/l	3.22	1800.00		703.37	710.04	726.71
202 Hg # 3	0.02606	0.02606	ug/l	8.56	5.00		72.00	73.33	65.33
205 Tl # 3	-0.02719	-0.02719	ug/l	3.36	20.00		110.00	90.00	110.00
208 Pb # 3	0.2408	0.2408	ug/l	5.86	1800.00		6207.37	5833.99	5627.29

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	673320.25	0.28	762890.69	88.3	60 - 125.4		674394.75	674413.94	671152.06
45 Sc # 1	545484.63	0.56	620105.56	88.0	60 - 125.4		541996.06	546918.13	547539.81
45 Sc # 3	693579.94	0.08	771387.50	89.9	60 - 125.4		694194.06	693392.50	693153.25
74 Ge # 1	151504.14	0.66	164848.81	91.9	60 - 125.4		152635.59	150754.80	151122.02
74 Ge # 2	29109.66	0.71	33226.06	87.6	60 - 125.4		29121.91	28898.12	29308.96
74 Ge # 3	163876.55	0.29	178474.77	91.8	60 - 125.4		163790.28	164396.41	163442.97
89 Y # 3	985645.69	0.43	1057065.90	93.2	60 - 125.4		990494.69	983369.88	983072.69
115 In # 3	860444.25	0.92	917456.31	93.8	60 - 125.4		863480.38	866362.44	851490.00
159 Tb # 3	1178286.50	0.59	1264337.30	93.2	60 - 125.4		1179352.30	1184608.50	1170898.50
209 Bi # 3	671443.00	0.45	698508.81	96.1	60 - 125.4		673256.69	673150.94	667921.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\023SMPL.D\023SMPL.D#
Date Acquired:	Dec 21 2012 06:01 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	RINSE
Misc Info:	
Vial Number:	1
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04213	-0.04213	ug/l	8.22	100.00		60.00	43.33	33.33
11 B # 3	10.77	10.77	ug/l	0.70	200.00		51738.22	50678.23	50698.66
23 Na # 1	196.4	196.4	ug/l	1.26	90000.00		1462854.10	1440349.40	1442169.80
24 Mg # 1	32.66	32.66	ug/l	0.27	90000.00		138673.45	139087.38	137793.72
27 Al # 1	8.372	8.372	ug/l	1.02	90000.00		42194.95	41908.07	41068.84
39 K # 2	13.49	13.49	ug/l	0.81	90000.00		22095.73	22159.02	21858.45
40 Ca # 1	40.97	40.97	ug/l	0.68	90000.00		417331.06	417840.22	416871.09
47 Ti # 3	-0.1068	-0.1068	ug/l	7.58	1800.00		240.01	233.34	220.01
51 V # 2	0.0323	0.0323	ug/l	36.16	1800.00		712.69	716.02	652.02
52 Cr # 2	0.1279	0.1279	ug/l	16.11	1800.00		671.35	574.68	544.01
55 Mn # 3	0.5105	0.5105	ug/l	3.09	2700.00		18344.28	18094.03	17686.92
56 Fe # 1	13.04	13.04	ug/l	1.00	90000.00		192196.53	190308.45	187071.48
59 Co # 3	0.06359	0.06359	ug/l	9.25	1800.00		1240.09	1073.40	1103.41
60 Ni # 2	0.1736	0.1736	ug/l	6.20	1800.00		210.67	202.67	185.34
63 Cu # 2	0.2338	0.2338	ug/l	1.49	1800.00		806.69	802.02	776.69
66 Zn # 3	-0.3483	-0.3483	ug/l	14.08	1800.00		683.37	806.71	643.36
75 As # 2	0.2349	0.2349	ug/l	8.07	1800.00		90.00	79.67	84.00
78 Se # 1	0.01109	0.01109	ug/l	62.68	100.00		14.00	13.67	18.33
88 Sr # 3	0.244	0.244	ug/l	2.78	1800.00		7155.17	6744.99	6714.98
95 Mo # 3	0.1002	0.1002	ug/l	29.26	1800.00		1360.10	1203.42	1210.09
107 Ag # 3	-0.01715	-0.01715	ug/l	9.06	100.00		146.67	143.34	123.34
111 Cd # 3	-0.001881	-0.001881	ug/l	253.96	100.00		56.17	66.22	49.55
118 Sn # 3	0.2645	0.2645	ug/l	9.43	1800.00		1793.50	1576.79	1600.13
121 Sb # 3	0.0289	0.0289	ug/l	19.83	100.00		383.35	433.35	410.02
137 Ba # 3	0.04683	0.04683	ug/l	16.53	1800.00		276.68	243.34	256.68
202 Hg # 3	0.02212	0.02212	ug/l	9.50	5.00		63.33	58.67	67.00
205 Tl # 3	-0.02798	-0.02798	ug/l	3.75	20.00		96.67	106.67	80.00
208 Pb # 3	0.03612	0.03612	ug/l	21.41	1800.00		2090.13	1823.45	1833.44

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	691496.63	1.45	762890.69	90.6	60 - 125.4		702240.50	682360.31	689888.94
45 Sc # 1	582394.88	0.73	620105.56	93.9	60 - 125.4		583379.50	586093.50	577711.75
45 Sc # 3	717658.50	0.95	771387.50	93.0	60 - 125.4		718638.75	723925.75	710411.00
74 Ge # 1	156104.97	0.13	164848.81	94.7	60 - 125.4		156159.14	156277.55	155878.23
74 Ge # 2	30498.36	0.84	33226.06	91.8	60 - 125.4		30654.75	30636.46	30203.88
74 Ge # 3	166983.86	0.37	178474.77	93.6	60 - 125.4		167627.73	166410.00	166913.88
89 Y # 3	994374.13	1.64	1057065.90	94.1	60 - 125.4		1012696.00	988792.25	981634.06
115 In # 3	873748.25	0.39	917456.31	95.2	60 - 125.4		870260.94	877116.88	873866.94
159 Tb # 3	1197324.60	0.66	1264337.30	94.7	60 - 125.4		1201171.30	1188234.30	1202568.40
209 Bi # 3	669365.44	0.70	698508.81	95.8	60 - 125.4		670062.31	664344.06	673690.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\024SMPL.D\024SMPL.D#
Date Acquired:	Dec 21 2012 06:08 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	RINSE
Misc Info:	
Vial Number:	1
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0389	-0.0389	ug/l	15.56	100.00		40.00	83.34	53.33
11 B # 3	6.769	6.769	ug/l	3.18	200.00		37012.13	37483.20	37098.87
23 Na # 1	195	195	ug/l	1.56	90000.00		1467600.00	1468617.50	1444651.50
24 Mg # 1	30.15	30.15	ug/l	0.15	90000.00		130048.21	129601.22	130952.58
27 Al # 1	5.97	5.97	ug/l	0.56	90000.00		31714.70	31704.56	32162.25
39 K # 2	12.4	12.4	ug/l	6.05	90000.00		21972.13	21654.87	22132.47
40 Ca # 1	39.2	39.2	ug/l	0.50	90000.00		404009.25	406055.66	409662.69
47 Ti # 3	-0.1069	-0.1069	ug/l	26.36	1800.00		200.01	240.01	263.34
51 V # 2	-0.05204	-0.05204	ug/l	5.92	1800.00		494.68	478.68	472.01
52 Cr # 2	0.05088	0.05088	ug/l	1.24	1800.00		372.01	365.34	364.01
55 Mn # 3	0.4647	0.4647	ug/l	5.99	2700.00		17096.19	17756.98	17526.68
56 Fe # 1	10.55	10.55	ug/l	0.92	90000.00		159449.30	158468.58	157749.09
59 Co # 3	0.03622	0.03622	ug/l	8.96	1800.00		716.71	733.37	826.72
60 Ni # 2	0.09394	0.09394	ug/l	3.19	1800.00		120.67	118.00	112.67
63 Cu # 2	0.1444	0.1444	ug/l	4.85	1800.00		583.35	540.01	552.01
66 Zn # 3	-0.3701	-0.3701	ug/l	7.05	1800.00		716.70	693.37	643.37
75 As # 2	0.09976	0.09976	ug/l	26.09	1800.00		55.33	50.67	40.67
78 Se # 1	0.0104	0.0104	ug/l	87.78	100.00		11.67	18.67	15.67
88 Sr # 3	0.2153	0.2153	ug/l	4.58	1800.00		6361.49	6671.63	6474.85
95 Mo # 3	0.007358	0.007358	ug/l	278.88	1800.00		1026.73	976.73	913.39
107 Ag # 3	-0.01667	-0.01667	ug/l	9.72	100.00		143.34	126.67	160.01
111 Cd # 3	-0.01547	-0.01547	ug/l	22.20	100.00		32.95	39.64	29.66
118 Sn # 3	0.1732	0.1732	ug/l	6.47	1800.00		1186.75	1240.09	1203.42
121 Sb # 3	0.03374	0.03374	ug/l	3.73	100.00		450.02	436.69	460.02
137 Ba # 3	0.03334	0.03334	ug/l	30.83	1800.00		243.34	240.01	206.67
202 Hg # 3	0.02248	0.02248	ug/l	8.02	5.00		66.33	66.00	62.67
205 Tl # 3	-0.02726	-0.02726	ug/l	3.87	20.00		120.01	90.00	106.67
208 Pb # 3	0.01396	0.01396	ug/l	56.54	1800.00		1346.73	1570.09	1643.42

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	710655.25	1.55	762890.69	93.2	60 - 125.4		721634.13	699533.94	710797.69
45 Sc # 1	590920.44	0.38	620105.56	95.3	60 - 125.4		590275.00	589037.63	593448.56
45 Sc # 3	728272.31	2.02	771387.50	94.4	60 - 125.4		729506.56	713010.19	742300.25
74 Ge # 1	158769.70	0.35	164848.81	96.3	60 - 125.4		159049.53	159127.67	158131.91
74 Ge # 2	31006.58	0.75	33226.06	93.3	60 - 125.4		31239.24	31005.49	30775.01
74 Ge # 3	170056.59	1.94	178474.77	95.3	60 - 125.4		169904.98	166830.00	173434.80
89 Y # 3	1026800.20	1.46	1057065.90	97.1	60 - 125.4		1019608.30	1016793.90	1043998.30
115 In # 3	882792.19	2.51	917456.31	96.2	60 - 125.4		891903.81	857564.88	898907.81
159 Tb # 3	1213850.80	1.84	1264337.30	96.0	60 - 125.4		1212499.40	1192273.40	1236779.10
209 Bi # 3	684362.31	2.35	698508.81	98.0	60 - 125.4		687577.19	666916.88	698592.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\025SMPL.D\025SMPL.D#
Date Acquired:	Dec 21 2012 06:14 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	RINSE
Misc Info:	
Vial Number:	2
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05177	-0.05177	ug/l	0.11	100.00		10.00	10.00	10.00
11 B # 3	4.19	4.19	ug/l	3.69	200.00		28134.45	27476.76	27857.39
23 Na # 1	29.63	29.63	ug/l	1.52	90000.00		424418.84	426049.00	425869.25
24 Mg # 1	5.336	5.336	ug/l	1.89	90000.00		27459.27	27218.34	27671.80
27 Al # 1	1.285	1.285	ug/l	7.65	90000.00		10897.21	11794.65	11547.72
39 K # 2	2.051	2.051	ug/l	11.41	90000.00		17553.29	17563.26	17446.54
40 Ca # 1	4.857	4.857	ug/l	0.16	90000.00		79800.12	80663.73	79430.91
47 Ti # 3	-0.2358	-0.2358	ug/l	6.25	1800.00		76.67	100.00	106.67
51 V # 2	-0.08051	-0.08051	ug/l	22.79	1800.00		440.68	358.01	436.68
52 Cr # 2	0.01175	0.01175	ug/l	47.91	1800.00		267.34	236.00	243.34
55 Mn # 3	-0.1974	-0.1974	ug/l	1.29	2700.00		4424.07	4330.78	4334.05
56 Fe # 1	2.164	2.164	ug/l	2.96	90000.00		44182.18	42971.53	43720.69
59 Co # 3	-0.0005591	-0.0005591	ug/l	246.47	1800.00		233.34	230.01	196.67
60 Ni # 2	0.02221	0.02221	ug/l	10.79	1800.00		38.67	39.33	43.33
63 Cu # 2	0.05568	0.05568	ug/l	5.71	1800.00		321.34	307.34	314.67
66 Zn # 3	-0.5246	-0.5246	ug/l	4.74	1800.00		393.35	456.69	370.02
75 As # 2	0.03921	0.03921	ug/l	17.37	1800.00		32.00	31.33	34.67
78 Se # 1	0.002614	0.002614	ug/l	178.35	100.00		14.33	11.00	11.67
88 Sr # 3	-0.05824	-0.05824	ug/l	4.57	1800.00		816.71	920.06	883.39
95 Mo # 3	-0.1578	-0.1578	ug/l	3.07	1800.00		450.02	426.69	463.36
107 Ag # 3	-0.02864	-0.02864	ug/l	4.57	100.00		33.33	53.34	46.67
111 Cd # 3	-0.02063	-0.02063	ug/l	14.78	100.00		19.83	26.51	29.83
118 Sn # 3	0.03721	0.03721	ug/l	8.22	1800.00		543.36	500.02	536.69
121 Sb # 3	-0.0117	-0.0117	ug/l	32.86	100.00		183.34	196.67	223.34
137 Ba # 3	-0.03469	-0.03469	ug/l	37.24	1800.00		110.00	56.67	53.34
202 Hg # 3	0.01146	0.01146	ug/l	21.41	5.00		43.67	40.33	49.33
205 Tl # 3	-0.03171	-0.03171	ug/l	2.29	20.00		40.00	40.00	56.67
208 Pb # 3	-0.02437	-0.02437	ug/l	10.74	1800.00		726.70	803.37	730.05

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	722787.88	2.10	762890.69	94.7	60 - 125.4		736313.13	725733.75	706316.88
45 Sc # 1	589726.06	0.71	620105.56	95.1	60 - 125.4		588424.50	594392.50	586361.19
45 Sc # 3	735340.06	0.83	771387.50	95.3	60 - 125.4		738554.13	739169.81	728296.31
74 Ge # 1	158664.00	0.51	164848.81	96.2	60 - 125.4		158450.20	159557.84	157983.94
74 Ge # 2	31434.64	0.68	33226.06	94.6	60 - 125.4		31285.99	31680.19	31337.73
74 Ge # 3	170435.09	0.06	178474.77	95.5	60 - 125.4		170543.31	170348.13	170413.86
89 Y # 3	1023541.60	0.28	1057065.90	96.8	60 - 125.4		1026833.60	1022190.70	1021600.20
115 In # 3	892048.19	1.80	917456.31	97.2	60 - 125.4		908963.63	876930.06	890251.00
159 Tb # 3	1220199.80	0.53	1264337.30	96.5	60 - 125.4		1224166.50	1223656.60	1212776.40
209 Bi # 3	675957.19	1.10	698508.81	96.8	60 - 125.4		683423.31	668508.13	675940.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\026_CCV.D\026_CCV.D#
Date Acquired: Dec 21 2012 06:21 pm
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	49.74 ug/l	2.88	50.00	89.6 - 110	
11 B	101.30 ug/l	2.97	100.00	89.6 - 110	
23 Na	4765.00 ug/l	2.53	5000.00	89.6 - 110	
24 Mg	4820.00 ug/l	1.70	5000.00	89.6 - 110	
27 Al	482.20 ug/l	2.49	500.00	89.6 - 110	
39 K	4945.00 ug/l	0.42	5000.00	89.6 - 110	
40 Ca	4920.00 ug/l	1.24	5000.00	89.6 - 110	
47 Ti	49.51 ug/l	4.81	50.00	89.6 - 110	
51 V	49.51 ug/l	1.01	50.00	89.6 - 110	
52 Cr	49.81 ug/l	1.31	50.00	89.6 - 110	
55 Mn	501.50 ug/l	3.01	500.00	89.6 - 110	
56 Fe	4959.00 ug/l	1.39	5000.00	89.6 - 110	
59 Co	50.07 ug/l	2.48	50.00	89.6 - 110	
60 Ni	50.28 ug/l	1.48	50.00	89.6 - 110	
63 Cu	50.35 ug/l	1.06	50.00	89.6 - 110	
66 Zn	49.39 ug/l	3.12	50.00	89.6 - 110	
75 As	49.99 ug/l	1.55	50.00	89.6 - 110	
78 Se	49.21 ug/l	1.25	50.00	89.6 - 110	
88 Sr	50.39 ug/l	4.23	50.00	89.6 - 110	
95 Mo	50.27 ug/l	4.78	50.00	89.6 - 110	
107 Ag	49.38 ug/l	3.85	50.00	89.6 - 110	
111 Cd	49.90 ug/l	3.47	50.00	89.6 - 110	
118 Sn	49.99 ug/l	4.27	50.00	89.6 - 110	
121 Sb	49.59 ug/l	3.99	50.00	89.6 - 110	
137 Ba	49.90 ug/l	4.45	50.00	89.6 - 110	
202 Hg	2.43 ug/l	3.23	2.50	89.6 - 110	
205 Tl	9.85 ug/l	3.01	10.00	89.6 - 110	
208 Pb	48.32 ug/l	1.90	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	713133.81	3.14	762890.69	93.5	59.6 - 125	
45 Sc	609446.00	2.19	620105.56	98.3	59.6 - 125	
45 Sc	750519.06	5.08	771387.50	97.3	59.6 - 125	
74 Ge	160025.66	1.10	164848.81	97.1	59.6 - 125	
74 Ge	31402.92	1.17	33226.06	94.5	59.6 - 125	
74 Ge	170521.63	3.45	178474.77	95.5	59.6 - 125	
89 Y	1024600.40	4.02	1057065.90	96.9	59.6 - 125	
115 In	889238.31	4.42	917456.31	96.9	59.6 - 125	
159 Tb	1224851.10	3.14	1264337.30	96.9	59.6 - 125	
209 Bi	674593.31	2.43	698508.81	96.6	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\027_CCB.D\027_CCB.D#
Date Acquired: Dec 21 2012 06:28 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	7.73	0.05	
11 B	3.04 ug/l	5.72	10.00	
23 Na	-2.44 ug/l	28.67	25.00	
24 Mg	1.11 ug/l	22.09	25.00	
27 Al	0.00 ug/l	115860.00	5.00	
39 K	1.53 ug/l	67.04	25.00	
40 Ca	1.74 ug/l	14.36	25.00	
47 Ti	-0.26 ug/l	2.22	0.50	
51 V	-0.07 ug/l	19.02	0.50	
52 Cr	0.01 ug/l	29.86	0.50	
55 Mn	-0.20 ug/l	4.76	0.50	
56 Fe	2.02 ug/l	11.38	10.00	
59 Co	0.00 ug/l	935.33	0.05	
60 Ni	0.01 ug/l	44.21	0.50	
63 Cu	0.03 ug/l	26.17	0.50	
66 Zn	-0.56 ug/l	1.22	2.00	
75 As	0.04 ug/l	13.40	0.25	
78 Se	0.04 ug/l	21.60	0.25	
88 Sr	-0.09 ug/l	0.85	0.10	
95 Mo	-0.12 ug/l	16.75	0.50	
107 Ag	-0.02 ug/l	8.57	0.10	
111 Cd	0.00 ug/l	121.96	0.05	
118 Sn	0.02 ug/l	24.88	0.50	
121 Sb	0.29 ug/l	7.11	0.50	
137 Ba	-0.04 ug/l	11.96	0.50	
202 Hg	0.02 ug/l	7.96	0.08	
205 Tl	-0.03 ug/l	2.29	0.10	
208 Pb	-0.03 ug/l	15.36	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	727372.31	2.28	762890.69	95.3	59.6 - 125	
45 Sc	603116.06	1.62	620105.56	97.3	59.6 - 125	
45 Sc	764085.44	0.64	771387.50	99.1	59.6 - 125	
74 Ge	162252.73	0.42	164848.81	98.4	59.6 - 125	
74 Ge	32068.13	1.74	33226.06	96.5	59.6 - 125	
74 Ge	174499.94	0.75	178474.77	97.8	59.6 - 125	
89 Y	1048434.60	0.14	1057065.90	99.2	59.6 - 125	
115 In	912029.56	0.56	917456.31	99.4	59.6 - 125	
159 Tb	1229189.80	1.95	1264337.30	97.2	59.6 - 125	
209 Bi	684828.19	0.88	698508.81	98.0	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\028SMPL.D\028SMPL.D#
Date Acquired:	Dec 21 2012 06:34 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lb 680-260225_12-d
Misc Info:	3010 1/5
Vial Number:	2101
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0529	-0.0529	ug/l	2.48	100.00		10.00	0.00	6.67
11 B # 3	4.416	4.416	ug/l	3.49	200.00		28408.18	28471.73	27670.31
23 Na # 1	24900	24900	ug/l	1.40	90000.00		158119230.00	160957070.00	158033140.00
24 Mg # 1	3.947	3.947	ug/l	13.81	90000.00		24552.13	20877.05	21101.67
27 Al # 1	0.4866	0.4866	ug/l	5.78	90000.00		7948.85	8055.52	8339.09
39 K # 2	8.398	8.398	ug/l	12.09	90000.00		20943.98	20366.58	20119.69
40 Ca # 1	24.4	24.4	ug/l	1.28	90000.00		270814.22	272011.31	270686.66
47 Ti # 3	-0.2008	-0.2008	ug/l	6.73	1800.00		116.67	146.67	136.67
51 V # 2	0.1054	0.1054	ug/l	14.02	1800.00		961.37	884.03	897.36
52 Cr # 2	0.05302	0.05302	ug/l	9.55	1800.00		375.34	395.34	370.01
55 Mn # 3	-0.2774	-0.2774	ug/l	1.37	2700.00		2850.34	2750.31	2686.97
56 Fe # 1	0.5188	0.5188	ug/l	34.81	90000.00		21127.79	24285.54	19392.54
59 Co # 3	-0.009532	-0.009532	ug/l	9.85	1800.00		83.34	103.34	76.67
60 Ni # 2	0.3551	0.3551	ug/l	2.52	1800.00		408.01	391.34	416.01
63 Cu # 2	0.1071	0.1071	ug/l	2.82	1800.00		452.68	463.34	470.01
66 Zn # 3	0.08493	0.08493	ug/l	65.16	1800.00		1400.10	1596.80	1513.45
75 As # 2	0.1044	0.1044	ug/l	10.72	1800.00		54.33	50.33	48.33
78 Se # 1	0.01163	0.01163	ug/l	63.30	100.00		18.67	16.33	13.00
88 Sr # 3	-0.03778	-0.03778	ug/l	6.27	1800.00		1233.42	1330.10	1316.76
95 Mo # 3	-0.1966	-0.1966	ug/l	5.09	1800.00		300.01	350.02	296.68
107 Ag # 3	-0.02978	-0.02978	ug/l	3.52	100.00		33.33	43.33	26.67
111 Cd # 3	-0.01848	-0.01848	ug/l	21.39	100.00		36.56	23.20	26.56
118 Sn # 3	0.1114	0.1114	ug/l	5.04	1800.00		910.06	853.39	913.39
121 Sb # 3	0.1394	0.1394	ug/l	9.51	100.00		1003.40	960.06	1096.74
137 Ba # 3	0.028	0.028	ug/l	48.43	1800.00		193.34	203.34	253.34
202 Hg # 3	0.01644	0.01644	ug/l	19.81	5.00		59.33	61.00	49.67
205 Tl # 3	-0.03217	-0.03217	ug/l	3.46	20.00		53.34	23.33	40.00
208 Pb # 3	0.03875	0.03875	ug/l	12.98	1800.00		2163.47	2170.14	1990.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	709706.56	1.62	762890.69	93.0	60 - 125.4		722423.13	700119.75	706576.75
45 Sc # 1	602657.44	1.10	620105.56	97.2	60 - 125.4		595476.50	603926.44	608569.38
45 Sc # 3	736266.63	0.29	771387.50	95.4	60 - 125.4		734569.25	738681.88	735548.75
74 Ge # 1	160712.91	0.61	164848.81	97.5	60 - 125.4		160022.53	161840.00	160276.20
74 Ge # 2	31548.72	0.69	33226.06	95.0	60 - 125.4		31588.22	31312.71	31745.24
74 Ge # 3	169609.72	0.31	178474.77	95.0	60 - 125.4		169992.41	169837.38	168999.36
89 Y # 3	1023738.90	0.38	1057065.90	96.8	60 - 125.4		1020448.80	1027973.30	1022794.90
115 In # 3	877630.69	0.63	917456.31	95.7	60 - 125.4		879558.94	871411.94	881921.44
159 Tb # 3	1207894.30	0.14	1264337.30	95.5	60 - 125.4		1209714.10	1207531.90	1206436.80
209 Bi # 3	717602.88	0.79	698508.81	102.7	60 - 125.4		723270.44	711906.06	717631.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\029SMPL.D\029SMPL.D#
Date Acquired:	Dec 21 2012 06:41 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lcs 680-260469_10-a
Misc Info:	3010 1/5
Vial Number:	2102
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.669	9.669	ug/l	2.02	100.00		36133.32	35929.25	35588.90
11 B # 3	42.4	42.4	ug/l	1.95	200.00		168360.22	166604.09	165644.86
23 Na # 1	26910	26910	ug/l	2.28	90000.00		173499550.00	172009920.00	171886160.00
24 Mg # 1	927	927	ug/l	1.80	90000.00		3921635.30	3915772.00	3953660.00
27 Al # 1	904.7	904.7	ug/l	1.80	90000.00		4041266.50	4037486.30	4047048.30
39 K # 2	924.2	924.2	ug/l	0.50	90000.00		430731.91	431018.28	435307.13
40 Ca # 1	956.7	956.7	ug/l	1.64	90000.00		9316945.00	9334828.00	9370531.00
47 Ti # 3	18.68	18.68	ug/l	2.45	1800.00		21598.28	20583.59	20466.87
51 V # 2	19.06	19.06	ug/l	0.57	1800.00		51328.32	51154.41	51422.67
52 Cr # 2	19.19	19.19	ug/l	1.15	1800.00		59975.92	60339.88	59973.13
55 Mn # 3	96.32	96.32	ug/l	0.16	2700.00		1910035.60	1890128.30	1878946.00
56 Fe # 1	908.7	908.7	ug/l	1.47	90000.00		12714801.00	12812852.00	12722734.00
59 Co # 3	9.068	9.068	ug/l	0.46	1800.00		133057.45	130781.06	130784.13
60 Ni # 2	19.61	19.61	ug/l	0.94	1800.00		21397.58	21092.52	21171.98
63 Cu # 2	19.24	19.24	ug/l	1.01	1800.00		54072.61	54381.06	54223.17
66 Zn # 3	19.55	19.55	ug/l	0.97	1800.00		36986.86	36151.63	35627.18
75 As # 2	19.56	19.56	ug/l	0.48	1800.00		5390.92	5384.25	5481.29
78 Se # 1	17.79	17.79	ug/l	1.10	100.00		6744.44	6868.16	6827.81
88 Sr # 3	17.32	17.32	ug/l	0.09	1800.00		356823.78	352150.81	355743.28
95 Mo # 3	19.49	19.49	ug/l	1.30	1800.00		63405.80	63352.35	62341.66
107 Ag # 3	9.505	9.505	ug/l	1.77	100.00		79186.31	78291.35	77289.88
111 Cd # 3	9.423	9.423	ug/l	1.88	100.00		16569.16	16385.63	16122.55
118 Sn # 3	19.07	19.07	ug/l	1.02	1800.00		96462.06	96110.47	96130.39
121 Sb # 3	10.2	10.2	ug/l	0.95	100.00		55487.87	55256.80	54687.90
137 Ba # 3	19.38	19.38	ug/l	1.70	1800.00		45231.81	44489.34	44602.96
202 Hg # 3	0.9416	0.9416	ug/l	1.84	5.00		1793.45	1777.45	1792.78
205 Tl # 3	7.457	7.457	ug/l	0.85	20.00		101338.06	99847.99	100774.34
208 Pb # 3	8.555	8.555	ug/l	0.67	1800.00		177360.00	175235.55	173282.45

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	685019.19	2.62	762890.69	89.8	60 - 125.4		705720.38	675870.63	673466.44
45 Sc # 1	604788.44	1.76	620105.56	97.5	60 - 125.4		593024.13	613806.69	607534.44
45 Sc # 3	732539.81	1.02	771387.50	95.0	60 - 125.4		737685.00	736003.13	723931.31
74 Ge # 1	158031.83	0.18	164848.81	95.9	60 - 125.4		158287.06	157735.17	158073.28
74 Ge # 2	31149.05	0.83	33226.06	93.7	60 - 125.4		31159.10	30886.91	31401.15
74 Ge # 3	168031.44	0.96	178474.77	94.1	60 - 125.4		169692.88	167926.88	166474.56
89 Y # 3	1016536.60	0.65	1057065.90	96.2	60 - 125.4		1022330.40	1009340.40	1017939.30
115 In # 3	875268.31	0.83	917456.31	95.4	60 - 125.4		868079.56	882628.94	875096.31
159 Tb # 3	1204651.40	0.17	1264337.30	95.3	60 - 125.4		1204969.80	1206496.90	1202487.30
209 Bi # 3	704529.69	1.57	698508.81	100.9	60 - 125.4		712672.50	709008.44	691908.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\030SMPL.D\030SMPL.D#
Date Acquired:	Dec 21 2012 06:48 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85840-b-2-g
Misc Info:	3010 1/5
Vial Number:	2103
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03945	-0.03945	ug/l	2.78	100.00		66.67	60.00	56.67
11 B # 3	3910	3910	ug/l	0.46	200.00	Fail	16226933.00	16000953.00	15760550.00
23 Na # 1	27700	27700	ug/l	0.20	90000.00		189114800.00	193116500.00	193207460.00
24 Mg # 1	92.5	92.5	ug/l	2.46	90000.00		429911.34	436219.34	421193.00
27 Al # 1	10.13	10.13	ug/l	10.69	90000.00		59235.77	56177.36	50265.90
39 K # 2	1844	1844	ug/l	2.32	90000.00		913385.69	890812.06	927665.63
40 Ca # 1	756.3	756.3	ug/l	1.59	90000.00		8001380.00	7959183.00	7999371.50
47 Ti # 3	4.78	4.78	ug/l	1.39	1800.00		6331.48	6308.16	6228.09
51 V # 2	0.2161	0.2161	ug/l	1.78	1800.00		1268.06	1285.39	1310.73
52 Cr # 2	0.6013	0.6013	ug/l	2.06	1800.00		2246.17	2274.17	2214.83
55 Mn # 3	1.919	1.919	ug/l	4.35	2700.00		53077.97	49182.95	49356.48
56 Fe # 1	17.88	17.88	ug/l	7.67	90000.00		302168.66	288481.09	268014.16
59 Co # 3	0.2601	0.2601	ug/l	5.72	1800.00		4627.46	4507.43	4107.31
60 Ni # 2	0.7449	0.7449	ug/l	2.86	1800.00		889.36	859.36	903.36
63 Cu # 2	5.399	5.399	ug/l	0.27	1800.00		16319.67	16516.52	16646.67
66 Zn # 3	118.9	118.9	ug/l	0.13	1800.00		238765.25	235749.94	234244.11
75 As # 2	8.782	8.782	ug/l	1.67	1800.00		2639.56	2645.89	2605.55
78 Se # 1	0.6047	0.6047	ug/l	8.02	100.00		251.00	244.67	281.34
88 Sr # 3	2.851	2.851	ug/l	0.58	1800.00		65932.51	65909.41	64566.54
95 Mo # 3	52.68	52.68	ug/l	1.09	1800.00		184313.77	182459.69	181325.77
107 Ag # 3	-0.0207	-0.0207	ug/l	21.14	100.00		140.01	140.01	73.34
111 Cd # 3	0.6249	0.6249	ug/l	10.21	100.00		1361.92	1215.92	1129.66
118 Sn # 3	1.262	1.262	ug/l	0.33	1800.00		7208.56	7221.89	7251.93
121 Sb # 3	11.45	11.45	ug/l	1.14	100.00		67522.25	67622.59	67087.10
137 Ba # 3	1.281	1.281	ug/l	2.85	1800.00		3390.49	3413.83	3270.47
202 Hg # 3	0.03772	0.03772	ug/l	5.97	5.00		106.00	102.67	97.67
205 Tl # 3	0.00129	0.00129	ug/l	127.52	20.00		540.03	536.70	483.36
208 Pb # 3	464.5	464.5	ug/l	0.82	1800.00		10161493.00	10090017.00	10061123.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	761422.13	1.05	762890.69	99.8	60 - 125.4		768343.94	763250.63	752671.88
45 Sc # 1	653404.44	1.40	620105.56	105.4	60 - 125.4		642846.56	657923.25	659443.56
45 Sc # 3	821821.44	1.00	771387.50	106.5	60 - 125.4		815037.56	830966.38	819460.38
74 Ge # 1	168849.81	0.57	164848.81	102.4	60 - 125.4		167863.39	169788.97	168897.11
74 Ge # 2	33523.91	1.07	33226.06	100.9	60 - 125.4		33114.74	33670.87	33786.12
74 Ge # 3	185746.77	0.87	178474.77	104.1	60 - 125.4		187462.47	185544.14	184233.69
89 Y # 3	1107067.40	1.47	1057065.90	104.7	60 - 125.4		1121952.80	1109517.90	1089731.50
115 In # 3	947608.00	0.44	917456.31	103.3	60 - 125.4		947411.63	943522.88	951889.56
159 Tb # 3	1282066.00	1.68	1264337.30	101.4	60 - 125.4		1291126.50	1297648.00	1257423.50
209 Bi # 3	753417.56	0.31	698508.81	107.9	60 - 125.4		751031.94	753501.50	755719.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\031SMPL.D\031SMPL.D#
Date Acquired:	Dec 21 2012 06:54 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85840-b-2-g SD
Misc Info:	3010 1/25
Vial Number:	2104
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.25345	-0.05069	ug/l	2.65	100.00		20.00	10.00	13.33
11 B # 3	3920.5	784.1	ug/l	0.83	200.00	Fail	3084101.30	3137332.30	3132552.00
23 Na # 1	27960	5592	ug/l	1.56	90000.00		37597964.00	37510156.00	38007044.00
24 Mg # 1	86.1	17.22	ug/l	1.67	90000.00		82500.31	82793.71	80976.13
27 Al # 1	6.03	1.206	ug/l	6.21	90000.00		12084.80	12018.79	11524.39
39 K # 2	1724	344.8	ug/l	0.41	90000.00		184041.53	186001.72	186582.67
40 Ca # 1	797	159.4	ug/l	1.31	90000.00		1661329.80	1660432.40	1655551.90
47 Ti # 3	2.037	0.4074	ug/l	1.35	1800.00		876.72	890.06	863.38
51 V # 2	0.1805	0.0361	ug/l	9.30	1800.00		774.02	770.69	785.36
52 Cr # 2	0.5555	0.1111	ug/l	5.44	1800.00		580.01	629.35	597.35
55 Mn # 3	0.38495	0.07699	ug/l	12.07	2700.00		10853.97	10570.52	10397.16
56 Fe # 1	14.03	2.806	ug/l	4.51	90000.00		57637.55	55574.81	55421.09
59 Co # 3	0.1994	0.03988	ug/l	3.49	1800.00		886.72	856.72	896.72
60 Ni # 2	1.352	0.2704	ug/l	8.07	1800.00		358.01	314.67	327.34
63 Cu # 2	5.395	1.079	ug/l	1.16	1800.00		3444.39	3474.39	3421.05
66 Zn # 3	117.45	23.49	ug/l	0.47	1800.00		47377.65	47511.45	47521.33
75 As # 2	4.2925	0.8585	ug/l	4.61	1800.00		288.00	269.34	280.67
78 Se # 1	0.48555	0.09711	ug/l	12.43	100.00		45.67	54.33	55.33
88 Sr # 3	2.535	0.507	ug/l	1.78	1800.00		13225.97	13312.65	13492.83
95 Mo # 3	51.45	10.29	ug/l	0.58	1800.00		36874.14	36433.15	36042.39
107 Ag # 3	-0.14735	-0.02947	ug/l	4.31	100.00		46.67	46.67	26.67
111 Cd # 3	0.4962	0.09924	ug/l	24.52	100.00		206.37	253.20	293.34
118 Sn # 3	1.1595	0.2319	ug/l	4.85	1800.00		1686.81	1626.80	1540.13
121 Sb # 3	26.97	5.394	ug/l	1.46	100.00		31853.70	31329.41	31536.49
137 Ba # 3	1.103	0.2206	ug/l	9.43	1800.00		720.04	766.71	653.37
202 Hg # 3	0.1089	0.02178	ug/l	13.39	5.00		73.33	68.00	61.33
205 Tl # 3	-0.111	-0.0222	ug/l	3.30	20.00		173.34	193.34	183.34
208 Pb # 3	498.6	99.72	ug/l	0.75	1800.00		2107033.30	2086557.30	2070056.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	737883.88	1.64	762890.69	96.7	60 - 125.4		725305.31	749456.13	738890.19
45 Sc # 1	632733.56	1.25	620105.56	102.0	60 - 125.4		625102.00	640841.88	632256.69
45 Sc # 3	801723.06	1.75	771387.50	103.9	60 - 125.4		794780.81	817836.75	792551.56
74 Ge # 1	168951.45	0.79	164848.81	102.5	60 - 125.4		167412.70	169761.91	169679.75
74 Ge # 2	33681.98	0.95	33226.06	101.4	60 - 125.4		33316.80	33906.31	33822.84
74 Ge # 3	184279.23	0.31	178474.77	103.3	60 - 125.4		184787.64	184392.25	183657.83
89 Y # 3	1095807.10	0.75	1057065.90	103.7	60 - 125.4		1092768.40	1105110.90	1089542.50
115 In # 3	946397.50	0.85	917456.31	103.2	60 - 125.4		951525.00	950558.94	937108.63
159 Tb # 3	1279017.00	1.35	1264337.30	101.2	60 - 125.4		1290614.80	1287262.10	1259173.80
209 Bi # 3	724760.88	0.87	698508.81	103.8	60 - 125.4		726397.38	730082.25	717803.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\032SMPL.D\032SMPL.D#
Date Acquired:	Dec 21 2012 07:01 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85840-b-2-g PDS
Misc Info:	3010 1/5
Vial Number:	2105
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	22.2	22.2	ug/l	0.55	100.00		90485.87	90240.91	89403.17
11 B # 3	4094	4094	ug/l	1.14	200.00	Fail	16707703.00	16354226.00	16473998.00
23 Na # 1	29210	29210	ug/l	1.25	90000.00		204932300.00	208923650.00	208169920.00
24 Mg # 1	2171	2171	ug/l	0.90	90000.00		10122944.00	10257852.00	10190135.00
27 Al # 1	216.6	216.6	ug/l	1.14	90000.00		1065062.00	1086547.30	1079901.30
39 K # 2	4032	4032	ug/l	0.43	90000.00		1969020.80	1971966.40	1992726.00
40 Ca # 1	2880	2880	ug/l	1.83	90000.00		30783362.00	31046016.00	31396920.00
47 Ti # 3	26.8	26.8	ug/l	1.75	1800.00		34000.04	33415.30	33124.87
51 V # 2	22.29	22.29	ug/l	1.12	1800.00		64588.07	64974.29	64546.54
52 Cr # 2	22.71	22.71	ug/l	1.00	1800.00		76504.29	77106.49	76666.47
55 Mn # 3	219.2	219.2	ug/l	1.51	2700.00		4718562.00	4796653.50	4769311.00
56 Fe # 1	2171	2171	ug/l	1.83	90000.00		34212568.00	33512852.00	33453900.00
59 Co # 3	21.09	21.09	ug/l	0.29	1800.00		340602.28	337985.25	337476.72
60 Ni # 2	22.77	22.77	ug/l	1.54	1800.00		26776.93	26584.62	26485.13
63 Cu # 2	27.78	27.78	ug/l	1.17	1800.00		84563.11	84604.66	84287.06
66 Zn # 3	141.4	141.4	ug/l	0.42	1800.00		282716.22	281083.19	279981.41
75 As # 2	39.39	39.39	ug/l	0.46	1800.00		11677.62	11784.37	11820.06
78 Se # 1	35.3	35.3	ug/l	0.67	100.00		14589.37	14773.54	14833.92
88 Sr # 3	24.74	24.74	ug/l	1.84	1800.00		568921.69	542688.44	556008.19
95 Mo # 3	75.64	75.64	ug/l	0.69	1800.00		263924.59	263768.06	261327.08
107 Ag # 3	18.28	18.28	ug/l	0.75	100.00		163088.56	163428.47	163513.13
111 Cd # 3	22.33	22.33	ug/l	0.45	100.00		42167.40	41873.47	42165.34
118 Sn # 3	23.18	23.18	ug/l	0.03	1800.00		128036.60	126542.17	126857.55
121 Sb # 3	35.12	35.12	ug/l	1.63	100.00		209855.13	207382.83	206314.89
137 Ba # 3	23.07	23.07	ug/l	0.06	1800.00		58369.57	57633.53	57781.18
202 Hg # 3	0.9381	0.9381	ug/l	0.19	5.00		1900.13	1881.46	1874.79
205 Tl # 3	4.276	4.276	ug/l	1.65	20.00		62000.25	61860.00	61876.48
208 Pb # 3	501.2	501.2	ug/l	1.03	1800.00		10766977.00	10811923.00	10786992.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	750594.00	0.12	762890.69	98.4	60 - 125.4		750551.44	751535.13	749695.31
45 Sc # 1	669867.19	1.19	620105.56	108.0	60 - 125.4		667987.75	678596.88	663017.00
45 Sc # 3	823648.81	0.47	771387.50	106.8	60 - 125.4		819422.38	827039.25	824484.94
74 Ge # 1	172390.41	0.21	164848.81	104.6	60 - 125.4		171975.59	172645.55	172550.08
74 Ge # 2	33649.69	0.99	33226.06	101.3	60 - 125.4		33333.43	33617.41	33998.23
74 Ge # 3	186208.27	0.68	178474.77	104.3	60 - 125.4		187643.27	185204.97	185776.56
89 Y # 3	1116609.00	1.26	1057065.90	105.6	60 - 125.4		1119128.40	1101459.80	1129239.10
115 In # 3	951630.19	0.62	917456.31	103.7	60 - 125.4		958280.31	946839.69	949770.50
159 Tb # 3	1287972.80	1.77	1264337.30	101.9	60 - 125.4		1314042.50	1271372.00	1278504.00
209 Bi # 3	745563.44	0.88	698508.81	106.7	60 - 125.4		752993.50	742980.63	740716.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\033SMPL.D\033SMPL.D#
Date Acquired:	Dec 21 2012 07:07 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85840-b-2-h ms
Misc Info:	3010 1/5
Vial Number:	2106
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.68	10.68	ug/l	1.97	100.00		46525.55	45980.76	45847.03
11 B # 3	4113	4113	ug/l	1.76	200.00	Fail	17725864.00	17531148.00	17580146.00
23 Na # 1	28680	28680	ug/l	0.66	90000.00		205395140.00	206672290.00	205812160.00
24 Mg # 1	1106	1106	ug/l	0.48	90000.00		5263738.50	5208800.00	5288622.00
27 Al # 1	998.2	998.2	ug/l	0.38	90000.00		5007917.00	4970498.50	5013368.00
39 K # 2	2937	2937	ug/l	0.99	90000.00		1477309.50	1506537.60	1485040.60
40 Ca # 1	1795	1795	ug/l	0.92	90000.00		19364228.00	19586710.00	19870136.00
47 Ti # 3	22.83	22.83	ug/l	0.13	1800.00		30195.57	30265.67	30319.12
51 V # 2	21.21	21.21	ug/l	0.52	1800.00		62994.47	63771.54	63687.82
52 Cr # 2	21.68	21.68	ug/l	0.48	1800.00		75117.84	75964.56	75554.51
55 Mn # 3	108.6	108.6	ug/l	0.89	2700.00		2455988.50	2458648.00	2452387.30
56 Fe # 1	1005	1005	ug/l	0.36	90000.00		15718260.00	15732271.00	15951658.00
59 Co # 3	10.35	10.35	ug/l	0.31	1800.00		174418.00	172385.91	171678.70
60 Ni # 2	21.85	21.85	ug/l	0.53	1800.00		26342.90	26158.62	26453.11
63 Cu # 2	27.45	27.45	ug/l	0.13	1800.00		85882.80	86152.95	86104.68
66 Zn # 3	163.6	163.6	ug/l	0.36	1800.00		341249.44	334600.56	337669.69
75 As # 2	37.99	37.99	ug/l	0.12	1800.00		11651.94	11694.97	11729.99
78 Se # 1	34.6	34.6	ug/l	0.65	100.00		14405.20	14468.91	14520.97
88 Sr # 3	22.16	22.16	ug/l	2.83	1800.00		526977.50	509784.06	498602.19
95 Mo # 3	76.6	76.6	ug/l	0.18	1800.00		271552.56	269777.09	269145.91
107 Ag # 3	10.34	10.34	ug/l	0.93	100.00		95064.11	93777.05	92791.17
111 Cd # 3	11.33	11.33	ug/l	1.62	100.00		21715.47	21989.85	21312.34
118 Sn # 3	21.99	21.99	ug/l	0.94	1800.00		123477.16	122781.68	120842.42
121 Sb # 3	21.08	21.08	ug/l	1.07	100.00		129329.36	128212.39	127520.27
137 Ba # 3	22.56	22.56	ug/l	0.59	1800.00		57857.94	57546.52	56977.62
202 Hg # 3	0.9945	0.9945	ug/l	0.71	5.00		1969.47	1964.14	1934.47
205 Tl # 3	8.314	8.314	ug/l	0.16	20.00		121364.03	120782.09	120460.51
208 Pb # 3	529.2	529.2	ug/l	0.18	1800.00		11155713.00	11206793.00	11106682.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	796964.69	1.18	762890.69	104.5	60 - 125.4		786087.06	802807.88	801999.06
45 Sc # 1	677672.00	0.48	620105.56	109.3	60 - 125.4		676171.69	675406.38	681437.75
45 Sc # 3	871080.13	0.14	771387.50	112.9	60 - 125.4		870454.13	870279.44	872506.94
74 Ge # 1	172668.66	0.43	164848.81	104.7	60 - 125.4		173217.34	171824.77	172963.88
74 Ge # 2	34679.69	0.21	33226.06	104.4	60 - 125.4		34604.52	34681.34	34753.20
74 Ge # 3	193376.05	0.88	178474.77	108.3	60 - 125.4		195330.59	192212.08	192585.48
89 Y # 3	1147676.50	0.89	1057065.90	108.6	60 - 125.4		1144604.80	1159116.50	1139308.50
115 In # 3	965291.56	0.36	917456.31	105.2	60 - 125.4		969236.94	962972.38	963665.38
159 Tb # 3	1297973.10	0.49	1264337.30	102.7	60 - 125.4		1305330.80	1295068.40	1293520.10
209 Bi # 3	730146.88	0.30	698508.81	104.5	60 - 125.4		730763.44	731970.50	727706.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\034SMPL.D\034SMPL.D#
Date Acquired:	Dec 21 2012 07:14 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85840-b-2-i msd
Misc Info:	3010 1/5
Vial Number:	2107
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.58	10.58	ug/l	1.28	100.00		46261.17	46843.15	45954.22
11 B # 3	4001	4001	ug/l	3.09	200.00	Fail	17023800.00	17880800.00	17267214.00
23 Na # 1	28130	28130	ug/l	2.89	90000.00		205637700.00	205863440.00	202690020.00
24 Mg # 1	1073	1073	ug/l	3.15	90000.00		5193901.00	5117014.00	5187479.00
27 Al # 1	987.9	987.9	ug/l	2.05	90000.00		4964025.50	4994814.50	5076230.00
39 K # 2	2899	2899	ug/l	1.93	90000.00		1458041.40	1481415.00	1508747.50
40 Ca # 1	1751	1751	ug/l	2.65	90000.00		19334092.00	19219230.00	19580920.00
47 Ti # 3	22.77	22.77	ug/l	0.90	1800.00		29945.14	29998.33	30182.09
51 V # 2	21.01	21.01	ug/l	0.35	1800.00		63721.30	63440.89	63044.05
52 Cr # 2	21.54	21.54	ug/l	0.31	1800.00		76098.38	75590.72	75358.39
55 Mn # 3	107.9	107.9	ug/l	0.71	2700.00		2455851.50	2468211.30	2434074.30
56 Fe # 1	985.8	985.8	ug/l	2.50	90000.00		15675188.00	15637748.00	15805505.00
59 Co # 3	10.3	10.3	ug/l	0.35	1800.00		173469.75	172185.59	172566.59
60 Ni # 2	21.83	21.83	ug/l	0.36	1800.00		26593.31	26392.98	26525.87
63 Cu # 2	26.45	26.45	ug/l	0.30	1800.00		83897.77	83300.06	83609.53
66 Zn # 3	156.7	156.7	ug/l	0.32	1800.00		327878.19	323505.47	324272.47
75 As # 2	36.31	36.31	ug/l	0.18	1800.00		11290.01	11245.65	11266.33
78 Se # 1	34.08	34.08	ug/l	0.29	100.00		14468.59	14449.23	14438.90
88 Sr # 3	21.66	21.66	ug/l	0.42	1800.00		508092.50	502994.00	503417.50
95 Mo # 3	75.18	75.18	ug/l	0.81	1800.00		268396.19	264658.19	265865.38
107 Ag # 3	10.4	10.4	ug/l	0.90	100.00		95242.16	94336.96	94977.72
111 Cd # 3	11.17	11.17	ug/l	1.91	100.00		22050.46	21377.43	20989.94
118 Sn # 3	21.89	21.89	ug/l	0.51	1800.00		122851.95	122112.91	121997.95
121 Sb # 3	20.31	20.31	ug/l	0.58	100.00		125852.58	124058.60	124442.42
137 Ba # 3	22.63	22.63	ug/l	0.48	1800.00		57894.72	58141.94	57660.34
202 Hg # 3	1.016	1.016	ug/l	1.71	5.00		2049.48	2042.82	1972.14
205 Tl # 3	8.213	8.213	ug/l	1.37	20.00		122059.84	120258.15	119689.73
208 Pb # 3	513.6	513.6	ug/l	0.46	1800.00		11030447.00	10992213.00	10845197.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	808962.00	1.17	762890.69	106.0	60 - 125.4		818659.44	808540.94	799685.69
45 Sc # 1	686931.00	2.48	620105.56	110.8	60 - 125.4		667544.13	699663.81	693585.00
45 Sc # 3	867230.44	0.79	771387.50	112.4	60 - 125.4		861415.06	874782.19	865494.06
74 Ge # 1	175147.61	0.24	164848.81	106.2	60 - 125.4		175116.77	174748.63	175577.47
74 Ge # 2	34961.99	0.20	33226.06	105.2	60 - 125.4		35033.90	34956.92	34895.15
74 Ge # 3	194342.73	0.60	178474.77	108.9	60 - 125.4		195636.50	194024.86	193366.83
89 Y # 3	1158000.50	0.23	1057065.90	109.5	60 - 125.4		1160197.10	1154963.50	1158840.90
115 In # 3	969415.06	0.71	917456.31	105.7	60 - 125.4		974537.88	972166.13	961541.00
159 Tb # 3	1311896.60	0.94	1264337.30	103.8	60 - 125.4		1309096.30	1325348.80	1301245.00
209 Bi # 3	738716.94	0.44	698508.81	105.8	60 - 125.4		741056.25	740072.81	735021.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\035_CCV.D\035_CCV.D#
Date Acquired: Dec 21 2012 07:20 pm
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag
9 Be	49.73 ug/l	1.55	50.00	89.6 -	110	
11 B	160.40 ug/l	1.81	100.00	89.6 -	110	Fail
23 Na	4708.00 ug/l	1.19	5000.00	89.6 -	110	
24 Mg	4795.00 ug/l	0.76	5000.00	89.6 -	110	
27 Al	479.70 ug/l	0.63	500.00	89.6 -	110	
39 K	4890.00 ug/l	1.24	5000.00	89.6 -	110	
40 Ca	4923.00 ug/l	0.56	5000.00	89.6 -	110	
47 Ti	49.61 ug/l	0.10	50.00	89.6 -	110	
51 V	49.34 ug/l	0.83	50.00	89.6 -	110	
52 Cr	49.35 ug/l	0.67	50.00	89.6 -	110	
55 Mn	492.20 ug/l	1.34	500.00	89.6 -	110	
56 Fe	4963.00 ug/l	0.26	5000.00	89.6 -	110	
59 Co	49.99 ug/l	0.60	50.00	89.6 -	110	
60 Ni	50.21 ug/l	0.55	50.00	89.6 -	110	
63 Cu	50.21 ug/l	0.98	50.00	89.6 -	110	
66 Zn	49.68 ug/l	0.39	50.00	89.6 -	110	
75 As	49.31 ug/l	0.23	50.00	89.6 -	110	
78 Se	48.22 ug/l	0.25	50.00	89.6 -	110	
88 Sr	50.03 ug/l	1.00	50.00	89.6 -	110	
95 Mo	50.59 ug/l	0.36	50.00	89.6 -	110	
107 Ag	49.94 ug/l	0.46	50.00	89.6 -	110	
111 Cd	50.08 ug/l	0.95	50.00	89.6 -	110	
118 Sn	49.95 ug/l	0.33	50.00	89.6 -	110	
121 Sb	51.66 ug/l	0.68	50.00	89.6 -	110	
137 Ba	50.32 ug/l	0.22	50.00	89.6 -	110	
202 Hg	2.52 ug/l	1.35	2.50	89.6 -	110	
205 Tl	9.85 ug/l	0.56	10.00	89.6 -	110	
208 Pb	49.85 ug/l	1.10	50.00	89.6 -	110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6 Li	718861.13	1.09	762890.69	94.2	59.6 -	125	
45 Sc	634448.38	0.99	620105.56	102.3	59.6 -	125	
45 Sc	779116.19	0.16	771387.50	101.0	59.6 -	125	
74 Ge	166695.50	0.46	164848.81	101.1	59.6 -	125	
74 Ge	32688.30	0.75	33226.06	98.4	59.6 -	125	
74 Ge	179601.75	0.75	178474.77	100.6	59.6 -	125	
89 Y	1082277.80	1.16	1057065.90	102.4	59.6 -	125	
115 In	928220.81	0.81	917456.31	101.2	59.6 -	125	
159 Tb	1269519.00	0.29	1264337.30	100.4	59.6 -	125	
209 Bi	694083.44	0.87	698508.81	99.4	59.6 -	125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\036_CCB.D\036_CCB.D#
Date Acquired: Dec 21 2012 07:27 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	5.15	0.05	
11 B	36.73 ug/l	2.86	10.00	Fail
23 Na	-0.55 ug/l	330.15	25.00	
24 Mg	2.12 ug/l	10.42	25.00	
27 Al	-0.58 ug/l	8.41	5.00	
39 K	0.51 ug/l	152.20	25.00	
40 Ca	2.27 ug/l	26.03	25.00	
47 Ti	-0.24 ug/l	10.04	0.50	
51 V	-0.04 ug/l	14.99	0.50	
52 Cr	0.00 ug/l	12.39	0.50	
55 Mn	-0.17 ug/l	5.74	0.50	
56 Fe	2.46 ug/l	24.36	10.00	
59 Co	0.00 ug/l	86.79	0.05	
60 Ni	0.01 ug/l	62.72	0.50	
63 Cu	0.01 ug/l	8.76	0.50	
66 Zn	-0.54 ug/l	4.75	2.00	
75 As	0.13 ug/l	13.71	0.25	
78 Se	0.14 ug/l	4.07	0.25	
88 Sr	-0.09 ug/l	0.89	0.10	
95 Mo	-0.15 ug/l	6.81	0.50	
107 Ag	-0.02 ug/l	23.76	0.10	
111 Cd	-0.01 ug/l	229.00	0.05	
118 Sn	0.01 ug/l	78.90	0.50	
121 Sb	1.43 ug/l	4.19	0.50	Fail
137 Ba	-0.05 ug/l	11.26	0.50	
202 Hg	0.04 ug/l	8.87	0.08	
205 Tl	-0.03 ug/l	2.20	0.10	
208 Pb	-0.02 ug/l	9.90	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	728024.81	1.36	762890.69	95.4	59.6 - 125	
45 Sc	627724.94	0.25	620105.56	101.2	59.6 - 125	
45 Sc	785582.44	0.96	771387.50	101.8	59.6 - 125	
74 Ge	168952.75	0.13	164848.81	102.5	59.6 - 125	
74 Ge	33622.45	0.71	33226.06	101.2	59.6 - 125	
74 Ge	185825.16	0.55	178474.77	104.1	59.6 - 125	
89 Y	1114219.80	0.40	1057065.90	105.4	59.6 - 125	
115 In	975564.06	1.01	917456.31	106.3	59.6 - 125	
159 Tb	1297943.30	1.29	1264337.30	102.7	59.6 - 125	
209 Bi	722647.13	0.40	698508.81	103.5	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\037SMPL.D\037SMPL.D#
Date Acquired:	Dec 21 2012 07:34 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	mb 680-260426_1-a
Misc Info:	3050 1/5
Vial Number:	2108
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05249	-0.05249	ug/l	1.72	100.00		6.67	10.00	3.33
11 B # 3	28.93	28.93	ug/l	1.14	200.00		116775.59	114043.70	112392.20
23 Na # 1	-2.664	-2.664	ug/l	49.40	90000.00		245472.75	231335.88	231100.59
24 Mg # 1	0.6576	0.6576	ug/l	131.39	90000.00		12883.34	6718.72	6111.67
27 Al # 1	1.694	1.694	ug/l	7.34	90000.00		14099.90	14249.29	13365.80
39 K # 2	3.359	3.359	ug/l	14.88	90000.00		19432.15	19685.79	19362.11
40 Ca # 1	5.847	5.847	ug/l	2.68	90000.00		95400.51	93974.02	93190.04
47 Ti # 3	-0.1518	-0.1518	ug/l	13.30	1800.00		180.01	183.34	220.01
51 V # 2	0.3199	0.3199	ug/l	8.80	1800.00		1590.75	1678.10	1528.75
52 Cr # 2	0.2818	0.2818	ug/l	5.32	1800.00		1228.72	1187.38	1132.71
55 Mn # 3	-0.02434	-0.02434	ug/l	15.81	2700.00		8602.56	8419.12	8305.74
56 Fe # 1	8.477	8.477	ug/l	1.20	90000.00		136702.86	137544.02	136591.88
59 Co # 3	-0.008974	-0.008974	ug/l	14.55	1800.00		120.00	113.34	80.00
60 Ni # 2	0.3171	0.3171	ug/l	3.69	1800.00		374.01	397.34	398.01
63 Cu # 2	0.08344	0.08344	ug/l	1.12	1800.00		422.01	419.34	428.01
66 Zn # 3	-0.06672	-0.06672	ug/l	36.74	1800.00		1293.43	1363.43	1356.76
75 As # 2	0.2012	0.2012	ug/l	8.57	1800.00		84.00	88.33	78.67
78 Se # 1	0.06136	0.06136	ug/l	9.54	100.00		35.67	40.33	37.33
88 Sr # 3	-0.08853	-0.08853	ug/l	1.20	1800.00		296.68	256.68	250.01
95 Mo # 3	-0.1957	-0.1957	ug/l	3.86	1800.00		346.68	370.01	313.35
107 Ag # 3	-0.02935	-0.02935	ug/l	6.29	100.00		56.67	43.33	23.33
111 Cd # 3	-0.01373	-0.01373	ug/l	26.38	100.00		33.21	46.53	39.89
118 Sn # 3	2.061	2.061	ug/l	1.02	1800.00		11578.04	11557.98	11554.69
121 Sb # 3	1.575	1.575	ug/l	2.06	100.00		9623.33	9269.77	9126.32
137 Ba # 3	-0.03951	-0.03951	ug/l	13.10	1800.00		73.34	73.34	50.00
202 Hg # 3	0.01721	0.01721	ug/l	7.82	5.00		68.00	62.33	61.00
205 Tl # 3	-0.03113	-0.03113	ug/l	2.66	20.00		63.34	43.34	63.34
208 Pb # 3	-0.0238	-0.0238	ug/l	7.85	1800.00		890.04	930.04	850.04

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	667695.44	2.14	762890.69	87.5	60 - 125.4		678151.13	673540.38	651395.00
45 Sc # 1	621636.13	0.73	620105.56	100.2	60 - 125.4		620886.69	617519.31	626502.31
45 Sc # 3	764231.94	0.47	771387.50	99.1	60 - 125.4		765688.88	766852.88	760154.06
74 Ge # 1	171845.53	0.35	164848.81	104.2	60 - 125.4		172499.25	171722.06	171315.28
74 Ge # 2	33827.33	0.39	33226.06	101.8	60 - 125.4		33829.54	33694.29	33958.15
74 Ge # 3	184496.72	0.79	178474.77	103.4	60 - 125.4		186050.06	184298.13	183141.97
89 Y # 3	1086556.60	0.74	1057065.90	102.8	60 - 125.4		1095447.10	1084354.10	1079868.80
115 In # 3	946311.94	1.07	917456.31	103.1	60 - 125.4		955160.19	948552.50	935223.13
159 Tb # 3	1297312.10	1.55	1264337.30	102.6	60 - 125.4		1308987.80	1308900.50	1274048.30
209 Bi # 3	786657.88	1.42	698508.81	112.6	60 - 125.4		799573.94	780035.50	780364.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\038SMPL.D\038SMPL.D#
Date Acquired:	Dec 21 2012 07:40 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lcs 680-260426_2-a
Misc Info:	3050 1/5
Vial Number:	2109
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.19	10.19	ug/l	1.49	100.00		37883.85	36878.18	37162.08
11 B # 3	62.11	62.11	ug/l	1.73	200.00		240413.44	232299.58	236046.73
23 Na # 1	975.7	975.7	ug/l	1.40	90000.00		6548590.50	6629733.00	6666825.50
24 Mg # 1	1001	1001	ug/l	1.10	90000.00		4348380.00	4288548.00	4337325.50
27 Al # 1	979.4	979.4	ug/l	1.90	90000.00		4455118.00	4480087.00	4439775.00
39 K # 2	965.8	965.8	ug/l	2.32	90000.00		491034.06	470985.41	471681.81
40 Ca # 1	1020	1020	ug/l	1.89	90000.00		10169501.00	10175686.00	10092989.00
47 Ti # 3	20.36	20.36	ug/l	1.71	1800.00		23788.02	22840.01	23070.38
51 V # 2	20.26	20.26	ug/l	0.74	1800.00		57743.15	57930.38	57526.27
52 Cr # 2	20.37	20.37	ug/l	0.05	1800.00		67655.34	67291.71	67729.59
55 Mn # 3	102.1	102.1	ug/l	1.07	2700.00		2164539.30	2122681.80	2150705.00
56 Fe # 1	1014	1014	ug/l	1.27	90000.00		14460511.00	14493650.00	14543773.00
59 Co # 3	9.594	9.594	ug/l	0.14	1800.00		150761.81	148371.97	147471.36
60 Ni # 2	21.12	21.12	ug/l	0.24	1800.00		24196.88	24098.08	24336.42
63 Cu # 2	20.66	20.66	ug/l	0.70	1800.00		61479.82	61884.70	61657.11
66 Zn # 3	20.03	20.03	ug/l	1.28	1800.00		39703.36	39917.37	39442.70
75 As # 2	20.29	20.29	ug/l	0.23	1800.00		5952.79	5921.78	5984.14
78 Se # 1	17.63	17.63	ug/l	0.42	100.00		7168.29	7128.28	7167.64
88 Sr # 3	18.53	18.53	ug/l	0.90	1800.00		408364.56	402617.91	398826.97
95 Mo # 3	20.63	20.63	ug/l	0.95	1800.00		71279.82	70643.40	70593.15
107 Ag # 3	10.6	10.6	ug/l	0.77	100.00		93411.43	92278.13	92439.54
111 Cd # 3	10.27	10.27	ug/l	1.43	100.00		19059.26	19006.00	18752.54
118 Sn # 3	22.9	22.9	ug/l	0.20	1800.00		124851.63	121219.97	122328.15
121 Sb # 3	11.53	11.53	ug/l	1.62	100.00		67288.31	65480.40	65841.56
137 Ba # 3	20.91	20.91	ug/l	1.50	1800.00		52572.25	51060.19	50344.67
202 Hg # 3	0.9497	0.9497	ug/l	1.65	5.00		1926.13	1941.80	1905.13
205 Tl # 3	8.192	8.192	ug/l	0.62	20.00		119330.39	117670.67	117038.91
208 Pb # 3	9.386	9.386	ug/l	0.64	1800.00		207400.48	204966.55	202955.83

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	676142.25	2.58	762890.69	88.6	60 - 125.4		695934.44	669594.50	662897.69
45 Sc # 1	616284.13	1.45	620105.56	99.4	60 - 125.4		614868.56	608111.69	625872.06
45 Sc # 3	748764.63	0.55	771387.50	97.1	60 - 125.4		753269.63	747868.94	745155.31
74 Ge # 1	167513.48	0.24	164848.81	101.6	60 - 125.4		167087.31	167551.08	167902.08
74 Ge # 2	33001.73	0.40	33226.06	99.3	60 - 125.4		33062.93	32850.87	33091.39
74 Ge # 3	179759.80	1.27	178474.77	100.7	60 - 125.4		182325.72	178988.14	177965.53
89 Y # 3	1080269.50	1.86	1057065.90	102.2	60 - 125.4		1096462.50	1086517.30	1057828.50
115 In # 3	930145.50	1.38	917456.31	101.4	60 - 125.4		943782.50	918207.56	928446.44
159 Tb # 3	1286202.00	0.78	1264337.30	101.7	60 - 125.4		1296878.80	1277005.80	1284721.30
209 Bi # 3	751891.50	1.58	698508.81	107.6	60 - 125.4		765456.69	747038.81	743178.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\039SMPL.D\039SMPL.D#
Date Acquired:	Dec 21 2012 07:47 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85840-b-1-a
Misc Info:	3050 1/5
Vial Number:	2212
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0495	-0.0495	ug/l	5.63	100.00		26.67	6.67	20.00
11 B # 3	70.27	70.27	ug/l	3.59	200.00		270694.66	269987.56	263805.34
23 Na # 1	-1.175	-1.175	ug/l	37.96	90000.00		240506.06	239203.75	238123.44
24 Mg # 1	28.48	28.48	ug/l	1.40	90000.00		127738.42	125932.59	125100.10
27 Al # 1	2.968	2.968	ug/l	7.24	90000.00		18974.74	20057.69	18634.52
39 K # 2	5.078	5.078	ug/l	13.54	90000.00		19435.42	20049.63	19522.25
40 Ca # 1	642.8	642.8	ug/l	3.12	90000.00		6266216.00	6430094.50	6181791.50
47 Ti # 3	0.7942	0.7942	ug/l	6.66	1800.00		1190.09	1283.44	1260.09
51 V # 2	0.3434	0.3434	ug/l	6.33	1800.00		1632.76	1668.77	1537.42
52 Cr # 2	0.2586	0.2586	ug/l	2.87	1800.00		1100.04	1060.71	1044.04
55 Mn # 3	0.3268	0.3268	ug/l	4.77	2700.00		15834.87	15691.34	15044.11
56 Fe # 1	76.38	76.38	ug/l	1.59	90000.00		1092093.10	1089255.10	1075937.80
59 Co # 3	-0.001996	-0.001996	ug/l	101.60	1800.00		193.34	190.01	243.34
60 Ni # 2	0.7786	0.7786	ug/l	0.92	1800.00		895.36	909.37	898.70
63 Cu # 2	6.88	6.88	ug/l	0.66	1800.00		20700.70	20411.01	20299.56
66 Zn # 3	722.9	722.9	ug/l	0.39	1800.00		1383690.40	1387382.80	1361999.60
75 As # 2	0.2132	0.2132	ug/l	7.12	1800.00		82.67	89.67	81.00
78 Se # 1	0.05547	0.05547	ug/l	4.47	100.00		33.33	35.33	33.67
88 Sr # 3	0.08447	0.08447	ug/l	13.83	1800.00		4017.32	4197.36	3760.56
95 Mo # 3	6.359	6.359	ug/l	1.20	1800.00		22843.89	22870.65	22303.13
107 Ag # 3	-0.01738	-0.01738	ug/l	17.67	100.00		133.34	176.67	126.67
111 Cd # 3	0.03188	0.03188	ug/l	18.38	100.00		131.55	111.54	128.42
118 Sn # 3	4.444	4.444	ug/l	0.81	1800.00		24483.47	24082.70	24226.31
121 Sb # 3	1.113	1.113	ug/l	1.99	100.00		6705.00	6458.22	6674.98
137 Ba # 3	0.2743	0.2743	ug/l	3.22	1800.00		863.39	820.05	830.05
202 Hg # 3	0.01502	0.01502	ug/l	11.81	5.00		59.67	58.00	52.67
205 Tl # 3	-0.008636	-0.008636	ug/l	15.53	20.00		396.69	383.35	356.68
208 Pb # 3	1.419	1.419	ug/l	0.85	1800.00		32418.50	32374.96	32101.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	682163.88	2.07	762890.69	89.4	60 - 125.4		673440.94	674580.00	698470.75
45 Sc # 1	605250.69	1.13	620105.56	97.6	60 - 125.4		609538.88	597354.75	608858.44
45 Sc # 3	743742.00	0.87	771387.50	96.4	60 - 125.4		750300.00	737303.50	743622.56
74 Ge # 1	165913.02	0.45	164848.81	100.6	60 - 125.4		166189.66	166484.50	165064.89
74 Ge # 2	32720.63	0.51	33226.06	98.5	60 - 125.4		32844.28	32785.75	32531.85
74 Ge # 3	179124.80	0.63	178474.77	100.4	60 - 125.4		179834.14	179721.39	177818.91
89 Y # 3	1075507.90	0.91	1057065.90	101.7	60 - 125.4		1069574.90	1070132.30	1086816.50
115 In # 3	936134.38	0.27	917456.31	102.0	60 - 125.4		937969.69	937231.88	933201.56
159 Tb # 3	1285600.30	0.81	1264337.30	101.7	60 - 125.4		1296655.60	1275856.50	1284289.00
209 Bi # 3	754897.56	0.72	698508.81	108.1	60 - 125.4		760513.19	749638.88	754540.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\040SMPL.D\040SMPL.D#
Date Acquired:	Dec 21 2012 07:54 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85840-b-5-a
Misc Info:	3050 1/5
Vial Number:	2301
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05341	-0.05341	ug/l	1.74	100.00		6.67	3.33	0.00
11 B # 3	86.32	86.32	ug/l	1.47	200.00		323586.47	319162.66	315134.19
23 Na # 1	75.68	75.68	ug/l	2.58	90000.00		744139.50	714367.88	731640.06
24 Mg # 1	25.85	25.85	ug/l	0.61	90000.00		114705.14	114931.25	114887.81
27 Al # 1	3.137	3.137	ug/l	2.04	90000.00		20333.12	19892.50	19588.85
39 K # 2	4.952	4.952	ug/l	9.32	90000.00		19909.40	19565.60	19525.61
40 Ca # 1	684	684	ug/l	0.79	90000.00		6707006.50	6720789.00	6613006.50
47 Ti # 3	6.854	6.854	ug/l	2.22	1800.00		8105.64	7835.53	8255.67
51 V # 2	0.3496	0.3496	ug/l	7.45	1800.00		1718.77	1596.76	1589.42
52 Cr # 2	0.5336	0.5336	ug/l	2.88	1800.00		1943.46	2030.14	1952.80
55 Mn # 3	2.497	2.497	ug/l	1.54	2700.00		60738.91	61842.79	60477.88
56 Fe # 1	585.1	585.1	ug/l	0.21	90000.00		8240584.00	8204835.00	8169634.00
59 Co # 3	0.00232	0.00232	ug/l	101.16	1800.00		266.68	316.68	246.68
60 Ni # 2	1.555	1.555	ug/l	1.29	1800.00		1785.44	1809.44	1770.77
63 Cu # 2	7.809	7.809	ug/l	0.88	1800.00		23168.08	23471.83	23200.80
66 Zn # 3	570.5	570.5	ug/l	0.71	1800.00		1088671.50	1098348.10	1087418.50
75 As # 2	0.2835	0.2835	ug/l	10.10	1800.00		114.33	98.00	103.00
78 Se # 1	0.04157	0.04157	ug/l	6.79	100.00		28.33	29.67	27.67
88 Sr # 3	0.1253	0.1253	ug/l	4.74	1800.00		4754.19	4927.60	4904.27
95 Mo # 3	107.6	107.6	ug/l	0.94	1800.00		374762.69	369856.19	367902.41
107 Ag # 3	-0.007865	-0.007865	ug/l	29.66	100.00		240.01	206.68	246.68
111 Cd # 3	-0.008545	-0.008545	ug/l	57.60	100.00		44.68	59.83	43.88
118 Sn # 3	2.995	2.995	ug/l	2.99	1800.00		17056.54	16666.19	16108.87
121 Sb # 3	0.5582	0.5582	ug/l	5.36	100.00		3453.84	3320.46	3567.21
137 Ba # 3	0.2929	0.2929	ug/l	3.94	1800.00		860.05	906.72	906.73
202 Hg # 3	0.0209	0.0209	ug/l	6.00	5.00		67.67	67.33	71.67
205 Tl # 3	-0.02345	-0.02345	ug/l	5.03	20.00		186.67	166.67	150.01
208 Pb # 3	5.136	5.136	ug/l	1.39	1800.00		115229.01	114418.62	111888.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	665888.81	0.11	762890.69	87.3	60 - 125.4		665055.81	666361.38	666249.19
45 Sc # 1	603900.19	0.48	620105.56	97.4	60 - 125.4		607228.44	602455.50	602016.69
45 Sc # 3	749259.38	0.58	771387.50	97.1	60 - 125.4		748024.88	745635.88	754117.25
74 Ge # 1	166046.25	0.40	164848.81	100.7	60 - 125.4		166153.13	165331.19	166654.44
74 Ge # 2	32816.86	0.19	33226.06	98.8	60 - 125.4		32814.14	32757.25	32879.19
74 Ge # 3	179793.66	0.25	178474.77	100.7	60 - 125.4		180296.50	179475.95	179608.48
89 Y # 3	1073103.50	1.40	1057065.90	101.5	60 - 125.4		1078849.50	1084407.60	1056053.50
115 In # 3	944146.63	0.36	917456.31	102.9	60 - 125.4		946087.50	940201.00	946151.31
159 Tb # 3	1295371.50	0.79	1264337.30	102.5	60 - 125.4		1305164.00	1296148.00	1284802.40
209 Bi # 3	758462.94	0.16	698508.81	108.6	60 - 125.4		759264.25	759090.75	757033.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\041SMPL.D\041SMPL.D#
Date Acquired:	Dec 21 2012 08:00 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85921-b-1-a
Misc Info:	3050 1/5
Vial Number:	2110
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.222	1.222	ug/l	3.88	100.00		4264.00	4060.61	4310.69
11 B # 3	40.34	40.34	ug/l	0.44	200.00		145056.63	141870.33	140502.30
23 Na # 1	95.72	95.72	ug/l	3.80	90000.00		962453.31	986809.88	1012256.60
24 Mg # 1	6016	6016	ug/l	1.86	90000.00		29471580.00	28977406.00	29358470.00
27 Al # 1	17560	17560	ug/l	1.08	90000.00		90324720.00	89980728.00	89767320.00
39 K # 2	5025	5025	ug/l	0.98	90000.00		2293454.00	2295035.50	2297765.00
40 Ca # 1	5611	5611	ug/l	0.68	90000.00		62442812.00	63018272.00	62797532.00
47 Ti # 3	260.6	260.6	ug/l	1.39	1800.00		322465.97	319545.59	311250.28
51 V # 2	49.81	49.81	ug/l	0.94	1800.00		134581.19	133952.05	133730.98
52 Cr # 2	35.99	35.99	ug/l	1.19	1800.00		113149.57	113650.56	113362.16
55 Mn # 3	722.3	722.3	ug/l	0.49	2700.00		14406268.00	14095420.00	13882495.00
56 Fe # 1	36480	36480	ug/l	1.27	90000.00		585603070.00	586048190.00	590735170.00
59 Co # 3	15.26	15.26	ug/l	0.22	1800.00		224235.52	219997.67	218597.19
60 Ni # 2	49.18	49.18	ug/l	0.72	1800.00		53829.67	53416.95	53548.69
63 Cu # 2	36.8	36.8	ug/l	1.27	1800.00		104295.46	104696.73	104069.99
66 Zn # 3	127.1	127.1	ug/l	0.68	1800.00		232105.33	228196.81	223790.09
75 As # 2	21.42	21.42	ug/l	1.45	1800.00		6037.15	5981.80	5913.44
78 Se # 1	0.3978	0.3978	ug/l	1.52	100.00		170.33	165.33	168.00
88 Sr # 3	13.5	13.5	ug/l	0.64	1800.00		420423.78	412199.41	408569.72
95 Mo # 3	7.9	7.9	ug/l	0.86	1800.00		26763.50	26403.07	25424.72
107 Ag # 3	0.02422	0.02422	ug/l	5.17	100.00		483.35	473.36	480.02
111 Cd # 3	0.2937	0.2937	ug/l	7.96	100.00		533.46	610.26	567.29
118 Sn # 3	2.589	2.589	ug/l	1.22	1800.00		13693.20	13566.35	12939.17
121 Sb # 3	0.671	0.671	ug/l	1.90	100.00		5924.66	5797.93	5631.20
137 Ba # 3	92.8	92.8	ug/l	1.12	1800.00		216818.47	214150.02	212720.72
202 Hg # 3	0.04964	0.04964	ug/l	5.34	5.00		117.67	124.67	123.67
205 Tl # 3	0.8039	0.8039	ug/l	1.13	20.00		12092.09	11655.04	11611.71
208 Pb # 3	25.92	25.92	ug/l	0.71	1800.00		554258.56	546101.06	541749.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	612509.25	2.05	762890.69	80.3	60 - 125.4		626378.63	609222.31	601926.69
45 Sc # 1	694793.75	0.99	620105.56	112.0	60 - 125.4		690643.00	702764.69	690973.50
45 Sc # 3	811694.19	0.72	771387.50	105.2	60 - 125.4		818425.81	808660.69	807996.13
74 Ge # 1	162429.28	0.46	164848.81	98.5	60 - 125.4		162228.05	161805.23	163254.56
74 Ge # 2	31392.86	0.97	33226.06	94.5	60 - 125.4		31576.49	31040.54	31561.55
74 Ge # 3	167859.92	1.54	178474.77	94.1	60 - 125.4		170792.72	166900.27	165886.77
89 Y # 3	1517879.10	1.44	1057065.90	143.6	60 - 125.4	IS F	1542901.40	1502514.30	1508221.80
115 In # 3	878196.63	1.84	917456.31	95.7	60 - 125.4		890231.94	884485.50	859872.50
159 Tb # 3	1259503.80	1.51	1264337.30	99.6	60 - 125.4		1278583.10	1259433.40	1240494.60
209 Bi # 3	729737.31	1.55	698508.81	104.5	60 - 125.4		738964.81	733152.06	717095.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\042SMPL.D\042SMPL.D#
Date Acquired:	Dec 21 2012 08:07 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85921-b-1-a SD
Misc Info:	3050 1/25
Vial Number:	2111
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.969	0.1938	ug/l	10.03	100.00		903.39	823.38	933.39
11 B # 3	69.8	13.96	ug/l	1.06	200.00		60450.69	60648.33	59888.63
23 Na # 1	76.7	15.34	ug/l	13.91	90000.00		345550.84	336673.81	361917.63
24 Mg # 1	6900	1380	ug/l	0.93	90000.00		5941843.50	5843655.00	5930641.50
27 Al # 1	20095	4019	ug/l	1.53	90000.00		18155682.00	18260610.00	17904584.00
39 K # 2	5270	1054	ug/l	2.14	90000.00		483562.81	503638.00	485498.84
40 Ca # 1	6470	1294	ug/l	1.92	90000.00		12654633.00	12839700.00	12726160.00
47 Ti # 3	302.4	60.48	ug/l	1.80	1800.00		69654.08	69319.47	68539.31
51 V # 2	51.45	10.29	ug/l	0.91	1800.00		27888.70	27795.83	28262.66
52 Cr # 2	37.425	7.485	ug/l	1.07	1800.00		23606.58	23593.88	23535.79
55 Mn # 3	757	151.4	ug/l	0.73	2700.00		3088728.30	3077391.50	3089744.00
56 Fe # 1	42460	8492	ug/l	1.79	90000.00		119610690.00	121120860.00	119784420.00
59 Co # 3	16.09	3.218	ug/l	0.46	1800.00		48741.60	48678.08	48483.98
60 Ni # 2	53.4	10.68	ug/l	0.81	1800.00		11554.85	11577.55	11578.88
63 Cu # 2	39.915	7.983	ug/l	1.01	1800.00		22510.48	22412.33	22868.35
66 Zn # 3	144.5	28.9	ug/l	1.97	1800.00		55349.88	53891.84	55697.70
75 As # 2	23.92	4.784	ug/l	1.37	1800.00		1347.06	1329.73	1349.06
78 Se # 1	0.4436	0.08872	ug/l	6.63	100.00		48.00	44.00	44.67
88 Sr # 3	18.53	3.706	ug/l	0.56	1800.00		89686.14	88827.97	88405.39
95 Mo # 3	6.965	1.393	ug/l	1.74	1800.00		5657.85	5621.19	5801.27
107 Ag # 3	-0.10145	-0.02029	ug/l	8.31	100.00		136.67	110.00	110.00
111 Cd # 3	0.271	0.0542	ug/l	3.86	100.00		164.58	157.93	167.86
118 Sn # 3	2.446	0.4892	ug/l	1.59	1800.00		2967.04	2967.05	2927.04
121 Sb # 3	1.0775	0.2155	ug/l	8.11	100.00		1523.46	1740.15	1633.48
137 Ba # 3	92.95	18.59	ug/l	1.69	1800.00		45910.57	45679.83	44810.43
202 Hg # 3	0.074	0.0148	ug/l	7.92	5.00		53.67	51.00	54.67
205 Tl # 3	0.718	0.1436	ug/l	6.39	20.00		2657.00	2460.29	2530.30
208 Pb # 3	28.775	5.755	ug/l	0.91	1800.00		120158.17	119104.09	119433.45

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	663410.31	1.49	762890.69	87.0	60 - 125.4		663522.75	673246.88	653461.31
45 Sc # 1	610550.13	1.26	620105.56	98.5	60 - 125.4		619370.13	605228.25	607052.13
45 Sc # 3	758450.75	1.23	771387.50	98.3	60 - 125.4		748262.38	766671.44	760418.50
74 Ge # 1	159280.22	0.28	164848.81	96.6	60 - 125.4		158822.39	159716.36	159301.91
74 Ge # 2	31165.77	0.92	33226.06	93.8	60 - 125.4		30840.13	31269.33	31387.85
74 Ge # 3	174514.14	0.70	178474.77	97.8	60 - 125.4		175811.30	174340.50	173390.63
89 Y # 3	1166512.40	0.71	1057065.90	110.4	60 - 125.4		1170795.90	1171758.30	1156983.00
115 In # 3	926501.56	0.93	917456.31	101.0	60 - 125.4		932934.13	916753.31	929817.06
159 Tb # 3	1280124.00	1.21	1264337.30	101.2	60 - 125.4		1262677.80	1292516.00	1285178.40
209 Bi # 3	711788.13	0.62	698508.81	101.9	60 - 125.4		711150.44	716476.31	707737.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\043SMPL.D\043SMPL.D#
Date Acquired:	Dec 21 2012 08:14 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85921-b-1-a PDS
Misc Info:	3050 1/5
Vial Number:	2112
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	22.28	22.28	ug/l	2.92	100.00		74139.03	73090.21	72678.77
11 B # 3	79.47	79.47	ug/l	2.89	200.00		273848.50	267746.31	267122.72
23 Na # 1	1773	1773	ug/l	1.40	90000.00		12954506.00	13177510.00	13181476.00
24 Mg # 1	7843	7843	ug/l	0.27	90000.00		37751508.00	37667200.00	37228404.00
27 Al # 1	18080	18080	ug/l	1.19	90000.00		91097056.00	92598088.00	89948176.00
39 K # 2	7063	7063	ug/l	1.34	90000.00		3221714.00	3189915.30	3235380.50
40 Ca # 1	7585	7585	ug/l	0.76	90000.00		83481864.00	84313904.00	82570144.00
47 Ti # 3	280.8	280.8	ug/l	3.87	1800.00		352558.28	347249.06	347574.22
51 V # 2	70.28	70.28	ug/l	1.10	1800.00		189384.95	188983.39	187747.30
52 Cr # 2	55.9	55.9	ug/l	1.32	1800.00		176875.98	175542.08	174948.05
55 Mn # 3	938.7	938.7	ug/l	2.22	2700.00		18993234.00	18351664.00	18329380.00
56 Fe # 1	39590	39590	ug/l	0.70	90000.00		627799170.00	625347140.00	629019200.00
59 Co # 3	35.2	35.2	ug/l	4.29	1800.00		522918.63	499345.25	522032.28
60 Ni # 2	69.61	69.61	ug/l	1.25	1800.00		76173.82	75842.26	75287.70
63 Cu # 2	57.3	57.3	ug/l	1.09	1800.00		162674.67	161776.48	162176.22
66 Zn # 3	151.6	151.6	ug/l	2.91	1800.00		277970.41	276482.41	269693.00
75 As # 2	41.34	41.34	ug/l	1.81	1800.00		11604.90	11372.07	11523.85
78 Se # 1	18.57	18.57	ug/l	0.39	100.00		7189.97	7131.28	7199.31
88 Sr # 3	28.24	28.24	ug/l	2.18	1800.00		881505.81	889417.88	881995.81
95 Mo # 3	29.01	29.01	ug/l	3.64	1800.00		94461.38	93091.34	92627.68
107 Ag # 3	16.98	16.98	ug/l	4.19	100.00		140439.61	138667.92	139709.89
111 Cd # 3	20.12	20.12	ug/l	4.10	100.00		35172.50	34481.60	34979.43
118 Sn # 3	23.28	23.28	ug/l	3.78	1800.00		118592.00	117810.90	116147.00
121 Sb # 3	14.5	14.5	ug/l	1.52	100.00		120685.74	119989.66	119173.93
137 Ba # 3	116	116	ug/l	3.87	1800.00		269643.50	268743.09	264105.91
202 Hg # 3	0.8884	0.8884	ug/l	5.86	5.00		1688.44	1714.44	1747.78
205 Tl # 3	4.888	4.888	ug/l	3.02	20.00		69417.25	68961.12	67974.15
208 Pb # 3	48.22	48.22	ug/l	3.71	1800.00		1003402.50	1000931.30	992815.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	609341.56	3.82	762890.69	79.9	60 - 125.4		630994.56	612269.44	584760.75
45 Sc # 1	683645.88	0.48	620105.56	110.2	60 - 125.4		686258.94	684721.75	679957.00
45 Sc # 3	828976.25	4.69	771387.50	107.5	60 - 125.4		871724.56	819559.06	795645.06
74 Ge # 1	159470.48	0.32	164848.81	96.7	60 - 125.4		159212.19	159136.78	160062.50
74 Ge # 2	31353.37	0.81	33226.06	94.4	60 - 125.4		31072.25	31569.92	31417.94
74 Ge # 3	169782.69	4.14	178474.77	95.1	60 - 125.4		177591.61	167797.97	163958.50
89 Y # 3	1557794.90	2.13	1057065.90	147.4	60 - 125.4	IS F	1589171.90	1561278.50	1522934.10
115 In # 3	876665.81	4.71	917456.31	95.6	60 - 125.4		923806.31	859066.00	847124.88
159 Tb # 3	1253867.10	4.02	1264337.30	99.2	60 - 125.4		1308381.30	1244300.90	1208919.60
209 Bi # 3	717477.13	4.22	698508.81	102.7	60 - 125.4		751697.69	706678.63	694055.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\044SMPL.D\044SMPL.D#
Date Acquired:	Dec 21 2012 08:20 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85921-b-1-b ms
Misc Info:	3050 1/5
Vial Number:	2201
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.98	11.98	ug/l	1.99	100.00		39764.79	38388.29	38769.09
11 B # 3	80.12	80.12	ug/l	2.18	200.00		271782.88	268442.91	264394.34
23 Na # 1	969.4	969.4	ug/l	2.95	90000.00		7202675.50	7670163.00	7288140.00
24 Mg # 1	7803	7803	ug/l	0.46	90000.00		37458060.00	38115532.00	37921820.00
27 Al # 1	21510	21510	ug/l	1.28	90000.00		108434530.00	112148720.00	109060270.00
39 K # 2	6907	6907	ug/l	0.80	90000.00		2996195.30	3016809.50	3019136.30
40 Ca # 1	4196	4196	ug/l	0.72	90000.00		46730372.00	46659052.00	46936032.00
47 Ti # 3	337.8	337.8	ug/l	1.95	1800.00		416266.19	410645.53	406856.84
51 V # 2	73.01	73.01	ug/l	0.88	1800.00		186915.64	187956.75	188029.39
52 Cr # 2	62.57	62.57	ug/l	0.93	1800.00		187690.70	188483.63	188836.42
55 Mn # 3	788.3	788.3	ug/l	0.34	2700.00		15208353.00	15037501.00	14905620.00
56 Fe # 1	37670	37670	ug/l	0.54	90000.00		601844860.00	611316290.00	600538940.00
59 Co # 3	25.21	25.21	ug/l	0.62	1800.00		361673.56	354683.97	352178.69
60 Ni # 2	75.68	75.68	ug/l	1.30	1800.00		78947.06	78794.38	78819.84
63 Cu # 2	58.13	58.13	ug/l	1.42	1800.00		157948.42	157525.31	157079.55
66 Zn # 3	153.1	153.1	ug/l	0.67	1800.00		271532.56	267857.44	264347.50
75 As # 2	36.31	36.31	ug/l	1.43	1800.00		9686.96	9630.59	9693.29
78 Se # 1	18.55	18.55	ug/l	0.18	100.00		7033.24	7104.27	7051.91
88 Sr # 3	29.88	29.88	ug/l	0.69	1800.00		831863.81	822504.06	827829.38
95 Mo # 3	27.7	27.7	ug/l	0.75	1800.00		88319.48	86593.26	85735.33
107 Ag # 3	10.24	10.24	ug/l	1.16	100.00		83826.66	81307.18	81146.19
111 Cd # 3	10.53	10.53	ug/l	1.24	100.00		17884.80	18028.96	17478.73
118 Sn # 3	24.19	24.19	ug/l	1.21	1800.00		119334.79	120413.24	116865.83
121 Sb # 3	7.981	7.981	ug/l	1.79	100.00		59971.35	58458.42	57247.80
137 Ba # 3	125.2	125.2	ug/l	0.77	1800.00		285454.84	280886.88	276750.06
202 Hg # 3	1.016	1.016	ug/l	2.16	5.00		1909.46	1867.13	1810.78
205 Tl # 3	9.034	9.034	ug/l	2.54	20.00		123578.83	123307.13	119397.47
208 Pb # 3	33.89	33.89	ug/l	0.96	1800.00		678056.25	665721.56	657998.94

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	601124.50	0.89	762890.69	78.8	60 - 125.4		599799.69	596541.31	607032.38
45 Sc # 1	692367.00	0.54	620105.56	111.7	60 - 125.4		689115.81	696432.00	691553.31
45 Sc # 3	810851.94	0.83	771387.50	105.1	60 - 125.4		803071.31	814625.50	814859.00
74 Ge # 1	157177.84	0.69	164848.81	95.3	60 - 125.4		156427.47	158416.58	156689.44
74 Ge # 2	30015.22	1.19	33226.06	90.3	60 - 125.4		29609.50	30282.38	30153.77
74 Ge # 3	163842.88	0.76	178474.77	91.8	60 - 125.4		165258.55	163367.53	162902.55
89 Y # 3	1377383.90	0.58	1057065.90	130.3	60 - 125.4	IS F	1384434.00	1378934.90	1368782.80
115 In # 3	852628.81	0.78	917456.31	92.9	60 - 125.4		859508.81	852153.56	846223.94
159 Tb # 3	1207179.80	1.05	1264337.30	95.5	60 - 125.4		1215065.00	1192570.10	1213904.30
209 Bi # 3	680649.94	0.56	698508.81	97.4	60 - 125.4		684789.13	679821.75	677339.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\045SMPL.D\045SMPL.D#
Date Acquired:	Dec 21 2012 08:27 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85921-b-1-c msd
Misc Info:	3050 1/5
Vial Number:	2202
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	12.87	12.87	ug/l	1.05	100.00		42127.31	42575.16	41468.96
11 B # 3	85.35	85.35	ug/l	0.62	200.00		286705.56	286895.22	285672.56
23 Na # 1	976.9	976.9	ug/l	1.28	90000.00		7464065.50	7393360.00	7604585.50
24 Mg # 1	8571	8571	ug/l	0.58	90000.00		42062796.00	41734884.00	41644868.00
27 Al # 1	24060	24060	ug/l	1.47	90000.00		123261780.00	124816610.00	122970130.00
39 K # 2	7673	7673	ug/l	0.61	90000.00		3312380.30	3287657.80	3314972.00
40 Ca # 1	4553	4553	ug/l	0.40	90000.00		51212720.00	50893892.00	51076700.00
47 Ti # 3	392.5	392.5	ug/l	1.09	1800.00		493636.50	485044.25	482984.47
51 V # 2	81.98	81.98	ug/l	0.53	1800.00		208577.70	207535.50	208586.58
52 Cr # 2	69.27	69.27	ug/l	0.45	1800.00		206123.36	206033.95	206131.95
55 Mn # 3	811.1	811.1	ug/l	1.25	2700.00		15716458.00	15363215.00	15573540.00
56 Fe # 1	38880	38880	ug/l	0.34	90000.00		629273730.00	624836350.00	629197820.00
59 Co # 3	26.62	26.62	ug/l	0.66	1800.00		379626.75	378192.38	375147.75
60 Ni # 2	81.76	81.76	ug/l	0.70	1800.00		84344.16	84369.02	83952.77
63 Cu # 2	62.12	62.12	ug/l	0.59	1800.00		166785.70	165957.81	166463.02
66 Zn # 3	158.7	158.7	ug/l	0.32	1800.00		282602.59	279491.00	274680.03
75 As # 2	36.07	36.07	ug/l	0.80	1800.00		9541.54	9471.82	9482.83
78 Se # 1	19.48	19.48	ug/l	0.69	100.00		7387.06	7376.06	7400.73
88 Sr # 3	32.11	32.11	ug/l	0.71	1800.00		923681.56	913067.25	913289.13
95 Mo # 3	29.15	29.15	ug/l	1.69	1800.00		91642.08	90237.82	90582.02
107 Ag # 3	10.88	10.88	ug/l	0.39	100.00		87232.70	87782.51	85234.34
111 Cd # 3	11.03	11.03	ug/l	0.97	100.00		18641.18	18588.32	18371.23
118 Sn # 3	25.87	25.87	ug/l	1.15	1800.00		128507.97	125896.33	124656.41
121 Sb # 3	7.983	7.983	ug/l	1.06	100.00		60470.31	60241.98	60486.70
137 Ba # 3	146.6	146.6	ug/l	0.89	1800.00		331612.41	326825.31	322550.41
202 Hg # 3	1.062	1.062	ug/l	1.61	5.00		1968.14	1964.47	1905.13
205 Tl # 3	9.595	9.595	ug/l	0.44	20.00		130660.30	129325.45	127626.77
208 Pb # 3	32.84	32.84	ug/l	1.00	1800.00		656201.75	647834.69	636603.75

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	603931.00	0.65	762890.69	79.2	60 - 125.4		600696.56	608335.81	602760.63
45 Sc # 1	696649.50	0.70	620105.56	112.3	60 - 125.4		700893.94	691281.50	697772.94
45 Sc # 3	826896.63	1.98	771387.50	107.2	60 - 125.4		841931.94	829257.06	809500.81
74 Ge # 1	156558.22	0.78	164848.81	95.0	60 - 125.4		155410.63	156421.94	157842.08
74 Ge # 2	29672.39	0.45	33226.06	89.3	60 - 125.4		29541.03	29667.89	29808.24
74 Ge # 3	164547.97	1.22	178474.77	92.2	60 - 125.4		166627.30	164408.52	162608.08
89 Y # 3	1420537.90	0.95	1057065.90	134.4	60 - 125.4	IS I	1431153.10	1425092.90	1405367.60
115 In # 3	847595.50	1.71	917456.31	92.4	60 - 125.4		856159.75	855794.31	830832.38
159 Tb # 3	1202947.10	0.91	1264337.30	95.1	60 - 125.4		1210493.40	1208002.80	1190345.10
209 Bi # 3	680856.31	0.88	698508.81	97.5	60 - 125.4		687732.81	677070.75	677765.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\046SMPL.D\046SMPL.D#
Date Acquired:	Dec 21 2012 08:34 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85921-b-2-a
Misc Info:	3050 1/5
Vial Number:	2203
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.6238	0.6238	ug/l	6.58	100.00		2040.19	1826.82	1876.83
11 B # 3	28.27	28.27	ug/l	0.97	200.00		89133.01	88539.56	86054.35
23 Na # 1	231.2	231.2	ug/l	1.75	90000.00		1794610.80	1759863.80	1763087.00
24 Mg # 1	54920	54920	ug/l	1.72	90000.00		240659010.00	239447360.00	236113380.00
27 Al # 1	9704	9704	ug/l	0.80	90000.00		44481580.00	44433592.00	44439148.00
39 K # 2	3586	3586	ug/l	0.43	90000.00		1420216.30	1418793.30	1442724.10
40 Ca # 1	137400	137400	ug/l	0.90	90000.00	Fail	1362209900.00	1378886300.00	1376847400.00
47 Ti # 3	318.4	318.4	ug/l	0.66	1800.00		334736.03	326208.50	322792.28
51 V # 2	31.7	31.7	ug/l	0.55	1800.00		73840.01	74632.96	74555.11
52 Cr # 2	22.51	22.51	ug/l	0.72	1800.00		61630.06	61641.48	61767.33
55 Mn # 3	809.6	809.6	ug/l	0.48	2700.00		14221606.00	13894366.00	13792849.00
56 Fe # 1	25860	25860	ug/l	1.22	90000.00		374153470.00	371901020.00	370168670.00
59 Co # 3	12.73	12.73	ug/l	1.29	1800.00		167600.05	161339.05	159173.80
60 Ni # 2	37.23	37.23	ug/l	0.32	1800.00		35106.90	35123.58	35537.83
63 Cu # 2	29.12	29.12	ug/l	0.71	1800.00		71517.68	71999.76	71828.32
66 Zn # 3	82.74	82.74	ug/l	0.38	1800.00		133787.05	130566.86	129874.42
75 As # 2	13.59	13.59	ug/l	0.63	1800.00		3253.67	3300.68	3349.69
78 Se # 1	0.5128	0.5128	ug/l	2.32	100.00		188.34	195.67	193.00
88 Sr # 3	84.38	84.38	ug/l	1.23	1800.00		2082067.90	2101508.30	2047100.00
95 Mo # 3	6.468	6.468	ug/l	1.84	1800.00		20213.65	19729.54	18985.31
107 Ag # 3	0.03753	0.03753	ug/l	10.75	100.00		516.69	526.69	560.03
111 Cd # 3	0.2507	0.2507	ug/l	7.27	100.00		439.21	482.72	429.66
118 Sn # 3	2.696	2.696	ug/l	1.26	1800.00		12685.66	12762.31	12535.41
121 Sb # 3	0.5092	0.5092	ug/l	3.07	100.00		3797.25	3583.86	3497.17
137 Ba # 3	58.91	58.91	ug/l	0.73	1800.00		126780.51	123262.68	121397.70
202 Hg # 3	0.04232	0.04232	ug/l	7.63	5.00		95.33	83.33	91.00
205 Tl # 3	0.8045	0.8045	ug/l	2.30	20.00		10851.10	10851.07	10727.62
208 Pb # 3	18.86	18.86	ug/l	0.72	1800.00		338804.84	330682.84	327231.31

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	523964.09	2.00	762890.69	68.7	60 - 125.4		526928.94	532641.44	512321.97
45 Sc # 1	620851.75	0.78	620105.56	100.1	60 - 125.4		618871.38	617281.56	626402.31
45 Sc # 3	685766.69	2.54	771387.50	88.9	60 - 125.4		705191.00	680706.25	671402.94
74 Ge # 1	146626.63	0.33	164848.81	88.9	60 - 125.4		146887.39	146068.25	146924.23
74 Ge # 2	27273.63	0.83	33226.06	82.1	60 - 125.4		27061.58	27245.23	27514.09
74 Ge # 3	148097.47	1.57	178474.77	83.0	60 - 125.4		150779.53	146593.33	146919.56
89 Y # 3	1227090.80	1.49	1057065.90	116.1	60 - 125.4		1245632.60	1226639.10	1209000.60
115 In # 3	797793.56	1.48	917456.31	87.0	60 - 125.4		810354.25	796156.13	786870.31
159 Tb # 3	1154887.00	2.72	1264337.30	91.3	60 - 125.4		1188275.30	1150469.50	1125916.00
209 Bi # 3	608172.88	2.51	698508.81	87.1	60 - 125.4		624965.13	604424.19	595129.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\047_CCV.D\047_CCV.D#
Date Acquired:	Dec 21 2012 08:40 pm
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	50.88 ug/l	1.10	50.00	89.6 - 110	
11 B	102.80 ug/l	0.66	100.00	89.6 - 110	
23 Na	4650.00 ug/l	1.70	5000.00	89.6 - 110	
24 Mg	4737.00 ug/l	1.89	5000.00	89.6 - 110	
27 Al	478.20 ug/l	1.58	500.00	89.6 - 110	
39 K	4802.00 ug/l	0.79	5000.00	89.6 - 110	
40 Ca	4979.00 ug/l	1.36	5000.00	89.6 - 110	
47 Ti	49.27 ug/l	1.54	50.00	89.6 - 110	
51 V	49.81 ug/l	1.35	50.00	89.6 - 110	
52 Cr	50.31 ug/l	1.02	50.00	89.6 - 110	
55 Mn	482.60 ug/l	0.26	500.00	89.6 - 110	
56 Fe	5155.00 ug/l	1.12	5000.00	89.6 - 110	
59 Co	49.63 ug/l	0.65	50.00	89.6 - 110	
60 Ni	52.07 ug/l	1.28	50.00	89.6 - 110	
63 Cu	52.26 ug/l	0.94	50.00	89.6 - 110	
66 Zn	49.26 ug/l	0.28	50.00	89.6 - 110	
75 As	45.85 ug/l	0.92	50.00	89.6 - 110	
78 Se	49.33 ug/l	1.04	50.00	89.6 - 110	
88 Sr	50.15 ug/l	0.29	50.00	89.6 - 110	
95 Mo	49.86 ug/l	1.68	50.00	89.6 - 110	
107 Ag	49.26 ug/l	1.52	50.00	89.6 - 110	
111 Cd	49.36 ug/l	2.44	50.00	89.6 - 110	
118 Sn	49.49 ug/l	1.65	50.00	89.6 - 110	
121 Sb	49.13 ug/l	0.99	50.00	89.6 - 110	
137 Ba	50.08 ug/l	1.41	50.00	89.6 - 110	
202 Hg	2.48 ug/l	0.53	2.50	89.6 - 110	
205 Tl	9.81 ug/l	0.85	10.00	89.6 - 110	
208 Pb	49.97 ug/l	1.13	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	660452.81	0.86	762890.69	86.6	59.6 - 125	
45 Sc	598828.13	0.74	620105.56	96.6	59.6 - 125	
45 Sc	741584.19	0.48	771387.50	96.1	59.6 - 125	
74 Ge	163486.80	1.42	164848.81	99.2	59.6 - 125	
74 Ge	30670.35	1.04	33226.06	92.3	59.6 - 125	
74 Ge	175190.25	0.49	178474.77	98.2	59.6 - 125	
89 Y	1059419.60	1.39	1057065.90	100.2	59.6 - 125	
115 In	913993.13	0.70	917456.31	99.6	59.6 - 125	
159 Tb	1242317.80	0.51	1264337.30	98.3	59.6 - 125	
209 Bi	670605.38	0.77	698508.81	96.0	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\048_CCB.D\048_CCB.D#
Date Acquired: Dec 21 2012 08:47 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.05 ug/l	5.66	0.05	
11 B	3.79 ug/l	4.28	10.00	
23 Na	-8.01 ug/l	16.82	25.00	
24 Mg	5.45 ug/l	15.50	25.00	
27 Al	1.44 ug/l	15.70	5.00	
39 K	0.23 ug/l	446.42	25.00	
40 Ca	11.63 ug/l	11.36	25.00	
47 Ti	-0.25 ug/l	3.93	0.50	
51 V	-0.07 ug/l	9.79	0.50	
52 Cr	0.00 ug/l	73.03	0.50	
55 Mn	-0.17 ug/l	8.49	0.50	
56 Fe	6.06 ug/l	11.29	10.00	
59 Co	0.00 ug/l	31.57	0.05	
60 Ni	0.02 ug/l	27.58	0.50	
63 Cu	0.02 ug/l	9.54	0.50	
66 Zn	-0.55 ug/l	3.23	2.00	
75 As	0.03 ug/l	56.36	0.25	
78 Se	0.05 ug/l	7.93	0.25	
88 Sr	-0.09 ug/l	2.61	0.10	
95 Mo	-0.18 ug/l	9.51	0.50	
107 Ag	-0.02 ug/l	17.87	0.10	
111 Cd	-0.01 ug/l	96.46	0.05	
118 Sn	0.00 ug/l	229.05	0.50	
121 Sb	0.33 ug/l	8.68	0.50	
137 Ba	-0.04 ug/l	20.84	0.50	
202 Hg	0.02 ug/l	15.08	0.08	
205 Tl	-0.02 ug/l	7.84	0.10	
208 Pb	-0.03 ug/l	5.47	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	729711.69	0.67	762890.69	95.7	59.6 - 125	
45 Sc	637264.38	0.64	620105.56	102.8	59.6 - 125	
45 Sc	795795.69	0.03	771387.50	103.2	59.6 - 125	
74 Ge	172792.39	0.29	164848.81	104.8	59.6 - 125	
74 Ge	33276.14	0.89	33226.06	100.2	59.6 - 125	
74 Ge	187358.78	0.56	178474.77	105.0	59.6 - 125	
89 Y	1122198.30	1.36	1057065.90	106.2	59.6 - 125	
115 In	960579.38	1.37	917456.31	104.7	59.6 - 125	
159 Tb	1295644.30	0.29	1264337.30	102.5	59.6 - 125	
209 Bi	710200.69	0.51	698508.81	101.7	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\049SMPL.D\049SMPL.D#
Date Acquired:	Dec 21 2012 08:54 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85921-b-3-a
Misc Info:	3050 1/5
Vial Number:	2204
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.181	0.181	ug/l	5.62	100.00		836.72	810.04	780.04
11 B # 3	7.169	7.169	ug/l	2.94	200.00		35341.75	34316.15	34646.90
23 Na # 1	60.93	60.93	ug/l	3.11	90000.00		685701.13	686425.25	679802.38
24 Mg # 1	5967	5967	ug/l	1.07	90000.00		26947246.00	27431746.00	27082842.00
27 Al # 1	4310	4310	ug/l	0.67	90000.00		20422162.00	20967064.00	20627706.00
39 K # 2	691.4	691.4	ug/l	0.64	90000.00		334952.41	335295.00	337207.81
40 Ca # 1	19480	19480	ug/l	2.16	90000.00		203303390.00	203024350.00	204568180.00
47 Ti # 3	267.3	267.3	ug/l	1.67	1800.00		303304.44	299997.00	297315.84
51 V # 2	19.3	19.3	ug/l	0.28	1800.00		53020.33	53438.39	53289.32
52 Cr # 2	8.518	8.518	ug/l	0.77	1800.00		27618.22	27361.15	27419.21
55 Mn # 3	164.8	164.8	ug/l	0.59	2700.00		3378476.50	3330674.50	3316941.80
56 Fe # 1	7917	7917	ug/l	0.94	90000.00		118500140.00	121387000.00	117923700.00
59 Co # 3	3.019	3.019	ug/l	1.37	1800.00		45060.95	45779.48	45395.02
60 Ni # 2	8.143	8.143	ug/l	2.24	1800.00		9205.33	8859.82	9059.92
63 Cu # 2	5.384	5.384	ug/l	0.38	1800.00		15707.74	15699.06	15597.61
66 Zn # 3	20.54	20.54	ug/l	0.48	1800.00		39733.45	39088.51	39088.60
75 As # 2	2.475	2.475	ug/l	3.17	1800.00		712.35	708.35	745.69
78 Se # 1	0.1292	0.1292	ug/l	6.12	100.00		61.00	67.33	63.00
88 Sr # 3	17.02	17.02	ug/l	0.90	1800.00		405080.38	401820.34	395603.41
95 Mo # 3	0.09399	0.09399	ug/l	28.39	1800.00		1223.42	1253.42	1393.44
107 Ag # 3	-0.016	-0.016	ug/l	27.89	100.00		123.34	140.01	196.67
111 Cd # 3	0.05612	0.05612	ug/l	9.51	100.00		162.89	172.88	156.16
118 Sn # 3	2.497	2.497	ug/l	2.07	1800.00		13189.34	13532.99	13489.62
121 Sb # 3	0.3751	0.3751	ug/l	3.47	100.00		2710.32	2650.30	2510.28
137 Ba # 3	23.75	23.75	ug/l	2.34	1800.00		56890.82	58001.81	56194.92
202 Hg # 3	0.02494	0.02494	ug/l	9.19	5.00		77.00	67.00	71.67
205 Tl # 3	0.05106	0.05106	ug/l	7.08	20.00		1253.43	1253.44	1150.09
208 Pb # 3	4.012	4.012	ug/l	0.70	1800.00		84328.73	82995.25	82354.08

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	637997.56	0.84	762890.69	83.6	60 - 125.4		633289.88	636910.50	643792.25
45 Sc # 1	649921.50	2.00	620105.56	104.8	60 - 125.4		638769.56	664191.06	646803.88
45 Sc # 3	747879.38	0.70	771387.50	97.0	60 - 125.4		743766.25	746065.75	753806.00
74 Ge # 1	166125.92	0.16	164848.81	100.8	60 - 125.4		166151.13	166371.97	165854.70
74 Ge # 2	31933.97	0.35	33226.06	96.1	60 - 125.4		31875.54	32064.20	31862.16
74 Ge # 3	173670.91	0.58	178474.77	97.3	60 - 125.4		174742.84	172755.28	173514.61
89 Y # 3	1168767.10	1.36	1057065.90	110.6	60 - 125.4		1187135.60	1159602.50	1159563.30
115 In # 3	910153.50	0.79	917456.31	99.2	60 - 125.4		915014.25	901891.88	913554.25
159 Tb # 3	1268954.40	1.23	1264337.30	100.4	60 - 125.4		1286632.10	1263379.30	1256851.80
209 Bi # 3	707380.56	0.99	698508.81	101.3	60 - 125.4		715125.06	701611.19	705405.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\050SMPL.D\050SMPL.D#
Date Acquired:	Dec 21 2012 09:00 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85921-b-4-a
Misc Info:	3050 1/5
Vial Number:	2205
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.3209	0.3209	ug/l	8.57	100.00		1246.76	1183.41	1063.40
11 B # 3	14.41	14.41	ug/l	1.75	200.00		53373.47	53821.77	54082.40
23 Na # 1	138.9	138.9	ug/l	0.69	90000.00		1185736.00	1179253.40	1168057.80
24 Mg # 1	28800	28800	ug/l	0.63	90000.00		127034890.00	125305620.00	127013380.00
27 Al # 1	5691	5691	ug/l	1.02	90000.00		26356896.00	26065054.00	26574656.00
39 K # 2	1778	1778	ug/l	0.26	90000.00		762486.88	759091.13	756273.00
40 Ca # 1	101400	101400	ug/l	0.53	90000.00	Fail	1034938900.00	1014139500.00	1020422000.00
47 Ti # 3	277.1	277.1	ug/l	0.28	1800.00		294605.50	290131.44	287349.13
51 V # 2	22.14	22.14	ug/l	0.20	1800.00		55405.61	55316.05	55261.91
52 Cr # 2	14.25	14.25	ug/l	0.27	1800.00		41549.86	41529.79	41521.72
55 Mn # 3	353.6	353.6	ug/l	0.57	2700.00		6609059.00	6665083.00	6494217.50
56 Fe # 1	15510	15510	ug/l	0.86	90000.00		224605700.00	226137920.00	225376980.00
59 Co # 3	5.649	5.649	ug/l	0.38	1800.00		78248.26	78428.80	77393.73
60 Ni # 2	16.54	16.54	ug/l	0.29	1800.00		16739.41	16631.30	16574.58
63 Cu # 2	17.88	17.88	ug/l	0.36	1800.00		46895.57	46957.79	46761.85
66 Zn # 3	81.58	81.58	ug/l	0.66	1800.00		140883.86	139552.25	139054.89
75 As # 2	8.912	8.912	ug/l	0.47	1800.00		2301.51	2307.84	2309.17
78 Se # 1	0.2096	0.2096	ug/l	9.31	100.00		99.33	86.00	87.33
88 Sr # 3	68.48	68.48	ug/l	1.36	1800.00		1590261.40	1607742.60	1584621.60
95 Mo # 3	4.35	4.35	ug/l	0.98	1800.00		14450.41	14290.24	14010.03
107 Ag # 3	-0.008159	-0.008159	ug/l	67.15	100.00		173.34	190.01	246.68
111 Cd # 3	0.1888	0.1888	ug/l	17.48	100.00		434.68	374.73	311.50
118 Sn # 3	2.765	2.765	ug/l	2.95	1800.00		13616.40	13696.48	13813.21
121 Sb # 3	0.4295	0.4295	ug/l	6.00	100.00		3097.08	3003.72	2716.99
137 Ba # 3	29.35	29.35	ug/l	1.00	1800.00		65850.59	65522.09	64297.25
202 Hg # 3	0.02372	0.02372	ug/l	10.05	5.00		61.33	61.33	68.33
205 Tl # 3	0.3908	0.3908	ug/l	1.02	20.00		5734.68	5711.34	5664.63
208 Pb # 3	11.15	11.15	ug/l	1.33	1800.00		210196.48	210983.14	207469.23

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	575610.06	0.80	762890.69	75.5	60 - 125.4		580826.13	573757.06	572246.88
45 Sc # 1	626974.19	0.54	620105.56	101.1	60 - 125.4		630829.88	624674.19	625418.63
45 Sc # 3	698607.25	1.53	771387.50	90.6	60 - 125.4		710094.94	696868.63	688858.13
74 Ge # 1	157108.64	0.31	164848.81	95.3	60 - 125.4		156938.63	156733.17	157654.13
74 Ge # 2	28964.92	0.30	33226.06	87.2	60 - 125.4		29061.76	28899.80	28933.22
74 Ge # 3	159824.39	1.02	178474.77	89.6	60 - 125.4		160904.48	160613.08	157955.63
89 Y # 3	1160269.00	1.42	1057065.90	109.8	60 - 125.4		1175655.00	1162167.10	1142985.10
115 In # 3	842859.31	2.18	917456.31	91.9	60 - 125.4		853347.69	853554.38	821675.81
159 Tb # 3	1200974.00	0.51	1264337.30	95.0	60 - 125.4		1194779.10	1206938.80	1201204.00
209 Bi # 3	647511.00	0.85	698508.81	92.7	60 - 125.4		653188.19	642179.25	647165.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\051SMPL.D\051SMPL.D#
Date Acquired:	Dec 21 2012 09:07 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85921-b-5-a
Misc Info:	3050 1/5
Vial Number:	2206
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.3753	0.3753	ug/l	7.60	100.00		1336.76	1260.09	1390.10
11 B # 3	11.68	11.68	ug/l	0.61	200.00		45613.69	45647.17	44376.99
23 Na # 1	140.5	140.5	ug/l	0.94	90000.00		1161193.50	1162572.10	1161217.10
24 Mg # 1	19000	19000	ug/l	0.56	90000.00		81252784.00	81594176.00	81799104.00
27 Al # 1	7591	7591	ug/l	0.40	90000.00		34196308.00	34305672.00	34518040.00
39 K # 2	1434	1434	ug/l	1.65	90000.00		607778.06	595796.19	621468.38
40 Ca # 1	60030	60030	ug/l	1.63	90000.00		584864580.00	599853570.00	591636420.00
47 Ti # 3	321.2	321.2	ug/l	0.45	1800.00		342385.31	335638.03	331418.75
51 V # 2	28.85	28.85	ug/l	0.36	1800.00		70896.95	71062.94	71279.24
52 Cr # 2	19.22	19.22	ug/l	0.64	1800.00		54811.80	55175.62	55979.00
55 Mn # 3	520.1	520.1	ug/l	0.48	2700.00		9720227.00	9691576.00	9452977.00
56 Fe # 1	18260	18260	ug/l	0.77	90000.00		260422660.00	258956960.00	259276500.00
59 Co # 3	8.951	8.951	ug/l	0.64	1800.00		123695.63	122301.88	121962.52
60 Ni # 2	20.01	20.01	ug/l	1.00	1800.00		19917.03	19989.78	19806.24
63 Cu # 2	17.41	17.41	ug/l	0.40	1800.00		45056.38	45087.72	45192.69
66 Zn # 3	62.09	62.09	ug/l	0.82	1800.00		107540.84	105322.62	105125.09
75 As # 2	10.43	10.43	ug/l	1.27	1800.00		2629.56	2643.89	2717.57
78 Se # 1	0.2254	0.2254	ug/l	8.95	100.00		96.67	103.33	88.33
88 Sr # 3	40.34	40.34	ug/l	1.75	1800.00		952373.13	933663.44	937393.75
95 Mo # 3	4.885	4.885	ug/l	1.21	1800.00		16162.11	15738.38	15758.36
107 Ag # 3	-0.0004848	-0.0004848	ug/l	274.13	100.00		256.68	273.34	263.34
111 Cd # 3	0.2094	0.2094	ug/l	17.57	100.00		357.37	397.53	464.19
118 Sn # 3	2.675	2.675	ug/l	1.87	1800.00		13633.10	13029.24	13159.37
121 Sb # 3	0.4193	0.4193	ug/l	3.20	100.00		2907.04	2970.37	2760.35
137 Ba # 3	61.54	61.54	ug/l	1.04	1800.00		138422.98	135733.45	135584.17
202 Hg # 3	0.02789	0.02789	ug/l	10.01	5.00		72.33	65.67	75.00
205 Tl # 3	0.2104	0.2104	ug/l	1.76	20.00		3280.48	3237.14	3293.82
208 Pb # 3	11.43	11.43	ug/l	0.56	1800.00		217497.91	214206.42	214342.16

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	574425.38	2.04	762890.69	75.3	60 - 125.4		582203.38	580095.56	560977.06
45 Sc # 1	613084.69	0.69	620105.56	98.9	60 - 125.4		611805.81	609616.81	617831.38
45 Sc # 3	697535.38	1.29	771387.50	90.4	60 - 125.4		706214.00	698089.69	688302.31
74 Ge # 1	155845.11	0.18	164848.81	94.5	60 - 125.4		155560.89	155844.77	156129.70
74 Ge # 2	28631.56	0.54	33226.06	86.2	60 - 125.4		28564.21	28520.83	28809.65
74 Ge # 3	158714.25	1.12	178474.77	88.9	60 - 125.4		160192.52	159197.34	156752.89
89 Y # 3	1161558.90	1.03	1057065.90	109.9	60 - 125.4		1158327.10	1174832.50	1151517.10
115 In # 3	842673.81	1.74	917456.31	91.8	60 - 125.4		856040.00	844916.75	827064.56
159 Tb # 3	1194557.90	0.61	1264337.30	94.5	60 - 125.4		1191542.90	1202894.00	1189236.50
209 Bi # 3	648938.94	0.32	698508.81	92.9	60 - 125.4		651301.75	648223.19	647291.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\052SMPL.D\052SMPL.D#
Date Acquired:	Dec 21 2012 09:14 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85921-b-6-a
Misc Info:	3050 1/5
Vial Number:	2207
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.6103	0.6103	ug/l	2.16	100.00		1993.52	1900.16	1840.17
11 B # 3	23.9	23.9	ug/l	0.98	200.00		78512.77	76761.14	75680.02
23 Na # 1	196.3	196.3	ug/l	0.41	90000.00		1546496.90	1571202.00	1579863.30
24 Mg # 1	47610	47610	ug/l	1.34	90000.00		210770590.00	210166400.00	209023630.00
27 Al # 1	8931	8931	ug/l	1.59	90000.00		41539404.00	41860048.00	41128012.00
39 K # 2	3463	3463	ug/l	0.53	90000.00		1382265.30	1382293.90	1377766.50
40 Ca # 1	115300	115300	ug/l	0.72	90000.00	Fail	1159009300.00	1176523600.00	1170824100.00
47 Ti # 3	301.8	301.8	ug/l	1.37	1800.00		316739.09	310871.50	306400.56
51 V # 2	29.7	29.7	ug/l	0.67	1800.00		69939.46	69589.28	69796.17
52 Cr # 2	20.59	20.59	ug/l	1.02	1800.00		56348.29	56478.11	56704.12
55 Mn # 3	712.9	712.9	ug/l	0.99	2700.00		12627736.00	12598606.00	12459031.00
56 Fe # 1	23820	23820	ug/l	0.55	90000.00		346835680.00	347037540.00	349644540.00
59 Co # 3	10.54	10.54	ug/l	0.16	1800.00		139592.02	137492.86	135593.94
60 Ni # 2	28.44	28.44	ug/l	0.96	1800.00		27181.62	26731.52	27017.34
63 Cu # 2	25.05	25.05	ug/l	0.43	1800.00		62128.84	61696.56	61674.48
66 Zn # 3	99.67	99.67	ug/l	0.53	1800.00		163078.80	161789.81	159298.00
75 As # 2	12.12	12.12	ug/l	2.37	1800.00		2995.62	2876.27	2982.62
78 Se # 1	0.4183	0.4183	ug/l	1.95	100.00		165.33	160.33	166.33
88 Sr # 3	62.74	62.74	ug/l	0.38	1800.00		1525431.30	1526858.90	1500470.30
95 Mo # 3	6.364	6.364	ug/l	1.56	1800.00		20090.17	19405.85	19235.75
107 Ag # 3	0.03745	0.03745	ug/l	36.72	100.00		583.36	426.69	610.03
111 Cd # 3	0.2782	0.2782	ug/l	12.21	100.00		555.93	512.85	432.90
118 Sn # 3	2.757	2.757	ug/l	1.04	1800.00		13312.84	13049.24	12942.51
121 Sb # 3	0.503	0.503	ug/l	0.43	100.00		3517.17	3557.19	3490.51
137 Ba # 3	42.33	42.33	ug/l	1.15	1800.00		90704.62	90087.84	89457.81
202 Hg # 3	0.03436	0.03436	ug/l	10.12	5.00		75.00	84.33	74.67
205 Tl # 3	0.4303	0.4303	ug/l	2.28	20.00		5814.72	6024.80	6041.48
208 Pb # 3	16.59	16.59	ug/l	1.02	1800.00		303092.78	295618.16	289981.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	533440.13	2.38	762890.69	69.9	60 - 125.4		548062.06	526781.44	525476.75
45 Sc # 1	629960.13	0.92	620105.56	101.6	60 - 125.4		624208.75	629857.00	635814.75
45 Sc # 3	687040.25	1.70	771387.50	89.1	60 - 125.4		690742.63	696398.88	673979.25
74 Ge # 1	151383.91	0.41	164848.81	91.8	60 - 125.4		150897.66	151171.72	152082.34
74 Ge # 2	27310.34	0.69	33226.06	82.2	60 - 125.4		27482.34	27340.37	27108.32
74 Ge # 3	151225.25	1.60	178474.77	84.7	60 - 125.4		153727.69	151064.48	148883.58
89 Y # 3	1205409.90	0.67	1057065.90	114.0	60 - 125.4		1207384.60	1212254.00	1196591.00
115 In # 3	807651.50	1.76	917456.31	88.0	60 - 125.4		817841.44	813652.69	791460.38
159 Tb # 3	1148388.50	0.04	1264337.30	90.8	60 - 125.4		1148238.60	1148060.40	1148866.50
209 Bi # 3	616138.38	1.22	698508.81	88.2	60 - 125.4		624256.75	614684.94	609473.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\053SMPL.D\053SMPL.D#
Date Acquired:	Dec 21 2012 09:20 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85725-b-1-a
Misc Info:	3050 1/5
Vial Number:	2208
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04981	-0.04981	ug/l	4.08	100.00		10.00	23.33	13.33
11 B # 3	2.053	2.053	ug/l	2.37	200.00		17653.13	17135.99	17049.22
23 Na # 1	181.3	181.3	ug/l	2.65	90000.00		1395100.40	1396148.50	1420125.40
24 Mg # 1	472.4	472.4	ug/l	1.39	90000.00		1989929.80	2007716.90	2005555.00
27 Al # 1	22.36	22.36	ug/l	2.72	90000.00		106931.20	106996.45	102566.31
39 K # 2	597.1	597.1	ug/l	0.82	90000.00		279945.66	280857.22	279868.19
40 Ca # 1	9348	9348	ug/l	1.46	90000.00		89594240.00	91155360.00	91558584.00
47 Ti # 3	7.738	7.738	ug/l	3.74	1800.00		9036.54	8566.14	8335.92
51 V # 2	0.2818	0.2818	ug/l	4.85	1800.00		1380.07	1341.40	1321.40
52 Cr # 2	0.1054	0.1054	ug/l	8.71	1800.00		560.68	512.68	515.34
55 Mn # 3	686.7	686.7	ug/l	1.21	2700.00		13916303.00	13967166.00	14033116.00
56 Fe # 1	1165	1165	ug/l	2.13	90000.00		16441098.00	16298800.00	16166213.00
59 Co # 3	0.1195	0.1195	ug/l	5.95	1800.00		2063.53	2136.87	1896.84
60 Ni # 2	0.6316	0.6316	ug/l	4.24	1800.00		687.35	710.69	662.02
63 Cu # 2	5.097	5.097	ug/l	1.21	1800.00		14247.02	14292.41	14134.93
66 Zn # 3	67.02	67.02	ug/l	0.37	1800.00		125833.13	126411.80	125074.26
75 As # 2	0.8343	0.8343	ug/l	4.49	1800.00		258.00	243.34	240.67
78 Se # 1	0.7496	0.7496	ug/l	2.85	100.00		300.34	319.34	311.67
88 Sr # 3	179.6	179.6	ug/l	0.70	1800.00		3787370.00	3820450.80	3780455.30
95 Mo # 3	-0.1373	-0.1373	ug/l	9.15	1800.00		510.02	576.70	490.02
107 Ag # 3	-0.01658	-0.01658	ug/l	1.90	100.00		146.67	150.01	150.01
111 Cd # 3	0.3053	0.3053	ug/l	3.84	100.00		593.17	636.49	613.18
118 Sn # 3	2.163	2.163	ug/l	1.14	1800.00		11874.97	11758.19	11457.94
121 Sb # 3	0.1445	0.1445	ug/l	4.32	100.00		1043.41	1123.41	1070.07
137 Ba # 3	285.6	285.6	ug/l	1.19	1800.00		693634.81	681343.75	684145.81
202 Hg # 3	0.09436	0.09436	ug/l	2.01	5.00		194.00	198.67	199.34
205 Tl # 3	-0.02684	-0.02684	ug/l	2.07	20.00		116.67	106.67	120.00
208 Pb # 3	0.09842	0.09842	ug/l	5.93	1800.00		3360.27	3136.90	3146.91

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	639247.13	0.93	762890.69	83.8	60 - 125.4		645901.00	637393.88	634446.56
45 Sc # 1	603452.13	1.74	620105.56	97.3	60 - 125.4		594967.94	615192.94	600195.50
45 Sc # 3	715042.56	1.34	771387.50	92.7	60 - 125.4		717641.81	723043.75	704442.13
74 Ge # 1	164724.31	0.35	164848.81	99.9	60 - 125.4		164202.50	165343.16	164627.27
74 Ge # 2	30609.67	0.63	33226.06	92.1	60 - 125.4		30534.49	30466.06	30828.45
74 Ge # 3	174633.00	0.82	178474.77	97.8	60 - 125.4		175314.92	175604.84	172979.23
89 Y # 3	1054162.10	1.16	1057065.90	99.7	60 - 125.4		1055533.90	1065603.40	1041349.10
115 In # 3	913248.50	0.88	917456.31	99.5	60 - 125.4		916525.63	919138.31	904081.63
159 Tb # 3	1248733.30	0.72	1264337.30	98.8	60 - 125.4		1245364.80	1258875.10	1241959.60
209 Bi # 3	689757.50	0.36	698508.81	98.7	60 - 125.4		692132.75	687163.88	689975.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\054SMPL.D\054SMPL.D#
Date Acquired:	Dec 21 2012 09:27 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85725-b-2-a
Misc Info:	3050 1/5
Vial Number:	2209
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03775	-0.03775	ug/l	7.32	100.00		53.33	53.33	70.00
11 B # 3	1.767	1.767	ug/l	5.37	200.00		16772.27	16815.58	16828.96
23 Na # 1	293	293	ug/l	0.58	90000.00		2150426.30	2155488.50	2175462.50
24 Mg # 1	601.8	601.8	ug/l	0.90	90000.00		2599974.30	2590585.50	2610846.00
27 Al # 1	93.19	93.19	ug/l	1.06	90000.00		430023.66	426436.13	431861.97
39 K # 2	563.4	563.4	ug/l	2.83	90000.00		275566.94	281669.59	281550.78
40 Ca # 1	11690	11690	ug/l	0.47	90000.00		115247730.00	115454400.00	116933260.00
47 Ti # 3	8.602	8.602	ug/l	6.42	1800.00		9670.06	10491.18	10067.27
51 V # 2	0.5792	0.5792	ug/l	6.52	1800.00		2184.83	2322.18	2210.17
52 Cr # 2	0.2895	0.2895	ug/l	2.99	1800.00		1142.05	1164.05	1153.38
55 Mn # 3	647.6	647.6	ug/l	1.23	2700.00		13710150.00	13928856.00	13857165.00
56 Fe # 1	1675	1675	ug/l	0.59	90000.00		23567582.00	24093866.00	24103304.00
59 Co # 3	0.2894	0.2894	ug/l	1.67	1800.00		4774.21	4790.87	4884.22
60 Ni # 2	0.9552	0.9552	ug/l	1.45	1800.00		1096.04	1061.38	1102.04
63 Cu # 2	11.55	11.55	ug/l	1.97	1800.00		33559.66	33573.72	34228.45
66 Zn # 3	62.87	62.87	ug/l	0.18	1800.00		124508.98	123492.08	123803.88
75 As # 2	1.405	1.405	ug/l	6.56	1800.00		399.67	433.01	438.34
78 Se # 1	0.9928	0.9928	ug/l	0.66	100.00		417.34	422.67	423.34
88 Sr # 3	245.6	245.6	ug/l	1.63	1800.00		5484806.50	5397066.00	5357759.00
95 Mo # 3	0.09605	0.09605	ug/l	13.63	1800.00		1346.77	1310.10	1390.10
107 Ag # 3	0.01233	0.01233	ug/l	24.14	100.00		440.02	413.35	380.02
111 Cd # 3	0.4001	0.4001	ug/l	8.01	100.00		769.55	799.56	872.87
118 Sn # 3	2.116	2.116	ug/l	0.74	1800.00		11994.99	11918.27	11708.15
121 Sb # 3	0.1802	0.1802	ug/l	3.86	100.00		1373.44	1310.10	1316.76
137 Ba # 3	446	446	ug/l	2.08	1800.00		1100648.90	1106555.30	1126593.10
202 Hg # 3	0.1535	0.1535	ug/l	3.24	5.00		305.34	319.67	322.67
205 Tl # 3	-0.02709	-0.02709	ug/l	5.36	20.00		110.00	96.67	136.67
208 Pb # 3	0.2188	0.2188	ug/l	2.33	1800.00		5900.66	5697.29	5793.99

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	659270.13	1.86	762890.69	86.4	60 - 125.4		672348.63	647997.00	657464.88
45 Sc # 1	615802.81	1.02	620105.56	99.3	60 - 125.4		609338.06	616129.94	621940.38
45 Sc # 3	753341.69	2.31	771387.50	97.7	60 - 125.4		773376.44	741693.00	744955.63
74 Ge # 1	170297.52	0.21	164848.81	103.3	60 - 125.4		170013.64	170171.53	170707.34
74 Ge # 2	32267.37	1.48	33226.06	97.1	60 - 125.4		32773.90	31827.02	32201.18
74 Ge # 3	183292.09	0.46	178474.77	102.7	60 - 125.4		184250.70	182899.16	182726.42
89 Y # 3	1099626.10	0.43	1057065.90	104.0	60 - 125.4		1094238.50	1101625.30	1103014.60
115 In # 3	946841.44	0.98	917456.31	103.2	60 - 125.4		957365.63	943214.38	939944.44
159 Tb # 3	1288294.40	1.00	1264337.30	101.9	60 - 125.4		1302972.10	1282719.30	1279191.90
209 Bi # 3	712431.63	0.15	698508.81	102.0	60 - 125.4		712597.88	713378.44	711318.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\055SMPL.D\055SMPL.D#
Date Acquired:	Dec 21 2012 09:33 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85725-b-3-a
Misc Info:	3050 1/5
Vial Number:	2210
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05105	-0.05105	ug/l	1.03	100.00		13.33	13.33	10.00
11 B # 3	1.307	1.307	ug/l	13.25	200.00		16321.76	15787.98	15521.04
23 Na # 1	344.7	344.7	ug/l	1.75	90000.00		2580425.50	2570730.50	2582651.30
24 Mg # 1	359.3	359.3	ug/l	1.76	90000.00		1610325.10	1590608.90	1613095.90
27 Al # 1	8.825	8.825	ug/l	4.10	90000.00		47395.97	46663.84	48891.62
39 K # 2	564.9	564.9	ug/l	0.32	90000.00		287664.25	287180.53	293128.19
40 Ca # 1	4911	4911	ug/l	1.90	90000.00		49928800.00	50705988.00	50113516.00
47 Ti # 3	4.29	4.29	ug/l	1.27	1800.00		5474.49	5381.17	5374.53
51 V # 2	0.2627	0.2627	ug/l	1.30	1800.00		1397.40	1407.41	1430.74
52 Cr # 2	0.08737	0.08737	ug/l	7.49	1800.00		490.01	528.01	530.01
55 Mn # 3	293.2	293.2	ug/l	0.44	2700.00		6469285.50	6399351.00	6367756.50
56 Fe # 1	790.6	790.6	ug/l	1.98	90000.00		11683124.00	11550491.00	11753328.00
59 Co # 3	0.1263	0.1263	ug/l	1.91	1800.00		2343.57	2236.89	2296.90
60 Ni # 2	0.6593	0.6593	ug/l	3.92	1800.00		753.35	806.03	778.02
63 Cu # 2	11.31	11.31	ug/l	1.23	1800.00		34091.46	34237.06	34043.40
66 Zn # 3	35.46	35.46	ug/l	0.48	1800.00		72612.16	72153.27	71758.41
75 As # 2	1.007	1.007	ug/l	2.96	1800.00		315.00	311.67	333.67
78 Se # 1	0.5386	0.5386	ug/l	1.90	100.00		234.34	242.34	236.00
88 Sr # 3	96.38	96.38	ug/l	0.76	1800.00		2217190.00	2158231.80	2122735.00
95 Mo # 3	-0.0613	-0.0613	ug/l	34.94	1800.00		823.38	753.38	920.05
107 Ag # 3	0.01584	0.01584	ug/l	32.99	100.00		403.35	480.02	483.36
111 Cd # 3	0.1842	0.1842	ug/l	4.35	100.00		436.38	399.74	433.01
118 Sn # 3	2.16	2.16	ug/l	2.28	1800.00		12605.56	12575.48	12278.60
121 Sb # 3	0.1851	0.1851	ug/l	2.95	100.00		1420.11	1406.78	1336.77
137 Ba # 3	110.3	110.3	ug/l	0.84	1800.00		287675.97	279938.56	282923.44
202 Hg # 3	0.1114	0.1114	ug/l	5.76	5.00		251.34	246.00	227.34
205 Tl # 3	-0.02737	-0.02737	ug/l	1.56	20.00		116.67	103.34	113.34
208 Pb # 3	0.06099	0.06099	ug/l	4.05	1800.00		2653.52	2583.51	2590.18

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	689881.63	1.74	762890.69	90.4	60 - 125.4		677342.38	701206.19	691096.38
45 Sc # 1	635699.50	1.52	620105.56	102.5	60 - 125.4		645637.88	635142.13	626318.56
45 Sc # 3	782094.63	2.16	771387.50	101.4	60 - 125.4		800714.75	777886.25	767682.88
74 Ge # 1	172870.33	0.13	164848.81	104.9	60 - 125.4		173089.61	172869.80	172651.59
74 Ge # 2	33298.98	0.96	33226.06	100.2	60 - 125.4		33218.21	33027.90	33650.83
74 Ge # 3	187531.91	0.68	178474.77	105.1	60 - 125.4		188963.36	186479.94	187152.47
89 Y # 3	1120438.00	1.55	1057065.90	106.0	60 - 125.4		1140213.80	1113491.60	1107608.60
115 In # 3	976126.94	1.16	917456.31	106.4	60 - 125.4		982610.06	963039.88	982730.94
159 Tb # 3	1296610.60	0.76	1264337.30	102.6	60 - 125.4		1306472.10	1286880.10	1296479.50
209 Bi # 3	728880.06	0.68	698508.81	104.3	60 - 125.4		725497.88	734539.56	726602.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\056SMPL.D\056SMPL.D#
Date Acquired:	Dec 21 2012 09:40 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85725-b-4-a
Misc Info:	3050 1/5
Vial Number:	2211
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04817	-0.04817	ug/l	5.40	100.00		23.33	13.33	33.33
11 B # 3	1.106	1.106	ug/l	4.82	200.00		15461.19	15370.86	15337.59
23 Na # 1	443	443	ug/l	3.15	90000.00		3325576.50	3253384.00	3284889.00
24 Mg # 1	448.1	448.1	ug/l	1.61	90000.00		2022536.00	2026061.30	2041584.80
27 Al # 1	19.95	19.95	ug/l	2.24	90000.00		101209.18	100377.64	102367.97
39 K # 2	598.2	598.2	ug/l	0.69	90000.00		305132.25	305949.13	303599.19
40 Ca # 1	5669	5669	ug/l	2.93	90000.00		59623260.00	58574020.00	58404724.00
47 Ti # 3	4.973	4.973	ug/l	0.47	1800.00		6341.61	6281.54	6248.21
51 V # 2	0.3307	0.3307	ug/l	9.36	1800.00		1655.43	1647.43	1505.42
52 Cr # 2	0.1301	0.1301	ug/l	10.50	1800.00		608.68	706.02	658.68
55 Mn # 3	328	328	ug/l	1.01	2700.00		7196150.50	7207449.00	7273765.00
56 Fe # 1	709.5	709.5	ug/l	1.25	90000.00		10538118.00	10627998.00	10710081.00
59 Co # 3	0.193	0.193	ug/l	6.18	1800.00		3550.51	3477.14	3160.41
60 Ni # 2	0.9824	0.9824	ug/l	5.08	1800.00		1150.05	1210.05	1092.71
63 Cu # 2	32.07	32.07	ug/l	0.32	1800.00		95964.70	96906.99	96180.75
66 Zn # 3	40.47	40.47	ug/l	0.63	1800.00		83804.01	82412.85	82087.57
75 As # 2	1.15	1.15	ug/l	4.02	1800.00		357.01	377.67	350.00
78 Se # 1	0.8398	0.8398	ug/l	2.77	100.00		368.67	371.01	356.67
88 Sr # 3	111	111	ug/l	0.74	1800.00		2547583.80	2509765.80	2512128.00
95 Mo # 3	0.0006835	0.0006835	ug/l	438.48	1800.00		1063.41	1056.73	1023.40
107 Ag # 3	0.05716	0.05716	ug/l	14.37	100.00		853.38	753.38	883.39
111 Cd # 3	0.2792	0.2792	ug/l	19.97	100.00		509.63	589.64	709.67
118 Sn # 3	2.124	2.124	ug/l	1.17	1800.00		12168.50	12462.02	12068.48
121 Sb # 3	0.2566	0.2566	ug/l	1.35	100.00		1863.50	1790.17	1843.51
137 Ba # 3	135.9	135.9	ug/l	0.55	1800.00		349824.16	348478.06	345504.22
202 Hg # 3	0.152	0.152	ug/l	2.05	5.00		314.67	325.34	310.00
205 Tl # 3	-0.02698	-0.02698	ug/l	4.76	20.00		126.67	130.00	96.67
208 Pb # 3	0.2283	0.2283	ug/l	0.97	1800.00		6027.37	6160.73	6004.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	701351.69	0.92	762890.69	91.9	60 - 125.4		695720.31	699960.19	708374.69
45 Sc # 1	645309.63	1.80	620105.56	104.1	60 - 125.4		631990.88	653545.94	650392.00
45 Sc # 3	791896.13	0.49	771387.50	102.7	60 - 125.4		796226.56	788808.75	790653.13
74 Ge # 1	173818.05	0.60	164848.81	105.4	60 - 125.4		173652.36	172876.33	174925.44
74 Ge # 2	33248.26	0.52	33226.06	100.1	60 - 125.4		33052.86	33378.56	33313.36
74 Ge # 3	188928.36	0.48	178474.77	105.9	60 - 125.4		189938.66	188665.75	188180.64
89 Y # 3	1133068.40	0.95	1057065.90	107.2	60 - 125.4		1140813.80	1120758.00	1137633.40
115 In # 3	972156.63	1.09	917456.31	106.0	60 - 125.4		977654.13	978875.00	959940.94
159 Tb # 3	1307850.80	0.39	1264337.30	103.4	60 - 125.4		1302789.60	1307652.40	1313110.00
209 Bi # 3	720935.56	0.67	698508.81	103.2	60 - 125.4		717574.88	726503.31	718728.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\057_CCV.D\057_CCV.D#
Date Acquired: Dec 21 2012 09:47 pm
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	50.11 ug/l	1.14	50.00	89.6 - 110	
11 B	97.32 ug/l	1.05	100.00	89.6 - 110	
23 Na	4565.00 ug/l	1.03	5000.00	89.6 - 110	
24 Mg	4617.00 ug/l	1.04	5000.00	89.6 - 110	
27 Al	464.00 ug/l	0.75	500.00	89.6 - 110	
39 K	4805.00 ug/l	1.82	5000.00	89.6 - 110	
40 Ca	4775.00 ug/l	1.70	5000.00	89.6 - 110	
47 Ti	48.80 ug/l	0.61	50.00	89.6 - 110	
51 V	49.34 ug/l	0.74	50.00	89.6 - 110	
52 Cr	49.23 ug/l	1.02	50.00	89.6 - 110	
55 Mn	488.90 ug/l	0.96	500.00	89.6 - 110	
56 Fe	4884.00 ug/l	1.67	5000.00	89.6 - 110	
59 Co	49.49 ug/l	0.06	50.00	89.6 - 110	
60 Ni	50.64 ug/l	0.62	50.00	89.6 - 110	
63 Cu	50.44 ug/l	0.37	50.00	89.6 - 110	
66 Zn	48.67 ug/l	0.92	50.00	89.6 - 110	
75 As	46.12 ug/l	0.23	50.00	89.6 - 110	
78 Se	48.80 ug/l	0.24	50.00	89.6 - 110	
88 Sr	49.91 ug/l	0.65	50.00	89.6 - 110	
95 Mo	49.98 ug/l	1.08	50.00	89.6 - 110	
107 Ag	49.11 ug/l	0.80	50.00	89.6 - 110	
111 Cd	49.44 ug/l	0.93	50.00	89.6 - 110	
118 Sn	49.42 ug/l	0.87	50.00	89.6 - 110	
121 Sb	48.47 ug/l	0.42	50.00	89.6 - 110	
137 Ba	49.84 ug/l	0.68	50.00	89.6 - 110	
202 Hg	2.48 ug/l	0.59	2.50	89.6 - 110	
205 Tl	9.64 ug/l	1.57	10.00	89.6 - 110	
208 Pb	49.86 ug/l	0.52	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	720256.63	1.16	762890.69	94.4	59.6 - 125	
45 Sc	656490.69	0.99	620105.56	105.9	59.6 - 125	
45 Sc	798080.13	0.71	771387.50	103.5	59.6 - 125	
74 Ge	172506.13	0.24	164848.81	104.6	59.6 - 125	
74 Ge	32877.55	0.42	33226.06	99.0	59.6 - 125	
74 Ge	182968.42	1.19	178474.77	102.5	59.6 - 125	
89 Y	1109327.50	0.46	1057065.90	104.9	59.6 - 125	
115 In	942155.94	0.15	917456.31	102.7	59.6 - 125	
159 Tb	1269319.90	1.53	1264337.30	100.4	59.6 - 125	
209 Bi	668129.13	0.21	698508.81	95.7	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\058_CCB.D\058_CCB.D#
Date Acquired: Dec 21 2012 09:53 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.05 ug/l	5.54	0.05	
11 B	1.19 ug/l	4.69	10.00	
23 Na	-9.57 ug/l	12.66	25.00	
24 Mg	1.48 ug/l	9.76	25.00	
27 Al	-0.74 ug/l	2.67	5.00	
39 K	1.24 ug/l	43.00	25.00	
40 Ca	2.92 ug/l	17.00	25.00	
47 Ti	-0.27 ug/l	3.78	0.50	
51 V	-0.08 ug/l	9.47	0.50	
52 Cr	0.00 ug/l	344.27	0.50	
55 Mn	-0.15 ug/l	8.77	0.50	
56 Fe	2.17 ug/l	11.99	10.00	
59 Co	0.00 ug/l	94.06	0.05	
60 Ni	0.01 ug/l	39.48	0.50	
63 Cu	0.01 ug/l	79.85	0.50	
66 Zn	-0.59 ug/l	3.18	2.00	
75 As	0.01 ug/l	85.66	0.25	
78 Se	0.05 ug/l	13.01	0.25	
88 Sr	-0.08 ug/l	5.37	0.10	
95 Mo	-0.20 ug/l	3.23	0.50	
107 Ag	-0.02 ug/l	10.90	0.10	
111 Cd	-0.01 ug/l	48.57	0.05	
118 Sn	0.01 ug/l	67.26	0.50	
121 Sb	0.32 ug/l	11.14	0.50	
137 Ba	-0.03 ug/l	17.03	0.50	
202 Hg	0.02 ug/l	15.54	0.08	
205 Tl	-0.03 ug/l	1.60	0.10	
208 Pb	-0.04 ug/l	7.95	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	748322.88	0.53	762890.69	98.1	59.6 - 125	
45 Sc	652291.56	0.40	620105.56	105.2	59.6 - 125	
45 Sc	823411.69	0.85	771387.50	106.7	59.6 - 125	
74 Ge	174346.00	0.64	164848.81	105.8	59.6 - 125	
74 Ge	33514.43	0.97	33226.06	100.9	59.6 - 125	
74 Ge	189833.61	0.35	178474.77	106.4	59.6 - 125	
89 Y	1140219.00	0.18	1057065.90	107.9	59.6 - 125	
115 In	983142.38	0.95	917456.31	107.2	59.6 - 125	
159 Tb	1288253.60	1.31	1264337.30	101.9	59.6 - 125	
209 Bi	695182.94	0.98	698508.81	99.5	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\059SMPL.D\059SMPL.D#
Date Acquired:	Dec 21 2012 10:00 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	mb 680-260618_1-a
Misc Info:	3005 1/5
Vial Number:	3101
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05263	-0.05263	ug/l	3.23	100.00		0.00	6.67	13.33
11 B # 3	0.9955	0.9955	ug/l	9.40	200.00		15534.35	15734.60	15130.69
23 Na # 1	-10.87	-10.87	ug/l	2.87	90000.00		193309.64	188525.45	189684.31
24 Mg # 1	-0.357	-0.357	ug/l	27.52	90000.00		4804.17	4474.28	3800.57
27 Al # 1	-0.42	-0.42	ug/l	3.51	90000.00		4440.75	4494.08	4294.01
39 K # 2	1.564	1.564	ug/l	16.96	90000.00		18784.70	18838.15	18674.65
40 Ca # 1	2.258	2.258	ug/l	2.99	90000.00		62389.88	61481.61	59292.02
47 Ti # 3	-0.2601	-0.2601	ug/l	1.36	1800.00		70.00	76.67	76.67
51 V # 2	0.08793	0.08793	ug/l	4.74	1800.00		928.03	940.70	942.70
52 Cr # 2	0.003477	0.003477	ug/l	78.89	1800.00		232.67	248.67	244.00
55 Mn # 3	-0.287	-0.287	ug/l	3.22	2700.00		2873.67	2700.31	3043.72
56 Fe # 1	0.5191	0.5191	ug/l	12.56	90000.00		24232.30	23959.37	21860.43
59 Co # 3	-0.01036	-0.01036	ug/l	3.62	1800.00		83.34	80.00	90.00
60 Ni # 2	0.02325	0.02325	ug/l	9.69	1800.00		46.00	42.00	47.33
63 Cu # 2	0.007925	0.007925	ug/l	25.74	1800.00		189.34	200.00	193.34
66 Zn # 3	-0.04043	-0.04043	ug/l	119.99	1800.00		1540.12	1343.44	1400.11
75 As # 2	0.0521	0.0521	ug/l	3.64	1800.00		39.67	39.67	38.67
78 Se # 1	0.01339	0.01339	ug/l	9.51	100.00		18.33	18.00	18.67
88 Sr # 3	-0.09439	-0.09439	ug/l	0.40	1800.00		156.67	140.01	140.01
95 Mo # 3	-0.2432	-0.2432	ug/l	1.52	1800.00		203.34	176.67	180.01
107 Ag # 3	-0.02999	-0.02999	ug/l	2.19	100.00		43.33	36.67	30.00
111 Cd # 3	-0.02023	-0.02023	ug/l	33.68	100.00		43.26	16.60	26.60
118 Sn # 3	0.03168	0.03168	ug/l	17.37	1800.00		590.03	546.70	510.02
121 Sb # 3	0.1482	0.1482	ug/l	1.77	100.00		1170.08	1193.42	1166.75
137 Ba # 3	-0.0529	-0.0529	ug/l	4.86	1800.00		26.67	40.00	33.33
202 Hg # 3	0.05354	0.05354	ug/l	2.34	5.00		130.67	128.00	130.67
205 Tl # 3	-0.03196	-0.03196	ug/l	1.03	20.00		50.00	43.34	40.00
208 Pb # 3	-0.04408	-0.04408	ug/l	3.22	1800.00		413.35	366.68	416.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	724370.06	0.60	762890.69	95.0	60 - 125.4		719652.19	725200.38	728257.56
45 Sc # 1	650933.81	1.53	620105.56	105.0	60 - 125.4		660653.56	651378.44	640769.31
45 Sc # 3	808894.13	1.35	771387.50	104.9	60 - 125.4		813170.25	817069.69	796442.50
74 Ge # 1	176637.69	1.49	164848.81	107.2	60 - 125.4		179123.25	176915.56	173874.25
74 Ge # 2	34098.43	0.48	33226.06	102.6	60 - 125.4		34277.14	33956.45	34061.72
74 Ge # 3	189564.47	1.24	178474.77	106.2	60 - 125.4		190938.27	190909.13	186846.03
89 Y # 3	1128300.40	1.30	1057065.90	106.7	60 - 125.4		1139300.50	1133959.00	1111641.50
115 In # 3	982270.19	2.04	917456.31	107.1	60 - 125.4		994325.31	993310.50	959174.75
159 Tb # 3	1288486.30	1.29	1264337.30	101.9	60 - 125.4		1295560.90	1300371.00	1269526.80
209 Bi # 3	730765.00	1.10	698508.81	104.6	60 - 125.4		736738.38	733886.63	721669.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\060SMPL.D\060SMPL.D#
Date Acquired:	Dec 21 2012 10:07 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lcs 680-260618_2-a
Misc Info:	3005 1/5
Vial Number:	3102
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.34	10.34	ug/l	1.49	100.00		39427.48	39704.61	38735.52
11 B # 3	40.63	40.63	ug/l	1.15	200.00		164845.05	165127.00	162559.98
23 Na # 1	910.6	910.6	ug/l	0.45	90000.00		6503835.50	6365584.00	6356455.00
24 Mg # 1	936.9	936.9	ug/l	2.15	90000.00		4146505.00	4218690.50	4205431.00
27 Al # 1	932.9	932.9	ug/l	0.61	90000.00		4475713.50	4364717.00	4351374.50
39 K # 2	922.3	922.3	ug/l	0.56	90000.00		454694.63	459975.50	455232.66
40 Ca # 1	961.3	961.3	ug/l	1.32	90000.00		9899992.00	9815416.00	9989910.00
47 Ti # 3	19.16	19.16	ug/l	1.08	1800.00		22883.48	22960.17	22586.34
51 V # 2	19.43	19.43	ug/l	0.42	1800.00		55379.53	55544.11	55087.23
52 Cr # 2	19.56	19.56	ug/l	0.72	1800.00		65047.86	64784.91	64591.47
55 Mn # 3	99.55	99.55	ug/l	1.89	2700.00		2106281.00	2145380.00	2130398.00
56 Fe # 1	959.4	959.4	ug/l	1.25	90000.00		14378685.00	14239588.00	13986238.00
59 Co # 3	9.316	9.316	ug/l	0.78	1800.00		148349.03	146166.28	146402.11
60 Ni # 2	20.27	20.27	ug/l	0.49	1800.00		23216.78	23291.54	23132.68
63 Cu # 2	20.36	20.36	ug/l	0.32	1800.00		60751.70	60992.08	60374.92
66 Zn # 3	21.2	21.2	ug/l	1.83	1800.00		42417.12	42587.67	42881.59
75 As # 2	21.1	21.1	ug/l	1.58	1800.00		6096.51	6216.89	6230.23
78 Se # 1	19.98	19.98	ug/l	1.32	100.00		8359.88	8239.81	8143.77
88 Sr # 3	17.84	17.84	ug/l	0.36	1800.00		398316.63	392750.97	395435.13
95 Mo # 3	19.6	19.6	ug/l	2.02	1800.00		68822.22	69799.89	68962.70
107 Ag # 3	9.828	9.828	ug/l	1.06	100.00		88814.63	87215.82	88962.00
111 Cd # 3	10.01	10.01	ug/l	1.71	100.00		19030.17	18976.33	18919.98
118 Sn # 3	19.72	19.72	ug/l	1.81	1800.00		108092.51	109398.73	108477.91
121 Sb # 3	10.78	10.78	ug/l	0.36	100.00		63646.16	63020.19	62621.65
137 Ba # 3	19.76	19.76	ug/l	1.85	1800.00		49645.41	50160.69	49702.45
202 Hg # 3	1.035	1.035	ug/l	2.21	5.00		1958.14	1993.48	1986.81
205 Tl # 3	7.67	7.67	ug/l	0.34	20.00		109959.87	108456.35	109181.34
208 Pb # 3	9.289	9.289	ug/l	0.46	1800.00		193749.08	191558.92	190401.97

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	701055.25	0.21	762890.69	91.9	60 - 125.4		700349.94	700047.25	702768.44
45 Sc # 1	637959.50	1.24	620105.56	102.9	60 - 125.4		646730.31	631361.69	635786.44
45 Sc # 3	780473.56	0.28	771387.50	101.2	60 - 125.4		781928.81	777912.75	781579.06
74 Ge # 1	170376.67	0.55	164848.81	103.4	60 - 125.4		171027.31	169309.22	170793.47
74 Ge # 2	32963.84	0.83	33226.06	99.2	60 - 125.4		32991.16	33221.59	32678.78
74 Ge # 3	182764.30	1.21	178474.77	102.4	60 - 125.4		184893.38	182924.97	180474.52
89 Y # 3	1100209.40	0.57	1057065.90	104.1	60 - 125.4		1107502.10	1096698.90	1096427.10
115 In # 3	955610.00	1.48	917456.31	104.2	60 - 125.4		950006.13	945157.81	971666.00
159 Tb # 3	1270645.60	0.54	1264337.30	100.5	60 - 125.4		1278612.50	1266714.50	1266609.80
209 Bi # 3	710770.56	1.28	698508.81	101.8	60 - 125.4		721179.44	706708.31	704423.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\061SMPL.D\061SMPL.D#
Date Acquired:	Dec 21 2012 10:14 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41590-1-2-a
Misc Info:	3005 1/5
Vial Number:	3103
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04855	-0.04855	ug/l	4.35	100.00		13.33	23.33	30.00
11 B # 3	11.63	11.63	ug/l	3.31	200.00		55925.20	55871.31	55353.44
23 Na # 1	2007	2007	ug/l	1.64	90000.00		13506961.00	13653516.00	13573363.00
24 Mg # 1	4346	4346	ug/l	2.29	90000.00		19091150.00	19237524.00	18931948.00
27 Al # 1	34.01	34.01	ug/l	2.47	90000.00		164899.70	162965.56	162712.42
39 K # 2	156	156	ug/l	0.73	90000.00		90381.82	90311.38	91320.32
40 Ca # 1	15640	15640	ug/l	1.16	90000.00		157421940.00	156547520.00	159530860.00
47 Ti # 3	0.6412	0.6412	ug/l	25.92	1800.00		1030.09	1340.24	976.79
51 V # 2	1.107	1.107	ug/l	1.55	1800.00		3749.12	3700.45	3743.12
52 Cr # 2	0.1575	0.1575	ug/l	4.07	1800.00		725.35	714.69	762.03
55 Mn # 3	4.894	4.894	ug/l	0.53	2700.00		114727.64	113130.09	112331.10
56 Fe # 1	16.81	16.81	ug/l	3.25	90000.00		263345.28	257871.14	256376.53
59 Co # 3	0.0358	0.0358	ug/l	6.00	1800.00		853.38	803.38	776.71
60 Ni # 2	0.6604	0.6604	ug/l	2.32	1800.00		740.02	782.69	769.36
63 Cu # 2	0.07163	0.07163	ug/l	7.09	1800.00		385.34	370.67	362.67
66 Zn # 3	0.4186	0.4186	ug/l	11.58	1800.00		2180.22	2343.58	2300.23
75 As # 2	0.1583	0.1583	ug/l	21.11	1800.00		75.67	57.67	71.33
78 Se # 1	0.04407	0.04407	ug/l	19.17	100.00		32.33	26.00	31.67
88 Sr # 3	19.9	19.9	ug/l	0.66	1800.00		445472.19	444086.34	437911.97
95 Mo # 3	0.0001513	0.0001513	ug/l	11388.00	1800.00		1036.73	1100.08	963.40
107 Ag # 3	-0.02534	-0.02534	ug/l	5.52	100.00		93.34	70.00	70.00
111 Cd # 3	-0.01537	-0.01537	ug/l	65.52	100.00		26.28	59.59	26.31
118 Sn # 3	0.04868	0.04868	ug/l	8.93	1800.00		640.03	606.70	643.37
121 Sb # 3	0.05433	0.05433	ug/l	29.74	100.00		560.03	543.36	703.37
137 Ba # 3	2.413	2.413	ug/l	1.62	1800.00		6261.52	6244.79	6281.49
202 Hg # 3	0.04918	0.04918	ug/l	2.66	5.00		120.67	118.33	112.67
205 Tl # 3	0.0107	0.0107	ug/l	17.35	20.00		666.70	626.70	673.37
208 Pb # 3	-0.02651	-0.02651	ug/l	6.61	1800.00		713.37	766.70	750.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	710281.81	2.37	762890.69	93.1	60 - 125.4		691641.13	724355.63	714848.75
45 Sc # 1	627272.50	1.72	620105.56	101.2	60 - 125.4		617335.81	625732.94	638748.81
45 Sc # 3	772274.31	1.03	771387.50	100.1	60 - 125.4		779033.13	774244.31	763545.50
74 Ge # 1	168506.14	0.92	164848.81	102.2	60 - 125.4		167306.98	167955.75	170255.67
74 Ge # 2	32595.86	0.91	33226.06	98.1	60 - 125.4		32281.29	32633.72	32872.56
74 Ge # 3	183311.66	0.63	178474.77	102.7	60 - 125.4		184423.30	183404.89	182106.77
89 Y # 3	1103909.00	1.08	1057065.90	104.4	60 - 125.4		1104449.60	1115548.30	1091729.00
115 In # 3	960276.31	1.36	917456.31	104.7	60 - 125.4		971911.88	962762.81	946154.38
159 Tb # 3	1284636.50	0.44	1264337.30	101.6	60 - 125.4		1289012.10	1286577.80	1278319.80
209 Bi # 3	705903.13	1.52	698508.81	101.1	60 - 125.4		716734.44	705651.88	695323.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\062SMPL.D\062SMPL.D#
Date Acquired:	Dec 21 2012 10:20 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41590-1-2-a SD
Misc Info:	3005 1/25
Vial Number:	3104
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.26625	-0.05325	ug/l	2.35	100.00		3.33	0.00	10.00
11 B # 3	12.82	2.564	ug/l	2.99	200.00		22565.84	22599.35	22425.72
23 Na # 1	2047.5	409.5	ug/l	1.09	90000.00		3054099.50	3039467.30	3041391.50
24 Mg # 1	4482.5	896.5	ug/l	0.41	90000.00		4008780.80	4049128.30	4051580.00
27 Al # 1	32.61	6.522	ug/l	3.70	90000.00		38257.18	36662.40	36765.93
39 K # 2	164.3	32.86	ug/l	1.92	90000.00		33304.82	32937.34	33047.74
40 Ca # 1	15680	3136	ug/l	0.29	90000.00		32237620.00	32296132.00	32747382.00
47 Ti # 3	-0.563	-0.1126	ug/l	10.27	1800.00		250.01	266.68	236.68
51 V # 2	1.568	0.3136	ug/l	2.18	1800.00		1550.75	1514.08	1565.42
52 Cr # 2	0.1361	0.02722	ug/l	10.72	1800.00		300.67	316.00	321.34
55 Mn # 3	3.746	0.7492	ug/l	1.35	2700.00		25664.53	25363.88	24859.90
56 Fe # 1	14.795	2.959	ug/l	0.77	90000.00		58922.49	58956.29	60154.79
59 Co # 3	-0.02367	-0.004734	ug/l	9.76	1800.00		173.34	166.67	180.01
60 Ni # 2	2.198	0.4396	ug/l	4.68	1800.00		496.01	518.01	548.68
63 Cu # 2	-0.0026775	-0.0005355	ug/l	452.47	1800.00		154.67	163.34	170.67
66 Zn # 3	-0.978	-0.1956	ug/l	12.94	1800.00		1156.74	1090.07	1040.07
75 As # 2	0.2061	0.04122	ug/l	27.44	1800.00		37.00	36.33	31.33
78 Se # 1	0.04712	0.009424	ug/l	76.53	100.00		13.00	17.00	19.00
88 Sr # 3	19.56	3.912	ug/l	0.93	1800.00		88938.36	89119.91	90725.69
95 Mo # 3	-1.091	-0.2182	ug/l	7.26	1800.00		286.68	313.35	206.67
107 Ag # 3	-0.15625	-0.03125	ug/l	2.47	100.00		16.67	26.67	30.00
111 Cd # 3	-0.0904	-0.01808	ug/l	29.86	100.00		23.23	29.89	43.26
118 Sn # 3	-0.1143	-0.02286	ug/l	45.93	1800.00		296.68	223.34	183.34
121 Sb # 3	0.00922	0.001844	ug/l	455.91	100.00		316.68	336.68	243.34
137 Ba # 3	2.3075	0.4615	ug/l	5.41	1800.00		1296.76	1403.45	1283.42
202 Hg # 3	0.0954	0.01908	ug/l	12.86	5.00		65.33	57.67	57.33
205 Tl # 3	-0.1109	-0.02218	ug/l	1.68	20.00		190.01	183.34	180.01
208 Pb # 3	-0.21945	-0.04389	ug/l	1.22	1800.00		390.02	393.35	373.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	756801.88	1.28	762890.69	99.2	60 - 125.4		767045.50	747722.94	755637.06
45 Sc # 1	642102.94	0.78	620105.56	103.5	60 - 125.4		637292.88	641690.94	647324.94
45 Sc # 3	801225.31	0.79	771387.50	103.9	60 - 125.4		806641.00	802824.81	794210.06
74 Ge # 1	173299.09	0.57	164848.81	105.1	60 - 125.4		172474.30	174389.06	173033.94
74 Ge # 2	33013.41	0.66	33226.06	99.4	60 - 125.4		32917.67	32860.90	33261.66
74 Ge # 3	186203.56	0.77	178474.77	104.3	60 - 125.4		187670.20	186136.19	184804.30
89 Y # 3	1114414.00	0.63	1057065.90	105.4	60 - 125.4		1106299.80	1118593.10	1118349.00
115 In # 3	956969.44	0.23	917456.31	104.3	60 - 125.4		955214.13	959440.63	956253.63
159 Tb # 3	1284031.30	0.17	1264337.30	101.6	60 - 125.4		1282899.30	1282612.60	1286581.80
209 Bi # 3	698998.25	0.05	698508.81	100.1	60 - 125.4		698559.19	699169.19	699266.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\063SMPL.D\063SMPL.D#
Date Acquired:	Dec 21 2012 10:27 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41590-1-2-a PDS
Misc Info:	3005 1/5
Vial Number:	3105
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	22.02	22.02	ug/l	0.97	100.00		81646.62	80163.22	79071.31
11 B	# 3	54.57	54.57	ug/l	0.98	200.00		211593.45	208674.45	205378.64
23 Na	# 1	4041	4041	ug/l	0.37	90000.00		27709862.00	27941026.00	27782036.00
24 Mg	# 1	6419	6419	ug/l	1.64	90000.00		28843192.00	28615606.00	29401036.00
27 Al	# 1	239.9	239.9	ug/l	0.92	90000.00		1147899.00	1153527.80	1137713.40
39 K	# 2	2251	2251	ug/l	2.41	90000.00		1070940.80	1055444.80	1049272.40
40 Ca	# 1	17890	17890	ug/l	0.44	90000.00		183190000.00	187445950.00	185523300.00
47 Ti	# 3	21.38	21.38	ug/l	3.95	1800.00		25193.56	24806.35	23781.32
51 V	# 2	21.92	21.92	ug/l	1.37	1800.00		60571.28	60585.38	60543.29
52 Cr	# 2	21.22	21.22	ug/l	0.98	1800.00		68044.85	68419.03	68542.93
55 Mn	# 3	211.6	211.6	ug/l	0.44	2700.00		4371345.50	4386519.00	4376073.00
56 Fe	# 1	2134	2134	ug/l	1.24	90000.00		32081866.00	31835600.00	31720030.00
59 Co	# 3	19.64	19.64	ug/l	2.01	1800.00		306734.75	298524.38	295707.09
60 Ni	# 2	22.05	22.05	ug/l	1.20	1800.00		24539.41	24431.23	24629.56
63 Cu	# 2	21.41	21.41	ug/l	1.42	1800.00		62112.25	61972.97	62005.81
66 Zn	# 3	21.56	21.56	ug/l	0.54	1800.00		41735.41	42517.24	41869.00
75 As	# 2	22.55	22.55	ug/l	1.50	1800.00		6422.31	6435.98	6402.97
78 Se	# 1	21.48	21.48	ug/l	0.74	100.00		8693.72	8880.50	8869.49
88 Sr	# 3	43.01	43.01	ug/l	1.73	1800.00		924683.00	926096.63	911379.56
95 Mo	# 3	21.55	21.55	ug/l	2.18	1800.00		73469.45	72050.16	72445.02
107 Ag	# 3	18.04	18.04	ug/l	2.59	100.00		157488.89	154013.73	152811.28
111 Cd	# 3	21.48	21.48	ug/l	2.29	100.00		39393.73	38766.06	38378.47
118 Sn	# 3	21.55	21.55	ug/l	2.68	1800.00		115585.95	113367.02	111573.56
121 Sb	# 3	22.79	22.79	ug/l	2.07	100.00		130020.91	129176.64	127446.17
137 Ba	# 3	24.02	24.02	ug/l	2.08	1800.00		58560.61	57640.26	57509.69
202 Hg	# 3	0.9814	0.9814	ug/l	0.81	5.00		1827.12	1841.12	1812.79
205 Tl	# 3	4.24	4.24	ug/l	1.67	20.00		60326.90	59740.79	58827.06
208 Pb	# 3	20.05	20.05	ug/l	0.97	1800.00		408325.03	400889.06	394621.81

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	674868.38	0.77	762890.69	88.5	60 - 125.4		680883.38	671858.88	671862.94
45 Sc	# 1	644133.75	0.73	620105.56	103.9	60 - 125.4		639072.44	648281.56	645047.31
45 Sc	# 3	755781.94	1.27	771387.50	98.0	60 - 125.4		744771.69	762605.69	759968.31
74 Ge	# 1	169444.36	0.45	164848.81	102.8	60 - 125.4		168571.52	169925.09	169836.45
74 Ge	# 2	32040.28	1.33	33226.06	96.4	60 - 125.4		31619.97	32027.50	32473.38
74 Ge	# 3	177309.16	0.58	178474.77	99.3	60 - 125.4		176998.77	178463.17	176465.56
89 Y	# 3	1066038.30	1.25	1057065.90	100.8	60 - 125.4		1050843.90	1075788.50	1071482.10
115 In	# 3	913948.00	1.14	917456.31	99.6	60 - 125.4		902853.94	923582.50	915407.50
159 Tb	# 3	1250754.00	0.56	1264337.30	98.9	60 - 125.4		1243095.50	1256656.10	1252510.50
209 Bi	# 3	691019.88	0.74	698508.81	98.9	60 - 125.4		696322.63	690628.38	686108.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Pass

Sample QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\064SMPL.D\064SMPL.D#
Date Acquired: Dec 21 2012 10:33 pm
Acq. Method: ICPMSB.M
Operator: BR
Sample Name: 640-41590-1-2-b ms
Misc Info: 3005 1/5
Vial Number: 3106
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update: Dec 22 2012 11:02 am
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.51	10.51	ug/l	6.42	100.00		38338.07	38398.29	37810.23
11 B # 3	53.27	53.27	ug/l	6.87	200.00		202775.39	203932.52	200878.56
23 Na # 1	2973	2973	ug/l	1.43	90000.00		20165576.00	20226822.00	20118172.00
24 Mg # 1	5286	5286	ug/l	2.35	90000.00		23244150.00	23344962.00	23674606.00
27 Al # 1	960.2	960.2	ug/l	1.46	90000.00		4429200.00	4535561.00	4501003.50
39 K # 2	1148	1148	ug/l	1.59	90000.00		548791.50	535894.81	535416.19
40 Ca # 1	16600	16600	ug/l	0.96	90000.00		166917330.00	171627230.00	168436850.00
47 Ti # 3	21.09	21.09	ug/l	6.40	1800.00		23200.57	23163.99	23213.85
51 V # 2	21.03	21.03	ug/l	0.23	1800.00		57361.84	57179.77	57338.37
52 Cr # 2	20.31	20.31	ug/l	0.58	1800.00		64773.60	64097.49	64507.97
55 Mn # 3	106.9	106.9	ug/l	5.29	2700.00		2163013.50	2181759.80	2162039.30
56 Fe # 1	988.9	988.9	ug/l	0.52	90000.00		14425166.00	14732406.00	14401383.00
59 Co # 3	9.505	9.505	ug/l	5.19	1800.00		142594.39	143212.20	141430.69
60 Ni # 2	21.06	21.06	ug/l	0.44	1800.00		23150.72	22971.09	23154.03
63 Cu # 2	21.16	21.16	ug/l	0.74	1800.00		60813.27	59987.52	60491.34
66 Zn # 3	22.28	22.28	ug/l	5.37	1800.00		42423.59	42711.06	42316.77
75 As # 2	21.71	21.71	ug/l	0.71	1800.00		6089.85	6041.49	6141.53
78 Se # 1	20.4	20.4	ug/l	0.57	100.00		8223.14	8239.49	8287.17
88 Sr # 3	42.69	42.69	ug/l	6.87	1800.00		893512.38	895432.06	876105.19
95 Mo # 3	20.78	20.78	ug/l	5.94	1800.00		69083.56	69019.63	67767.63
107 Ag # 3	10.14	10.14	ug/l	6.44	100.00		85428.92	86327.68	84202.21
111 Cd # 3	10.25	10.25	ug/l	5.34	100.00		18345.88	18172.32	18015.94
118 Sn # 3	20.66	20.66	ug/l	6.25	1800.00		106991.63	107612.55	105092.63
121 Sb # 3	11.23	11.23	ug/l	7.08	100.00		62250.18	62504.32	60878.11
137 Ba # 3	23.35	23.35	ug/l	5.37	1800.00		55338.57	55080.81	54980.67
202 Hg # 3	1.104	1.104	ug/l	7.36	5.00		1972.47	2053.15	1969.47
205 Tl # 3	8.114	8.114	ug/l	5.44	20.00		110622.08	111388.33	109527.27
208 Pb # 3	9.696	9.696	ug/l	5.43	1800.00		190895.09	191278.89	187134.92

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	672228.25	5.74	762890.69	88.1	60 - 125.4		699635.38	628081.69	688967.81
45 Sc # 1	632823.75	1.69	620105.56	102.1	60 - 125.4		629822.94	644685.88	623962.44
45 Sc # 3	724012.38	6.28	771387.50	93.9	60 - 125.4		764509.69	674857.31	732670.19
74 Ge # 1	166920.89	0.51	164848.81	101.3	60 - 125.4		166087.53	167778.05	166897.14
74 Ge # 2	31569.31	0.18	33226.06	95.0	60 - 125.4		31523.09	31553.22	31631.63
74 Ge # 3	173832.77	4.67	178474.77	97.4	60 - 125.4		180412.78	164771.64	176313.84
89 Y # 3	1038953.80	6.01	1057065.90	98.3	60 - 125.4		1085057.00	967844.56	1063959.80
115 In # 3	896397.50	5.39	917456.31	97.7	60 - 125.4		936973.75	842886.19	909332.38
159 Tb # 3	1217994.30	4.78	1264337.30	96.3	60 - 125.4		1269073.30	1154558.80	1230350.60
209 Bi # 3	674688.81	5.00	698508.81	96.6	60 - 125.4		707216.63	639897.69	676952.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\065SMPL.D\065SMPL.D#
Date Acquired:	Dec 21 2012 10:40 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41590-1-2-c msd
Misc Info:	3005 1/5
Vial Number:	3107
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.14	10.14	ug/l	1.93	100.00		37018.58	37613.20	38030.79
11 B # 3	51.21	51.21	ug/l	1.34	200.00		198631.03	197679.20	200242.50
23 Na # 1	2857	2857	ug/l	0.18	90000.00		19510268.00	19102418.00	19016984.00
24 Mg # 1	5152	5152	ug/l	0.94	90000.00		22704024.00	22622998.00	22501942.00
27 Al # 1	925	925	ug/l	1.40	90000.00		4320082.50	4226352.50	4301963.50
39 K # 2	1081	1081	ug/l	3.36	90000.00		497099.88	506995.09	523933.63
40 Ca # 1	16030	16030	ug/l	1.65	90000.00		160956190.00	162526930.00	161379090.00
47 Ti # 3	19.88	19.88	ug/l	2.01	1800.00		22412.80	22739.91	22993.72
51 V # 2	20.32	20.32	ug/l	1.09	1800.00		55305.26	55053.76	55648.52
52 Cr # 2	19.68	19.68	ug/l	0.49	1800.00		62538.91	62330.67	62335.36
55 Mn # 3	102.8	102.8	ug/l	0.64	2700.00		2122798.00	2144004.50	2137136.80
56 Fe # 1	941.2	941.2	ug/l	1.71	90000.00		13624271.00	13722041.00	13709688.00
59 Co # 3	9.149	9.149	ug/l	0.70	1800.00		139361.92	140600.20	140743.19
60 Ni # 2	20.43	20.43	ug/l	0.75	1800.00		22676.67	22298.82	22192.67
63 Cu # 2	20.41	20.41	ug/l	0.79	1800.00		57996.26	58391.02	58267.23
66 Zn # 3	21.32	21.32	ug/l	0.92	1800.00		41464.64	41447.73	42009.54
75 As # 2	20.96	20.96	ug/l	0.69	1800.00		5874.09	5875.10	5884.77
78 Se # 1	19.71	19.71	ug/l	1.26	100.00		7872.29	7883.97	7995.69
88 Sr # 3	40.24	40.24	ug/l	1.14	1800.00		857306.75	860890.69	876471.63
95 Mo # 3	19.81	19.81	ug/l	2.00	1800.00		68266.62	67553.28	68290.00
107 Ag # 3	9.667	9.667	ug/l	2.16	100.00		84983.56	83783.44	84886.48
111 Cd # 3	9.92	9.92	ug/l	0.83	100.00		18132.64	18519.98	18229.37
118 Sn # 3	19.72	19.72	ug/l	1.44	1800.00		105719.98	106212.25	105333.60
121 Sb # 3	10.68	10.68	ug/l	0.60	100.00		60523.27	61306.43	60533.40
137 Ba # 3	22.21	22.21	ug/l	2.27	1800.00		55004.04	54411.66	54110.86
202 Hg # 3	1.084	1.084	ug/l	0.61	5.00		2050.48	2043.48	2038.15
205 Tl # 3	7.755	7.755	ug/l	0.72	20.00		108133.65	109224.63	108039.48
208 Pb # 3	9.224	9.224	ug/l	0.88	1800.00		187335.88	187797.97	188328.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	683424.88	0.63	762890.69	89.6	60 - 125.4		686083.06	685770.44	678421.19
45 Sc # 1	626715.19	1.36	620105.56	101.1	60 - 125.4		636137.13	624444.38	619564.19
45 Sc # 3	749555.88	1.14	771387.50	97.2	60 - 125.4		756604.75	740058.00	752004.81
74 Ge # 1	165850.53	0.45	164848.81	100.6	60 - 125.4		165852.38	166599.25	165099.97
74 Ge # 2	31544.30	0.59	33226.06	94.9	60 - 125.4		31685.15	31613.27	31334.48
74 Ge # 3	177544.92	0.16	178474.77	99.5	60 - 125.4		177850.56	177476.58	177307.61
89 Y # 3	1070138.50	0.86	1057065.90	101.2	60 - 125.4		1059944.50	1077758.90	1072712.30
115 In # 3	929958.94	1.50	917456.31	101.4	60 - 125.4		914349.75	941061.31	934465.63
159 Tb # 3	1248455.50	0.83	1264337.30	98.7	60 - 125.4		1236579.60	1255629.00	1253157.90
209 Bi # 3	700542.56	0.69	698508.81	100.3	60 - 125.4		700883.19	705231.31	695513.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\066SMPL.D\066SMPL.D#
Date Acquired:	Dec 21 2012 10:47 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41590-1-1-a
Misc Info:	3005 1/5
Vial Number:	3108
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04681	-0.04681	ug/l	7.04	100.00		26.67	16.67	40.00
11 B # 3	4.503	4.503	ug/l	4.67	200.00		27807.40	27353.24	27853.95
23 Na # 1	1545	1545	ug/l	2.35	90000.00		10496504.00	10249803.00	10454362.00
24 Mg # 1	5522	5522	ug/l	0.68	90000.00		23688910.00	24152288.00	24181576.00
27 Al # 1	21.44	21.44	ug/l	2.81	90000.00		105653.52	102434.01	104753.25
39 K # 2	195.6	195.6	ug/l	1.64	90000.00		105162.89	105327.81	105663.44
40 Ca # 1	31290	31290	ug/l	1.95	90000.00		313978620.00	311114340.00	312219710.00
47 Ti # 3	0.3341	0.3341	ug/l	20.15	1800.00		676.71	813.39	713.41
51 V # 2	0.7827	0.7827	ug/l	0.69	1800.00		2706.24	2762.25	2712.91
52 Cr # 2	0.1446	0.1446	ug/l	2.81	1800.00		672.69	668.68	660.02
55 Mn # 3	76.55	76.55	ug/l	0.16	2700.00		1595377.00	1578979.50	1565185.30
56 Fe # 1	15.78	15.78	ug/l	2.59	90000.00		242121.14	244459.34	238692.78
59 Co # 3	0.178	0.178	ug/l	2.99	1800.00		3053.71	2867.00	2900.35
60 Ni # 2	1.205	1.205	ug/l	2.73	1800.00		1349.40	1348.06	1294.73
63 Cu # 2	0.09413	0.09413	ug/l	3.47	1800.00		414.01	422.67	433.34
66 Zn # 3	0.1016	0.1016	ug/l	16.87	1800.00		1606.79	1560.13	1613.47
75 As # 2	0.2022	0.2022	ug/l	12.60	1800.00		74.00	74.00	86.00
78 Se # 1	0.06139	0.06139	ug/l	20.20	100.00		38.67	30.67	40.00
88 Sr # 3	44.46	44.46	ug/l	2.28	1800.00		942044.25	933025.00	945712.69
95 Mo # 3	-0.04292	-0.04292	ug/l	39.49	1800.00		860.05	793.38	870.05
107 Ag # 3	-0.02229	-0.02229	ug/l	8.84	100.00		93.34	90.00	116.67
111 Cd # 3	0.01078	0.01078	ug/l	41.09	100.00		76.35	93.04	79.68
118 Sn # 3	0.07459	0.07459	ug/l	26.40	1800.00		863.39	673.37	676.71
121 Sb # 3	0.01814	0.01814	ug/l	9.46	100.00		380.02	366.68	373.35
137 Ba # 3	5.821	5.821	ug/l	2.32	1800.00		14567.34	14043.58	13950.18
202 Hg # 3	0.02301	0.02301	ug/l	4.11	5.00		68.33	65.67	67.67
205 Tl # 3	0.01184	0.01184	ug/l	15.42	20.00		656.70	670.04	623.37
208 Pb # 3	-0.03047	-0.03047	ug/l	0.80	1800.00		650.03	663.36	650.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	688779.94	1.87	762890.69	90.3	60 - 125.4		687672.19	702152.38	676515.31
45 Sc # 1	620821.69	1.60	620105.56	100.1	60 - 125.4		610450.38	621797.00	630217.75
45 Sc # 3	747093.56	0.80	771387.50	96.9	60 - 125.4		753964.00	742993.75	744323.00
74 Ge # 1	165687.61	0.44	164848.81	100.5	60 - 125.4		165194.81	165347.41	166520.56
74 Ge # 2	31424.63	1.43	33226.06	94.6	60 - 125.4		30997.14	31892.27	31384.48
74 Ge # 3	176251.63	0.80	178474.77	98.8	60 - 125.4		177735.25	176096.88	174922.75
89 Y # 3	1053300.80	1.66	1057065.90	99.6	60 - 125.4		1061464.30	1065252.80	1033185.00
115 In # 3	916016.31	2.19	917456.31	99.8	60 - 125.4		924064.56	930774.75	893209.75
159 Tb # 3	1242659.90	0.54	1264337.30	98.3	60 - 125.4		1249384.40	1235909.00	1242686.40
209 Bi # 3	696928.06	0.56	698508.81	99.8	60 - 125.4		692976.69	700802.13	697005.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\067SMPL.D\067SMPL.D#
Date Acquired:	Dec 21 2012 10:53 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41587-a-1-a
Misc Info:	3005 1/5
Vial Number:	3109
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.04917	-0.04917	ug/l	3.08	100.00		16.67	26.67	16.67
11 B	# 3	1.185	1.185	ug/l	1.98	200.00		16325.08	16058.23	15861.27
23 Na	# 1	970.9	970.9	ug/l	0.56	90000.00		6483763.00	6488068.00	6583255.00
24 Mg	# 1	869.4	869.4	ug/l	0.67	90000.00		3719030.30	3707022.50	3732745.00
27 Al	# 1	0.7021	0.7021	ug/l	11.04	90000.00		9513.06	8979.37	9056.07
39 K	# 2	644.5	644.5	ug/l	1.02	90000.00		307908.03	311688.22	315236.19
40 Ca	# 1	2846	2846	ug/l	0.70	90000.00		27933098.00	28052250.00	27935650.00
47 Ti	# 3	-0.05907	-0.05907	ug/l	39.73	1800.00		330.01	293.35	276.68
51 V	# 2	0.317	0.317	ug/l	3.13	1800.00		1510.75	1486.74	1471.41
52 Cr	# 2	0.06948	0.06948	ug/l	4.04	1800.00		443.34	423.34	435.34
55 Mn	# 3	5.059	5.059	ug/l	0.92	2700.00		113697.72	113935.95	114254.32
56 Fe	# 1	13.97	13.97	ug/l	2.08	90000.00		215139.23	209811.58	211219.77
59 Co	# 3	0.1212	0.1212	ug/l	7.70	1800.00		2090.19	2266.89	1963.52
60 Ni	# 2	0.7452	0.7452	ug/l	3.46	1800.00		841.36	854.03	810.69
63 Cu	# 2	0.973	0.973	ug/l	1.49	1800.00		2886.94	2941.62	2983.63
66 Zn	# 3	0.841	0.841	ug/l	7.95	1800.00		2973.70	3173.75	2913.69
75 As	# 2	0.1734	0.1734	ug/l	5.53	1800.00		70.67	72.67	68.33
78 Se	# 1	0.01597	0.01597	ug/l	68.32	100.00		20.00	21.67	13.33
88 Sr	# 3	10.47	10.47	ug/l	1.01	1800.00		225758.84	227476.77	225312.63
95 Mo	# 3	-0.2349	-0.2349	ug/l	1.42	1800.00		196.67	216.68	203.34
107 Ag	# 3	-0.03144	-0.03144	ug/l	2.45	100.00		30.00	16.67	20.00
111 Cd	# 3	-0.01466	-0.01466	ug/l	38.35	100.00		49.93	33.25	29.93
118 Sn	# 3	0.0289	0.0289	ug/l	11.27	1800.00		506.69	490.03	523.36
121 Sb	# 3	0.005262	0.005262	ug/l	146.67	100.00		333.35	326.68	256.68
137 Ba	# 3	1.84	1.84	ug/l	4.81	1800.00		4624.17	4914.27	4514.13
202 Hg	# 3	0.008655	0.008655	ug/l	31.68	5.00		41.00	47.67	37.33
205 Tl	# 3	-0.021	-0.021	ug/l	3.65	20.00		186.67	200.01	206.67
208 Pb	# 3	-0.01823	-0.01823	ug/l	9.95	1800.00		936.71	893.38	963.38

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	718924.44	1.01	762890.69	94.2	60 - 125.4		727258.81	715786.56	713727.88
45 Sc	# 1	610122.63	0.70	620105.56	98.4	60 - 125.4		605441.88	611059.69	613866.38
45 Sc	# 3	761923.38	0.68	771387.50	98.8	60 - 125.4		761807.06	767143.00	756820.06
74 Ge	# 1	166577.16	0.22	164848.81	101.0	60 - 125.4		166243.75	166977.89	166509.84
74 Ge	# 2	31670.67	0.74	33226.06	95.3	60 - 125.4		31641.67	31451.34	31918.98
74 Ge	# 3	178710.80	0.61	178474.77	100.1	60 - 125.4		179507.16	179153.64	177471.56
89 Y	# 3	1067469.80	0.50	1057065.90	101.0	60 - 125.4		1067610.80	1062015.30	1072783.40
115 In	# 3	933971.13	0.79	917456.31	101.8	60 - 125.4		942494.75	930208.31	929210.19
159 Tb	# 3	1261976.60	0.58	1264337.30	99.8	60 - 125.4		1268410.40	1254041.60	1263477.90
209 Bi	# 3	720478.56	1.03	698508.81	103.1	60 - 125.4		728786.88	718034.56	714614.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\068SMPL.D\068SMPL.D#
Date Acquired:	Dec 21 2012 11:00 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41587-a-2-a
Misc Info:	3005 1/5
Vial Number:	3110
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04538	-0.04538	ug/l	0.84	100.00		33.33	36.67	33.33
11 B # 3	0.8427	0.8427	ug/l	14.89	200.00		14783.57	14346.65	14820.41
23 Na # 1	980.3	980.3	ug/l	0.92	90000.00		6526978.00	6555153.00	6474629.50
24 Mg # 1	865.6	865.6	ug/l	0.76	90000.00		3666061.50	3698910.00	3643012.50
27 Al # 1	-0.1944	-0.1944	ug/l	32.19	90000.00		5100.92	4844.19	5356.10
39 K # 2	671.4	671.4	ug/l	5.03	90000.00		315242.03	317917.50	314056.72
40 Ca # 1	2940	2940	ug/l	1.51	90000.00		28487120.00	28394382.00	28995702.00
47 Ti # 3	-0.05281	-0.05281	ug/l	35.05	1800.00		290.01	330.01	290.01
51 V # 2	0.3759	0.3759	ug/l	13.04	1800.00		1577.42	1582.75	1656.10
52 Cr # 2	0.03866	0.03866	ug/l	17.21	1800.00		324.01	327.34	331.34
55 Mn # 3	5.729	5.729	ug/l	0.67	2700.00		127877.50	126686.45	124893.95
56 Fe # 1	25.68	25.68	ug/l	0.88	90000.00		374388.53	374617.06	373673.47
59 Co # 3	0.1473	0.1473	ug/l	0.71	1800.00		2493.60	2463.59	2483.59
60 Ni # 2	0.6695	0.6695	ug/l	5.24	1800.00		752.69	718.69	728.69
63 Cu # 2	1.276	1.276	ug/l	5.82	1800.00		3712.45	3685.78	3721.12
66 Zn # 3	2.457	2.457	ug/l	4.73	1800.00		5821.21	6064.69	6178.07
75 As # 2	0.2375	0.2375	ug/l	20.25	1800.00		80.33	82.00	95.67
78 Se # 1	0.008086	0.008086	ug/l	82.60	100.00		16.33	17.00	12.00
88 Sr # 3	10.58	10.58	ug/l	1.23	1800.00		225553.59	227891.69	223733.38
95 Mo # 3	-0.2255	-0.2255	ug/l	4.38	1800.00		250.01	200.01	260.01
107 Ag # 3	-0.03154	-0.03154	ug/l	3.16	100.00		20.00	13.33	30.00
111 Cd # 3	-0.01999	-0.01999	ug/l	6.38	100.00		26.58	26.59	29.90
118 Sn # 3	0.02663	0.02663	ug/l	37.59	1800.00		546.70	506.70	426.69
121 Sb # 3	0.00391	0.00391	ug/l	125.06	100.00		323.35	266.68	293.34
137 Ba # 3	1.735	1.735	ug/l	0.87	1800.00		4447.47	4404.10	4377.42
202 Hg # 3	0.008756	0.008756	ug/l	6.30	5.00		42.00	43.00	40.33
205 Tl # 3	-0.02592	-0.02592	ug/l	8.48	20.00		140.01	93.34	150.01
208 Pb # 3	-0.03089	-0.03089	ug/l	8.15	1800.00		700.03	603.36	680.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	713756.63	1.59	762890.69	93.6	60 - 125.4		713939.13	724998.50	702332.25
45 Sc # 1	604525.75	0.87	620105.56	97.5	60 - 125.4		599248.88	609743.88	604584.50
45 Sc # 3	752264.50	0.74	771387.50	97.5	60 - 125.4		747381.38	758383.44	751028.81
74 Ge # 1	166035.64	0.35	164848.81	100.7	60 - 125.4		166664.88	165938.91	165503.13
74 Ge # 2	30919.83	5.07	33226.06	93.1	60 - 125.4		31862.11	31787.01	29110.37
74 Ge # 3	176711.81	0.60	178474.77	99.0	60 - 125.4		177854.28	176544.70	175736.47
89 Y # 3	1054365.50	0.37	1057065.90	99.7	60 - 125.4		1057783.50	1050105.60	1055207.40
115 In # 3	930692.25	1.59	917456.31	101.4	60 - 125.4		944488.00	932500.81	915088.19
159 Tb # 3	1255266.40	0.49	1264337.30	99.3	60 - 125.4		1254609.40	1261706.50	1249483.40
209 Bi # 3	713312.88	0.99	698508.81	102.1	60 - 125.4		718989.38	715513.19	705435.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\069_CCV.D\069_CCV.D#
Date Acquired:	Dec 21 2012 11:07 pm
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	49.77 ug/l	2.73	50.00	89.6 - 110	
11 B	98.36 ug/l	2.30	100.00	89.6 - 110	
23 Na	4735.00 ug/l	0.31	5000.00	89.6 - 110	
24 Mg	4769.00 ug/l	0.31	5000.00	89.6 - 110	
27 Al	479.20 ug/l	0.67	500.00	89.6 - 110	
39 K	4821.00 ug/l	0.23	5000.00	89.6 - 110	
40 Ca	4850.00 ug/l	0.34	5000.00	89.6 - 110	
47 Ti	48.81 ug/l	0.77	50.00	89.6 - 110	
51 V	48.50 ug/l	0.34	50.00	89.6 - 110	
52 Cr	48.65 ug/l	0.76	50.00	89.6 - 110	
55 Mn	491.20 ug/l	0.74	500.00	89.6 - 110	
56 Fe	4928.00 ug/l	0.27	5000.00	89.6 - 110	
59 Co	49.46 ug/l	0.73	50.00	89.6 - 110	
60 Ni	49.26 ug/l	0.24	50.00	89.6 - 110	
63 Cu	49.25 ug/l	0.99	50.00	89.6 - 110	
66 Zn	48.72 ug/l	1.12	50.00	89.6 - 110	
75 As	45.47 ug/l	0.52	50.00	89.6 - 110	
78 Se	48.86 ug/l	0.32	50.00	89.6 - 110	
88 Sr	49.94 ug/l	0.94	50.00	89.6 - 110	
95 Mo	49.37 ug/l	0.99	50.00	89.6 - 110	
107 Ag	48.59 ug/l	1.05	50.00	89.6 - 110	
111 Cd	49.20 ug/l	0.80	50.00	89.6 - 110	
118 Sn	48.92 ug/l	0.90	50.00	89.6 - 110	
121 Sb	48.80 ug/l	0.86	50.00	89.6 - 110	
137 Ba	49.20 ug/l	1.29	50.00	89.6 - 110	
202 Hg	2.44 ug/l	1.43	2.50	89.6 - 110	
205 Tl	9.72 ug/l	1.52	10.00	89.6 - 110	
208 Pb	49.82 ug/l	1.90	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	722782.63	2.74	762890.69	94.7	59.6 - 125	
45 Sc	618742.00	0.49	620105.56	99.8	59.6 - 125	
45 Sc	777563.81	1.30	771387.50	100.8	59.6 - 125	
74 Ge	164229.33	0.12	164848.81	99.6	59.6 - 125	
74 Ge	32007.41	0.48	33226.06	96.3	59.6 - 125	
74 Ge	176489.16	0.62	178474.77	98.9	59.6 - 125	
89 Y	1062923.40	1.10	1057065.90	100.6	59.6 - 125	
115 In	913883.13	0.41	917456.31	99.6	59.6 - 125	
159 Tb	1232342.40	0.41	1264337.30	97.5	59.6 - 125	
209 Bi	663316.56	0.53	698508.81	95.0	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\070_CCB.D\070_CCB.D#
Date Acquired: Dec 21 2012 11:13 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	7.28	0.05	
11 B	1.00 ug/l	11.43	10.00	
23 Na	-8.67 ug/l	31.66	25.00	
24 Mg	1.22 ug/l	36.64	25.00	
27 Al	-0.83 ug/l	0.45	5.00	
39 K	0.99 ug/l	58.01	25.00	
40 Ca	1.83 ug/l	12.26	25.00	
47 Ti	-0.25 ug/l	2.15	0.50	
51 V	-0.06 ug/l	8.62	0.50	
52 Cr	0.00 ug/l	410.00	0.50	
55 Mn	-0.18 ug/l	5.01	0.50	
56 Fe	1.76 ug/l	7.98	10.00	
59 Co	0.00 ug/l	2.40	0.05	
60 Ni	0.02 ug/l	2.83	0.50	
63 Cu	0.00 ug/l	271.50	0.50	
66 Zn	-0.52 ug/l	2.67	2.00	
75 As	0.01 ug/l	55.82	0.25	
78 Se	0.05 ug/l	10.63	0.25	
88 Sr	-0.09 ug/l	1.22	0.10	
95 Mo	-0.19 ug/l	3.58	0.50	
107 Ag	-0.02 ug/l	6.15	0.10	
111 Cd	-0.01 ug/l	18.20	0.05	
118 Sn	0.00 ug/l	235.70	0.50	
121 Sb	0.31 ug/l	2.28	0.50	
137 Ba	-0.05 ug/l	8.25	0.50	
202 Hg	0.02 ug/l	13.03	0.08	
205 Tl	-0.03 ug/l	7.15	0.10	
208 Pb	-0.03 ug/l	13.65	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	766582.56	1.00	762890.69	100.5	59.6 - 125	
45 Sc	623946.50	1.25	620105.56	100.6	59.6 - 125	
45 Sc	800961.50	0.74	771387.50	103.8	59.6 - 125	
74 Ge	166211.69	0.60	164848.81	100.8	59.6 - 125	
74 Ge	32271.30	1.01	33226.06	97.1	59.6 - 125	
74 Ge	181483.92	0.39	178474.77	101.7	59.6 - 125	
89 Y	1088563.60	0.37	1057065.90	103.0	59.6 - 125	
115 In	943887.81	0.98	917456.31	102.9	59.6 - 125	
159 Tb	1261808.80	0.86	1264337.30	99.8	59.6 - 125	
209 Bi	681796.31	1.31	698508.81	97.6	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\071SMPL.D\071SMPL.D#
Date Acquired:	Dec 21 2012 11:20 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-a-1-a
Misc Info:	3005 1/5
Vial Number:	3111
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03584	-0.03584	ug/l	12.03	100.00		86.67	53.34	70.00
11 B # 3	3.354	3.354	ug/l	7.47	200.00		24909.35	22846.25	23887.69
23 Na # 1	758.7	758.7	ug/l	3.43	90000.00		5196246.50	5137346.00	5263417.50
24 Mg # 1	286	286	ug/l	2.86	90000.00		1242055.60	1240827.10	1235872.80
27 Al # 1	188.6	188.6	ug/l	5.63	90000.00		852288.75	829250.69	909138.94
39 K # 2	428.4	428.4	ug/l	0.24	90000.00		216096.22	216676.41	215789.86
40 Ca # 1	647.2	647.2	ug/l	2.97	90000.00		6477199.50	6486925.00	6390120.50
47 Ti # 3	4.955	4.955	ug/l	14.40	1800.00		6993.92	5219.30	5889.88
51 V # 2	0.424	0.424	ug/l	1.76	1800.00		1803.44	1792.11	1828.12
52 Cr # 2	0.2087	0.2087	ug/l	3.90	1800.00		916.03	886.03	867.36
55 Mn # 3	237.5	237.5	ug/l	0.62	2700.00		5017270.50	4966758.50	4910268.50
56 Fe # 1	1796	1796	ug/l	2.47	90000.00		25537414.00	25640532.00	25817956.00
59 Co # 3	2.683	2.683	ug/l	1.44	1800.00		41457.64	41387.73	42129.65
60 Ni # 2	0.6203	0.6203	ug/l	4.19	1800.00		678.02	712.69	738.02
63 Cu # 2	0.146	0.146	ug/l	4.92	1800.00		578.01	608.68	566.01
66 Zn # 3	0.9168	0.9168	ug/l	4.82	1800.00		3100.40	3210.41	3203.75
75 As # 2	0.2064	0.2064	ug/l	5.42	1800.00		78.67	85.00	79.67
78 Se # 1	0.02115	0.02115	ug/l	23.55	100.00		20.67	22.00	18.00
88 Sr # 3	5.534	5.534	ug/l	1.17	1800.00		122896.30	122607.86	120201.34
95 Mo # 3	-0.2169	-0.2169	ug/l	1.96	1800.00		256.68	256.68	283.35
107 Ag # 3	-0.02809	-0.02809	ug/l	4.96	100.00		40.00	63.34	50.00
111 Cd # 3	-0.01698	-0.01698	ug/l	37.92	100.00		46.57	23.24	29.90
118 Sn # 3	0.04502	0.04502	ug/l	16.17	1800.00		626.70	593.37	550.03
121 Sb # 3	0.1618	0.1618	ug/l	9.85	100.00		1313.43	1170.08	1130.07
137 Ba # 3	14.76	14.76	ug/l	2.08	1800.00		36190.75	36708.82	35779.60
202 Hg # 3	0.01401	0.01401	ug/l	7.55	5.00		50.00	54.00	52.67
205 Tl # 3	-0.02382	-0.02382	ug/l	7.83	20.00		183.34	133.34	153.34
208 Pb # 3	0.01312	0.01312	ug/l	11.20	1800.00		1550.10	1610.09	1586.76

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	702025.13	0.82	762890.69	92.0	60 - 125.4		707816.31	701929.69	696329.50
45 Sc # 1	616519.81	2.71	620105.56	99.4	60 - 125.4		598252.06	631023.25	620284.06
45 Sc # 3	761378.25	1.32	771387.50	98.7	60 - 125.4		772861.69	754090.63	757182.56
74 Ge # 1	164959.31	0.84	164848.81	100.1	60 - 125.4		163551.08	166321.31	165005.53
74 Ge # 2	32184.49	0.28	33226.06	96.9	60 - 125.4		32092.67	32274.69	32186.12
74 Ge # 3	179155.02	0.72	178474.77	100.4	60 - 125.4		180644.08	178376.95	178444.03
89 Y # 3	1079799.90	0.48	1057065.90	102.2	60 - 125.4		1085576.50	1075477.80	1078345.50
115 In # 3	929000.69	0.83	917456.31	101.3	60 - 125.4		933601.88	920063.31	933336.94
159 Tb # 3	1250619.60	1.24	1264337.30	98.9	60 - 125.4		1238837.40	1244857.10	1268164.10
209 Bi # 3	719957.81	0.40	698508.81	103.1	60 - 125.4		718449.69	718114.13	723309.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\072SMPL.D\072SMPL.D#
Date Acquired:	Dec 21 2012 11:27 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-a-2-a
Misc Info:	3005 1/5
Vial Number:	3112
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.02387	-0.02387	ug/l	31.02	100.00		143.34	103.34	86.67
11 B # 3	4.153	4.153	ug/l	4.43	200.00		26381.83	25446.88	25757.30
23 Na # 1	1271	1271	ug/l	2.72	90000.00		8293364.00	8478790.00	8436795.00
24 Mg # 1	672.1	672.1	ug/l	1.96	90000.00		2840225.30	2889416.50	2849587.80
27 Al # 1	163.3	163.3	ug/l	2.02	90000.00		731626.56	757711.75	720484.38
39 K # 2	604.1	604.1	ug/l	1.39	90000.00		297776.25	295572.81	300516.47
40 Ca # 1	1544	1544	ug/l	0.83	90000.00		15162580.00	15257188.00	14868885.00
47 Ti # 3	4.171	4.171	ug/l	24.12	1800.00		5229.88	3447.40	6054.18
51 V # 2	0.469	0.469	ug/l	3.99	1800.00		1970.14	1876.79	1949.46
52 Cr # 2	0.2141	0.2141	ug/l	6.92	1800.00		870.03	898.03	954.04
55 Mn # 3	299.8	299.8	ug/l	3.95	2700.00		6144675.50	6047751.50	6100375.50
56 Fe # 1	2222	2222	ug/l	1.87	90000.00		31045406.00	31632392.00	31081226.00
59 Co # 3	2.419	2.419	ug/l	5.09	1800.00		37137.04	36649.17	35944.29
60 Ni # 2	0.5394	0.5394	ug/l	3.91	1800.00		598.01	621.35	638.68
63 Cu # 2	0.556	0.556	ug/l	1.32	1800.00		1795.44	1754.11	1775.44
66 Zn # 3	0.8672	0.8672	ug/l	9.82	1800.00		2917.01	2990.38	3077.06
75 As # 2	0.1697	0.1697	ug/l	8.64	1800.00		73.00	66.00	73.00
78 Se # 1	0.0202	0.0202	ug/l	72.67	100.00		18.67	14.67	25.67
88 Sr # 3	11.22	11.22	ug/l	6.47	1800.00		233179.03	232897.86	234377.58
95 Mo # 3	-0.2214	-0.2214	ug/l	7.23	1800.00		310.01	210.01	203.34
107 Ag # 3	-0.03092	-0.03092	ug/l	2.44	100.00		33.33	23.33	20.00
111 Cd # 3	-0.01153	-0.01153	ug/l	66.05	100.00		33.22	53.26	36.59
118 Sn # 3	0.02946	0.02946	ug/l	48.37	1800.00		526.69	513.36	416.68
121 Sb # 3	0.0767	0.0767	ug/l	12.81	100.00		736.71	670.03	646.70
137 Ba # 3	22.5	22.5	ug/l	5.76	1800.00		53030.14	52919.92	52772.43
202 Hg # 3	0.02431	0.02431	ug/l	3.46	5.00		68.33	67.00	71.00
205 Tl # 3	-0.02081	-0.02081	ug/l	19.40	20.00		166.67	236.68	166.67
208 Pb # 3	0.01146	0.01146	ug/l	28.21	1800.00		1446.74	1476.78	1513.42

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	675595.94	3.95	762890.69	88.6	60 - 125.4		695964.06	645389.81	685433.94
45 Sc # 1	606609.88	1.93	620105.56	97.8	60 - 125.4		614822.63	611770.25	593236.81
45 Sc # 3	722749.88	5.83	771387.50	93.7	60 - 125.4		746560.94	674112.31	747576.50
74 Ge # 1	163871.05	1.18	164848.81	99.4	60 - 125.4		164790.23	165167.61	161655.30
74 Ge # 2	32195.58	0.55	33226.06	96.9	60 - 125.4		32328.06	32262.91	31995.77
74 Ge # 3	174577.38	4.54	178474.77	97.8	60 - 125.4		179329.53	165434.52	178968.06
89 Y # 3	1031996.90	6.38	1057065.90	97.6	60 - 125.4		1071078.90	955952.69	1068959.00
115 In # 3	892888.81	5.57	917456.31	97.3	60 - 125.4		927078.31	835866.88	915721.25
159 Tb # 3	1210210.30	6.32	1264337.30	95.7	60 - 125.4		1261799.60	1122282.10	1246548.90
209 Bi # 3	688709.19	4.20	698508.81	98.6	60 - 125.4		699620.94	655937.63	710569.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\073SMPL.D\073SMPL.D#
Date Acquired:	Dec 21 2012 11:34 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-a-3-a
Misc Info:	3005 1/5
Vial Number:	3201
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04792	-0.04792	ug/l	3.98	100.00		26.67	16.67	30.00
11 B # 3	28.42	28.42	ug/l	1.36	200.00		120713.70	119452.74	118210.86
23 Na # 1	2847	2847	ug/l	0.89	90000.00		18568158.00	18700444.00	18540428.00
24 Mg # 1	680.3	680.3	ug/l	1.54	90000.00		2908870.80	2937579.00	2875311.30
27 Al # 1	11.9	11.9	ug/l	7.39	90000.00		54834.73	62161.76	61516.63
39 K # 2	2512	2512	ug/l	3.48	90000.00		1151750.30	1155494.10	1133432.80
40 Ca # 1	2227	2227	ug/l	0.88	90000.00		21965692.00	21581816.00	22034170.00
47 Ti # 3	0.6564	0.6564	ug/l	52.06	1800.00		870.05	1549.66	913.40
51 V # 2	0.2556	0.2556	ug/l	8.60	1800.00		1289.39	1370.73	1247.39
52 Cr # 2	0.197	0.197	ug/l	8.74	1800.00		856.70	812.02	804.02
55 Mn # 3	149	149	ug/l	0.49	2700.00		3106382.80	3100977.80	3082282.80
56 Fe # 1	1850	1850	ug/l	1.16	90000.00		25881906.00	25878050.00	26635910.00
59 Co # 3	0.03097	0.03097	ug/l	6.56	1800.00		750.04	680.04	710.04
60 Ni # 2	0.3005	0.3005	ug/l	5.70	1800.00		350.01	340.67	332.01
63 Cu # 2	0.02901	0.02901	ug/l	5.93	1800.00		228.00	248.00	234.67
66 Zn # 3	0.01872	0.01872	ug/l	267.52	1800.00		1430.11	1556.79	1370.10
75 As # 2	0.1163	0.1163	ug/l	19.57	1800.00		58.67	50.00	52.00
78 Se # 1	0.01119	0.01119	ug/l	35.54	100.00		15.67	15.00	18.00
88 Sr # 3	12.22	12.22	ug/l	1.39	1800.00		266039.59	266767.19	262569.91
95 Mo # 3	-0.2011	-0.2011	ug/l	0.81	1800.00		316.68	316.68	323.35
107 Ag # 3	-0.03167	-0.03167	ug/l	4.22	100.00		13.33	33.33	13.33
111 Cd # 3	-0.01878	-0.01878	ug/l	0.64	100.00		29.88	29.88	29.88
118 Sn # 3	0.03547	0.03547	ug/l	35.47	1800.00		526.69	480.02	610.03
121 Sb # 3	0.05409	0.05409	ug/l	13.82	100.00		633.36	540.03	583.36
137 Ba # 3	17.6	17.6	ug/l	0.84	1800.00		43329.62	43416.17	42744.62
202 Hg # 3	0.04151	0.04151	ug/l	3.21	5.00		104.00	105.67	104.00
205 Tl # 3	-0.03119	-0.03119	ug/l	2.62	20.00		53.34	66.67	43.33
208 Pb # 3	-0.03683	-0.03683	ug/l	6.38	1800.00		546.69	583.36	496.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	708636.13	1.65	762890.69	92.9	60 - 125.4		711355.31	718719.25	695833.88
45 Sc # 1	609190.00	0.51	620105.56	98.2	60 - 125.4		607510.56	607306.38	612753.00
45 Sc # 3	758508.31	1.38	771387.50	98.3	60 - 125.4		770520.38	753394.69	751609.88
74 Ge # 1	164707.70	0.34	164848.81	99.9	60 - 125.4		164128.53	165262.00	164732.59
74 Ge # 2	31172.49	3.09	33226.06	93.8	60 - 125.4		30093.78	31945.66	31478.03
74 Ge # 3	177963.73	0.81	178474.77	99.7	60 - 125.4		179535.77	177653.59	176701.84
89 Y # 3	1074338.30	0.77	1057065.90	101.6	60 - 125.4		1080815.50	1065020.60	1077178.40
115 In # 3	928812.38	0.74	917456.31	101.2	60 - 125.4		936786.88	925254.13	924396.25
159 Tb # 3	1260775.60	1.41	1264337.30	99.7	60 - 125.4		1279154.90	1259625.30	1243546.90
209 Bi # 3	718171.38	1.55	698508.81	102.8	60 - 125.4		728521.44	706451.94	719540.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\074SMPL.D\074SMPL.D#
Date Acquired:	Dec 21 2012 11:40 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-a-4-a
Misc Info:	3005 1/5
Vial Number:	3202
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.03642	-0.03642	ug/l	8.13	100.00		56.67	70.00	73.34
11 B	# 3	94.18	94.18	ug/l	3.15	200.00		363238.84	362154.72	358623.16
23 Na	# 1	8262	8262	ug/l	1.35	90000.00		53718876.00	53220292.00	54658384.00
24 Mg	# 1	3736	3736	ug/l	1.69	90000.00		16114385.00	16159403.00	15849940.00
27 Al	# 1	22.01	22.01	ug/l	7.62	90000.00		98334.46	114445.35	104126.27
39 K	# 2	7079	7079	ug/l	0.26	90000.00		3169320.00	3185736.30	3175936.50
40 Ca	# 1	13450	13450	ug/l	0.78	90000.00		132292160.00	133272360.00	132434740.00
47 Ti	# 3	0.8002	0.8002	ug/l	15.21	1800.00		1240.10	1386.96	1120.17
51 V	# 2	0.4803	0.4803	ug/l	0.91	1800.00		1868.79	1892.12	1892.12
52 Cr	# 2	0.2156	0.2156	ug/l	2.22	1800.00		875.36	894.70	858.03
55 Mn	# 3	679.5	679.5	ug/l	0.90	2700.00		13880336.00	13779768.00	13845091.00
56 Fe	# 1	9343	9343	ug/l	1.29	90000.00		133200180.00	131617820.00	133549210.00
59 Co	# 3	0.6567	0.6567	ug/l	0.67	1800.00		10233.52	10073.42	10063.44
60 Ni	# 2	0.5864	0.5864	ug/l	2.01	1800.00		652.02	634.02	648.68
63 Cu	# 2	0.4426	0.4426	ug/l	2.04	1800.00		1407.40	1398.07	1358.07
66 Zn	# 3	-0.07057	-0.07057	ug/l	28.99	1800.00		1296.76	1220.09	1263.42
75 As	# 2	0.5691	0.5691	ug/l	2.72	1800.00		178.00	173.33	180.00
78 Se	# 1	0.03414	0.03414	ug/l	15.12	100.00		24.33	27.33	23.33
88 Sr	# 3	71.75	71.75	ug/l	0.75	1800.00		1524025.40	1513218.10	1508889.80
95 Mo	# 3	-0.09831	-0.09831	ug/l	3.06	1800.00		660.03	653.37	643.37
107 Ag	# 3	-0.03202	-0.03202	ug/l	3.20	100.00		13.33	10.00	26.67
111 Cd	# 3	-0.01973	-0.01973	ug/l	19.63	100.00		33.09	29.76	19.76
118 Sn	# 3	0.03723	0.03723	ug/l	22.91	1800.00		490.03	543.36	576.70
121 Sb	# 3	0.04129	0.04129	ug/l	12.94	100.00		490.02	536.70	480.02
137 Ba	# 3	86.29	86.29	ug/l	1.07	1800.00		206608.06	207247.03	205840.95
202 Hg	# 3	0.02398	0.02398	ug/l	10.98	5.00		65.67	65.00	72.33
205 Tl	# 3	-0.03264	-0.03264	ug/l	1.89	20.00		36.67	23.33	40.00
208 Pb	# 3	-0.03236	-0.03236	ug/l	6.59	1800.00		576.69	593.36	643.39

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	693167.63	3.63	762890.69	90.9	60 - 125.4		721637.25	684066.38	673799.06
45 Sc	# 1	613146.94	0.89	620105.56	98.9	60 - 125.4		606953.88	615322.63	617164.25
45 Sc	# 3	742334.00	0.27	771387.50	96.2	60 - 125.4		744422.25	740396.00	742183.69
74 Ge	# 1	162312.38	0.23	164848.81	98.5	60 - 125.4		162339.25	162670.09	161927.84
74 Ge	# 2	30902.46	0.49	33226.06	93.0	60 - 125.4		30808.41	31075.60	30823.38
74 Ge	# 3	174728.58	0.85	178474.77	97.9	60 - 125.4		175920.48	175194.63	173070.63
89 Y	# 3	1052707.60	0.25	1057065.90	99.6	60 - 125.4		1049727.80	1054258.40	1054136.50
115 In	# 3	909141.00	0.77	917456.31	99.1	60 - 125.4		913685.63	901077.88	912659.44
159 Tb	# 3	1237134.00	1.17	1264337.30	97.8	60 - 125.4		1245814.50	1220487.80	1245099.60
209 Bi	# 3	683722.44	1.25	698508.81	97.9	60 - 125.4		692525.13	683251.75	675390.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\075SMPL.D\075SMPL.D#
Date Acquired:	Dec 21 2012 11:47 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-a-5-a
Misc Info:	3005 1/5
Vial Number:	3203
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03474	-0.03474	ug/l	14.23	100.00		56.67	90.00	70.00
11 B # 3	4.365	4.365	ug/l	4.93	200.00		26798.86	27299.88	27026.02
23 Na # 1	1262	1262	ug/l	0.60	90000.00		8161156.50	8344790.00	8292498.00
24 Mg # 1	868.6	868.6	ug/l	1.03	90000.00		3677752.50	3667039.00	3630531.50
27 Al # 1	9.743	9.743	ug/l	4.70	90000.00		51107.93	48476.58	47700.12
39 K # 2	702.5	702.5	ug/l	0.83	90000.00		338669.78	338050.47	331727.75
40 Ca # 1	3014	3014	ug/l	1.03	90000.00		29320632.00	29189032.00	28966086.00
47 Ti # 3	0.4435	0.4435	ug/l	137.70	1800.00		553.36	386.69	1649.87
51 V # 2	0.1157	0.1157	ug/l	4.86	1800.00		933.37	958.70	927.37
52 Cr # 2	0.08397	0.08397	ug/l	0.51	1800.00		478.01	476.68	476.68
55 Mn # 3	1729	1729	ug/l	1.43	2700.00		36721840.00	35903020.00	35560732.00
56 Fe # 1	4897	4897	ug/l	0.46	90000.00		67935776.00	68741416.00	67879056.00
59 Co # 3	4.903	4.903	ug/l	1.30	1800.00		77330.22	75457.98	74955.70
60 Ni # 2	0.425	0.425	ug/l	4.46	1800.00		489.34	458.01	494.68
63 Cu # 2	0.4475	0.4475	ug/l	2.73	1800.00		1420.07	1468.74	1394.07
66 Zn # 3	0.6968	0.6968	ug/l	5.34	1800.00		2877.01	2666.97	2713.65
75 As # 2	0.184	0.184	ug/l	18.86	1800.00		79.00	78.67	61.67
78 Se # 1	0.02569	0.02569	ug/l	9.53	100.00		22.67	22.00	20.67
88 Sr # 3	21.06	21.06	ug/l	1.71	1800.00		462996.91	451795.00	441099.47
95 Mo # 3	-0.1678	-0.1678	ug/l	4.69	1800.00		450.02	450.02	403.35
107 Ag # 3	-0.02103	-0.02103	ug/l	11.66	100.00		90.00	123.34	126.67
111 Cd # 3	0.003312	0.003312	ug/l	207.13	100.00		76.50	79.84	56.52
118 Sn # 3	0.04385	0.04385	ug/l	84.81	1800.00		513.36	436.69	814.02
121 Sb # 3	0.03011	0.03011	ug/l	11.70	100.00		453.35	460.02	423.35
137 Ba # 3	59.29	59.29	ug/l	1.67	1800.00		148014.58	146849.72	143467.59
202 Hg # 3	0.00431	0.00431	ug/l	37.89	5.00		31.33	36.00	32.00
205 Tl # 3	-0.01709	-0.01709	ug/l	17.02	20.00		213.34	260.01	283.35
208 Pb # 3	-0.01344	-0.01344	ug/l	15.17	1800.00		1070.05	1000.05	973.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	685835.13	2.08	762890.69	89.9	60 - 125.4		692028.63	669501.25	695975.63
45 Sc # 1	600626.25	0.58	620105.56	96.9	60 - 125.4		596945.44	603816.31	601117.13
45 Sc # 3	752975.25	0.88	771387.50	97.6	60 - 125.4		760532.44	748000.50	750392.81
74 Ge # 1	163036.02	0.30	164848.81	98.9	60 - 125.4		163185.98	163438.27	162483.78
74 Ge # 2	31481.98	0.35	33226.06	94.8	60 - 125.4		31561.55	31529.87	31354.51
74 Ge # 3	179081.70	1.62	178474.77	100.3	60 - 125.4		181821.61	176057.25	179366.25
89 Y # 3	1066208.80	1.34	1057065.90	100.9	60 - 125.4		1082287.80	1054862.80	1061475.90
115 In # 3	935591.13	1.36	917456.31	102.0	60 - 125.4		949251.44	924136.44	933385.63
159 Tb # 3	1262160.90	2.45	1264337.30	99.8	60 - 125.4		1297867.10	1242584.00	1246031.60
209 Bi # 3	709046.25	1.65	698508.81	101.5	60 - 125.4		719735.00	696552.38	710851.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\076SMPL.D\076SMPL.D#
Date Acquired:	Dec 21 2012 11:53 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-a-6-a
Misc Info:	3005 1/5
Vial Number:	3204
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0361	-0.0361	ug/l	10.11	100.00		53.34	76.67	73.34
11 B # 3	83.7	83.7	ug/l	2.11	200.00		324191.94	321024.75	320010.31
23 Na # 1	10320	10320	ug/l	4.44	90000.00		65267912.00	64039712.00	64464272.00
24 Mg # 1	3985	3985	ug/l	5.47	90000.00		16483811.00	16490485.00	16320456.00
27 Al # 1	4.885	4.885	ug/l	1.80	90000.00		27631.09	25942.67	27631.24
39 K # 2	6331	6331	ug/l	0.14	90000.00		2875998.80	2903566.30	2880122.80
40 Ca # 1	12270	12270	ug/l	5.51	90000.00		115717920.00	116785500.00	116227400.00
47 Ti # 3	0.3493	0.3493	ug/l	35.01	1800.00		933.67	693.39	653.37
51 V # 2	0.314	0.314	ug/l	7.17	1800.00		1436.07	1431.41	1535.42
52 Cr # 2	0.1458	0.1458	ug/l	4.41	1800.00		678.69	650.02	680.68
55 Mn # 3	1092	1092	ug/l	0.87	2700.00		22583668.00	22576342.00	22736898.00
56 Fe # 1	10520	10520	ug/l	5.29	90000.00		142346660.00	143888670.00	144608190.00
59 Co # 3	2.096	2.096	ug/l	0.33	1800.00		32426.78	32356.59	32309.95
60 Ni # 2	1.337	1.337	ug/l	1.72	1800.00		1470.74	1453.41	1494.08
63 Cu # 2	0.4833	0.4833	ug/l	2.26	1800.00		1529.41	1555.42	1488.08
66 Zn # 3	0.1825	0.1825	ug/l	39.30	1800.00		1810.16	1873.49	1600.14
75 As # 2	0.5704	0.5704	ug/l	4.38	1800.00		173.33	179.67	187.67
78 Se # 1	0.02603	0.02603	ug/l	13.57	100.00		20.67	22.00	21.00
88 Sr # 3	79.51	79.51	ug/l	2.96	1800.00		1707013.80	1721304.50	1673834.00
95 Mo # 3	-0.01536	-0.01536	ug/l	94.40	1800.00		903.39	910.05	990.06
107 Ag # 3	-0.0319	-0.0319	ug/l	3.06	100.00		26.67	16.67	10.00
111 Cd # 3	-0.01808	-0.01808	ug/l	47.01	100.00		13.00	39.66	39.63
118 Sn # 3	0.06294	0.06294	ug/l	5.20	1800.00		686.71	686.71	656.70
121 Sb # 3	0.02591	0.02591	ug/l	16.23	100.00		430.02	390.02	446.69
137 Ba # 3	118.3	118.3	ug/l	0.03	1800.00		285687.81	285241.91	285302.47
202 Hg # 3	0.008985	0.008985	ug/l	12.41	5.00		41.33	38.33	41.33
205 Tl # 3	-0.03144	-0.03144	ug/l	3.41	20.00		33.33	56.67	60.00
208 Pb # 3	-0.03488	-0.03488	ug/l	2.32	1800.00		543.36	553.35	563.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	691486.50	2.56	762890.69	90.6	60 - 125.4		705892.19	696808.25	671759.13
45 Sc # 1	589840.25	4.96	620105.56	95.1	60 - 125.4		605071.88	556119.00	608329.88
45 Sc # 3	753851.00	1.69	771387.50	97.7	60 - 125.4		767182.56	752507.06	741863.38
74 Ge # 1	158122.48	3.05	164848.81	95.9	60 - 125.4		160693.11	152562.22	161112.16
74 Ge # 2	31375.08	0.51	33226.06	94.4	60 - 125.4		31227.58	31543.17	31354.48
74 Ge # 3	177848.91	0.47	178474.77	99.6	60 - 125.4		178387.97	178268.83	176889.91
89 Y # 3	1066566.50	1.54	1057065.90	100.9	60 - 125.4		1061381.50	1053323.90	1084993.90
115 In # 3	916736.00	0.06	917456.31	99.9	60 - 125.4		917381.13	916214.38	916612.81
159 Tb # 3	1242021.60	0.80	1264337.30	98.2	60 - 125.4		1253287.80	1234224.90	1238552.60
209 Bi # 3	681812.75	1.17	698508.81	97.6	60 - 125.4		686121.06	686716.00	672601.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\077SMPL.D\077SMPL.D#
Date Acquired:	Dec 22 2012 12:00 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-a-7-a
Misc Info:	3005 1/5
Vial Number:	3205
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0507	-0.0507	ug/l	9.39	100.00		0.00	26.67	6.67
11 B # 3	97.73	97.73	ug/l	13.13	200.00		292673.41	340173.44	333129.13
23 Na # 1	10310	10310	ug/l	1.72	90000.00		67429912.00	66637760.00	65963020.00
24 Mg # 1	3446	3446	ug/l	1.31	90000.00		14783560.00	14715316.00	14561438.00
27 Al # 1	3.421	3.421	ug/l	6.28	90000.00		20784.34	20914.84	22389.47
39 K # 2	6623	6623	ug/l	1.24	90000.00		3094956.30	2784620.80	2479891.00
40 Ca # 1	11040	11040	ug/l	1.43	90000.00		108960580.00	108152620.00	107261210.00
47 Ti # 3	0.3731	0.3731	ug/l	21.60	1800.00		643.37	703.37	690.04
51 V # 2	0.265	0.265	ug/l	4.00	1800.00		1402.74	1192.05	1108.71
52 Cr # 2	0.1122	0.1122	ug/l	7.18	1800.00		554.68	511.34	490.68
55 Mn # 3	844.3	844.3	ug/l	11.81	2700.00		14020716.00	16259353.00	16341675.00
56 Fe # 1	10810	10810	ug/l	1.36	90000.00		153135870.00	152018450.00	152094530.00
59 Co # 3	1.285	1.285	ug/l	13.90	1800.00		15557.98	18855.02	18714.82
60 Ni # 2	0.7288	0.7288	ug/l	1.18	1800.00		832.69	745.36	664.68
63 Cu # 2	0.03063	0.03063	ug/l	11.89	1800.00		244.67	232.00	196.00
66 Zn # 3	0.1515	0.1515	ug/l	59.55	1800.00		1436.77	1550.12	1546.78
75 As # 2	0.6586	0.6586	ug/l	6.16	1800.00		201.34	182.67	180.67
78 Se # 1	0.0269	0.0269	ug/l	34.28	100.00		21.00	26.33	19.67
88 Sr # 3	63.83	63.83	ug/l	15.23	1800.00		1081433.40	1252707.90	1243783.30
95 Mo # 3	0.02145	0.02145	ug/l	216.55	1800.00		860.05	963.39	936.73
107 Ag # 3	-0.03237	-0.03237	ug/l	0.99	100.00		10.00	10.00	16.67
111 Cd # 3	-0.01778	-0.01778	ug/l	44.64	100.00		13.02	32.98	36.32
118 Sn # 3	0.0665	0.0665	ug/l	16.47	1800.00		586.70	593.36	643.37
121 Sb # 3	0.03045	0.03045	ug/l	66.14	100.00		316.68	450.02	400.02
137 Ba # 3	86.91	86.91	ug/l	14.41	1800.00		168290.75	190935.80	188835.75
202 Hg # 3	0.01482	0.01482	ug/l	30.32	5.00		39.67	47.67	45.67
205 Tl # 3	-0.0319	-0.0319	ug/l	5.16	20.00		33.33	53.34	23.33
208 Pb # 3	-0.03657	-0.03657	ug/l	10.57	1800.00		390.02	473.35	500.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	599021.63	9.43	762890.69	78.5	60 - 125.4		588529.38	548543.00	659992.50
45 Sc # 1	608562.63	1.04	620105.56	98.1	60 - 125.4		603560.69	615693.13	606434.13
45 Sc # 3	656298.88	10.55	771387.50	85.1	60 - 125.4		638071.06	598006.13	732819.56
74 Ge # 1	163703.91	0.54	164848.81	99.3	60 - 125.4		164356.30	162704.14	164051.28
74 Ge # 2	28951.93	10.69	33226.06	87.1	60 - 125.4		32221.13	28566.31	26068.34
74 Ge # 3	158782.88	9.65	178474.77	89.0	60 - 125.4		155176.55	145578.64	175593.41
89 Y # 3	940365.31	12.13	1057065.90	89.0	60 - 125.4		929781.63	831899.13	1059415.30
115 In # 3	806134.81	12.03	917456.31	87.9	60 - 125.4		794369.94	715594.38	908440.06
159 Tb # 3	1080753.30	11.12	1264337.30	85.5	60 - 125.4		1074627.00	963732.81	1203900.00
209 Bi # 3	598665.75	10.24	698508.81	85.7	60 - 125.4		595326.13	539115.00	661556.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\078SMPL.D\078SMPL.D#
Date Acquired:	Dec 22 2012 12:07 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-a-8-a
Misc Info:	3005 1/5
Vial Number:	3206
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04746	-0.04746	ug/l	3.73	100.00		33.33	20.00	26.67
11 B # 3	1.245	1.245	ug/l	11.33	200.00		15998.00	16511.99	16575.34
23 Na # 1	-4.449	-4.449	ug/l	22.29	90000.00		221715.08	223643.33	210116.80
24 Mg # 1	1.425	1.425	ug/l	15.98	90000.00		12061.40	12327.73	10451.38
27 Al # 1	-0.2798	-0.2798	ug/l	32.62	90000.00		4680.81	4367.36	5136.72
39 K # 2	3.884	3.884	ug/l	15.64	90000.00		18267.41	18130.65	19035.26
40 Ca # 1	9.868	9.868	ug/l	8.05	90000.00		140133.98	127411.31	125333.15
47 Ti # 3	-0.2355	-0.2355	ug/l	5.55	1800.00		90.00	116.67	93.34
51 V # 2	0.06572	0.06572	ug/l	11.23	1800.00		780.02	818.69	830.69
52 Cr # 2	0.03195	0.03195	ug/l	4.66	1800.00		306.67	316.67	320.67
55 Mn # 3	-0.02912	-0.02912	ug/l	23.71	2700.00		8125.65	8379.09	8289.08
56 Fe # 1	6.463	6.463	ug/l	11.84	90000.00		117729.93	100374.44	97413.68
59 Co # 3	-0.01158	-0.01158	ug/l	2.53	1800.00		66.67	63.34	56.67
60 Ni # 2	0.1711	0.1711	ug/l	3.21	1800.00		209.34	200.67	202.67
63 Cu # 2	0.4212	0.4212	ug/l	2.20	1800.00		1360.73	1370.73	1348.06
66 Zn # 3	-0.005847	-0.005847	ug/l	93.18	1800.00		1446.77	1466.78	1420.10
75 As # 2	0.05824	0.05824	ug/l	15.87	1800.00		40.33	35.33	39.00
78 Se # 1	6.699E-005	6.699E-005	ug/l	14398.00	100.00		7.67	13.00	15.33
88 Sr # 3	-0.0745	-0.0745	ug/l	1.06	1800.00		566.70	586.69	583.36
95 Mo # 3	-0.2718	-0.2718	ug/l	2.18	1800.00		103.34	70.00	66.67
107 Ag # 3	-0.03206	-0.03206	ug/l	2.42	100.00		10.00	16.67	23.33
111 Cd # 3	-0.01763	-0.01763	ug/l	30.45	100.00		29.96	43.31	23.31
118 Sn # 3	0.01329	0.01329	ug/l	49.74	1800.00		453.36	386.68	426.69
121 Sb # 3	0.01543	0.01543	ug/l	17.82	100.00		360.02	373.35	386.68
137 Ba # 3	-0.02096	-0.02096	ug/l	24.46	1800.00		120.01	96.67	113.34
202 Hg # 3	0.007728	0.007728	ug/l	10.22	5.00		39.00	40.67	37.33
205 Tl # 3	-0.03266	-0.03266	ug/l	0.10	20.00		33.33	33.33	33.33
208 Pb # 3	-0.04729	-0.04729	ug/l	2.02	1800.00		333.35	320.01	296.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	721379.00	2.36	762890.69	94.6	60 - 125.4		722718.81	737695.38	703722.69
45 Sc # 1	605654.50	0.45	620105.56	97.7	60 - 125.4		606823.81	607572.44	602567.19
45 Sc # 3	775939.25	0.70	771387.50	100.6	60 - 125.4		781437.00	770591.50	775789.25
74 Ge # 1	167537.72	0.37	164848.81	101.6	60 - 125.4		166925.83	168153.36	167533.98
74 Ge # 2	31643.91	1.21	33226.06	95.2	60 - 125.4		31371.14	31478.04	32082.56
74 Ge # 3	182854.08	0.94	178474.77	102.5	60 - 125.4		183458.28	184194.97	180908.95
89 Y # 3	1097777.50	1.20	1057065.90	103.9	60 - 125.4		1111041.30	1084763.60	1097527.40
115 In # 3	932824.25	0.89	917456.31	101.7	60 - 125.4		933841.00	940601.75	924030.00
159 Tb # 3	1249432.80	1.34	1264337.30	98.8	60 - 125.4		1231108.40	1263745.50	1253444.50
209 Bi # 3	698479.50	0.84	698508.81	100.0	60 - 125.4		693448.94	704884.75	697104.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\079SMPL.D\079SMPL.D#
Date Acquired:	Dec 22 2012 12:13 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-b-10-a
Misc Info:	3005 1/5
Vial Number:	3207
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	-0.04948	-0.04948	ug/l	4.10	100.00		20.00	26.67	10.00
11	B	# 3	19.8	19.8	ug/l	5.39	200.00		88170.77	87334.13	87121.81
23	Na	# 1	3227	3227	ug/l	0.72	90000.00		21375776.00	21059750.00	21279286.00
24	Mg	# 1	465.2	465.2	ug/l	0.40	90000.00		2028997.90	1995981.30	1996042.50
27	Al	# 1	13.13	13.13	ug/l	3.23	90000.00		67361.27	66360.52	63032.23
39	K	# 2	819.6	819.6	ug/l	1.07	90000.00		396328.31	396308.94	398518.91
40	Ca	# 1	2021	2021	ug/l	0.42	90000.00		20222696.00	19992784.00	19810890.00
47	Ti	# 3	0.2071	0.2071	ug/l	32.01	1800.00		686.73	600.03	556.70
51	V	# 2	0.2007	0.2007	ug/l	5.27	1800.00		1200.05	1168.72	1204.72
52	Cr	# 2	0.0459	0.0459	ug/l	13.18	1800.00		368.67	344.67	378.67
55	Mn	# 3	8.871	8.871	ug/l	3.83	2700.00		197552.05	196864.19	196472.47
56	Fe	# 1	24.87	24.87	ug/l	0.66	90000.00		371535.78	365902.50	369157.22
59	Co	# 3	0.01467	0.01467	ug/l	15.25	1800.00		503.36	490.02	430.02
60	Ni	# 2	0.2829	0.2829	ug/l	1.62	1800.00		326.01	330.67	338.67
63	Cu	# 2	0.4595	0.4595	ug/l	2.44	1800.00		1510.08	1486.08	1475.41
66	Zn	# 3	0.08448	0.08448	ug/l	87.07	1800.00		1613.47	1523.45	1696.80
75	As	# 2	0.1283	0.1283	ug/l	13.20	1800.00		62.33	54.00	59.67
78	Se	# 1	0.05294	0.05294	ug/l	19.74	100.00		29.00	35.67	36.00
88	Sr	# 3	8.233	8.233	ug/l	5.10	1800.00		179579.08	180416.17	180220.20
95	Mo	# 3	0.4586	0.4586	ug/l	9.09	1800.00		2543.63	2523.62	2530.28
107	Ag	# 3	-0.03129	-0.03129	ug/l	0.80	100.00		23.33	26.67	20.00
111	Cd	# 3	-0.01595	-0.01595	ug/l	38.26	100.00		29.06	29.07	45.73
118	Sn	# 3	0.05733	0.05733	ug/l	15.88	1800.00		636.70	643.37	673.37
121	Sb	# 3	0.05286	0.05286	ug/l	12.79	100.00		613.37	593.36	536.69
137	Ba	# 3	4.232	4.232	ug/l	4.12	1800.00		10417.16	10587.39	10323.83
202	Hg	# 3	0.008553	0.008553	ug/l	11.68	5.00		40.00	39.67	40.33
205	Tl	# 3	-0.03081	-0.03081	ug/l	1.51	20.00		56.67	56.67	63.34
208	Pb	# 3	-0.0238	-0.0238	ug/l	11.29	1800.00		823.37	760.03	756.70

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	716506.69	4.37	762890.69	93.9	60 - 125.4		691270.75	751557.75	706691.63
45	Sc	# 1	614431.38	0.63	620105.56	99.1	60 - 125.4		618667.94	613492.75	611133.50
45	Sc	# 3	776669.75	6.00	771387.50	100.7	60 - 125.4		757190.69	829814.88	743003.63
74	Ge	# 1	168351.27	1.02	164848.81	102.1	60 - 125.4		170207.14	168045.81	166800.81
74	Ge	# 2	32104.28	1.06	33226.06	96.6	60 - 125.4		31723.49	32378.23	32211.14
74	Ge	# 3	182249.75	3.72	178474.77	102.1	60 - 125.4		179323.84	189999.63	177425.80
89	Y	# 3	1080312.30	5.29	1057065.90	102.2	60 - 125.4		1058134.00	1145228.80	1037574.10
115	In	# 3	924679.13	5.43	917456.31	100.8	60 - 125.4		906720.19	981370.00	885947.19
159	Tb	# 3	1246882.90	5.04	1264337.30	98.6	60 - 125.4		1233067.80	1315456.90	1192124.10
209	Bi	# 3	690176.06	3.85	698508.81	98.8	60 - 125.4		680290.19	720308.56	669929.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\080SMPL.D\080SMPL.D#
Date Acquired:	Dec 22 2012 12:20 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-b-11-a
Misc Info:	3005 1/5
Vial Number:	3208
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.05205	-0.05205	ug/l	3.38	100.00		6.67	3.33	16.67
11 B	# 3	20.78	20.78	ug/l	1.22	200.00		91744.01	91688.13	92153.34
23 Na	# 1	3358	3358	ug/l	2.03	90000.00		22395380.00	22112774.00	21997806.00
24 Mg	# 1	508.1	508.1	ug/l	1.81	90000.00		2202353.80	2177871.00	2218635.50
27 Al	# 1	24.46	24.46	ug/l	1.76	90000.00		118053.23	117897.99	116124.09
39 K	# 2	866	866	ug/l	5.94	90000.00		433944.34	440172.03	430528.13
40 Ca	# 1	2116	2116	ug/l	1.57	90000.00		21089324.00	20920574.00	21084682.00
47 Ti	# 3	0.4281	0.4281	ug/l	0.43	1800.00		863.39	876.72	873.39
51 V	# 2	0.2161	0.2161	ug/l	11.44	1800.00		1267.39	1303.40	1274.06
52 Cr	# 2	0.04017	0.04017	ug/l	20.14	1800.00		364.01	365.34	347.34
55 Mn	# 3	11.34	11.34	ug/l	0.63	2700.00		249705.13	249683.84	249414.69
56 Fe	# 1	37.6	37.6	ug/l	0.49	90000.00		545523.63	555142.94	555824.81
59 Co	# 3	0.02452	0.02452	ug/l	10.85	1800.00		590.03	630.03	666.70
60 Ni	# 2	0.3714	0.3714	ug/l	11.83	1800.00		478.68	445.34	415.34
63 Cu	# 2	0.3661	0.3661	ug/l	4.47	1800.00		1246.72	1274.06	1284.73
66 Zn	# 3	0.4983	0.4983	ug/l	6.16	1800.00		2486.94	2373.58	2386.92
75 As	# 2	0.1594	0.1594	ug/l	14.61	1800.00		68.33	75.00	67.00
78 Se	# 1	0.05238	0.05238	ug/l	5.70	100.00		32.33	34.67	32.67
88 Sr	# 3	8.913	8.913	ug/l	0.48	1800.00		197014.11	195177.44	194911.48
95 Mo	# 3	0.4456	0.4456	ug/l	8.65	1800.00		2380.25	2510.26	2603.64
107 Ag	# 3	-0.02898	-0.02898	ug/l	2.27	100.00		40.00	50.00	40.00
111 Cd	# 3	-0.02224	-0.02224	ug/l	26.00	100.00		35.79	19.07	15.70
118 Sn	# 3	0.2283	0.2283	ug/l	7.35	1800.00		1613.47	1630.14	1450.11
121 Sb	# 3	0.05442	0.05442	ug/l	21.54	100.00		540.03	666.70	570.03
137 Ba	# 3	5.231	5.231	ug/l	2.65	1800.00		13356.37	12625.65	12755.73
202 Hg	# 3	0.006399	0.006399	ug/l	29.46	5.00		41.00	34.67	34.33
205 Tl	# 3	-0.03099	-0.03099	ug/l	3.37	20.00		63.34	40.00	66.67
208 Pb	# 3	0.01574	0.01574	ug/l	22.96	1800.00		1670.10	1513.42	1596.75

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	719955.38	1.24	762890.69	94.4	60 - 125.4		710400.31	721451.63	728014.13
45 Sc	# 1	616747.94	1.18	620105.56	99.5	60 - 125.4		608870.88	623262.06	618111.06
45 Sc	# 3	774640.94	0.59	771387.50	100.4	60 - 125.4		769341.69	777452.13	777128.94
74 Ge	# 1	167668.06	0.38	164848.81	101.7	60 - 125.4		166943.13	167900.78	168160.28
74 Ge	# 2	33414.75	4.96	33226.06	100.6	60 - 125.4		32429.91	32485.11	35329.24
74 Ge	# 3	182225.45	0.67	178474.77	102.1	60 - 125.4		182749.31	183092.72	180834.34
89 Y	# 3	1083609.60	0.17	1057065.90	102.5	60 - 125.4		1085344.30	1081612.80	1083872.10
115 In	# 3	926375.31	0.74	917456.31	101.0	60 - 125.4		932262.19	928008.31	918855.38
159 Tb	# 3	1248841.80	0.93	1264337.30	98.8	60 - 125.4		1261638.80	1245895.90	1238990.60
209 Bi	# 3	700845.31	0.70	698508.81	100.3	60 - 125.4		705903.81	700559.38	696072.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\081_CCV.D\081_CCV.D#
Date Acquired:	Dec 22 2012 12:27 am
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	49.01 ug/l	2.29	50.00	89.6 - 110	
11 B	97.10 ug/l	0.97	100.00	89.6 - 110	
23 Na	4551.00 ug/l	1.68	5000.00	89.6 - 110	
24 Mg	4623.00 ug/l	1.18	5000.00	89.6 - 110	
27 Al	463.10 ug/l	1.22	500.00	89.6 - 110	
39 K	4864.00 ug/l	0.65	5000.00	89.6 - 110	
40 Ca	4781.00 ug/l	0.84	5000.00	89.6 - 110	
47 Ti	48.64 ug/l	0.95	50.00	89.6 - 110	
51 V	49.61 ug/l	1.09	50.00	89.6 - 110	
52 Cr	49.81 ug/l	0.92	50.00	89.6 - 110	
55 Mn	495.50 ug/l	0.32	500.00	89.6 - 110	
56 Fe	4827.00 ug/l	1.37	5000.00	89.6 - 110	
59 Co	49.71 ug/l	0.79	50.00	89.6 - 110	
60 Ni	50.74 ug/l	0.93	50.00	89.6 - 110	
63 Cu	50.66 ug/l	1.25	50.00	89.6 - 110	
66 Zn	48.60 ug/l	1.46	50.00	89.6 - 110	
75 As	47.15 ug/l	1.18	50.00	89.6 - 110	
78 Se	48.48 ug/l	0.50	50.00	89.6 - 110	
88 Sr	49.92 ug/l	0.80	50.00	89.6 - 110	
95 Mo	49.66 ug/l	0.71	50.00	89.6 - 110	
107 Ag	48.71 ug/l	1.11	50.00	89.6 - 110	
111 Cd	49.18 ug/l	1.08	50.00	89.6 - 110	
118 Sn	48.78 ug/l	1.21	50.00	89.6 - 110	
121 Sb	48.22 ug/l	0.69	50.00	89.6 - 110	
137 Ba	49.23 ug/l	1.08	50.00	89.6 - 110	
202 Hg	2.42 ug/l	0.83	2.50	89.6 - 110	
205 Tl	9.45 ug/l	0.34	10.00	89.6 - 110	
208 Pb	48.07 ug/l	2.52	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	748522.13	1.41	762890.69	98.1	59.6 - 125	
45 Sc	641039.88	0.74	620105.56	103.4	59.6 - 125	
45 Sc	807725.88	1.04	771387.50	104.7	59.6 - 125	
74 Ge	167977.97	0.36	164848.81	101.9	59.6 - 125	
74 Ge	31896.66	1.08	33226.06	96.0	59.6 - 125	
74 Ge	180776.25	0.72	178474.77	101.3	59.6 - 125	
89 Y	1087340.10	0.24	1057065.90	102.9	59.6 - 125	
115 In	929736.94	1.50	917456.31	101.3	59.6 - 125	
159 Tb	1243229.80	0.83	1264337.30	98.3	59.6 - 125	
209 Bi	662167.88	0.34	698508.81	94.8	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\082_CCB.D\082_CCB.D#
Date Acquired: Dec 22 2012 12:33 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	4.62	0.05	
11 B	1.01 ug/l	14.71	10.00	
23 Na	-10.39 ug/l	4.97	25.00	
24 Mg	1.96 ug/l	41.70	25.00	
27 Al	-0.78 ug/l	3.39	5.00	
39 K	2.08 ug/l	16.06	25.00	
40 Ca	2.58 ug/l	5.58	25.00	
47 Ti	-0.24 ug/l	2.88	0.50	
51 V	-0.06 ug/l	10.57	0.50	
52 Cr	0.01 ug/l	72.85	0.50	
55 Mn	-0.17 ug/l	6.91	0.50	
56 Fe	2.58 ug/l	6.40	10.00	
59 Co	0.00 ug/l	1593.60	0.05	
60 Ni	0.02 ug/l	14.51	0.50	
63 Cu	0.01 ug/l	52.59	0.50	
66 Zn	-0.56 ug/l	3.93	2.00	
75 As	0.03 ug/l	39.53	0.25	
78 Se	0.04 ug/l	33.25	0.25	
88 Sr	-0.09 ug/l	2.94	0.10	
95 Mo	-0.19 ug/l	3.57	0.50	
107 Ag	-0.02 ug/l	3.51	0.10	
111 Cd	-0.01 ug/l	43.89	0.05	
118 Sn	0.00 ug/l	847.83	0.50	
121 Sb	0.31 ug/l	6.83	0.50	
137 Ba	-0.05 ug/l	14.25	0.50	
202 Hg	0.02 ug/l	2.62	0.08	
205 Tl	-0.03 ug/l	3.18	0.10	
208 Pb	-0.04 ug/l	3.67	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	776349.63	0.95	762890.69	101.8	59.6 - 125	
45 Sc	642161.38	0.97	620105.56	103.6	59.6 - 125	
45 Sc	829934.38	0.80	771387.50	107.6	59.6 - 125	
74 Ge	171827.77	0.16	164848.81	104.2	59.6 - 125	
74 Ge	33108.58	1.50	33226.06	99.6	59.6 - 125	
74 Ge	188094.95	0.66	178474.77	105.4	59.6 - 125	
89 Y	1103907.10	1.48	1057065.90	104.4	59.6 - 125	
115 In	956336.75	0.53	917456.31	104.2	59.6 - 125	
159 Tb	1263193.90	0.88	1264337.30	99.9	59.6 - 125	
209 Bi	686467.19	1.35	698508.81	98.3	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\083SMPL.D\083SMPL.D#
Date Acquired:	Dec 22 2012 12:40 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-b-12-a
Misc Info:	3005 1/5
Vial Number:	3209
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04079	-0.04079	ug/l	2.10	100.00		56.67	53.33	50.00
11 B # 3	47.61	47.61	ug/l	0.83	200.00		199663.67	199121.17	196755.28
23 Na # 1	14630	14630	ug/l	0.17	90000.00		97095240.00	99086600.00	99169528.00
24 Mg # 1	2740	2740	ug/l	0.95	90000.00		12108506.00	12115250.00	12305506.00
27 Al # 1	40.39	40.39	ug/l	2.75	90000.00		196909.45	190509.38	198297.27
39 K # 2	5391	5391	ug/l	0.82	90000.00		2531103.30	2523041.00	2503351.50
40 Ca # 1	7308	7308	ug/l	0.06	90000.00		73689296.00	75018960.00	75092856.00
47 Ti # 3	1.476	1.476	ug/l	2.99	1800.00		2060.22	2126.87	2116.87
51 V # 2	0.5578	0.5578	ug/l	1.30	1800.00		2146.16	2172.16	2196.16
52 Cr # 2	0.1262	0.1262	ug/l	1.38	1800.00		615.35	623.35	629.35
55 Mn # 3	94.34	94.34	ug/l	0.49	2700.00		1997642.60	1994720.80	1967599.40
56 Fe # 1	430.9	430.9	ug/l	0.25	90000.00		6271686.50	6404828.50	6372984.50
59 Co # 3	0.412	0.412	ug/l	1.21	1800.00		6644.88	6728.29	6528.19
60 Ni # 2	0.926	0.926	ug/l	1.22	1800.00		1057.37	1052.04	1038.04
63 Cu # 2	0.5822	0.5822	ug/l	1.81	1800.00		1825.45	1880.79	1835.45
66 Zn # 3	0.7052	0.7052	ug/l	1.43	1800.00		2803.66	2773.65	2770.33
75 As # 2	0.579	0.579	ug/l	3.16	1800.00		180.67	189.34	191.00
78 Se # 1	0.07763	0.07763	ug/l	4.85	100.00		42.33	45.00	42.33
88 Sr # 3	46.3	46.3	ug/l	1.85	1800.00		1021571.90	989460.69	991889.06
95 Mo # 3	-0.04886	-0.04886	ug/l	5.87	1800.00		816.71	823.38	820.05
107 Ag # 3	-0.02904	-0.02904	ug/l	3.19	100.00		46.67	33.33	46.67
111 Cd # 3	-0.01675	-0.01675	ug/l	23.15	100.00		26.37	33.03	39.70
118 Sn # 3	0.09824	0.09824	ug/l	2.24	1800.00		866.72	876.73	836.71
121 Sb # 3	0.501	0.501	ug/l	1.35	100.00		3160.42	3170.43	3070.40
137 Ba # 3	52.29	52.29	ug/l	1.01	1800.00		125352.76	126723.67	125557.59
202 Hg # 3	0.01365	0.01365	ug/l	14.84	5.00		46.00	51.67	51.67
205 Tl # 3	-0.03156	-0.03156	ug/l	2.80	20.00		40.00	63.34	43.33
208 Pb # 3	1.048	1.048	ug/l	1.87	1800.00		22150.75	22357.36	22450.83

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	730734.81	0.23	762890.69	95.8	60 - 125.4		729430.06	732635.94	730138.50
45 Sc # 1	634278.88	1.03	620105.56	102.3	60 - 125.4		626737.63	638052.00	638047.13
45 Sc # 3	779163.44	0.75	771387.50	101.0	60 - 125.4		785832.00	774785.06	776873.25
74 Ge # 1	166756.75	0.26	164848.81	101.2	60 - 125.4		166282.58	166868.31	167119.34
74 Ge # 2	32128.24	0.25	33226.06	96.7	60 - 125.4		32065.92	32099.23	32219.58
74 Ge # 3	180027.95	1.18	178474.77	100.9	60 - 125.4		182042.89	180232.20	177808.77
89 Y # 3	1076630.50	0.57	1057065.90	101.9	60 - 125.4		1077463.80	1082303.50	1070124.10
115 In # 3	913824.75	1.11	917456.31	99.6	60 - 125.4		918943.44	920410.63	902120.19
159 Tb # 3	1253042.10	0.74	1264337.30	99.1	60 - 125.4		1242527.50	1260038.00	1256561.00
209 Bi # 3	695892.94	1.08	698508.81	99.6	60 - 125.4		703757.13	695153.94	688767.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\084SMPL.D\084SMPL.D#
Date Acquired:	Dec 22 2012 12:47 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-b-13-a
Misc Info:	3005 1/5
Vial Number:	3210
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04886	-0.04886	ug/l	3.76	100.00		23.33	13.33	26.67
11 B # 3	50.63	50.63	ug/l	1.00	200.00		207385.20	206751.02	205180.97
23 Na # 1	15570	15570	ug/l	16.35	90000.00		99896480.00	102026700.00	99803968.00
24 Mg # 1	2940	2940	ug/l	18.82	90000.00		12467761.00	12326793.00	12704021.00
27 Al # 1	35.57	35.57	ug/l	18.86	90000.00		167633.55	162256.59	166211.67
39 K # 2	5703	5703	ug/l	1.28	90000.00		2590817.00	2606403.00	2675880.50
40 Ca # 1	7774	7774	ug/l	18.16	90000.00		76677208.00	74825416.00	76482744.00
47 Ti # 3	1.629	1.629	ug/l	12.55	1800.00		2086.87	2226.89	2501.89
51 V # 2	0.5452	0.5452	ug/l	2.04	1800.00		2061.48	2123.49	2130.15
52 Cr # 2	0.1058	0.1058	ug/l	3.53	1800.00		553.35	534.68	558.01
55 Mn # 3	85.82	85.82	ug/l	1.30	2700.00		1796116.30	1829985.00	1792767.90
56 Fe # 1	383.1	383.1	ug/l	18.77	90000.00		5337574.50	5377534.00	5503659.50
59 Co # 3	0.3929	0.3929	ug/l	0.72	1800.00		6421.46	6288.11	6284.75
60 Ni # 2	1.001	1.001	ug/l	4.07	1800.00		1112.04	1069.37	1165.38
63 Cu # 2	0.2547	0.2547	ug/l	1.10	1800.00		890.03	880.70	883.36
66 Zn # 3	0.5968	0.5968	ug/l	14.92	1800.00		2686.98	2673.63	2360.25
75 As # 2	0.5931	0.5931	ug/l	0.90	1800.00		189.00	187.34	188.00
78 Se # 1	0.075	0.075	ug/l	34.33	100.00		36.67	37.67	45.00
88 Sr # 3	47.86	47.86	ug/l	1.48	1800.00		1041637.70	1036346.90	1021950.10
95 Mo # 3	-0.05647	-0.05647	ug/l	12.72	1800.00		816.71	780.04	783.38
107 Ag # 3	-0.03098	-0.03098	ug/l	3.89	100.00		36.67	16.67	23.33
111 Cd # 3	-0.02166	-0.02166	ug/l	21.48	100.00		23.03	16.38	33.04
118 Sn # 3	0.03749	0.03749	ug/l	26.12	1800.00		506.69	513.36	600.03
121 Sb # 3	0.4374	0.4374	ug/l	3.70	100.00		2847.03	2783.67	2673.65
137 Ba # 3	52.64	52.64	ug/l	2.03	1800.00		128721.37	126256.26	124548.95
202 Hg # 3	0.01668	0.01668	ug/l	11.70	5.00		58.67	54.33	50.67
205 Tl # 3	-0.03145	-0.03145	ug/l	6.03	20.00		80.00	40.00	30.00
208 Pb # 3	0.8114	0.8114	ug/l	0.41	1800.00		17334.56	17424.65	17117.82

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	717186.25	1.49	762890.69	94.0	60 - 125.4		726307.19	719766.44	705485.06
45 Sc # 1	619927.31	16.68	620105.56	100.0	60 - 125.4		628344.44	718859.19	512578.31
45 Sc # 3	777251.81	1.48	771387.50	100.8	60 - 125.4		790490.94	771341.56	769923.00
74 Ge # 1	160537.45	12.62	164848.81	97.4	60 - 125.4		164115.19	178767.30	138729.84
74 Ge # 2	31645.06	0.47	33226.06	95.2	60 - 125.4		31508.12	31625.02	31802.05
74 Ge # 3	179868.48	0.69	178474.77	100.8	60 - 125.4		181123.06	179842.48	178639.89
89 Y # 3	1075476.50	0.97	1057065.90	101.7	60 - 125.4		1082707.10	1063581.90	1080140.40
115 In # 3	912281.94	0.45	917456.31	99.4	60 - 125.4		907710.00	915698.44	913437.56
159 Tb # 3	1244302.80	0.59	1264337.30	98.4	60 - 125.4		1247733.10	1235928.40	1249246.90
209 Bi # 3	684962.69	0.94	698508.81	98.1	60 - 125.4		689471.81	687826.13	677590.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\085SMPL.D\085SMPL.D#
Date Acquired:	Dec 22 2012 12:53 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85827-b-14-a
Misc Info:	3005 1/5
Vial Number:	3211
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.05141	-0.05141	ug/l	0.99	100.00		13.33	10.00	10.00
11 B	# 3	55.28	55.28	ug/l	1.32	200.00		219484.11	220565.63	220701.14
23 Na	# 1	8083	8083	ug/l	0.90	90000.00		53666712.00	54155952.00	55024744.00
24 Mg	# 1	2222	2222	ug/l	0.15	90000.00		9731356.00	9875412.00	9886834.00
27 Al	# 1	3.748	3.748	ug/l	6.41	90000.00		23820.08	24739.25	22536.38
39 K	# 2	4859	4859	ug/l	1.28	90000.00		2281015.50	2217904.30	2278263.00
40 Ca	# 1	7836	7836	ug/l	1.34	90000.00		80070800.00	79492200.00	79357256.00
47 Ti	# 3	0.07892	0.07892	ug/l	29.21	1800.00		436.69	460.02	490.02
51 V	# 2	0.2025	0.2025	ug/l	3.19	1800.00		1188.72	1164.72	1217.39
52 Cr	# 2	0.08438	0.08438	ug/l	1.96	1800.00		489.34	482.01	484.68
55 Mn	# 3	581.5	581.5	ug/l	0.95	2700.00		12367238.00	12155610.00	12157680.00
56 Fe	# 1	2448	2448	ug/l	1.00	90000.00		35852248.00	35708600.00	35966172.00
59 Co	# 3	1.851	1.851	ug/l	0.97	1800.00		29411.02	28722.97	28950.26
60 Ni	# 2	0.9824	0.9824	ug/l	1.38	1800.00		1116.05	1083.38	1117.38
63 Cu	# 2	0.03688	0.03688	ug/l	7.90	1800.00		274.00	260.67	261.34
66 Zn	# 3	0.1461	0.1461	ug/l	16.60	1800.00		1726.81	1656.81	1766.82
75 As	# 2	0.5504	0.5504	ug/l	3.60	1800.00		183.67	173.67	176.00
78 Se	# 1	0.04893	0.04893	ug/l	11.84	100.00		32.00	29.33	33.67
88 Sr	# 3	37.22	37.22	ug/l	1.32	1800.00		813543.31	806985.06	799875.88
95 Mo	# 3	-0.1167	-0.1167	ug/l	9.13	1800.00		636.70	566.70	603.36
107 Ag	# 3	-0.03205	-0.03205	ug/l	2.10	100.00		20.00	10.00	20.00
111 Cd	# 3	-0.0218	-0.0218	ug/l	27.30	100.00		19.77	16.46	36.44
118 Sn	# 3	0.02575	0.02575	ug/l	32.18	1800.00		533.36	446.69	476.69
121 Sb	# 3	0.06066	0.06066	ug/l	6.78	100.00		613.37	606.70	656.70
137 Ba	# 3	60.6	60.6	ug/l	0.44	1800.00		148607.22	148718.70	146069.16
202 Hg	# 3	0.0254	0.0254	ug/l	7.26	5.00		75.00	68.67	70.00
205 Tl	# 3	-0.03217	-0.03217	ug/l	1.93	20.00		46.67	43.34	30.00
208 Pb	# 3	0.02111	0.02111	ug/l	9.83	1800.00		1663.43	1663.43	1720.10

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	704163.81	1.19	762890.69	92.3	60 - 125.4		703810.88	712730.19	695950.50
45 Sc	# 1	631516.69	0.87	620105.56	101.8	60 - 125.4		625225.63	635216.06	634108.38
45 Sc	# 3	769444.19	0.16	771387.50	99.7	60 - 125.4		768401.63	770804.13	769126.88
74 Ge	# 1	166900.77	1.04	164848.81	101.2	60 - 125.4		165019.33	168418.06	167264.89
74 Ge	# 2	31938.94	0.79	33226.06	96.1	60 - 125.4		31837.06	31753.56	32226.18
74 Ge	# 3	180429.41	0.55	178474.77	101.1	60 - 125.4		180822.16	179296.77	181169.31
89 Y	# 3	1079092.00	0.89	1057065.90	102.1	60 - 125.4		1083281.60	1068126.50	1085867.80
115 In	# 3	925921.88	0.60	917456.31	100.9	60 - 125.4		927843.13	930230.31	919692.25
159 Tb	# 3	1240182.60	0.67	1264337.30	98.1	60 - 125.4		1245965.80	1243959.90	1230622.10
209 Bi	# 3	692809.19	0.56	698508.81	99.2	60 - 125.4		693218.81	696442.81	688766.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\086SMPL.D\086SMPL.D#
Date Acquired:	Dec 22 2012 01:00 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85871-a-20-a
Misc Info:	3005 1/5
Vial Number:	3212
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05139	-0.05139	ug/l	0.77	100.00		13.33	10.00	10.00
11 B # 3	1.537	1.537	ug/l	14.83	200.00		16675.48	17326.18	16755.53
23 Na # 1	473.2	473.2	ug/l	2.65	90000.00		3486097.00	3336581.30	3335216.80
24 Mg # 1	1446	1446	ug/l	0.53	90000.00		6332265.50	6354352.50	6322228.00
27 Al # 1	0.7757	0.7757	ug/l	5.21	90000.00		9896.86	9797.00	9553.08
39 K # 2	76.71	76.71	ug/l	2.94	90000.00		53335.01	53164.26	52378.72
40 Ca # 1	10640	10640	ug/l	0.42	90000.00		107002010.00	107242740.00	106955740.00
47 Ti # 3	-0.121	-0.121	ug/l	13.50	1800.00		213.34	236.68	220.01
51 V # 2	0.2459	0.2459	ug/l	0.82	1800.00		1312.06	1330.06	1337.40
52 Cr # 2	0.02505	0.02505	ug/l	20.07	1800.00		298.00	316.67	284.00
55 Mn # 3	1.438	1.438	ug/l	6.23	2700.00		38035.63	38607.20	38369.85
56 Fe # 1	9.436	9.436	ug/l	3.64	90000.00		156825.58	151117.53	146905.86
59 Co # 3	0.06402	0.06402	ug/l	9.74	1800.00		1153.41	1316.76	1180.08
60 Ni # 2	0.3759	0.3759	ug/l	9.05	1800.00		468.68	446.01	402.01
63 Cu # 2	0.9406	0.9406	ug/l	1.54	1800.00		2914.94	2910.95	2898.28
66 Zn # 3	0.4732	0.4732	ug/l	16.29	1800.00		2266.90	2296.90	2346.90
75 As # 2	0.1835	0.1835	ug/l	13.49	1800.00		77.67	67.33	80.00
78 Se # 1	0.04456	0.04456	ug/l	16.55	100.00		32.00	32.33	26.67
88 Sr # 3	48.67	48.67	ug/l	6.27	1800.00		1029152.30	1017716.30	1020183.10
95 Mo # 3	-0.1017	-0.1017	ug/l	15.75	1800.00		600.03	670.04	636.70
107 Ag # 3	-0.02949	-0.02949	ug/l	1.56	100.00		36.67	36.67	40.00
111 Cd # 3	-0.0113	-0.0113	ug/l	68.51	100.00		29.78	43.09	53.10
118 Sn # 3	0.01616	0.01616	ug/l	21.88	1800.00		440.02	450.02	383.35
121 Sb # 3	0.448	0.448	ug/l	8.18	100.00		2693.64	2803.69	2753.67
137 Ba # 3	5.608	5.608	ug/l	6.10	1800.00		13456.33	13319.56	13609.83
202 Hg # 3	0.01481	0.01481	ug/l	8.83	5.00		52.67	49.33	50.33
205 Tl # 3	-0.03067	-0.03067	ug/l	1.45	20.00		56.67	66.67	53.34
208 Pb # 3	0.007062	0.007062	ug/l	69.84	1800.00		1390.08	1330.07	1403.41

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	698417.06	4.54	762890.69	91.5	60 - 125.4		729269.25	700075.38	665906.63
45 Sc # 1	625119.63	0.27	620105.56	100.8	60 - 125.4		625969.63	623171.06	626218.25
45 Sc # 3	744631.06	6.34	771387.50	96.5	60 - 125.4		782250.56	760023.13	691619.56
74 Ge # 1	169192.91	1.18	164848.81	102.6	60 - 125.4		171495.36	168235.98	167847.38
74 Ge # 2	32375.97	1.23	33226.06	97.4	60 - 125.4		31915.60	32615.36	32596.95
74 Ge # 3	177649.97	4.45	178474.77	99.5	60 - 125.4		184104.11	180021.55	168824.25
89 Y # 3	1048956.80	6.40	1057065.90	99.2	60 - 125.4		1105411.80	1066687.80	974770.81
115 In # 3	903501.00	5.03	917456.31	98.5	60 - 125.4		939909.69	918007.69	852585.63
159 Tb # 3	1203318.40	5.72	1264337.30	95.2	60 - 125.4		1259766.50	1223604.10	1126584.60
209 Bi # 3	681070.44	5.27	698508.81	97.5	60 - 125.4		712204.13	689214.50	641792.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\087SMPL.D\087SMPL.D#
Date Acquired:	Dec 22 2012 01:07 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85871-a-21-a
Misc Info:	3005 1/5
Vial Number:	3301
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04631	-0.04631	ug/l	5.86	100.00		30.00	20.00	43.33
11 B # 3	5.589	5.589	ug/l	10.37	200.00		33424.38	32946.67	31958.21
23 Na # 1	1677	1677	ug/l	0.87	90000.00		11655953.00	11490975.00	11541863.00
24 Mg # 1	2455	2455	ug/l	0.92	90000.00		10966852.00	10988158.00	10895140.00
27 Al # 1	-0.07685	-0.07685	ug/l	78.31	90000.00		6232.27	5817.89	5724.50
39 K # 2	498.2	498.2	ug/l	2.08	90000.00		252710.98	250583.53	248798.84
40 Ca # 1	24380	24380	ug/l	0.35	90000.00		250473970.00	248500320.00	250471620.00
47 Ti # 3	-0.1469	-0.1469	ug/l	36.49	1800.00		270.01	180.01	160.01
51 V # 2	0.2422	0.2422	ug/l	2.70	1800.00		1325.40	1310.73	1322.06
52 Cr # 2	0.03822	0.03822	ug/l	30.06	1800.00		382.01	320.67	326.01
55 Mn # 3	2.423	2.423	ug/l	3.46	2700.00		61036.68	61501.56	59845.27
56 Fe # 1	2.081	2.081	ug/l	4.23	90000.00		46639.69	46389.04	44624.01
59 Co # 3	0.07875	0.07875	ug/l	12.12	1800.00		1566.79	1566.79	1343.43
60 Ni # 2	0.388	0.388	ug/l	8.53	1800.00		473.34	471.34	416.01
63 Cu # 2	1.531	1.531	ug/l	2.60	1800.00		4603.35	4748.73	4578.01
66 Zn # 3	4.766	4.766	ug/l	3.08	1800.00		10887.38	10793.92	10640.52
75 As # 2	0.2068	0.2068	ug/l	5.11	1800.00		84.33	81.00	80.33
78 Se # 1	0.03698	0.03698	ug/l	28.99	100.00		29.67	30.00	22.33
88 Sr # 3	328.1	328.1	ug/l	4.70	1800.00		7214721.50	7244824.00	7049299.00
95 Mo # 3	-0.1088	-0.1088	ug/l	12.82	1800.00		623.36	673.37	603.36
107 Ag # 3	-0.02837	-0.02837	ug/l	9.91	100.00		33.33	76.67	36.67
111 Cd # 3	-0.01001	-0.01001	ug/l	65.49	100.00		33.10	46.42	59.78
118 Sn # 3	0.01384	0.01384	ug/l	14.96	1800.00		426.68	423.35	426.69
121 Sb # 3	0.8003	0.8003	ug/l	4.11	100.00		5030.98	4744.22	4937.60
137 Ba # 3	13.86	13.86	ug/l	3.00	1800.00		34560.00	33738.25	34309.57
202 Hg # 3	0.01112	0.01112	ug/l	10.34	5.00		42.00	46.67	46.00
205 Tl # 3	-0.03036	-0.03036	ug/l	0.69	20.00		66.67	63.34	66.67
208 Pb # 3	0.03712	0.03712	ug/l	14.52	1800.00		2070.13	1986.79	1940.12

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	713730.50	4.62	762890.69	93.6	60 - 125.4		687472.50	702997.88	750721.06
45 Sc # 1	636714.44	0.48	620105.56	102.7	60 - 125.4		635870.75	634181.13	640091.44
45 Sc # 3	779305.69	2.60	771387.50	101.0	60 - 125.4		765592.81	769763.00	802561.13
74 Ge # 1	169969.58	0.86	164848.81	103.1	60 - 125.4		168308.69	171031.47	170568.61
74 Ge # 2	32457.22	1.17	33226.06	97.7	60 - 125.4		32100.95	32416.56	32854.15
74 Ge # 3	183846.30	1.59	178474.77	103.0	60 - 125.4		182303.72	182022.97	187212.20
89 Y # 3	1091580.10	3.32	1057065.90	103.3	60 - 125.4		1072588.40	1068724.60	1133427.40
115 In # 3	933809.13	2.74	917456.31	101.8	60 - 125.4		914006.88	924758.00	962662.38
159 Tb # 3	1253877.60	3.82	1264337.30	99.2	60 - 125.4		1211491.40	1244374.60	1305766.90
209 Bi # 3	692123.19	2.24	698508.81	99.1	60 - 125.4		679693.88	687198.63	709476.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\088SMPL.D\088SMPL.D#
Date Acquired:	Dec 22 2012 01:13 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85871-a-22-a
Misc Info:	3005 1/5
Vial Number:	3302
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0529	-0.0529	ug/l	0.97	100.00		6.67	3.33	6.67
11 B # 3	2.88	2.88	ug/l	4.75	200.00		23190.09	23156.72	21818.33
23 Na # 1	663.8	663.8	ug/l	6.04	90000.00		4992258.50	4973658.50	4960935.50
24 Mg # 1	1227	1227	ug/l	6.04	90000.00		5796492.00	5762714.00	5708586.50
27 Al # 1	0.1743	0.1743	ug/l	37.92	90000.00		7232.98	7908.80	7292.04
39 K # 2	369.4	369.4	ug/l	0.82	90000.00		185360.08	187444.81	187069.41
40 Ca # 1	14740	14740	ug/l	5.22	90000.00		158451710.00	159968910.00	157927760.00
47 Ti # 3	-0.1793	-0.1793	ug/l	18.15	1800.00		210.01	150.01	140.01
51 V # 2	0.2662	0.2662	ug/l	6.52	1800.00		1308.73	1366.07	1402.07
52 Cr # 2	0.01689	0.01689	ug/l	44.01	1800.00		246.67	264.67	294.00
55 Mn # 3	-0.2533	-0.2533	ug/l	0.94	2700.00		3533.82	3467.16	3430.46
56 Fe # 1	1.765	1.765	ug/l	10.64	90000.00		41932.66	47110.07	41133.52
59 Co # 3	0.01286	0.01286	ug/l	24.06	1800.00		496.69	403.35	436.69
60 Ni # 2	0.3137	0.3137	ug/l	1.57	1800.00		368.67	362.01	358.01
63 Cu # 2	0.6673	0.6673	ug/l	1.53	1800.00		2110.15	2052.81	2059.48
66 Zn # 3	5.707	5.707	ug/l	0.75	1800.00		12521.96	12505.24	12461.85
75 As # 2	0.1474	0.1474	ug/l	8.40	1800.00		64.00	66.67	60.00
78 Se # 1	0.01784	0.01784	ug/l	27.89	100.00		21.33	18.00	22.00
88 Sr # 3	91.2	91.2	ug/l	0.94	1800.00		2023753.30	1971836.90	1939440.00
95 Mo # 3	-0.1963	-0.1963	ug/l	2.63	1800.00		320.01	333.35	363.35
107 Ag # 3	-0.02828	-0.02828	ug/l	5.46	100.00		50.00	63.34	36.67
111 Cd # 3	-0.01655	-0.01655	ug/l	7.69	100.00		36.55	33.21	33.20
118 Sn # 3	0.008786	0.008786	ug/l	99.59	1800.00		380.02	363.35	460.02
121 Sb # 3	0.1483	0.1483	ug/l	6.62	100.00		1080.08	1143.41	1160.09
137 Ba # 3	7.481	7.481	ug/l	2.78	1800.00		18595.21	19022.47	18304.78
202 Hg # 3	0.005031	0.005031	ug/l	30.79	5.00		32.67	31.67	37.00
205 Tl # 3	-0.02931	-0.02931	ug/l	4.28	20.00		86.67	93.34	60.00
208 Pb # 3	0.04794	0.04794	ug/l	4.29	1800.00		2230.14	2260.15	2180.14

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	721873.44	1.63	762890.69	94.6	60 - 125.4		720915.19	734082.38	710622.69
45 Sc # 1	670634.94	5.26	620105.56	108.1	60 - 125.4		630056.69	693790.75	688057.50
45 Sc # 3	781831.69	0.24	771387.50	101.4	60 - 125.4		780451.88	781100.25	783943.06
74 Ge # 1	178550.38	4.23	164848.81	108.3	60 - 125.4		171346.97	177886.11	186418.06
74 Ge # 2	31822.65	0.24	33226.06	95.8	60 - 125.4		31855.52	31736.90	31875.51
74 Ge # 3	182118.97	0.81	178474.77	102.0	60 - 125.4		182095.78	183608.50	180652.66
89 Y # 3	1081355.40	1.38	1057065.90	102.3	60 - 125.4		1094378.40	1084643.80	1065044.30
115 In # 3	938851.75	1.36	917456.31	102.3	60 - 125.4		926117.50	938823.75	951613.94
159 Tb # 3	1247501.40	0.69	1264337.30	98.7	60 - 125.4		1239888.00	1256801.50	1245814.50
209 Bi # 3	694166.94	0.31	698508.81	99.4	60 - 125.4		696610.13	692592.69	693297.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\089_CCV.D\089_CCV.D#
Date Acquired: Dec 22 2012 01:20 am
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	48.81 ug/l	2.04	50.00	89.6 - 110	
11 B	95.76 ug/l	2.24	100.00	89.6 - 110	
23 Na	4617.00 ug/l	2.54	5000.00	89.6 - 110	
24 Mg	4715.00 ug/l	1.63	5000.00	89.6 - 110	
27 Al	467.30 ug/l	2.52	500.00	89.6 - 110	
39 K	4820.00 ug/l	1.37	5000.00	89.6 - 110	
40 Ca	4841.00 ug/l	1.29	5000.00	89.6 - 110	
47 Ti	48.17 ug/l	0.69	50.00	89.6 - 110	
51 V	48.64 ug/l	0.26	50.00	89.6 - 110	
52 Cr	48.66 ug/l	0.28	50.00	89.6 - 110	
55 Mn	492.00 ug/l	0.18	500.00	89.6 - 110	
56 Fe	4943.00 ug/l	1.36	5000.00	89.6 - 110	
59 Co	49.52 ug/l	0.66	50.00	89.6 - 110	
60 Ni	49.85 ug/l	0.08	50.00	89.6 - 110	
63 Cu	49.84 ug/l	0.45	50.00	89.6 - 110	
66 Zn	48.37 ug/l	0.62	50.00	89.6 - 110	
75 As	46.33 ug/l	0.24	50.00	89.6 - 110	
78 Se	48.19 ug/l	0.35	50.00	89.6 - 110	
88 Sr	49.71 ug/l	0.85	50.00	89.6 - 110	
95 Mo	48.85 ug/l	1.47	50.00	89.6 - 110	
107 Ag	47.78 ug/l	0.94	50.00	89.6 - 110	
111 Cd	48.33 ug/l	1.10	50.00	89.6 - 110	
118 Sn	48.30 ug/l	1.69	50.00	89.6 - 110	
121 Sb	47.98 ug/l	0.45	50.00	89.6 - 110	
137 Ba	48.53 ug/l	2.06	50.00	89.6 - 110	
202 Hg	2.43 ug/l	1.33	2.50	89.6 - 110	
205 Tl	9.52 ug/l	0.88	10.00	89.6 - 110	
208 Pb	49.17 ug/l	0.35	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	755944.50	2.46	762890.69	99.1	59.6 - 125	
45 Sc	629295.13	1.40	620105.56	101.5	59.6 - 125	
45 Sc	804835.63	0.12	771387.50	104.3	59.6 - 125	
74 Ge	167082.59	0.19	164848.81	101.4	59.6 - 125	
74 Ge	32305.80	0.27	33226.06	97.2	59.6 - 125	
74 Ge	181050.61	0.48	178474.77	101.4	59.6 - 125	
89 Y	1088502.60	0.60	1057065.90	103.0	59.6 - 125	
115 In	937004.44	0.52	917456.31	102.1	59.6 - 125	
159 Tb	1248502.00	0.17	1264337.30	98.7	59.6 - 125	
209 Bi	664720.63	0.71	698508.81	95.2	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\090_CCB.D\090_CCB.D#
Date Acquired: Dec 22 2012 01:27 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	12.56	0.05	
11 B	0.63 ug/l	10.77	10.00	
23 Na	-10.96 ug/l	3.31	25.00	
24 Mg	0.79 ug/l	15.64	25.00	
27 Al	-0.89 ug/l	1.41	5.00	
39 K	2.07 ug/l	43.81	25.00	
40 Ca	3.38 ug/l	8.81	25.00	
47 Ti	-0.27 ug/l	6.61	0.50	
51 V	-0.07 ug/l	16.21	0.50	
52 Cr	0.00 ug/l	1251.50	0.50	
55 Mn	-0.21 ug/l	3.26	0.50	
56 Fe	1.31 ug/l	12.77	10.00	
59 Co	0.00 ug/l	44.12	0.05	
60 Ni	0.01 ug/l	75.14	0.50	
63 Cu	0.00 ug/l	1135.00	0.50	
66 Zn	-0.54 ug/l	0.43	2.00	
75 As	0.01 ug/l	107.92	0.25	
78 Se	0.04 ug/l	13.70	0.25	
88 Sr	-0.08 ug/l	3.08	0.10	
95 Mo	-0.19 ug/l	3.24	0.50	
107 Ag	-0.02 ug/l	8.92	0.10	
111 Cd	-0.01 ug/l	46.16	0.05	
118 Sn	0.00 ug/l	150.83	0.50	
121 Sb	0.31 ug/l	4.15	0.50	
137 Ba	-0.04 ug/l	17.00	0.50	
202 Hg	0.02 ug/l	5.42	0.08	
205 Tl	-0.03 ug/l	3.41	0.10	
208 Pb	-0.04 ug/l	2.84	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	790151.81	1.46	762890.69	103.6	59.6 - 125	
45 Sc	630480.69	0.52	620105.56	101.7	59.6 - 125	
45 Sc	829053.81	1.34	771387.50	107.5	59.6 - 125	
74 Ge	169472.89	0.90	164848.81	102.8	59.6 - 125	
74 Ge	32494.00	0.22	33226.06	97.8	59.6 - 125	
74 Ge	185882.89	0.40	178474.77	104.2	59.6 - 125	
89 Y	1115630.30	0.65	1057065.90	105.5	59.6 - 125	
115 In	947402.56	1.22	917456.31	103.3	59.6 - 125	
159 Tb	1262445.10	1.25	1264337.30	99.9	59.6 - 125	
209 Bi	679681.50	0.14	698508.81	97.3	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\091SMPL.D\091SMPL.D#
Date Acquired:	Dec 22 2012 01:33 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	mb 680-260543_1-a
Misc Info:	3010 1/5
Vial Number:	3303
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05245	-0.05245	ug/l	0.85	100.00		10.00	6.67	6.67
11 B # 3	0.4991	0.4991	ug/l	21.92	200.00		13989.55	14106.33	14750.33
23 Na # 1	-9.303	-9.303	ug/l	25.37	90000.00		213421.02	179250.00	188984.86
24 Mg # 1	-0.3983	-0.3983	ug/l	40.17	90000.00		3912.95	4724.29	3384.26
27 Al # 1	-0.1371	-0.1371	ug/l	195.40	90000.00		4760.85	4920.91	6967.56
39 K # 2	2.492	2.492	ug/l	28.68	90000.00		18571.15	18340.80	18103.87
40 Ca # 1	3.1	3.1	ug/l	3.06	90000.00		67299.82	67676.79	66711.07
47 Ti # 3	-0.2156	-0.2156	ug/l	5.76	1800.00		133.34	140.01	110.00
51 V # 2	0.1173	0.1173	ug/l	1.02	1800.00		973.37	992.04	962.04
52 Cr # 2	0.00881	0.00881	ug/l	56.66	1800.00		264.67	239.34	240.00
55 Mn # 3	-0.2777	-0.2777	ug/l	1.30	2700.00		2933.69	3037.03	3020.38
56 Fe # 1	0.325	0.325	ug/l	7.19	90000.00		20169.39	19499.14	19272.68
59 Co # 3	-0.01218	-0.01218	ug/l	6.06	1800.00		63.34	56.67	40.00
60 Ni # 2	0.1675	0.1675	ug/l	8.53	1800.00		209.34	191.34	216.67
63 Cu # 2	0.2844	0.2844	ug/l	1.90	1800.00		975.37	1031.37	984.04
66 Zn # 3	-0.3264	-0.3264	ug/l	6.41	1800.00		846.72	780.04	860.05
75 As # 2	0.06967	0.06967	ug/l	17.10	1800.00		44.00	39.33	44.33
78 Se # 1	0.005548	0.005548	ug/l	73.31	100.00		13.33	13.33	16.00
88 Sr # 3	-0.09032	-0.09032	ug/l	0.29	1800.00		233.34	236.68	223.34
95 Mo # 3	-0.2536	-0.2536	ug/l	1.49	1800.00		153.34	146.67	130.00
107 Ag # 3	-0.0307	-0.0307	ug/l	5.12	100.00		13.33	40.00	33.33
111 Cd # 3	-0.01778	-0.01778	ug/l	31.40	100.00		29.94	43.28	23.29
118 Sn # 3	0.05273	0.05273	ug/l	6.06	1800.00		656.70	620.03	646.70
121 Sb # 3	0.1346	0.1346	ug/l	8.71	100.00		1153.42	1030.07	1013.40
137 Ba # 3	-0.05593	-0.05593	ug/l	9.83	1800.00		16.67	40.00	16.67
202 Hg # 3	0.006648	0.006648	ug/l	22.67	5.00		41.33	36.00	35.33
205 Tl # 3	-0.03316	-0.03316	ug/l	3.28	20.00		23.33	13.33	43.33
208 Pb # 3	-0.04848	-0.04848	ug/l	5.57	1800.00		236.68	336.68	316.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	764343.88	1.21	762890.69	100.2	60 - 125.4		773035.06	754607.50	765389.25
45 Sc # 1	626434.75	1.00	620105.56	101.0	60 - 125.4		632943.25	620413.13	625947.81
45 Sc # 3	804495.94	0.67	771387.50	104.3	60 - 125.4		804674.13	809778.19	799035.38
74 Ge # 1	167717.42	0.73	164848.81	101.7	60 - 125.4		168292.55	168550.63	166309.09
74 Ge # 2	32534.11	1.57	33226.06	97.9	60 - 125.4		32328.14	33114.78	32159.43
74 Ge # 3	184525.70	0.76	178474.77	103.4	60 - 125.4		186147.98	183675.31	183753.83
89 Y # 3	1096905.50	0.86	1057065.90	103.8	60 - 125.4		1106187.80	1097133.80	1087395.10
115 In # 3	943536.13	0.80	917456.31	102.8	60 - 125.4		940887.19	937692.38	952028.75
159 Tb # 3	1264118.80	0.77	1264337.30	100.0	60 - 125.4		1255805.30	1274900.90	1261650.30
209 Bi # 3	708755.25	1.51	698508.81	101.5	60 - 125.4		717780.63	711564.56	696920.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\092SMPL.D\092SMPL.D#
Date Acquired:	Dec 22 2012 01:40 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lcs 680-260543_2-a
Misc Info:	3010 1/5
Vial Number:	3304
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.14	10.14	ug/l	2.40	100.00		41539.20	40262.79	41148.47
11 B # 3	39.75	39.75	ug/l	2.57	200.00		174665.19	169561.91	169387.61
23 Na # 1	986.5	986.5	ug/l	1.19	90000.00		6828023.00	6790735.00	6856599.00
24 Mg # 1	1002	1002	ug/l	1.48	90000.00		4430961.00	4477129.00	4350377.50
27 Al # 1	988.8	988.8	ug/l	2.04	90000.00		4661995.50	4566681.00	4556950.50
39 K # 2	972.2	972.2	ug/l	1.33	90000.00		464594.53	470617.69	467678.06
40 Ca # 1	1026	1026	ug/l	0.62	90000.00		10326851.00	10430752.00	10489360.00
47 Ti # 3	19.89	19.89	ug/l	0.69	1800.00		24355.70	24235.26	23671.15
51 V # 2	20.57	20.57	ug/l	1.16	1800.00		56926.19	57271.49	56767.64
52 Cr # 2	20.79	20.79	ug/l	0.92	1800.00		67350.69	67100.91	66713.40
55 Mn # 3	103.9	103.9	ug/l	0.56	2700.00		2200440.00	2197960.80	2187560.80
56 Fe # 1	1010	1010	ug/l	0.47	90000.00		14646525.00	14910793.00	14682283.00
59 Co # 3	9.677	9.677	ug/l	0.89	1800.00		152972.69	151652.72	148234.09
60 Ni # 2	21.32	21.32	ug/l	2.04	1800.00		23927.81	23997.25	23340.31
63 Cu # 2	21.31	21.31	ug/l	1.07	1800.00		61924.80	62072.73	61560.68
66 Zn # 3	20.75	20.75	ug/l	1.10	1800.00		41959.17	40739.32	41146.88
75 As # 2	21.08	21.08	ug/l	1.99	1800.00		6035.49	6083.17	5921.11
78 Se # 1	19.49	19.49	ug/l	0.30	100.00		7898.31	7943.67	7887.64
88 Sr # 3	18.18	18.18	ug/l	1.40	1800.00		405690.97	403734.31	398959.78
95 Mo # 3	20	20	ug/l	1.73	1800.00		69649.22	70924.60	69635.74
107 Ag # 3	10.01	10.01	ug/l	1.93	100.00		91446.45	88432.45	88160.98
111 Cd # 3	9.986	9.986	ug/l	1.40	100.00		18569.15	18895.79	18893.04
118 Sn # 3	20.11	20.11	ug/l	1.06	1800.00		110321.55	110358.07	109344.54
121 Sb # 3	10.58	10.58	ug/l	1.99	100.00		62705.26	61941.94	60948.26
137 Ba # 3	20.33	20.33	ug/l	1.16	1800.00		50391.35	50996.68	51307.54
202 Hg # 3	0.9198	0.9198	ug/l	0.65	5.00		1763.78	1719.44	1696.77
205 Tl # 3	7.742	7.742	ug/l	1.00	20.00		111166.82	109312.68	108925.80
208 Pb # 3	9.488	9.488	ug/l	0.20	1800.00		194697.19	191053.64	190147.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	746230.50	0.80	762890.69	97.8	60 - 125.4		741156.00	752815.06	744720.38
45 Sc # 1	629137.13	0.83	620105.56	101.5	60 - 125.4		623614.75	634035.13	629761.56
45 Sc # 3	794258.38	1.19	771387.50	103.0	60 - 125.4		804145.81	793297.88	785331.44
74 Ge # 1	167514.20	0.64	164848.81	101.6	60 - 125.4		167451.22	168612.11	166479.27
74 Ge # 2	32088.68	0.69	33226.06	96.6	60 - 125.4		32199.54	31831.99	32234.51
74 Ge # 3	180693.92	0.83	178474.77	101.2	60 - 125.4		182270.63	180519.89	179291.27
89 Y # 3	1099735.10	0.60	1057065.90	104.0	60 - 125.4		1092219.10	1102479.60	1104506.50
115 In # 3	948595.69	0.65	917456.31	103.4	60 - 125.4		951421.25	941574.13	952791.75
159 Tb # 3	1265841.10	0.68	1264337.30	100.1	60 - 125.4		1268780.50	1272581.30	1256161.80
209 Bi # 3	696158.13	1.44	698508.81	99.7	60 - 125.4		707611.75	691731.69	689130.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\093SMPL.D\093SMPL.D#
Date Acquired:	Dec 22 2012 01:47 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85772-e-14-a
Misc Info:	3010 1/5
Vial Number:	3305
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04655	-0.04655	ug/l	3.86	100.00		23.33	23.33	33.33
11 B # 3	42.69	42.69	ug/l	2.04	200.00		159144.61	157068.89	152014.09
23 Na # 1	21010	21010	ug/l	1.30	90000.00		134660910.00	133715970.00	133433090.00
24 Mg # 1	17540	17540	ug/l	1.10	90000.00		73998416.00	74428824.00	73055424.00
27 Al # 1	1.1	1.1	ug/l	1.17	90000.00		11027.37	10857.41	10553.70
39 K # 2	772.4	772.4	ug/l	8.24	90000.00		312595.13	313030.81	313553.19
40 Ca # 1	----	--------	ug/l	--------	90000.00	Fail	--------	--------	--------
47 Ti # 3	0.1752	0.1752	ug/l	35.85	1800.00		553.36	436.69	536.70
51 V # 2	0.4832	0.4832	ug/l	16.12	1800.00		1566.75	1650.10	1696.77
52 Cr # 2	0.1952	0.1952	ug/l	14.43	1800.00		710.02	677.35	722.69
55 Mn # 3	227.7	227.7	ug/l	0.96	2700.00		4194065.30	4048034.00	3979824.50
56 Fe # 1	4619	4619	ug/l	1.79	90000.00		64453920.00	64162252.00	64468664.00
59 Co # 3	0.1675	0.1675	ug/l	2.84	1800.00		2390.29	2440.31	2423.62
60 Ni # 2	0.2245	0.2245	ug/l	10.47	1800.00		241.34	210.00	216.67
63 Cu # 2	0.05269	0.05269	ug/l	23.40	1800.00		244.00	266.67	270.67
66 Zn # 3	-0.1423	-0.1423	ug/l	13.56	1800.00		1010.06	953.39	1003.39
75 As # 2	0.5054	0.5054	ug/l	13.06	1800.00		141.67	131.00	142.00
78 Se # 1	0.08576	0.08576	ug/l	3.35	100.00		42.67	40.33	41.67
88 Sr # 3	734.9	734.9	ug/l	1.08	1800.00		14579266.00	14109806.00	13905513.00
95 Mo # 3	-0.2269	-0.2269	ug/l	1.02	1800.00		206.67	196.67	206.67
107 Ag # 3	-0.0283	-0.0283	ug/l	1.25	100.00		46.67	43.33	40.00
111 Cd # 3	-0.01026	-0.01026	ug/l	61.52	100.00		29.92	49.93	39.92
118 Sn # 3	0.06157	0.06157	ug/l	2.89	1800.00		613.36	593.37	580.03
121 Sb # 3	0.04611	0.04611	ug/l	5.92	100.00		490.02	470.02	493.36
137 Ba # 3	94.46	94.46	ug/l	1.45	1800.00		209057.86	201559.58	197863.22
202 Hg # 3	0.02075	0.02075	ug/l	5.65	5.00		54.67	50.33	54.00
205 Tl # 3	-0.005945	-0.005945	ug/l	65.05	20.00		396.68	406.69	316.68
208 Pb # 3	-0.03895	-0.03895	ug/l	3.83	1800.00		403.35	430.02	386.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	636587.44	2.57	762890.69	83.4	60 - 125.4		655493.88	626769.50	627499.06
45 Sc # 1	601149.38	1.69	620105.56	96.9	60 - 125.4		610095.56	603276.25	590076.31
45 Sc # 3	683267.75	2.48	771387.50	88.6	60 - 125.4		698790.19	685862.50	665150.50
74 Ge # 1	149007.09	0.54	164848.81	90.4	60 - 125.4		149906.31	148750.31	148364.66
74 Ge # 2	26892.57	7.49	33226.06	80.9	60 - 125.4		27535.75	28505.90	24636.06
74 Ge # 3	153368.70	1.73	178474.77	85.9	60 - 125.4		156224.66	152886.20	150995.22
89 Y # 3	964040.81	1.35	1057065.90	91.2	60 - 125.4		978281.94	961052.50	952788.00
115 In # 3	815419.13	1.49	917456.31	88.9	60 - 125.4		826696.75	816972.88	802587.69
159 Tb # 3	1149837.60	1.12	1264337.30	90.9	60 - 125.4		1163468.00	1137939.80	1148105.00
209 Bi # 3	585930.75	0.99	698508.81	83.9	60 - 125.4		590937.31	579548.06	587306.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\094SMPL.D\094SMPL.D#
Date Acquired:	Dec 22 2012 01:53 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85772-e-14-a SD
Misc Info:	3010 1/25
Vial Number:	3306
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.25935	-0.05187	ug/l	4.18	100.00		3.33	6.67	20.00
11 B # 3	41.86	8.372	ug/l	2.22	200.00		45576.61	45807.37	46693.19
23 Na # 1	19950	3990	ug/l	4.74	90000.00		25446102.00	25275242.00	25669982.00
24 Mg # 1	16990	3398	ug/l	5.12	90000.00		14255113.00	14004456.00	14379148.00
27 Al # 1	-1.1025	-0.2205	ug/l	9.32	90000.00		4757.50	5057.71	4970.94
39 K # 2	679.5	135.9	ug/l	1.13	90000.00		73276.02	73393.14	73339.61
40 Ca # 1	199900	39980	ug/l	5.12	90000.00		385817890.00	381729280.00	384656290.00
47 Ti # 3	-0.945	-0.189	ug/l	5.30	1800.00		153.34	140.01	163.34
51 V # 2	0.14165	0.02833	ug/l	46.45	1800.00		652.02	698.69	627.35
52 Cr # 2	0.1372	0.02744	ug/l	18.37	1800.00		283.34	264.67	290.00
55 Mn # 3	220.25	44.05	ug/l	1.87	2700.00		882702.50	883916.13	904228.44
56 Fe # 1	4464.5	892.9	ug/l	4.92	90000.00		12402595.00	12356367.00	12356991.00
59 Co # 3	0.1256	0.02512	ug/l	17.47	1800.00		540.05	603.37	663.37
60 Ni # 2	0.72	0.144	ug/l	12.01	1800.00		163.34	144.67	178.67
63 Cu # 2	0.031065	0.006213	ug/l	39.08	1800.00		163.34	157.34	168.67
66 Zn # 3	-2.031	-0.4062	ug/l	3.95	1800.00		660.03	596.69	623.36
75 As # 2	0.2824	0.05648	ug/l	17.05	1800.00		33.33	38.33	33.67
78 Se # 1	0.02916	0.005832	ug/l	49.33	100.00		13.33	12.33	14.67
88 Sr # 3	686	137.2	ug/l	0.74	1800.00		2884439.00	2871930.80	2834569.50
95 Mo # 3	-1.307	-0.2614	ug/l	2.00	1800.00		90.00	123.34	113.34
107 Ag # 3	-0.1469	-0.02938	ug/l	3.17	100.00		46.67	33.33	33.33
111 Cd # 3	-0.0956	-0.01912	ug/l	20.06	100.00		33.30	29.96	19.96
118 Sn # 3	-0.0622	-0.01244	ug/l	18.99	1800.00		260.01	266.68	276.68
121 Sb # 3	-0.011285	-0.002257	ug/l	368.59	100.00		210.01	303.35	256.68
137 Ba # 3	87.7	17.54	ug/l	1.74	1800.00		40551.62	40785.70	40772.58
202 Hg # 3	0.057	0.0114	ug/l	26.19	5.00		45.33	35.00	43.00
205 Tl # 3	-0.1164	-0.02328	ug/l	9.21	20.00		173.34	176.67	123.34
208 Pb # 3	-0.2391	-0.04782	ug/l	0.94	1800.00		286.68	273.34	263.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	755050.06	0.72	762890.69	99.0	60 - 125.4		760773.56	749948.50	754428.19
45 Sc # 1	598030.31	4.57	620105.56	96.4	60 - 125.4		566447.81	613615.63	614027.50
45 Sc # 3	766170.13	1.03	771387.50	99.3	60 - 125.4		775202.63	760468.69	762839.13
74 Ge # 1	157158.80	1.84	164848.81	95.3	60 - 125.4		153967.30	157909.56	159599.55
74 Ge # 2	29435.84	0.97	33226.06	88.6	60 - 125.4		29131.94	29696.35	29479.23
74 Ge # 3	171935.22	0.57	178474.77	96.3	60 - 125.4		173003.48	171735.83	171066.36
89 Y # 3	1040881.90	1.48	1057065.90	98.5	60 - 125.4		1047208.40	1052146.60	1023290.80
115 In # 3	878728.63	1.70	917456.31	95.8	60 - 125.4		879626.31	893170.94	863388.63
159 Tb # 3	1199916.50	0.84	1264337.30	94.9	60 - 125.4		1205979.60	1205510.50	1188259.60
209 Bi # 3	626142.69	1.64	698508.81	89.6	60 - 125.4		637938.88	619489.38	620999.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\095SMPL.D\095SMPL.D#
Date Acquired:	Dec 22 2012 02:00 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85772-e-14-a PDS
Misc Info:	3010 1/5
Vial Number:	3307
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	20.34	20.34	ug/l	1.62	100.00		70593.53	70110.98	67597.52
11 B # 3	79.55	79.55	ug/l	0.84	200.00		286605.03	279464.28	273990.28
23 Na # 1	20410	20410	ug/l	1.92	90000.00		131511960.00	130265300.00	129597970.00
24 Mg # 1	17310	17310	ug/l	1.82	90000.00		73413616.00	73320416.00	72461744.00
27 Al # 1	192.1	192.1	ug/l	1.42	90000.00		860907.25	863000.00	856773.50
39 K # 2	2856	2856	ug/l	2.52	90000.00		1132416.10	1168038.60	1139277.60
40 Ca # 1	185700	185700	ug/l	1.67	90000.00	Fail	1809318400.00	1800402300.00	1791178200.00
47 Ti # 3	21.06	21.06	ug/l	2.21	1800.00		22329.28	21725.19	21301.22
51 V # 2	22.14	22.14	ug/l	1.28	1800.00		52087.44	52496.09	52612.42
52 Cr # 2	21.79	21.79	ug/l	1.27	1800.00		60030.77	59854.16	60410.13
55 Mn # 3	418.5	418.5	ug/l	1.10	2700.00		7491590.00	7562131.50	7266532.50
56 Fe # 1	6055	6055	ug/l	1.32	90000.00		84811576.00	84346264.00	84632776.00
59 Co # 3	19.81	19.81	ug/l	0.44	1800.00		265570.06	262965.06	253238.05
60 Ni # 2	21.63	21.63	ug/l	2.13	1800.00		20645.95	20695.35	20491.08
63 Cu # 2	21.06	21.06	ug/l	1.65	1800.00		52382.47	52077.37	52323.49
66 Zn # 3	19.05	19.05	ug/l	1.58	1800.00		32453.68	32219.77	31598.64
75 As # 2	20.88	20.88	ug/l	1.36	1800.00		5061.82	5108.50	5109.50
78 Se # 1	19.49	19.49	ug/l	1.30	100.00		7095.93	7211.32	7072.25
88 Sr # 3	699.3	699.3	ug/l	2.74	1800.00		13524096.00	13443165.00	13334354.00
95 Mo # 3	21.72	21.72	ug/l	3.47	1800.00		65661.99	63175.16	63071.35
107 Ag # 3	17.17	17.17	ug/l	3.45	100.00		131340.30	127824.22	127072.52
111 Cd # 3	19.62	19.62	ug/l	2.60	100.00		31421.71	31439.40	30207.06
118 Sn # 3	21	21	ug/l	3.57	1800.00		97528.76	97049.02	95358.66
121 Sb # 3	20.77	20.77	ug/l	3.27	100.00		106743.09	104759.58	105444.67
137 Ba # 3	109	109	ug/l	3.42	1800.00		233936.34	227463.67	226091.84
202 Hg # 3	0.9574	0.9574	ug/l	2.84	5.00		1488.41	1482.41	1481.41
205 Tl # 3	3.886	3.886	ug/l	1.62	20.00		49937.32	48763.25	47960.51
208 Pb # 3	19.97	19.97	ug/l	1.62	1800.00		338561.25	331218.66	328367.91

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	631962.31	3.02	762890.69	82.8	60 - 125.4		652839.94	627704.38	615342.63
45 Sc # 1	602740.75	1.16	620105.56	97.2	60 - 125.4		595360.63	603548.38	609313.19
45 Sc # 3	679438.81	4.12	771387.50	88.1	60 - 125.4		701690.13	688647.06	647979.06
74 Ge # 1	150929.48	0.54	164848.81	91.6	60 - 125.4		150167.69	150823.09	151797.69
74 Ge # 2	27445.00	1.67	33226.06	82.6	60 - 125.4		27096.60	27275.23	27963.17
74 Ge # 3	152523.91	2.84	178474.77	85.5	60 - 125.4		155429.17	154587.31	147555.19
89 Y # 3	959292.81	3.35	1057065.90	90.8	60 - 125.4		981515.81	973906.63	922455.94
115 In # 3	799111.56	4.67	917456.31	87.1	60 - 125.4		830187.56	809382.19	757764.88
159 Tb # 3	1118136.60	3.56	1264337.30	88.4	60 - 125.4		1156533.60	1120745.40	1077130.90
209 Bi # 3	575522.00	3.01	698508.81	82.4	60 - 125.4		592041.38	577006.00	557518.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\096SMPL.D\096SMPL.D#
Date Acquired:	Dec 22 2012 02:07 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85772-e-14-b ms
Misc Info:	3010 1/5
Vial Number:	3308
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.03	10.03	ug/l	1.51	100.00		34833.76	33808.20	33096.66
11 B # 3	79.76	79.76	ug/l	0.42	200.00		280917.84	277419.34	273159.78
23 Na # 1	19500	19500	ug/l	1.49	90000.00		121334650.00	123314690.00	122128060.00
24 Mg # 1	16370	16370	ug/l	1.45	90000.00		67290024.00	67889224.00	68149360.00
27 Al # 1	893.5	893.5	ug/l	1.02	90000.00		3894675.00	3899132.50	3914069.50
39 K # 2	1773	1773	ug/l	0.81	90000.00		684040.50	696594.00	684435.63
40 Ca # 1	186200	186200	ug/l	1.05	90000.00	Fail	1766118500.00	1780085100.00	1766008800.00
47 Ti # 3	20.01	20.01	ug/l	1.31	1800.00		20977.42	20390.06	20466.87
51 V # 2	22.04	22.04	ug/l	0.46	1800.00		50129.90	50120.53	49982.83
52 Cr # 2	21.67	21.67	ug/l	0.61	1800.00		57664.14	57221.25	57181.27
55 Mn # 3	309	309	ug/l	0.58	2700.00		5570431.50	5504617.50	5366070.00
56 Fe # 1	5090	5090	ug/l	0.99	90000.00		69653032.00	69656288.00	69963296.00
59 Co # 3	9.703	9.703	ug/l	0.65	1800.00		128338.42	128637.23	125200.57
60 Ni # 2	21.76	21.76	ug/l	0.19	1800.00		19984.44	19959.09	19765.51
63 Cu # 2	21.15	21.15	ug/l	0.75	1800.00		50155.32	50517.78	50438.82
66 Zn # 3	19.33	19.33	ug/l	0.90	1800.00		32660.76	32390.24	32306.65
75 As # 2	21.98	21.98	ug/l	1.37	1800.00		5175.19	5091.82	5169.85
78 Se # 1	18.57	18.57	ug/l	0.47	100.00		6695.43	6696.09	6742.78
88 Sr # 3	697.9	697.9	ug/l	0.25	1800.00		13361349.00	13440981.00	13254209.00
95 Mo # 3	20.64	20.64	ug/l	0.33	1800.00		61420.98	60614.71	61203.75
107 Ag # 3	9.5	9.5	ug/l	1.58	100.00		73344.23	71026.73	70521.34
111 Cd # 3	9.766	9.766	ug/l	1.71	100.00		15929.27	15348.97	15295.43
118 Sn # 3	20.36	20.36	ug/l	1.54	1800.00		95590.70	94456.49	92294.15
121 Sb # 3	10.54	10.54	ug/l	1.56	100.00		54644.57	53290.01	52587.27
137 Ba # 3	107.6	107.6	ug/l	1.27	1800.00		228606.14	228781.61	223797.20
202 Hg # 3	1.031	1.031	ug/l	0.91	5.00		1608.09	1545.42	1596.76
205 Tl # 3	7.579	7.579	ug/l	1.07	20.00		95901.84	94784.36	93955.04
208 Pb # 3	9.847	9.847	ug/l	1.23	1800.00		164524.09	162506.91	162640.08

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	623857.00	1.07	762890.69	81.8	60 - 125.4		630989.50	622847.63	617733.94
45 Sc # 1	591185.38	0.81	620105.56	95.3	60 - 125.4		596629.88	589197.06	587729.19
45 Sc # 3	675660.13	0.57	771387.50	87.6	60 - 125.4		678694.44	676933.56	671352.50
74 Ge # 1	149128.23	0.19	164848.81	90.5	60 - 125.4		148883.86	149430.44	149070.44
74 Ge # 2	26335.95	0.61	33226.06	79.3	60 - 125.4		26393.81	26458.96	26155.10
74 Ge # 3	152091.19	1.34	178474.77	85.2	60 - 125.4		153918.05	152452.42	149903.09
89 Y # 3	954802.69	0.85	1057065.90	90.3	60 - 125.4		958005.50	960814.38	945588.19
115 In # 3	801466.63	0.60	917456.31	87.4	60 - 125.4		806840.63	797435.63	800123.50
159 Tb # 3	1117354.90	0.19	1264337.30	88.4	60 - 125.4		1116095.80	1119784.00	1116185.00
209 Bi # 3	570560.31	1.36	698508.81	81.7	60 - 125.4		574114.00	561661.63	575905.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\097SMPL.D\097SMPL.D#
Date Acquired:	Dec 22 2012 02:13 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85772-e-14-c msd
Misc Info:	3010 1/5
Vial Number:	3309
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.26	10.26	ug/l	0.42	100.00		35532.01	34666.79	33748.09
11 B # 3	81.45	81.45	ug/l	0.47	200.00		287379.81	283724.09	276192.72
23 Na # 1	20660	20660	ug/l	2.19	90000.00		129550120.00	127876560.00	128923360.00
24 Mg # 1	17500	17500	ug/l	2.39	90000.00		72554096.00	71359160.00	72245976.00
27 Al # 1	945.4	945.4	ug/l	2.62	90000.00		4157136.50	4064035.80	4098064.00
39 K # 2	1847	1847	ug/l	0.66	90000.00		697498.13	699860.56	706796.25
40 Ca # 1	199800	199800	ug/l	1.09	90000.00	Fail	1884802000.00	1899835000.00	1884184400.00
47 Ti # 3	20.89	20.89	ug/l	0.66	1800.00		22042.26	21157.67	20547.01
51 V # 2	23.29	23.29	ug/l	0.59	1800.00		51613.18	51712.84	51913.47
52 Cr # 2	22.77	22.77	ug/l	1.35	1800.00		59386.47	58768.86	58764.11
55 Mn # 3	322.2	322.2	ug/l	0.72	2700.00		5716590.50	5639993.00	5464328.00
56 Fe # 1	5407	5407	ug/l	1.73	90000.00		74044248.00	73670280.00	73397528.00
59 Co # 3	10.02	10.02	ug/l	1.24	1800.00		132774.14	128623.52	125737.07
60 Ni # 2	22.73	22.73	ug/l	1.47	1800.00		20419.66	20541.17	20077.23
63 Cu # 2	22.5	22.5	ug/l	0.24	1800.00		52078.06	52761.61	52449.28
66 Zn # 3	20.24	20.24	ug/l	0.68	1800.00		33679.61	33619.19	32543.81
75 As # 2	22.96	22.96	ug/l	0.65	1800.00		5253.54	5266.21	5256.21
78 Se # 1	20.02	20.02	ug/l	1.83	100.00		7115.27	6975.88	7025.23
88 Sr # 3	731.3	731.3	ug/l	0.67	1800.00		13941156.00	13692651.00	13402661.00
95 Mo # 3	21.48	21.48	ug/l	3.12	1800.00		64835.06	62364.91	60982.89
107 Ag # 3	9.697	9.697	ug/l	2.79	100.00		74064.06	71773.42	70775.55
111 Cd # 3	9.948	9.948	ug/l	3.04	100.00		16038.14	15475.15	15335.46
118 Sn # 3	20.83	20.83	ug/l	2.04	1800.00		96238.02	95218.34	93699.28
121 Sb # 3	10.84	10.84	ug/l	1.24	100.00		54842.23	53343.71	53203.18
137 Ba # 3	111.4	111.4	ug/l	2.41	1800.00		236394.16	231451.30	228359.31
202 Hg # 3	1.04	1.04	ug/l	0.75	5.00		1586.42	1605.76	1547.42
205 Tl # 3	7.747	7.747	ug/l	1.20	20.00		97044.99	94958.41	94226.73
208 Pb # 3	9.983	9.983	ug/l	1.12	1800.00		165680.41	165163.16	160111.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	623026.94	2.47	762890.69	81.7	60 - 125.4		636592.31	626185.19	606303.31
45 Sc # 1	588079.81	1.55	620105.56	94.8	60 - 125.4		580968.81	598335.00	584935.69
45 Sc # 3	667607.31	2.92	771387.50	86.5	60 - 125.4		687522.69	666765.88	648533.38
74 Ge # 1	145186.98	0.82	164848.81	88.1	60 - 125.4		143840.97	146106.20	145613.83
74 Ge # 2	25773.89	0.74	33226.06	77.6	60 - 125.4		25557.41	25909.70	25854.57
74 Ge # 3	149219.69	1.61	178474.77	83.6	60 - 125.4		151397.20	149624.09	146637.77
89 Y # 3	933424.13	1.53	1057065.90	88.3	60 - 125.4		944151.44	938858.94	917262.06
115 In # 3	791796.00	2.67	917456.31	86.3	60 - 125.4		793655.19	811918.50	769814.19
159 Tb # 3	1099186.10	0.68	1264337.30	86.9	60 - 125.4		1103097.10	1103835.80	1090625.60
209 Bi # 3	564226.81	1.20	698508.81	80.8	60 - 125.4		564326.81	570934.63	557419.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\098SMPL.D\098SMPL.D#
Date Acquired:	Dec 22 2012 02:20 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85777-c-1-a
Misc Info:	3010 1/5
Vial Number:	3310
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03449	-0.03449	ug/l	19.19	100.00		93.34	83.34	46.67
11 B # 3	1.346	1.346	ug/l	14.34	200.00		16502.07	16528.62	15547.64
23 Na # 1	2416	2416	ug/l	2.26	90000.00		15663381.00	15240411.00	15058368.00
24 Mg # 1	2685	2685	ug/l	0.24	90000.00		11110873.00	11050767.00	11121689.00
27 Al # 1	16.97	16.97	ug/l	6.04	90000.00		79041.48	83933.69	75933.66
39 K # 2	299.3	299.3	ug/l	0.59	90000.00		137648.00	141258.53	139126.44
40 Ca # 1	5330	5330	ug/l	0.80	90000.00		50703584.00	50689008.00	50435860.00
47 Ti # 3	1.947	1.947	ug/l	7.98	1800.00		2680.31	2450.27	2386.91
51 V # 2	0.2234	0.2234	ug/l	3.37	1800.00		1098.71	1118.71	1147.38
52 Cr # 2	0.2703	0.2703	ug/l	1.34	1800.00		955.37	972.04	986.70
55 Mn # 3	573.9	573.9	ug/l	1.81	2700.00		11589956.00	11359681.00	11179987.00
56 Fe # 1	6634	6634	ug/l	1.52	90000.00		91721640.00	90783248.00	89607528.00
59 Co # 3	2.399	2.399	ug/l	0.58	1800.00		35683.82	35249.45	35262.95
60 Ni # 2	1.007	1.007	ug/l	3.83	1800.00		1024.04	985.37	1047.37
63 Cu # 2	1.117	1.117	ug/l	0.64	1800.00		2976.96	3062.31	3071.64
66 Zn # 3	0.2308	0.2308	ug/l	28.46	1800.00		1803.48	1863.49	1646.80
75 As # 2	0.5042	0.5042	ug/l	7.81	1800.00		153.00	154.00	137.33
78 Se # 1	0.03992	0.03992	ug/l	4.10	100.00		27.33	26.33	27.00
88 Sr # 3	37.56	37.56	ug/l	1.04	1800.00		774858.50	772613.69	763949.81
95 Mo # 3	0.1873	0.1873	ug/l	10.91	1800.00		1593.46	1520.12	1466.78
107 Ag # 3	-0.02865	-0.02865	ug/l	5.16	100.00		53.34	46.67	30.00
111 Cd # 3	-0.009511	-0.009511	ug/l	31.19	100.00		49.41	39.44	42.79
118 Sn # 3	0.04509	0.04509	ug/l	23.15	1800.00		610.03	536.69	510.03
121 Sb # 3	0.02601	0.02601	ug/l	15.31	100.00		383.35	416.69	413.35
137 Ba # 3	18.02	18.02	ug/l	1.59	1800.00		42082.54	41009.76	40962.62
202 Hg # 3	0.04092	0.04092	ug/l	9.76	5.00		95.00	95.67	85.00
205 Tl # 3	0.00698	0.00698	ug/l	57.61	20.00		596.70	540.03	486.69
208 Pb # 3	-0.03489	-0.03489	ug/l	3.94	1800.00		486.69	536.69	530.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	697140.25	1.42	762890.69	91.4	60 - 125.4		701780.81	685736.88	703903.13
45 Sc # 1	589800.13	0.53	620105.56	95.1	60 - 125.4		589882.31	586608.25	592909.81
45 Sc # 3	736521.00	1.97	771387.50	95.5	60 - 125.4		735827.63	722399.88	751335.63
74 Ge # 1	160078.13	0.91	164848.81	97.1	60 - 125.4		160680.73	161140.66	158412.98
74 Ge # 2	28723.96	1.37	33226.06	86.5	60 - 125.4		28282.00	29036.75	28853.13
74 Ge # 3	170099.56	0.56	178474.77	95.3	60 - 125.4		170727.42	168998.88	170572.39
89 Y # 3	1021131.80	0.87	1057065.90	96.6	60 - 125.4		1029968.90	1012267.10	1021159.10
115 In # 3	868906.69	0.07	917456.31	94.7	60 - 125.4		868363.63	868799.44	869556.94
159 Tb # 3	1153704.60	0.91	1264337.30	91.2	60 - 125.4		1165072.80	1144438.10	1151603.10
209 Bi # 3	638095.38	0.92	698508.81	91.4	60 - 125.4		634144.94	635309.94	644831.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\099SMPL.D\099SMPL.D#
Date Acquired:	Dec 22 2012 02:27 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85777-c-2-a
Misc Info:	3010 1/5
Vial Number:	3311
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04738	-0.04738	ug/l	6.83	100.00		36.67	30.00	13.33
11 B # 3	1.002	1.002	ug/l	6.14	200.00		15130.56	15434.25	15267.47
23 Na # 1	2263	2263	ug/l	0.47	90000.00		14977115.00	14984635.00	14949218.00
24 Mg # 1	2099	2099	ug/l	1.54	90000.00		9053594.00	8933572.00	9117889.00
27 Al # 1	90.39	90.39	ug/l	0.95	90000.00		418093.91	413048.00	416431.97
39 K # 2	535.9	535.9	ug/l	0.52	90000.00		251744.94	252150.48	253065.28
40 Ca # 1	4804	4804	ug/l	0.48	90000.00		47563016.00	47556812.00	47476704.00
47 Ti # 3	11.21	11.21	ug/l	5.97	1800.00		14239.75	13105.68	12955.58
51 V # 2	0.3966	0.3966	ug/l	1.21	1800.00		1654.76	1628.09	1644.76
52 Cr # 2	0.353	0.353	ug/l	3.42	1800.00		1303.39	1234.72	1316.73
55 Mn # 3	547.1	547.1	ug/l	0.92	2700.00		11441670.00	11199383.00	11310938.00
56 Fe # 1	7148	7148	ug/l	0.99	90000.00		101060320.00	102358820.00	102051290.00
59 Co # 3	1.397	1.397	ug/l	0.31	1800.00		21635.05	21588.35	21601.71
60 Ni # 2	2.023	2.023	ug/l	2.27	1800.00		2180.16	2176.83	2117.48
63 Cu # 2	1.551	1.551	ug/l	2.05	1800.00		4407.30	4485.32	4369.28
66 Zn # 3	0.8918	0.8918	ug/l	8.34	1800.00		2973.70	3080.39	3230.42
75 As # 2	0.3627	0.3627	ug/l	7.04	1800.00		114.67	126.33	116.33
78 Se # 1	0.01453	0.01453	ug/l	32.61	100.00		15.67	19.33	17.00
88 Sr # 3	34.63	34.63	ug/l	1.08	1800.00		746804.75	741990.38	736728.50
95 Mo # 3	0.3332	0.3332	ug/l	4.53	1800.00		1970.18	2100.20	2076.87
107 Ag # 3	-0.03186	-0.03186	ug/l	4.31	100.00		6.67	16.67	30.00
111 Cd # 3	-0.01226	-0.01226	ug/l	22.60	100.00		39.27	35.89	45.90
118 Sn # 3	0.03776	0.03776	ug/l	14.53	1800.00		556.69	520.03	516.69
121 Sb # 3	0.01022	0.01022	ug/l	65.87	100.00		293.35	370.02	336.68
137 Ba # 3	31.22	31.22	ug/l	1.82	1800.00		73950.73	74299.61	72878.91
202 Hg # 3	0.02803	0.02803	ug/l	16.76	5.00		77.67	74.33	63.67
205 Tl # 3	-0.01979	-0.01979	ug/l	4.92	20.00		220.01	200.01	196.67
208 Pb # 3	-0.02306	-0.02306	ug/l	9.97	1800.00		796.70	720.03	750.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	714429.88	2.41	762890.69	93.6	60 - 125.4		694995.19	727761.44	720533.00
45 Sc # 1	614557.38	0.58	620105.56	99.1	60 - 125.4		616463.69	616754.56	610453.88
45 Sc # 3	776672.94	0.59	771387.50	100.7	60 - 125.4		771553.75	780447.25	778017.88
74 Ge # 1	162654.20	0.21	164848.81	98.7	60 - 125.4		162978.56	162697.13	162286.92
74 Ge # 2	30510.60	0.67	33226.06	91.8	60 - 125.4		30474.44	30327.47	30729.88
74 Ge # 3	177482.00	0.37	178474.77	99.4	60 - 125.4		178142.34	177471.89	176831.77
89 Y # 3	1066117.50	0.40	1057065.90	100.9	60 - 125.4		1062357.80	1065299.90	1070694.90
115 In # 3	895380.19	1.11	917456.31	97.6	60 - 125.4		884137.69	898900.00	903102.88
159 Tb # 3	1207601.00	0.34	1264337.30	95.5	60 - 125.4		1204055.00	1212016.60	1206731.50
209 Bi # 3	655436.25	1.28	698508.81	93.8	60 - 125.4		648619.94	652907.63	664781.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\100SMPL.D\100SMPL.D#
Date Acquired:	Dec 22 2012 02:33 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85777-c-3-a
Misc Info:	3010 1/5
Vial Number:	3312
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04787	-0.04787	ug/l	4.90	100.00		36.67	20.00	20.00
11 B # 3	0.686	0.686	ug/l	14.54	200.00		14526.75	14143.18	14523.35
23 Na # 1	2417	2417	ug/l	0.63	90000.00		16425168.00	16216805.00	16261446.00
24 Mg # 1	2310	2310	ug/l	0.41	90000.00		10227045.00	10123341.00	10105805.00
27 Al # 1	113.7	113.7	ug/l	0.95	90000.00		531090.31	535662.63	529731.19
39 K # 2	584.9	584.9	ug/l	1.51	90000.00		277960.69	278759.75	277075.41
40 Ca # 1	5348	5348	ug/l	1.15	90000.00		53782800.00	54215032.00	54001280.00
47 Ti # 3	12.62	12.62	ug/l	1.95	1800.00		15431.13	15320.92	15437.79
51 V # 2	0.4496	0.4496	ug/l	0.55	1800.00		1784.78	1801.45	1834.12
52 Cr # 2	0.394	0.394	ug/l	0.84	1800.00		1418.74	1437.41	1436.07
55 Mn # 3	589.7	589.7	ug/l	0.87	2700.00		12545781.00	12442836.00	12199026.00
56 Fe # 1	7855	7855	ug/l	0.94	90000.00		114127300.00	115307610.00	113214370.00
59 Co # 3	1.501	1.501	ug/l	1.36	1800.00		23651.39	23881.72	23194.03
60 Ni # 2	2.158	2.158	ug/l	1.59	1800.00		2308.85	2372.19	2324.18
63 Cu # 2	1.651	1.651	ug/l	0.91	1800.00		4748.06	4765.40	4784.08
66 Zn # 3	0.8281	0.8281	ug/l	5.61	1800.00		3150.41	2977.03	2943.68
75 As # 2	0.4193	0.4193	ug/l	7.97	1800.00		142.67	138.33	128.00
78 Se # 1	0.01353	0.01353	ug/l	23.52	100.00		17.67	15.67	18.00
88 Sr # 3	37.89	37.89	ug/l	0.90	1800.00		832642.56	818433.63	825229.13
95 Mo # 3	0.3806	0.3806	ug/l	6.72	1800.00		2350.25	2250.23	2133.54
107 Ag # 3	-0.03136	-0.03136	ug/l	2.68	100.00		16.67	20.00	30.00
111 Cd # 3	-0.01707	-0.01707	ug/l	36.26	100.00		45.80	25.83	25.88
118 Sn # 3	0.03362	0.03362	ug/l	36.70	1800.00		593.36	513.36	453.35
121 Sb # 3	0.01333	0.01333	ug/l	48.96	100.00		360.02	390.02	320.01
137 Ba # 3	33.41	33.41	ug/l	0.62	1800.00		80812.25	80158.97	80065.23
202 Hg # 3	0.006057	0.006057	ug/l	6.40	5.00		35.00	33.67	33.67
205 Tl # 3	-0.02078	-0.02078	ug/l	9.28	20.00		223.34	176.67	176.67
208 Pb # 3	-0.02188	-0.02188	ug/l	17.41	1800.00		710.03	806.70	846.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	731377.25	1.82	762890.69	95.9	60 - 125.4		741821.75	735909.31	716400.88
45 Sc # 1	627253.94	0.90	620105.56	101.2	60 - 125.4		632833.25	627433.38	621495.19
45 Sc # 3	793205.69	1.50	771387.50	102.8	60 - 125.4		788779.13	806647.69	784190.13
74 Ge # 1	164271.31	0.11	164848.81	99.6	60 - 125.4		164450.59	164267.09	164096.25
74 Ge # 2	30960.93	1.25	33226.06	93.2	60 - 125.4		30557.92	30992.10	31332.77
74 Ge # 3	180363.44	0.72	178474.77	101.1	60 - 125.4		181816.69	179975.75	179297.86
89 Y # 3	1084436.30	0.67	1057065.90	102.6	60 - 125.4		1083100.40	1077914.40	1092294.00
115 In # 3	912075.06	1.05	917456.31	99.4	60 - 125.4		921802.81	911817.69	902604.88
159 Tb # 3	1206555.10	0.83	1264337.30	95.4	60 - 125.4		1213427.50	1211163.60	1195074.00
209 Bi # 3	663757.63	0.41	698508.81	95.0	60 - 125.4		665837.38	664770.19	660665.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\101_CCV.D\101_CCV.D#
Date Acquired:	Dec 22 2012 02:40 am
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag
9 Be	50.19 ug/l	0.87	50.00	89.6 -	110	
11 B	96.95 ug/l	0.53	100.00	89.6 -	110	
23 Na	4547.00 ug/l	1.34	5000.00	89.6 -	110	
24 Mg	4586.00 ug/l	1.51	5000.00	89.6 -	110	
27 Al	458.20 ug/l	1.75	500.00	89.6 -	110	
39 K	4871.00 ug/l	0.97	5000.00	89.6 -	110	
40 Ca	4770.00 ug/l	1.10	5000.00	89.6 -	110	
47 Ti	48.42 ug/l	1.12	50.00	89.6 -	110	
51 V	49.81 ug/l	0.93	50.00	89.6 -	110	
52 Cr	49.67 ug/l	0.90	50.00	89.6 -	110	
55 Mn	495.50 ug/l	1.09	500.00	89.6 -	110	
56 Fe	4833.00 ug/l	1.36	5000.00	89.6 -	110	
59 Co	50.65 ug/l	0.13	50.00	89.6 -	110	
60 Ni	50.86 ug/l	0.39	50.00	89.6 -	110	
63 Cu	51.02 ug/l	0.57	50.00	89.6 -	110	
66 Zn	49.25 ug/l	0.44	50.00	89.6 -	110	
75 As	47.73 ug/l	0.97	50.00	89.6 -	110	
78 Se	48.55 ug/l	0.22	50.00	89.6 -	110	
88 Sr	49.26 ug/l	0.79	50.00	89.6 -	110	
95 Mo	49.82 ug/l	1.64	50.00	89.6 -	110	
107 Ag	48.83 ug/l	1.72	50.00	89.6 -	110	
111 Cd	48.73 ug/l	0.94	50.00	89.6 -	110	
118 Sn	48.63 ug/l	1.84	50.00	89.6 -	110	
121 Sb	46.88 ug/l	0.47	50.00	89.6 -	110	
137 Ba	48.98 ug/l	2.12	50.00	89.6 -	110	
202 Hg	2.43 ug/l	0.49	2.50	89.6 -	110	
205 Tl	9.23 ug/l	1.24	10.00	89.6 -	110	
208 Pb	47.16 ug/l	0.59	50.00	89.6 -	110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6 Li	762763.56	0.65	762890.69	100.0	59.6 -	125	
45 Sc	640537.94	1.12	620105.56	103.3	59.6 -	125	
45 Sc	832494.44	0.44	771387.50	107.9	59.6 -	125	
74 Ge	166694.13	0.15	164848.81	101.1	59.6 -	125	
74 Ge	31811.47	0.79	33226.06	95.7	59.6 -	125	
74 Ge	182640.19	0.94	178474.77	102.3	59.6 -	125	
89 Y	1104488.40	1.03	1057065.90	104.5	59.6 -	125	
115 In	925245.19	0.75	917456.31	100.8	59.6 -	125	
159 Tb	1226231.50	1.07	1264337.30	97.0	59.6 -	125	
209 Bi	635743.31	0.51	698508.81	91.0	59.6 -	125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\102_CCB.D\102_CCB.D#
Date Acquired: Dec 22 2012 02:47 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.05 ug/l	3.35	0.05	
11 B	0.49 ug/l	21.62	10.00	
23 Na	-9.73 ug/l	12.43	25.00	
24 Mg	3.69 ug/l	8.36	25.00	
27 Al	-0.78 ug/l	5.87	5.00	
39 K	4.53 ug/l	7.34	25.00	
40 Ca	32.61 ug/l	3.10	25.00	Fail
47 Ti	-0.26 ug/l	7.48	0.50	
51 V	-0.07 ug/l	15.20	0.50	
52 Cr	0.00 ug/l	149.70	0.50	
55 Mn	-0.15 ug/l	3.16	0.50	
56 Fe	3.06 ug/l	4.30	10.00	
59 Co	0.00 ug/l	19.13	0.05	
60 Ni	0.01 ug/l	17.64	0.50	
63 Cu	0.00 ug/l	152.53	0.50	
66 Zn	-0.55 ug/l	5.08	2.00	
75 As	0.01 ug/l	14.52	0.25	
78 Se	0.04 ug/l	18.36	0.25	
88 Sr	-0.03 ug/l	13.63	0.10	
95 Mo	-0.18 ug/l	3.99	0.50	
107 Ag	-0.02 ug/l	14.90	0.10	
111 Cd	-0.01 ug/l	75.00	0.05	
118 Sn	0.00 ug/l	1000.80	0.50	
121 Sb	0.32 ug/l	12.09	0.50	
137 Ba	-0.03 ug/l	15.26	0.50	
202 Hg	0.02 ug/l	11.79	0.08	
205 Tl	-0.03 ug/l	2.95	0.10	
208 Pb	-0.04 ug/l	8.64	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	823768.88	0.27	762890.69	108.0	59.6 - 125	
45 Sc	643281.00	1.50	620105.56	103.7	59.6 - 125	
45 Sc	844891.13	0.64	771387.50	109.5	59.6 - 125	
74 Ge	170269.20	0.45	164848.81	103.3	59.6 - 125	
74 Ge	32519.58	1.00	33226.06	97.9	59.6 - 125	
74 Ge	190157.75	0.62	178474.77	106.5	59.6 - 125	
89 Y	1130761.80	0.52	1057065.90	107.0	59.6 - 125	
115 In	954105.38	0.22	917456.31	104.0	59.6 - 125	
159 Tb	1231769.30	0.60	1264337.30	97.4	59.6 - 125	
209 Bi	648159.13	0.50	698508.81	92.8	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\103SMPL.D\103SMPL.D#
Date Acquired:	Dec 22 2012 02:53 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85777-c-4-a
Misc Info:	3010 1/5
Vial Number:	3401
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04312	-0.04312	ug/l	3.89	100.00		40.00	53.33	43.33
11 B # 3	0.8294	0.8294	ug/l	1.52	200.00		15547.73	15467.64	15224.02
23 Na # 1	2264	2264	ug/l	0.60	90000.00		15622185.00	15508410.00	15420953.00
24 Mg # 1	2046	2046	ug/l	0.89	90000.00		9133796.00	9098937.00	9145857.00
27 Al # 1	92.35	92.35	ug/l	4.30	90000.00		461611.97	427503.75	431338.91
39 K # 2	406	406	ug/l	0.80	90000.00		205970.91	204067.81	204540.86
40 Ca # 1	4825	4825	ug/l	0.62	90000.00		49788492.00	49409160.00	49206700.00
47 Ti # 3	10	10	ug/l	2.92	1800.00		13095.65	12368.45	12606.82
51 V # 2	0.4565	0.4565	ug/l	3.17	1800.00		1886.12	1843.45	1936.13
52 Cr # 2	0.2437	0.2437	ug/l	2.42	1800.00		1016.70	990.70	987.37
55 Mn # 3	489.9	489.9	ug/l	1.58	2700.00		10860099.00	10431167.00	10345745.00
56 Fe # 1	9236	9236	ug/l	0.73	90000.00		136474560.00	136115260.00	136392750.00
59 Co # 3	1.013	1.013	ug/l	0.83	1800.00		16629.08	16201.99	16265.36
60 Ni # 2	0.7401	0.7401	ug/l	5.48	1800.00		794.02	884.03	840.69
63 Cu # 2	0.9851	0.9851	ug/l	0.60	1800.00		2980.29	3003.63	3036.31
66 Zn # 3	0.2057	0.2057	ug/l	16.73	1800.00		1820.17	1930.17	1870.17
75 As # 2	0.3706	0.3706	ug/l	1.70	1800.00		128.33	125.00	128.67
78 Se # 1	0.01673	0.01673	ug/l	26.25	100.00		19.67	19.67	16.67
88 Sr # 3	35.79	35.79	ug/l	0.65	1800.00		800634.50	797238.13	778530.81
95 Mo # 3	-0.09609	-0.09609	ug/l	10.43	1800.00		696.70	686.70	630.03
107 Ag # 3	-0.02986	-0.02986	ug/l	4.22	100.00		23.33	43.33	40.00
111 Cd # 3	-0.01695	-0.01695	ug/l	11.45	100.00		29.74	36.41	33.10
118 Sn # 3	0.03853	0.03853	ug/l	38.88	1800.00		650.04	500.02	510.03
121 Sb # 3	0.1443	0.1443	ug/l	10.76	100.00		1190.09	1180.08	1010.06
137 Ba # 3	19.84	19.84	ug/l	1.21	1800.00		48866.26	48799.63	47709.08
202 Hg # 3	0.00948	0.00948	ug/l	48.63	5.00		37.67	50.33	35.33
205 Tl # 3	-0.02854	-0.02854	ug/l	4.95	20.00		100.00	66.67	100.00
208 Pb # 3	-0.02123	-0.02123	ug/l	16.74	1800.00		840.04	876.71	743.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	753289.13	0.85	762890.69	98.7	60 - 125.4		757019.06	756962.38	745885.81
45 Sc # 1	636784.63	0.64	620105.56	102.7	60 - 125.4		637598.50	640404.06	632351.44
45 Sc # 3	819371.13	0.79	771387.50	106.2	60 - 125.4		823383.63	822852.06	811877.63
74 Ge # 1	166860.34	0.26	164848.81	101.2	60 - 125.4		166843.88	166440.47	167296.67
74 Ge # 2	32039.20	0.42	33226.06	96.4	60 - 125.4		31957.34	31964.05	32196.20
74 Ge # 3	184656.20	1.13	178474.77	103.5	60 - 125.4		186787.05	184557.50	182624.08
89 Y # 3	1101424.00	1.03	1057065.90	104.2	60 - 125.4		1105486.90	1110161.40	1088623.40
115 In # 3	924945.06	0.71	917456.31	100.8	60 - 125.4		932518.13	920464.56	921852.50
159 Tb # 3	1223027.30	1.03	1264337.30	96.7	60 - 125.4		1235573.90	1223154.60	1210353.60
209 Bi # 3	680173.00	0.88	698508.81	97.4	60 - 125.4		686802.81	675177.56	678538.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\104SMPL.D\104SMPL.D#
Date Acquired:	Dec 22 2012 03:00 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-1-a
Misc Info:	3010 1/5
Vial Number:	3402
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04844	-0.04844	ug/l	3.69	100.00		33.33	20.00	20.00
11 B # 3	-0.05569	-0.05569	ug/l	103.23	200.00		11981.38	12228.21	11957.92
23 Na # 1	-9.242	-9.242	ug/l	21.49	90000.00		189590.55	184246.56	212497.95
24 Mg # 1	0.4594	0.4594	ug/l	35.48	90000.00		8371.18	7028.38	8055.99
27 Al # 1	-0.1855	-0.1855	ug/l	39.95	90000.00		5107.61	5749.22	5221.01
39 K # 2	4.26	4.26	ug/l	10.33	90000.00		18984.97	18771.28	18928.31
40 Ca # 1	9.843	9.843	ug/l	2.50	90000.00		137314.77	135440.89	135233.39
47 Ti # 3	-0.2235	-0.2235	ug/l	6.99	1800.00		100.00	130.00	130.00
51 V # 2	0.0811	0.0811	ug/l	14.08	1800.00		829.36	857.36	901.37
52 Cr # 2	0.03434	0.03434	ug/l	18.04	1800.00		346.67	312.67	320.01
55 Mn # 3	-0.2136	-0.2136	ug/l	6.70	2700.00		4754.16	4377.37	4150.64
56 Fe # 1	4.516	4.516	ug/l	6.58	90000.00		84138.20	81510.86	77223.34
59 Co # 3	-0.009943	-0.009943	ug/l	10.83	1800.00		80.00	110.00	80.00
60 Ni # 2	0.1321	0.1321	ug/l	4.27	1800.00		155.34	166.00	169.34
63 Cu # 2	0.3685	0.3685	ug/l	1.38	1800.00		1206.05	1222.05	1248.72
66 Zn # 3	-0.09162	-0.09162	ug/l	43.39	1800.00		1376.77	1313.42	1223.42
75 As # 2	0.0713	0.0713	ug/l	10.54	1800.00		41.67	40.67	45.00
78 Se # 1	0.00374	0.00374	ug/l	322.19	100.00		19.00	11.33	10.00
88 Sr # 3	-0.07532	-0.07532	ug/l	1.28	1800.00		573.36	546.69	573.36
95 Mo # 3	-0.2511	-0.2511	ug/l	3.06	1800.00		163.34	170.01	120.00
107 Ag # 3	-0.03042	-0.03042	ug/l	1.47	100.00		33.33	26.67	33.33
111 Cd # 3	-0.01288	-0.01288	ug/l	44.41	100.00		36.61	53.27	33.29
118 Sn # 3	0.03695	0.03695	ug/l	20.41	1800.00		586.70	506.69	560.03
121 Sb # 3	0.04867	0.04867	ug/l	14.58	100.00		530.03	580.03	600.03
137 Ba # 3	-0.004052	-0.004052	ug/l	299.85	1800.00		186.67	143.34	126.67
202 Hg # 3	0.005484	0.005484	ug/l	51.81	5.00		29.33	32.00	38.67
205 Tl # 3	-0.02966	-0.02966	ug/l	1.59	20.00		66.67	76.67	76.67
208 Pb # 3	-0.04879	-0.04879	ug/l	4.47	1800.00		280.01	313.34	230.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	767552.56	1.06	762890.69	100.6	60 - 125.4		776953.75	762606.31	763097.56
45 Sc # 1	630246.56	1.06	620105.56	101.6	60 - 125.4		624057.19	629352.19	637330.31
45 Sc # 3	817822.50	1.72	771387.50	106.0	60 - 125.4		833823.31	807650.94	811993.19
74 Ge # 1	167086.14	0.38	164848.81	101.4	60 - 125.4		166900.45	167801.75	166556.25
74 Ge # 2	32064.78	0.65	33226.06	96.5	60 - 125.4		31832.10	32132.73	32229.50
74 Ge # 3	186691.36	0.14	178474.77	104.6	60 - 125.4		186437.58	186673.98	186962.52
89 Y # 3	1104847.10	1.41	1057065.90	104.5	60 - 125.4		1111080.30	1116377.10	1087084.00
115 In # 3	936067.06	0.77	917456.31	102.0	60 - 125.4		941874.44	938305.31	928021.56
159 Tb # 3	1220025.30	1.41	1264337.30	96.5	60 - 125.4		1231428.30	1228377.80	1200270.00
209 Bi # 3	668964.75	1.05	698508.81	95.8	60 - 125.4		677071.13	664644.50	665178.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\105SMPL.D\105SMPL.D#
Date Acquired:	Dec 22 2012 03:07 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-2-a
Misc Info:	3010 1/5
Vial Number:	3403
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02192	0.02192	ug/l	57.71	100.00		280.01	363.35	280.01
11 B # 3	3.095	3.095	ug/l	2.88	200.00		25209.84	24465.24	23707.50
23 Na # 1	3410	3410	ug/l	1.88	90000.00		23379026.00	23404244.00	22876036.00
24 Mg # 1	767.9	767.9	ug/l	0.70	90000.00		3440249.50	3401506.50	3438770.80
27 Al # 1	165.7	165.7	ug/l	2.49	90000.00		795107.94	789951.25	767301.31
39 K # 2	370.4	370.4	ug/l	1.34	90000.00		187997.30	190157.66	191449.27
40 Ca # 1	2585	2585	ug/l	1.01	90000.00		26690220.00	26240530.00	26552086.00
47 Ti # 3	1.956	1.956	ug/l	21.18	1800.00		3399.12	2427.13	2600.58
51 V # 2	0.5063	0.5063	ug/l	4.48	1800.00		1979.47	2048.81	2093.48
52 Cr # 2	0.3065	0.3065	ug/l	1.01	1800.00		1218.72	1205.39	1203.38
55 Mn # 3	2.475	2.475	ug/l	1.01	2700.00		62492.09	62836.66	62656.15
56 Fe # 1	476.5	476.5	ug/l	1.65	90000.00		7143289.00	6934920.50	7046323.00
59 Co # 3	0.1021	0.1021	ug/l	1.42	1800.00		1923.51	1886.83	1850.16
60 Ni # 2	0.3894	0.3894	ug/l	2.65	1800.00		446.68	448.68	464.01
63 Cu # 2	0.0939	0.0939	ug/l	11.08	1800.00		464.68	436.68	402.01
66 Zn # 3	0.219	0.219	ug/l	30.41	1800.00		2080.20	1846.83	1816.83
75 As # 2	0.2058	0.2058	ug/l	8.73	1800.00		86.33	81.67	75.67
78 Se # 1	0.06495	0.06495	ug/l	16.09	100.00		42.67	34.33	37.33
88 Sr # 3	20.75	20.75	ug/l	1.24	1800.00		473456.97	462357.97	455244.78
95 Mo # 3	-0.2536	-0.2536	ug/l	2.05	1800.00		153.34	153.34	120.00
107 Ag # 3	-0.03054	-0.03054	ug/l	3.42	100.00		20.00	33.33	36.67
111 Cd # 3	0.008132	0.008132	ug/l	94.38	100.00		96.61	76.61	66.62
118 Sn # 3	0.05484	0.05484	ug/l	4.98	1800.00		643.37	663.37	633.37
121 Sb # 3	0.03116	0.03116	ug/l	21.35	100.00		440.02	516.69	453.35
137 Ba # 3	18.4	18.4	ug/l	1.65	1800.00		45933.83	46234.68	44131.81
202 Hg # 3	0.01195	0.01195	ug/l	5.83	5.00		47.00	47.33	44.33
205 Tl # 3	-0.02295	-0.02295	ug/l	10.50	20.00		140.01	156.67	200.01
208 Pb # 3	0.2014	0.2014	ug/l	1.90	1800.00		5456.15	5230.52	5103.86

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	749699.19	2.06	762890.69	98.3	60 - 125.4		767432.50	742548.13	739117.00
45 Sc # 1	636259.94	0.59	620105.56	102.6	60 - 125.4		633641.69	634584.31	640553.75
45 Sc # 3	822081.81	0.79	771387.50	106.6	60 - 125.4		825334.38	826297.19	814613.94
74 Ge # 1	166756.28	0.72	164848.81	101.2	60 - 125.4		166390.05	165787.89	168090.89
74 Ge # 2	32292.40	0.54	33226.06	97.2	60 - 125.4		32287.97	32468.30	32120.93
74 Ge # 3	186028.94	0.71	178474.77	104.2	60 - 125.4		187321.52	186098.16	184667.16
89 Y # 3	1109807.00	1.22	1057065.90	105.0	60 - 125.4		1117730.90	1117557.80	1094132.30
115 In # 3	935069.75	1.34	917456.31	101.9	60 - 125.4		947476.31	935356.13	922376.88
159 Tb # 3	1228150.90	1.47	1264337.30	97.1	60 - 125.4		1228288.60	1246089.80	1210074.60
209 Bi # 3	689393.56	1.95	698508.81	98.7	60 - 125.4		704323.13	685656.13	678201.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\106SMPL.D\106SMPL.D#
Date Acquired:	Dec 22 2012 03:13 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-3-a
Misc Info:	3010 1/5
Vial Number:	3404
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.04543	-0.04543	ug/l	1.89	100.00		33.33	36.67	40.00
11 B	# 3	2.496	2.496	ug/l	1.09	200.00		22442.30	22582.61	22418.90
23 Na	# 1	1470	1470	ug/l	1.65	90000.00		9843513.00	9703827.00	9684538.00
24 Mg	# 1	386.2	386.2	ug/l	1.70	90000.00		1672205.10	1644327.80	1650972.00
27 Al	# 1	37.81	37.81	ug/l	2.37	90000.00		178835.75	173790.39	176027.98
39 K	# 2	502.6	502.6	ug/l	0.29	90000.00		250553.83	250598.44	253049.00
40 Ca	# 1	413.8	413.8	ug/l	1.11	90000.00		4116702.00	4100465.80	4072929.00
47 Ti	# 3	0.03988	0.03988	ug/l	121.56	1800.00		500.12	383.35	443.36
51 V	# 2	0.3051	0.3051	ug/l	1.77	1800.00		1472.74	1493.41	1490.08
52 Cr	# 2	0.09755	0.09755	ug/l	4.88	1800.00		514.01	538.68	546.68
55 Mn	# 3	5.039	5.039	ug/l	0.62	2700.00		118279.71	117625.75	116752.84
56 Fe	# 1	230.8	230.8	ug/l	1.09	90000.00		3274358.80	3268823.30	3291886.00
59 Co	# 3	0.06727	0.06727	ug/l	3.66	1800.00		1316.76	1356.77	1286.76
60 Ni	# 2	0.2101	0.2101	ug/l	3.62	1800.00		244.67	260.00	251.34
63 Cu	# 2	0.3193	0.3193	ug/l	3.57	1800.00		1108.71	1100.71	1061.37
66 Zn	# 3	0.4185	0.4185	ug/l	7.38	1800.00		2370.24	2220.22	2296.91
75 As	# 2	0.1663	0.1663	ug/l	4.38	1800.00		67.33	70.33	72.00
78 Se	# 1	0.01329	0.01329	ug/l	37.98	100.00		18.67	18.67	15.00
88 Sr	# 3	3	3	ug/l	1.64	1800.00		68275.54	66900.35	67810.41
95 Mo	# 3	-0.2613	-0.2613	ug/l	2.16	1800.00		96.67	116.67	133.34
107 Ag	# 3	-0.03168	-0.03168	ug/l	3.13	100.00		30.00	13.33	16.67
111 Cd	# 3	0.1345	0.1345	ug/l	14.36	100.00		273.31	333.30	329.96
118 Sn	# 3	0.05527	0.05527	ug/l	4.38	1800.00		640.04	643.37	656.70
121 Sb	# 3	0.01843	0.01843	ug/l	24.04	100.00		410.02	363.35	390.02
137 Ba	# 3	4.73	4.73	ug/l	0.77	1800.00		11831.67	11838.26	11604.76
202 Hg	# 3	0.01249	0.01249	ug/l	9.98	5.00		47.00	49.67	44.33
205 Tl	# 3	-0.02909	-0.02909	ug/l	2.89	20.00		83.34	93.34	70.00
208 Pb	# 3	0.01711	0.01711	ug/l	15.71	1800.00		1650.09	1543.42	1566.75

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	764392.81	0.77	762890.69	100.2	60 - 125.4		765695.81	769527.25	757955.31
45 Sc	# 1	610242.38	0.88	620105.56	98.4	60 - 125.4		605703.13	616167.63	608856.31
45 Sc	# 3	816063.69	1.58	771387.50	105.8	60 - 125.4		821617.69	825236.94	801336.31
74 Ge	# 1	168390.80	0.53	164848.81	102.1	60 - 125.4		169389.08	168135.23	167648.08
74 Ge	# 2	32278.55	0.78	33226.06	97.1	60 - 125.4		32196.13	32079.34	32560.18
74 Ge	# 3	184986.86	0.65	178474.77	103.6	60 - 125.4		186304.84	183974.47	184681.27
89 Y	# 3	1089285.30	0.56	1057065.90	103.0	60 - 125.4		1083486.40	1095582.90	1088786.60
115 In	# 3	931821.25	0.70	917456.31	101.6	60 - 125.4		938833.31	930613.81	926016.63
159 Tb	# 3	1236260.40	0.22	1264337.30	97.8	60 - 125.4		1238525.30	1237056.50	1233199.60
209 Bi	# 3	686041.94	1.00	698508.81	98.2	60 - 125.4		689918.88	690078.31	678128.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\107SMPL.D\107SMPL.D#
Date Acquired:	Dec 22 2012 03:20 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-4-a
Misc Info:	3010 1/5
Vial Number:	3405
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04317	-0.04317	ug/l	1.60	100.00		46.67	43.33	50.00
11 B # 3	2.394	2.394	ug/l	0.26	200.00		22372.40	22171.97	22569.25
23 Na # 1	1491	1491	ug/l	0.44	90000.00		10071591.00	10140536.00	9975837.00
24 Mg # 1	387.3	387.3	ug/l	0.96	90000.00		1683823.80	1699567.50	1690396.00
27 Al # 1	35.22	35.22	ug/l	2.93	90000.00		164031.05	167981.75	170909.30
39 K # 2	524.9	524.9	ug/l	1.16	90000.00		252911.69	255962.97	259523.84
40 Ca # 1	406.8	406.8	ug/l	1.35	90000.00		4064102.80	4161805.80	4084864.50
47 Ti # 3	0.01461	0.01461	ug/l	634.50	1800.00		383.35	306.68	530.09
51 V # 2	0.3177	0.3177	ug/l	4.08	1800.00		1484.74	1458.74	1517.42
52 Cr # 2	0.1274	0.1274	ug/l	4.51	1800.00		620.02	632.02	595.35
55 Mn # 3	3.265	3.265	ug/l	0.45	2700.00		79400.23	78200.38	78260.78
56 Fe # 1	224.1	224.1	ug/l	1.23	90000.00		3282059.00	3283617.50	3167995.80
59 Co # 3	0.05173	0.05173	ug/l	12.60	1800.00		1190.08	1016.73	983.39
60 Ni # 2	7.023	7.023	ug/l	4.51	1800.00		8040.71	7639.85	7454.43
63 Cu # 2	0.3314	0.3314	ug/l	2.20	1800.00		1075.38	1103.38	1125.38
66 Zn # 3	0.5205	0.5205	ug/l	5.59	1800.00		2470.27	2430.27	2520.27
75 As # 2	0.1717	0.1717	ug/l	11.16	1800.00		63.33	74.67	71.67
78 Se # 1	0.0161	0.0161	ug/l	7.65	100.00		18.67	18.67	17.67
88 Sr # 3	2.983	2.983	ug/l	0.74	1800.00		68400.12	67421.62	68537.29
95 Mo # 3	-0.2618	-0.2618	ug/l	0.88	1800.00		110.00	123.34	110.00
107 Ag # 3	-0.03245	-0.03245	ug/l	2.34	100.00		6.67	13.33	20.00
111 Cd # 3	0.01717	0.01717	ug/l	20.59	100.00		96.63	89.96	103.30
118 Sn # 3	0.02642	0.02642	ug/l	37.67	1800.00		556.70	463.36	463.35
121 Sb # 3	0.008066	0.008066	ug/l	31.71	100.00		326.68	316.68	353.35
137 Ba # 3	4.638	4.638	ug/l	1.80	1800.00		11724.84	11668.15	11357.95
202 Hg # 3	0.006214	0.006214	ug/l	17.49	5.00		33.67	37.33	34.67
205 Tl # 3	-0.03042	-0.03042	ug/l	4.85	20.00		63.34	83.34	43.33
208 Pb # 3	0.01029	0.01029	ug/l	70.06	1800.00		1496.75	1273.40	1546.75

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	775178.63	0.97	762890.69	101.6	60 - 125.4		776024.06	767299.25	782212.56
45 Sc # 1	621675.81	0.84	620105.56	100.3	60 - 125.4		625144.50	624193.88	615689.19
45 Sc # 3	805901.94	1.14	771387.50	104.5	60 - 125.4		814680.81	796286.25	806738.81
74 Ge # 1	166090.11	0.46	164848.81	100.8	60 - 125.4		166539.92	166518.56	165211.83
74 Ge # 2	31576.02	0.77	33226.06	95.0	60 - 125.4		31321.02	31803.69	31603.34
74 Ge # 3	183338.22	0.75	178474.77	102.7	60 - 125.4		184785.56	183200.33	182028.77
89 Y # 3	1102604.80	1.19	1057065.90	104.3	60 - 125.4		1099102.10	1091577.80	1117134.60
115 In # 3	935984.38	0.15	917456.31	102.0	60 - 125.4		936708.94	934335.94	936908.13
159 Tb # 3	1227129.60	0.38	1264337.30	97.1	60 - 125.4		1225030.60	1223902.80	1232455.40
209 Bi # 3	679926.56	0.36	698508.81	97.3	60 - 125.4		679207.88	677940.81	682630.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\108SMPL.D\108SMPL.D#
Date Acquired:	Dec 22 2012 03:27 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-5-a
Misc Info:	3010 1/5
Vial Number:	3406
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.79	0.79	ug/l	2.19	100.00		3340.43	3507.15	3283.75
11 B # 3	4.05	4.05	ug/l	2.95	200.00		28792.39	28131.19	27129.56
23 Na # 1	3930	3930	ug/l	1.17	90000.00		26502176.00	27013202.00	26571486.00
24 Mg # 1	2160	2160	ug/l	1.07	90000.00		9550787.00	9717700.00	9589081.00
27 Al # 1	12.87	12.87	ug/l	0.36	90000.00		66867.22	66374.67	66577.17
39 K # 2	712.4	712.4	ug/l	1.48	90000.00		338349.16	336423.91	338075.16
40 Ca # 1	4577	4577	ug/l	0.61	90000.00		47318664.00	46565104.00	46619304.00
47 Ti # 3	0.5241	0.5241	ug/l	10.45	1800.00		1020.07	1086.74	950.06
51 V # 2	0.2695	0.2695	ug/l	5.44	1800.00		1315.40	1311.40	1397.40
52 Cr # 2	0.05033	0.05033	ug/l	12.90	1800.00		351.34	392.67	359.34
55 Mn # 3	4.071	4.071	ug/l	0.94	2700.00		94333.72	94105.54	92228.48
56 Fe # 1	14.08	14.08	ug/l	0.85	90000.00		223302.34	220959.58	223681.03
59 Co # 3	1.19	1.19	ug/l	1.05	1800.00		18764.79	18741.42	18297.57
60 Ni # 2	1.216	1.216	ug/l	2.28	1800.00		1346.73	1334.06	1319.40
63 Cu # 2	0.9496	0.9496	ug/l	1.83	1800.00		2837.60	2790.26	2856.27
66 Zn # 3	1.203	1.203	ug/l	4.60	1800.00		3793.89	3777.21	3567.16
75 As # 2	0.1132	0.1132	ug/l	2.18	1800.00		52.33	52.33	54.00
78 Se # 1	0.03177	0.03177	ug/l	22.38	100.00		21.33	25.33	26.67
88 Sr # 3	48.57	48.57	ug/l	0.19	1800.00		1052589.80	1052984.90	1047263.90
95 Mo # 3	-0.2615	-0.2615	ug/l	1.91	1800.00		93.34	123.34	120.00
107 Ag # 3	-0.01416	-0.01416	ug/l	28.67	100.00		193.34	130.00	183.34
111 Cd # 3	0.3034	0.3034	ug/l	10.77	100.00		553.33	673.32	599.99
118 Sn # 3	0.05752	0.05752	ug/l	23.84	1800.00		703.37	566.70	660.04
121 Sb # 3	0.005875	0.005875	ug/l	130.49	100.00		363.35	293.35	280.01
137 Ba # 3	64.51	64.51	ug/l	1.09	1800.00		156638.23	155572.84	151781.23
202 Hg # 3	0.04628	0.04628	ug/l	10.85	5.00		97.33	109.67	113.67
205 Tl # 3	-0.01281	-0.01281	ug/l	21.02	20.00		283.35	280.01	343.35
208 Pb # 3	0.04572	0.04572	ug/l	10.74	1800.00		2153.47	2193.47	2013.46

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	742096.25	2.16	762890.69	97.3	60 - 125.4		748101.75	754234.44	723952.56
45 Sc # 1	635624.63	0.38	620105.56	102.5	60 - 125.4		638098.69	635518.50	633256.69
45 Sc # 3	803216.81	1.78	771387.50	104.1	60 - 125.4		819057.88	799196.88	791395.63
74 Ge # 1	164891.94	0.62	164848.81	100.0	60 - 125.4		165021.09	165839.34	163815.39
74 Ge # 2	31204.78	1.25	33226.06	93.9	60 - 125.4		30770.06	31324.44	31519.84
74 Ge # 3	178972.64	0.94	178474.77	100.3	60 - 125.4		180887.83	178330.83	177699.30
89 Y # 3	1077785.80	0.49	1057065.90	102.0	60 - 125.4		1081037.90	1080650.00	1071669.30
115 In # 3	910213.00	0.69	917456.31	99.2	60 - 125.4		912081.00	915381.13	903176.88
159 Tb # 3	1218252.00	0.49	1264337.30	96.4	60 - 125.4		1215290.00	1225063.40	1214402.60
209 Bi # 3	675425.69	0.58	698508.81	96.7	60 - 125.4		679709.69	672037.63	674529.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\109SMPL.D\109SMPL.D#
Date Acquired:	Dec 22 2012 03:33 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-6-a
Misc Info:	3010 1/5
Vial Number:	3407
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0516	-0.0516	ug/l	2.46	100.00		6.67	10.00	16.67
11 B # 3	1.341	1.341	ug/l	5.15	200.00		17402.92	17603.15	17626.50
23 Na # 1	1218	1218	ug/l	1.96	90000.00		8236819.00	8135251.50	8166041.50
24 Mg # 1	597.9	597.9	ug/l	0.84	90000.00		2549848.00	2567181.30	2626178.00
27 Al # 1	0.2353	0.2353	ug/l	12.32	90000.00		7215.20	7065.19	7141.88
39 K # 2	458.4	458.4	ug/l	1.29	90000.00		223655.72	223707.23	222568.77
40 Ca # 1	1778	1778	ug/l	1.06	90000.00		17633884.00	17478600.00	17772826.00
47 Ti # 3	0.2291	0.2291	ug/l	11.70	1800.00		623.37	683.37	656.70
51 V # 2	0.2643	0.2643	ug/l	8.76	1800.00		1373.40	1251.39	1361.40
52 Cr # 2	0.01296	0.01296	ug/l	51.30	1800.00		232.00	272.00	249.34
55 Mn # 3	-0.1475	-0.1475	ug/l	6.14	2700.00		5607.79	5501.10	5844.58
56 Fe # 1	1.773	1.773	ug/l	1.57	90000.00		39489.56	39128.89	41231.82
59 Co # 3	-0.007447	-0.007447	ug/l	25.46	1800.00		160.01	103.34	113.34
60 Ni # 2	0.2	0.2	ug/l	4.35	1800.00		223.34	241.34	234.00
63 Cu # 2	0.047	0.047	ug/l	2.12	1800.00		287.34	288.67	288.00
66 Zn # 3	-0.1425	-0.1425	ug/l	9.36	1800.00		1176.75	1176.75	1126.74
75 As # 2	0.269	0.269	ug/l	5.40	1800.00		95.00	99.67	93.33
78 Se # 1	0.01267	0.01267	ug/l	43.80	100.00		15.67	19.00	15.00
88 Sr # 3	15.12	15.12	ug/l	0.54	1800.00		328392.09	327419.53	325998.44
95 Mo # 3	-0.03774	-0.03774	ug/l	12.95	1800.00		843.38	880.05	836.72
107 Ag # 3	-0.03306	-0.03306	ug/l	1.83	100.00		3.33	6.67	13.33
111 Cd # 3	-0.004945	-0.004945	ug/l	190.84	100.00		36.36	56.34	69.69
118 Sn # 3	0.02563	0.02563	ug/l	26.84	1800.00		476.69	516.69	436.69
121 Sb # 3	0.02235	0.02235	ug/l	37.99	100.00		416.68	350.02	446.69
137 Ba # 3	15.01	15.01	ug/l	0.35	1800.00		36133.81	36458.00	35676.15
202 Hg # 3	0.004346	0.004346	ug/l	22.15	5.00		32.67	29.67	33.33
205 Tl # 3	-0.02839	-0.02839	ug/l	2.58	20.00		80.00	93.34	96.67
208 Pb # 3	-0.04507	-0.04507	ug/l	2.45	1800.00		333.35	350.01	373.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	755951.69	0.90	762890.69	99.1	60 - 125.4		763749.88	753140.75	750964.56
45 Sc # 1	615221.69	1.83	620105.56	99.2	60 - 125.4		611696.56	606144.38	627824.06
45 Sc # 3	792358.44	0.53	771387.50	102.7	60 - 125.4		796396.94	792604.69	788073.63
74 Ge # 1	162218.84	0.20	164848.81	98.4	60 - 125.4		162446.61	161846.98	162362.92
74 Ge # 2	31232.63	0.92	33226.06	94.0	60 - 125.4		31110.70	31027.26	31559.93
74 Ge # 3	179939.00	0.62	178474.77	100.8	60 - 125.4		181213.02	179401.41	179202.55
89 Y # 3	1073037.80	0.61	1057065.90	101.5	60 - 125.4		1079990.90	1066916.10	1072206.50
115 In # 3	909771.31	0.86	917456.31	99.2	60 - 125.4		908246.13	918208.44	902859.56
159 Tb # 3	1211987.50	1.32	1264337.30	95.9	60 - 125.4		1230368.10	1201944.50	1203650.00
209 Bi # 3	680633.81	0.98	698508.81	97.4	60 - 125.4		687428.63	674073.56	680399.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\110SMPL.D\110SMPL.D#
Date Acquired:	Dec 22 2012 03:40 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-7-a
Misc Info:	3010 1/5
Vial Number:	3408
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05269	-0.05269	ug/l	1.49	100.00		10.00	3.33	6.67
11 B # 3	7.209	7.209	ug/l	2.58	200.00		41372.51	40476.88	40720.98
23 Na # 1	2688	2688	ug/l	0.27	90000.00		17464654.00	17438482.00	17424070.00
24 Mg # 1	662	662	ug/l	1.18	90000.00		2854888.30	2783960.00	2781285.80
27 Al # 1	11.85	11.85	ug/l	3.80	90000.00		60012.31	56492.09	59863.75
39 K # 2	756.8	756.8	ug/l	0.38	90000.00		360922.59	356188.75	359683.38
40 Ca # 1	1598	1598	ug/l	0.09	90000.00		15621801.00	15589993.00	15499283.00
47 Ti # 3	-0.08157	-0.08157	ug/l	35.12	1800.00		260.01	320.02	263.34
51 V # 2	0.7608	0.7608	ug/l	3.74	1800.00		2670.24	2573.55	2734.25
52 Cr # 2	0.205	0.205	ug/l	3.15	1800.00		834.03	864.69	864.03
55 Mn # 3	15.47	15.47	ug/l	1.01	2700.00		333968.47	327936.38	327673.13
56 Fe # 1	3585	3585	ug/l	0.56	90000.00		50093760.00	50345004.00	50250184.00
59 Co # 3	0.009984	0.009984	ug/l	25.72	1800.00		436.69	360.01	380.02
60 Ni # 2	0.1385	0.1385	ug/l	4.95	1800.00		158.67	170.00	171.34
63 Cu # 2	0.07868	0.07868	ug/l	1.47	1800.00		378.01	380.67	376.01
66 Zn # 3	0.07351	0.07351	ug/l	64.32	1800.00		1646.80	1470.10	1560.12
75 As # 2	0.7377	0.7377	ug/l	4.46	1800.00		219.00	235.34	224.34
78 Se # 1	0.009445	0.009445	ug/l	45.20	100.00		16.33	16.00	13.33
88 Sr # 3	8.144	8.144	ug/l	1.89	1800.00		178001.56	175233.77	175500.09
95 Mo # 3	-0.263	-0.263	ug/l	1.36	1800.00		113.34	93.34	113.34
107 Ag # 3	-0.03201	-0.03201	ug/l	2.06	100.00		20.00	20.00	10.00
111 Cd # 3	0.1208	0.1208	ug/l	14.14	100.00		316.64	273.31	246.63
118 Sn # 3	0.02138	0.02138	ug/l	32.64	1800.00		416.69	470.02	466.69
121 Sb # 3	-0.006709	-0.006709	ug/l	42.85	100.00		243.34	223.34	246.68
137 Ba # 3	14.76	14.76	ug/l	0.85	1800.00		35532.23	35435.47	34864.46
202 Hg # 3	0.005729	0.005729	ug/l	34.88	5.00		34.33	36.00	29.33
205 Tl # 3	-0.03256	-0.03256	ug/l	1.29	20.00		40.00	30.00	30.00
208 Pb # 3	-0.04024	-0.04024	ug/l	6.67	1800.00		433.35	380.01	483.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	746927.44	2.77	762890.69	97.9	60 - 125.4		770269.25	739596.31	730916.63
45 Sc # 1	604293.69	0.38	620105.56	97.5	60 - 125.4		606509.31	604423.31	601948.44
45 Sc # 3	780939.25	0.55	771387.50	101.2	60 - 125.4		784767.94	781695.00	776354.88
74 Ge # 1	161491.92	0.37	164848.81	98.0	60 - 125.4		161809.64	160810.66	161855.48
74 Ge # 2	31314.37	0.36	33226.06	94.2	60 - 125.4		31429.60	31205.73	31307.77
74 Ge # 3	178321.81	0.50	178474.77	99.9	60 - 125.4		178712.16	178959.73	177293.52
89 Y # 3	1067127.30	1.83	1057065.90	101.0	60 - 125.4		1073178.80	1082884.10	1045319.10
115 In # 3	904239.13	1.72	917456.31	98.6	60 - 125.4		919608.31	904509.25	888600.00
159 Tb # 3	1198299.00	1.06	1264337.30	94.8	60 - 125.4		1205117.00	1206152.10	1183627.80
209 Bi # 3	657690.13	0.70	698508.81	94.2	60 - 125.4		662752.13	653773.88	656544.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\111SMPL.D\111SMPL.D#
Date Acquired:	Dec 22 2012 03:47 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-8-a
Misc Info:	3010 1/5
Vial Number:	3409
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.06104	0.06104	ug/l	11.24	100.00		480.03	486.69	420.02
11 B	# 3	24.43	24.43	ug/l	3.28	200.00		108769.38	108990.55	110095.32
23 Na	# 1	3442	3442	ug/l	1.45	90000.00		23206808.00	22554372.00	22279138.00
24 Mg	# 1	2064	2064	ug/l	1.16	90000.00		8990223.00	8919427.00	8797906.00
27 Al	# 1	6.474	6.474	ug/l	0.43	90000.00		36017.10	34974.80	35479.41
39 K	# 2	1463	1463	ug/l	1.16	90000.00		676715.00	663217.00	673806.63
40 Ca	# 1	4891	4891	ug/l	1.30	90000.00		48714072.00	48685320.00	48019832.00
47 Ti	# 3	0.06484	0.06484	ug/l	71.72	1800.00		426.69	520.03	430.02
51 V	# 2	0.2007	0.2007	ug/l	9.81	1800.00		1191.38	1162.05	1095.38
52 Cr	# 2	0.1302	0.1302	ug/l	1.06	1800.00		616.02	612.02	610.68
55 Mn	# 3	82.2	82.2	ug/l	0.83	2700.00		1725469.50	1734376.10	1709014.90
56 Fe	# 1	1752	1752	ug/l	1.03	90000.00		25125040.00	25040532.00	24874012.00
59 Co	# 3	0.7298	0.7298	ug/l	0.72	1800.00		11551.20	11501.12	11457.72
60 Ni	# 2	0.3705	0.3705	ug/l	3.06	1800.00		411.34	403.34	428.68
63 Cu	# 2	0.2897	0.2897	ug/l	0.80	1800.00		968.03	964.03	960.03
66 Zn	# 3	0.6667	0.6667	ug/l	3.38	1800.00		2720.31	2740.31	2623.63
75 As	# 2	0.3499	0.3499	ug/l	3.40	1800.00		114.33	116.67	121.33
78 Se	# 1	0.03464	0.03464	ug/l	25.05	100.00		28.67	25.67	21.67
88 Sr	# 3	37.9	37.9	ug/l	2.47	1800.00		820723.50	833169.56	831617.31
95 Mo	# 3	-0.2687	-0.2687	ug/l	1.71	1800.00		80.00	106.67	80.00
107 Ag	# 3	-0.03255	-0.03255	ug/l	1.40	100.00		10.00	10.00	16.67
111 Cd	# 3	0.01587	0.01587	ug/l	110.52	100.00		59.97	123.30	93.31
118 Sn	# 3	0.03115	0.03115	ug/l	23.47	1800.00		543.37	466.69	516.69
121 Sb	# 3	-0.004426	-0.004426	ug/l	108.36	100.00		233.34	280.01	253.34
137 Ba	# 3	38.27	38.27	ug/l	1.10	1800.00		93571.81	92884.16	90824.86
202 Hg	# 3	0.002124	0.002124	ug/l	97.79	5.00		24.33	31.67	26.67
205 Tl	# 3	-0.02077	-0.02077	ug/l	7.00	20.00		203.34	170.01	206.67
208 Pb	# 3	-0.02177	-0.02177	ug/l	25.66	1800.00		696.70	913.38	793.37

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	742788.94	2.37	762890.69	97.4	60 - 125.4		742978.31	760297.81	725090.69
45 Sc	# 1	615724.31	1.14	620105.56	99.3	60 - 125.4		623127.69	609219.38	614825.88
45 Sc	# 3	792073.56	0.85	771387.50	102.7	60 - 125.4		799854.38	788081.94	788284.44
74 Ge	# 1	163162.88	0.38	164848.81	99.0	60 - 125.4		163593.20	163443.58	162451.86
74 Ge	# 2	30982.06	0.26	33226.06	93.2	60 - 125.4		30905.24	30977.07	31063.87
74 Ge	# 3	179080.64	1.11	178474.77	100.3	60 - 125.4		181031.56	179153.50	177056.89
89 Y	# 3	1088437.60	1.68	1057065.90	103.0	60 - 125.4		1107760.30	1071513.60	1086039.10
115 In	# 3	916181.94	0.46	917456.31	99.9	60 - 125.4		919916.56	916963.00	911666.25
159 Tb	# 3	1213516.60	0.67	1264337.30	96.0	60 - 125.4		1222842.50	1207915.80	1209791.50
209 Bi	# 3	673127.13	0.82	698508.81	96.4	60 - 125.4		676925.94	675660.75	666794.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\112SMPL.D\112SMPL.D#
Date Acquired:	Dec 22 2012 03:53 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-9-a
Misc Info:	3010 1/5
Vial Number:	3410
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05073	-0.05073	ug/l	1.79	100.00		16.67	10.00	16.67
11 B # 3	14.9	14.9	ug/l	2.17	200.00		72307.75	70909.40	70021.90
23 Na # 1	4306	4306	ug/l	2.61	90000.00		28589232.00	28033156.00	28127132.00
24 Mg # 1	2319	2319	ug/l	2.07	90000.00		10032168.00	9924471.00	9987299.00
27 Al # 1	24.94	24.94	ug/l	4.30	90000.00		123289.22	116038.44	117942.00
39 K # 2	1631	1631	ug/l	0.70	90000.00		725979.50	737003.00	735288.19
40 Ca # 1	7817	7817	ug/l	1.46	90000.00		76882736.00	77101072.00	77917104.00
47 Ti # 3	0.4178	0.4178	ug/l	4.22	1800.00		880.05	860.05	886.72
51 V # 2	0.2523	0.2523	ug/l	6.97	1800.00		1280.73	1282.73	1224.05
52 Cr # 2	0.07549	0.07549	ug/l	3.20	1800.00		434.68	439.34	431.34
55 Mn # 3	30.19	30.19	ug/l	0.28	2700.00		634978.25	628676.69	626111.81
56 Fe # 1	993.1	993.1	ug/l	2.53	90000.00		14085098.00	14269990.00	14109805.00
59 Co # 3	0.02021	0.02021	ug/l	7.32	1800.00		573.36	530.02	530.03
60 Ni # 2	0.1383	0.1383	ug/l	7.77	1800.00		148.67	161.34	175.34
63 Cu # 2	0.0696	0.0696	ug/l	9.60	1800.00		318.01	362.67	347.34
66 Zn # 3	0.4325	0.4325	ug/l	7.14	1800.00		2230.22	2163.55	2263.56
75 As # 2	0.136	0.136	ug/l	10.62	1800.00		60.67	54.33	58.00
78 Se # 1	0.02927	0.02927	ug/l	4.80	100.00		22.00	23.00	23.33
88 Sr # 3	55.81	55.81	ug/l	0.32	1800.00		1193838.10	1191733.50	1180139.50
95 Mo # 3	-0.2712	-0.2712	ug/l	0.07	1800.00		80.00	80.00	80.00
107 Ag # 3	-0.03279	-0.03279	ug/l	1.18	100.00		13.33	10.00	6.67
111 Cd # 3	0.06101	0.06101	ug/l	21.55	100.00		149.98	169.98	196.65
118 Sn # 3	0.01844	0.01844	ug/l	49.17	1800.00		473.36	380.02	460.02
121 Sb # 3	-0.009058	-0.009058	ug/l	36.40	100.00		203.34	236.68	230.01
137 Ba # 3	24.28	24.28	ug/l	1.59	1800.00		58975.56	58125.18	57175.28
202 Hg # 3	0.005824	0.005824	ug/l	30.17	5.00		32.67	36.67	30.33
205 Tl # 3	-0.0326	-0.0326	ug/l	1.94	20.00		43.33	30.00	26.67
208 Pb # 3	-0.01481	-0.01481	ug/l	9.96	1800.00		886.71	906.71	936.71

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	740278.94	2.14	762890.69	97.0	60 - 125.4		755811.94	724158.13	740866.88
45 Sc # 1	614551.38	2.13	620105.56	99.1	60 - 125.4		608356.63	605700.44	629597.13
45 Sc # 3	789538.19	0.82	771387.50	102.4	60 - 125.4		789414.44	796100.06	783100.06
74 Ge # 1	160130.14	0.68	164848.81	97.1	60 - 125.4		158989.02	160254.48	161146.92
74 Ge # 2	30419.87	1.45	33226.06	91.6	60 - 125.4		29911.62	30649.71	30698.27
74 Ge # 3	176711.22	0.58	178474.77	99.0	60 - 125.4		177647.03	176864.92	175621.73
89 Y # 3	1060985.90	0.93	1057065.90	100.4	60 - 125.4		1067535.90	1065794.30	1049627.30
115 In # 3	907024.69	0.78	917456.31	98.9	60 - 125.4		912710.38	899070.94	909292.81
159 Tb # 3	1217853.40	0.75	1264337.30	96.3	60 - 125.4		1227337.10	1209192.80	1217030.40
209 Bi # 3	654206.69	0.44	698508.81	93.7	60 - 125.4		654252.94	657073.13	651294.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\113_CCV.D\113_CCV.D#
Date Acquired:	Dec 22 2012 04:00 am
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag
9 Be	49.31 ug/l	0.71	50.00	89.6 -	110	
11 B	96.24 ug/l	0.46	100.00	89.6 -	110	
23 Na	4667.00 ug/l	1.67	5000.00	89.6 -	110	
24 Mg	4734.00 ug/l	1.77	5000.00	89.6 -	110	
27 Al	468.10 ug/l	1.81	500.00	89.6 -	110	
39 K	4873.00 ug/l	0.95	5000.00	89.6 -	110	
40 Ca	4881.00 ug/l	1.55	5000.00	89.6 -	110	
47 Ti	48.34 ug/l	1.31	50.00	89.6 -	110	
51 V	49.14 ug/l	0.32	50.00	89.6 -	110	
52 Cr	49.27 ug/l	0.45	50.00	89.6 -	110	
55 Mn	500.40 ug/l	0.28	500.00	89.6 -	110	
56 Fe	4941.00 ug/l	1.41	5000.00	89.6 -	110	
59 Co	49.76 ug/l	1.64	50.00	89.6 -	110	
60 Ni	50.26 ug/l	0.62	50.00	89.6 -	110	
63 Cu	50.11 ug/l	0.07	50.00	89.6 -	110	
66 Zn	48.44 ug/l	1.11	50.00	89.6 -	110	
75 As	47.82 ug/l	0.48	50.00	89.6 -	110	
78 Se	48.51 ug/l	0.43	50.00	89.6 -	110	
88 Sr	49.37 ug/l	1.09	50.00	89.6 -	110	
95 Mo	48.85 ug/l	0.60	50.00	89.6 -	110	
107 Ag	47.76 ug/l	0.86	50.00	89.6 -	110	
111 Cd	47.95 ug/l	0.96	50.00	89.6 -	110	
118 Sn	48.02 ug/l	0.67	50.00	89.6 -	110	
121 Sb	47.41 ug/l	0.75	50.00	89.6 -	110	
137 Ba	48.40 ug/l	1.43	50.00	89.6 -	110	
202 Hg	2.40 ug/l	1.67	2.50	89.6 -	110	
205 Tl	9.44 ug/l	0.67	10.00	89.6 -	110	
208 Pb	46.98 ug/l	0.35	50.00	89.6 -	110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6 Li	743657.75	0.77	762890.69	97.5	59.6 -	125	
45 Sc	605972.25	1.71	620105.56	97.7	59.6 -	125	
45 Sc	796734.75	0.78	771387.50	103.3	59.6 -	125	
74 Ge	160113.92	0.28	164848.81	97.1	59.6 -	125	
74 Ge	30604.12	0.43	33226.06	92.1	59.6 -	125	
74 Ge	175430.64	0.38	178474.77	98.3	59.6 -	125	
89 Y	1058034.10	0.90	1057065.90	100.1	59.6 -	125	
115 In	901323.00	0.22	917456.31	98.2	59.6 -	125	
159 Tb	1192503.40	0.60	1264337.30	94.3	59.6 -	125	
209 Bi	627535.44	1.04	698508.81	89.8	59.6 -	125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\114_CCB.D\114_CCB.D#
Date Acquired: Dec 22 2012 04:07 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.05 ug/l	4.98	0.05	
11 B	0.22 ug/l	18.86	10.00	
23 Na	-12.69 ug/l	7.45	25.00	
24 Mg	1.61 ug/l	4.44	25.00	
27 Al	-0.87 ug/l	2.35	5.00	
39 K	2.48 ug/l	39.34	25.00	
40 Ca	2.88 ug/l	2.78	25.00	
47 Ti	-0.26 ug/l	3.82	0.50	
51 V	-0.06 ug/l	8.80	0.50	
52 Cr	0.00 ug/l	193.77	0.50	
55 Mn	-0.20 ug/l	2.50	0.50	
56 Fe	2.18 ug/l	5.37	10.00	
59 Co	-0.01 ug/l	18.32	0.05	
60 Ni	0.01 ug/l	37.88	0.50	
63 Cu	0.00 ug/l	147.33	0.50	
66 Zn	-0.51 ug/l	1.49	2.00	
75 As	0.02 ug/l	32.97	0.25	
78 Se	0.04 ug/l	5.65	0.25	
88 Sr	-0.08 ug/l	1.69	0.10	
95 Mo	-0.19 ug/l	8.75	0.50	
107 Ag	-0.02 ug/l	1.54	0.10	
111 Cd	-0.01 ug/l	23.38	0.05	
118 Sn	0.00 ug/l	136.45	0.50	
121 Sb	0.29 ug/l	8.56	0.50	
137 Ba	-0.04 ug/l	25.06	0.50	
202 Hg	0.02 ug/l	5.89	0.08	
205 Tl	-0.03 ug/l	6.50	0.10	
208 Pb	-0.04 ug/l	7.34	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	793792.25	1.12	762890.69	104.1	59.6 - 125	
45 Sc	623200.00	1.32	620105.56	100.5	59.6 - 125	
45 Sc	820568.50	0.64	771387.50	106.4	59.6 - 125	
74 Ge	165166.81	0.34	164848.81	100.2	59.6 - 125	
74 Ge	31339.44	1.01	33226.06	94.3	59.6 - 125	
74 Ge	182746.67	0.59	178474.77	102.4	59.6 - 125	
89 Y	1089320.10	0.76	1057065.90	103.1	59.6 - 125	
115 In	916766.94	0.43	917456.31	99.9	59.6 - 125	
159 Tb	1206101.60	1.48	1264337.30	95.4	59.6 - 125	
209 Bi	645075.75	0.43	698508.81	92.4	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\115SMPL.D\115SMPL.D#
Date Acquired:	Dec 22 2012 04:13 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-10-a
Misc Info:	3010 1/5
Vial Number:	3411
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0399	-0.0399	ug/l	14.17	100.00		83.34	40.00	50.00
11 B # 3	79.11	79.11	ug/l	0.68	200.00		327473.31	327077.56	327453.38
23 Na # 1	9154	9154	ug/l	0.36	90000.00		58953560.00	59754744.00	58355200.00
24 Mg # 1	1291	1291	ug/l	0.35	90000.00		5484299.50	5518920.00	5462965.50
27 Al # 1	1.712	1.712	ug/l	3.62	90000.00		13940.52	13616.07	13395.96
39 K # 2	5886	5886	ug/l	0.52	90000.00		2577429.30	2580966.50	2576091.00
40 Ca # 1	6075	6075	ug/l	1.79	90000.00		60150260.00	58733532.00	59038404.00
47 Ti # 3	-0.1024	-0.1024	ug/l	16.58	1800.00		233.34	263.34	266.68
51 V # 2	0.124	0.124	ug/l	3.28	1800.00		912.03	918.03	932.70
52 Cr # 2	0.08113	0.08113	ug/l	5.41	1800.00		452.01	435.34	456.68
55 Mn # 3	20.6	20.6	ug/l	0.62	2700.00		431666.66	427289.47	424414.56
56 Fe # 1	7399	7399	ug/l	1.26	90000.00		104808330.00	103531130.00	103770640.00
59 Co # 3	0.04038	0.04038	ug/l	17.61	1800.00		953.39	740.04	833.38
60 Ni # 2	0.4573	0.4573	ug/l	5.06	1800.00		514.68	497.34	469.34
63 Cu # 2	0.5495	0.5495	ug/l	2.21	1800.00		1606.76	1690.10	1634.76
66 Zn # 3	0.09679	0.09679	ug/l	72.70	1800.00		1426.77	1630.14	1656.80
75 As # 2	2.055	2.055	ug/l	0.99	1800.00		570.68	573.68	563.35
78 Se # 1	0.1494	0.1494	ug/l	7.57	100.00		64.67	73.00	69.00
88 Sr # 3	26.61	26.61	ug/l	1.90	1800.00		573394.13	568426.69	560151.69
95 Mo # 3	-0.09399	-0.09399	ug/l	12.70	1800.00		686.70	663.37	600.03
107 Ag # 3	-0.03023	-0.03023	ug/l	4.10	100.00		43.33	23.33	26.67
111 Cd # 3	0.05553	0.05553	ug/l	7.52	100.00		156.42	166.43	153.12
118 Sn # 3	0.04865	0.04865	ug/l	22.67	1800.00		560.03	543.36	640.04
121 Sb # 3	0.1646	0.1646	ug/l	8.02	100.00		1263.43	1200.09	1130.08
137 Ba # 3	18.48	18.48	ug/l	0.12	1800.00		43891.13	43045.19	42784.46
202 Hg # 3	0.008641	0.008641	ug/l	30.44	5.00		39.33	41.67	32.67
205 Tl # 3	-0.03244	-0.03244	ug/l	3.13	20.00		46.67	36.67	20.00
208 Pb # 3	-0.02915	-0.02915	ug/l	16.85	1800.00		723.37	533.35	650.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	742617.75	0.60	762890.69	97.3	60 - 125.4		743942.88	746278.31	737631.94
45 Sc # 1	606576.63	0.86	620105.56	97.8	60 - 125.4		605222.00	612342.06	602165.75
45 Sc # 3	774407.63	0.56	771387.50	100.4	60 - 125.4		779375.75	772403.13	771444.00
74 Ge # 1	159198.44	0.28	164848.81	96.6	60 - 125.4		159551.84	158692.53	159350.95
74 Ge # 2	30131.01	0.58	33226.06	90.7	60 - 125.4		29955.15	30307.43	30130.44
74 Ge # 3	174797.38	0.63	178474.77	97.9	60 - 125.4		175269.27	175589.58	173533.28
89 Y # 3	1060330.30	1.14	1057065.90	100.3	60 - 125.4		1048625.40	1072694.50	1059671.00
115 In # 3	886237.81	1.22	917456.31	96.6	60 - 125.4		898359.75	882578.94	877774.69
159 Tb # 3	1181276.10	0.67	1264337.30	93.4	60 - 125.4		1188420.60	1172801.50	1182606.40
209 Bi # 3	650194.19	0.87	698508.81	93.1	60 - 125.4		656597.00	648241.06	645744.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\116SMPL.D\116SMPL.D#
Date Acquired:	Dec 22 2012 04:20 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-11-a
Misc Info:	3010 1/5
Vial Number:	3412
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04419	-0.04419	ug/l	3.55	100.00		43.33	46.67	33.33
11 B # 3	3.231	3.231	ug/l	2.10	200.00		25356.63	24966.12	24785.87
23 Na # 1	1411	1411	ug/l	2.08	90000.00		9308401.00	9367832.00	9303577.00
24 Mg # 1	370.7	370.7	ug/l	0.31	90000.00		1552763.80	1590702.60	1606445.80
27 Al # 1	37.86	37.86	ug/l	1.85	90000.00		175080.25	176336.81	175852.52
39 K # 2	548.7	548.7	ug/l	0.42	90000.00		258096.30	258608.59	259362.52
40 Ca # 1	391.4	391.4	ug/l	1.75	90000.00		3850148.30	3857651.30	3879345.00
47 Ti # 3	0.09912	0.09912	ug/l	51.95	1800.00		526.70	546.76	426.71
51 V # 2	0.284	0.284	ug/l	4.54	1800.00		1315.39	1361.40	1382.07
52 Cr # 2	0.09826	0.09826	ug/l	10.07	1800.00		498.68	538.68	484.68
55 Mn # 3	3.574	3.574	ug/l	0.98	2700.00		83845.41	83487.52	82053.27
56 Fe # 1	528.1	528.1	ug/l	2.34	90000.00		7480401.50	7419962.50	7459217.50
59 Co # 3	0.05179	0.05179	ug/l	5.77	1800.00		1070.07	983.39	1060.07
60 Ni # 2	0.2381	0.2381	ug/l	3.28	1800.00		272.00	258.00	276.00
63 Cu # 2	0.1238	0.1238	ug/l	8.05	1800.00		468.01	490.01	524.70
66 Zn # 3	0.4446	0.4446	ug/l	3.23	1800.00		2256.90	2296.90	2253.56
75 As # 2	0.3254	0.3254	ug/l	5.97	1800.00		103.33	111.67	113.00
78 Se # 1	0.02203	0.02203	ug/l	18.82	100.00		18.00	21.00	21.33
88 Sr # 3	2.868	2.868	ug/l	1.07	1800.00		63941.15	63961.16	62870.18
95 Mo # 3	-0.2513	-0.2513	ug/l	0.90	1800.00		140.01	143.34	153.34
107 Ag # 3	-0.03044	-0.03044	ug/l	3.37	100.00		33.33	36.67	20.00
111 Cd # 3	0.002087	0.002087	ug/l	534.74	100.00		46.62	86.62	66.61
118 Sn # 3	0.04915	0.04915	ug/l	19.68	1800.00		573.37	566.70	653.37
121 Sb # 3	0.06147	0.06147	ug/l	8.69	100.00		630.03	656.70	586.70
137 Ba # 3	4.722	4.722	ug/l	1.47	1800.00		11651.46	11311.23	11334.63
202 Hg # 3	0.007347	0.007347	ug/l	13.44	5.00		36.67	38.67	35.00
205 Tl # 3	-0.03133	-0.03133	ug/l	1.30	20.00		56.67	46.67	46.67
208 Pb # 3	0.01973	0.01973	ug/l	19.43	1800.00		1616.76	1526.75	1663.43

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	750662.50	1.63	762890.69	98.4	60 - 125.4		757762.13	757726.50	736498.81
45 Sc # 1	607940.19	2.05	620105.56	98.0	60 - 125.4		594068.50	611599.06	618153.19
45 Sc # 3	791997.31	0.78	771387.50	102.7	60 - 125.4		797400.88	793321.69	785269.44
74 Ge # 1	161147.17	1.28	164848.81	97.8	60 - 125.4		159081.45	161140.64	163219.44
74 Ge # 2	30593.56	0.44	33226.06	92.1	60 - 125.4		30616.41	30447.73	30716.54
74 Ge # 3	178861.89	0.36	178474.77	100.2	60 - 125.4		179598.56	178631.14	178356.00
89 Y # 3	1069230.00	1.75	1057065.90	101.2	60 - 125.4		1088012.90	1069014.00	1050662.80
115 In # 3	907425.31	0.37	917456.31	98.9	60 - 125.4		910054.13	908540.06	903681.63
159 Tb # 3	1203259.00	0.85	1264337.30	95.2	60 - 125.4		1211386.60	1206607.50	1191783.00
209 Bi # 3	670877.38	0.92	698508.81	96.0	60 - 125.4		677494.56	669893.44	665244.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\117SMPL.D\117SMPL.D#
Date Acquired:	Dec 22 2012 04:27 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-12-a
Misc Info:	3010 1/5
Vial Number:	3501
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0527	-0.0527	ug/l	1.53	100.00		10.00	6.67	3.33
11 B # 3	0.0124	0.0124	ug/l	583.95	200.00		12261.50	11988.03	12054.71
23 Na # 1	-10.06	-10.06	ug/l	6.81	90000.00		181522.06	183579.53	189289.86
24 Mg # 1	0.0354	0.0354	ug/l	333.62	90000.00		6346.02	5260.98	5769.18
27 Al # 1	-0.02906	-0.02906	ug/l	97.21	90000.00		5834.54	6017.97	5921.23
39 K # 2	4.314	4.314	ug/l	17.62	90000.00		18254.11	18270.86	17930.36
40 Ca # 1	6.048	6.048	ug/l	2.93	90000.00		97490.98	92963.11	94377.09
47 Ti # 3	-0.1713	-0.1713	ug/l	22.43	1800.00		130.01	223.34	176.67
51 V # 2	0.1275	0.1275	ug/l	10.39	1800.00		952.03	975.37	920.70
52 Cr # 2	0.05053	0.05053	ug/l	10.15	1800.00		376.01	364.01	349.34
55 Mn # 3	-0.2905	-0.2905	ug/l	5.50	2700.00		2383.60	2962.26	2500.26
56 Fe # 1	1.221	1.221	ug/l	6.74	90000.00		33378.77	31719.57	30833.71
59 Co # 3	0.002495	0.002495	ug/l	28.30	1800.00		266.68	273.34	286.68
60 Ni # 2	0.1947	0.1947	ug/l	6.30	1800.00		238.00	216.67	216.67
63 Cu # 2	0.02836	0.02836	ug/l	8.38	1800.00		225.34	229.34	241.34
66 Zn # 3	-0.1812	-0.1812	ug/l	16.50	1800.00		1083.40	1113.41	1013.39
75 As # 2	0.06826	0.06826	ug/l	12.87	1800.00		37.33	42.00	40.33
78 Se # 1	0.0005277	0.0005277	ug/l	602.99	100.00		12.33	12.67	10.33
88 Sr # 3	-0.08792	-0.08792	ug/l	1.28	1800.00		283.34	296.68	250.01
95 Mo # 3	-0.2701	-0.2701	ug/l	1.93	1800.00		103.34	70.00	76.67
107 Ag # 3	-0.03213	-0.03213	ug/l	1.86	100.00		20.00	16.67	10.00
111 Cd # 3	-0.0195	-0.0195	ug/l	20.20	100.00		29.96	33.31	19.97
118 Sn # 3	0.02105	0.02105	ug/l	44.05	1800.00		433.35	500.02	413.35
121 Sb # 3	0.02689	0.02689	ug/l	13.00	100.00		426.69	410.02	450.02
137 Ba # 3	-0.0237	-0.0237	ug/l	15.65	1800.00		93.34	96.67	110.00
202 Hg # 3	0.003263	0.003263	ug/l	42.14	5.00		32.33	27.67	27.67
205 Tl # 3	-0.03307	-0.03307	ug/l	2.03	20.00		36.67	20.00	23.33
208 Pb # 3	-0.04921	-0.04921	ug/l	3.35	1800.00		286.68	280.01	226.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	753059.75	2.01	762890.69	98.7	60 - 125.4		755332.81	766932.69	736913.81
45 Sc # 1	613447.63	0.61	620105.56	98.9	60 - 125.4		617219.69	609741.69	613381.38
45 Sc # 3	783324.81	1.02	771387.50	101.5	60 - 125.4		780164.38	792406.06	777404.06
74 Ge # 1	161984.55	0.25	164848.81	98.3	60 - 125.4		162439.80	161848.16	161665.67
74 Ge # 2	30764.41	0.81	33226.06	92.6	60 - 125.4		30658.11	30584.60	31050.53
74 Ge # 3	177335.33	0.88	178474.77	99.4	60 - 125.4		178715.75	175653.14	177637.05
89 Y # 3	1069962.10	0.31	1057065.90	101.2	60 - 125.4		1073483.80	1066994.80	1069407.80
115 In # 3	902871.63	0.66	917456.31	98.4	60 - 125.4		907969.13	896374.56	904271.31
159 Tb # 3	1203235.80	1.85	1264337.30	95.2	60 - 125.4		1193451.90	1187552.40	1228703.10
209 Bi # 3	664401.13	0.87	698508.81	95.1	60 - 125.4		671066.44	661112.69	661024.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\118SMPL.D\118SMPL.D#
Date Acquired:	Dec 22 2012 04:34 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-13-a
Misc Info:	3010 1/5
Vial Number:	3502
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.05322	-0.05322	ug/l	0.91	100.00		3.33	3.33	6.67
11 B	# 3	2.428	2.428	ug/l	3.36	200.00		21898.32	21517.87	21300.84
23 Na	# 1	2364	2364	ug/l	1.19	90000.00		15772770.00	15647070.00	15752620.00
24 Mg	# 1	1252	1252	ug/l	0.69	90000.00		5422301.00	5393572.50	5467008.00
27 Al	# 1	-0.2918	-0.2918	ug/l	9.57	90000.00		4880.96	4697.55	4744.20
39 K	# 2	378.6	378.6	ug/l	0.83	90000.00		186828.50	184345.41	181825.09
40 Ca	# 1	4581	4581	ug/l	1.46	90000.00		45716104.00	45618404.00	45493024.00
47 Ti	# 3	0.2519	0.2519	ug/l	14.13	1800.00		683.37	726.71	640.04
51 V	# 2	0.1721	0.1721	ug/l	5.27	1800.00		1094.71	1048.04	1054.04
52 Cr	# 2	0.01042	0.01042	ug/l	31.61	1800.00		250.00	230.00	238.00
55 Mn	# 3	1.436	1.436	ug/l	0.87	2700.00		38166.08	37918.75	38189.53
56 Fe	# 1	32.45	32.45	ug/l	0.85	90000.00		479365.56	477958.31	482289.22
59 Co	# 3	-0.00969	-0.00969	ug/l	19.35	1800.00		60.00	90.00	116.67
60 Ni	# 2	0.1517	0.1517	ug/l	13.59	1800.00		158.00	176.00	198.67
63 Cu	# 2	0.1113	0.1113	ug/l	0.73	1800.00		465.34	466.01	454.01
66 Zn	# 3	19.64	19.64	ug/l	0.79	1800.00		38563.98	38263.21	37885.63
75 As	# 2	0.08193	0.08193	ug/l	14.45	1800.00		43.67	40.67	46.33
78 Se	# 1	-0.004288	-0.004288	ug/l	47.11	100.00		10.00	9.00	10.67
88 Sr	# 3	32.17	32.17	ug/l	0.80	1800.00		680561.38	684587.63	674888.31
95 Mo	# 3	-0.2107	-0.2107	ug/l	3.04	1800.00		300.01	286.68	253.34
107 Ag	# 3	-0.03188	-0.03188	ug/l	1.84	100.00		23.33	13.33	16.67
111 Cd	# 3	-0.009102	-0.009102	ug/l	55.19	100.00		36.56	53.23	49.91
118 Sn	# 3	0.009643	0.009643	ug/l	91.35	1800.00		443.36	350.02	383.35
121 Sb	# 3	0.01524	0.01524	ug/l	21.00	100.00		373.35	356.68	340.01
137 Ba	# 3	8.482	8.482	ug/l	1.18	1800.00		20581.27	20280.79	20410.97
202 Hg	# 3	0.008251	0.008251	ug/l	22.76	5.00		41.33	34.67	38.67
205 Tl	# 3	-0.0325	-0.0325	ug/l	1.84	20.00		33.33	43.33	26.67
208 Pb	# 3	0.0505	0.0505	ug/l	4.73	1800.00		2226.81	2213.47	2126.80

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	742719.69	0.39	762890.69	97.4	60 - 125.4		741114.63	746056.50	740987.88
45 Sc	# 1	618518.06	1.24	620105.56	99.7	60 - 125.4		613716.06	614467.25	627370.81
45 Sc	# 3	794376.31	0.55	771387.50	103.0	60 - 125.4		799208.50	793346.00	790574.44
74 Ge	# 1	161931.98	0.55	164848.81	98.2	60 - 125.4		161568.25	161286.38	162941.31
74 Ge	# 2	30736.05	0.97	33226.06	92.5	60 - 125.4		30891.95	30925.24	30390.96
74 Ge	# 3	176466.31	0.30	178474.77	98.9	60 - 125.4		176480.11	176990.41	175928.41
89 Y	# 3	1051668.40	0.40	1057065.90	99.5	60 - 125.4		1046832.50	1054847.00	1053325.50
115 In	# 3	908123.81	1.07	917456.31	99.0	60 - 125.4		914952.25	912437.50	896981.88
159 Tb	# 3	1206481.50	1.00	1264337.30	95.4	60 - 125.4		1200779.50	1220365.90	1198299.00
209 Bi	# 3	667967.94	0.38	698508.81	95.6	60 - 125.4		670016.38	668789.56	665097.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\119SMPL.D\119SMPL.D#
Date Acquired:	Dec 22 2012 04:40 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-14-a
Misc Info:	3010 1/5
Vial Number:	3503
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.01892	0.01892	ug/l	52.46	100.00		340.01	280.01	266.68
11 B	# 3	1.337	1.337	ug/l	6.52	200.00		17312.81	17659.83	17109.18
23 Na	# 1	972.9	972.9	ug/l	1.34	90000.00		6479506.50	6402690.50	6436861.00
24 Mg	# 1	227.5	227.5	ug/l	2.51	90000.00		982857.25	954871.44	953725.94
27 Al	# 1	4.508	4.508	ug/l	1.70	90000.00		25938.09	26031.36	25858.97
39 K	# 2	247.1	247.1	ug/l	0.76	90000.00		124256.88	126455.16	123904.34
40 Ca	# 1	385.6	385.6	ug/l	1.75	90000.00		3776262.80	3785698.30	3735280.00
47 Ti	# 3	-0.1123	-0.1123	ug/l	25.09	1800.00		220.01	233.34	280.01
51 V	# 2	0.2116	0.2116	ug/l	2.42	1800.00		1148.71	1157.38	1171.38
52 Cr	# 2	0.03696	0.03696	ug/l	16.56	1800.00		327.34	300.00	327.34
55 Mn	# 3	1.898	1.898	ug/l	0.64	2700.00		48480.83	48106.00	47527.61
56 Fe	# 1	1.589	1.589	ug/l	3.88	90000.00		36796.22	36733.03	35927.83
59 Co	# 3	0.3911	0.3911	ug/l	0.55	1800.00		6238.10	6244.74	6244.75
60 Ni	# 2	0.543	0.543	ug/l	3.75	1800.00		579.35	577.35	613.35
63 Cu	# 2	0.4945	0.4945	ug/l	2.32	1800.00		1486.75	1562.75	1484.75
66 Zn	# 3	0.9663	0.9663	ug/l	7.56	1800.00		3397.13	3257.09	3090.40
75 As	# 2	0.06264	0.06264	ug/l	22.29	1800.00		35.33	36.33	42.33
78 Se	# 1	0.001048	0.001048	ug/l	627.86	100.00		10.33	10.67	15.00
88 Sr	# 3	3.843	3.843	ug/l	1.24	1800.00		84618.31	84835.80	84273.77
95 Mo	# 3	-0.2688	-0.2688	ug/l	1.94	1800.00		76.67	110.00	80.00
107 Ag	# 3	-0.03202	-0.03202	ug/l	3.72	100.00		6.67	16.67	26.67
111 Cd	# 3	-0.004946	-0.004946	ug/l	139.49	100.00		53.31	43.29	66.64
118 Sn	# 3	0.05016	0.05016	ug/l	1.03	1800.00		613.36	613.37	600.03
121 Sb	# 3	0.005711	0.005711	ug/l	120.47	100.00		323.35	266.68	336.68
137 Ba	# 3	7.846	7.846	ug/l	3.20	1800.00		18718.69	19005.76	19473.01
202 Hg	# 3	0.008796	0.008796	ug/l	16.00	5.00		42.33	39.33	36.67
205 Tl	# 3	-0.02244	-0.02244	ug/l	11.32	20.00		136.67	173.34	200.01
208 Pb	# 3	0.08878	0.08878	ug/l	5.68	1800.00		2870.22	2956.89	3006.88

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	748823.31	0.50	762890.69	98.2	60 - 125.4		746635.19	746658.56	753176.25
45 Sc	# 1	601585.94	1.05	620105.56	97.0	60 - 125.4		597335.13	598613.88	608808.81
45 Sc	# 3	779318.19	0.99	771387.50	101.0	60 - 125.4		788188.94	773909.00	775856.63
74 Ge	# 1	162209.80	0.21	164848.81	98.4	60 - 125.4		161847.28	162279.77	162502.39
74 Ge	# 2	30474.98	1.04	33226.06	91.7	60 - 125.4		30162.10	30798.43	30464.40
74 Ge	# 3	178136.25	0.47	178474.77	99.8	60 - 125.4		178936.20	178221.48	177251.03
89 Y	# 3	1070368.90	1.43	1057065.90	101.3	60 - 125.4		1084137.80	1073102.10	1053866.60
115 In	# 3	916031.00	1.37	917456.31	99.8	60 - 125.4		918729.38	926972.25	902391.31
159 Tb	# 3	1211057.90	1.59	1264337.30	95.8	60 - 125.4		1224115.90	1220115.80	1188942.10
209 Bi	# 3	672115.19	1.15	698508.81	96.2	60 - 125.4		680742.31	665776.81	669826.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\120SMPL.D\120SMPL.D#
Date Acquired:	Dec 22 2012 04:47 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85792-a-15-a
Misc Info:	3010 1/5
Vial Number:	3504
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05124	-0.05124	ug/l	2.46	100.00		13.33	16.67	6.67
11 B # 3	1.498	1.498	ug/l	7.56	200.00		17626.58	17429.68	17713.23
23 Na # 1	2092	2092	ug/l	1.00	90000.00		13773491.00	13584890.00	13600806.00
24 Mg # 1	1169	1169	ug/l	0.53	90000.00		4961464.50	4953160.00	4962318.50
27 Al # 1	3.376	3.376	ug/l	1.82	90000.00		21084.25	20853.94	21221.39
39 K # 2	725.4	725.4	ug/l	1.02	90000.00		338414.91	338177.44	340277.13
40 Ca # 1	5442	5442	ug/l	1.13	90000.00		53154280.00	52604004.00	53315784.00
47 Ti # 3	0.09123	0.09123	ug/l	23.46	1800.00		456.69	513.36	476.69
51 V # 2	0.2583	0.2583	ug/l	5.77	1800.00		1273.39	1344.73	1264.06
52 Cr # 2	0.02346	0.02346	ug/l	10.88	1800.00		288.00	272.67	279.34
55 Mn # 3	2.738	2.738	ug/l	0.43	2700.00		65571.23	65156.18	65387.00
56 Fe # 1	5.351	5.351	ug/l	0.91	90000.00		89510.43	90547.70	88454.58
59 Co # 3	0.007584	0.007584	ug/l	42.38	1800.00		303.35	360.02	400.02
60 Ni # 2	0.2342	0.2342	ug/l	3.13	1800.00		270.67	272.67	255.34
63 Cu # 2	0.5869	0.5869	ug/l	2.71	1800.00		1840.12	1769.44	1741.44
66 Zn # 3	0.4526	0.4526	ug/l	12.93	1800.00		2233.57	2400.25	2183.55
75 As # 2	0.1235	0.1235	ug/l	15.72	1800.00		61.00	50.67	53.33
78 Se # 1	0.03271	0.03271	ug/l	18.81	100.00		22.67	23.00	27.00
88 Sr # 3	32.66	32.66	ug/l	0.78	1800.00		701323.75	696930.00	689981.56
95 Mo # 3	0.156	0.156	ug/l	2.17	1800.00		1476.78	1506.79	1503.45
107 Ag # 3	-0.02967	-0.02967	ug/l	4.72	100.00		40.00	23.33	46.67
111 Cd # 3	0.04368	0.04368	ug/l	14.43	100.00		129.46	152.78	142.78
118 Sn # 3	0.05916	0.05916	ug/l	10.17	1800.00		616.70	653.37	686.71
121 Sb # 3	0.1515	0.1515	ug/l	2.13	100.00		1136.75	1113.41	1123.41
137 Ba # 3	18.77	18.77	ug/l	1.28	1800.00		45245.11	45368.83	44686.55
202 Hg # 3	0.004049	0.004049	ug/l	29.46	5.00		31.67	32.00	28.33
205 Tl # 3	-0.02348	-0.02348	ug/l	8.87	20.00		186.67	153.34	130.01
208 Pb # 3	-0.03514	-0.03514	ug/l	8.89	1800.00		590.02	543.36	473.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	731537.31	1.83	762890.69	95.9	60 - 125.4		719990.25	746228.13	728393.63
45 Sc # 1	605342.31	0.43	620105.56	97.6	60 - 125.4		604632.00	608196.81	603198.19
45 Sc # 3	778611.19	0.82	771387.50	100.9	60 - 125.4		774985.19	786021.63	774826.75
74 Ge # 1	160892.08	0.28	164848.81	97.6	60 - 125.4		160407.89	161280.09	160988.27
74 Ge # 2	30792.27	0.63	33226.06	92.7	60 - 125.4		30888.52	30920.24	30568.03
74 Ge # 3	177916.47	0.22	178474.77	99.7	60 - 125.4		178194.31	178088.05	177467.03
89 Y # 3	1060474.80	0.84	1057065.90	100.3	60 - 125.4		1059907.40	1069630.30	1051887.00
115 In # 3	910244.56	0.54	917456.31	99.2	60 - 125.4		905400.19	910045.31	915288.31
159 Tb # 3	1213304.00	0.90	1264337.30	96.0	60 - 125.4		1220011.00	1200738.90	1219162.10
209 Bi # 3	666022.81	0.29	698508.81	95.3	60 - 125.4		664961.00	664867.63	668239.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\121_CCV.D\121_CCV.D#
Date Acquired: Dec 22 2012 04:54 am
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag
9 Be	48.54 ug/l	2.62	50.00	89.6 -	110	
11 B	94.62 ug/l	2.06	100.00	89.6 -	110	
23 Na	4604.00 ug/l	0.52	5000.00	89.6 -	110	
24 Mg	4616.00 ug/l	1.09	5000.00	89.6 -	110	
27 Al	460.40 ug/l	0.95	500.00	89.6 -	110	
39 K	4784.00 ug/l	1.01	5000.00	89.6 -	110	
40 Ca	4757.00 ug/l	1.43	5000.00	89.6 -	110	
47 Ti	47.58 ug/l	0.77	50.00	89.6 -	110	
51 V	48.70 ug/l	0.21	50.00	89.6 -	110	
52 Cr	48.56 ug/l	0.72	50.00	89.6 -	110	
55 Mn	490.00 ug/l	0.17	500.00	89.6 -	110	
56 Fe	4784.00 ug/l	0.85	5000.00	89.6 -	110	
59 Co	49.54 ug/l	0.18	50.00	89.6 -	110	
60 Ni	49.65 ug/l	0.81	50.00	89.6 -	110	
63 Cu	49.31 ug/l	1.14	50.00	89.6 -	110	
66 Zn	48.46 ug/l	0.25	50.00	89.6 -	110	
75 As	47.03 ug/l	0.22	50.00	89.6 -	110	
78 Se	47.95 ug/l	0.51	50.00	89.6 -	110	
88 Sr	49.67 ug/l	0.83	50.00	89.6 -	110	
95 Mo	48.63 ug/l	0.47	50.00	89.6 -	110	
107 Ag	47.68 ug/l	0.62	50.00	89.6 -	110	
111 Cd	48.03 ug/l	1.97	50.00	89.6 -	110	
118 Sn	47.76 ug/l	0.49	50.00	89.6 -	110	
121 Sb	47.09 ug/l	0.98	50.00	89.6 -	110	
137 Ba	48.54 ug/l	1.11	50.00	89.6 -	110	
202 Hg	2.38 ug/l	1.09	2.50	89.6 -	110	
205 Tl	9.39 ug/l	0.34	10.00	89.6 -	110	
208 Pb	46.08 ug/l	0.76	50.00	89.6 -	110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6 Li	760915.25	2.27	762890.69	99.7	59.6 -	125	
45 Sc	617654.75	0.62	620105.56	99.6	59.6 -	125	
45 Sc	810320.06	0.84	771387.50	105.0	59.6 -	125	
74 Ge	161581.05	0.29	164848.81	98.0	59.6 -	125	
74 Ge	31096.76	0.32	33226.06	93.6	59.6 -	125	
74 Ge	177448.66	0.41	178474.77	99.4	59.6 -	125	
89 Y	1066786.10	1.14	1057065.90	100.9	59.6 -	125	
115 In	906021.56	0.38	917456.31	98.8	59.6 -	125	
159 Tb	1196436.50	0.83	1264337.30	94.6	59.6 -	125	
209 Bi	644230.75	1.18	698508.81	92.2	59.6 -	125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\122_CCB.D\122_CCB.D#
Date Acquired: Dec 22 2012 05:00 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	5.27	0.05	
11 B	0.16 ug/l	50.63	10.00	
23 Na	-13.07 ug/l	3.38	25.00	
24 Mg	1.20 ug/l	10.88	25.00	
27 Al	-0.80 ug/l	18.02	5.00	
39 K	2.64 ug/l	15.91	25.00	
40 Ca	2.18 ug/l	6.07	25.00	
47 Ti	-0.26 ug/l	8.00	0.50	
51 V	-0.07 ug/l	12.76	0.50	
52 Cr	0.00 ug/l	590.49	0.50	
55 Mn	-0.18 ug/l	7.72	0.50	
56 Fe	1.81 ug/l	11.02	10.00	
59 Co	0.00 ug/l	122.30	0.05	
60 Ni	0.02 ug/l	41.78	0.50	
63 Cu	0.00 ug/l	213.40	0.50	
66 Zn	-0.51 ug/l	2.62	2.00	
75 As	0.02 ug/l	17.32	0.25	
78 Se	0.04 ug/l	39.98	0.25	
88 Sr	-0.08 ug/l	2.49	0.10	
95 Mo	-0.20 ug/l	5.63	0.50	
107 Ag	-0.02 ug/l	11.89	0.10	
111 Cd	0.00 ug/l	132.87	0.05	
118 Sn	0.00 ug/l	1356.40	0.50	
121 Sb	0.30 ug/l	0.67	0.50	
137 Ba	-0.05 ug/l	8.49	0.50	
202 Hg	0.02 ug/l	19.65	0.08	
205 Tl	-0.03 ug/l	1.10	0.10	
208 Pb	-0.04 ug/l	7.98	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	784526.75	0.44	762890.69	102.8	59.6 - 125	
45 Sc	610355.44	0.67	620105.56	98.4	59.6 - 125	
45 Sc	807605.38	0.70	771387.50	104.7	59.6 - 125	
74 Ge	161400.64	0.84	164848.81	97.9	59.6 - 125	
74 Ge	31127.36	0.51	33226.06	93.7	59.6 - 125	
74 Ge	179906.89	0.74	178474.77	100.8	59.6 - 125	
89 Y	1083276.40	0.23	1057065.90	102.5	59.6 - 125	
115 In	915325.50	0.68	917456.31	99.8	59.6 - 125	
159 Tb	1205858.10	1.38	1264337.30	95.4	59.6 - 125	
209 Bi	646559.75	0.67	698508.81	92.6	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\123_CCV.D\123_CCV.D#
Date Acquired:	Dec 22 2012 05:07 am
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	49.14 ug/l	2.54	50.00	89.6 - 110	
11 B	96.95 ug/l	1.68	100.00	89.6 - 110	
23 Na	4532.00 ug/l	0.19	5000.00	89.6 - 110	
24 Mg	4657.00 ug/l	0.57	5000.00	89.6 - 110	
27 Al	458.20 ug/l	0.89	500.00	89.6 - 110	
39 K	4787.00 ug/l	0.49	5000.00	89.6 - 110	
40 Ca	4739.00 ug/l	1.76	5000.00	89.6 - 110	
47 Ti	48.27 ug/l	1.21	50.00	89.6 - 110	
51 V	48.32 ug/l	1.24	50.00	89.6 - 110	
52 Cr	48.43 ug/l	1.55	50.00	89.6 - 110	
55 Mn	498.00 ug/l	1.07	500.00	89.6 - 110	
56 Fe	4798.00 ug/l	1.54	5000.00	89.6 - 110	
59 Co	50.47 ug/l	0.49	50.00	89.6 - 110	
60 Ni	49.12 ug/l	1.13	50.00	89.6 - 110	
63 Cu	49.23 ug/l	1.22	50.00	89.6 - 110	
66 Zn	48.74 ug/l	1.30	50.00	89.6 - 110	
75 As	48.02 ug/l	0.42	50.00	89.6 - 110	
78 Se	48.21 ug/l	0.72	50.00	89.6 - 110	
88 Sr	49.77 ug/l	0.86	50.00	89.6 - 110	
95 Mo	49.36 ug/l	0.45	50.00	89.6 - 110	
107 Ag	48.43 ug/l	0.33	50.00	89.6 - 110	
111 Cd	48.49 ug/l	0.73	50.00	89.6 - 110	
118 Sn	48.57 ug/l	0.73	50.00	89.6 - 110	
121 Sb	47.35 ug/l	0.61	50.00	89.6 - 110	
137 Ba	48.98 ug/l	0.72	50.00	89.6 - 110	
202 Hg	2.42 ug/l	1.04	2.50	89.6 - 110	
205 Tl	9.44 ug/l	0.98	10.00	89.6 - 110	
208 Pb	46.76 ug/l	0.87	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	764065.06	2.55	762890.69	100.2	59.6 - 125	
45 Sc	561316.69	0.69	620105.56	90.5	59.6 - 125	
45 Sc	808027.81	0.76	771387.50	104.7	59.6 - 125	
74 Ge	147471.16	0.57	164848.81	89.5	59.6 - 125	
74 Ge	28164.23	6.01	33226.06	84.8	59.6 - 125	
74 Ge	176826.89	1.35	178474.77	99.1	59.6 - 125	
89 Y	1068601.50	0.59	1057065.90	101.1	59.6 - 125	
115 In	900461.63	1.49	917456.31	98.1	59.6 - 125	
159 Tb	1196071.50	0.89	1264337.30	94.6	59.6 - 125	
209 Bi	636575.06	0.80	698508.81	91.1	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\124_CCB.D\124_CCB.D#
Date Acquired: Dec 22 2012 05:14 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	5.00	0.05	
11 B	0.42 ug/l	8.88	10.00	
23 Na	-13.30 ug/l	1.18	25.00	
24 Mg	1.32 ug/l	30.73	25.00	
27 Al	-0.85 ug/l	1.64	5.00	
39 K	2.77 ug/l	30.70	25.00	
40 Ca	1.85 ug/l	9.65	25.00	
47 Ti	-0.26 ug/l	3.16	0.50	
51 V	-0.07 ug/l	6.43	0.50	
52 Cr	0.00 ug/l	332.38	0.50	
55 Mn	-0.17 ug/l	1.59	0.50	
56 Fe	1.87 ug/l	13.29	10.00	
59 Co	0.00 ug/l	149.41	0.05	
60 Ni	0.01 ug/l	4.95	0.50	
63 Cu	0.01 ug/l	62.29	0.50	
66 Zn	-0.52 ug/l	7.73	2.00	
75 As	0.02 ug/l	24.21	0.25	
78 Se	0.05 ug/l	7.34	0.25	
88 Sr	-0.08 ug/l	2.39	0.10	
95 Mo	-0.18 ug/l	4.11	0.50	
107 Ag	-0.02 ug/l	11.10	0.10	
111 Cd	-0.01 ug/l	57.44	0.05	
118 Sn	0.00 ug/l	123.62	0.50	
121 Sb	0.35 ug/l	6.92	0.50	
137 Ba	-0.04 ug/l	4.84	0.50	
202 Hg	0.02 ug/l	17.91	0.08	
205 Tl	-0.03 ug/l	2.57	0.10	
208 Pb	-0.03 ug/l	5.79	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	808902.19	1.49	762890.69	106.0	59.6 - 125	
45 Sc	615914.19	0.37	620105.56	99.3	59.6 - 125	
45 Sc	823288.81	0.74	771387.50	106.7	59.6 - 125	
74 Ge	162512.00	0.60	164848.81	98.6	59.6 - 125	
74 Ge	30997.63	0.31	33226.06	93.3	59.6 - 125	
74 Ge	181452.81	0.44	178474.77	101.7	59.6 - 125	
89 Y	1084938.30	0.87	1057065.90	102.6	59.6 - 125	
115 In	924177.19	0.05	917456.31	100.7	59.6 - 125	
159 Tb	1197690.30	0.52	1264337.30	94.7	59.6 - 125	
209 Bi	642885.56	0.46	698508.81	92.0	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\125_ICV.D\125_ICV.D#
Date Acquired: Dec 22 2012 05:20 am
Acq. Method: ICPMSB.M
Operator: BR
Sample Name: ICSA
Misc Info:
Vial Number: 4510
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update: Dec 22 2012 11:02 am
Sample Type: ICV
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
			---	##### - #####					
7 Li	0.575 ug/l	7.97					42167.40	40519.79	40724.47
9 Be	-0.04793 ug/l	4.14	40.00	89.6 -	110	Fail	26.67	13.33	20.00
11 B	-0.1986 ug/l	17.87	80.00	89.6 -	110	Fail	8885.94	8669.17	8292.34
23 Na	98090 ug/l	0.54	4000.00	89.6 -	110	Fail	521856350.00	522222980.00	516934910.00
24 Mg	97950 ug/l	0.23	4000.00	89.6 -	110	Fail	346721020.00	345091140.00	339003460.00
27 Al	95700 ug/l	0.68	400.00	89.6 -	110	Fail	357359200.00	351867900.00	351956930.00
39 K	101200 ug/l	1.36	4000.00	89.6 -	110	Fail	35000180.00	35212008.00	34911792.00
40 Ca	102000 ug/l	1.02	4000.00	89.6 -	110	Fail	824225980.00	819034240.00	822463550.00
47 Ti	2141 ug/l	3.37	40.00	89.6 -	110	Fail	2075039.80	2007388.90	1958241.30
51 V	0.1527 ug/l	8.45	40.00	89.6 -	110	Fail	808.03	787.36	776.69
52 Cr	1.222 ug/l	0.44	40.00	89.6 -	110	Fail	3058.97	3096.31	3126.32
55 Mn	0.3382 ug/l	1.36	400.00	89.6 -	110	Fail	12458.79	11841.57	11764.90
56 Fe	99150 ug/l	1.03	4000.00	89.6 -	110	Fail	##########	##########	##########
59 Co	0.1055 ug/l	10.08	40.00	89.6 -	110	Fail	1440.11	1536.79	1296.76
60 Ni	1.093 ug/l	2.87	40.00	89.6 -	110	Fail	878.70	947.37	938.03
63 Cu	0.2449 ug/l	10.03	40.00	89.6 -	110	Fail	687.35	659.35	598.01
66 Zn	2.701 ug/l	3.98	40.00	89.6 -	110	Fail	5194.33	5067.61	4770.86
75 As	0.494 ug/l	5.67	40.00	89.6 -	110	Fail	113.00	124.00	127.33
78 Se	0.09699 ug/l	6.71	40.00	89.6 -	110	Fail	43.33	40.67	39.33
88 Sr	0.2339 ug/l	3.56	40.00	89.6 -	110	Fail	6011.34	5891.28	5774.57
95 Mo	2297 ug/l	3.27	40.00	89.6 -	110	Fail	6228465.50	6040225.50	5909815.50
107 Ag	0.02513 ug/l	16.83	40.00	89.6 -	110	Fail	386.68	420.02	396.69
111 Cd	0.2649 ug/l	29.87	40.00	89.6 -	110	Fail	452.47	518.79	313.64
118 Sn	0.08272 ug/l	3.06	40.00	89.6 -	110	Fail	633.37	586.70	633.36
121 Sb	0.3987 ug/l	2.75	40.00	89.6 -	110	Fail	2076.89	2016.86	2153.55
137 Ba	0.1368 ug/l	5.86	40.00	89.6 -	110	Fail	393.35	360.02	406.68
202 Hg	0.02898 ug/l	10.98	2.00	89.6 -	110	Fail	54.00	54.00	51.33
205 Tl	-0.02079 ug/l	2.00	8.00	89.6 -	110	Fail	166.67	153.34	166.67
206 Pb	0.1048 ug/l	20.52	40.00	89.6 -	110		620.03	516.69	513.36
207 Pb	0.1004 ug/l	8.74	40.00	89.6 -	110		453.36	486.69	516.69
208 Pb	0.09615 ug/l	11.54	40.00	89.6 -	110	Fail	2296.82	2100.14	2126.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	576671.63	3.34	762890.69	75.6	59.6 -	125		597875.69	571918.88	560220.19
45 Sc	501007.03	1.02	620105.56	80.8	59.6 -	125		505491.13	502071.97	495457.91
45 Sc	627280.81	3.83	771387.50	81.3	59.6 -	125		650835.13	602802.31	628205.06
74 Ge	134342.77	0.38	164848.81	81.5	59.6 -	125		133927.58	134912.69	134188.02
74 Ge	23958.26	1.31	33226.06	72.1	59.6 -	125		23599.40	24086.76	24188.63
74 Ge	136633.63	2.67	178474.77	76.6	59.6 -	125		140851.28	134435.33	134614.30
89 Y	878859.06	2.06	1057065.90	83.1	59.6 -	125		893517.56	858666.56	884393.13
115 In	725027.13	2.82	917456.31	79.0	59.6 -	125		740471.56	701883.25	732726.56
159 Tb	1019377.20	2.28	1264337.30	80.6	59.6 -	125		1041708.80	995302.06	1021120.80
209 Bi	474039.41	4.89	698508.81	67.9	59.6 -	125		468942.59	453836.91	499338.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

28 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

ICB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\126_ICB.D\126_ICB.D#
Date Acquired: Dec 22 2012 05:27 am
Acq. Method: ICPMSB.M
Operator: BR
Sample Name: ICSAB
Misc Info:
Vial Number: 4511
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update: Dec 22 2012 11:02 am
Sample Type: ICB
Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
7 Li	0.714 ug/l	11.29	1.00	
9 Be	-0.05393 ug/l	1.30	1.00	
11 B	-0.4106 ug/l	18.75	1.00	
23 Na	97740 ug/l	0.93	1.00	Fail
24 Mg	96570 ug/l	0.66	1.00	Fail
27 Al	93290 ug/l	1.01	1.00	Fail
39 K	96930 ug/l	0.17	1.00	Fail
40 Ca	101200 ug/l	0.44	1.00	Fail
47 Ti	2178 ug/l	1.01	1.00	Fail
51 V	0.1124 ug/l	10.36	1.00	
52 Cr	22.06 ug/l	0.65	1.00	Fail
55 Mn	18.98 ug/l	1.46	1.00	Fail
56 Fe	100700 ug/l	1.22	1.00	Fail
59 Co	18.72 ug/l	0.45	1.00	Fail
60 Ni	21.93 ug/l	1.48	1.00	Fail
63 Cu	20.32 ug/l	0.85	1.00	Fail
66 Zn	22.08 ug/l	1.06	1.00	Fail
75 As	21.91 ug/l	1.25	1.00	Fail
78 Se	0.08741 ug/l	15.47	1.00	
88 Sr	0.2289 ug/l	2.55	1.00	Fail
95 Mo	2284 ug/l	1.01	1.00	Fail
107 Ag	17.39 ug/l	1.55	1.00	Fail
111 Cd	18.43 ug/l	0.36	1.00	Fail
118 Sn	0.07755 ug/l	8.10	1.00	
121 Sb	0.3221 ug/l	10.26	1.00	
137 Ba	0.1147 ug/l	2.99	1.00	
202 Hg	0.02463 ug/l	15.10	1.00	
205 Tl	-0.02038 ug/l	3.82	1.00	
206 Pb	0.08515 ug/l	25.02	1.00	
207 Pb	0.07614 ug/l	11.09	1.00	
208 Pb	0.08965 ug/l	6.60	1.00	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	516779.41	2.37	762890.69	67.7	59.6 - 125	
45 Sc	464987.22	0.33	620105.56	75.0	59.6 - 125	
45 Sc	576286.69	3.38	771387.50	74.7	59.6 - 125	
74 Ge	128087.76	0.33	164848.81	77.7	59.6 - 125	
74 Ge	22081.08	1.03	33226.06	66.5	59.6 - 125	
74 Ge	132793.64	2.41	178474.77	74.4	59.6 - 125	
89 Y	846288.00	2.97	1057065.90	80.1	59.6 - 125	
115 In	708997.69	2.85	917456.31	77.3	59.6 - 125	
159 Tb	997399.69	2.05	1264337.30	78.9	59.6 - 125	
209 Bi	456328.59	1.87	698508.81	65.3	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

18 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\127SMPL.D\127SMPL.D#
Date Acquired:	Dec 22 2012 05:34 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	R
Misc Info:	
Vial Number:	1
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	-0.03646	-0.03646	ug/l	9.95	100.00		76.67	50.00	63.34
11	B	# 3	-0.2	-0.2	ug/l	30.88	200.00		9876.62	9846.55	9683.13
23	Na	# 1	229.9	229.9	ug/l	5.29	90000.00		1499465.60	1464782.50	1497829.60
24	Mg	# 1	79.11	79.11	ug/l	6.41	90000.00		301179.97	297141.50	285513.81
27	Al	# 1	53.37	53.37	ug/l	6.67	90000.00		216010.11	213724.73	203785.02
39	K	# 2	54.96	54.96	ug/l	6.55	90000.00		34253.50	34905.03	37727.97
40	Ca	# 1	104.4	104.4	ug/l	6.60	90000.00		931183.81	912914.75	882418.31
47	Ti	# 3	0.7481	0.7481	ug/l	11.54	1800.00		1140.07	1233.42	1040.06
51	V	# 2	-0.03231	-0.03231	ug/l	5.10	1800.00		459.34	466.01	466.68
52	Cr	# 2	0.03683	0.03683	ug/l	1.90	1800.00		276.67	282.00	284.67
55	Mn	# 3	0.5665	0.5665	ug/l	1.73	2700.00		19151.95	18968.33	19268.73
56	Fe	# 1	72.11	72.11	ug/l	7.01	90000.00		917062.50	877016.44	866373.50
59	Co	# 3	0.03157	0.03157	ug/l	8.67	1800.00		646.70	670.03	716.71
60	Ni	# 2	0.09255	0.09255	ug/l	3.16	1800.00		101.33	101.33	98.67
63	Cu	# 2	0.08524	0.08524	ug/l	5.01	1800.00		343.34	346.67	334.01
66	Zn	# 3	-0.2603	-0.2603	ug/l	23.18	1800.00		973.39	880.05	750.04
75	As	# 2	0.04141	0.04141	ug/l	29.73	1800.00		27.00	26.33	32.33
78	Se	# 1	0.01775	0.01775	ug/l	15.17	100.00		17.67	17.67	16.00
88	Sr	# 3	0.2324	0.2324	ug/l	4.39	1800.00		6671.63	6788.33	7025.11
95	Mo	# 3	1.786	1.786	ug/l	11.34	1800.00		7235.24	6641.59	5911.30
107	Ag	# 3	-0.007403	-0.007403	ug/l	68.97	100.00		190.01	196.67	263.35
111	Cd	# 3	0.006136	0.006136	ug/l	49.61	100.00		73.99	74.21	64.48
118	Sn	# 3	0.07801	0.07801	ug/l	9.01	1800.00		716.71	686.71	750.04
121	Sb	# 3	0.05255	0.05255	ug/l	14.13	100.00		506.69	560.03	580.03
137	Ba	# 3	0.04482	0.04482	ug/l	17.87	1800.00		266.68	233.34	260.01
202	Hg	# 3	0.02143	0.02143	ug/l	6.63	5.00		55.33	60.33	58.00
205	Tl	# 3	-0.02521	-0.02521	ug/l	4.45	20.00		113.34	143.34	126.67
208	Pb	# 3	0.005989	0.005989	ug/l	72.00	1800.00		1303.41	1293.40	1153.39

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	656495.69	1.39	762890.69	86.1	60 - 125.4		658705.75	646471.69	664309.56
45	Sc	# 1	524017.06	3.77	620105.56	84.5	60 - 125.4		501561.97	531642.63	538846.63
45	Sc	# 3	708937.56	0.43	771387.50	91.9	60 - 125.4		708453.75	712221.13	706137.69
74	Ge	# 1	149634.52	0.14	164848.81	90.8	60 - 125.4		149750.52	149392.69	149760.33
74	Ge	# 2	26946.41	1.23	33226.06	81.1	60 - 125.4		26682.64	26837.90	27318.70
74	Ge	# 3	166977.91	0.72	178474.77	93.6	60 - 125.4		168359.17	166285.36	166289.17
89	Y	# 3	1022944.40	0.44	1057065.90	96.8	60 - 125.4		1027524.40	1022694.40	1018614.70
115	In	# 3	870463.19	0.49	917456.31	94.9	60 - 125.4		871604.06	874023.31	865762.13
159	Tb	# 3	1163822.80	1.03	1264337.30	92.1	60 - 125.4		1167225.90	1173772.80	1150469.40
209	Bi	# 3	627482.94	0.57	698508.81	89.8	60 - 125.4		627612.50	631004.44	623832.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\128SMPL.D\128SMPL.D#
Date Acquired:	Dec 22 2012 05:41 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	R
Misc Info:	
Vial Number:	2
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04403	-0.04403	ug/l	7.34	100.00		50.00	26.67	36.67
11 B # 3	-0.4556	-0.4556	ug/l	14.06	200.00		9419.60	9276.20	8995.99
23 Na # 1	34.73	34.73	ug/l	4.10	90000.00		435733.44	444671.13	430710.16
24 Mg # 1	20.25	20.25	ug/l	2.72	90000.00		87737.50	84042.06	83478.48
27 Al # 1	14.57	14.57	ug/l	5.11	90000.00		69461.08	65849.63	63195.84
39 K # 2	12.42	12.42	ug/l	12.40	90000.00		21197.74	20273.15	20276.53
40 Ca # 1	26.23	26.23	ug/l	2.45	90000.00		277284.31	267854.00	265604.63
47 Ti # 3	-0.04404	-0.04404	ug/l	114.58	1800.00		383.35	280.01	276.68
51 V # 2	-0.05335	-0.05335	ug/l	31.13	1800.00		399.34	480.68	467.34
52 Cr # 2	0.000968	0.000968	ug/l	231.51	1800.00		192.00	198.67	206.67
55 Mn # 3	-0.11	-0.11	ug/l	2.24	2700.00		6258.09	6254.75	6261.42
56 Fe # 1	18.24	18.24	ug/l	3.54	90000.00		260835.63	250783.33	243735.70
59 Co # 3	0.0001469	0.0001469	ug/l	1752.20	1800.00		260.01	260.01	190.01
60 Ni # 2	0.02848	0.02848	ug/l	25.90	1800.00		47.33	35.33	48.67
63 Cu # 2	0.006146	0.006146	ug/l	50.33	1800.00		168.67	160.67	154.00
66 Zn # 3	1.376	1.376	ug/l	3.11	1800.00		4060.63	3943.95	3850.59
75 As # 2	0.00846	0.00846	ug/l	95.52	1800.00		20.33	24.67	22.00
78 Se # 1	-0.0007062	-0.0007062	ug/l	709.01	100.00		13.00	10.33	9.33
88 Sr # 3	-0.03254	-0.03254	ug/l	12.26	1800.00		1493.46	1346.77	1490.12
95 Mo # 3	0.2793	0.2793	ug/l	13.73	1800.00		2016.85	1883.50	1803.49
107 Ag # 3	-0.02614	-0.02614	ug/l	9.19	100.00		80.00	76.67	43.33
111 Cd # 3	-0.01313	-0.01313	ug/l	58.58	100.00		52.59	25.97	39.33
118 Sn # 3	-0.01169	-0.01169	ug/l	38.03	1800.00		273.34	263.34	306.68
121 Sb # 3	0.01384	0.01384	ug/l	41.12	100.00		316.68	380.02	353.35
137 Ba # 3	-0.03148	-0.03148	ug/l	20.79	1800.00		63.34	90.00	93.34
202 Hg # 3	0.01097	0.01097	ug/l	11.30	5.00		44.00	40.00	41.00
205 Tl # 3	-0.03197	-0.03197	ug/l	2.95	20.00		46.67	26.67	50.00
208 Pb # 3	-0.02918	-0.02918	ug/l	3.34	1800.00		653.36	626.71	613.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	680701.81	0.38	762890.69	89.2	60 - 125.4		677906.88	683091.94	681106.69
45 Sc # 1	563670.13	0.36	620105.56	90.9	60 - 125.4		565063.25	561371.50	564575.56
45 Sc # 3	751794.56	1.59	771387.50	97.5	60 - 125.4		761145.63	755887.06	738351.00
74 Ge # 1	156184.13	0.28	164848.81	94.7	60 - 125.4		156344.42	155694.81	156513.14
74 Ge # 2	29106.91	0.55	33226.06	87.6	60 - 125.4		28923.24	29215.41	29162.06
74 Ge # 3	174950.19	0.76	178474.77	98.0	60 - 125.4		175882.78	175532.70	173435.08
89 Y # 3	1054964.40	0.07	1057065.90	99.8	60 - 125.4		1055309.60	1055449.10	1054134.40
115 In # 3	909297.81	1.28	917456.31	99.1	60 - 125.4		897028.13	920085.38	910780.00
159 Tb # 3	1194309.00	0.50	1264337.30	94.5	60 - 125.4		1201178.90	1190358.60	1191389.60
209 Bi # 3	646496.06	0.94	698508.81	92.6	60 - 125.4		647757.31	651840.19	639890.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\129SMPL.D\129SMPL.D#
Date Acquired:	Dec 22 2012 05:47 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	R
Misc Info:	
Vial Number:	2
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0475	-0.0475	ug/l	3.73	100.00		33.33	23.33	20.00
11 B	# 3	-0.5632	-0.5632	ug/l	11.78	200.00		8829.27	9022.68	9116.12
23 Na	# 1	26.21	26.21	ug/l	17.05	90000.00		391545.91	390149.84	387127.00
24 Mg	# 1	10.56	10.56	ug/l	5.59	90000.00		47242.19	49455.26	45266.57
27 Al	# 1	5.007	5.007	ug/l	13.56	90000.00		27917.70	25770.85	26028.04
39 K	# 2	6.038	6.038	ug/l	19.01	90000.00		18417.49	18133.89	18607.85
40 Ca	# 1	16.07	16.07	ug/l	10.09	90000.00		184168.67	178511.39	176151.97
47 Ti	# 3	-0.1488	-0.1488	ug/l	17.66	1800.00		183.34	233.34	176.67
51 V	# 2	-0.05779	-0.05779	ug/l	11.04	1800.00		450.01	438.68	460.68
52 Cr	# 2	-0.0007955	-0.0007955	ug/l	289.50	1800.00		193.34	210.67	194.00
55 Mn	# 3	-0.1118	-0.1118	ug/l	4.95	2700.00		6498.18	6211.39	6228.05
56 Fe	# 1	7.878	7.878	ug/l	11.27	90000.00		122750.98	115254.92	113685.16
59 Co	# 3	0.0009482	0.0009482	ug/l	184.45	1800.00		280.01	253.34	223.34
60 Ni	# 2	0.02347	0.02347	ug/l	18.13	1800.00		38.00	36.67	44.67
63 Cu	# 2	0.007139	0.007139	ug/l	12.62	1800.00		165.34	168.67	170.67
66 Zn	# 3	1.299	1.299	ug/l	1.35	1800.00		3893.94	3880.59	3813.90
75 As	# 2	-0.0071	-0.0071	ug/l	186.06	1800.00		22.00	15.67	18.67
78 Se	# 1	0.004773	0.004773	ug/l	54.29	100.00		11.67	13.67	13.67
88 Sr	# 3	-0.03216	-0.03216	ug/l	17.47	1800.00		1470.12	1576.79	1336.76
95 Mo	# 3	0.02909	0.02909	ug/l	63.97	1800.00		1010.06	1153.41	1073.41
107 Ag	# 3	-0.0254	-0.0254	ug/l	1.89	100.00		76.67	70.00	73.34
111 Cd	# 3	-0.01188	-0.01188	ug/l	10.19	100.00		42.96	42.91	39.60
118 Sn	# 3	-0.01677	-0.01677	ug/l	30.09	1800.00		266.68	226.68	273.35
121 Sb	# 3	-0.008323	-0.008323	ug/l	73.62	100.00		263.34	193.34	226.68
137 Ba	# 3	-0.02688	-0.02688	ug/l	37.98	1800.00		120.00	76.67	83.34
202 Hg	# 3	0.01058	0.01058	ug/l	18.50	5.00		41.33	38.00	44.67
205 Tl	# 3	-0.03077	-0.03077	ug/l	4.16	20.00		53.34	43.34	76.67
208 Pb	# 3	-0.02952	-0.02952	ug/l	6.77	1800.00		620.03	600.02	670.03

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	692513.25	1.28	762890.69	90.8	60 - 125.4		702252.56	684898.81	690388.38
45 Sc	# 1	570386.25	6.99	620105.56	92.0	60 - 125.4		537643.88	614784.56	558730.25
45 Sc	# 3	763026.00	0.52	771387.50	98.9	60 - 125.4		763926.75	766497.69	758653.44
74 Ge	# 1	156617.61	3.46	164848.81	95.0	60 - 125.4		152941.33	162847.34	154064.13
74 Ge	# 2	29905.55	1.74	33226.06	90.0	60 - 125.4		29384.03	30424.25	29908.36
74 Ge	# 3	177455.88	0.73	178474.77	99.4	60 - 125.4		178958.13	176723.72	176685.78
89 Y	# 3	1061965.90	0.30	1057065.90	100.5	60 - 125.4		1065561.60	1060722.10	1059614.00
115 In	# 3	913155.06	1.13	917456.31	99.5	60 - 125.4		901281.63	919538.63	918644.88
159 Tb	# 3	1209566.30	0.56	1264337.30	95.7	60 - 125.4		1204152.00	1217226.10	1207320.80
209 Bi	# 3	651907.38	0.48	698508.81	93.3	60 - 125.4		655467.63	650812.88	649441.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\130SMPL.D\130SMPL.D#
Date Acquired:	Dec 22 2012 05:54 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	R
Misc Info:	
Vial Number:	2
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04916	-0.04916	ug/l	5.14	100.00		30.00	10.00	20.00
11 B # 3	-0.6083	-0.6083	ug/l	15.87	200.00		8745.88	8996.02	9496.33
23 Na # 1	22.92	22.92	ug/l	2.85	90000.00		387072.22	389912.63	391640.31
24 Mg # 1	10.64	10.64	ug/l	2.15	90000.00		50401.47	51123.88	48883.51
27 Al # 1	5.546	5.546	ug/l	2.02	90000.00		31107.07	30265.33	29884.75
39 K # 2	7.176	7.176	ug/l	8.15	90000.00		18904.76	19278.59	19482.15
40 Ca # 1	16.09	16.09	ug/l	0.71	90000.00		191534.28	189337.19	187630.64
47 Ti # 3	-0.1732	-0.1732	ug/l	8.76	1800.00		186.67	156.67	186.67
51 V # 2	-0.06506	-0.06506	ug/l	4.56	1800.00		442.68	443.34	431.34
52 Cr # 2	0.0007474	0.0007474	ug/l	485.68	1800.00		195.34	217.34	210.00
55 Mn # 3	-0.1132	-0.1132	ug/l	5.98	2700.00		6294.73	6511.50	6441.49
56 Fe # 1	8.246	8.246	ug/l	1.95	90000.00		131583.80	128770.83	125895.06
59 Co # 3	-0.001227	-0.001227	ug/l	174.16	1800.00		203.34	206.67	260.01
60 Ni # 2	0.02425	0.02425	ug/l	11.69	1800.00		42.00	38.00	44.00
63 Cu # 2	0.007572	0.007572	ug/l	12.37	1800.00		173.34	169.34	174.67
66 Zn # 3	1.329	1.329	ug/l	4.47	1800.00		3950.62	3953.94	4103.97
75 As # 2	-0.00397	-0.00397	ug/l	217.71	1800.00		17.67	22.33	20.00
78 Se # 1	0.00284	0.00284	ug/l	187.29	100.00		14.33	10.33	13.33
88 Sr # 3	-0.03405	-0.03405	ug/l	5.59	1800.00		1423.44	1500.12	1476.78
95 Mo # 3	-0.03124	-0.03124	ug/l	26.04	1800.00		916.72	873.38	930.06
107 Ag # 3	-0.02543	-0.02543	ug/l	9.23	100.00		100.00	63.34	63.34
111 Cd # 3	-0.01736	-0.01736	ug/l	17.30	100.00		39.66	29.68	29.66
118 Sn # 3	-0.01997	-0.01997	ug/l	5.12	1800.00		253.34	240.01	246.68
121 Sb # 3	-0.009754	-0.009754	ug/l	78.15	100.00		226.68	183.34	270.01
137 Ba # 3	-0.02505	-0.02505	ug/l	5.99	1800.00		103.34	103.34	96.67
202 Hg # 3	0.01027	0.01027	ug/l	16.15	5.00		45.33	39.00	42.33
205 Tl # 3	-0.03167	-0.03167	ug/l	2.83	20.00		56.67	33.33	50.00
208 Pb # 3	-0.03041	-0.03041	ug/l	3.63	1800.00		646.69	603.36	653.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	712717.19	2.50	762890.69	93.4	60 - 125.4		720097.38	692394.25	725659.81
45 Sc # 1	598932.38	0.49	620105.56	96.6	60 - 125.4		601418.94	599677.00	595701.19
45 Sc # 3	794422.69	0.49	771387.50	103.0	60 - 125.4		793875.06	798588.44	790804.50
74 Ge # 1	161782.02	0.00	164848.81	98.1	60 - 125.4		161786.50	161781.36	161778.17
74 Ge # 2	30441.58	0.22	33226.06	91.6	60 - 125.4		30392.63	30412.62	30519.48
74 Ge # 3	181213.28	0.71	178474.77	101.5	60 - 125.4		182458.88	181299.06	179881.91
89 Y # 3	1096254.10	0.45	1057065.90	103.7	60 - 125.4		1099633.50	1098578.60	1090550.30
115 In # 3	942915.06	0.49	917456.31	102.8	60 - 125.4		948132.06	939438.94	941174.38
159 Tb # 3	1236693.90	0.82	1264337.30	97.8	60 - 125.4		1228218.90	1247835.90	1234027.10
209 Bi # 3	674335.81	0.99	698508.81	96.5	60 - 125.4		674516.69	667543.63	680947.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\131_CCV.D\131_CCV.D#
Date Acquired: Dec 22 2012 06:01 am
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag
9 Be	48.51 ug/l	0.59	50.00	89.6 -	110	
11 B	94.57 ug/l	1.30	100.00	89.6 -	110	
23 Na	4514.00 ug/l	0.41	5000.00	89.6 -	110	
24 Mg	4585.00 ug/l	0.69	5000.00	89.6 -	110	
27 Al	462.50 ug/l	0.87	500.00	89.6 -	110	
39 K	4722.00 ug/l	2.62	5000.00	89.6 -	110	
40 Ca	4782.00 ug/l	1.55	5000.00	89.6 -	110	
47 Ti	48.48 ug/l	1.38	50.00	89.6 -	110	
51 V	48.51 ug/l	1.97	50.00	89.6 -	110	
52 Cr	48.99 ug/l	1.65	50.00	89.6 -	110	
55 Mn	498.20 ug/l	1.37	500.00	89.6 -	110	
56 Fe	4954.00 ug/l	0.38	5000.00	89.6 -	110	
59 Co	49.92 ug/l	1.67	50.00	89.6 -	110	
60 Ni	50.01 ug/l	2.21	50.00	89.6 -	110	
63 Cu	50.02 ug/l	2.05	50.00	89.6 -	110	
66 Zn	48.97 ug/l	1.10	50.00	89.6 -	110	
75 As	48.12 ug/l	1.69	50.00	89.6 -	110	
78 Se	48.91 ug/l	1.16	50.00	89.6 -	110	
88 Sr	49.52 ug/l	1.27	50.00	89.6 -	110	
95 Mo	49.08 ug/l	0.73	50.00	89.6 -	110	
107 Ag	47.85 ug/l	0.86	50.00	89.6 -	110	
111 Cd	48.23 ug/l	0.61	50.00	89.6 -	110	
118 Sn	48.40 ug/l	0.76	50.00	89.6 -	110	
121 Sb	47.71 ug/l	0.71	50.00	89.6 -	110	
137 Ba	49.15 ug/l	1.12	50.00	89.6 -	110	
202 Hg	2.39 ug/l	1.03	2.50	89.6 -	110	
205 Tl	9.42 ug/l	1.36	10.00	89.6 -	110	
208 Pb	46.36 ug/l	0.42	50.00	89.6 -	110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6 Li	700819.63	1.55	762890.69	91.9	59.6 -	125	
45 Sc	585707.44	1.30	620105.56	94.5	59.6 -	125	
45 Sc	769925.44	0.38	771387.50	99.8	59.6 -	125	
74 Ge	156249.20	0.87	164848.81	94.8	59.6 -	125	
74 Ge	29686.28	1.66	33226.06	89.3	59.6 -	125	
74 Ge	173450.41	1.44	178474.77	97.2	59.6 -	125	
89 Y	1066797.40	0.48	1057065.90	100.9	59.6 -	125	
115 In	909148.81	1.08	917456.31	99.1	59.6 -	125	
159 Tb	1211942.90	0.94	1264337.30	95.9	59.6 -	125	
209 Bi	648490.25	1.43	698508.81	92.8	59.6 -	125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\132_CCB.D\132_CCB.D#
Date Acquired: Dec 22 2012 06:08 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	6.85	0.05	
11 B	0.01 ug/l	176.64	10.00	
23 Na	-12.59 ug/l	4.49	25.00	
24 Mg	2.05 ug/l	9.47	25.00	
27 Al	0.23 ug/l	17.69	5.00	
39 K	2.68 ug/l	5.14	25.00	
40 Ca	2.56 ug/l	7.12	25.00	
47 Ti	-0.25 ug/l	2.36	0.50	
51 V	-0.08 ug/l	6.83	0.50	
52 Cr	0.00 ug/l	158.33	0.50	
55 Mn	-0.18 ug/l	2.38	0.50	
56 Fe	2.94 ug/l	2.09	10.00	
59 Co	0.00 ug/l	135.32	0.05	
60 Ni	0.02 ug/l	12.64	0.50	
63 Cu	0.00 ug/l	745.60	0.50	
66 Zn	-0.53 ug/l	4.35	2.00	
75 As	0.02 ug/l	50.87	0.25	
78 Se	0.04 ug/l	7.90	0.25	
88 Sr	-0.08 ug/l	1.63	0.10	
95 Mo	-0.10 ug/l	21.46	0.50	
107 Ag	-0.02 ug/l	22.53	0.10	
111 Cd	-0.01 ug/l	98.39	0.05	
118 Sn	0.00 ug/l	231.57	0.50	
121 Sb	0.34 ug/l	7.04	0.50	
137 Ba	-0.05 ug/l	10.57	0.50	
202 Hg	0.02 ug/l	9.57	0.08	
205 Tl	-0.03 ug/l	3.67	0.10	
208 Pb	-0.04 ug/l	2.03	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	709417.25	1.14	762890.69	93.0	59.6 - 125	
45 Sc	594679.44	0.21	620105.56	95.9	59.6 - 125	
45 Sc	774155.25	4.26	771387.50	100.4	59.6 - 125	
74 Ge	159644.56	0.43	164848.81	96.8	59.6 - 125	
74 Ge	30160.53	1.15	33226.06	90.8	59.6 - 125	
74 Ge	175047.91	3.55	178474.77	98.1	59.6 - 125	
89 Y	1057924.00	4.28	1057065.90	100.1	59.6 - 125	
115 In	904824.56	3.99	917456.31	98.6	59.6 - 125	
159 Tb	1197839.60	3.94	1264337.30	94.7	59.6 - 125	
209 Bi	645489.00	2.93	698508.81	92.4	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\133SMPL.D\133SMPL.D#
Date Acquired:	Dec 22 2012 06:14 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	mb 680-260655_1-a
Misc Info:	3030C
Vial Number:	4101
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.009245	-0.009245	ug/l	70.74	100.00		140.01	176.67	146.67
11 B # 3	0.1264	0.1264	ug/l	72.19	200.00		10637.07	10713.77	10503.63
23 Na # 1	-10.75	-10.75	ug/l	2.65	90000.00		159688.00	158684.56	156639.80
24 Mg # 1	-0.1241	-0.1241	ug/l	94.52	90000.00		5008.90	4080.63	4360.72
27 Al # 1	-0.2425	-0.2425	ug/l	23.51	90000.00		4630.88	4284.03	4147.31
39 K # 2	6.786	6.786	ug/l	6.10	90000.00		18390.89	18477.68	18584.47
40 Ca # 1	2.676	2.676	ug/l	3.82	90000.00		53561.96	54480.44	54348.75
47 Ti # 3	-0.2454	-0.2454	ug/l	9.37	1800.00		86.67	53.34	100.00
51 V # 2	0.3566	0.3566	ug/l	5.82	1800.00		1501.41	1438.74	1526.75
52 Cr # 2	0.05666	0.05666	ug/l	7.01	1800.00		370.01	378.67	352.01
55 Mn # 3	-0.3007	-0.3007	ug/l	2.17	2700.00		2533.62	2303.57	2266.89
56 Fe # 1	1.654	1.654	ug/l	5.59	90000.00		34963.45	33063.10	32410.06
59 Co # 3	-0.00763	-0.00763	ug/l	5.99	1800.00		113.34	126.67	116.67
60 Ni # 2	0.03522	0.03522	ug/l	29.25	1800.00		39.33	56.00	58.67
63 Cu # 2	1.74	1.74	ug/l	1.00	1800.00		4739.39	4813.41	4799.41
66 Zn # 3	0.8391	0.8391	ug/l	4.87	1800.00		2943.68	2887.02	3003.70
75 As # 2	0.1776	0.1776	ug/l	5.22	1800.00		64.33	67.67	68.67
78 Se # 1	0.01365	0.01365	ug/l	14.21	100.00		16.67	17.00	15.67
88 Sr # 3	-0.0905	-0.0905	ug/l	1.22	1800.00		183.34	223.34	216.67
95 Mo # 3	-0.1804	-0.1804	ug/l	9.96	1800.00		403.35	300.01	396.69
107 Ag # 3	-0.02911	-0.02911	ug/l	9.94	100.00		66.67	33.33	20.00
111 Cd # 3	-0.02871	-0.02871	ug/l	10.36	100.00		6.52	9.89	16.52
118 Sn # 3	0.1319	0.1319	ug/l	4.39	1800.00		993.40	1023.41	963.40
121 Sb # 3	0.1881	0.1881	ug/l	1.00	100.00		1260.09	1276.76	1243.42
137 Ba # 3	-0.04796	-0.04796	ug/l	6.29	1800.00		43.33	33.33	46.67
202 Hg # 3	-0.001112	-0.001112	ug/l	134.80	5.00		20.67	26.33	22.33
205 Tl # 3	-0.03246	-0.03246	ug/l	2.12	20.00		40.00	23.33	36.67
208 Pb # 3	-0.03001	-0.03001	ug/l	5.52	1800.00		696.70	716.70	630.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	636577.75	1.96	762890.69	83.4	60 - 125.4		638820.06	623145.00	647768.31
45 Sc # 1	538535.56	0.75	620105.56	86.8	60 - 125.4		542606.81	534500.38	538499.50
45 Sc # 3	701001.00	0.54	771387.50	90.9	60 - 125.4		704913.88	700782.81	697306.25
74 Ge # 1	157467.31	0.60	164848.81	95.5	60 - 125.4		158323.95	156445.94	157632.05
74 Ge # 2	29538.15	0.51	33226.06	88.9	60 - 125.4		29569.32	29671.17	29373.98
74 Ge # 3	174472.58	0.70	178474.77	97.8	60 - 125.4		175372.00	174964.63	173081.11
89 Y # 3	1004691.90	0.89	1057065.90	95.0	60 - 125.4		1010725.90	1008889.60	994460.63
115 In # 3	875638.13	0.58	917456.31	95.4	60 - 125.4		881314.44	874092.56	871507.38
159 Tb # 3	1152213.00	0.86	1264337.30	91.1	60 - 125.4		1159807.10	1155816.50	1141015.40
209 Bi # 3	714796.69	1.79	698508.81	102.3	60 - 125.4		723149.38	721209.13	700031.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\134SMPL.D\134SMPL.D#
Date Acquired:	Dec 22 2012 06:21 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lcs 680-260655_2-a
Misc Info:	3030C
Vial Number:	4102
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.29	10.29	ug/l	2.48	100.00		36293.56	36176.55	35869.38
11 B # 3	39.85	39.85	ug/l	1.81	200.00		150602.42	147940.61	148438.17
23 Na # 1	913.3	913.3	ug/l	2.02	90000.00		5564631.00	5560663.00	5569370.00
24 Mg # 1	922.6	922.6	ug/l	2.24	90000.00		3571970.80	3581999.50	3564743.30
27 Al # 1	902.6	902.6	ug/l	1.46	90000.00		3655535.80	3680411.30	3715662.00
39 K # 2	875.9	875.9	ug/l	0.25	90000.00		391649.69	392189.56	395105.50
40 Ca # 1	973	973	ug/l	1.86	90000.00		8709357.00	8634852.00	8688465.00
47 Ti # 3	19.55	19.55	ug/l	0.97	1800.00		21975.52	21384.81	21524.97
51 V # 2	18.87	18.87	ug/l	0.66	1800.00		48235.52	48708.33	48854.04
52 Cr # 2	18.97	18.97	ug/l	0.74	1800.00		56427.21	57070.81	57022.70
55 Mn # 3	94.88	94.88	ug/l	1.24	2700.00		1973812.90	1982706.90	1951052.30
56 Fe # 1	976.2	976.2	ug/l	2.36	90000.00		12575998.00	12503619.00	12454098.00
59 Co # 3	8.821	8.821	ug/l	0.58	1800.00		136077.61	134857.58	134473.77
60 Ni # 2	19.81	19.81	ug/l	0.47	1800.00		20507.10	20523.79	20509.77
63 Cu # 2	19.68	19.68	ug/l	0.29	1800.00		52861.99	52904.12	53456.59
66 Zn # 3	20.64	20.64	ug/l	1.37	1800.00		40351.84	40619.09	40007.51
75 As # 2	20.02	20.02	ug/l	0.63	1800.00		5269.88	5281.89	5365.58
78 Se # 1	19.14	19.14	ug/l	0.40	100.00		7271.68	7326.36	7250.00
88 Sr # 3	17.74	17.74	ug/l	1.06	1800.00		372897.91	362939.25	366724.84
95 Mo # 3	19.47	19.47	ug/l	1.20	1800.00		64761.71	63981.61	63683.34
107 Ag # 3	9.621	9.621	ug/l	1.89	100.00		82181.31	79125.63	80831.25
111 Cd # 3	9.82	9.82	ug/l	1.41	100.00		17609.91	17226.41	17269.90
118 Sn # 3	19.23	19.23	ug/l	1.07	1800.00		99061.96	99418.16	98172.82
121 Sb # 3	10.47	10.47	ug/l	1.42	100.00		58010.31	57127.00	56652.04
137 Ba # 3	19.68	19.68	ug/l	1.24	1800.00		46719.33	46371.70	45923.67
202 Hg # 3	0.8645	0.8645	ug/l	1.25	5.00		1625.76	1627.76	1621.10
205 Tl # 3	7.363	7.363	ug/l	2.17	20.00		98754.09	96314.09	97601.77
208 Pb # 3	8.593	8.593	ug/l	0.87	1800.00		176167.92	173508.80	172475.59

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	647979.19	2.51	762890.69	84.9	60 - 125.4		663953.38	631396.63	648587.44
45 Sc # 1	552503.75	2.04	620105.56	89.1	60 - 125.4		548616.94	543716.25	565178.13
45 Sc # 3	725511.25	0.99	771387.50	94.1	60 - 125.4		730233.56	717216.94	729083.13
74 Ge # 1	157059.95	0.66	164848.81	95.3	60 - 125.4		156132.86	158172.50	156874.48
74 Ge # 2	29811.47	0.44	33226.06	89.7	60 - 125.4		29788.09	29692.86	29953.45
74 Ge # 3	177445.72	1.17	178474.77	99.4	60 - 125.4		179849.42	176319.23	176168.48
89 Y # 3	1027964.10	0.71	1057065.90	97.2	60 - 125.4		1030557.40	1019771.80	1033562.90
115 In # 3	891781.63	0.42	917456.31	97.2	60 - 125.4		889984.06	889274.44	896086.44
159 Tb # 3	1182580.60	1.15	1264337.30	93.5	60 - 125.4		1180216.80	1197144.00	1170381.10
209 Bi # 3	696484.00	1.15	698508.81	99.7	60 - 125.4		704600.50	688540.81	696310.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\135SMPL.D\135SMPL.D#
Date Acquired:	Dec 22 2012 06:28 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85922-d-1-d
Misc Info:	3030C
Vial Number:	4103
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.03647	-0.03647	ug/l	7.18	100.00		63.34	56.67	46.67
11 B	# 3	295.6	295.6	ug/l	0.36	200.00	Fail	924011.31	940195.31	908716.88
23 Na	# 1	17960	17960	ug/l	2.55	90000.00		110677670.00	109424030.00	108501350.00
24 Mg	# 1	19840	19840	ug/l	2.41	90000.00		80655904.00	79789320.00	79292392.00
27 Al	# 1	34.32	34.32	ug/l	11.27	90000.00		145786.66	136747.58	171863.48
39 K	# 2	14720	14720	ug/l	1.80	90000.00		5657774.50	5802133.00	5768662.50
40 Ca	# 1	136300	136300	ug/l	2.71	90000.00	Fail	1280226300.00	1248624300.00	1254160300.00
47 Ti	# 3	4.512	4.512	ug/l	67.97	1800.00		3390.92	8591.25	2827.01
51 V	# 2	0.7874	0.7874	ug/l	2.60	1800.00		2364.86	2312.85	2368.86
52 Cr	# 2	0.497	0.497	ug/l	3.33	1800.00		1533.42	1527.42	1506.75
55 Mn	# 3	1957	1957	ug/l	0.47	2700.00		36211852.00	36058760.00	34882992.00
56 Fe	# 1	39550	39550	ug/l	2.07	90000.00		529025220.00	528826180.00	523835680.00
59 Co	# 3	1.095	1.095	ug/l	0.84	1800.00		15050.83	15094.28	14830.60
60 Ni	# 2	2.672	2.672	ug/l	2.38	1800.00		2478.21	2551.55	2508.21
63 Cu	# 2	0.9196	0.9196	ug/l	0.79	1800.00		2325.51	2372.19	2410.20
66 Zn	# 3	4.298	4.298	ug/l	1.18	1800.00		8609.23	8405.78	8195.69
75 As	# 2	1.345	1.345	ug/l	4.19	1800.00		338.00	348.01	332.00
78 Se	# 1	0.4111	0.4111	ug/l	1.98	100.00		161.00	155.67	163.00
88 Sr	# 3	695.3	695.3	ug/l	0.72	1800.00		13317251.00	13459559.00	13135453.00
95 Mo	# 3	0.1416	0.1416	ug/l	16.34	1800.00		1333.43	1210.08	1276.76
107 Ag	# 3	-0.0131	-0.0131	ug/l	26.88	100.00		133.34	186.67	150.01
111 Cd	# 3	-0.0002635	-0.0002635	ug/l	2386.70	100.00		66.18	46.22	52.86
118 Sn	# 3	1.017	1.017	ug/l	3.91	1800.00		4984.30	4884.27	5074.32
121 Sb	# 3	0.1726	0.1726	ug/l	5.55	100.00		1123.41	1080.07	1153.41
137 Ba	# 3	436.6	436.6	ug/l	1.34	1800.00		929777.25	918090.38	912351.44
202 Hg	# 3	0.0203	0.0203	ug/l	19.18	5.00		55.67	46.33	57.33
205 Tl	# 3	0.004312	0.004312	ug/l	133.23	20.00		556.70	500.03	400.02
208 Pb	# 3	1.698	1.698	ug/l	0.39	1800.00		30506.88	30250.00	30039.95

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	576588.25	1.49	762890.69	75.6	60 - 125.4		574687.63	585948.56	569128.56
45 Sc	# 1	575265.25	1.56	620105.56	92.8	60 - 125.4		566558.88	574798.81	584438.13
45 Sc	# 3	677975.25	2.49	771387.50	87.9	60 - 125.4		690660.44	684464.50	658800.88
74 Ge	# 1	150035.30	2.00	164848.81	91.0	60 - 125.4		148106.69	148513.59	153485.59
74 Ge	# 2	26945.26	2.05	33226.06	81.1	60 - 125.4		26517.30	26751.03	27567.43
74 Ge	# 3	156651.05	1.62	178474.77	87.8	60 - 125.4		158655.45	157509.17	153788.55
89 Y	# 3	954894.06	1.27	1057065.90	90.3	60 - 125.4		963504.88	960135.38	941041.63
115 In	# 3	800820.31	1.86	917456.31	87.3	60 - 125.4		808833.44	809956.94	783670.50
159 Tb	# 3	1103777.40	2.34	1264337.30	87.3	60 - 125.4		1113357.10	1123446.90	1074528.10
209 Bi	# 3	595330.44	1.04	698508.81	85.2	60 - 125.4		600503.63	597004.19	588483.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Fail
ISTD:	Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\136SMPL.D\136SMPL.D#
Date Acquired:	Dec 22 2012 06:34 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85922-d-4-b
Misc Info:	3030C
Vial Number:	4104
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.1289	0.1289	ug/l	16.42	100.00		613.36	490.02	503.36
11 B # 3	302.3	302.3	ug/l	0.99	200.00	Fail	892165.63	888015.19	884322.56
23 Na # 1	18330	18330	ug/l	3.32	90000.00		102267540.00	104094840.00	101745020.00
24 Mg # 1	20650	20650	ug/l	3.20	90000.00		77139640.00	76440128.00	75640024.00
27 Al # 1	1885	1885	ug/l	4.16	90000.00		7392381.50	7308187.50	7357608.00
39 K # 2	14430	14430	ug/l	0.46	90000.00		5449083.00	5434483.50	5504283.50
40 Ca # 1	142200	142200	ug/l	4.84	90000.00	Fail	1200377900.00	1204816300.00	1218807700.00
47 Ti # 3	36.59	36.59	ug/l	4.40	1800.00		35822.00	36688.93	34071.00
51 V # 2	15.74	15.74	ug/l	1.03	1800.00		35369.88	35758.07	35798.81
52 Cr # 2	4.812	4.812	ug/l	0.48	1800.00		12658.33	12739.05	12935.88
55 Mn # 3	1820	1820	ug/l	0.87	2700.00		33479130.00	33268612.00	32588616.00
56 Fe # 1	46150	46150	ug/l	5.18	90000.00		560374910.00	562169340.00	572153150.00
59 Co # 3	4.287	4.287	ug/l	0.71	1800.00		59400.71	57236.22	57139.11
60 Ni # 2	5.352	5.352	ug/l	0.87	1800.00		4890.10	4826.75	4892.10
63 Cu # 2	15.29	15.29	ug/l	1.24	1800.00		36437.88	35902.70	36181.34
66 Zn # 3	133.7	133.7	ug/l	0.40	1800.00		226773.56	223228.30	219544.89
75 As # 2	2.977	2.977	ug/l	4.15	1800.00		672.02	724.69	725.35
78 Se # 1	0.6966	0.6966	ug/l	6.89	100.00		273.00	269.34	241.34
88 Sr # 3	635	635	ug/l	1.33	1800.00		12965947.00	12857298.00	12654000.00
95 Mo # 3	0.242	0.242	ug/l	16.10	1800.00		1430.12	1530.13	1600.13
107 Ag # 3	0.09514	0.09514	ug/l	2.65	100.00		950.06	950.06	923.39
111 Cd # 3	1.176	1.176	ug/l	4.46	100.00		1816.31	1912.95	1852.92
118 Sn # 3	19.96	19.96	ug/l	1.17	1800.00		91672.94	89296.09	87609.50
121 Sb # 3	0.2956	0.2956	ug/l	5.38	100.00		1890.17	1746.81	1876.84
137 Ba # 3	484.1	484.1	ug/l	1.52	1800.00		995167.69	989646.63	987025.19
202 Hg # 3	0.02756	0.02756	ug/l	11.39	5.00		68.67	63.33	57.00
205 Tl # 3	-0.01566	-0.01566	ug/l	8.63	20.00		240.01	213.34	243.34
208 Pb # 3	47.38	47.38	ug/l	0.30	1800.00		809353.81	789028.94	784838.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	541895.13	1.41	762890.69	71.0	60 - 125.4		549023.75	542875.94	533785.69
45 Sc # 1	528822.19	3.95	620105.56	85.3	60 - 125.4		540446.69	541332.56	504687.44
45 Sc # 3	641841.50	1.81	771387.50	83.2	60 - 125.4		654718.31	632095.31	638710.81
74 Ge # 1	148729.91	0.14	164848.81	90.2	60 - 125.4		148570.97	148960.00	148658.78
74 Ge # 2	26143.36	1.13	33226.06	78.7	60 - 125.4		26014.82	25934.64	26480.61
74 Ge # 3	156219.47	1.84	178474.77	87.5	60 - 125.4		159352.56	155623.70	153682.13
89 Y # 3	1008211.30	2.48	1057065.90	95.4	60 - 125.4		1034594.40	1005260.20	984779.06
115 In # 3	777795.44	1.90	917456.31	84.8	60 - 125.4		794773.56	767733.13	770879.69
159 Tb # 3	1073519.00	2.21	1264337.30	84.9	60 - 125.4		1100453.80	1064182.80	1055920.60
209 Bi # 3	579999.94	1.65	698508.81	83.0	60 - 125.4		590387.50	578001.69	571610.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\137SMPL.D\137SMPL.D#
Date Acquired:	Dec 22 2012 06:41 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85922-d-4-b SD
Misc Info:	3030C
Vial Number:	4105
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.09385	-0.01877	ug/l	29.79	100.00		100.00	133.34	136.67
11 B # 3	299.65	59.93	ug/l	3.03	200.00		217851.97	218301.11	215326.77
23 Na # 1	18845	3769	ug/l	1.22	90000.00		23635542.00	23037460.00	22973760.00
24 Mg # 1	21375	4275	ug/l	1.15	90000.00		17333224.00	17240354.00	17174176.00
27 Al # 1	2002	400.4	ug/l	1.09	90000.00		1727970.10	1700832.30	1693612.00
39 K # 2	16210	3242	ug/l	1.90	90000.00		1314203.40	1295795.30	1310385.80
40 Ca # 1	146450	29290	ug/l	1.78	90000.00		269571580.00	272761700.00	272092450.00
47 Ti # 3	36.625	7.325	ug/l	4.83	1800.00		7985.66	8345.92	8672.47
51 V # 2	16.625	3.325	ug/l	3.59	1800.00		8268.81	8376.20	8493.59
52 Cr # 2	5.16	1.032	ug/l	1.41	1800.00		3059.64	3047.64	3006.29
55 Mn # 3	2028	405.6	ug/l	0.19	2700.00		8088436.50	8086272.50	7961021.50
56 Fe # 1	48220	9644	ug/l	0.46	90000.00		129451450.00	127588980.00	129326690.00
59 Co # 3	4.7165	0.9433	ug/l	1.12	1800.00		14236.69	14190.02	13756.30
60 Ni # 2	6.725	1.345	ug/l	3.07	1800.00		1287.39	1328.73	1291.39
63 Cu # 2	17.41	3.482	ug/l	1.88	1800.00		8815.79	8825.14	8771.77
66 Zn # 3	162.45	32.49	ug/l	1.31	1800.00		60247.77	59645.25	60408.31
75 As # 2	3.0435	0.6087	ug/l	4.49	1800.00		164.67	167.33	171.33
78 Se # 1	0.2299	0.04598	ug/l	24.08	100.00		31.33	29.67	23.67
88 Sr # 3	704.5	140.9	ug/l	1.24	1800.00		2975285.50	2929246.00	2965697.30
95 Mo # 3	-0.708	-0.1416	ug/l	6.90	1800.00		520.03	470.02	460.02
107 Ag # 3	-0.03027	-0.006054	ug/l	81.35	100.00		196.67	213.34	266.68
111 Cd # 3	1.104	0.2208	ug/l	2.81	100.00		449.83	436.51	423.18
118 Sn # 3	20.64	4.128	ug/l	2.48	1800.00		20837.98	20594.32	20964.77
121 Sb # 3	0.20175	0.04035	ug/l	12.79	100.00		530.03	490.03	463.36
137 Ba # 3	445.8	89.16	ug/l	0.75	1800.00		203437.70	203877.66	200641.92
202 Hg # 3	0.024465	0.004893	ug/l	60.07	5.00		32.67	24.00	32.00
205 Tl # 3	-0.1302	-0.02604	ug/l	2.38	20.00		123.34	120.00	106.67
208 Pb # 3	50.9	10.18	ug/l	1.33	1800.00		183025.39	180314.44	179540.17

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	643112.56	2.18	762890.69	84.3	60 - 125.4		637355.13	632863.38	659119.19
45 Sc # 1	576106.19	1.22	620105.56	92.9	60 - 125.4		581905.81	568273.50	578139.19
45 Sc # 3	726682.56	0.76	771387.50	94.2	60 - 125.4		732630.31	721651.94	725765.38
74 Ge # 1	154571.95	0.44	164848.81	93.8	60 - 125.4		154294.92	154067.53	155353.42
74 Ge # 2	27595.88	2.05	33226.06	83.1	60 - 125.4		28218.61	27455.62	27113.41
74 Ge # 3	170150.11	0.80	178474.77	95.3	60 - 125.4		171182.63	170654.25	168613.47
89 Y # 3	1046965.10	1.02	1057065.90	99.0	60 - 125.4		1057085.00	1048015.50	1035794.90
115 In # 3	863229.50	1.56	917456.31	94.1	60 - 125.4		865408.94	875445.31	848834.25
159 Tb # 3	1159655.90	1.10	1264337.30	91.7	60 - 125.4		1158510.40	1172929.80	1147527.50
209 Bi # 3	611889.63	0.40	698508.81	87.6	60 - 125.4		610439.63	610492.88	614736.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\138SMPL.D\138SMPL.D#
Date Acquired:	Dec 22 2012 06:48 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85922-d-4-b PDS
Misc Info:	3030C
Vial Number:	4106
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	22.87	22.87	ug/l	1.26	100.00		68337.44	66429.45	65185.00
11 B # 3	352.1	352.1	ug/l	1.39	200.00	Fail	1042462.50	1029484.40	1013773.80
23 Na # 1	19680	19680	ug/l	1.66	90000.00		118225680.00	114879440.00	115860610.00
24 Mg # 1	21530	21530	ug/l	0.27	90000.00		84610016.00	84517360.00	82867336.00
27 Al # 1	2019	2019	ug/l	0.70	90000.00		8344155.00	8418082.00	8156313.00
39 K # 2	16520	16520	ug/l	2.24	90000.00		6253584.50	6225021.50	6412220.50
40 Ca # 1	138400	138400	ug/l	0.22	90000.00	Fail	1248014300.00	1249302800.00	1223687600.00
47 Ti # 3	58.23	58.23	ug/l	1.49	1800.00		57742.46	56677.32	56348.47
51 V # 2	37.11	37.11	ug/l	0.74	1800.00		84125.56	83908.58	83756.95
52 Cr # 2	26.06	26.06	ug/l	0.86	1800.00		68891.09	68832.20	69004.95
55 Mn # 3	2025	2025	ug/l	0.21	2700.00		37696580.00	36586252.00	36326800.00
56 Fe # 1	46740	46740	ug/l	1.43	90000.00		599213060.00	605115650.00	606538050.00
59 Co # 3	22.63	22.63	ug/l	0.34	1800.00		312451.72	302531.97	300310.03
60 Ni # 2	26.51	26.51	ug/l	0.72	1800.00		24390.51	24317.08	24027.96
63 Cu # 2	36.44	36.44	ug/l	0.69	1800.00		87095.74	86815.01	86122.73
66 Zn # 3	153.8	153.8	ug/l	0.47	1800.00		263165.50	254124.06	253264.70
75 As # 2	26.93	26.93	ug/l	0.88	1800.00		6343.61	6300.26	6254.91
78 Se # 1	23.36	23.36	ug/l	0.43	100.00		8483.27	8511.96	8383.89
88 Sr # 3	649	649	ug/l	1.29	1800.00		13459203.00	13247135.00	13115740.00
95 Mo # 3	22.11	22.11	ug/l	1.78	1800.00		65859.57	63559.79	63040.81
107 Ag # 3	18.07	18.07	ug/l	3.26	100.00		137989.95	133636.13	128852.41
111 Cd # 3	21.32	21.32	ug/l	3.24	100.00		34551.91	32952.42	32090.59
118 Sn # 3	40.76	40.76	ug/l	1.86	1800.00		187566.78	184642.20	181548.95
121 Sb # 3	20.26	20.26	ug/l	1.38	100.00		112154.61	109432.48	107583.31
137 Ba # 3	497	497	ug/l	0.25	1800.00		1046046.80	1011566.60	1029181.40
202 Hg # 3	0.8723	0.8723	ug/l	0.87	5.00		1399.09	1354.76	1342.42
205 Tl # 3	4.04	4.04	ug/l	1.22	20.00		50144.50	48080.82	48632.66
208 Pb # 3	69.32	69.32	ug/l	0.80	1800.00		1179986.60	1154529.40	1150952.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	539591.69	2.61	762890.69	70.7	60 - 125.4		549581.38	545678.88	523514.94
45 Sc # 1	557223.25	0.96	620105.56	89.9	60 - 125.4		559698.75	560890.75	551080.31
45 Sc # 3	648196.94	2.73	771387.50	84.0	60 - 125.4		667035.13	645643.25	631912.31
74 Ge # 1	149493.47	0.40	164848.81	90.7	60 - 125.4		149903.34	149775.67	148801.36
74 Ge # 2	26332.59	0.74	33226.06	79.3	60 - 125.4		26273.57	26550.82	26173.38
74 Ge # 3	156336.86	1.81	178474.77	87.6	60 - 125.4		159508.94	155457.78	154043.86
89 Y # 3	1020842.40	2.06	1057065.90	96.6	60 - 125.4		1044305.40	1003791.80	1014430.10
115 In # 3	786757.25	1.59	917456.31	85.8	60 - 125.4		797992.69	773235.06	789043.88
159 Tb # 3	1077123.90	2.29	1264337.30	85.2	60 - 125.4		1104562.50	1070181.00	1056628.10
209 Bi # 3	580045.44	1.70	698508.81	83.0	60 - 125.4		589555.38	580742.31	569838.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\139SMPL.D\139SMPL.D#
Date Acquired:	Dec 22 2012 06:55 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85922-d-4-c ms
Misc Info:	3030C
Vial Number:	4107
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.37	10.37	ug/l	0.90	100.00		30772.30	30254.75	29520.07
11 B # 3	338.7	338.7	ug/l	0.88	200.00	Fail	985854.75	995386.63	975395.69
23 Na # 1	18190	18190	ug/l	1.60	90000.00		106420050.00	107807530.00	104132770.00
24 Mg # 1	20390	20390	ug/l	0.71	90000.00		79639096.00	77916616.00	78071344.00
27 Al # 1	2631	2631	ug/l	0.83	90000.00		10734142.00	10758111.00	10546807.00
39 K # 2	15560	15560	ug/l	1.98	90000.00		5686584.00	5781850.50	5609544.00
40 Ca # 1	134800	134800	ug/l	0.80	90000.00	Fail	1199821600.00	1200597100.00	1177631700.00
47 Ti # 3	54.02	54.02	ug/l	1.50	1800.00		53628.15	52756.30	51274.19
51 V # 2	35.47	35.47	ug/l	0.69	1800.00		76634.06	77417.21	77026.66
52 Cr # 2	24.4	24.4	ug/l	0.28	1800.00		61687.52	61977.33	62200.91
55 Mn # 3	1932	1932	ug/l	0.72	2700.00		34765400.00	34717316.00	33751532.00
56 Fe # 1	44900	44900	ug/l	1.19	90000.00		570709760.00	569143550.00	577252610.00
59 Co # 3	12.87	12.87	ug/l	1.17	1800.00		173514.31	170822.39	165137.16
60 Ni # 2	25.21	25.21	ug/l	0.83	1800.00		22079.84	22218.69	22071.15
63 Cu # 2	35.79	35.79	ug/l	0.93	1800.00		82025.40	81567.09	81578.49
66 Zn # 3	152.6	152.6	ug/l	0.25	1800.00		253313.64	248977.50	245285.56
75 As # 2	23.12	23.12	ug/l	1.04	1800.00		5210.53	5193.53	5171.18
78 Se # 1	9.47	9.47	ug/l	2.14	100.00		3359.03	3327.02	3451.72
88 Sr # 3	648.6	648.6	ug/l	1.13	1800.00		13317471.00	13083948.00	12679988.00
95 Mo # 3	16.13	16.13	ug/l	1.44	1800.00		47212.01	46442.79	45433.65
107 Ag # 3	8.623	8.623	ug/l	1.07	100.00		63664.63	63323.69	61790.86
111 Cd # 3	10.61	10.61	ug/l	0.47	100.00		16295.03	16405.32	16228.81
118 Sn # 3	38.45	38.45	ug/l	0.75	1800.00		173652.89	172045.98	169362.69
121 Sb # 3	6.439	6.439	ug/l	0.27	100.00		34990.59	34429.31	33848.07
137 Ba # 3	495.7	495.7	ug/l	0.63	1800.00		1016334.10	1019471.30	998973.31
202 Hg # 3	0.2941	0.2941	ug/l	1.78	5.00		467.34	461.34	444.68
205 Tl # 3	7.345	7.345	ug/l	0.72	20.00		89212.11	87689.95	85945.44
208 Pb # 3	56.43	56.43	ug/l	2.63	1800.00		936469.75	927079.44	878057.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	537300.00	1.61	762890.69	70.4	60 - 125.4		542335.75	542269.00	527295.25
45 Sc # 1	549950.75	0.58	620105.56	88.7	60 - 125.4		553469.38	549126.88	547256.13
45 Sc # 3	644563.50	0.99	771387.50	83.6	60 - 125.4		647280.13	649141.69	637268.63
74 Ge # 1	147073.30	0.25	164848.81	89.2	60 - 125.4		147411.69	147136.48	146671.69
74 Ge # 2	25272.56	0.66	33226.06	76.1	60 - 125.4		25125.10	25238.61	25453.98
74 Ge # 3	152907.61	1.40	178474.77	85.7	60 - 125.4		154991.25	153012.53	150719.03
89 Y # 3	1002175.30	1.48	1057065.90	94.8	60 - 125.4		1017947.10	1000168.30	988410.38
115 In # 3	775454.06	0.52	917456.31	84.5	60 - 125.4		778672.56	776810.94	770878.63
159 Tb # 3	1064478.00	1.31	1264337.30	84.2	60 - 125.4		1079892.60	1060638.00	1052903.40
209 Bi # 3	560194.00	1.06	698508.81	80.2	60 - 125.4		566700.50	558769.94	555111.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\140SMPL.D\140SMPL.D#
Date Acquired:	Dec 22 2012 07:01 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85922-d-4-d msd
Misc Info:	3030C
Vial Number:	4108
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.37	10.37	ug/l	2.67	100.00		30338.30	30278.16	29359.69
11 B	# 3	343	343	ug/l	2.92	200.00	Fail	987358.13	997326.44	989826.63
23 Na	# 1	18000	18000	ug/l	1.21	90000.00		106637810.00	105725030.00	104140300.00
24 Mg	# 1	20050	20050	ug/l	1.57	90000.00		77924416.00	77930656.00	76859936.00
27 Al	# 1	2567	2567	ug/l	2.41	90000.00		10733766.00	10568292.00	10113094.00
39 K	# 2	15340	15340	ug/l	1.60	90000.00		5657593.00	5552570.00	5622318.50
40 Ca	# 1	133000	133000	ug/l	1.94	90000.00	Fail	1179559200.00	1186970100.00	1179804500.00
47 Ti	# 3	54.37	54.37	ug/l	5.72	1800.00		56409.53	51661.66	49627.58
51 V	# 2	34.94	34.94	ug/l	0.91	1800.00		75837.79	75214.85	76480.12
52 Cr	# 2	24.16	24.16	ug/l	0.82	1800.00		61261.28	61170.34	61532.99
55 Mn	# 3	1927	1927	ug/l	0.96	2700.00		34206316.00	33980384.00	33656664.00
56 Fe	# 1	44400	44400	ug/l	1.42	90000.00		571803070.00	570150660.00	563748030.00
59 Co	# 3	12.93	12.93	ug/l	0.23	1800.00		172200.69	167096.06	166898.63
60 Ni	# 2	25.02	25.02	ug/l	0.62	1800.00		21815.48	22017.10	22021.75
63 Cu	# 2	34.9	34.9	ug/l	0.97	1800.00		79573.13	79780.26	79664.89
66 Zn	# 3	154.9	154.9	ug/l	0.77	1800.00		254441.38	250213.36	245808.53
75 As	# 2	23.04	23.04	ug/l	1.53	1800.00		5200.19	5169.18	5147.18
78 Se	# 1	9.553	9.553	ug/l	2.49	100.00		3375.70	3437.38	3446.05
88 Sr	# 3	654.1	654.1	ug/l	0.92	1800.00		13111884.00	12893459.00	12793752.00
95 Mo	# 3	16.07	16.07	ug/l	1.94	1800.00		46901.20	45978.47	44841.72
107 Ag	# 3	8.496	8.496	ug/l	0.25	100.00		62584.13	60730.08	61573.22
111 Cd	# 3	10.49	10.49	ug/l	1.24	100.00		16328.39	15975.08	15785.28
118 Sn	# 3	36.88	36.88	ug/l	0.84	1800.00		167280.34	162088.09	161637.31
121 Sb	# 3	6.375	6.375	ug/l	1.78	100.00		34068.48	33717.67	32879.21
137 Ba	# 3	492.4	492.4	ug/l	1.21	1800.00		1006952.50	996385.00	992296.00
202 Hg	# 3	0.2879	0.2879	ug/l	1.54	5.00		438.68	443.34	441.01
205 Tl	# 3	7.361	7.361	ug/l	1.31	20.00		88312.77	87635.39	85033.41
208 Pb	# 3	55.53	55.53	ug/l	0.40	1800.00		898539.13	881440.81	872957.25

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	533946.56	2.44	762890.69	70.0	60 - 125.4		548297.25	522813.22	530729.19
45 Sc	# 1	552579.13	1.72	620105.56	89.1	60 - 125.4		563508.56	546192.06	548036.69
45 Sc	# 3	640449.63	0.93	771387.50	83.0	60 - 125.4		647187.63	638162.94	635998.44
74 Ge	# 1	147567.69	1.38	164848.81	89.5	60 - 125.4		149841.05	146957.28	145904.70
74 Ge	# 2	25266.42	1.02	33226.06	76.0	60 - 125.4		25014.90	25255.33	25529.03
74 Ge	# 3	151271.81	1.56	178474.77	84.8	60 - 125.4		153991.30	150106.25	149717.89
89 Y	# 3	986709.25	1.48	1057065.90	93.3	60 - 125.4		1002571.60	973794.44	983761.56
115 In	# 3	770742.44	1.72	917456.31	84.0	60 - 125.4		784922.69	758752.06	768552.50
159 Tb	# 3	1054647.40	1.37	1264337.30	83.4	60 - 125.4		1071101.50	1048587.30	1044253.50
209 Bi	# 3	550940.00	1.07	698508.81	78.9	60 - 125.4		557412.75	549556.19	545851.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Fail
ISTD:	Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\141_CCV.D\141_CCV.D#
Date Acquired:	Dec 22 2012 07:08 am
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag
9 Be	50.83 ug/l	1.19	50.00	89.6 -	110	
11 B	102.60 ug/l	0.67	100.00	89.6 -	110	
23 Na	4385.00 ug/l	2.03	5000.00	89.6 -	110	Fail
24 Mg	4428.00 ug/l	0.81	5000.00	89.6 -	110	Fail
27 Al	440.10 ug/l	1.72	500.00	89.6 -	110	Fail
39 K	4697.00 ug/l	1.84	5000.00	89.6 -	110	
40 Ca	4696.00 ug/l	1.37	5000.00	89.6 -	110	
47 Ti	48.63 ug/l	1.53	50.00	89.6 -	110	
51 V	50.03 ug/l	0.38	50.00	89.6 -	110	
52 Cr	50.21 ug/l	0.88	50.00	89.6 -	110	
55 Mn	486.70 ug/l	0.34	500.00	89.6 -	110	
56 Fe	4959.00 ug/l	0.49	5000.00	89.6 -	110	
59 Co	49.96 ug/l	2.07	50.00	89.6 -	110	
60 Ni	52.78 ug/l	0.50	50.00	89.6 -	110	
63 Cu	52.95 ug/l	0.18	50.00	89.6 -	110	
66 Zn	48.73 ug/l	0.68	50.00	89.6 -	110	
75 As	48.57 ug/l	0.94	50.00	89.6 -	110	
78 Se	49.57 ug/l	0.71	50.00	89.6 -	110	
88 Sr	49.99 ug/l	1.72	50.00	89.6 -	110	
95 Mo	49.17 ug/l	0.89	50.00	89.6 -	110	
107 Ag	47.77 ug/l	1.43	50.00	89.6 -	110	
111 Cd	47.85 ug/l	1.66	50.00	89.6 -	110	
118 Sn	47.85 ug/l	1.05	50.00	89.6 -	110	
121 Sb	46.99 ug/l	0.55	50.00	89.6 -	110	
137 Ba	48.26 ug/l	0.91	50.00	89.6 -	110	
202 Hg	2.42 ug/l	1.06	2.50	89.6 -	110	
205 Tl	9.20 ug/l	1.49	10.00	89.6 -	110	
208 Pb	46.62 ug/l	0.47	50.00	89.6 -	110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6 Li	658704.81	0.89	762890.69	86.3	59.6 -	125	
45 Sc	583685.69	1.16	620105.56	94.1	59.6 -	125	
45 Sc	753859.31	1.24	771387.50	97.7	59.6 -	125	
74 Ge	157916.89	0.47	164848.81	95.8	59.6 -	125	
74 Ge	28091.15	0.39	33226.06	84.5	59.6 -	125	
74 Ge	172852.16	0.53	178474.77	96.8	59.6 -	125	
89 Y	1045141.10	0.64	1057065.90	98.9	59.6 -	125	
115 In	885484.13	0.72	917456.31	96.5	59.6 -	125	
159 Tb	1161039.00	0.28	1264337.30	91.8	59.6 -	125	
209 Bi	606349.19	0.57	698508.81	86.8	59.6 -	125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

3 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	**Fail**
ISTD:	**Pass**

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\142_CCB.D\142_CCB.D#
Date Acquired: Dec 22 2012 07:15 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	9.96	0.05	
11 B	3.65 ug/l	4.70	10.00	
23 Na	-12.17 ug/l	2.34	25.00	
24 Mg	4.39 ug/l	8.82	25.00	
27 Al	-0.24 ug/l	17.72	5.00	
39 K	4.19 ug/l	13.20	25.00	
40 Ca	19.34 ug/l	4.64	25.00	
47 Ti	-0.24 ug/l	9.16	0.50	
51 V	-0.08 ug/l	8.36	0.50	
52 Cr	0.01 ug/l	119.96	0.50	
55 Mn	-0.02 ug/l	63.94	0.50	
56 Fe	8.13 ug/l	4.94	10.00	
59 Co	0.00 ug/l	34.28	0.05	
60 Ni	0.02 ug/l	19.83	0.50	
63 Cu	0.01 ug/l	97.01	0.50	
66 Zn	-0.50 ug/l	3.85	2.00	
75 As	0.03 ug/l	43.07	0.25	
78 Se	0.13 ug/l	4.33	0.25	
88 Sr	-0.04 ug/l	3.45	0.10	
95 Mo	-0.17 ug/l	10.45	0.50	
107 Ag	-0.01 ug/l	32.06	0.10	
111 Cd	0.00 ug/l	83.86	0.05	
118 Sn	0.02 ug/l	18.80	0.50	
121 Sb	0.34 ug/l	8.35	0.50	
137 Ba	0.00 ug/l	208.76	0.50	
202 Hg	0.04 ug/l	15.09	0.08	
205 Tl	-0.03 ug/l	2.16	0.10	
208 Pb	-0.03 ug/l	0.48	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	728879.00	0.75	762890.69	95.5	59.6 - 125	
45 Sc	604193.19	1.16	620105.56	97.4	59.6 - 125	
45 Sc	810710.94	0.98	771387.50	105.1	59.6 - 125	
74 Ge	165295.00	0.42	164848.81	100.3	59.6 - 125	
74 Ge	30262.90	0.48	33226.06	91.1	59.6 - 125	
74 Ge	184251.94	0.68	178474.77	103.2	59.6 - 125	
89 Y	1089330.00	1.12	1057065.90	103.1	59.6 - 125	
115 In	920207.25	0.64	917456.31	100.3	59.6 - 125	
159 Tb	1194896.40	0.33	1264337.30	94.5	59.6 - 125	
209 Bi	626950.31	1.14	698508.81	89.8	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\143SMPL.D\143SMPL.D#
Date Acquired:	Dec 22 2012 07:21 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	mb 680-260587_1-a
Misc Info:	3005 1/5
Vial Number:	4109
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04136	-0.04136	ug/l	6.32	100.00		60.00	40.00	50.00
11 B # 3	2.739	2.739	ug/l	7.28	200.00		22619.29	22005.08	21267.48
23 Na # 1	-11.27	-11.27	ug/l	9.59	90000.00		176469.70	181777.86	170279.80
24 Mg # 1	0.3385	0.3385	ug/l	79.79	90000.00		8324.73	6504.92	6341.92
27 Al # 1	-0.3291	-0.3291	ug/l	7.17	90000.00		4570.79	4600.77	4470.74
39 K # 2	4.266	4.266	ug/l	20.53	90000.00		18520.96	18180.70	18027.17
40 Ca # 1	5.512	5.512	ug/l	6.99	90000.00		92886.78	87408.13	87483.88
47 Ti # 3	-0.2079	-0.2079	ug/l	5.29	1800.00		153.34	126.67	130.00
51 V # 2	0.06549	0.06549	ug/l	10.05	1800.00		770.69	788.69	815.36
52 Cr # 2	0.05091	0.05091	ug/l	9.86	1800.00		355.34	358.01	386.67
55 Mn # 3	-0.2689	-0.2689	ug/l	1.19	2700.00		3247.09	3277.09	3160.40
56 Fe # 1	2.029	2.029	ug/l	8.27	90000.00		45479.22	42791.32	41552.18
59 Co # 3	-0.008844	-0.008844	ug/l	6.87	1800.00		113.34	113.34	96.67
60 Ni # 2	0.03044	0.03044	ug/l	15.10	1800.00		50.00	52.67	43.33
63 Cu # 2	0.7348	0.7348	ug/l	1.83	1800.00		2228.83	2184.16	2204.83
66 Zn # 3	-0.306	-0.306	ug/l	3.06	1800.00		893.39	886.72	860.05
75 As # 2	0.06454	0.06454	ug/l	13.06	1800.00		40.67	36.67	40.00
78 Se # 1	0.07288	0.07288	ug/l	16.36	100.00		36.00	43.00	45.00
88 Sr # 3	-0.08262	-0.08262	ug/l	3.97	1800.00		473.36	403.35	330.01
95 Mo # 3	-0.2238	-0.2238	ug/l	4.31	1800.00		256.68	266.68	206.67
107 Ag # 3	-0.02648	-0.02648	ug/l	8.03	100.00		66.67	83.34	46.67
111 Cd # 3	-0.009858	-0.009858	ug/l	83.05	100.00		63.24	33.24	43.26
118 Sn # 3	0.03051	0.03051	ug/l	17.41	1800.00		533.36	480.02	533.36
121 Sb # 3	0.1311	0.1311	ug/l	10.38	100.00		1056.73	1113.41	980.06
137 Ba # 3	-0.03869	-0.03869	ug/l	30.99	1800.00		100.00	56.67	43.33
202 Hg # 3	0.01573	0.01573	ug/l	12.97	5.00		46.67	51.00	53.00
205 Tl # 3	-0.03197	-0.03197	ug/l	1.90	20.00		36.67	50.00	36.67
208 Pb # 3	-0.04765	-0.04765	ug/l	4.80	1800.00		340.01	270.01	256.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	715177.56	0.42	762890.69	93.7	60 - 125.4		712835.13	714136.94	718560.69
45 Sc # 1	610920.19	0.93	620105.56	98.5	60 - 125.4		606188.75	609384.25	617187.56
45 Sc # 3	801659.75	0.91	771387.50	103.9	60 - 125.4		809873.31	796025.88	799080.19
74 Ge # 1	166889.17	0.33	164848.81	101.2	60 - 125.4		167410.52	166327.78	166929.22
74 Ge # 2	30955.92	0.76	33226.06	93.2	60 - 125.4		30686.53	31057.25	31123.99
74 Ge # 3	186894.00	0.45	178474.77	104.7	60 - 125.4		187526.86	185941.73	187213.41
89 Y # 3	1103109.90	1.27	1057065.90	104.4	60 - 125.4		1108118.40	1087312.50	1113898.90
115 In # 3	934253.13	0.46	917456.31	101.8	60 - 125.4		936847.06	929332.88	936579.25
159 Tb # 3	1197966.40	1.00	1264337.30	94.8	60 - 125.4		1198481.30	1185784.90	1209632.80
209 Bi # 3	651580.56	0.61	698508.81	93.3	60 - 125.4		655562.56	651546.56	647632.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\144SMPL.D\144SMPL.D#
Date Acquired:	Dec 22 2012 07:28 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lcs 680-260587_2-a
Misc Info:	3005 1/5
Vial Number:	4110
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.31	10.31	ug/l	0.40	100.00		41539.09	40887.47	41231.75
11 B	# 3	41.45	41.45	ug/l	0.71	200.00		175407.67	175934.78	176862.38
23 Na	# 1	916.9	916.9	ug/l	1.67	90000.00		6247007.50	6122971.50	6119391.50
24 Mg	# 1	946.1	946.1	ug/l	0.83	90000.00		4016533.80	4006019.00	4106702.80
27 Al	# 1	920.3	920.3	ug/l	1.24	90000.00		4134455.00	4180794.00	4115758.30
39 K	# 2	953.6	953.6	ug/l	1.15	90000.00		430576.97	437860.47	435342.50
40 Ca	# 1	978.8	978.8	ug/l	0.62	90000.00		9546039.00	9674962.00	9674239.00
47 Ti	# 3	19.84	19.84	ug/l	1.67	1800.00		24632.71	24095.13	24128.51
51 V	# 2	20.61	20.61	ug/l	0.73	1800.00		53812.29	54314.59	54065.84
52 Cr	# 2	20.74	20.74	ug/l	0.66	1800.00		63033.35	63364.70	63606.34
55 Mn	# 3	103.3	103.3	ug/l	0.73	2700.00		2245421.50	2182631.50	2190083.00
56 Fe	# 1	988.2	988.2	ug/l	0.99	90000.00		14002153.00	13781228.00	14140160.00
59 Co	# 3	9.709	9.709	ug/l	0.99	1800.00		153036.09	153785.81	152389.09
60 Ni	# 2	21.73	21.73	ug/l	1.21	1800.00		22710.71	23144.01	22951.71
63 Cu	# 2	21.79	21.79	ug/l	0.41	1800.00		59812.22	59983.53	59810.17
66 Zn	# 3	21.5	21.5	ug/l	1.00	1800.00		43423.14	43533.25	42580.70
75 As	# 2	22.08	22.08	ug/l	0.48	1800.00		5977.80	5976.80	5932.12
78 Se	# 1	20.49	20.49	ug/l	0.52	100.00		8038.38	8065.72	8092.41
88 Sr	# 3	18.5	18.5	ug/l	1.06	1800.00		406578.63	407108.06	402593.38
95 Mo	# 3	20.77	20.77	ug/l	1.40	1800.00		70921.71	70071.23	70958.39
107 Ag	# 3	10.29	10.29	ug/l	0.28	100.00		90122.60	89462.00	87892.98
111 Cd	# 3	10.18	10.18	ug/l	1.36	100.00		18772.33	18375.54	18652.20
118 Sn	# 3	20.18	20.18	ug/l	0.77	1800.00		107735.87	107095.59	106940.87
121 Sb	# 3	10.63	10.63	ug/l	0.16	100.00		62316.86	61259.53	61062.41
137 Ba	# 3	20.49	20.49	ug/l	1.08	1800.00		50896.08	49307.64	49337.58
202 Hg	# 3	0.9894	0.9894	ug/l	0.50	5.00		1731.11	1740.78	1739.78
205 Tl	# 3	7.603	7.603	ug/l	0.31	20.00		103247.81	101328.49	101764.66
208 Pb	# 3	9.494	9.494	ug/l	0.53	1800.00		181119.47	179955.52	178495.25

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	738020.88	0.39	762890.69	96.7	60 - 125.4		740876.94	735144.13	738041.63
45 Sc	# 1	609464.38	0.56	620105.56	98.3	60 - 125.4		606997.63	608002.06	613393.38
45 Sc	# 3	802941.00	0.45	771387.50	104.1	60 - 125.4		799446.69	806619.31	802756.88
74 Ge	# 1	162534.61	0.24	164848.81	98.6	60 - 125.4		162951.38	162175.55	162476.91
74 Ge	# 2	30382.03	0.26	33226.06	91.4	60 - 125.4		30466.10	30309.06	30370.92
74 Ge	# 3	182644.09	0.99	178474.77	102.3	60 - 125.4		184664.53	182109.91	181157.86
89 Y	# 3	1088165.40	1.25	1057065.90	102.9	60 - 125.4		1103758.90	1082311.30	1078426.10
115 In	# 3	921748.63	1.12	917456.31	100.5	60 - 125.4		931774.06	922276.31	911195.38
159 Tb	# 3	1198740.30	0.74	1264337.30	94.8	60 - 125.4		1207991.30	1190405.30	1197824.10
209 Bi	# 3	651831.63	0.34	698508.81	93.3	60 - 125.4		652462.94	653691.69	649340.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\145SMPL.D\145SMPL.D#
Date Acquired:	Dec 22 2012 07:35 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85733-f-1-b
Misc Info:	3005 1/5
Vial Number:	4111
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.04891	-0.04891	ug/l	3.91	100.00		30.00	16.67	16.67
11 B	# 3	4.947	4.947	ug/l	1.23	200.00		30812.61	30578.70	30525.57
23 Na	# 1	7260	7260	ug/l	1.20	90000.00		47559580.00	47287700.00	48243920.00
24 Mg	# 1	3060	3060	ug/l	1.38	90000.00		12996440.00	13493886.00	13213587.00
27 Al	# 1	1.133	1.133	ug/l	16.45	90000.00		10893.93	12242.61	10637.13
39 K	# 2	242.5	242.5	ug/l	0.96	90000.00		121143.30	122637.91	122095.10
40 Ca	# 1	19880	19880	ug/l	1.25	90000.00		197551040.00	196746770.00	198010930.00
47 Ti	# 3	-0.09271	-0.09271	ug/l	59.20	1800.00		200.01	316.68	303.35
51 V	# 2	0.2237	0.2237	ug/l	1.99	1800.00		1182.05	1165.38	1199.38
52 Cr	# 2	0.03953	0.03953	ug/l	12.91	1800.00		308.01	338.01	325.34
55 Mn	# 3	-0.2416	-0.2416	ug/l	0.44	2700.00		3780.55	3717.21	3697.20
56 Fe	# 1	1.255	1.255	ug/l	5.72	90000.00		33092.80	33066.27	31853.06
59 Co	# 3	0.02015	0.02015	ug/l	29.27	1800.00		463.35	643.37	576.70
60 Ni	# 2	0.4397	0.4397	ug/l	1.91	1800.00		486.68	472.01	473.34
63 Cu	# 2	0.06506	0.06506	ug/l	7.14	1800.00		334.67	334.67	315.34
66 Zn	# 3	4.956	4.956	ug/l	1.52	1800.00		11227.58	11147.56	10823.94
75 As	# 2	0.3705	0.3705	ug/l	2.21	1800.00		122.33	117.67	120.67
78 Se	# 1	0.05325	0.05325	ug/l	13.16	100.00		30.00	32.67	35.67
88 Sr	# 3	58.13	58.13	ug/l	1.48	1800.00		1262950.10	1254307.00	1242992.40
95 Mo	# 3	-0.135	-0.135	ug/l	15.65	1800.00		600.03	530.02	456.69
107 Ag	# 3	-0.02703	-0.02703	ug/l	4.82	100.00		46.67	66.67	63.34
111 Cd	# 3	-0.02027	-0.02027	ug/l	0.53	100.00		26.45	26.47	26.50
118 Sn	# 3	0.04534	0.04534	ug/l	11.51	1800.00		553.36	600.03	576.70
121 Sb	# 3	0.03577	0.03577	ug/l	5.95	100.00		470.02	490.02	483.36
137 Ba	# 3	42.9	42.9	ug/l	1.16	1800.00		102341.99	103076.32	101707.03
202 Hg	# 3	0.0231	0.0231	ug/l	11.60	5.00		63.33	63.00	55.00
205 Tl	# 3	0.0023	0.0023	ug/l	85.00	20.00		480.02	526.69	470.02
208 Pb	# 3	-0.03515	-0.03515	ug/l	5.08	1800.00		473.35	503.35	530.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	719743.88	1.23	762890.69	94.3	60 - 125.4		729026.94	718890.06	711314.63
45 Sc	# 1	617447.94	1.23	620105.56	99.6	60 - 125.4		608947.00	619963.19	623433.56
45 Sc	# 3	797267.44	0.75	771387.50	103.4	60 - 125.4		804005.25	792706.69	795090.38
74 Ge	# 1	163676.56	0.19	164848.81	99.3	60 - 125.4		163439.63	163555.73	164034.33
74 Ge	# 2	30253.43	0.49	33226.06	91.1	60 - 125.4		30210.58	30132.04	30417.68
74 Ge	# 3	182501.11	0.65	178474.77	102.3	60 - 125.4		183630.94	182610.09	181262.31
89 Y	# 3	1074328.30	0.86	1057065.90	101.6	60 - 125.4		1073922.90	1065329.60	1083732.30
115 In	# 3	905499.75	0.67	917456.31	98.7	60 - 125.4		911737.69	899683.13	905078.44
159 Tb	# 3	1181008.90	1.11	1264337.30	93.4	60 - 125.4		1184302.30	1192122.40	1166601.90
209 Bi	# 3	624977.50	0.85	698508.81	89.5	60 - 125.4		631081.69	622294.06	621556.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\146SMPL.D\146SMPL.D#
Date Acquired:	Dec 22 2012 07:42 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85733-f-1-b SD
Misc Info:	3005 1/25
Vial Number:	4112
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.26505	-0.05301	ug/l	2.29	100.00		6.67	10.00	0.00
11 B	# 3	7.775	1.555	ug/l	5.55	200.00		18794.41	18630.96	18654.33
23 Na	# 1	7395	1479	ug/l	1.32	90000.00		9920346.00	10189259.00	10096164.00
24 Mg	# 1	3151	630.2	ug/l	0.33	90000.00		2780223.00	2778815.50	2755628.00
27 Al	# 1	-1.388	-0.2776	ug/l	15.67	90000.00		4797.51	4790.86	5124.34
39 K	# 2	252.55	50.51	ug/l	1.54	90000.00		39097.84	39027.47	39819.65
40 Ca	# 1	20455	4091	ug/l	0.83	90000.00		40943140.00	41733840.00	41197288.00
47 Ti	# 3	-1.162	-0.2324	ug/l	2.21	1800.00		113.34	103.34	116.67
51 V	# 2	0.19455	0.03891	ug/l	20.42	1800.00		704.69	751.36	729.35
52 Cr	# 2	0.0022045	0.0004409	ug/l	1039.20	1800.00		200.67	206.67	229.34
55 Mn	# 3	-1.4855	-0.2971	ug/l	1.53	2700.00		2526.95	2650.30	2710.30
56 Fe	# 1	-0.2321	-0.04642	ug/l	40.82	90000.00		13953.08	14376.86	14453.73
59 Co	# 3	-0.03105	-0.00621	ug/l	18.45	1800.00		166.67	156.67	130.00
60 Ni	# 2	1.2845	0.2569	ug/l	2.90	1800.00		302.67	292.00	290.00
63 Cu	# 2	0.01702	0.003404	ug/l	18.06	1800.00		166.00	166.00	164.00
66 Zn	# 3	3.077	0.6154	ug/l	4.02	1800.00		2703.66	2700.32	2773.66
75 As	# 2	0.4118	0.08236	ug/l	8.20	1800.00		42.33	46.33	44.67
78 Se	# 1	0.11	0.022	ug/l	14.48	100.00		22.67	20.00	20.33
88 Sr	# 3	54.95	10.99	ug/l	1.43	1800.00		247492.73	243390.83	243510.75
95 Mo	# 3	-1.1995	-0.2399	ug/l	4.66	1800.00		226.67	180.01	153.34
107 Ag	# 3	-0.1584	-0.03168	ug/l	3.49	100.00		20.00	10.00	30.00
111 Cd	# 3	-0.08425	-0.01685	ug/l	32.85	100.00		43.25	33.27	23.28
118 Sn	# 3	-0.0596	-0.01192	ug/l	108.39	1800.00		360.01	216.68	280.01
121 Sb	# 3	-0.021935	-0.004387	ug/l	152.09	100.00		266.68	290.01	220.01
137 Ba	# 3	43.145	8.629	ug/l	1.82	1800.00		21469.06	20918.31	21132.06
202 Hg	# 3	0.0674	0.01348	ug/l	4.20	5.00		44.00	45.00	45.33
205 Tl	# 3	-0.1133	-0.02266	ug/l	0.21	20.00		166.67	163.34	163.34
208 Pb	# 3	-0.2468	-0.04936	ug/l	4.61	1800.00		213.34	236.68	293.35

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	767589.63	1.95	762890.69	100.6	60 - 125.4		774239.38	778119.06	750410.50
45 Sc	# 1	626820.56	0.24	620105.56	101.1	60 - 125.4		626737.81	628387.31	625336.56
45 Sc	# 3	831550.00	0.57	771387.50	107.8	60 - 125.4		835273.19	826165.69	833211.00
74 Ge	# 1	168433.11	0.77	164848.81	102.2	60 - 125.4		169773.78	167202.77	168322.80
74 Ge	# 2	31262.61	0.43	33226.06	94.1	60 - 125.4		31112.36	31302.66	31372.80
74 Ge	# 3	187967.34	0.29	178474.77	105.3	60 - 125.4		188272.97	188295.97	187333.08
89 Y	# 3	1101764.40	1.41	1057065.90	104.2	60 - 125.4		1107132.10	1084222.50	1113938.40
115 In	# 3	925666.63	2.18	917456.31	100.9	60 - 125.4		930024.13	903664.38	943311.44
159 Tb	# 3	1189737.80	0.98	1264337.30	94.1	60 - 125.4		1202552.80	1179707.10	1186953.40
209 Bi	# 3	629667.56	0.76	698508.81	90.1	60 - 125.4		634159.50	624588.25	630254.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\147SMPL.D\147SMPL.D#
Date Acquired:	Dec 22 2012 07:48 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85733-f-1-b PDS
Misc Info:	3005 1/5
Vial Number:	4201
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	21.36	21.36	ug/l	1.36	100.00		83516.41	81683.61	80822.88
11 B # 3	44.81	44.81	ug/l	1.28	200.00		185475.25	181537.23	180067.13
23 Na # 1	9259	9259	ug/l	1.37	90000.00		59957412.00	58643060.00	59404240.00
24 Mg # 1	4962	4962	ug/l	1.76	90000.00		21231420.00	20766910.00	20867654.00
27 Al # 1	196.7	196.7	ug/l	1.14	90000.00		884023.00	877068.50	882034.13
39 K # 2	2313	2313	ug/l	1.23	90000.00		1016776.60	987962.50	1009755.20
40 Ca # 1	22050	22050	ug/l	1.33	90000.00		215159700.00	213017380.00	213745680.00
47 Ti # 3	20.67	20.67	ug/l	0.92	1800.00		24799.65	24445.64	24308.79
51 V # 2	21.38	21.38	ug/l	0.81	1800.00		54552.00	54648.41	54562.81
52 Cr # 2	21.19	21.19	ug/l	0.21	1800.00		63447.07	62820.55	62843.37
55 Mn # 3	206.5	206.5	ug/l	0.74	2700.00		4257478.50	4257640.50	4190616.30
56 Fe # 1	2082	2082	ug/l	2.34	90000.00		29254732.00	29315236.00	28741912.00
59 Co # 3	19.62	19.62	ug/l	0.42	1800.00		300157.13	295236.00	296726.94
60 Ni # 2	22.07	22.07	ug/l	0.62	1800.00		22753.45	22598.58	22722.08
63 Cu # 2	21.68	21.68	ug/l	0.67	1800.00		58077.26	58092.57	57906.60
66 Zn # 3	25.9	25.9	ug/l	1.34	1800.00		50817.97	49246.59	49229.95
75 As # 2	21.33	21.33	ug/l	0.09	1800.00		5654.35	5596.66	5582.66
78 Se # 1	20.83	20.83	ug/l	0.46	100.00		7952.67	7958.34	8025.03
88 Sr # 3	78.92	78.92	ug/l	0.55	1800.00		1680698.90	1670522.30	1643837.00
95 Mo # 3	21.18	21.18	ug/l	0.56	1800.00		70894.51	70178.18	68256.12
107 Ag # 3	16.84	16.84	ug/l	0.99	100.00		141657.38	142208.55	139756.83
111 Cd # 3	20.23	20.23	ug/l	0.66	100.00		36143.45	36060.32	35045.36
118 Sn # 3	20.41	20.41	ug/l	1.49	1800.00		107803.52	103437.25	104044.45
121 Sb # 3	20.96	20.96	ug/l	1.47	100.00		117729.03	116325.34	116900.18
137 Ba # 3	63.36	63.36	ug/l	0.44	1800.00		150606.44	149044.20	147347.94
202 Hg # 3	0.9268	0.9268	ug/l	0.99	5.00		1575.76	1541.09	1532.42
205 Tl # 3	3.95	3.95	ug/l	1.66	20.00		53436.18	51268.41	51723.36
208 Pb # 3	19.64	19.64	ug/l	0.28	1800.00		355809.69	354279.88	348345.47

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	710694.81	0.43	762890.69	93.2	60 - 125.4		714031.38	708043.19	710010.00
45 Sc # 1	603022.38	1.28	620105.56	97.2	60 - 125.4		600782.50	596645.31	611639.31
45 Sc # 3	778560.50	1.68	771387.50	100.9	60 - 125.4		789692.50	781879.38	764109.69
74 Ge # 1	158144.05	0.51	164848.81	95.9	60 - 125.4		157211.98	158588.94	158631.22
74 Ge # 2	29596.66	0.75	33226.06	89.1	60 - 125.4		29851.59	29494.23	29444.17
74 Ge # 3	175719.25	0.53	178474.77	98.5	60 - 125.4		176791.33	175280.72	175085.72
89 Y # 3	1051725.40	1.30	1057065.90	99.5	60 - 125.4		1057246.30	1061739.80	1036190.30
115 In # 3	892866.63	1.53	917456.31	97.3	60 - 125.4		905972.88	893869.69	878757.56
159 Tb # 3	1172992.30	0.55	1264337.30	92.8	60 - 125.4		1180185.60	1167824.80	1170966.50
209 Bi # 3	620160.94	0.84	698508.81	88.8	60 - 125.4		624033.44	622244.00	614205.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\148SMPL.D\148SMPL.D#
Date Acquired:	Dec 22 2012 07:55 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85733-f-1-c ms
Misc Info:	3005 1/5
Vial Number:	4202
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.34	10.34	ug/l	1.07	100.00		40543.43	40302.81	39775.07
11 B # 3	44.25	44.25	ug/l	1.14	200.00		184634.55	181456.17	179892.28
23 Na # 1	8146	8146	ug/l	1.84	90000.00		53410704.00	53126480.00	53550452.00
24 Mg # 1	3971	3971	ug/l	1.54	90000.00		17220452.00	17237476.00	16949440.00
27 Al # 1	882.2	882.2	ug/l	1.93	90000.00		4015332.00	4049240.30	3982161.30
39 K # 2	1266	1266	ug/l	2.00	90000.00		539404.00	548730.19	551205.13
40 Ca # 1	21050	21050	ug/l	1.31	90000.00		210246100.00	209513540.00	206343140.00
47 Ti # 3	19.79	19.79	ug/l	1.53	1800.00		23901.55	23016.91	23233.99
51 V # 2	20.83	20.83	ug/l	1.77	1800.00		51892.13	52494.67	52275.96
52 Cr # 2	20.83	20.83	ug/l	2.00	1800.00		60384.71	61317.47	60756.11
55 Mn # 3	102.6	102.6	ug/l	0.96	2700.00		2148066.30	2094216.30	2075147.90
56 Fe # 1	943.5	943.5	ug/l	2.20	90000.00		13426528.00	13563998.00	13469565.00
59 Co # 3	9.616	9.616	ug/l	0.59	1800.00		147336.75	146952.70	142798.78
60 Ni # 2	21.82	21.82	ug/l	1.69	1800.00		21891.58	22111.88	22027.77
63 Cu # 2	21.46	21.46	ug/l	1.34	1800.00		56188.47	56404.63	56543.69
66 Zn # 3	26.55	26.55	ug/l	1.93	1800.00		51483.97	50119.42	51146.05
75 As # 2	22.49	22.49	ug/l	1.72	1800.00		5781.73	5836.75	5801.07
78 Se # 1	20.31	20.31	ug/l	0.88	100.00		7805.93	7919.98	7765.58
88 Sr # 3	78.75	78.75	ug/l	1.29	1800.00		1649733.10	1673689.50	1660987.90
95 Mo # 3	20.99	20.99	ug/l	2.48	1800.00		69039.52	68547.37	67275.23
107 Ag # 3	10.04	10.04	ug/l	1.64	100.00		83412.36	83113.34	83059.75
111 Cd # 3	9.928	9.928	ug/l	1.21	100.00		17494.81	17234.69	17338.59
118 Sn # 3	20.32	20.32	ug/l	2.40	1800.00		104618.27	103467.63	101682.18
121 Sb # 3	10.82	10.82	ug/l	0.65	100.00		61440.38	60353.04	59740.22
137 Ba # 3	63.69	63.69	ug/l	1.47	1800.00		148845.69	147321.61	147459.14
202 Hg # 3	1.026	1.026	ug/l	0.97	5.00		1717.44	1717.44	1685.10
205 Tl # 3	7.476	7.476	ug/l	2.11	20.00		98793.53	98723.05	96968.59
208 Pb # 3	9.573	9.573	ug/l	0.57	1800.00		173271.34	172182.78	170300.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	717696.19	0.70	762890.69	94.1	60 - 125.4		722486.63	712469.69	718132.25
45 Sc # 1	616172.19	1.84	620105.56	99.4	60 - 125.4		629198.19	610784.50	608533.88
45 Sc # 3	775078.06	1.29	771387.50	100.5	60 - 125.4		784376.88	776330.25	764527.19
74 Ge # 1	159188.92	0.17	164848.81	96.6	60 - 125.4		159264.42	159414.50	158887.84
74 Ge # 2	29049.52	1.24	33226.06	87.4	60 - 125.4		29262.09	28632.65	29253.83
74 Ge # 3	175512.36	1.21	178474.77	98.3	60 - 125.4		177261.03	176138.09	173137.97
89 Y # 3	1051693.30	0.86	1057065.90	99.5	60 - 125.4		1059903.40	1053170.10	1042006.40
115 In # 3	881564.06	1.68	917456.31	96.1	60 - 125.4		889277.50	864508.44	890906.44
159 Tb # 3	1171902.50	1.13	1264337.30	92.7	60 - 125.4		1171328.80	1158925.30	1185453.40
209 Bi # 3	617988.25	1.12	698508.81	88.5	60 - 125.4		625865.50	615125.94	612973.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\149SMPL.D\149SMPL.D#
Date Acquired:	Dec 22 2012 08:02 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85733-f-1-d msd
Misc Info:	3005 1/5
Vial Number:	4203
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.52	10.52	ug/l	0.63	100.00		41171.54	40723.95	39718.18
11 B # 3	44.54	44.54	ug/l	1.61	200.00		182489.70	183792.14	178339.92
23 Na # 1	7705	7705	ug/l	0.55	90000.00		50801148.00	50076584.00	49299436.00
24 Mg # 1	3776	3776	ug/l	1.17	90000.00		16088658.00	16229730.00	16146505.00
27 Al # 1	895.5	895.5	ug/l	0.76	90000.00		4093651.30	4013703.30	4016335.00
39 K # 2	1235	1235	ug/l	1.34	90000.00		535503.81	534289.75	546820.19
40 Ca # 1	19690	19690	ug/l	0.83	90000.00		194627520.00	192712160.00	193276980.00
47 Ti # 3	20.47	20.47	ug/l	3.07	1800.00		23694.48	23924.96	24198.57
51 V # 2	20.89	20.89	ug/l	0.37	1800.00		53080.56	52880.61	52639.84
52 Cr # 2	20.82	20.82	ug/l	0.34	1800.00		61306.12	61233.17	61543.03
55 Mn # 3	103.7	103.7	ug/l	1.08	2700.00		2171085.50	2118622.30	2100665.50
56 Fe # 1	960.9	960.9	ug/l	0.76	90000.00		13653643.00	13611821.00	13588602.00
59 Co # 3	9.739	9.739	ug/l	0.64	1800.00		149906.67	147907.16	145433.27
60 Ni # 2	21.7	21.7	ug/l	0.70	1800.00		22041.80	22000.40	22274.79
63 Cu # 2	21.47	21.47	ug/l	0.23	1800.00		57243.61	56768.59	56822.70
66 Zn # 3	26.52	26.52	ug/l	1.61	1800.00		51209.26	50875.18	50670.98
75 As # 2	22.52	22.52	ug/l	0.99	1800.00		5825.74	5856.09	5924.11
78 Se # 1	20.56	20.56	ug/l	0.82	100.00		7972.35	7936.99	7837.28
88 Sr # 3	74.79	74.79	ug/l	2.20	1800.00		1580858.80	1572506.40	1585858.10
95 Mo # 3	21.19	21.19	ug/l	1.08	1800.00		68865.67	68888.87	68724.82
107 Ag # 3	10.2	10.2	ug/l	0.74	100.00		85402.21	85080.81	82798.16
111 Cd # 3	10.3	10.3	ug/l	1.16	100.00		18432.73	17895.48	17631.78
118 Sn # 3	20.45	20.45	ug/l	0.72	1800.00		105179.26	104507.85	101779.28
121 Sb # 3	10.84	10.84	ug/l	1.47	100.00		61299.47	60409.52	60426.09
137 Ba # 3	61.57	61.57	ug/l	0.60	1800.00		143467.75	143566.13	141234.64
202 Hg # 3	1.03	1.03	ug/l	2.35	5.00		1675.43	1727.78	1689.77
205 Tl # 3	7.692	7.692	ug/l	0.32	20.00		101334.66	99340.81	98797.17
208 Pb # 3	9.769	9.769	ug/l	0.76	1800.00		174592.25	174832.16	171711.05

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	711593.63	1.97	762890.69	93.3	60 - 125.4		726387.56	709845.81	698547.50
45 Sc # 1	610791.88	0.98	620105.56	98.5	60 - 125.4		616111.06	611983.94	604280.69
45 Sc # 3	767828.44	1.97	771387.50	99.5	60 - 125.4		779569.44	773161.94	750753.88
74 Ge # 1	158907.13	0.10	164848.81	96.4	60 - 125.4		159090.09	158822.05	158809.23
74 Ge # 2	29325.03	0.27	33226.06	88.3	60 - 125.4		29405.73	29248.73	29320.63
74 Ge # 3	175757.81	2.02	178474.77	98.5	60 - 125.4		178611.73	176892.05	171769.63
89 Y # 3	1053052.10	1.89	1057065.90	99.6	60 - 125.4		1069159.80	1059222.30	1030774.10
115 In # 3	880315.63	1.17	917456.31	96.0	60 - 125.4		890434.38	880659.38	869853.19
159 Tb # 3	1158310.10	1.16	1264337.30	91.6	60 - 125.4		1172489.60	1156715.90	1145725.00
209 Bi # 3	612021.06	1.53	698508.81	87.6	60 - 125.4		620482.44	613641.06	601939.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\150SMPL.D\150SMPL.D#
Date Acquired:	Dec 22 2012 08:08 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85733-f-2-b
Misc Info:	3005 1/5
Vial Number:	4204
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	-0.03925	-0.03925	ug/l	5.34	100.00		50.00	63.34	63.34
11	B	# 3	3.849	3.849	ug/l	3.79	200.00		27119.35	26675.48	25980.89
23	Na	# 1	7340	7340	ug/l	1.45	90000.00		46832596.00	45759656.00	46876360.00
24	Mg	# 1	3100	3100	ug/l	1.19	90000.00		12813648.00	13072436.00	12890598.00
27	Al	# 1	0.531	0.531	ug/l	7.81	90000.00		8112.23	8419.08	8095.57
39	K	# 2	198.6	198.6	ug/l	1.66	90000.00		98022.19	100145.10	99984.15
40	Ca	# 1	20240	20240	ug/l	1.75	90000.00		191023140.00	194320140.00	196248110.00
47	Ti	# 3	-0.1181	-0.1181	ug/l	30.58	1800.00		196.67	243.34	273.34
51	V	# 2	0.2304	0.2304	ug/l	0.51	1800.00		1164.72	1152.05	1162.05
52	Cr	# 2	0.1196	0.1196	ug/l	8.12	1800.00		552.68	515.35	575.35
55	Mn	# 3	150.5	150.5	ug/l	1.29	2700.00		3130969.50	3143891.50	3152549.00
56	Fe	# 1	2.104	2.104	ug/l	2.52	90000.00		44113.58	42491.46	43025.80
59	Co	# 3	0.05704	0.05704	ug/l	8.33	1800.00		1116.74	1053.40	1183.41
60	Ni	# 2	0.3327	0.3327	ug/l	4.34	1800.00		356.01	364.67	338.01
63	Cu	# 2	0.7752	0.7752	ug/l	0.73	1800.00		2184.83	2174.83	2213.50
66	Zn	# 3	1.355	1.355	ug/l	5.59	1800.00		4133.97	3843.91	4017.27
75	As	# 2	0.3842	0.3842	ug/l	2.71	1800.00		117.00	120.00	122.33
78	Se	# 1	0.0401	0.0401	ug/l	30.87	100.00		24.67	32.67	23.33
88	Sr	# 3	57.45	57.45	ug/l	0.34	1800.00		1246030.30	1222469.60	1218413.40
95	Mo	# 3	-0.1124	-0.1124	ug/l	3.95	1800.00		590.03	600.03	603.36
107	Ag	# 3	-0.02708	-0.02708	ug/l	8.60	100.00		36.67	63.34	73.34
111	Cd	# 3	-0.01079	-0.01079	ug/l	61.88	100.00		46.45	53.11	29.78
118	Sn	# 3	0.03959	0.03959	ug/l	17.84	1800.00		560.03	500.02	566.70
121	Sb	# 3	0.03874	0.03874	ug/l	15.99	100.00		540.03	486.69	456.69
137	Ba	# 3	48.01	48.01	ug/l	1.03	1800.00		113897.08	114181.84	112583.54
202	Hg	# 3	0.0171	0.0171	ug/l	11.95	5.00		53.67	51.33	46.33
205	Tl	# 3	0.01725	0.01725	ug/l	29.72	20.00		620.03	710.04	706.71
208	Pb	# 3	-0.04223	-0.04223	ug/l	3.53	1800.00		406.68	366.68	350.01

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	725136.13	1.11	762890.69	95.1	60 - 125.4		732573.50	716646.94	726187.88
45	Sc	# 1	595265.81	0.39	620105.56	96.0	60 - 125.4		597560.44	595370.75	592866.38
45	Sc	# 3	780812.19	2.01	771387.50	101.2	60 - 125.4		786874.13	792591.56	762970.75
74	Ge	# 1	159463.67	1.16	164848.81	96.7	60 - 125.4		159888.11	161056.13	157446.75
74	Ge	# 2	29250.99	0.36	33226.06	88.0	60 - 125.4		29302.19	29130.17	29320.60
74	Ge	# 3	178761.50	0.95	178474.77	100.2	60 - 125.4		180183.63	179227.36	176873.52
89	Y	# 3	1065900.50	1.44	1057065.90	100.8	60 - 125.4		1082708.90	1062369.50	1052623.10
115	In	# 3	897782.88	1.28	917456.31	97.9	60 - 125.4		910580.50	894458.75	888309.44
159	Tb	# 3	1165573.40	2.50	1264337.30	92.2	60 - 125.4		1198240.90	1156052.90	1142426.30
209	Bi	# 3	624519.56	0.73	698508.81	89.4	60 - 125.4		627935.81	626276.63	619346.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\151_CCV.D\151_CCV.D#
Date Acquired: Dec 22 2012 08:15 am
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	49.45 ug/l	0.89	50.00	89.6 - 110	
11 B	96.41 ug/l	1.06	100.00	89.6 - 110	
23 Na	4504.00 ug/l	1.51	5000.00	89.6 - 110	
24 Mg	4540.00 ug/l	0.85	5000.00	89.6 - 110	
27 Al	446.70 ug/l	1.12	500.00	89.6 - 110	Fail
39 K	4886.00 ug/l	0.63	5000.00	89.6 - 110	
40 Ca	4708.00 ug/l	1.93	5000.00	89.6 - 110	
47 Ti	48.52 ug/l	0.58	50.00	89.6 - 110	
51 V	50.27 ug/l	0.41	50.00	89.6 - 110	
52 Cr	50.24 ug/l	0.53	50.00	89.6 - 110	
55 Mn	494.30 ug/l	0.81	500.00	89.6 - 110	
56 Fe	4834.00 ug/l	1.55	5000.00	89.6 - 110	
59 Co	50.25 ug/l	0.35	50.00	89.6 - 110	
60 Ni	51.63 ug/l	0.84	50.00	89.6 - 110	
63 Cu	51.55 ug/l	0.24	50.00	89.6 - 110	
66 Zn	48.11 ug/l	1.02	50.00	89.6 - 110	
75 As	48.72 ug/l	0.66	50.00	89.6 - 110	
78 Se	48.35 ug/l	1.06	50.00	89.6 - 110	
88 Sr	50.05 ug/l	0.37	50.00	89.6 - 110	
95 Mo	50.18 ug/l	1.73	50.00	89.6 - 110	
107 Ag	48.42 ug/l	1.80	50.00	89.6 - 110	
111 Cd	48.42 ug/l	1.60	50.00	89.6 - 110	
118 Sn	48.24 ug/l	1.78	50.00	89.6 - 110	
121 Sb	46.85 ug/l	0.44	50.00	89.6 - 110	
137 Ba	48.90 ug/l	3.09	50.00	89.6 - 110	
202 Hg	2.44 ug/l	1.03	2.50	89.6 - 110	
205 Tl	9.26 ug/l	0.44	10.00	89.6 - 110	
208 Pb	46.77 ug/l	1.27	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	746326.81	0.96	762890.69	97.8	59.6 - 125	
45 Sc	606149.19	1.09	620105.56	97.7	59.6 - 125	
45 Sc	805222.56	0.66	771387.50	104.4	59.6 - 125	
74 Ge	159491.28	0.41	164848.81	96.8	59.6 - 125	
74 Ge	29546.03	0.51	33226.06	88.9	59.6 - 125	
74 Ge	178684.53	0.89	178474.77	100.1	59.6 - 125	
89 Y	1073849.30	0.63	1057065.90	101.6	59.6 - 125	
115 In	896364.25	2.09	917456.31	97.7	59.6 - 125	
159 Tb	1174714.00	0.51	1264337.30	92.9	59.6 - 125	
209 Bi	610100.44	1.45	698508.81	87.3	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\152_CCB.D\152_CCB.D#
Date Acquired: Dec 22 2012 08:22 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	3.41	0.05	
11 B	0.85 ug/l	6.32	10.00	
23 Na	-12.58 ug/l	19.18	25.00	
24 Mg	1.50 ug/l	12.13	25.00	
27 Al	-0.79 ug/l	2.59	5.00	
39 K	3.81 ug/l	4.49	25.00	
40 Ca	5.73 ug/l	8.78	25.00	
47 Ti	-0.27 ug/l	4.13	0.50	
51 V	-0.07 ug/l	11.18	0.50	
52 Cr	0.00 ug/l	622.34	0.50	
55 Mn	-0.18 ug/l	3.76	0.50	
56 Fe	1.62 ug/l	11.90	10.00	
59 Co	0.00 ug/l	87.31	0.05	
60 Ni	0.02 ug/l	8.45	0.50	
63 Cu	0.00 ug/l	308.35	0.50	
66 Zn	-0.54 ug/l	3.56	2.00	
75 As	0.02 ug/l	107.06	0.25	
78 Se	0.05 ug/l	21.83	0.25	
88 Sr	-0.08 ug/l	2.56	0.10	
95 Mo	-0.19 ug/l	14.67	0.50	
107 Ag	-0.02 ug/l	18.22	0.10	
111 Cd	-0.01 ug/l	91.25	0.05	
118 Sn	0.01 ug/l	49.94	0.50	
121 Sb	0.33 ug/l	4.62	0.50	
137 Ba	-0.03 ug/l	14.67	0.50	
202 Hg	0.03 ug/l	15.38	0.08	
205 Tl	-0.02 ug/l	8.87	0.10	
208 Pb	-0.04 ug/l	10.60	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	790937.56	1.57	762890.69	103.7	59.6 - 125	
45 Sc	615728.19	0.71	620105.56	99.3	59.6 - 125	
45 Sc	818535.44	2.39	771387.50	106.1	59.6 - 125	
74 Ge	163517.78	0.30	164848.81	99.2	59.6 - 125	
74 Ge	30502.25	0.18	33226.06	91.8	59.6 - 125	
74 Ge	184499.00	0.98	178474.77	103.4	59.6 - 125	
89 Y	1090901.90	0.50	1057065.90	103.2	59.6 - 125	
115 In	914069.25	0.60	917456.31	99.6	59.6 - 125	
159 Tb	1188708.90	1.11	1264337.30	94.0	59.6 - 125	
209 Bi	619926.63	0.67	698508.81	88.8	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\153SMPL.D\153SMPL.D#
Date Acquired:	Dec 22 2012 08:28 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	mb 680-260372_1-a
Misc Info:	3010 1/5
Vial Number:	2302
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04957	-0.04957	ug/l	3.21	100.00		20.00	26.67	13.33
11 B # 3	0.4478	0.4478	ug/l	15.42	200.00		14610.18	14520.17	13832.85
23 Na # 1	-6.591	-6.591	ug/l	90.35	90000.00		150161.20	150811.36	139103.91
24 Mg # 1	-0.6573	-0.6573	ug/l	8.77	90000.00		2810.46	1646.82	1753.47
27 Al # 1	-0.5174	-0.5174	ug/l	2.38	90000.00		3403.85	2363.58	2336.90
39 K # 2	10.23	10.23	ug/l	9.68	90000.00		17683.39	18120.61	17566.73
40 Ca # 1	2.534	2.534	ug/l	27.16	90000.00		48572.78	39963.79	40808.58
47 Ti # 3	-0.2185	-0.2185	ug/l	7.57	1800.00		116.67	113.34	146.67
51 V # 2	0.04349	0.04349	ug/l	13.23	1800.00		617.35	611.35	643.35
52 Cr # 2	0.01324	0.01324	ug/l	37.42	1800.00		224.67	206.00	206.67
55 Mn # 3	-0.3001	-0.3001	ug/l	2.35	2700.00		2686.97	2526.94	2350.24
56 Fe # 1	0.5234	0.5234	ug/l	38.65	90000.00		17693.82	14166.66	15444.57
59 Co # 3	-0.0117	-0.0117	ug/l	5.45	1800.00		73.34	53.33	56.67
60 Ni # 2	0.01381	0.01381	ug/l	19.23	1800.00		24.67	24.67	29.33
63 Cu # 2	0.1698	0.1698	ug/l	2.12	1800.00		533.35	539.35	530.68
66 Zn # 3	0.6572	0.6572	ug/l	9.72	1800.00		2890.36	2786.99	2610.29
75 As # 2	0.06249	0.06249	ug/l	28.52	1800.00		35.00	35.00	28.33
78 Se # 1	0.02831	0.02831	ug/l	52.99	100.00		18.67	21.00	13.00
88 Sr # 3	-0.09351	-0.09351	ug/l	1.24	1800.00		146.67	146.67	190.01
95 Mo # 3	-0.2399	-0.2399	ug/l	0.65	1800.00		186.67	190.01	183.34
107 Ag # 3	-0.02951	-0.02951	ug/l	5.63	100.00		56.67	30.00	30.00
111 Cd # 3	-0.01921	-0.01921	ug/l	34.69	100.00		16.60	39.93	29.93
118 Sn # 3	0.01286	0.01286	ug/l	67.01	1800.00		443.35	360.02	446.69
121 Sb # 3	0.1139	0.1139	ug/l	6.33	100.00		910.06	973.39	956.72
137 Ba # 3	-0.05348	-0.05348	ug/l	9.25	1800.00		33.33	40.00	16.67
202 Hg # 3	0.02802	0.02802	ug/l	8.72	5.00		76.00	66.33	70.67
205 Tl # 3	-0.0265	-0.0265	ug/l	5.74	20.00		126.67	90.00	123.34
208 Pb # 3	-0.0502	-0.0502	ug/l	1.55	1800.00		246.68	246.68	223.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	777787.44	2.12	762890.69	102.0	60 - 125.4		796403.81	771858.19	765100.19
45 Sc # 1	446482.06	23.05	620105.56	72.0	60 - 125.4		564940.94	394986.25	379519.03
45 Sc # 3	814076.31	2.25	771387.50	105.5	60 - 125.4		835048.75	806127.81	801052.50
74 Ge # 1	126669.71	16.29	164848.81	76.8	60 - 125.4		150471.52	115758.30	113779.30
74 Ge # 2	26338.23	1.23	33226.06	79.3	60 - 125.4		25996.51	26380.52	26637.66
74 Ge # 3	184796.66	0.83	178474.77	103.5	60 - 125.4		186572.78	183815.58	184001.58
89 Y # 3	1098976.80	0.98	1057065.90	104.0	60 - 125.4		1111184.90	1090567.80	1095177.80
115 In # 3	924760.81	2.11	917456.31	100.8	60 - 125.4		947255.94	912814.13	914212.38
159 Tb # 3	1187615.80	0.32	1264337.30	93.9	60 - 125.4		1185745.90	1185164.80	1191936.30
209 Bi # 3	646593.06	1.02	698508.81	92.6	60 - 125.4		651347.31	639098.63	649333.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\154SMPL.D\154SMPL.D#
Date Acquired:	Dec 22 2012 08:35 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lcs 680-260372_2-a
Misc Info:	3010 1/5
Vial Number:	2303
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.08	10.08	ug/l	2.28	100.00		42518.18	41779.69	41976.94
11 B # 3	40.07	40.07	ug/l	1.94	200.00		177004.14	179496.89	177882.83
23 Na # 1	945.3	945.3	ug/l	1.19	90000.00		6432103.00	6405449.00	6401744.00
24 Mg # 1	968.6	968.6	ug/l	0.38	90000.00		4158823.30	4200610.50	4188073.80
27 Al # 1	927.4	927.4	ug/l	1.41	90000.00		4245864.00	4217076.00	4196631.00
39 K # 2	991.5	991.5	ug/l	0.74	90000.00		445550.03	444599.41	448199.47
40 Ca # 1	1046	1046	ug/l	1.78	90000.00		10136405.00	10427072.00	10627831.00
47 Ti # 3	20.11	20.11	ug/l	1.79	1800.00		25400.71	25106.75	24211.99
51 V # 2	21.13	21.13	ug/l	0.69	1800.00		54734.73	54572.23	55030.36
52 Cr # 2	21.09	21.09	ug/l	0.68	1800.00		63640.48	63303.17	64005.20
55 Mn # 3	106.2	106.2	ug/l	1.62	2700.00		2245568.00	2285568.00	2232163.50
56 Fe # 1	1007	1007	ug/l	2.07	90000.00		14584926.00	14276075.00	14312956.00
59 Co # 3	9.791	9.791	ug/l	0.55	1800.00		155701.44	152998.19	151831.25
60 Ni # 2	21.81	21.81	ug/l	0.98	1800.00		22731.42	22871.64	22656.66
63 Cu # 2	21.94	21.94	ug/l	0.23	1800.00		59865.02	59392.08	59551.89
66 Zn # 3	20.52	20.52	ug/l	0.57	1800.00		41651.62	40649.07	40892.92
75 As # 2	21.24	21.24	ug/l	1.42	1800.00		5619.34	5662.35	5730.38
78 Se # 1	19.12	19.12	ug/l	0.70	100.00		7501.11	7433.75	7533.47
88 Sr # 3	18.64	18.64	ug/l	1.92	1800.00		413525.00	413938.66	407117.22
95 Mo # 3	20.36	20.36	ug/l	0.82	1800.00		70579.70	69759.91	69756.17
107 Ag # 3	10.03	10.03	ug/l	0.90	100.00		88556.45	87893.13	87269.55
111 Cd # 3	9.835	9.835	ug/l	1.83	100.00		18191.79	18388.95	17935.10
118 Sn # 3	19.8	19.8	ug/l	0.94	1800.00		107219.61	106534.66	105383.88
121 Sb # 3	10.44	10.44	ug/l	1.83	100.00		61600.89	61048.91	59924.35
137 Ba # 3	20.25	20.25	ug/l	1.29	1800.00		50147.27	50130.29	49160.51
202 Hg # 3	0.9034	0.9034	ug/l	2.57	5.00		1613.43	1555.75	1625.76
205 Tl # 3	7.502	7.502	ug/l	0.98	20.00		102059.22	100803.72	100918.77
208 Pb # 3	9.353	9.353	ug/l	0.42	1800.00		179756.11	177893.38	177356.61

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	770764.94	2.02	762890.69	101.0	60 - 125.4		774120.44	784376.75	753797.56
45 Sc # 1	615915.13	0.89	620105.56	99.3	60 - 125.4		609772.81	620372.75	617599.75
45 Sc # 3	812464.13	1.46	771387.50	105.3	60 - 125.4		826149.44	806214.94	805028.13
74 Ge # 1	161651.91	0.49	164848.81	98.1	60 - 125.4		162562.73	161087.73	161305.28
74 Ge # 2	30036.41	0.63	33226.06	90.4	60 - 125.4		30240.70	29863.25	30005.26
74 Ge # 3	181629.31	0.80	178474.77	101.8	60 - 125.4		183311.95	180868.23	180707.73
89 Y # 3	1095992.90	1.53	1057065.90	103.7	60 - 125.4		1111877.80	1078489.00	1097612.10
115 In # 3	931713.63	1.50	917456.31	101.6	60 - 125.4		947780.00	924316.88	923043.94
159 Tb # 3	1204664.90	1.55	1264337.30	95.3	60 - 125.4		1223414.30	1186141.50	1204438.80
209 Bi # 3	656004.81	1.12	698508.81	93.9	60 - 125.4		664168.44	654000.31	649845.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\155SMPL.D\155SMPL.D#
Date Acquired:	Dec 22 2012 08:42 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85738-c-1-a
Misc Info:	3010 1/5
Vial Number:	2304
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	-0.04252	-0.04252	ug/l	10.34	100.00		23.33	36.67	46.67
11	B	# 3	560.3	560.3	ug/l	1.12	200.00	Fail	1808335.80	1691649.50	1627616.80
23	Na	# 1	----	--------	ug/l	--------	90000.00	Fail	--------	--------	--------
24	Mg	# 1	169600	169600	ug/l	4.10	90000.00	Fail	601729280.00	608517700.00	613616830.00
27	Al	# 1	3.168	3.168	ug/l	10.84	90000.00		17386.30	17162.79	16462.04
39	K	# 2	61790	61790	ug/l	0.99	90000.00		21387620.00	21474380.00	21617940.00
40	Ca	# 1	65890	65890	ug/l	4.26	90000.00		538606210.00	543017090.00	546788610.00
47	Ti	# 3	0.2909	0.2909	ug/l	7.75	1800.00		650.04	596.71	616.71
51	V	# 2	0.4057	0.4057	ug/l	3.53	1800.00		1321.40	1266.72	1354.73
52	Cr	# 2	0.06091	0.06091	ug/l	12.59	1800.00		286.67	320.01	320.67
55	Mn	# 3	0.5265	0.5265	ug/l	2.89	2700.00		15648.02	14460.18	14226.66
56	Fe	# 1	6.849	6.849	ug/l	14.05	90000.00		101007.98	92458.05	86315.62
59	Co	# 3	0.09979	0.09979	ug/l	10.13	1800.00		1516.79	1320.10	1180.08
60	Ni	# 2	0.4687	0.4687	ug/l	4.68	1800.00		382.67	401.34	428.01
63	Cu	# 2	0.06418	0.06418	ug/l	4.89	1800.00		262.00	260.00	255.34
66	Zn	# 3	1.288	1.288	ug/l	4.04	1800.00		3103.74	2897.01	2733.66
75	As	# 2	0.628	0.628	ug/l	4.37	1800.00		156.00	147.67	147.67
78	Se	# 1	0.1608	0.1608	ug/l	9.45	100.00		62.67	59.00	54.00
88	Sr	# 3	3236	3236	ug/l	0.78	1800.00	Fail	57719160.00	55515120.00	53730764.00
95	Mo	# 3	0.09007	0.09007	ug/l	35.34	1800.00		930.06	873.38	976.73
107	Ag	# 3	-0.02436	-0.02436	ug/l	12.24	100.00		83.34	43.33	53.34
111	Cd	# 3	0.004716	0.004716	ug/l	153.90	100.00		52.99	43.01	59.64
118	Sn	# 3	0.1034	0.1034	ug/l	0.69	1800.00		673.37	636.70	616.70
121	Sb	# 3	0.0683	0.0683	ug/l	2.11	100.00		550.03	530.03	516.69
137	Ba	# 3	9.453	9.453	ug/l	1.47	1800.00		17006.65	16652.88	16038.94
202	Hg	# 3	0.04529	0.04529	ug/l	9.04	5.00		58.33	58.33	49.33
205	Tl	# 3	0.001638	0.001638	ug/l	306.41	20.00		400.02	393.35	296.68
208	Pb	# 3	-0.003395	-0.003395	ug/l	157.44	1800.00		596.69	580.03	653.36

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	565066.75	4.76	762890.69	74.1	60 - 125.4		591531.06	565868.88	537800.38
45	Sc	# 1	512760.63	5.03	620105.56	82.7	60 - 125.4		496361.97	499432.59	542487.31
45	Sc	# 3	676449.81	4.72	771387.50	87.7	60 - 125.4		709969.56	672989.31	646390.44
74	Ge	# 1	127223.01	0.67	164848.81	77.2	60 - 125.4		126828.05	126633.58	128207.41
74	Ge	# 2	24063.40	1.41	33226.06	72.4	60 - 125.4		23933.21	23809.67	24447.32
74	Ge	# 3	134416.75	3.85	178474.77	75.3	60 - 125.4		139970.39	133544.09	129735.79
89	Y	# 3	858682.25	4.37	1057065.90	81.2	60 - 125.4		897743.19	855426.88	822876.88
115	In	# 3	661628.06	4.17	917456.31	72.1	60 - 125.4		690617.31	658530.81	635736.13
159	Tb	# 3	885842.50	3.02	1264337.30	70.1	60 - 125.4		913769.38	883308.81	860449.13
209	Bi	# 3	355058.53	3.05	698508.81	50.8	60 - 125.4	IS F	365677.06	355455.84	344042.72

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

4 :Element Failures	0 :Max. Number of Failures Allowed
1 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Fail
ISTD:	Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\156SMPL.D\156SMPL.D#
Date Acquired:	Dec 22 2012 08:48 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85738-c-2-a
Misc Info:	3010 1/5
Vial Number:	2305
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05104	-0.05104	ug/l	3.88	100.00		3.33	13.33	13.33
11 B # 3	508.1	508.1	ug/l	1.21	200.00	Fail	1653640.80	1574330.60	1508777.10
23 Na # 1	----	--------	ug/l	--------	90000.00	Fail	--------	--------	--------
24 Mg # 1	130800	130800	ug/l	1.43	90000.00	Fail	527986340.00	535042910.00	534898340.00
27 Al # 1	3.571	3.571	ug/l	1.43	90000.00		21167.42	20666.84	21367.87
39 K # 2	50830	50830	ug/l	0.86	90000.00		17527454.00	17827552.00	17810860.00
40 Ca # 1	47060	47060	ug/l	1.09	90000.00		437571390.00	440050720.00	443503360.00
47 Ti # 3	0.1758	0.1758	ug/l	3.73	1800.00		540.03	516.70	510.03
51 V # 2	0.4112	0.4112	ug/l	2.95	1800.00		1346.73	1309.39	1328.06
52 Cr # 2	0.07499	0.07499	ug/l	13.98	1800.00		357.34	360.67	313.34
55 Mn # 3	0.3941	0.3941	ug/l	7.02	2700.00		14313.40	13112.41	12641.92
56 Fe # 1	2.908	2.908	ug/l	2.60	90000.00		53542.11	53499.39	52152.87
59 Co # 3	0.07981	0.07981	ug/l	9.73	1800.00		1086.74	1206.75	1183.43
60 Ni # 2	0.3391	0.3391	ug/l	3.54	1800.00		290.67	291.34	306.67
63 Cu # 2	0.1967	0.1967	ug/l	0.68	1800.00		543.35	554.01	546.68
66 Zn # 3	1.13	1.13	ug/l	2.97	1800.00		2973.70	2756.99	2736.99
75 As # 2	0.3927	0.3927	ug/l	3.76	1800.00		103.67	100.67	97.33
78 Se # 1	0.1267	0.1267	ug/l	8.65	100.00		47.33	51.67	55.33
88 Sr # 3	998.9	998.9	ug/l	0.38	1800.00		18701160.00	18044674.00	17580280.00
95 Mo # 3	0.6967	0.6967	ug/l	3.61	1800.00		2623.64	2506.95	2360.25
107 Ag # 3	-0.02693	-0.02693	ug/l	1.95	100.00		43.33	46.67	46.67
111 Cd # 3	-0.01376	-0.01376	ug/l	5.45	100.00		29.03	29.07	29.13
118 Sn # 3	0.08374	0.08374	ug/l	24.17	1800.00		533.36	583.36	656.71
121 Sb # 3	0.08601	0.08601	ug/l	14.68	100.00		633.37	710.04	593.36
137 Ba # 3	3.43	3.43	ug/l	2.20	1800.00		6671.67	6368.15	6038.06
202 Hg # 3	0.02958	0.02958	ug/l	18.60	5.00		41.67	47.67	36.33
205 Tl # 3	-0.0204	-0.0204	ug/l	4.64	20.00		143.34	153.34	153.34
208 Pb # 3	-0.00445	-0.00445	ug/l	173.62	1800.00		660.03	690.03	516.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	575575.25	5.64	762890.69	75.4	60 - 125.4		610937.19	568625.50	547163.00
45 Sc # 1	581671.81	0.81	620105.56	93.8	60 - 125.4		585114.19	576269.25	583632.06
45 Sc # 3	700170.38	4.05	771387.50	90.8	60 - 125.4		729815.94	697361.88	673333.38
74 Ge # 1	136116.20	0.83	164848.81	82.6	60 - 125.4		134816.53	136611.28	136920.83
74 Ge # 2	24112.38	0.55	33226.06	72.6	60 - 125.4		24048.40	24265.39	24023.35
74 Ge # 3	141257.92	3.01	178474.77	79.1	60 - 125.4		145970.03	140086.27	137717.48
89 Y # 3	904762.50	3.16	1057065.90	85.6	60 - 125.4		936209.88	897615.19	880462.50
115 In # 3	691222.69	3.42	917456.31	75.3	60 - 125.4		717965.13	682510.00	673192.88
159 Tb # 3	918919.44	2.81	1264337.30	72.7	60 - 125.4		946695.19	914414.75	895648.31
209 Bi # 3	367545.25	2.99	698508.81	52.6	60 - 125.4	IS I	379089.72	366310.78	357235.22

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

3 :Element Failures — 0 :Max. Number of Failures Allowed
1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\157SMPL.D\157SMPL.D#
Date Acquired:	Dec 22 2012 08:55 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85738-c-4-a
Misc Info:	3010 1/5
Vial Number:	2306
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.0519	-0.0519	ug/l	2.22	100.00		10.00	10.00	3.33
11 B	# 3	505.7	505.7	ug/l	0.80	200.00	Fail	1663576.30	1597532.30	1539000.40
23 Na	# 1	----	--------	ug/l	--------	90000.00	Fail	--------	--------	--------
24 Mg	# 1	145900	145900	ug/l	3.68	90000.00	Fail	478915460.00	490595300.00	499237470.00
27 Al	# 1	2.706	2.706	ug/l	4.02	90000.00		13812.89	14506.81	14596.87
39 K	# 2	54120	54120	ug/l	12.36	90000.00		15860830.00	17527090.00	18132134.00
40 Ca	# 1	52880	52880	ug/l	3.93	90000.00		399964740.00	408565120.00	414789570.00
47 Ti	# 3	0.1153	0.1153	ug/l	15.90	1800.00		496.70	443.36	446.69
51 V	# 2	0.4456	0.4456	ug/l	26.08	1800.00		1082.71	1326.06	1408.74
52 Cr	# 2	0.05904	0.05904	ug/l	40.79	1800.00		252.00	305.34	272.00
55 Mn	# 3	0.4108	0.4108	ug/l	4.48	2700.00		14356.75	13893.05	12912.11
56 Fe	# 1	4.695	4.695	ug/l	5.45	90000.00		62713.06	63689.93	64293.16
59 Co	# 3	0.07947	0.07947	ug/l	4.76	1800.00		1256.75	1160.08	1080.07
60 Ni	# 2	0.3874	0.3874	ug/l	13.98	1800.00		287.34	318.67	312.00
63 Cu	# 2	0.2565	0.2565	ug/l	15.61	1800.00		576.68	636.68	636.68
66 Zn	# 3	5.176	5.176	ug/l	2.74	1800.00		9506.42	8702.68	8665.93
75 As	# 2	0.4117	0.4117	ug/l	12.83	1800.00		91.00	96.33	98.33
78 Se	# 1	0.1238	0.1238	ug/l	6.50	100.00		42.00	50.00	49.67
88 Sr	# 3	1015	1015	ug/l	0.46	1800.00		18850006.00	18291208.00	17729772.00
95 Mo	# 3	0.6854	0.6854	ug/l	0.89	1800.00		2516.95	2470.27	2446.93
107 Ag	# 3	-0.02798	-0.02798	ug/l	11.82	100.00		23.33	63.34	30.00
111 Cd	# 3	-0.004771	-0.004771	ug/l	303.50	100.00		25.74	35.75	62.43
118 Sn	# 3	0.06988	0.06988	ug/l	15.78	1800.00		566.69	490.03	563.36
121 Sb	# 3	0.09271	0.09271	ug/l	3.52	100.00		680.04	676.70	663.37
137 Ba	# 3	3.676	3.676	ug/l	2.42	1800.00		7165.23	6748.35	6594.95
202 Hg	# 3	0.03916	0.03916	ug/l	15.73	5.00		49.67	58.00	46.33
205 Tl	# 3	-0.02508	-0.02508	ug/l	6.75	20.00		100.00	90.00	120.00
208 Pb	# 3	0.0115	0.0115	ug/l	13.41	1800.00		810.03	806.70	760.04

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	585912.31	4.69	762890.69	76.8	60 - 125.4		613999.50	584699.38	559037.94
45 Sc	# 1	479977.97	5.58	620105.56	77.4	60 - 125.4		449828.94	488992.06	501112.81
45 Sc	# 3	705020.56	3.17	771387.50	91.4	60 - 125.4		726994.38	705709.06	682358.25
74 Ge	# 1	127081.92	4.66	164848.81	77.1	60 - 125.4		120334.98	129519.48	131391.28
74 Ge	# 2	22086.27	9.16	33226.06	66.5	60 - 125.4		22855.10	19790.96	23612.76
74 Ge	# 3	142223.81	3.61	178474.77	79.7	60 - 125.4		147586.41	141718.75	137366.28
89 Y	# 3	899114.44	3.49	1057065.90	85.1	60 - 125.4		931423.13	897097.81	868822.69
115 In	# 3	694173.25	2.01	917456.31	75.7	60 - 125.4		708454.19	693458.75	680606.75
159 Tb	# 3	930620.31	2.59	1264337.30	73.6	60 - 125.4		953247.88	933272.25	905340.81
209 Bi	# 3	368357.81	2.86	698508.81	52.7	60 - 125.4	IS I	379728.84	366450.41	358894.16

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\158SMPL.D\158SMPL.D#
Date Acquired:	Dec 22 2012 09:02 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85738-c-4-a SD
Misc Info:	3010 1/25
Vial Number:	2307
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.268	-0.0536	ug/l	2.38	100.00		10.00	0.00	0.00
11 B # 3	579.5	115.9	ug/l	0.03	200.00		535967.63	525110.75	523347.06
23 Na # 1	1185000	237000	ug/l	1.04	90000.00	Fail	1742638500.00	1750485800.00	1740311200.00
24 Mg # 1	138050	27610	ug/l	0.44	90000.00		133833690.00	134207840.00	135334320.00
27 Al # 1	-2.6155	-0.5231	ug/l	7.03	90000.00		4117.34	4384.24	4043.94
39 K # 2	49505	9901	ug/l	1.90	90000.00		4163417.00	4257081.50	4343040.00
40 Ca # 1	49410	9882	ug/l	1.41	90000.00		111304490.00	109588580.00	110898250.00
47 Ti # 3	-1.148	-0.2296	ug/l	6.64	1800.00		100.00	140.01	123.34
51 V # 2	0.24655	0.04931	ug/l	10.65	1800.00		722.69	722.02	705.35
52 Cr # 2	-0.001205	-0.000241	ug/l	1175.10	1800.00		190.67	198.00	208.67
55 Mn # 3	-0.8505	-0.1701	ug/l	5.21	2700.00		5457.76	5170.97	4977.58
56 Fe # 1	1.6085	0.3217	ug/l	6.59	90000.00		21595.51	21404.81	22273.70
59 Co # 3	0.03254	0.006508	ug/l	6.89	1800.00		353.35	333.35	343.35
60 Ni # 2	0.18485	0.03697	ug/l	23.71	1800.00		61.33	43.33	55.33
63 Cu # 2	0.18815	0.03763	ug/l	10.61	1800.00		253.34	234.67	256.67
66 Zn # 3	-1.4005	-0.2801	ug/l	12.54	1800.00		990.06	870.05	843.38
75 As # 2	0.424	0.0848	ug/l	20.43	1800.00		45.00	37.33	46.00
78 Se # 1	0.1051	0.02102	ug/l	29.04	100.00		18.00	22.67	22.33
88 Sr # 3	1020.5	204.1	ug/l	1.33	1800.00		4613636.50	4537075.00	4525722.50
95 Mo # 3	-0.5025	-0.1005	ug/l	13.48	1800.00		583.37	623.37	650.03
107 Ag # 3	-0.1522	-0.03044	ug/l	1.68	100.00		26.67	33.33	26.67
111 Cd # 3	-0.0827	-0.01654	ug/l	16.57	100.00		36.45	33.10	26.43
118 Sn # 3	-0.0913	-0.01826	ug/l	32.59	1800.00		206.67	250.01	253.34
121 Sb # 3	0.00696	0.001392	ug/l	405.10	100.00		320.01	316.68	253.34
137 Ba # 3	3.4615	0.6923	ug/l	3.81	1800.00		1736.82	1790.17	1696.82
202 Hg # 3	0.0847	0.01694	ug/l	13.29	5.00		40.67	35.00	39.00
205 Tl # 3	-0.1388	-0.02776	ug/l	10.30	20.00		56.67	93.34	126.67
208 Pb # 3	-0.2184	-0.04368	ug/l	5.00	1800.00		266.68	296.68	233.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	827225.06	1.30	762890.69	108.4	60 - 125.4		839599.75	822218.00	819857.25
45 Sc # 1	695468.25	0.95	620105.56	112.2	60 - 125.4		688710.94	695839.81	701854.00
45 Sc # 3	878620.50	1.17	771387.50	113.9	60 - 125.4		884119.38	884937.69	866804.38
74 Ge # 1	171695.80	0.35	164848.81	104.2	60 - 125.4		170997.08	172000.64	172089.66
74 Ge # 2	29631.68	0.54	33226.06	89.2	60 - 125.4		29624.45	29475.81	29794.78
74 Ge # 3	180698.84	1.16	178474.77	101.2	60 - 125.4		183106.44	179580.91	179409.22
89 Y # 3	1114644.30	2.38	1057065.90	105.4	60 - 125.4		1144433.50	1105774.10	1093725.00
115 In # 3	873196.81	1.76	917456.31	95.2	60 - 125.4		890910.19	862862.81	865817.56
159 Tb # 3	1138225.90	1.88	1264337.30	90.0	60 - 125.4		1162880.90	1124966.40	1126830.90
209 Bi # 3	475905.34	1.23	698508.81	68.1	60 - 125.4		481447.81	476507.50	469760.72

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\159SMPL.D\159SMPL.D#
Date Acquired:	Dec 22 2012 09:08 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85738-c-4-a PDS
Misc Info:	3010 1/5
Vial Number:	2308
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	20.18	20.18	ug/l	1.27	100.00		65706.34	63668.97	61724.68
11 B # 3	540.7	540.7	ug/l	1.08	200.00	Fail	1764097.90	1707538.80	1643788.30
23 Na # 1	----	--------	ug/l	--------	90000.00	Fail	--------	--------	--------
24 Mg # 1	144700	144700	ug/l	3.07	90000.00	Fail	514003300.00	516063710.00	514625440.00
27 Al # 1	201.5	201.5	ug/l	2.65	90000.00		746668.13	768409.94	766560.31
39 K # 2	54560	54560	ug/l	0.70	90000.00		17873484.00	18091352.00	18229510.00
40 Ca # 1	54020	54020	ug/l	3.81	90000.00		440807650.00	438836260.00	445152450.00
47 Ti # 3	20.7	20.7	ug/l	1.28	1800.00		22492.73	21574.85	21034.06
51 V # 2	24.76	24.76	ug/l	0.72	1800.00		48552.43	48776.43	49233.80
52 Cr # 2	23.05	23.05	ug/l	0.35	1800.00		52508.71	53295.96	53293.86
55 Mn # 3	213.5	213.5	ug/l	0.72	2700.00		3504520.30	3381132.00	3286572.00
56 Fe # 1	1958	1958	ug/l	3.21	90000.00		22994044.00	23093702.00	23146922.00
59 Co # 3	19.49	19.49	ug/l	1.22	1800.00		237641.45	228256.97	220613.45
60 Ni # 2	21.58	21.58	ug/l	0.96	1800.00		16884.91	17259.97	17350.71
63 Cu # 2	21.12	21.12	ug/l	1.12	1800.00		43475.96	43485.40	44250.05
66 Zn # 3	18.14	18.14	ug/l	1.34	1800.00		28285.60	26886.64	26819.70
75 As # 2	20.9	20.9	ug/l	1.07	1800.00		4208.24	4244.24	4309.92
78 Se # 1	17.85	17.85	ug/l	1.53	100.00		5456.95	5365.58	5508.30
88 Sr # 3	1032	1032	ug/l	0.69	1800.00		18659624.00	18276604.00	17700842.00
95 Mo # 3	23.37	23.37	ug/l	1.37	1800.00		60829.09	58118.54	57232.09
107 Ag # 3	16.21	16.21	ug/l	1.53	100.00		106957.91	103843.46	100615.86
111 Cd # 3	17.17	17.17	ug/l	0.94	100.00		23763.04	23162.98	22635.98
118 Sn # 3	19.68	19.68	ug/l	1.02	1800.00		79381.61	77328.30	75475.51
121 Sb # 3	18.67	18.67	ug/l	0.24	100.00		89634.82	87154.06	85095.72
137 Ba # 3	24.86	24.86	ug/l	1.00	1800.00		46161.04	44275.46	43737.32
202 Hg # 3	1.103	1.103	ug/l	1.68	5.00		1105.05	1054.04	1071.04
205 Tl # 3	3.353	3.353	ug/l	0.99	20.00		35554.62	34197.76	34448.45
208 Pb # 3	22.48	22.48	ug/l	0.87	1800.00		241047.98	237610.09	230047.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	584284.38	4.27	762890.69	76.6	60 - 125.4		611384.44	579251.69	562217.00
45 Sc # 1	508510.34	3.33	620105.56	82.0	60 - 125.4		497740.31	528039.25	499751.44
45 Sc # 3	688056.31	3.72	771387.50	89.2	60 - 125.4		710279.19	693784.25	660105.38
74 Ge # 1	125893.59	0.20	164848.81	76.4	60 - 125.4		125905.96	126139.23	125635.55
74 Ge # 2	22901.16	0.65	33226.06	68.9	60 - 125.4		22741.48	23036.90	22925.12
74 Ge # 3	136119.78	2.51	178474.77	76.3	60 - 125.4		139632.14	135917.52	132809.69
89 Y # 3	880932.88	2.63	1057065.90	83.3	60 - 125.4		905832.69	877055.63	859910.50
115 In # 3	681771.06	1.85	917456.31	74.3	60 - 125.4		696220.13	676349.06	672743.94
159 Tb # 3	919243.81	1.74	1264337.30	72.7	60 - 125.4		936787.69	915381.88	905561.88
209 Bi # 3	362998.22	2.35	698508.81	52.0	60 - 125.4	IS F	372204.25	361467.84	355322.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

3 :Element Failures — 0 :Max. Number of Failures Allowed
1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\160SMPL.D\160SMPL.D#
Date Acquired:	Dec 22 2012 09:15 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85738-c-4-b ms
Misc Info:	3010 1/5
Vial Number:	2309
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.03	10.03	ug/l	1.14	100.00		33357.36	31720.83	30488.51
11 B # 3	544.2	544.2	ug/l	0.64	200.00	Fail	1808972.00	1701049.50	1653983.90
23 Na # 1	----	--------	ug/l	--------	90000.00	Fail	--------	--------	--------
24 Mg # 1	135100	135100	ug/l	1.49	90000.00	Fail	517649280.00	522243870.00	524644030.00
27 Al # 1	878.9	878.9	ug/l	0.86	90000.00		3577670.80	3587224.00	3578159.00
39 K # 2	53130	53130	ug/l	0.96	90000.00		17341860.00	17567338.00	17714334.00
40 Ca # 1	49160	49160	ug/l	0.99	90000.00		435030110.00	437339550.00	436029700.00
47 Ti # 3	20.16	20.16	ug/l	0.40	1800.00		22242.46	21274.54	20883.95
51 V # 2	24.45	24.45	ug/l	0.78	1800.00		47921.18	47800.90	48621.34
52 Cr # 2	22.77	22.77	ug/l	0.53	1800.00		51903.53	52226.50	52579.63
55 Mn # 3	106.4	106.4	ug/l	1.08	2700.00		1788553.80	1705550.60	1653920.40
56 Fe # 1	863.5	863.5	ug/l	1.09	90000.00		11014899.00	11057172.00	11074925.00
59 Co # 3	9.599	9.599	ug/l	0.50	1800.00		118327.84	113768.20	110727.50
60 Ni # 2	21.3	21.3	ug/l	0.47	1800.00		16852.20	16813.49	17010.35
63 Cu # 2	21.03	21.03	ug/l	0.28	1800.00		43395.08	43267.43	43622.98
66 Zn # 3	18.63	18.63	ug/l	0.13	1800.00		29290.73	28212.27	27724.70
75 As # 2	20.82	20.82	ug/l	1.59	1800.00		4154.55	4225.57	4298.59
78 Se # 1	17.54	17.54	ug/l	1.17	100.00		5397.60	5446.61	5505.97
88 Sr # 3	1021	1021	ug/l	0.95	1800.00		18894716.00	18308534.00	17918722.00
95 Mo # 3	23.13	23.13	ug/l	1.11	1800.00		60263.44	57607.01	56700.30
107 Ag # 3	8.577	8.577	ug/l	1.31	100.00		57066.13	54372.74	53833.87
111 Cd # 3	8.55	8.55	ug/l	0.90	100.00		11752.46	11683.41	11300.21
118 Sn # 3	19.35	19.35	ug/l	1.09	1800.00		78798.88	75365.17	74303.22
121 Sb # 3	9.075	9.075	ug/l	1.72	100.00		44628.81	43589.33	41898.06
137 Ba # 3	24.26	24.26	ug/l	0.51	1800.00		45014.30	43536.64	42496.99
202 Hg # 3	1.19	1.19	ug/l	1.70	5.00		1164.72	1166.05	1143.72
205 Tl # 3	6.626	6.626	ug/l	1.24	20.00		70070.42	68094.91	66574.02
208 Pb # 3	11.02	11.02	ug/l	0.19	1800.00		118656.86	115831.22	113361.20

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	585841.50	4.17	762890.69	76.8	60 - 125.4		613510.13	576830.63	567183.88
45 Sc # 1	551452.19	0.81	620105.56	88.9	60 - 125.4		556360.38	550448.38	547547.81
45 Sc # 3	698472.38	2.88	771387.50	90.5	60 - 125.4		720485.00	693965.81	680966.31
74 Ge # 1	128277.91	0.27	164848.81	77.8	60 - 125.4		128274.34	128630.78	127928.64
74 Ge # 2	22836.06	0.15	33226.06	68.7	60 - 125.4		22818.23	22814.90	22875.04
74 Ge # 3	137897.89	2.89	178474.77	77.3	60 - 125.4		142236.59	137075.58	134381.48
89 Y # 3	898002.50	3.13	1057065.90	85.0	60 - 125.4		930218.63	885197.88	878590.81
115 In # 3	682495.00	2.60	917456.31	74.4	60 - 125.4		699680.94	683604.81	664199.25
159 Tb # 3	918575.69	1.42	1264337.30	72.7	60 - 125.4		930165.38	921048.63	904513.13
209 Bi # 3	362259.28	2.47	698508.81	51.9	60 - 125.4	IS F	371375.88	361931.97	353470.03

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\161SMPL.D\161SMPL.D#
Date Acquired:	Dec 22 2012 09:22 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85738-c-4-c msd
Misc Info:	3010 1/5
Vial Number:	2310
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.01	10.01	ug/l	0.78	100.00		33901.91	31860.98	31002.69
11 B # 3	546.9	546.9	ug/l	1.50	200.00	Fail	1822112.90	1732370.00	1711820.80
23 Na # 1	----	--------	ug/l	--------	90000.00	Fail	--------	--------	--------
24 Mg # 1	135600	135600	ug/l	1.34	90000.00	Fail	530474400.00	528795870.00	529507840.00
27 Al # 1	900.5	900.5	ug/l	1.24	90000.00		3711251.50	3705902.00	3712403.30
39 K # 2	53460	53460	ug/l	1.07	90000.00		17488684.00	17959484.00	18273312.00
40 Ca # 1	50160	50160	ug/l	1.02	90000.00		446659040.00	448681060.00	454576800.00
47 Ti # 3	20.17	20.17	ug/l	1.74	1800.00		23163.84	21574.86	20917.39
51 V # 2	24.63	24.63	ug/l	0.83	1800.00		48983.04	48852.04	49703.22
52 Cr # 2	22.95	22.95	ug/l	0.68	1800.00		53025.09	53083.98	54121.30
55 Mn # 3	107.7	107.7	ug/l	0.66	2700.00		1813823.80	1747714.40	1702970.90
56 Fe # 1	881.2	881.2	ug/l	0.96	90000.00		11371141.00	11415321.00	11422485.00
59 Co # 3	9.693	9.693	ug/l	0.49	1800.00		121218.98	116437.58	112136.84
60 Ni # 2	21.53	21.53	ug/l	0.91	1800.00		17290.65	17309.34	17376.08
63 Cu # 2	21.06	21.06	ug/l	0.56	1800.00		43878.36	44017.34	44506.75
66 Zn # 3	18.64	18.64	ug/l	2.00	1800.00		29985.41	28132.11	28001.84
75 As # 2	20.55	20.55	ug/l	0.27	1800.00		4180.89	4227.90	4287.58
78 Se # 1	17.65	17.65	ug/l	1.69	100.00		5604.67	5534.64	5600.67
88 Sr # 3	1033	1033	ug/l	1.14	1800.00		19214186.00	18479952.00	18133122.00
95 Mo # 3	23.33	23.33	ug/l	0.94	1800.00		61049.86	59172.60	58108.89
107 Ag # 3	8.557	8.557	ug/l	0.86	100.00		57273.23	55453.17	54272.29
111 Cd # 3	8.454	8.454	ug/l	3.43	100.00		11815.64	11205.85	11753.34
118 Sn # 3	19.57	19.57	ug/l	0.60	1800.00		80393.34	77378.61	76272.85
121 Sb # 3	9.152	9.152	ug/l	1.30	100.00		44772.53	43856.65	42680.28
137 Ba # 3	24.26	24.26	ug/l	0.36	1800.00		45776.51	43620.10	43319.36
202 Hg # 3	1.186	1.186	ug/l	0.47	5.00		1181.05	1158.72	1132.05
205 Tl # 3	6.628	6.628	ug/l	0.30	20.00		70911.21	68399.22	67193.38
208 Pb # 3	11.07	11.07	ug/l	0.16	1800.00		119554.07	116222.76	114316.48

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	594749.50	4.34	762890.69	78.0	60 - 125.4		621488.19	592740.75	570019.56
45 Sc # 1	557658.69	1.18	620105.56	89.9	60 - 125.4		550184.88	562626.06	560165.13
45 Sc # 3	711624.00	3.93	771387.50	92.3	60 - 125.4		739444.38	711923.75	683503.94
74 Ge # 1	130517.19	1.01	164848.81	79.2	60 - 125.4		129368.48	131955.97	130227.13
74 Ge # 2	23168.73	1.14	33226.06	69.7	60 - 125.4		22888.29	23207.17	23410.74
74 Ge # 3	139341.36	3.51	178474.77	78.1	60 - 125.4		144072.84	139650.95	134300.30
89 Y # 3	898832.50	3.68	1057065.90	85.0	60 - 125.4		930899.56	900845.31	864752.38
115 In # 3	691303.44	3.30	917456.31	75.4	60 - 125.4		717193.50	682617.69	674099.00
159 Tb # 3	926196.94	2.61	1264337.30	73.3	60 - 125.4		953348.75	918122.25	907119.75
209 Bi # 3	363028.00	2.40	698508.81	52.0	60 - 125.4	IS F	372265.19	361856.41	354962.38

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

3 :Element Failures — 0 :Max. Number of Failures Allowed
1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\162SMPL.D\162SMPL.D#
Date Acquired:	Dec 22 2012 09:29 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85738-c-6-a
Misc Info:	3010 1/5
Vial Number:	2311
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.02645	-0.02645	ug/l	17.99	100.00		63.34	46.67	63.34
11 B # 3	562.1	562.1	ug/l	2.68	200.00	Fail	1249545.60	1153330.60	1102386.80
23 Na # 1	----	--------	ug/l	--------	90000.00	Fail	--------	--------	--------
24 Mg # 1	366100	366100	ug/l	2.54	90000.00	Fail	1032961500.00	1020016100.00	995754560.00
27 Al # 1	18.9	18.9	ug/l	5.42	90000.00		61899.38	58985.76	56692.36
39 K # 2	98350	98350	ug/l	3.23	90000.00	Fail	26096794.00	26133650.00	26305740.00
40 Ca # 1	255900	255900	ug/l	2.50	90000.00	Fail	1660778400.00	1634536800.00	1601099000.00
47 Ti # 3	1.672	1.672	ug/l	12.60	1800.00		1880.19	1490.12	1423.45
51 V # 2	1.568	1.568	ug/l	4.65	1800.00		2782.26	2916.28	2800.92
52 Cr # 2	1.568	1.568	ug/l	4.96	1800.00		3065.64	2970.29	3012.30
55 Mn # 3	14.88	14.88	ug/l	4.98	2700.00		210217.28	194923.95	180431.38
56 Fe # 1	205.3	205.3	ug/l	2.09	90000.00		1929109.50	1882975.10	1877151.30
59 Co # 3	1.082	1.082	ug/l	6.83	1800.00		11437.73	10206.88	9473.03
60 Ni # 2	4.665	4.665	ug/l	6.81	1800.00		3103.65	2931.61	2930.95
63 Cu # 2	6.809	6.809	ug/l	2.90	1800.00		11314.70	11416.09	11483.48
66 Zn # 3	2.547	2.547	ug/l	4.94	1800.00		3960.62	3960.61	3587.19
75 As # 2	2.48	2.48	ug/l	5.30	1800.00		426.01	408.01	417.01
78 Se # 1	1.457	1.457	ug/l	0.59	100.00		358.34	364.34	367.01
88 Sr # 3	4076	4076	ug/l	3.83	1800.00	Fail	61723300.00	57692540.00	54309144.00
95 Mo # 3	10.97	10.97	ug/l	3.55	1800.00		21184.94	19579.45	18855.22
107 Ag # 3	-0.01885	-0.01885	ug/l	24.17	100.00		93.34	50.00	63.34
111 Cd # 3	0.04809	0.04809	ug/l	50.51	100.00		55.50	99.43	83.03
118 Sn # 3	0.2703	0.2703	ug/l	6.34	1800.00		1006.73	936.73	863.38
121 Sb # 3	0.8146	0.8146	ug/l	2.36	100.00		3387.13	3253.78	3080.40
137 Ba # 3	59.31	59.31	ug/l	3.72	1800.00		79907.24	76563.40	70674.99
202 Hg # 3	0.06491	0.06491	ug/l	5.60	5.00		60.67	54.33	56.00
205 Tl # 3	0.03209	0.03209	ug/l	28.91	20.00		640.04	490.03	500.03
208 Pb # 3	0.4514	0.4514	ug/l	1.90	1800.00		4230.39	4030.35	3957.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	384831.50	3.76	762890.69	50.4	60 - 125.4	IS F	399715.56	383997.69	370781.25
45 Sc # 1	396491.44	0.68	620105.56	63.9	60 - 125.4		394260.19	395702.31	399511.81
45 Sc # 3	533325.13	8.23	771387.50	69.1	60 - 125.4		565018.81	551726.75	483229.63
74 Ge # 1	100988.91	1.44	164848.81	61.3	60 - 125.4		99715.12	100678.21	102573.40
74 Ge # 2	18430.33	3.61	33226.06	55.5	60 - 125.4	IS F	17760.06	18439.23	19091.71
74 Ge # 3	109482.07	2.81	178474.77	61.3	60 - 125.4		112744.92	109074.59	106626.68
89 Y # 3	708621.13	2.58	1057065.90	67.0	60 - 125.4		727304.75	707722.50	690836.13
115 In # 3	484374.56	2.58	917456.31	52.8	60 - 125.4	IS F	497156.25	483757.59	472209.94
159 Tb # 3	724655.69	2.45	1264337.30	57.3	60 - 125.4	IS F	738834.25	730370.38	704762.56
209 Bi # 3	274199.19	2.06	698508.81	39.3	60 - 125.4	IS F	279544.41	274741.09	268312.03

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

6 :Element Failures — 0 :Max. Number of Failures Allowed
5 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\163_CCV.D\163_CCV.D#
Date Acquired:	Dec 22 2012 09:35 am
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag
9 Be	50.17 ug/l	1.83	50.00	89.6 -	110	
11 B	114.60 ug/l	2.04	100.00	89.6 -	110	Fail
23 Na	5825.00 ug/l	3.14	5000.00	89.6 -	110	Fail
24 Mg	4629.00 ug/l	0.59	5000.00	89.6 -	110	
27 Al	445.90 ug/l	0.36	500.00	89.6 -	110	Fail
39 K	5217.00 ug/l	3.14	5000.00	89.6 -	110	
40 Ca	4737.00 ug/l	0.72	5000.00	89.6 -	110	
47 Ti	48.77 ug/l	0.68	50.00	89.6 -	110	
51 V	52.87 ug/l	1.54	50.00	89.6 -	110	
52 Cr	52.09 ug/l	1.03	50.00	89.6 -	110	
55 Mn	511.60 ug/l	1.09	500.00	89.6 -	110	
56 Fe	4830.00 ug/l	1.81	5000.00	89.6 -	110	
59 Co	51.80 ug/l	0.48	50.00	89.6 -	110	
60 Ni	54.77 ug/l	1.16	50.00	89.6 -	110	
63 Cu	54.62 ug/l	1.45	50.00	89.6 -	110	
66 Zn	48.00 ug/l	0.16	50.00	89.6 -	110	
75 As	49.13 ug/l	1.62	50.00	89.6 -	110	
78 Se	48.85 ug/l	0.71	50.00	89.6 -	110	
88 Sr	51.44 ug/l	1.62	50.00	89.6 -	110	
95 Mo	50.82 ug/l	0.58	50.00	89.6 -	110	
107 Ag	48.07 ug/l	0.55	50.00	89.6 -	110	
111 Cd	47.18 ug/l	0.83	50.00	89.6 -	110	
118 Sn	47.18 ug/l	1.12	50.00	89.6 -	110	
121 Sb	43.72 ug/l	1.10	50.00	89.6 -	110	Fail
137 Ba	48.11 ug/l	0.71	50.00	89.6 -	110	
202 Hg	2.43 ug/l	2.00	2.50	89.6 -	110	
205 Tl	8.58 ug/l	0.92	10.00	89.6 -	110	Fail
208 Pb	46.86 ug/l	1.33	50.00	89.6 -	110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6 Li	905140.31	1.22	762890.69	118.6	59.6 -	125	
45 Sc	743934.00	0.54	620105.56	120.0	59.6 -	125	
45 Sc	982396.44	1.36	771387.50	127.4	59.6 -	125	IS Fail
74 Ge	189428.50	0.65	164848.81	114.9	59.6 -	125	
74 Ge	33190.98	1.17	33226.06	99.9	59.6 -	125	
74 Ge	203468.31	0.82	178474.77	114.0	59.6 -	125	
89 Y	1207145.10	1.65	1057065.90	114.2	59.6 -	125	
115 In	974475.00	1.22	917456.31	106.2	59.6 -	125	
159 Tb	1195751.00	1.21	1264337.30	94.6	59.6 -	125	
209 Bi	575131.81	0.72	698508.81	82.3	59.6 -	125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

5 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\164_CCB.D\164_CCB.D#
Date Acquired: Dec 22 2012 09:42 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.03 ug/l	17.28	0.05	
11 B	6.26 ug/l	2.23	10.00	
23 Na	484.30 ug/l	5.77	25.00	Fail
24 Mg	45.51 ug/l	7.43	25.00	Fail
27 Al	-0.73 ug/l	6.35	5.00	
39 K	21.02 ug/l	6.82	25.00	
40 Ca	26.27 ug/l	8.17	25.00	Fail
47 Ti	-0.25 ug/l	7.47	0.50	
51 V	-0.03 ug/l	22.19	0.50	
52 Cr	0.01 ug/l	25.16	0.50	
55 Mn	-0.11 ug/l	14.93	0.50	
56 Fe	1.84 ug/l	7.71	10.00	
59 Co	0.00 ug/l	72.86	0.05	
60 Ni	0.02 ug/l	7.57	0.50	
63 Cu	0.01 ug/l	36.33	0.50	
66 Zn	-0.51 ug/l	4.66	2.00	
75 As	0.03 ug/l	2.30	0.25	
78 Se	0.04 ug/l	15.66	0.25	
88 Sr	0.21 ug/l	8.48	0.10	Fail
95 Mo	-0.17 ug/l	7.24	0.50	
107 Ag	-0.01 ug/l	24.56	0.10	
111 Cd	-0.01 ug/l	91.38	0.05	
118 Sn	0.01 ug/l	35.53	0.50	
121 Sb	0.31 ug/l	1.69	0.50	
137 Ba	-0.04 ug/l	18.77	0.50	
202 Hg	0.03 ug/l	15.05	0.08	
205 Tl	-0.02 ug/l	20.14	0.10	
208 Pb	-0.03 ug/l	3.97	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	946064.44	0.62	762890.69	124.0	59.6 - 125	
45 Sc	746768.44	0.74	620105.56	120.4	59.6 - 125	
45 Sc	999261.44	0.41	771387.50	129.5	59.6 - 125	IS Fail
74 Ge	192057.31	0.54	164848.81	116.5	59.6 - 125	
74 Ge	34921.34	0.67	33226.06	105.1	59.6 - 125	
74 Ge	209830.72	0.34	178474.77	117.6	59.6 - 125	
89 Y	1239876.90	1.41	1057065.90	117.3	59.6 - 125	
115 In	1013633.60	1.18	917456.31	110.5	59.6 - 125	
159 Tb	1245567.60	0.86	1264337.30	98.5	59.6 - 125	
209 Bi	617958.56	0.13	698508.81	88.5	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

4 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\165SMPL.D\165SMPL.D#
Date Acquired:	Dec 22 2012 09:49 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85738-c-14-a
Misc Info:	3010 1/5
Vial Number:	2312
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0526	-0.0526	ug/l	2.16	100.00		10.00	3.33	3.33
11 B # 3	500.2	500.2	ug/l	1.39	200.00	Fail	1624087.10	1569122.50	1547035.90
23 Na # 1	----	--------	ug/l	--------	90000.00	Fail	--------	--------	--------
24 Mg # 1	130700	130700	ug/l	2.39	90000.00	Fail	532422880.00	529011140.00	536297630.00
27 Al # 1	22.71	22.71	ug/l	2.10	90000.00		102934.76	103509.83	103356.95
39 K # 2	52140	52140	ug/l	0.59	90000.00		18102208.00	18432646.00	18745940.00
40 Ca # 1	47820	47820	ug/l	2.23	90000.00		446961630.00	445556160.00	450808480.00
47 Ti # 3	0.1954	0.1954	ug/l	18.18	1800.00		613.37	523.37	513.36
51 V # 2	0.5322	0.5322	ug/l	0.43	1800.00		1584.09	1599.42	1612.09
52 Cr # 2	0.0583	0.0583	ug/l	2.84	1800.00		302.00	312.67	308.00
55 Mn # 3	0.4372	0.4372	ug/l	3.10	2700.00		14336.80	13956.48	13239.17
56 Fe # 1	3.073	3.073	ug/l	5.43	90000.00		55670.13	53590.29	56709.83
59 Co # 3	0.08653	0.08653	ug/l	3.59	1800.00		1316.76	1183.42	1173.41
60 Ni # 2	0.3582	0.3582	ug/l	2.03	1800.00		317.34	310.01	322.01
63 Cu # 2	0.2304	0.2304	ug/l	2.38	1800.00		632.02	617.35	640.02
66 Zn # 3	1.02	1.02	ug/l	1.95	1800.00		2726.98	2616.96	2503.61
75 As # 2	0.376	0.376	ug/l	8.53	1800.00		95.67	92.33	107.00
78 Se # 1	0.1423	0.1423	ug/l	10.10	100.00		51.00	54.00	60.67
88 Sr # 3	989.3	989.3	ug/l	0.12	1800.00		18365394.00	17812174.00	17312554.00
95 Mo # 3	0.7135	0.7135	ug/l	5.52	1800.00		2623.64	2620.30	2350.25
107 Ag # 3	-0.02295	-0.02295	ug/l	6.67	100.00		76.67	60.00	76.67
111 Cd # 3	0.000199	0.000199	ug/l	2178.90	100.00		49.03	42.37	52.47
118 Sn # 3	0.09556	0.09556	ug/l	13.93	1800.00		613.37	623.37	673.37
121 Sb # 3	0.1886	0.1886	ug/l	3.96	100.00		1183.41	1153.41	1056.74
137 Ba # 3	3.623	3.623	ug/l	1.03	1800.00		6925.12	6738.40	6404.90
202 Hg # 3	0.03209	0.03209	ug/l	18.45	5.00		39.33	42.33	48.00
205 Tl # 3	-0.02205	-0.02205	ug/l	12.87	20.00		103.34	143.34	150.01
208 Pb # 3	-0.004263	-0.004263	ug/l	92.63	1800.00		650.03	633.36	546.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	584994.81	3.85	762890.69	76.7	60 - 125.4		609137.38	581345.13	564501.88
45 Sc # 1	582257.81	2.24	620105.56	93.9	60 - 125.4		567218.81	590701.19	588853.38
45 Sc # 3	708290.69	3.44	771387.50	91.8	60 - 125.4		732986.13	707540.25	684345.63
74 Ge # 1	132808.50	0.58	164848.81	80.6	60 - 125.4		132140.66	132625.08	133659.77
74 Ge # 2	24442.34	1.17	33226.06	73.6	60 - 125.4		24140.18	24479.09	24707.73
74 Ge # 3	139117.41	3.66	178474.77	77.9	60 - 125.4		144727.45	137814.83	134809.94
89 Y # 3	899422.88	3.07	1057065.90	85.1	60 - 125.4		927431.63	898636.88	872200.06
115 In # 3	689078.31	3.35	917456.31	75.1	60 - 125.4		712871.31	687555.63	666808.06
159 Tb # 3	915596.94	3.18	1264337.30	72.4	60 - 125.4		946943.19	910519.25	889328.50
209 Bi # 3	359360.00	2.95	698508.81	51.4	60 - 125.4	IS I	370546.75	358079.69	349453.53

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\166SMPL.D\166SMPL.D#
Date Acquired:	Dec 22 2012 09:55 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85741-c-1-a
Misc Info:	3010 1/5
Vial Number:	2401
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0502	-0.0502	ug/l	2.49	100.00		13.33	16.67	23.33
11 B # 3	7.824	7.824	ug/l	2.07	200.00		47836.55	46633.03	44921.80
23 Na # 1	2868	2868	ug/l	0.96	90000.00		20928756.00	20405696.00	20516622.00
24 Mg # 1	2255	2255	ug/l	1.43	90000.00		10503642.00	10558378.00	10694967.00
27 Al # 1	44.49	44.49	ug/l	1.74	90000.00		224778.20	227307.89	227581.42
39 K # 2	330.1	330.1	ug/l	0.65	90000.00		161468.86	159191.42	160595.64
40 Ca # 1	5092	5092	ug/l	1.03	90000.00		54731224.00	54466432.00	55608264.00
47 Ti # 3	1.587	1.587	ug/l	7.01	1800.00		2296.90	2516.93	2456.93
51 V # 2	0.2716	0.2716	ug/l	1.77	1800.00		1302.73	1320.06	1298.73
52 Cr # 2	0.4088	0.4088	ug/l	2.60	1800.00		1410.07	1457.41	1466.08
55 Mn # 3	662.1	662.1	ug/l	1.03	2700.00		14309988.00	14182425.00	14196426.00
56 Fe # 1	6570	6570	ug/l	0.35	90000.00		102527540.00	100668050.00	103004120.00
59 Co # 3	1.124	1.124	ug/l	2.37	1800.00		18010.60	17937.17	18384.36
60 Ni # 2	0.7804	0.7804	ug/l	2.33	1800.00		852.69	841.36	814.03
63 Cu # 2	0.2889	0.2889	ug/l	4.74	1800.00		934.03	906.03	980.03
66 Zn # 3	0.276	0.276	ug/l	6.09	1800.00		2006.85	2003.52	2016.85
75 As # 2	0.2789	0.2789	ug/l	5.74	1800.00		100.67	92.00	94.67
78 Se # 1	0.02745	0.02745	ug/l	13.46	100.00		26.00	23.00	24.00
88 Sr # 3	32.69	32.69	ug/l	0.51	1800.00		726884.13	705744.75	707161.88
95 Mo # 3	-0.02045	-0.02045	ug/l	145.67	1800.00		810.05	880.05	1000.07
107 Ag # 3	-0.0271	-0.0271	ug/l	4.97	100.00		46.67	70.00	56.67
111 Cd # 3	-0.01456	-0.01456	ug/l	33.47	100.00		26.37	43.01	39.63
118 Sn # 3	0.06849	0.06849	ug/l	2.76	1800.00		680.04	706.71	683.37
121 Sb # 3	0.06024	0.06024	ug/l	5.03	100.00		620.03	640.03	620.03
137 Ba # 3	13.31	13.31	ug/l	0.24	1800.00		31323.09	31867.69	31436.63
202 Hg # 3	0.009197	0.009197	ug/l	5.19	5.00		36.67	35.00	34.33
205 Tl # 3	-0.02649	-0.02649	ug/l	3.00	20.00		110.00	120.00	100.00
208 Pb # 3	-0.0276	-0.0276	ug/l	7.04	1800.00		640.02	566.69	606.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	800758.69	1.72	762890.69	105.0	60 - 125.4		815056.44	799597.56	787622.06
45 Sc # 1	670135.13	1.23	620105.56	108.1	60 - 125.4		675653.56	660638.94	674113.00
45 Sc # 3	846802.81	1.71	771387.50	109.8	60 - 125.4		860040.00	849054.44	831313.94
74 Ge # 1	176568.23	0.38	164848.81	107.1	60 - 125.4		175988.92	176400.33	177315.47
74 Ge # 2	30285.12	0.15	33226.06	91.1	60 - 125.4		30337.40	30252.29	30265.68
74 Ge # 3	184438.58	1.53	178474.77	103.3	60 - 125.4		187695.70	182759.56	182860.47
89 Y # 3	1085553.00	1.66	1057065.90	102.7	60 - 125.4		1105793.90	1079804.00	1071061.00
115 In # 3	896012.19	0.69	917456.31	97.7	60 - 125.4		892033.31	903150.81	892852.50
159 Tb # 3	1151326.00	1.25	1264337.30	91.1	60 - 125.4		1167875.10	1142651.10	1143451.90
209 Bi # 3	591382.75	1.30	698508.81	84.7	60 - 125.4		599382.00	590664.81	584101.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\167SMPL.D\167SMPL.D#
Date Acquired:	Dec 22 2012 10:02 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-85741-c-2-a
Misc Info:	3010 1/5
Vial Number:	2402
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03322	-0.03322	ug/l	36.94	100.00		140.00	86.67	36.67
11 B # 3	6.508	6.508	ug/l	5.80	200.00		41265.57	38689.34	37466.40
23 Na # 1	1547	1547	ug/l	1.68	90000.00		10376557.00	10209632.00	10226212.00
24 Mg # 1	1671	1671	ug/l	1.38	90000.00		7219878.00	7193707.50	7084273.00
27 Al # 1	16.91	16.91	ug/l	1.20	90000.00		82641.91	83085.83	81455.75
39 K # 2	322.5	322.5	ug/l	0.95	90000.00		151958.20	151344.39	150622.22
40 Ca # 1	3792	3792	ug/l	0.29	90000.00		37208460.00	37628500.00	37295108.00
47 Ti # 3	1.091	1.091	ug/l	7.44	1800.00		1720.13	1886.85	1700.15
51 V # 2	0.2223	0.2223	ug/l	9.41	1800.00		1096.71	1180.72	1130.71
52 Cr # 2	0.4545	0.4545	ug/l	2.19	1800.00		1512.08	1542.75	1519.41
55 Mn # 3	568.8	568.8	ug/l	0.17	2700.00		12082051.00	11997323.00	11881154.00
56 Fe # 1	5300	5300	ug/l	0.76	90000.00		74566040.00	75243168.00	75808704.00
59 Co # 3	2.41	2.41	ug/l	0.60	1800.00		38002.76	38132.86	37287.25
60 Ni # 2	1.246	1.246	ug/l	2.53	1800.00		1250.06	1275.39	1304.73
63 Cu # 2	5.647	5.647	ug/l	0.44	1800.00		15039.74	14891.62	15079.79
66 Zn # 3	0.4226	0.4226	ug/l	8.87	1800.00		2240.22	2200.23	2313.56
75 As # 2	0.3068	0.3068	ug/l	9.01	1800.00		93.67	97.33	107.33
78 Se # 1	0.01432	0.01432	ug/l	29.43	100.00		18.67	15.67	16.33
88 Sr # 3	28.33	28.33	ug/l	2.36	1800.00		624855.31	602190.06	580982.31
95 Mo # 3	0.002032	0.002032	ug/l	429.68	1800.00		933.39	963.40	950.06
107 Ag # 3	-0.01491	-0.01491	ug/l	93.03	100.00		293.35	93.34	86.67
111 Cd # 3	0.001732	0.001732	ug/l	1081.40	100.00		102.99	46.31	42.98
118 Sn # 3	0.07007	0.07007	ug/l	20.99	1800.00		750.05	596.70	703.37
121 Sb # 3	0.04295	0.04295	ug/l	33.30	100.00		613.36	456.69	473.35
137 Ba # 3	16.34	16.34	ug/l	1.31	1800.00		38125.63	38282.68	37122.76
202 Hg # 3	0.01129	0.01129	ug/l	21.80	5.00		36.33	38.33	43.33
205 Tl # 3	-0.02527	-0.02527	ug/l	8.13	20.00		150.01	126.67	96.67
208 Pb # 3	-0.02934	-0.02934	ug/l	40.46	1800.00		830.04	480.02	450.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	768013.63	1.31	762890.69	100.7	60 - 125.4		774637.50	772998.44	756405.00
45 Sc # 1	612147.44	0.78	620105.56	98.7	60 - 125.4		607399.94	616892.69	612149.69
45 Sc # 3	834911.56	1.59	771387.50	108.2	60 - 125.4		847710.94	835814.44	821209.31
74 Ge # 1	159272.00	0.48	164848.81	96.6	60 - 125.4		158656.83	159041.05	160118.16
74 Ge # 2	29170.90	0.86	33226.06	87.8	60 - 125.4		29385.71	28896.54	29230.46
74 Ge # 3	180817.08	0.74	178474.77	101.3	60 - 125.4		181902.75	181222.67	179325.80
89 Y # 3	1057678.00	1.29	1057065.90	100.1	60 - 125.4		1071492.00	1057269.90	1044272.10
115 In # 3	876729.56	1.64	917456.31	95.6	60 - 125.4		892317.56	873985.81	863885.38
159 Tb # 3	1138973.40	0.68	1264337.30	90.1	60 - 125.4		1147785.10	1133092.80	1136042.30
209 Bi # 3	602813.56	0.83	698508.81	86.3	60 - 125.4		607253.38	603817.13	597370.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\168_CCV.D\168_CCV.D#
Date Acquired:	Dec 22 2012 10:09 am
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag
9 Be	49.60 ug/l	2.37	50.00	89.6 -	110	
11 B	100.00 ug/l	2.48	100.00	89.6 -	110	
23 Na	4557.00 ug/l	1.54	5000.00	89.6 -	110	
24 Mg	4508.00 ug/l	2.15	5000.00	89.6 -	110	
27 Al	445.00 ug/l	1.95	500.00	89.6 -	110	Fail
39 K	4973.00 ug/l	1.31	5000.00	89.6 -	110	
40 Ca	4743.00 ug/l	2.33	5000.00	89.6 -	110	
47 Ti	48.75 ug/l	2.57	50.00	89.6 -	110	
51 V	50.33 ug/l	0.74	50.00	89.6 -	110	
52 Cr	50.32 ug/l	1.08	50.00	89.6 -	110	
55 Mn	505.40 ug/l	3.05	500.00	89.6 -	110	
56 Fe	4850.00 ug/l	1.62	5000.00	89.6 -	110	
59 Co	50.99 ug/l	1.91	50.00	89.6 -	110	
60 Ni	51.42 ug/l	1.12	50.00	89.6 -	110	
63 Cu	51.40 ug/l	0.57	50.00	89.6 -	110	
66 Zn	48.07 ug/l	3.07	50.00	89.6 -	110	
75 As	48.44 ug/l	0.79	50.00	89.6 -	110	
78 Se	48.35 ug/l	0.70	50.00	89.6 -	110	
88 Sr	50.62 ug/l	2.63	50.00	89.6 -	110	
95 Mo	50.37 ug/l	3.36	50.00	89.6 -	110	
107 Ag	49.05 ug/l	3.56	50.00	89.6 -	110	
111 Cd	48.28 ug/l	4.72	50.00	89.6 -	110	
118 Sn	48.34 ug/l	3.35	50.00	89.6 -	110	
121 Sb	45.73 ug/l	3.50	50.00	89.6 -	110	
137 Ba	49.26 ug/l	4.52	50.00	89.6 -	110	
202 Hg	2.44 ug/l	3.35	2.50	89.6 -	110	
205 Tl	9.14 ug/l	3.54	10.00	89.6 -	110	
208 Pb	47.28 ug/l	2.71	50.00	89.6 -	110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6 Li	764623.00	2.04	762890.69	100.2	59.6 -	125	
45 Sc	614283.25	2.45	620105.56	99.1	59.6 -	125	
45 Sc	844574.44	2.06	771387.50	109.5	59.6 -	125	
74 Ge	159058.44	0.67	164848.81	96.5	59.6 -	125	
74 Ge	29937.85	0.92	33226.06	90.1	59.6 -	125	
74 Ge	180012.98	2.46	178474.77	100.9	59.6 -	125	
89 Y	1052758.30	3.02	1057065.90	99.6	59.6 -	125	
115 In	870342.25	3.17	917456.31	94.9	59.6 -	125	
159 Tb	1121182.00	2.72	1264337.30	88.7	59.6 -	125	
209 Bi	569337.19	2.08	698508.81	81.5	59.6 -	125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed

0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail

ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\169_CCB.D\169_CCB.D#
Date Acquired: Dec 22 2012 10:15 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.03 ug/l	10.82	0.05	
11 B	3.33 ug/l	4.63	10.00	
23 Na	30.94 ug/l	7.25	25.00	Fail
24 Mg	3.43 ug/l	12.14	25.00	
27 Al	-0.81 ug/l	2.45	5.00	
39 K	5.50 ug/l	13.91	25.00	
40 Ca	3.17 ug/l	3.85	25.00	
47 Ti	-0.24 ug/l	5.92	0.50	
51 V	-0.05 ug/l	27.32	0.50	
52 Cr	0.02 ug/l	37.90	0.50	
55 Mn	-0.01 ug/l	358.37	0.50	
56 Fe	2.91 ug/l	2.98	10.00	
59 Co	0.01 ug/l	21.86	0.05	
60 Ni	0.02 ug/l	10.37	0.50	
63 Cu	0.01 ug/l	15.63	0.50	
66 Zn	-0.49 ug/l	3.44	2.00	
75 As	0.02 ug/l	19.61	0.25	
78 Se	0.05 ug/l	4.17	0.25	
88 Sr	-0.06 ug/l	4.84	0.10	
95 Mo	-0.17 ug/l	1.02	0.50	
107 Ag	0.00 ug/l	44.96	0.10	
111 Cd	0.00 ug/l	1624.60	0.05	
118 Sn	0.02 ug/l	37.01	0.50	
121 Sb	0.34 ug/l	12.18	0.50	
137 Ba	-0.03 ug/l	41.70	0.50	
202 Hg	0.03 ug/l	8.83	0.08	
205 Tl	-0.03 ug/l	7.53	0.10	
208 Pb	-0.03 ug/l	15.68	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	807733.38	1.87	762890.69	105.9	59.6 - 125	
45 Sc	624065.94	1.18	620105.56	100.6	59.6 - 125	
45 Sc	860929.44	0.88	771387.50	111.6	59.6 - 125	
74 Ge	160927.92	0.18	164848.81	97.6	59.6 - 125	
74 Ge	30620.77	1.07	33226.06	92.2	59.6 - 125	
74 Ge	185076.19	0.22	178474.77	103.7	59.6 - 125	
89 Y	1085350.90	1.07	1057065.90	102.7	59.6 - 125	
115 In	902919.25	0.95	917456.31	98.4	59.6 - 125	
159 Tb	1149831.90	0.64	1264337.30	90.9	59.6 - 125	
209 Bi	593508.38	1.19	698508.81	85.0	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\170_CCV.D\170_CCV.D#
Date Acquired:	Dec 22 2012 10:57 am
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	48.92 ug/l	0.24	50.00	89.6 - 110	
11 B	97.95 ug/l	2.42	100.00	89.6 - 110	
23 Na	4379.00 ug/l	1.57	5000.00	89.6 - 110	Fail
24 Mg	4402.00 ug/l	2.74	5000.00	89.6 - 110	Fail
27 Al	442.30 ug/l	2.13	500.00	89.6 - 110	Fail
39 K	5181.00 ug/l	0.93	5000.00	89.6 - 110	
40 Ca	4607.00 ug/l	1.84	5000.00	89.6 - 110	
47 Ti	48.08 ug/l	1.51	50.00	89.6 - 110	
51 V	51.46 ug/l	0.68	50.00	89.6 - 110	
52 Cr	50.95 ug/l	0.54	50.00	89.6 - 110	
55 Mn	518.60 ug/l	1.51	500.00	89.6 - 110	
56 Fe	4499.00 ug/l	1.34	5000.00	89.6 - 110	
59 Co	51.52 ug/l	1.29	50.00	89.6 - 110	
60 Ni	50.92 ug/l	0.09	50.00	89.6 - 110	
63 Cu	50.61 ug/l	0.43	50.00	89.6 - 110	
66 Zn	48.61 ug/l	1.15	50.00	89.6 - 110	
75 As	49.48 ug/l	0.13	50.00	89.6 - 110	
78 Se	46.41 ug/l	1.76	50.00	89.6 - 110	
88 Sr	50.67 ug/l	0.28	50.00	89.6 - 110	
95 Mo	50.89 ug/l	0.67	50.00	89.6 - 110	
107 Ag	48.97 ug/l	0.90	50.00	89.6 - 110	
111 Cd	48.29 ug/l	0.56	50.00	89.6 - 110	
118 Sn	48.50 ug/l	0.51	50.00	89.6 - 110	
121 Sb	45.47 ug/l	0.22	50.00	89.6 - 110	
137 Ba	48.87 ug/l	0.26	50.00	89.6 - 110	
202 Hg	2.36 ug/l	0.74	2.50	89.6 - 110	
205 Tl	9.16 ug/l	1.07	10.00	89.6 - 110	
208 Pb	46.24 ug/l	0.19	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	829869.88	1.18	762890.69	108.8	59.6 - 125	
45 Sc	697945.19	0.98	620105.56	112.6	59.6 - 125	
45 Sc	893601.63	0.52	771387.50	115.8	59.6 - 125	
74 Ge	172099.97	1.44	164848.81	104.4	59.6 - 125	
74 Ge	32827.43	0.27	33226.06	98.8	59.6 - 125	
74 Ge	185324.03	1.81	178474.77	103.8	59.6 - 125	
89 Y	1096590.50	0.80	1057065.90	103.7	59.6 - 125	
115 In	900788.63	0.42	917456.31	98.2	59.6 - 125	
159 Tb	1155514.00	0.78	1264337.30	91.4	59.6 - 125	
209 Bi	599547.63	1.20	698508.81	85.8	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\171_CCB.D\171_CCB.D#
Date Acquired: Dec 22 2012 11:03 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	13.47	0.05	
11 B	1.32 ug/l	13.49	10.00	
23 Na	4.20 ug/l	25.39	25.00	
24 Mg	1.21 ug/l	16.24	25.00	
27 Al	-0.85 ug/l	3.15	5.00	
39 K	5.84 ug/l	9.68	25.00	
40 Ca	1.92 ug/l	12.43	25.00	
47 Ti	-0.26 ug/l	1.40	0.50	
51 V	-0.06 ug/l	4.62	0.50	
52 Cr	0.01 ug/l	70.16	0.50	
55 Mn	-0.13 ug/l	13.65	0.50	
56 Fe	1.68 ug/l	8.72	10.00	
59 Co	0.00 ug/l	27.27	0.05	
60 Ni	0.01 ug/l	49.62	0.50	
63 Cu	0.01 ug/l	19.23	0.50	
66 Zn	-0.50 ug/l	6.89	2.00	
75 As	0.02 ug/l	71.38	0.25	
78 Se	0.04 ug/l	27.14	0.25	
88 Sr	-0.08 ug/l	3.07	0.10	
95 Mo	-0.18 ug/l	7.75	0.50	
107 Ag	-0.02 ug/l	23.33	0.10	
111 Cd	-0.01 ug/l	131.10	0.05	
118 Sn	0.01 ug/l	67.24	0.50	
121 Sb	0.33 ug/l	3.11	0.50	
137 Ba	-0.04 ug/l	4.74	0.50	
202 Hg	0.03 ug/l	8.79	0.08	
205 Tl	-0.03 ug/l	8.95	0.10	
208 Pb	-0.03 ug/l	4.74	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	840326.63	1.17	762890.69	110.2	59.6 - 125	
45 Sc	634091.63	1.73	620105.56	102.3	59.6 - 125	
45 Sc	893815.69	0.50	771387.50	115.9	59.6 - 125	
74 Ge	164253.53	0.35	164848.81	99.6	59.6 - 125	
74 Ge	31996.28	1.21	33226.06	96.3	59.6 - 125	
74 Ge	188794.88	0.61	178474.77	105.8	59.6 - 125	
89 Y	1113717.90	1.13	1057065.90	105.4	59.6 - 125	
115 In	923864.06	0.26	917456.31	100.7	59.6 - 125	
159 Tb	1168885.50	0.58	1264337.30	92.5	59.6 - 125	
209 Bi	609596.69	0.31	698508.81	87.3	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\172SMPL.D\172SMPL.D#
Date Acquired:	Dec 22 2012 11:10 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	mb 680-260655_1-a
Misc Info:	3030C
Vial Number:	4101
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.01638	-0.01638	ug/l	38.21	100.00		126.67	156.67	180.01
11 B # 3	1.257	1.257	ug/l	11.93	200.00		17663.27	16802.21	17022.49
23 Na # 1	25.2	25.2	ug/l	10.83	90000.00		418167.81	406672.28	408898.75
24 Mg # 1	1.725	1.725	ug/l	10.33	90000.00		12895.56	12395.42	13614.37
27 Al # 1	-0.03821	-0.03821	ug/l	132.27	90000.00		5928.09	5874.59	5741.19
39 K # 2	10.58	10.58	ug/l	2.59	90000.00		21908.69	21488.00	21474.72
40 Ca # 1	5.34	5.34	ug/l	5.89	90000.00		88182.38	87036.48	87036.59
47 Ti # 3	-0.1892	-0.1892	ug/l	18.73	1800.00		166.67	203.34	116.67
51 V # 2	0.4154	0.4154	ug/l	1.79	1800.00		1766.78	1782.11	1734.77
52 Cr # 2	0.0917	0.0917	ug/l	5.61	1800.00		504.01	492.68	521.35
55 Mn # 3	-0.2498	-0.2498	ug/l	1.79	2700.00		3597.17	3747.21	3677.22
56 Fe # 1	2.033	2.033	ug/l	10.61	90000.00		41908.68	47473.72	40542.29
59 Co # 3	-0.007733	-0.007733	ug/l	10.07	1800.00		116.67	140.01	123.34
60 Ni # 2	0.07625	0.07625	ug/l	10.52	1800.00		96.67	94.67	110.00
63 Cu # 2	1.77	1.77	ug/l	0.26	1800.00		5256.22	5240.22	5194.87
66 Zn # 3	0.8809	0.8809	ug/l	8.01	1800.00		3190.42	3190.42	3410.46
75 As # 2	0.1932	0.1932	ug/l	7.74	1800.00		72.00	79.00	78.00
78 Se # 1	0.02317	0.02317	ug/l	35.46	100.00		24.33	20.67	18.33
88 Sr # 3	-0.07937	-0.07937	ug/l	1.03	1800.00		483.36	443.35	446.70
95 Mo # 3	-0.2161	-0.2161	ug/l	6.20	1800.00		230.01	303.35	230.01
107 Ag # 3	-0.02725	-0.02725	ug/l	3.65	100.00		63.34	56.67	46.67
111 Cd # 3	-0.02045	-0.02045	ug/l	14.12	100.00		29.92	19.89	26.58
118 Sn # 3	0.1317	0.1317	ug/l	10.16	1800.00		943.40	1070.08	983.41
121 Sb # 3	0.1718	0.1718	ug/l	4.32	100.00		1303.43	1226.75	1200.08
137 Ba # 3	-0.04376	-0.04376	ug/l	3.69	1800.00		53.34	46.67	53.34
202 Hg # 3	0.004305	0.004305	ug/l	33.36	5.00		34.33	31.33	28.33
205 Tl # 3	-0.02955	-0.02955	ug/l	3.64	20.00		66.67	83.34	56.67
208 Pb # 3	-0.02223	-0.02223	ug/l	13.55	1800.00		856.71	723.37	786.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	754303.81	0.95	762890.69	98.9	60 - 125.4		746022.13	757816.94	759072.25
45 Sc # 1	610126.88	2.77	620105.56	98.4	60 - 125.4		591600.38	624594.25	614186.00
45 Sc # 3	817336.00	0.67	771387.50	106.0	60 - 125.4		823653.19	814843.81	813510.81
74 Ge # 1	165846.59	1.27	164848.81	100.6	60 - 125.4		163745.75	165847.80	167946.22
74 Ge # 2	31769.17	0.65	33226.06	95.6	60 - 125.4		31989.05	31738.56	31579.90
74 Ge # 3	188424.45	0.72	178474.77	105.6	60 - 125.4		189982.05	187712.58	187578.72
89 Y # 3	1064211.60	1.04	1057065.90	100.7	60 - 125.4		1076851.40	1056203.00	1059580.60
115 In # 3	881491.31	0.38	917456.31	96.1	60 - 125.4		885309.13	879292.50	879872.38
159 Tb # 3	1122595.50	0.14	1264337.30	88.8	60 - 125.4		1124427.50	1121792.00	1121567.00
209 Bi # 3	669992.94	1.47	698508.81	95.9	60 - 125.4		681099.50	666672.81	662206.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\173_CCV.D\173_CCV.D#
Date Acquired: Dec 22 2012 11:17 am
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	49.14 ug/l	1.09	50.00	89.6 - 110	
11 B	96.41 ug/l	1.19	100.00	89.6 - 110	
23 Na	4601.00 ug/l	0.95	5000.00	89.6 - 110	
24 Mg	4621.00 ug/l	1.31	5000.00	89.6 - 110	
27 Al	454.60 ug/l	1.57	500.00	89.6 - 110	
39 K	5217.00 ug/l	0.78	5000.00	89.6 - 110	
40 Ca	4823.00 ug/l	1.33	5000.00	89.6 - 110	
47 Ti	48.38 ug/l	0.85	50.00	89.6 - 110	
51 V	51.78 ug/l	0.69	50.00	89.6 - 110	
52 Cr	51.34 ug/l	0.28	50.00	89.6 - 110	
55 Mn	518.30 ug/l	0.54	500.00	89.6 - 110	
56 Fe	4797.00 ug/l	0.86	5000.00	89.6 - 110	
59 Co	52.48 ug/l	0.82	50.00	89.6 - 110	
60 Ni	52.28 ug/l	0.51	50.00	89.6 - 110	
63 Cu	51.91 ug/l	0.12	50.00	89.6 - 110	
66 Zn	48.95 ug/l	0.37	50.00	89.6 - 110	
75 As	49.54 ug/l	0.54	50.00	89.6 - 110	
78 Se	48.51 ug/l	0.14	50.00	89.6 - 110	
88 Sr	50.59 ug/l	0.98	50.00	89.6 - 110	
95 Mo	50.75 ug/l	0.60	50.00	89.6 - 110	
107 Ag	48.77 ug/l	0.56	50.00	89.6 - 110	
111 Cd	47.93 ug/l	0.86	50.00	89.6 - 110	
118 Sn	48.16 ug/l	0.97	50.00	89.6 - 110	
121 Sb	45.16 ug/l	0.16	50.00	89.6 - 110	
137 Ba	49.26 ug/l	1.32	50.00	89.6 - 110	
202 Hg	2.38 ug/l	1.14	2.50	89.6 - 110	
205 Tl	9.16 ug/l	0.67	10.00	89.6 - 110	
208 Pb	46.61 ug/l	0.65	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	783144.75	2.08	762890.69	102.7	59.6 - 125	
45 Sc	625183.81	0.77	620105.56	100.8	59.6 - 125	
45 Sc	840540.44	0.61	771387.50	109.0	59.6 - 125	
74 Ge	158725.09	0.30	164848.81	96.3	59.6 - 125	
74 Ge	30164.91	0.41	33226.06	90.8	59.6 - 125	
74 Ge	176791.20	0.76	178474.77	99.1	59.6 - 125	
89 Y	1059387.80	0.70	1057065.90	100.2	59.6 - 125	
115 In	864006.38	0.51	917456.31	94.2	59.6 - 125	
159 Tb	1119083.10	0.93	1264337.30	88.5	59.6 - 125	
209 Bi	574822.94	0.54	698508.81	82.3	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\174_CCB.D\174_CCB.D#
Date Acquired: Dec 22 2012 11:24 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	1.64	0.05	
11 B	1.22 ug/l	6.74	10.00	
23 Na	4.51 ug/l	30.67	25.00	
24 Mg	1.42 ug/l	14.93	25.00	
27 Al	-0.88 ug/l	1.21	5.00	
39 K	6.76 ug/l	16.32	25.00	
40 Ca	2.17 ug/l	5.90	25.00	
47 Ti	-0.26 ug/l	4.19	0.50	
51 V	-0.05 ug/l	13.15	0.50	
52 Cr	0.01 ug/l	44.29	0.50	
55 Mn	-0.14 ug/l	4.99	0.50	
56 Fe	1.83 ug/l	7.98	10.00	
59 Co	0.00 ug/l	51.72	0.05	
60 Ni	0.02 ug/l	11.28	0.50	
63 Cu	0.01 ug/l	26.15	0.50	
66 Zn	-0.50 ug/l	4.38	2.00	
75 As	0.03 ug/l	17.54	0.25	
78 Se	0.05 ug/l	23.17	0.25	
88 Sr	-0.08 ug/l	1.86	0.10	
95 Mo	-0.17 ug/l	8.60	0.50	
107 Ag	-0.01 ug/l	21.26	0.10	
111 Cd	-0.01 ug/l	23.37	0.05	
118 Sn	0.01 ug/l	10.75	0.50	
121 Sb	0.32 ug/l	9.49	0.50	
137 Ba	-0.04 ug/l	6.46	0.50	
202 Hg	0.03 ug/l	10.00	0.08	
205 Tl	-0.03 ug/l	7.57	0.10	
208 Pb	-0.03 ug/l	6.23	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	829956.94	0.91	762890.69	108.8	59.6 - 125	
45 Sc	628485.31	0.86	620105.56	101.4	59.6 - 125	
45 Sc	866844.94	0.56	771387.50	112.4	59.6 - 125	
74 Ge	161540.67	0.30	164848.81	98.0	59.6 - 125	
74 Ge	31073.90	0.57	33226.06	93.5	59.6 - 125	
74 Ge	183411.03	0.12	178474.77	102.8	59.6 - 125	
89 Y	1093354.10	0.27	1057065.90	103.4	59.6 - 125	
115 In	905902.25	0.33	917456.31	98.7	59.6 - 125	
159 Tb	1163369.80	0.95	1264337.30	92.0	59.6 - 125	
209 Bi	594824.19	1.22	698508.81	85.2	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\175SMPL.D\175SMPL.D#
Date Acquired:	Dec 22 2012 11:31 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	mb 680-260707_1-a
Misc Info:	3050 1/5
Vial Number:	2101
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.051	-0.051	ug/l	1.73	100.00		16.67	16.67	10.00
11 B	# 3	0.7515	0.7515	ug/l	5.60	200.00		16138.23	16188.32	15931.50
23 Na	# 1	9.749	9.749	ug/l	8.75	90000.00		323285.38	326564.59	321280.22
24 Mg	# 1	1.208	1.208	ug/l	20.38	90000.00		11330.87	12103.95	10100.07
27 Al	# 1	0.1735	0.1735	ug/l	100.63	90000.00		6721.58	6448.10	8035.07
39 K	# 2	8.591	8.591	ug/l	14.17	90000.00		20990.84	20369.92	20770.63
40 Ca	# 1	7.644	7.644	ug/l	1.19	90000.00		114206.69	113112.19	115626.06
47 Ti	# 3	-0.1911	-0.1911	ug/l	14.18	1800.00		163.34	203.34	133.34
51 V	# 2	0.2502	0.2502	ug/l	6.26	1800.00		1337.40	1316.06	1286.06
52 Cr	# 2	0.09917	0.09917	ug/l	2.31	1800.00		518.01	542.01	530.01
55 Mn	# 3	-0.1857	-0.1857	ug/l	3.24	2700.00		5017.61	5207.64	4887.57
56 Fe	# 1	8.652	8.652	ug/l	1.42	90000.00		142494.42	142570.70	141368.59
59 Co	# 3	-0.004015	-0.004015	ug/l	14.12	1800.00		183.34	196.67	176.67
60 Ni	# 2	0.2044	0.2044	ug/l	5.42	1800.00		248.67	246.00	230.67
63 Cu	# 2	0.2168	0.2168	ug/l	2.91	1800.00		748.69	802.02	788.69
66 Zn	# 3	0.05044	0.05044	ug/l	52.76	1800.00		1656.80	1546.79	1560.12
75 As	# 2	0.1402	0.1402	ug/l	2.93	1800.00		61.00	62.67	60.67
78 Se	# 1	0.00937	0.00937	ug/l	90.99	100.00		12.33	15.33	19.33
88 Sr	# 3	-0.05973	-0.05973	ug/l	8.10	1800.00		866.72	1036.91	826.71
95 Mo	# 3	-0.2329	-0.2329	ug/l	3.47	1800.00		240.01	193.34	186.67
107 Ag	# 3	-0.03018	-0.03018	ug/l	1.65	100.00		30.00	30.00	36.67
111 Cd	# 3	-0.02206	-0.02206	ug/l	23.06	100.00		19.91	16.60	33.27
118 Sn	# 3	2.13	2.13	ug/l	1.77	1800.00		11351.23	11571.34	11417.89
121 Sb	# 3	0.1627	0.1627	ug/l	11.19	100.00		1383.44	1210.09	1123.41
137 Ba	# 3	-0.03692	-0.03692	ug/l	12.78	1800.00		56.67	76.67	73.34
202 Hg	# 3	0.01497	0.01497	ug/l	20.10	5.00		54.33	44.67	48.00
205 Tl	# 3	-0.03075	-0.03075	ug/l	0.56	20.00		53.34	56.67	56.67
208 Pb	# 3	-0.03853	-0.03853	ug/l	0.73	1800.00		453.35	470.02	460.02

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	802624.31	1.13	762890.69	105.2	60 - 125.4		794836.56	812530.06	800506.31
45 Sc	# 1	633559.94	1.01	620105.56	102.2	60 - 125.4		638394.56	626324.19	635961.06
45 Sc	# 3	851554.13	0.35	771387.50	110.4	60 - 125.4		852738.50	853748.75	848175.06
74 Ge	# 1	166398.00	0.63	164848.81	100.9	60 - 125.4		166164.41	165487.31	167542.27
74 Ge	# 2	31777.54	1.37	33226.06	95.6	60 - 125.4		31276.02	31992.36	32064.24
74 Ge	# 3	186844.09	0.99	178474.77	104.7	60 - 125.4		188196.38	187590.95	184744.97
89 Y	# 3	1104914.00	2.20	1057065.90	104.5	60 - 125.4		1127139.00	1108578.90	1079024.40
115 In	# 3	907398.00	1.22	917456.31	98.9	60 - 125.4		917955.31	908413.13	895825.69
159 Tb	# 3	1157865.80	1.41	1264337.30	91.6	60 - 125.4		1161272.30	1172247.40	1140077.50
209 Bi	# 3	652863.81	0.68	698508.81	93.5	60 - 125.4		649070.44	657746.75	651774.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\176SMPL.D\176SMPL.D#
Date Acquired:	Dec 22 2012 11:37 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lcs 680-260707_2-a
Misc Info:	3050 1/5
Vial Number:	2102
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.14	11.14	ug/l	1.25	100.00		47501.51	46706.48	46178.07
11 B # 3	45.14	45.14	ug/l	1.97	200.00		205716.69	198480.19	197053.84
23 Na # 1	1087	1087	ug/l	6.63	90000.00		7575681.50	7751383.00	7578314.00
24 Mg # 1	1085	1085	ug/l	5.93	90000.00		4906892.50	4845887.50	4870098.50
27 Al # 1	1073	1073	ug/l	5.59	90000.00		5051372.50	5097282.00	5088556.50
39 K # 2	1218	1218	ug/l	0.59	90000.00		561456.56	559251.44	559269.94
40 Ca # 1	1122	1122	ug/l	6.78	90000.00		11735813.00	11577683.00	11468198.00
47 Ti # 3	22.73	22.73	ug/l	3.07	1800.00		29397.35	28128.38	28338.71
51 V # 2	24.06	24.06	ug/l	0.55	1800.00		64179.79	63993.82	64025.94
52 Cr # 2	24.13	24.13	ug/l	0.62	1800.00		75213.03	74840.57	74676.68
55 Mn # 3	119.8	119.8	ug/l	2.81	2700.00		2522546.80	2471451.50	2521483.50
56 Fe # 1	1110	1110	ug/l	5.17	90000.00		16521276.00	16359943.00	16640173.00
59 Co # 3	11.21	11.21	ug/l	1.60	1800.00		174855.88	172658.59	171824.69
60 Ni # 2	24.74	24.74	ug/l	0.46	1800.00		26603.34	26696.17	26345.59
63 Cu # 2	24.29	24.29	ug/l	0.68	1800.00		68101.51	67690.63	67790.31
66 Zn # 3	22.41	22.41	ug/l	3.03	1800.00		44138.36	43483.15	44466.00
75 As # 2	23.3	23.3	ug/l	0.52	1800.00		6390.30	6393.96	6409.63
78 Se # 1	20.5	20.5	ug/l	5.18	100.00		8123.08	8128.76	7986.02
88 Sr # 3	20.8	20.8	ug/l	2.98	1800.00		451997.22	446883.31	443729.22
95 Mo # 3	23.5	23.5	ug/l	1.77	1800.00		78081.89	76286.30	75666.97
107 Ag # 3	11.5	11.5	ug/l	1.10	100.00		97134.36	96026.51	94042.47
111 Cd # 3	11.07	11.07	ug/l	2.62	100.00		19687.58	19137.52	19454.84
118 Sn # 3	24.7	24.7	ug/l	1.36	1800.00		128083.36	125996.86	123991.48
121 Sb # 3	11.17	11.17	ug/l	2.68	100.00		63960.49	63606.09	62812.57
137 Ba # 3	22.84	22.84	ug/l	1.23	1800.00		54003.63	53388.15	52709.12
202 Hg # 3	1.012	1.012	ug/l	1.55	5.00		1735.77	1706.10	1661.77
205 Tl # 3	8.407	8.407	ug/l	3.98	20.00		110711.66	106867.80	108808.59
208 Pb # 3	10.44	10.44	ug/l	1.30	1800.00		191727.50	189297.63	187046.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	775767.56	2.09	762890.69	101.7	60 - 125.4		785511.31	784743.25	757048.19
45 Sc # 1	642224.94	5.95	620105.56	103.6	60 - 125.4		617205.19	623227.69	686241.88
45 Sc # 3	827933.75	1.97	771387.50	107.3	60 - 125.4		831107.38	842405.50	810288.31
74 Ge # 1	162953.75	4.31	164848.81	98.9	60 - 125.4		157867.47	160033.80	170959.97
74 Ge # 2	30901.35	0.44	33226.06	93.0	60 - 125.4		30831.71	31057.27	30815.09
74 Ge # 3	178940.34	1.85	178474.77	100.3	60 - 125.4		179903.41	181669.97	175247.66
89 Y # 3	1069363.90	3.30	1057065.90	101.2	60 - 125.4		1073556.90	1102331.80	1032202.90
115 In # 3	885604.75	1.72	917456.31	96.5	60 - 125.4		889381.25	898595.38	868837.56
159 Tb # 3	1156401.90	3.02	1264337.30	91.5	60 - 125.4		1163603.60	1187166.90	1118435.10
209 Bi # 3	624291.31	1.61	698508.81	89.4	60 - 125.4		626122.50	633333.88	613417.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\177SMPL.D\177SMPL.D#
Date Acquired:	Dec 22 2012 11:44 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-1-a
Misc Info:	3050 1/5
Vial Number:	2103
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.855	1.855	ug/l	3.05	100.00		7085.04	6634.85	6754.86
11 B # 3	9.936	9.936	ug/l	2.48	200.00		47181.11	45546.74	45259.16
23 Na # 1	114.5	114.5	ug/l	3.97	90000.00		1134276.80	1127940.10	1080421.30
24 Mg # 1	14570	14570	ug/l	1.78	90000.00		70681096.00	70948576.00	68947240.00
27 Al # 1	24050	24050	ug/l	1.13	90000.00		122046300.00	123470250.00	120655960.00
39 K # 2	3088	3088	ug/l	1.31	90000.00		1261307.80	1286035.00	1286682.50
40 Ca # 1	45110	45110	ug/l	0.41	90000.00		496564320.00	501418750.00	499564160.00
47 Ti # 3	107.7	107.7	ug/l	2.09	1800.00		145159.67	139391.80	136574.45
51 V # 2	50.42	50.42	ug/l	2.05	1800.00		123156.82	122403.07	121603.85
52 Cr # 2	43.09	43.09	ug/l	1.69	1800.00		122907.24	122079.76	122093.24
55 Mn # 3	1709	1709	ug/l	0.43	2700.00		33323180.00	32921566.00	32130316.00
56 Fe # 1	51840	51840	ug/l	0.74	90000.00		825708800.00	829158080.00	824651520.00
59 Co # 3	39.24	39.24	ug/l	0.89	1800.00		570343.63	557255.81	544372.44
60 Ni # 2	65.95	65.95	ug/l	1.35	1800.00		64833.18	64704.00	64902.80
63 Cu # 2	55.82	55.82	ug/l	1.31	1800.00		142519.98	142539.88	142909.20
66 Zn # 3	126.5	126.5	ug/l	0.42	1800.00		226758.41	222149.00	219312.00
75 As # 2	24.98	24.98	ug/l	1.63	1800.00		6323.60	6237.23	6281.25
78 Se # 1	0.7057	0.7057	ug/l	7.67	100.00		283.34	248.34	277.34
88 Sr # 3	136.2	136.2	ug/l	1.61	1800.00		3921175.80	3790904.00	3757733.80
95 Mo # 3	1.896	1.896	ug/l	0.67	1800.00		6638.26	6704.96	6471.55
107 Ag # 3	0.02334	0.02334	ug/l	39.35	100.00		496.69	366.68	470.02
111 Cd # 3	0.1447	0.1447	ug/l	14.19	100.00		267.55	334.20	280.95
118 Sn # 3	3.456	3.456	ug/l	1.95	1800.00		17113.37	17156.65	16022.07
121 Sb # 3	0.6749	0.6749	ug/l	2.84	100.00		5567.83	5287.73	5231.07
137 Ba # 3	334.5	334.5	ug/l	0.96	1800.00		744288.00	729506.44	712733.44
202 Hg # 3	0.06668	0.06668	ug/l	12.29	5.00		130.33	134.00	109.67
205 Tl # 3	0.3468	0.3468	ug/l	6.18	20.00		5017.72	4537.55	4524.18
208 Pb # 3	44.37	44.37	ug/l	1.21	1800.00		761606.56	756510.44	738629.56

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	663161.13	0.47	762890.69	86.9	60 - 125.4		666211.94	660032.19	663239.25
45 Sc # 1	687834.38	0.90	620105.56	110.9	60 - 125.4		681346.75	693626.13	688530.19
45 Sc # 3	866313.19	1.30	771387.50	112.3	60 - 125.4		874932.06	870478.94	853528.44
74 Ge # 1	151665.95	0.76	164848.81	92.0	60 - 125.4		150350.27	152165.97	152481.61
74 Ge # 2	28309.84	1.47	33226.06	85.2	60 - 125.4		28061.64	28076.62	28791.28
74 Ge # 3	164713.55	1.46	178474.77	92.3	60 - 125.4		166979.61	164961.83	162199.20
89 Y # 3	1399440.10	0.86	1057065.90	132.4	60 - 125.4	IS I	1412354.80	1388390.00	1397575.80
115 In # 3	828006.00	1.95	917456.31	90.3	60 - 125.4		837683.38	836975.38	809359.19
159 Tb # 3	1101780.00	0.37	1264337.30	87.1	60 - 125.4		1106438.50	1098771.50	1100130.00
209 Bi # 3	586435.88	1.00	698508.81	84.0	60 - 125.4		593230.63	583004.25	583072.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\178SMPL.D\178SMPL.D#
Date Acquired:	Dec 22 2012 11:51 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-1-a SD
Misc Info:	3050 1/25
Vial Number:	2104
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.4895	0.2979	ug/l	9.12	100.00		1506.77	1366.76	1326.76
11 B # 3	9.27	1.854	ug/l	3.44	200.00		19007.98	19251.57	19201.65
23 Na # 1	63.05	12.61	ug/l	7.33	90000.00		343443.44	342870.81	337329.06
24 Mg # 1	14355	2871	ug/l	0.61	90000.00		12703031.00	12626780.00	12712010.00
27 Al # 1	23880	4776	ug/l	0.81	90000.00		22118626.00	21925324.00	22620862.00
39 K # 2	2648	529.6	ug/l	0.64	90000.00		239124.16	242229.08	243425.25
40 Ca # 1	44570	8914	ug/l	0.29	90000.00		90853696.00	89499344.00	90994688.00
47 Ti # 3	118.65	23.73	ug/l	13.92	1800.00		34880.25	28640.31	27156.76
51 V # 2	45.05	9.01	ug/l	0.19	1800.00		23238.69	23369.55	23305.47
52 Cr # 2	38.87	7.774	ug/l	0.10	1800.00		23136.55	23217.36	23249.36
55 Mn # 3	1638.5	327.7	ug/l	0.45	2700.00		6773470.50	6791101.50	6651563.00
56 Fe # 1	52850	10570	ug/l	1.57	90000.00		153353260.00	155755870.00	154506820.00
59 Co # 3	35.055	7.011	ug/l	0.61	1800.00		107569.84	107671.17	105198.10
60 Ni # 2	62.45	12.49	ug/l	0.56	1800.00		12754.43	12917.90	12785.12
63 Cu # 2	53.05	10.61	ug/l	0.84	1800.00		28470.56	28594.80	28214.14
66 Zn # 3	131.8	26.36	ug/l	0.88	1800.00		51560.63	50818.14	50089.28
75 As # 2	24.02	4.804	ug/l	1.62	1800.00		1285.39	1255.72	1290.06
78 Se # 1	0.6685	0.1337	ug/l	2.18	100.00		63.33	61.33	62.67
88 Sr # 3	169.7	33.94	ug/l	0.49	1800.00		782560.69	781885.31	775956.31
95 Mo # 3	0.6825	0.1365	ug/l	14.12	1800.00		1346.77	1370.10	1440.11
107 Ag # 3	-0.11405	-0.02281	ug/l	2.27	100.00		96.67	93.34	86.67
111 Cd # 3	0.11645	0.02329	ug/l	44.18	100.00		89.51	122.83	92.80
118 Sn # 3	2.993	0.5986	ug/l	1.46	1800.00		3387.15	3337.14	3370.48
121 Sb # 3	0.7785	0.1557	ug/l	7.11	100.00		1306.76	1253.42	1156.75
137 Ba # 3	271.7	54.34	ug/l	0.91	1800.00		126152.64	126344.34	126139.73
202 Hg # 3	0.12955	0.02591	ug/l	4.84	5.00		64.33	62.33	59.67
205 Tl # 3	0.22545	0.04509	ug/l	14.69	20.00		990.07	943.39	1106.75
208 Pb # 3	42.68	8.536	ug/l	0.68	1800.00		149585.78	148307.19	146206.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	737875.56	1.76	762890.69	96.7	60 - 125.4		728753.19	752744.19	732129.25
45 Sc # 1	630497.44	0.95	620105.56	101.7	60 - 125.4		631374.06	624105.63	636012.63
45 Sc # 3	837987.25	0.76	771387.50	108.6	60 - 125.4		835484.88	845184.25	833292.63
74 Ge # 1	158110.28	0.72	164848.81	95.9	60 - 125.4		157250.27	157672.97	159407.63
74 Ge # 2	29534.88	0.33	33226.06	88.9	60 - 125.4		29422.47	29582.73	29599.42
74 Ge # 3	176364.14	0.72	178474.77	98.8	60 - 125.4		177196.44	176986.25	174909.70
89 Y # 3	1143921.10	0.91	1057065.90	108.2	60 - 125.4		1147681.00	1151934.40	1132148.10
115 In # 3	881653.50	0.95	917456.31	96.1	60 - 125.4		886662.56	886346.63	871951.31
159 Tb # 3	1133691.50	0.72	1264337.30	89.7	60 - 125.4		1142509.60	1126367.80	1132197.30
209 Bi # 3	596280.25	0.66	698508.81	85.4	60 - 125.4		600788.13	594533.75	593518.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\179SMPL.D\179SMPL.D#
Date Acquired:	Dec 22 2012 11:57 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-1-a PDS
Misc Info:	3050 1/5
Vial Number:	2105
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	22.59	22.59	ug/l	1.78	100.00		78444.91	77651.23	76422.48
11 B # 3	49.67	49.67	ug/l	2.31	200.00		181093.09	179768.69	177843.36
23 Na # 1	1743	1743	ug/l	0.95	90000.00		12664516.00	12705286.00	12729358.00
24 Mg # 1	14570	14570	ug/l	1.34	90000.00		69622296.00	68562456.00	67956928.00
27 Al # 1	21360	21360	ug/l	1.33	90000.00		106398340.00	105515050.00	106465020.00
39 K # 2	4955	4955	ug/l	1.02	90000.00		1984062.90	1971096.90	1966492.30
40 Ca # 1	41820	41820	ug/l	0.57	90000.00		449645860.00	459363780.00	450800480.00
47 Ti # 3	121.9	121.9	ug/l	3.67	1800.00		154219.47	158319.27	145336.94
51 V # 2	67.81	67.81	ug/l	0.41	1800.00		158672.63	159258.41	159032.58
52 Cr # 2	61.22	61.22	ug/l	1.06	1800.00		169031.94	167139.64	168002.50
55 Mn # 3	1794	1794	ug/l	1.35	2700.00		34169468.00	33802968.00	32782146.00
56 Fe # 1	48740	48740	ug/l	0.48	90000.00		756639740.00	766993660.00	759244740.00
59 Co # 3	57.79	57.79	ug/l	1.21	1800.00		812965.19	805947.19	782692.31
60 Ni # 2	82.51	82.51	ug/l	0.93	1800.00		78712.56	78382.94	78108.30
63 Cu # 2	72.72	72.72	ug/l	1.17	1800.00		180920.06	179380.17	178771.13
66 Zn # 3	137.2	137.2	ug/l	0.69	1800.00		238549.94	236535.78	231831.97
75 As # 2	43.73	43.73	ug/l	1.02	1800.00		10678.92	10582.19	10600.87
78 Se # 1	19.37	19.37	ug/l	0.58	100.00		7086.26	7067.92	7033.57
88 Sr # 3	145	145	ug/l	0.89	1800.00		3988764.00	3910430.30	3915295.00
95 Mo # 3	23.45	23.45	ug/l	0.62	1800.00		71574.13	70308.76	70161.49
107 Ag # 3	16.06	16.06	ug/l	1.05	100.00		125543.41	122580.05	122021.77
111 Cd # 3	19.6	19.6	ug/l	2.57	100.00		32475.12	31981.10	30735.37
118 Sn # 3	23.63	23.63	ug/l	1.33	1800.00		112879.95	111788.68	109458.45
121 Sb # 3	15.14	15.14	ug/l	0.31	100.00		110895.67	109026.02	106797.35
137 Ba # 3	334.7	334.7	ug/l	0.85	1800.00		718118.50	723046.00	719594.94
202 Hg # 3	0.9342	0.9342	ug/l	1.74	5.00		1492.75	1425.74	1428.41
205 Tl # 3	4.124	4.124	ug/l	0.65	20.00		51794.02	50770.08	50060.97
208 Pb # 3	64.52	64.52	ug/l	0.27	1800.00		1090210.30	1071786.30	1055842.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	635455.75	3.05	762890.69	83.3	60 - 125.4		651613.56	640784.00	613969.63
45 Sc # 1	673616.69	0.84	620105.56	108.6	60 - 125.4		672546.25	679767.94	668536.00
45 Sc # 3	832240.88	1.34	771387.50	107.9	60 - 125.4		843640.63	831734.13	821347.81
74 Ge # 1	150502.22	0.50	164848.81	91.3	60 - 125.4		150055.03	151363.34	150088.28
74 Ge # 2	27372.72	0.55	33226.06	82.4	60 - 125.4		27201.82	27427.25	27489.08
74 Ge # 3	160690.05	0.88	178474.77	90.0	60 - 125.4		162155.31	160566.34	159348.47
89 Y # 3	1354266.00	1.68	1057065.90	128.1	60 - 125.4	IS I	1377935.00	1352216.80	1332646.50
115 In # 3	817803.75	0.53	917456.31	89.1	60 - 125.4		822716.50	814430.56	816264.13
159 Tb # 3	1096640.80	1.35	1264337.30	86.7	60 - 125.4		1108812.40	1100918.80	1080190.90
209 Bi # 3	575288.69	1.47	698508.81	82.4	60 - 125.4		583118.56	576390.31	566357.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures	0 :Max. Number of Failures Allowed
1 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\180SMPL.D\180SMPL.D#
Date Acquired:	Dec 22 2012 12:04 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-1-b ms
Misc Info:	3050 1/5
Vial Number:	2106
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	12.25	12.25	ug/l	1.52	100.00		42725.66	41489.36	40860.73
11 B # 3	48	48	ug/l	1.21	200.00		175956.33	169579.38	170724.70
23 Na # 1	919.1	919.1	ug/l	1.74	90000.00		6771028.00	6612937.50	6695692.50
24 Mg # 1	11630	11630	ug/l	0.91	90000.00		53932548.00	54272524.00	53104804.00
27 Al # 1	21520	21520	ug/l	1.12	90000.00		104480190.00	104292170.00	105825070.00
39 K # 2	3662	3662	ug/l	0.45	90000.00		1450611.40	1470658.80	1447867.00
40 Ca # 1	29710	29710	ug/l	0.58	90000.00		316448860.00	315846660.00	314681020.00
47 Ti # 3	167	167	ug/l	1.27	1800.00		206753.14	206788.41	206619.20
51 V # 2	67.84	67.84	ug/l	0.84	1800.00		158853.55	158730.30	157429.77
52 Cr # 2	62.29	62.29	ug/l	0.70	1800.00		170511.34	170601.27	169588.45
55 Mn # 3	1713	1713	ug/l	0.06	2700.00		32699786.00	31966702.00	32300522.00
56 Fe # 1	45800	45800	ug/l	0.86	90000.00		704804480.00	704382530.00	693998720.00
59 Co # 3	49.5	49.5	ug/l	2.03	1800.00		692334.63	699126.75	682053.00
60 Ni # 2	73.04	73.04	ug/l	0.68	1800.00		69198.56	69407.48	68710.56
63 Cu # 2	52.78	52.78	ug/l	0.65	1800.00		130023.29	130235.28	129388.68
66 Zn # 3	144.6	144.6	ug/l	1.17	1800.00		253026.03	250337.28	247426.38
75 As # 2	39.84	39.84	ug/l	0.32	1800.00		9607.24	9693.30	9602.24
78 Se # 1	19.49	19.49	ug/l	0.98	100.00		7141.62	7085.26	7085.93
88 Sr # 3	91.05	91.05	ug/l	0.56	1800.00		2593226.30	2504193.30	2518830.50
95 Mo # 3	23.02	23.02	ug/l	1.60	1800.00		70978.18	69756.33	69193.88
107 Ag # 3	9.839	9.839	ug/l	1.39	100.00		77252.79	75976.77	75678.61
111 Cd # 3	9.827	9.827	ug/l	2.10	100.00		16416.31	16026.29	15766.16
118 Sn # 3	23.73	23.73	ug/l	2.00	1800.00		114206.77	112909.50	111086.80
121 Sb # 3	7.636	7.636	ug/l	2.12	100.00		57180.74	57110.29	55353.91
137 Ba # 3	353.4	353.4	ug/l	1.61	1800.00		775398.31	765513.50	759367.06
202 Hg # 3	1.047	1.047	ug/l	2.54	5.00		1654.43	1606.76	1575.76
205 Tl # 3	7.711	7.711	ug/l	1.35	20.00		97635.76	95810.47	94800.01
208 Pb # 3	56.57	56.57	ug/l	4.84	1800.00		968593.19	948398.81	888464.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	628601.19	0.85	762890.69	82.4	60 - 125.4		634744.44	625338.81	625720.38
45 Sc # 1	660386.63	0.51	620105.56	106.5	60 - 125.4		657902.75	664208.31	659048.88
45 Sc # 3	823467.25	1.28	771387.50	106.8	60 - 125.4		835575.38	816262.38	818563.94
74 Ge # 1	150466.52	0.58	164848.81	91.3	60 - 125.4		149703.14	151422.78	150273.59
74 Ge # 2	27252.47	0.68	33226.06	82.0	60 - 125.4		27078.31	27445.51	27233.57
74 Ge # 3	161988.59	1.18	178474.77	90.8	60 - 125.4		163922.92	160091.47	161951.41
89 Y # 3	1390061.10	1.43	1057065.90	131.5	60 - 125.4	IS I	1411485.10	1372341.40	1386356.90
115 In # 3	824575.81	1.69	917456.31	89.9	60 - 125.4		836173.06	809119.44	828435.00
159 Tb # 3	1112176.50	0.87	1264337.30	88.0	60 - 125.4		1120439.10	1101496.30	1114593.90
209 Bi # 3	572075.38	1.22	698508.81	81.9	60 - 125.4		576664.19	564022.94	575539.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\181SMPL.D\181SMPL.D#
Date Acquired:	Dec 22 2012 12:11 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-1-c msd
Misc Info:	3050 1/5
Vial Number:	2107
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	12.4	12.4	ug/l	2.10	100.00		43621.24	42324.39	42381.28
11 B # 3	46.14	46.14	ug/l	2.01	200.00		171205.70	166785.58	166474.53
23 Na # 1	878.2	878.2	ug/l	0.84	90000.00		6568800.50	6605219.50	6713510.50
24 Mg # 1	6319	6319	ug/l	0.71	90000.00		29821636.00	30343186.00	30548270.00
27 Al # 1	21120	21120	ug/l	0.23	90000.00		105500900.00	106908510.00	106941400.00
39 K # 2	3591	3591	ug/l	1.02	90000.00		1439303.90	1418644.60	1463626.40
40 Ca # 1	11240	11240	ug/l	0.64	90000.00		123608050.00	123148100.00	124072330.00
47 Ti # 3	134.7	134.7	ug/l	1.90	1800.00		172720.08	169879.27	173718.23
51 V # 2	73.2	73.2	ug/l	1.02	1800.00		172285.11	172900.98	171580.98
52 Cr # 2	61.91	61.91	ug/l	0.82	1800.00		170643.42	170910.77	170322.88
55 Mn # 3	1582	1582	ug/l	0.49	2700.00		30771710.00	29985270.00	29826016.00
56 Fe # 1	50790	50790	ug/l	1.32	90000.00		811293760.00	798712380.00	802852540.00
59 Co # 3	42.5	42.5	ug/l	1.27	1800.00		601403.88	596267.25	603110.13
60 Ni # 2	78.93	78.93	ug/l	0.94	1800.00		75410.90	75431.06	75061.92
63 Cu # 2	70.5	70.5	ug/l	1.47	1800.00		176074.92	175333.38	173312.50
66 Zn # 3	133.1	133.1	ug/l	0.30	1800.00		235838.61	232834.69	230546.17
75 As # 2	50.75	50.75	ug/l	0.96	1800.00		12292.41	12452.55	12365.81
78 Se # 1	19.03	19.03	ug/l	1.23	100.00		6978.54	7105.60	7057.24
88 Sr # 3	66.44	66.44	ug/l	1.22	1800.00		1855690.10	1866937.00	1816251.40
95 Mo # 3	23.65	23.65	ug/l	0.62	1800.00		73195.51	71932.43	71684.81
107 Ag # 3	9.976	9.976	ug/l	0.80	100.00		79233.38	77809.16	76401.97
111 Cd # 3	9.949	9.949	ug/l	1.92	100.00		16382.05	16759.53	15948.84
118 Sn # 3	23.6	23.6	ug/l	0.51	1800.00		114528.33	112712.52	111201.08
121 Sb # 3	7.827	7.827	ug/l	1.44	100.00		58685.95	57829.54	56722.21
137 Ba # 3	339.6	339.6	ug/l	1.48	1800.00		751054.25	730697.50	741583.31
202 Hg # 3	1.012	1.012	ug/l	1.25	5.00		1565.42	1590.09	1558.42
205 Tl # 3	7.77	7.77	ug/l	0.54	20.00		97736.39	96065.35	94364.77
208 Pb # 3	63.97	63.97	ug/l	0.34	1800.00		1070737.90	1067605.60	1059567.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	637616.06	1.78	762890.69	83.6	60 - 125.4		641662.31	646385.63	624800.25
45 Sc # 1	683228.69	0.55	620105.56	110.2	60 - 125.4		678912.06	685075.13	685698.94
45 Sc # 3	849688.50	1.60	771387.50	110.2	60 - 125.4		865178.31	844379.06	839508.06
74 Ge # 1	152854.64	0.38	164848.81	92.7	60 - 125.4		153156.14	152177.91	153229.88
74 Ge # 2	27482.85	0.67	33226.06	82.7	60 - 125.4		27378.78	27375.45	27694.33
74 Ge # 3	163824.97	1.18	178474.77	91.8	60 - 125.4		166022.61	163088.38	162363.94
89 Y # 3	1384923.40	0.28	1057065.90	131.0	60 - 125.4	IS I	1388331.00	1385723.00	1380716.10
115 In # 3	829295.19	1.07	917456.31	90.4	60 - 125.4		837004.06	831258.19	819623.31
159 Tb # 3	1103419.50	1.33	1264337.30	87.3	60 - 125.4		1115876.80	1107062.50	1087319.40
209 Bi # 3	576614.81	0.81	698508.81	82.5	60 - 125.4		581464.13	576249.50	572131.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\182SMPL.D\182SMPL.D#
Date Acquired:	Dec 22 2012 12:17 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-2-a
Misc Info:	3050 1/5
Vial Number:	2108
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.346	1.346	ug/l	4.17	100.00		4250.67	4300.68	3943.93
11 B # 3	16.19	16.19	ug/l	1.55	200.00		57279.65	57541.18	55607.60
23 Na # 1	153	153	ug/l	3.77	90000.00		1261260.00	1247535.10	1241580.10
24 Mg # 1	20880	20880	ug/l	3.30	90000.00		90372920.00	90819192.00	89345912.00
27 Al # 1	19470	19470	ug/l	3.48	90000.00		88798264.00	89389416.00	87605368.00
39 K # 2	3322	3322	ug/l	1.82	90000.00		1281504.10	1296137.90	1269686.50
40 Ca # 1	122100	122100	ug/l	3.11	90000.00	Fail	1221062100.00	1211987800.00	1202055800.00
47 Ti # 3	83.64	83.64	ug/l	4.82	1800.00		95732.45	91275.63	88790.32
51 V # 2	38.22	38.22	ug/l	1.27	1800.00		86861.24	86717.88	86712.45
52 Cr # 2	33.17	33.17	ug/l	1.29	1800.00		88199.90	87669.91	88129.59
55 Mn # 3	1276	1276	ug/l	1.63	2700.00		21915668.00	21698320.00	21341170.00
56 Fe # 1	43160	43160	ug/l	3.49	90000.00		621125890.00	620269630.00	609416000.00
59 Co # 3	49.94	49.94	ug/l	1.98	1800.00		637247.81	627585.13	616386.94
60 Ni # 2	52.3	52.3	ug/l	1.49	1800.00		48100.95	48097.57	47786.67
63 Cu # 2	41.12	41.12	ug/l	1.57	1800.00		98715.10	97715.77	98110.91
66 Zn # 3	127.4	127.4	ug/l	2.39	1800.00		202244.69	198949.56	194030.13
75 As # 2	21.1	21.1	ug/l	0.80	1800.00		4932.44	4969.79	4969.12
78 Se # 1	0.6114	0.6114	ug/l	5.31	100.00		220.00	223.00	209.67
88 Sr # 3	297.7	297.7	ug/l	1.87	1800.00		7194284.00	7137690.00	6990063.00
95 Mo # 3	1.729	1.729	ug/l	2.75	1800.00		5711.22	5474.43	5494.45
107 Ag # 3	0.1202	0.1202	ug/l	9.92	100.00		1113.41	1156.75	1000.06
111 Cd # 3	0.1946	0.1946	ug/l	8.82	100.00		351.24	361.32	314.65
118 Sn # 3	3.969	3.969	ug/l	2.21	1800.00		17844.28	17503.79	17146.74
121 Sb # 3	0.7619	0.7619	ug/l	1.49	100.00		5157.72	5084.34	5094.34
137 Ba # 3	318.7	318.7	ug/l	1.84	1800.00		643507.19	632879.94	622441.06
202 Hg # 3	0.1106	0.1106	ug/l	1.77	5.00		174.33	175.33	168.33
205 Tl # 3	0.3303	0.3303	ug/l	1.39	20.00		4210.75	4180.73	4110.72
208 Pb # 3	54.02	54.02	ug/l	1.53	1800.00		833619.81	814901.31	807447.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	551908.56	0.91	762890.69	72.3	60 - 125.4		550075.44	557608.25	548042.06
45 Sc # 1	616986.44	2.51	620105.56	99.5	60 - 125.4		611041.69	605382.69	634535.00
45 Sc # 3	730142.88	1.03	771387.50	94.7	60 - 125.4		723644.06	728365.19	738419.25
74 Ge # 1	140419.03	2.04	164848.81	85.2	60 - 125.4		138128.64	139501.59	143626.86
74 Ge # 2	26434.98	1.17	33226.06	79.6	60 - 125.4		26110.01	26472.24	26722.67
74 Ge # 3	145654.38	0.37	178474.77	81.6	60 - 125.4		145033.45	146006.05	145923.63
89 Y # 3	1191198.60	0.63	1057065.90	112.7	60 - 125.4		1182990.60	1197584.90	1193020.40
115 In # 3	754638.81	0.33	917456.31	82.3	60 - 125.4		754730.81	752086.63	757098.81
159 Tb # 3	1022615.10	0.13	1264337.30	80.9	60 - 125.4		1023479.60	1021037.60	1023328.30
209 Bi # 3	524240.63	0.66	698508.81	75.1	60 - 125.4		524657.56	527455.38	520608.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\183SMPL.D\183SMPL.D#
Date Acquired:	Dec 22 2012 12:24 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-3-a
Misc Info:	3050 1/5
Vial Number:	2109
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	2.003	2.003	ug/l	3.42	100.00		6574.82	6808.24	6581.51
11 B # 3	6.838	6.838	ug/l	1.58	200.00		32646.02	31483.82	30839.44
23 Na # 1	73.16	73.16	ug/l	3.27	90000.00		797750.63	788818.63	780768.19
24 Mg # 1	6396	6396	ug/l	1.03	90000.00		30021646.00	29571052.00	30113616.00
27 Al # 1	24050	24050	ug/l	2.05	90000.00		118253800.00	119852400.00	117249920.00
39 K # 2	2706	2706	ug/l	0.79	90000.00		1085855.00	1075435.90	1068883.30
40 Ca # 1	1982	1982	ug/l	1.01	90000.00		21144816.00	21434310.00	21382640.00
47 Ti # 3	69.53	69.53	ug/l	0.38	1800.00		87282.45	84889.16	84374.61
51 V # 2	45.07	45.07	ug/l	0.40	1800.00		104663.38	105871.31	104696.93
52 Cr # 2	44.25	44.25	ug/l	0.32	1800.00		121025.19	120914.95	120023.25
55 Mn # 3	2031	2031	ug/l	0.94	2700.00		38323700.00	38110568.00	37346228.00
56 Fe # 1	57610	57610	ug/l	0.62	90000.00		888341950.00	889610940.00	896563390.00
59 Co # 3	65.5	65.5	ug/l	1.59	1800.00		919378.13	912180.38	883468.31
60 Ni # 2	79.31	79.31	ug/l	0.98	1800.00		75624.59	74631.37	74194.65
63 Cu # 2	63.88	63.88	ug/l	0.57	1800.00		157375.98	156206.86	156559.13
66 Zn # 3	118.6	118.6	ug/l	1.32	1800.00		207387.16	203567.16	199114.86
75 As # 2	20.6	20.6	ug/l	0.57	1800.00		4968.45	4965.12	4992.79
78 Se # 1	0.5181	0.5181	ug/l	1.03	100.00		202.34	200.00	201.67
88 Sr # 3	17.38	17.38	ug/l	0.70	1800.00		484626.13	482011.25	467069.25
95 Mo # 3	1.117	1.117	ug/l	0.73	1800.00		4190.69	4117.34	4107.34
107 Ag # 3	0.01171	0.01171	ug/l	39.39	100.00		323.35	330.01	380.02
111 Cd # 3	0.08204	0.08204	ug/l	23.03	100.00		205.12	151.82	201.82
118 Sn # 3	3.149	3.149	ug/l	1.03	1800.00		14984.34	14767.50	14860.89
121 Sb # 3	1.008	1.008	ug/l	1.62	100.00		7792.22	7728.90	7375.34
137 Ba # 3	343.7	343.7	ug/l	0.23	1800.00		733545.31	730373.44	720038.81
202 Hg # 3	0.05713	0.05713	ug/l	6.40	5.00		103.00	112.33	104.67
205 Tl # 3	0.2787	0.2787	ug/l	1.41	20.00		3847.29	3767.25	3827.31
208 Pb # 3	43.49	43.49	ug/l	0.37	1800.00		724496.75	717193.50	708788.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	600337.75	1.98	762890.69	78.7	60 - 125.4		613958.75	594785.69	592268.88
45 Sc # 1	667597.50	1.12	620105.56	107.7	60 - 125.4		662343.38	664259.25	676189.81
45 Sc # 3	816078.50	1.57	771387.50	105.8	60 - 125.4		830889.56	808648.13	808697.69
74 Ge # 1	151985.64	0.66	164848.81	92.2	60 - 125.4		151040.55	151888.84	153027.53
74 Ge # 2	27174.53	0.29	33226.06	81.8	60 - 125.4		27160.04	27260.22	27103.32
74 Ge # 3	160283.42	0.89	178474.77	89.8	60 - 125.4		161918.16	159591.47	159340.63
89 Y # 3	1364347.80	1.58	1057065.90	129.1	60 - 125.4	IS I	1384971.40	1365984.00	1342088.10
115 In # 3	804939.63	1.10	917456.31	87.7	60 - 125.4		813160.63	806157.44	795500.81
159 Tb # 3	1089959.60	0.17	1264337.30	86.2	60 - 125.4		1089059.90	1092131.50	1088687.80
209 Bi # 3	570049.38	1.02	698508.81	81.6	60 - 125.4		576577.63	568090.25	565480.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\184SMPL.D\184SMPL.D#
Date Acquired:	Dec 22 2012 12:31 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	CK
Misc Info:	
Vial Number:	2512
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04652	-0.04652	ug/l	7.94	100.00		43.34	16.67	26.67
11 B # 3	0.3295	0.3295	ug/l	38.79	200.00		12291.56	11881.25	12488.39
23 Na # 1	130.4	130.4	ug/l	6.42	90000.00		1090095.90	1040868.00	990452.88
24 Mg # 1	23.8	23.8	ug/l	4.57	90000.00		107432.21	99746.90	99760.15
27 Al # 1	16.3	16.3	ug/l	6.23	90000.00		80344.69	74835.70	71915.79
39 K # 2	8.264	8.264	ug/l	18.50	90000.00		19655.72	18894.83	18854.73
40 Ca # 1	31.58	31.58	ug/l	6.41	90000.00		348631.41	326354.63	311854.25
47 Ti # 3	-0.2018	-0.2018	ug/l	2.93	1800.00		150.01	143.34	133.34
51 V # 2	0.1389	0.1389	ug/l	7.89	1800.00		952.70	948.03	923.37
52 Cr # 2	0.03815	0.03815	ug/l	14.19	1800.00		297.34	329.34	310.67
55 Mn # 3	0.3784	0.3784	ug/l	16.20	2700.00		18187.51	16575.72	15741.57
56 Fe # 1	58.45	58.45	ug/l	4.29	90000.00		836898.75	797290.38	771807.81
59 Co # 3	0.0115	0.0115	ug/l	6.21	1800.00		433.35	413.35	423.35
60 Ni # 2	0.08651	0.08651	ug/l	9.23	1800.00		112.00	101.33	98.67
63 Cu # 2	0.06324	0.06324	ug/l	3.70	1800.00		318.67	315.34	314.01
66 Zn # 3	-0.3141	-0.3141	ug/l	7.41	1800.00		806.71	820.05	893.39
75 As # 2	0.1077	0.1077	ug/l	3.70	1800.00		47.67	49.67	48.67
78 Se # 1	0.01905	0.01905	ug/l	22.31	100.00		19.67	18.67	16.67
88 Sr # 3	0.02371	0.02371	ug/l	24.62	1800.00		2800.33	2716.99	2550.29
95 Mo # 3	-0.2637	-0.2637	ug/l	1.61	1800.00		90.00	106.67	116.67
107 Ag # 3	-0.02467	-0.02467	ug/l	2.22	100.00		80.00	73.34	83.34
111 Cd # 3	-0.01581	-0.01581	ug/l	56.14	100.00		39.97	46.63	16.62
118 Sn # 3	0.03189	0.03189	ug/l	23.54	1800.00		543.36	513.36	463.36
121 Sb # 3	0.003769	0.003769	ug/l	129.42	100.00		290.01	330.01	280.01
137 Ba # 3	0.06021	0.06021	ug/l	18.32	1800.00		293.35	326.68	280.01
202 Hg # 3	0.005727	0.005727	ug/l	41.80	5.00		30.33	35.33	27.33
205 Tl # 3	-0.01866	-0.01866	ug/l	4.57	20.00		200.01	223.34	206.68
208 Pb # 3	-0.01307	-0.01307	ug/l	17.91	1800.00		910.04	913.37	830.04

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	687679.44	1.36	762890.69	90.1	60 - 125.4		684062.63	698284.00	680691.56
45 Sc # 1	581789.75	0.35	620105.56	93.8	60 - 125.4		581865.69	579729.00	583774.50
45 Sc # 3	792268.25	1.27	771387.50	102.7	60 - 125.4		803855.06	786443.31	786506.31
74 Ge # 1	156050.39	0.43	164848.81	94.7	60 - 125.4		155463.19	155908.08	156779.89
74 Ge # 2	29576.05	1.29	33226.06	89.0	60 - 125.4		29270.49	29455.85	30001.80
74 Ge # 3	181704.94	0.32	178474.77	101.8	60 - 125.4		181032.66	182017.39	182064.73
89 Y # 3	1077659.80	0.49	1057065.90	101.9	60 - 125.4		1082224.60	1071864.10	1078890.80
115 In # 3	905167.50	0.92	917456.31	98.7	60 - 125.4		913265.63	896545.31	905691.63
159 Tb # 3	1148506.10	0.68	1264337.30	90.8	60 - 125.4		1147573.90	1156723.50	1141221.00
209 Bi # 3	613499.44	0.68	698508.81	87.8	60 - 125.4		616433.06	615314.13	608751.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\185_CCV.D\185_CCV.D#
Date Acquired: Dec 22 2012 12:37 pm
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	48.60 ug/l	2.60	50.00	89.6 - 110	
11 B	93.83 ug/l	2.66	100.00	89.6 - 110	
23 Na	4467.00 ug/l	1.52	5000.00	89.6 - 110	Fail
24 Mg	4521.00 ug/l	1.91	5000.00	89.6 - 110	
27 Al	446.50 ug/l	2.43	500.00	89.6 - 110	Fail
39 K	4929.00 ug/l	0.53	5000.00	89.6 - 110	
40 Ca	4798.00 ug/l	1.95	5000.00	89.6 - 110	
47 Ti	48.83 ug/l	2.28	50.00	89.6 - 110	
51 V	50.11 ug/l	0.24	50.00	89.6 - 110	
52 Cr	50.08 ug/l	0.37	50.00	89.6 - 110	
55 Mn	503.00 ug/l	1.00	500.00	89.6 - 110	
56 Fe	5000.00 ug/l	1.18	5000.00	89.6 - 110	
59 Co	51.19 ug/l	0.91	50.00	89.6 - 110	
60 Ni	51.36 ug/l	0.73	50.00	89.6 - 110	
63 Cu	51.36 ug/l	0.75	50.00	89.6 - 110	
66 Zn	48.31 ug/l	1.49	50.00	89.6 - 110	
75 As	48.68 ug/l	0.12	50.00	89.6 - 110	
78 Se	48.37 ug/l	0.46	50.00	89.6 - 110	
88 Sr	50.16 ug/l	1.88	50.00	89.6 - 110	
95 Mo	49.69 ug/l	0.27	50.00	89.6 - 110	
107 Ag	47.95 ug/l	0.65	50.00	89.6 - 110	
111 Cd	46.89 ug/l	0.75	50.00	89.6 - 110	
118 Sn	47.31 ug/l	0.26	50.00	89.6 - 110	
121 Sb	45.13 ug/l	0.77	50.00	89.6 - 110	
137 Ba	48.19 ug/l	1.07	50.00	89.6 - 110	
202 Hg	2.39 ug/l	2.73	2.50	89.6 - 110	
205 Tl	8.98 ug/l	0.42	10.00	89.6 - 110	
208 Pb	46.38 ug/l	1.49	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	736704.31	2.09	762890.69	96.6	59.6 - 125	
45 Sc	608944.19	1.04	620105.56	98.2	59.6 - 125	
45 Sc	809732.38	1.39	771387.50	105.0	59.6 - 125	
74 Ge	159304.19	0.28	164848.81	96.6	59.6 - 125	
74 Ge	30221.13	0.62	33226.06	91.0	59.6 - 125	
74 Ge	176142.48	0.27	178474.77	98.7	59.6 - 125	
89 Y	1073962.80	1.12	1057065.90	101.6	59.6 - 125	
115 In	890496.63	0.41	917456.31	97.1	59.6 - 125	
159 Tb	1154524.50	0.30	1264337.30	91.3	59.6 - 125	
209 Bi	591881.63	1.32	698508.81	84.7	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\186_CCB.D\186_CCB.D#
Date Acquired: Dec 22 2012 12:44 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.03 ug/l	30.85	0.05	
11 B	0.91 ug/l	2.93	10.00	
23 Na	-6.31 ug/l	26.07	25.00	
24 Mg	1.91 ug/l	10.15	25.00	
27 Al	-0.16 ug/l	207.51	5.00	
39 K	5.62 ug/l	8.46	25.00	
40 Ca	3.13 ug/l	10.80	25.00	
47 Ti	-0.26 ug/l	8.35	0.50	
51 V	-0.05 ug/l	12.00	0.50	
52 Cr	0.01 ug/l	47.27	0.50	
55 Mn	-0.05 ug/l	55.29	0.50	
56 Fe	3.45 ug/l	6.93	10.00	
59 Co	0.01 ug/l	20.04	0.05	
60 Ni	0.02 ug/l	9.75	0.50	
63 Cu	0.01 ug/l	27.03	0.50	
66 Zn	-0.47 ug/l	5.61	2.00	
75 As	0.03 ug/l	51.40	0.25	
78 Se	0.05 ug/l	10.46	0.25	
88 Sr	-0.07 ug/l	3.51	0.10	
95 Mo	-0.15 ug/l	7.60	0.50	
107 Ag	-0.01 ug/l	52.10	0.10	
111 Cd	0.00 ug/l	412.31	0.05	
118 Sn	0.02 ug/l	57.25	0.50	
121 Sb	0.30 ug/l	7.92	0.50	
137 Ba	-0.03 ug/l	28.91	0.50	
202 Hg	0.03 ug/l	5.21	0.08	
205 Tl	-0.02 ug/l	10.39	0.10	
208 Pb	-0.02 ug/l	4.09	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	762522.25	1.46	762890.69	100.0	59.6 - 125	
45 Sc	624916.50	0.87	620105.56	100.8	59.6 - 125	
45 Sc	850226.00	1.78	771387.50	110.2	59.6 - 125	
74 Ge	163524.42	0.08	164848.81	99.2	59.6 - 125	
74 Ge	31269.83	1.18	33226.06	94.1	59.6 - 125	
74 Ge	185786.03	0.49	178474.77	104.1	59.6 - 125	
89 Y	1112556.00	0.43	1057065.90	105.2	59.6 - 125	
115 In	919276.75	0.69	917456.31	100.2	59.6 - 125	
159 Tb	1166873.90	0.75	1264337.30	92.3	59.6 - 125	
209 Bi	609988.50	1.30	698508.81	87.3	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\187SMPL.D\187SMPL.D#
Date Acquired:	Dec 22 2012 12:51 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-4-a
Misc Info:	3050 1/5
Vial Number:	2110
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	2.282	2.282	ug/l	0.87	100.00		8092.17	8068.85	8018.83
11	B	# 3	7.068	7.068	ug/l	1.46	200.00		35381.75	34008.99	34252.95
23	Na	# 1	79.82	79.82	ug/l	4.13	90000.00		909376.00	923822.19	886644.69
24	Mg	# 1	4830	4830	ug/l	3.32	90000.00		24569514.00	24611508.00	24244048.00
27	Al	# 1	26700	26700	ug/l	3.29	90000.00		142696110.00	143114900.00	141742510.00
39	K	# 2	2989	2989	ug/l	0.84	90000.00		1225324.00	1245053.40	1229901.90
40	Ca	# 1	3827	3827	ug/l	3.80	90000.00		44642820.00	44432992.00	44681276.00
47	Ti	# 3	71.13	71.13	ug/l	1.74	1800.00		94508.38	92911.16	89983.37
51	V	# 2	57.32	57.32	ug/l	0.80	1800.00		139037.70	139244.14	137596.23
52	Cr	# 2	49.8	49.8	ug/l	0.68	1800.00		141692.80	140987.30	140275.48
55	Mn	# 3	1157	1157	ug/l	1.15	2700.00		22492960.00	22021100.00	21959084.00
56	Fe	# 1	66570	66570	ug/l	3.82	90000.00		1121571600.00	1113574400.00	1113650200.00
59	Co	# 3	46.82	46.82	ug/l	1.20	1800.00		674966.94	658477.63	657833.94
60	Ni	# 2	73.25	73.25	ug/l	0.74	1800.00		71847.49	72150.85	71283.67
63	Cu	# 2	77.71	77.71	ug/l	0.90	1800.00		199529.14	197656.94	196678.31
66	Zn	# 3	145.6	145.6	ug/l	0.10	1800.00		260942.67	256457.31	249977.52
75	As	# 2	35.88	35.88	ug/l	1.12	1800.00		8980.54	9080.93	8897.50
78	Se	# 1	1.176	1.176	ug/l	2.55	100.00		443.01	460.01	465.68
88	Sr	# 3	22.39	22.39	ug/l	0.77	1800.00		607867.75	605106.56	589706.06
95	Mo	# 3	2.394	2.394	ug/l	3.26	1800.00		8079.00	8249.08	7812.16
107	Ag	# 3	0.06405	0.06405	ug/l	8.73	100.00		813.38	726.71	726.70
111	Cd	# 3	0.1314	0.1314	ug/l	7.60	100.00		267.02	286.96	257.12
118	Sn	# 3	2.946	2.946	ug/l	2.70	1800.00		14630.73	14320.43	13743.20
121	Sb	# 3	0.8244	0.8244	ug/l	4.69	100.00		6398.17	6311.49	5787.95
137	Ba	# 3	186.8	186.8	ug/l	1.12	1800.00		412179.22	403030.66	397620.94
202	Hg	# 3	0.06739	0.06739	ug/l	3.98	5.00		121.33	127.00	126.67
205	Tl	# 3	0.2925	0.2925	ug/l	2.35	20.00		4027.35	4024.02	4060.71
208	Pb	# 3	55.6	55.6	ug/l	1.13	1800.00		956854.38	936196.44	917955.63

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	640223.44	1.10	762890.69	83.9	60 - 125.4		648328.94	635633.31	636708.00
45	Sc	# 1	724131.00	3.58	620105.56	116.8	60 - 125.4		703690.81	753296.63	715405.69
45	Sc	# 3	862639.13	1.10	771387.50	111.8	60 - 125.4		873615.94	857615.06	856686.38
74	Ge	# 1	156480.06	3.27	164848.81	94.9	60 - 125.4		151662.06	161863.95	155914.19
74	Ge	# 2	28219.74	0.17	33226.06	84.9	60 - 125.4		28173.53	28215.24	28270.44
74	Ge	# 3	164467.61	2.05	178474.77	92.2	60 - 125.4		167604.42	164905.69	160892.77
89	Y	# 3	1333365.80	1.04	1057065.90	126.1	60 - 125.4	IS I	1337870.30	1344428.40	1317798.50
115	In	# 3	822007.88	0.90	917456.31	89.6	60 - 125.4		830509.13	816772.81	818741.56
159	Tb	# 3	1105452.60	1.82	1264337.30	87.4	60 - 125.4		1092306.10	1128633.10	1095418.50
209	Bi	# 3	583060.75	1.14	698508.81	83.5	60 - 125.4		587791.44	585905.13	575485.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\188SMPL.D\188SMPL.D#
Date Acquired:	Dec 22 2012 12:58 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-5-a
Misc Info:	3050 1/5
Vial Number:	2111
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.865	1.865	ug/l	2.52	100.00		6801.56	6811.61	6501.46
11 B # 3	8.908	8.908	ug/l	1.13	200.00		42244.58	41105.05	40781.20
23 Na # 1	67.02	67.02	ug/l	5.20	90000.00		729270.50	729560.19	769723.13
24 Mg # 1	3180	3180	ug/l	0.39	90000.00		14806830.00	14852943.00	14777208.00
27 Al # 1	18710	18710	ug/l	0.61	90000.00		92439808.00	91958472.00	90986984.00
39 K # 2	2793	2793	ug/l	0.83	90000.00		1121057.80	1138733.60	1136941.50
40 Ca # 1	8562	8562	ug/l	1.24	90000.00		90673768.00	92488600.00	91726664.00
47 Ti # 3	145.8	145.8	ug/l	2.99	1800.00		185746.64	183596.50	170623.08
51 V # 2	45.74	45.74	ug/l	0.42	1800.00		108754.25	108376.48	108889.57
52 Cr # 2	31.11	31.11	ug/l	0.67	1800.00		86765.70	86269.15	86451.19
55 Mn # 3	1100	1100	ug/l	1.67	2700.00		21711292.00	20998780.00	20542674.00
56 Fe # 1	41140	41140	ug/l	1.56	90000.00		624706750.00	637785410.00	639699140.00
59 Co # 3	32.75	32.75	ug/l	0.99	1800.00		475462.38	462667.50	456068.00
60 Ni # 2	41.33	41.33	ug/l	0.83	1800.00		39998.25	39431.55	39804.47
63 Cu # 2	44.85	44.85	ug/l	0.67	1800.00		112396.23	112065.72	112046.94
66 Zn # 3	157.5	157.5	ug/l	0.84	1800.00		282131.84	276641.31	271636.44
75 As # 2	24.8	24.8	ug/l	1.48	1800.00		6112.18	6152.20	6039.49
78 Se # 1	0.986	0.986	ug/l	2.21	100.00		372.34	374.67	363.01
88 Sr # 3	59.17	59.17	ug/l	0.86	1800.00		1668797.60	1635145.40	1637452.50
95 Mo # 3	2.448	2.448	ug/l	2.13	1800.00		8319.15	8545.90	8119.04
107 Ag # 3	0.04338	0.04338	ug/l	7.51	100.00		580.03	616.70	616.70
111 Cd # 3	0.3137	0.3137	ug/l	3.37	100.00		596.95	560.20	567.03
118 Sn # 3	11.36	11.36	ug/l	1.01	1800.00		55782.08	54540.96	53979.02
121 Sb # 3	0.8709	0.8709	ug/l	0.99	100.00		6878.43	6725.06	6658.29
137 Ba # 3	284.9	284.9	ug/l	1.14	1800.00		637997.38	622330.19	615839.19
202 Hg # 3	0.152	0.152	ug/l	2.83	5.00		262.67	262.34	249.34
205 Tl # 3	0.3748	0.3748	ug/l	5.02	20.00		4817.63	5137.74	5187.78
208 Pb # 3	76.23	76.23	ug/l	1.40	1800.00		1320094.40	1291334.10	1270217.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	648129.44	1.14	762890.69	85.0	60 - 125.4		656618.38	643104.44	644665.50
45 Sc # 1	664955.88	0.28	620105.56	107.2	60 - 125.4		667088.25	664028.69	663750.81
45 Sc # 3	820766.19	1.69	771387.50	106.4	60 - 125.4		833736.94	822485.38	806076.25
74 Ge # 1	150643.53	0.60	164848.81	91.4	60 - 125.4		149734.92	150658.47	151537.19
74 Ge # 2	27693.24	0.56	33226.06	83.3	60 - 125.4		27605.83	27600.89	27873.00
74 Ge # 3	164545.66	1.14	178474.77	92.2	60 - 125.4		166643.66	163975.44	163017.86
89 Y # 3	1387085.10	0.93	1057065.90	131.2	60 - 125.4	IS I	1397705.60	1390820.80	1372729.00
115 In # 3	833881.00	1.03	917456.31	90.9	60 - 125.4		840036.56	837575.38	824031.13
159 Tb # 3	1104565.50	0.85	1264337.30	87.4	60 - 125.4		1110828.10	1109077.90	1093790.50
209 Bi # 3	587383.88	0.56	698508.81	84.1	60 - 125.4		591077.31	586237.94	584836.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\189SMPL.D\189SMPL.D#
Date Acquired:	Dec 22 2012 01:04 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-6-a
Misc Info:	3050 1/5
Vial Number:	2112
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.491	1.491	ug/l	5.71	100.00		5631.11	5447.73	5037.59
11 B # 3	6.794	6.794	ug/l	0.64	200.00		34175.91	33691.59	33688.33
23 Na # 1	56.41	56.41	ug/l	2.57	90000.00		675765.44	656909.69	652071.19
24 Mg # 1	5273	5273	ug/l	0.67	90000.00		24364378.00	24505602.00	24064846.00
27 Al # 1	19220	19220	ug/l	1.76	90000.00		92435440.00	94314200.00	93355032.00
39 K # 2	2488	2488	ug/l	0.98	90000.00		1024756.00	1026263.90	1019312.20
40 Ca # 1	6800	6800	ug/l	2.46	90000.00		71450776.00	71875880.00	72814352.00
47 Ti # 3	115.1	115.1	ug/l	0.49	1800.00		146143.58	145798.14	145690.92
51 V # 2	39.05	39.05	ug/l	1.44	1800.00		94668.00	93950.70	93604.48
52 Cr # 2	35.58	35.58	ug/l	0.91	1800.00		100232.06	100448.46	99892.43
55 Mn # 3	1236	1236	ug/l	1.21	2700.00		24304862.00	23868174.00	23596892.00
56 Fe # 1	42200	42200	ug/l	1.85	90000.00		646816640.00	639301760.00	645333890.00
59 Co # 3	22.37	22.37	ug/l	0.74	1800.00		324049.28	321173.06	316588.47
60 Ni # 2	56.22	56.22	ug/l	1.50	1800.00		55143.41	54640.28	54494.56
63 Cu # 2	78.22	78.22	ug/l	1.39	1800.00		199083.88	197521.19	197607.50
66 Zn # 3	106.6	106.6	ug/l	0.61	1800.00		191530.28	190375.31	187165.48
75 As # 2	16.46	16.46	ug/l	1.66	1800.00		4147.22	4109.54	4070.53
78 Se # 1	0.6592	0.6592	ug/l	4.48	100.00		260.67	239.67	252.34
88 Sr # 3	31.52	31.52	ug/l	1.29	1800.00		902302.50	891703.75	868613.44
95 Mo # 3	1.113	1.113	ug/l	3.26	1800.00		4344.05	4247.37	4297.41
107 Ag # 3	0.02649	0.02649	ug/l	47.11	100.00		576.70	393.35	453.35
111 Cd # 3	0.1289	0.1289	ug/l	7.51	100.00		251.74	288.44	275.09
118 Sn # 3	4.03	4.03	ug/l	1.83	1800.00		19970.22	19749.82	19469.51
121 Sb # 3	0.4318	0.4318	ug/l	1.91	100.00		3603.87	3550.51	3537.19
137 Ba # 3	212.7	212.7	ug/l	1.93	1800.00		476363.69	470483.38	460962.03
202 Hg # 3	0.08465	0.08465	ug/l	6.21	5.00		149.67	143.00	159.67
205 Tl # 3	0.2522	0.2522	ug/l	5.48	20.00		3553.87	3433.85	3657.23
208 Pb # 3	40.35	40.35	ug/l	1.26	1800.00		684310.81	674624.31	668296.88

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	644927.56	0.61	762890.69	84.5	60 - 125.4		648829.50	640910.00	645043.13
45 Sc # 1	658385.19	1.51	620105.56	106.2	60 - 125.4		663505.19	664747.63	646902.88
45 Sc # 3	842208.13	0.38	771387.50	109.2	60 - 125.4		839454.00	845744.31	841426.00
74 Ge # 1	150602.05	0.85	164848.81	91.4	60 - 125.4		151487.95	151190.23	149127.97
74 Ge # 2	28056.67	0.97	33226.06	84.4	60 - 125.4		27782.85	28328.83	28058.33
74 Ge # 3	166204.48	1.07	178474.77	93.1	60 - 125.4		166710.03	167673.47	164230.00
89 Y # 3	1400793.60	1.76	1057065.90	132.5	60 - 125.4	IS I	1404399.10	1423394.50	1374587.10
115 In # 3	838332.63	1.63	917456.31	91.4	60 - 125.4		832978.31	853865.50	828154.13
159 Tb # 3	1108138.90	1.67	1264337.30	87.6	60 - 125.4		1105985.00	1127613.60	1090817.80
209 Bi # 3	579205.81	0.20	698508.81	82.9	60 - 125.4		579369.38	577969.69	580278.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
1 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\190SMPL.D\190SMPL.D#
Date Acquired:	Dec 22 2012 01:11 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-7-a
Misc Info:	3050 1/5
Vial Number:	2201
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	2.593	2.593	ug/l	2.80	100.00		8288.93	8112.20	7985.47
11 B # 3	10.04	10.04	ug/l	4.82	200.00		41285.75	39952.31	38288.64
23 Na # 1	81.99	81.99	ug/l	2.91	90000.00		861959.31	862598.69	884902.50
24 Mg # 1	8995	8995	ug/l	0.62	90000.00		42762592.00	43255868.00	42836100.00
27 Al # 1	22090	22090	ug/l	0.46	90000.00		110853560.00	111803090.00	110754850.00
39 K # 2	3204	3204	ug/l	2.40	90000.00		1226585.10	1272410.30	1257247.40
40 Ca # 1	53420	53420	ug/l	1.30	90000.00		585205060.00	581480000.00	591319100.00
47 Ti # 3	77.12	77.12	ug/l	3.25	1800.00		100132.37	95168.27	92347.16
51 V # 2	53.54	53.54	ug/l	1.16	1800.00		122986.99	122414.81	122820.97
52 Cr # 2	39.95	39.95	ug/l	1.30	1800.00		107518.31	107004.20	107080.77
55 Mn # 3	1089	1089	ug/l	1.06	2700.00		20311944.00	20040762.00	19483694.00
56 Fe # 1	67620	67620	ug/l	0.23	90000.00		1072379700.00	1068996000.00	1064891400.00
59 Co # 3	28.34	28.34	ug/l	1.49	1800.00		394770.91	383301.28	374891.63
60 Ni # 2	63.42	63.42	ug/l	1.93	1800.00		59206.40	59041.11	58383.38
63 Cu # 2	73.34	73.34	ug/l	1.48	1800.00		178034.31	176634.92	176456.52
66 Zn # 3	127.6	127.6	ug/l	1.13	1800.00		218527.23	215437.02	209298.84
75 As # 2	30.4	30.4	ug/l	1.26	1800.00		7157.62	7244.66	7252.99
78 Se # 1	1.009	1.009	ug/l	2.78	100.00		357.67	369.67	382.34
88 Sr # 3	310.2	310.2	ug/l	0.95	1800.00		8505082.00	8334607.50	8122625.00
95 Mo # 3	1.759	1.759	ug/l	1.38	1800.00		6118.06	5998.01	5924.66
107 Ag # 3	0.02131	0.02131	ug/l	13.34	100.00		416.68	396.69	436.69
111 Cd # 3	0.1216	0.1216	ug/l	21.21	100.00		231.08	221.12	294.49
118 Sn # 3	3.28	3.28	ug/l	2.53	1800.00		15965.49	15304.65	15114.58
121 Sb # 3	0.7398	0.7398	ug/l	3.78	100.00		5487.82	5801.28	5471.17
137 Ba # 3	288.4	288.4	ug/l	1.38	1800.00		621760.00	603090.88	606126.38
202 Hg # 3	0.07881	0.07881	ug/l	7.05	5.00		132.33	131.00	144.33
205 Tl # 3	0.3669	0.3669	ug/l	1.42	20.00		4764.26	4971.02	4860.99
208 Pb # 3	63.47	63.47	ug/l	1.14	1800.00		1031013.80	1024077.40	1000619.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	569956.31	2.44	762890.69	74.7	60 - 125.4		566248.44	585365.38	558255.13
45 Sc # 1	681906.75	0.47	620105.56	110.0	60 - 125.4		683727.94	683796.44	678196.00
45 Sc # 3	825183.50	1.04	771387.50	107.0	60 - 125.4		831567.81	828543.81	815438.81
74 Ge # 1	147166.98	0.63	164848.81	89.3	60 - 125.4		146280.20	147078.52	148142.27
74 Ge # 2	26742.75	1.26	33226.06	80.5	60 - 125.4		26655.93	26457.27	27115.05
74 Ge # 3	157212.38	1.11	178474.77	88.1	60 - 125.4		158970.23	157190.81	155476.06
89 Y # 3	1338322.10	1.36	1057065.90	126.6	60 - 125.4	IS F	1356719.60	1338010.00	1320237.10
115 In # 3	804136.25	0.48	917456.31	87.6	60 - 125.4		807435.31	805041.06	799932.25
159 Tb # 3	1085196.50	1.18	1264337.30	85.8	60 - 125.4		1078852.00	1099910.90	1076826.90
209 Bi # 3	555310.38	0.65	698508.81	79.5	60 - 125.4		555597.38	558772.44	551561.25

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures	0 :Max. Number of Failures Allowed
1 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Fail

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\191SMPL.D\191SMPL.D#
Date Acquired:	Dec 22 2012 01:17 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-8-a
Misc Info:	3050 1/5
Vial Number:	2202
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.42	1.42	ug/l	2.25	100.00		4397.38	4270.66	3980.60
11 B # 3	9.434	9.434	ug/l	2.34	200.00		35853.13	35509.12	34673.65
23 Na # 1	107.5	107.5	ug/l	6.39	90000.00		902619.38	912964.25	961469.13
24 Mg # 1	9522	9522	ug/l	1.62	90000.00		39961528.00	39803380.00	40093228.00
27 Al # 1	17800	17800	ug/l	0.82	90000.00		79430216.00	79011616.00	77715304.00
39 K # 2	3099	3099	ug/l	6.09	90000.00		1044018.60	1038608.50	1054797.30
40 Ca # 1	208500	208500	ug/l	1.48	90000.00	Fail	2009550800.00	2021503500.00	1997828000.00
47 Ti # 3	111.9	111.9	ug/l	2.94	1800.00		115880.98	114828.30	116419.59
51 V # 2	42.64	42.64	ug/l	5.38	1800.00		84473.52	84462.74	84516.34
52 Cr # 2	33.35	33.35	ug/l	5.99	1800.00		76796.34	77233.70	77811.10
55 Mn # 3	1526	1526	ug/l	0.72	2700.00		25146338.00	24682370.00	24357502.00
56 Fe # 1	40550	40550	ug/l	0.82	90000.00		568985660.00	559041790.00	561422210.00
59 Co # 3	34.67	34.67	ug/l	0.76	1800.00		428715.72	414279.81	404671.44
60 Ni # 2	50.95	50.95	ug/l	5.64	1800.00		40712.68	40834.37	40976.69
63 Cu # 2	52.36	52.36	ug/l	5.48	1800.00		108884.09	109294.04	109288.05
66 Zn # 3	82.71	82.71	ug/l	0.05	1800.00		126504.91	122477.89	121167.23
75 As # 2	22.18	22.18	ug/l	5.60	1800.00		4556.66	4526.32	4567.66
78 Se # 1	0.5758	0.5758	ug/l	4.46	100.00		202.00	203.67	186.34
88 Sr # 3	229.4	229.4	ug/l	0.91	1800.00		5395059.00	5391701.00	5253521.00
95 Mo # 3	1.742	1.742	ug/l	1.14	1800.00		5537.79	5444.45	5394.41
107 Ag # 3	0.01715	0.01715	ug/l	32.56	100.00		393.35	363.35	303.35
111 Cd # 3	0.1112	0.1112	ug/l	16.38	100.00		187.96	217.99	231.35
118 Sn # 3	3.319	3.319	ug/l	1.88	1800.00		14710.77	14563.97	13699.87
121 Sb # 3	0.6578	0.6578	ug/l	4.74	100.00		4224.05	4527.48	4294.06
137 Ba # 3	386.2	386.2	ug/l	1.45	1800.00		765713.13	738731.63	740179.44
202 Hg # 3	0.07624	0.07624	ug/l	4.71	5.00		106.67	112.67	106.00
205 Tl # 3	0.3115	0.3115	ug/l	0.43	20.00		3974.01	3807.30	3870.66
208 Pb # 3	51.89	51.89	ug/l	0.50	1800.00		704779.75	680178.44	666507.31

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	530398.19	3.35	762890.69	69.5	60 - 125.4		548953.56	528690.56	513550.31
45 Sc # 1	599268.75	1.52	620105.56	96.6	60 - 125.4		609459.50	596399.94	591946.88
45 Sc # 3	687898.56	2.38	771387.50	89.2	60 - 125.4		699382.44	695178.88	669134.38
74 Ge # 1	134745.14	0.62	164848.81	81.7	60 - 125.4		135060.42	135383.55	133791.45
74 Ge # 2	23130.99	5.21	33226.06	69.6	60 - 125.4		24125.19	23475.91	21791.86
74 Ge # 3	139106.22	2.26	178474.77	77.9	60 - 125.4		142614.09	138161.66	136542.91
89 Y # 3	1162813.90	1.87	1057065.90	110.0	60 - 125.4		1184651.80	1162720.00	1141069.80
115 In # 3	736159.44	2.14	917456.31	80.2	60 - 125.4		750610.81	738549.38	719318.06
159 Tb # 3	1004780.90	1.94	1264337.30	79.5	60 - 125.4		1026601.60	989278.44	998462.81
209 Bi # 3	455919.47	2.55	698508.81	65.3	60 - 125.4		467589.88	455804.06	444364.53

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Fail
ISTD:	Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\192SMPL.D\192SMPL.D#
Date Acquired:	Dec 22 2012 01:24 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-9-a
Misc Info:	3050 1/5
Vial Number:	2203
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	2.03	2.03	ug/l	1.75	100.00		7208.45	6814.92	6761.54
11 B # 3	4.261	4.261	ug/l	0.85	200.00		24405.25	23934.45	23607.44
23 Na # 1	58.87	58.87	ug/l	10.34	90000.00		674783.00	674045.69	715311.75
24 Mg # 1	1357	1357	ug/l	2.64	90000.00		6391665.00	6346079.00	6325802.50
27 Al # 1	19550	19550	ug/l	4.62	90000.00		94533464.00	97197960.00	97105344.00
39 K # 2	2164	2164	ug/l	0.09	90000.00		857290.19	854216.06	863219.69
40 Ca # 1	926.6	926.6	ug/l	2.52	90000.00		10063228.00	10164192.00	9761418.00
47 Ti # 3	65.82	65.82	ug/l	1.58	1800.00		81590.24	82208.10	82267.40
51 V # 2	48.9	48.9	ug/l	0.35	1800.00		113141.15	112914.96	113476.77
52 Cr # 2	36.33	36.33	ug/l	0.61	1800.00		98453.90	98381.37	98377.40
55 Mn # 3	290.2	290.2	ug/l	1.38	2700.00		5672803.00	5480045.00	5442630.00
56 Fe # 1	54480	54480	ug/l	3.14	90000.00		843048260.00	844569980.00	842381820.00
59 Co # 3	12.74	12.74	ug/l	1.70	1800.00		182623.52	180203.36	176388.56
60 Ni # 2	29.01	29.01	ug/l	1.64	1800.00		27015.38	27534.27	27011.37
63 Cu # 2	38.78	38.78	ug/l	0.70	1800.00		94358.52	94701.90	94541.63
66 Zn # 3	59.67	59.67	ug/l	0.97	1800.00		107389.97	103655.67	103837.15
75 As # 2	25.85	25.85	ug/l	1.00	1800.00		6259.91	6156.87	6178.21
78 Se # 1	0.4514	0.4514	ug/l	6.19	100.00		189.67	166.00	168.33
88 Sr # 3	12.24	12.24	ug/l	1.40	1800.00		299712.41	295331.16	288654.44
95 Mo # 3	0.5339	0.5339	ug/l	5.94	1800.00		2420.27	2466.94	2576.97
107 Ag # 3	-0.01012	-0.01012	ug/l	42.38	100.00		223.34	173.34	156.67
111 Cd # 3	0.02156	0.02156	ug/l	84.69	100.00		125.78	65.76	85.72
118 Sn # 3	2.852	2.852	ug/l	2.04	1800.00		13679.83	13746.53	14046.79
121 Sb # 3	0.4207	0.4207	ug/l	3.37	100.00		2890.36	2957.05	3037.06
137 Ba # 3	103.2	103.2	ug/l	0.88	1800.00		225984.47	224751.84	221007.81
202 Hg # 3	0.04498	0.04498	ug/l	2.34	5.00		90.67	88.33	88.33
205 Tl # 3	0.1433	0.1433	ug/l	1.87	20.00		2123.56	2213.58	2156.90
208 Pb # 3	25.62	25.62	ug/l	1.79	1800.00		433875.19	425713.91	420643.47

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	616795.13	2.15	762890.69	80.8	60 - 125.4		630285.13	616308.88	603791.31
45 Sc # 1	668268.88	3.18	620105.56	107.8	60 - 125.4		691218.94	664402.06	649185.50
45 Sc # 3	826711.94	1.12	771387.50	107.2	60 - 125.4		837422.88	821097.25	821615.69
74 Ge # 1	150058.72	1.91	164848.81	91.0	60 - 125.4		153080.97	149711.91	147383.30
74 Ge # 2	26989.26	0.60	33226.06	81.2	60 - 125.4		26974.78	26834.59	27158.40
74 Ge # 3	163457.16	1.36	178474.77	91.6	60 - 125.4		165733.28	161308.86	163329.34
89 Y # 3	1191466.40	0.61	1057065.90	112.7	60 - 125.4		1195026.10	1196219.00	1183154.00
115 In # 3	824402.63	0.80	917456.31	89.9	60 - 125.4		832046.81	820227.88	820933.25
159 Tb # 3	1088052.00	1.40	1264337.30	86.1	60 - 125.4		1086145.10	1104128.30	1073882.60
209 Bi # 3	575439.19	0.33	698508.81	82.4	60 - 125.4		573558.94	577341.50	575417.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\193SMPL.D\193SMPL.D#
Date Acquired:	Dec 22 2012 01:31 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	680-86034-a-10-a
Misc Info:	3050 1/5
Vial Number:	2204
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	2.355	2.355	ug/l	1.72	100.00		7595.27	7501.88	7108.39
11 B # 3	15.61	15.61	ug/l	1.21	200.00		58169.36	56588.18	55905.16
23 Na # 1	68.35	68.35	ug/l	13.50	90000.00		856826.31	861068.31	831680.88
24 Mg # 1	3755	3755	ug/l	7.49	90000.00		19691070.00	20043102.00	19577854.00
27 Al # 1	21980	21980	ug/l	7.48	90000.00		121555500.00	123335280.00	120801480.00
39 K # 2	4107	4107	ug/l	0.62	90000.00		1549168.10	1544296.40	1548274.10
40 Ca # 1	10890	10890	ug/l	7.30	90000.00		131665490.00	132550140.00	131176360.00
47 Ti # 3	60.05	60.05	ug/l	1.62	1800.00		80049.59	77771.89	77446.59
51 V # 2	73.61	73.61	ug/l	0.43	1800.00		163229.39	162926.89	162568.39
52 Cr # 2	54.51	54.51	ug/l	0.42	1800.00		140961.36	141553.16	141404.94
55 Mn # 3	1461	1461	ug/l	1.10	2700.00		26433672.00	26043766.00	25255202.00
56 Fe # 1	76020	76020	ug/l	8.83	90000.00		1343418200.00	1330623400.00	1297138600.00
59 Co # 3	89.55	89.55	ug/l	0.64	1800.00		1207324.90	1157937.40	1159812.80
60 Ni # 2	204.2	204.2	ug/l	0.10	1800.00		183136.14	183921.80	182556.20
63 Cu # 2	114.6	114.6	ug/l	0.66	1800.00		268304.59	266708.72	267130.28
66 Zn # 3	276.9	276.9	ug/l	0.73	1800.00		457460.25	449610.19	440314.47
75 As # 2	53.97	53.97	ug/l	0.80	1800.00		12406.51	12320.77	12389.16
78 Se # 1	2.755	2.755	ug/l	9.96	100.00		1027.37	1060.37	1002.70
88 Sr # 3	36.75	36.75	ug/l	1.17	1800.00		1309186.00	1279430.30	1284234.80
95 Mo # 3	25.98	25.98	ug/l	1.00	1800.00		75861.03	74779.27	72585.72
107 Ag # 3	0.05408	0.05408	ug/l	8.74	100.00		686.70	606.70	633.36
111 Cd # 3	1.074	1.074	ug/l	4.27	100.00		1808.77	1642.47	1663.29
118 Sn # 3	3.265	3.265	ug/l	1.45	1800.00		15124.53	14650.72	14897.62
121 Sb # 3	2.048	2.048	ug/l	0.61	100.00		19943.45	19252.54	19052.40
137 Ba # 3	3229	3229	ug/l	0.67	1800.00	Fail	6692736.50	6648290.00	6487366.50
202 Hg # 3	0.09778	0.09778	ug/l	3.49	5.00		156.67	163.00	159.67
205 Tl # 3	1.116	1.116	ug/l	2.33	20.00		13827.06	14070.65	13122.96
208 Pb # 3	54.79	54.79	ug/l	3.27	1800.00		903925.38	841623.63	827372.56

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	570057.44	3.05	762890.69	74.7	60 - 125.4		588780.25	566919.06	554473.00
45 Sc # 1	754385.25	7.16	620105.56	121.7	60 - 125.4		703921.63	747886.13	811348.00
45 Sc # 3	866101.63	3.03	771387.50	112.3	60 - 125.4		891785.69	867098.50	839420.81
74 Ge # 1	153767.92	8.32	164848.81	93.3	60 - 125.4		142802.38	150663.06	167838.31
74 Ge # 2	25846.77	0.46	33226.06	77.8	60 - 125.4		25817.85	25978.06	25744.40
74 Ge # 3	152215.34	2.16	178474.77	85.3	60 - 125.4		155912.14	151119.58	149614.28
89 Y # 3	1748881.60	1.99	1057065.90	165.4	60 - 125.4	IS F	1785602.50	1744516.30	1716526.30
115 In # 3	777876.06	1.41	917456.31	84.8	60 - 125.4		789421.94	776587.38	767618.94
159 Tb # 3	1065085.30	1.65	1264337.30	84.2	60 - 125.4		1078642.80	1071340.10	1045273.00
209 Bi # 3	541413.00	1.54	698508.81	77.5	60 - 125.4		550121.88	540651.25	533465.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Fail

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\194_CCV.D\194_CCV.D#
Date Acquired:	Dec 22 2012 01:37 pm
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	50.21 ug/l	1.57	50.00	89.6 - 110	
11 B	96.06 ug/l	1.41	100.00	89.6 - 110	
23 Na	4392.00 ug/l	1.54	5000.00	89.6 - 110	Fail
24 Mg	4421.00 ug/l	0.30	5000.00	89.6 - 110	Fail
27 Al	458.80 ug/l	0.84	500.00	89.6 - 110	
39 K	5084.00 ug/l	0.74	5000.00	89.6 - 110	
40 Ca	4742.00 ug/l	0.74	5000.00	89.6 - 110	
47 Ti	48.92 ug/l	1.19	50.00	89.6 - 110	
51 V	51.40 ug/l	1.13	50.00	89.6 - 110	
52 Cr	51.31 ug/l	0.56	50.00	89.6 - 110	
55 Mn	496.80 ug/l	0.22	500.00	89.6 - 110	
56 Fe	5024.00 ug/l	0.90	5000.00	89.6 - 110	
59 Co	50.39 ug/l	0.85	50.00	89.6 - 110	
60 Ni	53.06 ug/l	0.65	50.00	89.6 - 110	
63 Cu	52.97 ug/l	0.43	50.00	89.6 - 110	
66 Zn	47.94 ug/l	0.20	50.00	89.6 - 110	
75 As	49.98 ug/l	0.35	50.00	89.6 - 110	
78 Se	48.40 ug/l	0.60	50.00	89.6 - 110	
88 Sr	50.16 ug/l	0.69	50.00	89.6 - 110	
95 Mo	49.74 ug/l	0.22	50.00	89.6 - 110	
107 Ag	47.83 ug/l	0.65	50.00	89.6 - 110	
111 Cd	47.43 ug/l	0.93	50.00	89.6 - 110	
118 Sn	47.96 ug/l	0.30	50.00	89.6 - 110	
121 Sb	45.45 ug/l	1.83	50.00	89.6 - 110	
137 Ba	49.06 ug/l	1.37	50.00	89.6 - 110	
202 Hg	2.36 ug/l	2.94	2.50	89.6 - 110	
205 Tl	9.15 ug/l	2.12	10.00	89.6 - 110	
208 Pb	46.52 ug/l	1.48	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	650629.38	0.53	762890.69	85.3	59.6 - 125	
45 Sc	560830.69	0.12	620105.56	90.4	59.6 - 125	
45 Sc	740396.38	1.09	771387.50	96.0	59.6 - 125	
74 Ge	147533.94	0.20	164848.81	89.5	59.6 - 125	
74 Ge	26916.32	0.39	33226.06	81.0	59.6 - 125	
74 Ge	164003.80	1.06	178474.77	91.9	59.6 - 125	
89 Y	1003683.60	1.64	1057065.90	94.9	59.6 - 125	
115 In	827062.13	1.40	917456.31	90.1	59.6 - 125	
159 Tb	1083911.50	1.50	1264337.30	85.7	59.6 - 125	
209 Bi	560217.00	0.71	698508.81	80.2	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\195_CCB.D\195_CCB.D#
Date Acquired:	Dec 22 2012 01:44 pm
Operator:	BR
Sample Name:	CCB
Misc Info:	
Vial Number:	4
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCB
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.02 ug/l	27.27	0.05	
11 B	0.61 ug/l	10.69	10.00	
23 Na	-10.54 ug/l	7.19	25.00	
24 Mg	2.28 ug/l	8.84	25.00	
27 Al	2.34 ug/l	7.78	5.00	
39 K	6.53 ug/l	6.90	25.00	
40 Ca	6.26 ug/l	7.56	25.00	
47 Ti	-0.23 ug/l	7.34	0.50	
51 V	-0.04 ug/l	44.22	0.50	
52 Cr	0.02 ug/l	35.23	0.50	
55 Mn	0.08 ug/l	65.62	0.50	
56 Fe	12.46 ug/l	6.77	10.00	Fail
59 Co	0.02 ug/l	25.30	0.05	
60 Ni	0.04 ug/l	13.46	0.50	
63 Cu	0.04 ug/l	15.85	0.50	
66 Zn	-0.44 ug/l	8.49	2.00	
75 As	0.05 ug/l	36.98	0.25	
78 Se	0.05 ug/l	17.83	0.25	
88 Sr	-0.06 ug/l	10.93	0.10	
95 Mo	-0.16 ug/l	6.51	0.50	
107 Ag	0.00 ug/l	94.84	0.10	
111 Cd	0.01 ug/l	71.94	0.05	
118 Sn	0.02 ug/l	24.28	0.50	
121 Sb	0.32 ug/l	3.41	0.50	
137 Ba	0.16 ug/l	17.92	0.50	
202 Hg	0.03 ug/l	2.95	0.08	
205 Tl	-0.02 ug/l	8.05	0.10	
208 Pb	-0.01 ug/l	30.43	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	722471.00	1.08	762890.69	94.7	59.6 - 125	
45 Sc	582432.94	0.63	620105.56	93.9	59.6 - 125	
45 Sc	805209.50	2.96	771387.50	104.4	59.6 - 125	
74 Ge	152418.38	0.50	164848.81	92.5	59.6 - 125	
74 Ge	28902.11	0.57	33226.06	87.0	59.6 - 125	
74 Ge	176009.13	1.51	178474.77	98.6	59.6 - 125	
89 Y	1079246.60	1.01	1057065.90	102.1	59.6 - 125	
115 In	896597.19	1.38	917456.31	97.7	59.6 - 125	
159 Tb	1138503.30	1.56	1264337.30	90.0	59.6 - 125	
209 Bi	587104.44	0.47	698508.81	84.1	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\196SMPL.D\196SMPL.D#
Date Acquired:	Dec 22 2012 01:51 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	mb 680-260614_1-a
Misc Info:	3005 1/5
Vial Number:	3101
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04213	-0.04213	ug/l	9.24	100.00		36.67	40.00	63.34
11 B # 3	0.2669	0.2669	ug/l	23.52	200.00		12234.87	12605.13	12321.61
23 Na # 1	-11.65	-11.65	ug/l	6.39	90000.00		171773.80	164781.75	166961.45
24 Mg # 1	0.6288	0.6288	ug/l	147.49	90000.00		5141.46	6539.77	12402.77
27 Al # 1	0.4359	0.4359	ug/l	13.81	90000.00		7895.51	7822.13	7451.93
39 K # 2	6.232	6.232	ug/l	5.07	90000.00		18514.37	18464.36	18357.70
40 Ca # 1	2.822	2.822	ug/l	6.27	90000.00		62189.60	60191.95	59695.59
47 Ti # 3	-0.2551	-0.2551	ug/l	4.06	1800.00		80.00	90.00	66.67
51 V # 2	0.09567	0.09567	ug/l	17.04	1800.00		884.03	827.36	809.36
52 Cr # 2	0.02029	0.02029	ug/l	15.04	1800.00		271.34	259.34	255.34
55 Mn # 3	-0.2904	-0.2904	ug/l	1.60	2700.00		2770.32	2546.94	2580.30
56 Fe # 1	3.331	3.331	ug/l	7.48	90000.00		62482.50	60126.27	56232.67
59 Co # 3	-0.008666	-0.008666	ug/l	8.17	1800.00		116.67	106.67	93.34
60 Ni # 2	0.02823	0.02823	ug/l	15.60	1800.00		39.33	48.00	46.67
63 Cu # 2	0.4588	0.4588	ug/l	2.33	1800.00		1355.40	1416.07	1381.40
66 Zn # 3	-0.3591	-0.3591	ug/l	8.48	1800.00		803.38	676.70	736.71
75 As # 2	0.058	0.058	ug/l	8.54	1800.00		37.00	36.33	34.67
78 Se # 1	0.00158	0.00158	ug/l	303.54	100.00		13.67	11.67	10.00
88 Sr # 3	-0.09024	-0.09024	ug/l	1.07	1800.00		256.68	213.34	216.67
95 Mo # 3	-0.2446	-0.2446	ug/l	0.35	1800.00		166.67	166.67	160.01
107 Ag # 3	-0.02929	-0.02929	ug/l	7.00	100.00		23.33	56.67	36.67
111 Cd # 3	-0.02244	-0.02244	ug/l	21.59	100.00		23.27	13.27	29.94
118 Sn # 3	0.01135	0.01135	ug/l	100.26	1800.00		356.68	366.68	453.35
121 Sb # 3	0.08732	0.08732	ug/l	3.05	100.00		806.71	763.38	760.04
137 Ba # 3	-0.02305	-0.02305	ug/l	7.48	1800.00		100.00	96.67	103.34
202 Hg # 3	0.009065	0.009065	ug/l	15.38	5.00		36.67	34.00	38.33
205 Tl # 3	-0.02944	-0.02944	ug/l	6.20	20.00		63.34	53.34	96.67
208 Pb # 3	-0.03506	-0.03506	ug/l	8.79	1800.00		536.69	433.35	510.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	710295.50	0.77	762890.69	93.1	60 - 125.4		716021.25	709805.19	705060.06
45 Sc # 1	590084.19	0.63	620105.56	95.2	60 - 125.4		585920.06	593100.63	591232.00
45 Sc # 3	793467.19	0.82	771387.50	102.9	60 - 125.4		792136.63	787718.50	800546.31
74 Ge # 1	156494.59	0.19	164848.81	94.9	60 - 125.4		156842.47	156284.36	156356.97
74 Ge # 2	29857.18	0.31	33226.06	89.9	60 - 125.4		29763.08	29860.00	29948.46
74 Ge # 3	178183.73	0.91	178474.77	99.8	60 - 125.4		180054.31	177373.45	177123.41
89 Y # 3	1077372.50	1.42	1057065.90	101.9	60 - 125.4		1094502.50	1072352.10	1065262.80
115 In # 3	889206.88	1.55	917456.31	96.9	60 - 125.4		904637.06	884819.88	878163.50
159 Tb # 3	1136426.80	1.43	1264337.30	89.9	60 - 125.4		1155165.30	1126640.90	1127474.30
209 Bi # 3	611886.81	0.23	698508.81	87.6	60 - 125.4		611781.06	613322.88	610556.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\197SMPL.D\197SMPL.D#
Date Acquired:	Dec 22 2012 01:58 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lcs 680-260614_2-a
Misc Info:	3005 1/5
Vial Number:	3102
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.52	10.52	ug/l	0.51	100.00		40590.04	39490.98	39557.48
11 B # 3	39.45	39.45	ug/l	2.27	200.00		159588.31	160449.91	158248.94
23 Na # 1	932.9	932.9	ug/l	0.29	90000.00		5971703.00	5866040.50	5935131.50
24 Mg # 1	955.1	955.1	ug/l	1.30	90000.00		3833128.30	3856810.00	3885522.80
27 Al # 1	940.4	940.4	ug/l	1.69	90000.00		4049932.50	4033480.80	3925748.30
39 K # 2	996.9	996.9	ug/l	1.61	90000.00		435345.66	438967.19	437980.88
40 Ca # 1	1006	1006	ug/l	0.71	90000.00		9401732.00	9366985.00	9311447.00
47 Ti # 3	19.7	19.7	ug/l	0.78	1800.00		23330.77	23671.40	23394.13
51 V # 2	20.89	20.89	ug/l	1.31	1800.00		52880.63	52709.42	52882.60
52 Cr # 2	20.81	20.81	ug/l	1.01	1800.00		61300.92	61581.85	60955.49
55 Mn # 3	103.8	103.8	ug/l	0.65	2700.00		2096053.80	2100207.00	2084186.30
56 Fe # 1	994	994	ug/l	1.22	90000.00		13243113.00	13183375.00	13438985.00
59 Co # 3	9.696	9.696	ug/l	0.93	1800.00		144149.89	145472.53	143632.47
60 Ni # 2	21.75	21.75	ug/l	0.77	1800.00		22228.06	22166.66	22015.76
63 Cu # 2	21.43	21.43	ug/l	0.61	1800.00		57093.78	56909.11	56370.44
66 Zn # 3	21.48	21.48	ug/l	0.95	1800.00		41381.06	40926.43	39980.75
75 As # 2	22.18	22.18	ug/l	1.87	1800.00		5729.04	5801.40	5798.40
78 Se # 1	20.51	20.51	ug/l	1.25	100.00		7598.16	7535.47	7621.84
88 Sr # 3	18.01	18.01	ug/l	0.49	1800.00		383611.88	380970.78	378327.91
95 Mo # 3	20.34	20.34	ug/l	0.49	1800.00		65520.84	65554.49	65374.14
107 Ag # 3	9.94	9.94	ug/l	1.15	100.00		82238.66	81782.95	80566.52
111 Cd # 3	10.04	10.04	ug/l	0.30	100.00		17289.27	17519.53	17272.66
118 Sn # 3	19.71	19.71	ug/l	0.14	1800.00		98897.12	99628.91	98870.72
121 Sb # 3	10.18	10.18	ug/l	0.95	100.00		57371.03	57177.41	56036.25
137 Ba # 3	20.03	20.03	ug/l	0.91	1800.00		46374.81	46007.29	45943.65
202 Hg # 3	0.9476	0.9476	ug/l	2.11	5.00		1514.75	1557.42	1558.75
205 Tl # 3	7.387	7.387	ug/l	0.39	20.00		93548.52	92868.41	91435.72
208 Pb # 3	9.249	9.249	ug/l	0.26	1800.00		163081.48	162019.66	162362.86

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	699975.88	1.89	762890.69	91.8	60 - 125.4		714727.38	689052.50	696147.69
45 Sc # 1	576207.81	0.80	620105.56	92.9	60 - 125.4		581105.13	571957.94	575560.44
45 Sc # 3	781398.75	1.26	771387.50	101.3	60 - 125.4		780257.25	791761.13	772177.88
74 Ge # 1	152699.30	0.98	164848.81	92.6	60 - 125.4		154244.42	152593.66	151259.80
74 Ge # 2	29301.62	1.25	33226.06	88.2	60 - 125.4		29644.53	29345.57	28914.75
74 Ge # 3	172558.19	0.87	178474.77	96.7	60 - 125.4		174056.28	172574.06	171044.25
89 Y # 3	1049653.60	0.35	1057065.90	99.3	60 - 125.4		1051026.90	1052396.60	1045537.40
115 In # 3	872049.81	0.54	917456.31	95.1	60 - 125.4		868608.63	877378.94	870161.94
159 Tb # 3	1118795.00	0.79	1264337.30	88.5	60 - 125.4		1125846.50	1121615.40	1108923.10
209 Bi # 3	604386.31	0.47	698508.81	86.5	60 - 125.4		607596.38	603424.69	602137.94

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\198SMPL.D\198SMPL.D#
Date Acquired:	Dec 22 2012 02:04 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-1-a
Misc Info:	3005 1/5
Vial Number:	3103
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.04873	-0.04873	ug/l	4.26	100.00		16.67	16.67	30.00
11 B	# 3	0.5991	0.5991	ug/l	6.63	200.00		13615.96	13445.82	13268.93
23 Na	# 1	738.9	738.9	ug/l	0.86	90000.00		4669612.00	4775841.00	4744291.50
24 Mg	# 1	1307	1307	ug/l	2.03	90000.00		5274673.50	5243587.00	5278265.00
27 Al	# 1	149.9	149.9	ug/l	2.26	90000.00		647944.88	641699.94	633776.50
39 K	# 2	229.5	229.5	ug/l	0.94	90000.00		115693.84	116140.34	115929.23
40 Ca	# 1	2529	2529	ug/l	2.48	90000.00		23246284.00	23196698.00	23793512.00
47 Ti	# 3	4.058	4.058	ug/l	0.94	1800.00		5160.96	5167.62	5264.36
51 V	# 2	1.271	1.271	ug/l	0.70	1800.00		3858.48	3835.81	3928.50
52 Cr	# 2	0.6578	0.6578	ug/l	0.94	1800.00		2176.82	2165.49	2230.83
55 Mn	# 3	32.05	32.05	ug/l	1.09	2700.00		679283.75	669215.00	670511.06
56 Fe	# 1	190.9	190.9	ug/l	2.50	90000.00		2590122.50	2551482.00	2530319.30
59 Co	# 3	0.106	0.106	ug/l	6.82	1800.00		1976.85	1766.82	1846.83
60 Ni	# 2	0.6226	0.6226	ug/l	5.42	1800.00		687.35	681.35	632.68
63 Cu	# 2	1.303	1.303	ug/l	1.76	1800.00		3601.76	3707.12	3777.13
66 Zn	# 3	3.081	3.081	ug/l	4.49	1800.00		6995.05	7545.34	7195.18
75 As	# 2	0.1214	0.1214	ug/l	16.21	1800.00		48.00	52.67	59.33
78 Se	# 1	0.02004	0.02004	ug/l	20.69	100.00		18.33	19.67	16.67
88 Sr	# 3	9.302	9.302	ug/l	1.13	1800.00		200411.72	200637.97	199104.16
95 Mo	# 3	-0.1912	-0.1912	ug/l	3.63	1800.00		310.01	356.68	343.35
107 Ag	# 3	-0.02916	-0.02916	ug/l	2.83	100.00		46.67	33.33	40.00
111 Cd	# 3	-0.01802	-0.01802	ug/l	18.73	100.00		36.55	26.54	26.54
118 Sn	# 3	0.05038	0.05038	ug/l	6.60	1800.00		576.70	586.70	610.03
121 Sb	# 3	0.02192	0.02192	ug/l	41.82	100.00		440.02	413.35	340.01
137 Ba	# 3	4.569	4.569	ug/l	1.70	1800.00		10820.87	10684.06	10967.63
202 Hg	# 3	0.01035	0.01035	ug/l	18.94	5.00		36.67	37.00	43.00
205 Tl	# 3	0.001394	0.001394	ug/l	98.49	20.00		476.69	463.35	446.69
208 Pb	# 3	-0.002571	-0.002571	ug/l	59.98	1800.00		1036.72	1090.05	1113.39

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	699300.25	0.60	762890.69	91.7	60 - 125.4		699319.25	703517.38	695064.19
45 Sc	# 1	574871.63	1.70	620105.56	92.7	60 - 125.4		566538.00	585617.13	572459.69
45 Sc	# 3	791241.31	1.83	771387.50	102.6	60 - 125.4		777940.56	789122.44	806661.00
74 Ge	# 1	151992.58	0.46	164848.81	92.2	60 - 125.4		151205.72	152231.80	152540.23
74 Ge	# 2	30162.15	0.83	33226.06	90.8	60 - 125.4		29976.84	30063.59	30446.02
74 Ge	# 3	177979.91	0.26	178474.77	99.7	60 - 125.4		177458.52	178355.45	178125.77
89 Y	# 3	1062029.60	1.29	1057065.90	100.5	60 - 125.4		1052829.50	1077762.80	1055496.60
115 In	# 3	887613.94	0.53	917456.31	96.7	60 - 125.4		883401.75	892651.63	886788.63
159 Tb	# 3	1137069.00	0.53	1264337.30	89.9	60 - 125.4		1132104.30	1135360.30	1143742.50
209 Bi	# 3	618948.50	1.10	698508.81	88.6	60 - 125.4		611516.75	620465.94	624862.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\199SMPL.D\199SMPL.D#
Date Acquired:	Dec 22 2012 02:11 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-1-a SD
Misc Info:	3005 1/25
Vial Number:	3104
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.25345	-0.05069	ug/l	2.56	100.00		10.00	20.00	13.33
11 B # 3	-0.7705	-0.1541	ug/l	49.55	200.00		10900.56	11440.94	11117.36
23 Na # 1	706	141.2	ug/l	0.93	90000.00		1128628.50	1131009.60	1143523.90
24 Mg # 1	1312	262.4	ug/l	1.54	90000.00		1096696.50	1088670.80	1118335.30
27 Al # 1	134.8	26.96	ug/l	1.26	90000.00		125198.05	123459.32	124775.86
39 K # 2	243.25	48.65	ug/l	1.75	90000.00		37694.58	37995.22	38162.02
40 Ca # 1	2502.5	500.5	ug/l	1.53	90000.00		4886378.50	4788298.50	4833539.00
47 Ti # 3	2.9295	0.5859	ug/l	1.21	1800.00		1060.07	1130.07	1130.07
51 V # 2	1.747	0.3494	ug/l	3.16	1800.00		1514.75	1554.09	1538.75
52 Cr # 2	0.62	0.124	ug/l	2.74	1800.00		583.35	585.35	604.68
55 Mn # 3	28.505	5.701	ug/l	3.57	2700.00		130092.97	129186.82	126719.93
56 Fe # 1	190.8	38.16	ug/l	1.34	90000.00		543596.56	535995.44	545322.06
59 Co # 3	0.05185	0.01037	ug/l	7.18	1800.00		390.02	420.02	400.02
60 Ni # 2	1.343	0.2686	ug/l	8.13	1800.00		302.00	325.34	282.67
63 Cu # 2	0.47565	0.09513	ug/l	4.49	1800.00		407.34	426.01	421.34
66 Zn # 3	-1.3545	-0.2709	ug/l	5.98	1800.00		920.06	936.73	896.72
75 As # 2	0.1607	0.03214	ug/l	27.80	1800.00		28.67	32.67	29.00
78 Se # 1	0.018865	0.003773	ug/l	57.09	100.00		12.33	13.67	12.00
88 Sr # 3	8.85	1.77	ug/l	3.20	1800.00		40569.85	40840.75	40265.79
95 Mo # 3	-1.2755	-0.2551	ug/l	3.84	1800.00		153.34	96.67	143.34
107 Ag # 3	-0.15995	-0.03199	ug/l	4.85	100.00		16.67	3.33	30.00
111 Cd # 3	-0.09415	-0.01883	ug/l	23.80	100.00		19.94	36.63	29.95
118 Sn # 3	-0.0606	-0.01212	ug/l	28.34	1800.00		286.68	266.68	270.01
121 Sb # 3	-0.03852	-0.007704	ug/l	23.17	100.00		236.68	240.01	230.01
137 Ba # 3	4.3125	0.8625	ug/l	5.86	1800.00		2256.92	2153.56	2146.89
202 Hg # 3	0.0571	0.01142	ug/l	9.27	5.00		37.67	42.33	41.33
205 Tl # 3	-0.105	-0.021	ug/l	3.01	20.00		183.34	173.34	180.01
208 Pb # 3	-0.1964	-0.03928	ug/l	8.96	1800.00		350.01	486.69	430.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	734765.50	1.06	762890.69	96.3	60 - 125.4		729685.63	730885.63	743725.31
45 Sc # 1	596354.69	0.50	620105.56	96.2	60 - 125.4		593120.31	599059.44	596884.19
45 Sc # 3	812863.81	2.98	771387.50	105.4	60 - 125.4		785077.06	823993.13	829521.31
74 Ge # 1	157214.09	0.55	164848.81	95.4	60 - 125.4		157369.27	157997.34	156275.70
74 Ge # 2	30839.03	0.71	33226.06	92.8	60 - 125.4		30955.29	30588.01	30973.80
74 Ge # 3	180673.03	2.11	178474.77	101.2	60 - 125.4		176312.03	182277.05	183430.02
89 Y # 3	1082704.90	2.58	1057065.90	102.4	60 - 125.4		1056173.60	1080051.90	1111889.40
115 In # 3	895712.50	2.59	917456.31	97.6	60 - 125.4		869943.75	902192.56	915001.25
159 Tb # 3	1142012.90	2.61	1264337.30	90.3	60 - 125.4		1112334.00	1141736.40	1171968.40
209 Bi # 3	615772.94	2.45	698508.81	88.2	60 - 125.4		599544.94	618425.31	629348.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\200SMPL.D\200SMPL.D#
Date Acquired:	Dec 22 2012 02:18 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-1-a PDS
Misc Info:	3005 1/5
Vial Number:	3105
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	20.96	20.96	ug/l	0.86	100.00		78491.63	78756.34	77423.81
11 B	# 3	40.31	40.31	ug/l	1.39	200.00		160207.58	160473.31	160940.64
23 Na	# 1	2598	2598	ug/l	9.80	90000.00		16435146.00	16367770.00	16540876.00
24 Mg	# 1	3134	3134	ug/l	9.08	90000.00		13027738.00	12797937.00	13003321.00
27 Al	# 1	329.5	329.5	ug/l	10.10	90000.00		1429919.80	1446397.10	1439069.50
39 K	# 2	2353	2353	ug/l	1.03	90000.00		1022002.10	1031060.20	1019603.90
40 Ca	# 1	4435	4435	ug/l	10.65	90000.00		41554492.00	41794980.00	42847964.00
47 Ti	# 3	24.09	24.09	ug/l	2.13	1800.00		29340.57	27924.72	27921.55
51 V	# 2	21.88	21.88	ug/l	0.61	1800.00		55843.80	56159.55	56011.70
52 Cr	# 2	21.11	21.11	ug/l	0.81	1800.00		62625.88	63358.05	62846.00
55 Mn	# 3	235.8	235.8	ug/l	0.30	2700.00		4809841.00	4697281.00	4716791.00
56 Fe	# 1	2212	2212	ug/l	10.58	90000.00		29849410.00	30315892.00	30493802.00
59 Co	# 3	19.35	19.35	ug/l	0.56	1800.00		290778.34	285134.16	287224.09
60 Ni	# 2	21.45	21.45	ug/l	0.33	1800.00		21933.65	22171.31	22218.70
63 Cu	# 2	21.28	21.28	ug/l	0.84	1800.00		57279.70	56911.09	57113.20
66 Zn	# 3	21.6	21.6	ug/l	0.35	1800.00		41448.01	40619.17	40779.46
75 As	# 2	20.86	20.86	ug/l	1.03	1800.00		5507.63	5523.97	5476.62
78 Se	# 1	20.31	20.31	ug/l	5.51	100.00		7636.18	7460.09	7612.84
88 Sr	# 3	30.99	30.99	ug/l	1.75	1800.00		648585.13	651855.50	649824.56
95 Mo	# 3	20.37	20.37	ug/l	1.49	1800.00		65558.61	65159.78	65748.81
107 Ag	# 3	16.52	16.52	ug/l	0.23	100.00		137032.34	134511.36	133882.31
111 Cd	# 3	19.94	19.94	ug/l	1.17	100.00		34408.27	34582.07	34150.93
118 Sn	# 3	19.98	19.98	ug/l	0.33	1800.00		102152.02	100014.95	98887.47
121 Sb	# 3	19.69	19.69	ug/l	0.58	100.00		110499.55	108180.09	108508.80
137 Ba	# 3	24.7	24.7	ug/l	0.38	1800.00		57798.03	56539.60	55907.29
202 Hg	# 3	0.8681	0.8681	ug/l	0.39	5.00		1444.08	1413.07	1422.74
205 Tl	# 3	3.84	3.84	ug/l	0.24	20.00		49495.73	48739.64	48492.23
208 Pb	# 3	18.96	18.96	ug/l	0.41	1800.00		338627.41	331553.69	333243.81

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	690784.31	1.08	762890.69	90.5	60 - 125.4		698864.06	689295.63	684193.25
45 Sc	# 1	593294.88	10.13	620105.56	95.7	60 - 125.4		662711.75	558587.25	558585.75
45 Sc	# 3	775352.56	1.19	771387.50	100.5	60 - 125.4		783486.75	777267.25	765303.63
74 Ge	# 1	154216.56	6.60	164848.81	93.6	60 - 125.4		165689.17	146251.50	150709.02
74 Ge	# 2	29672.92	0.67	33226.06	89.3	60 - 125.4		29490.87	29644.55	29883.35
74 Ge	# 3	172363.14	1.25	178474.77	96.6	60 - 125.4		174834.89	171283.28	170971.22
89 Y	# 3	1043724.80	1.50	1057065.90	98.7	60 - 125.4		1059765.60	1028506.60	1042902.10
115 In	# 3	870960.94	1.32	917456.31	94.9	60 - 125.4		883417.81	868743.50	860721.56
159 Tb	# 3	1131699.30	1.04	1264337.30	89.5	60 - 125.4		1145306.50	1125090.30	1124701.00
209 Bi	# 3	608966.56	0.76	698508.81	87.2	60 - 125.4		613710.13	604527.25	608662.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\201SMPL.D\201SMPL.D#
Date Acquired:	Dec 22 2012 02:24 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-1-b ms
Misc Info:	3005 1/5
Vial Number:	3106
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.86	10.86	ug/l	0.80	100.00		40272.60	40299.56	40316.11
11 B # 3	42.34	42.34	ug/l	0.94	200.00		167538.52	168077.75	164464.45
23 Na # 1	1729	1729	ug/l	0.09	90000.00		10718237.00	10830323.00	10627345.00
24 Mg # 1	2314	2314	ug/l	0.21	90000.00		9290956.00	9374947.00	9221224.00
27 Al # 1	1118	1118	ug/l	0.82	90000.00		4693140.50	4780100.50	4725460.00
39 K # 2	1325	1325	ug/l	0.29	90000.00		576156.50	574926.38	578293.44
40 Ca # 1	3605	3605	ug/l	2.30	90000.00		32913722.00	33107692.00	33819048.00
47 Ti # 3	24.84	24.84	ug/l	0.88	1800.00		29487.57	29150.38	29190.24
51 V # 2	22.36	22.36	ug/l	0.60	1800.00		56540.88	56530.95	56496.03
52 Cr # 2	21.72	21.72	ug/l	0.39	1800.00		64113.68	63558.16	64290.32
55 Mn # 3	137.9	137.9	ug/l	0.48	2700.00		2816723.80	2766617.50	2743560.50
56 Fe # 1	1196	1196	ug/l	0.51	90000.00		15931670.00	16137333.00	15657068.00
59 Co # 3	9.901	9.901	ug/l	0.12	1800.00		148671.44	147484.95	145546.86
60 Ni # 2	22.09	22.09	ug/l	0.66	1800.00		22510.44	22495.75	22459.73
63 Cu # 2	21.86	21.86	ug/l	0.07	1800.00		57757.44	57721.95	58357.58
66 Zn # 3	22.88	22.88	ug/l	1.35	1800.00		44158.46	42664.40	42951.65
75 As # 2	22.37	22.37	ug/l	1.02	1800.00		5747.38	5848.75	5891.10
78 Se # 1	20.74	20.74	ug/l	0.79	100.00		7545.47	7518.12	7548.81
88 Sr # 3	31.01	31.01	ug/l	1.32	1800.00		645993.63	638452.00	646741.19
95 Mo # 3	20.9	20.9	ug/l	0.57	1800.00		68242.70	67292.20	67081.16
107 Ag # 3	10.18	10.18	ug/l	1.29	100.00		84581.19	84168.53	82680.56
111 Cd # 3	10.23	10.23	ug/l	0.87	100.00		17762.16	17765.81	17762.60
118 Sn # 3	20.43	20.43	ug/l	0.34	1800.00		103846.37	102675.01	102863.34
121 Sb # 3	10.88	10.88	ug/l	1.19	100.00		59713.40	59629.89	59964.42
137 Ba # 3	25.41	25.41	ug/l	1.46	1800.00		58540.80	59156.17	58346.25
202 Hg # 3	0.9709	0.9709	ug/l	1.24	5.00		1607.09	1607.76	1636.76
205 Tl # 3	7.699	7.699	ug/l	1.05	20.00		98602.84	98318.05	97092.85
208 Pb # 3	9.637	9.637	ug/l	0.40	1800.00		173590.00	173475.52	172296.52

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	684948.00	0.80	762890.69	89.8	60 - 125.4		682111.75	691262.19	681470.13
45 Sc # 1	573349.19	1.04	620105.56	92.5	60 - 125.4		572952.19	579499.81	567595.50
45 Sc # 3	775650.38	0.27	771387.50	100.6	60 - 125.4		773457.00	775838.31	777655.81
74 Ge # 1	150037.03	0.59	164848.81	91.0	60 - 125.4		150179.03	150845.67	149086.36
74 Ge # 2	29313.37	0.56	33226.06	88.2	60 - 125.4		29240.49	29198.73	29500.90
74 Ge # 3	172266.59	0.98	178474.77	96.5	60 - 125.4		173898.11	172376.64	170525.02
89 Y # 3	1032893.80	0.93	1057065.90	97.7	60 - 125.4		1041335.20	1034895.40	1022450.50
115 In # 3	875462.38	0.86	917456.31	95.4	60 - 125.4		883159.69	868196.31	875031.13
159 Tb # 3	1136158.00	0.85	1264337.30	89.9	60 - 125.4		1146064.30	1126782.10	1135627.90
209 Bi # 3	618175.75	0.30	698508.81	88.5	60 - 125.4		617077.13	620328.94	617121.19

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\202SMPL.D\202SMPL.D#
Date Acquired:	Dec 22 2012 02:31 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-1-c msd
Misc Info:	3005 1/5
Vial Number:	3107
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	10.24	10.24	ug/l	0.89	100.00		38374.84	38608.82	37990.81
11 B	# 3	40.22	40.22	ug/l	1.18	200.00		161664.59	161560.83	157547.30
23 Na	# 1	1658	1658	ug/l	1.00	90000.00		10473556.00	10265103.00	10234328.00
24 Mg	# 1	2207	2207	ug/l	0.75	90000.00		8905657.00	8855370.00	8914677.00
27 Al	# 1	1067	1067	ug/l	0.69	90000.00		4562671.50	4512936.00	4516561.00
39 K	# 2	1280	1280	ug/l	1.35	90000.00		558054.81	545689.19	558070.94
40 Ca	# 1	3428	3428	ug/l	0.69	90000.00		32074972.00	31143292.00	32020980.00
47 Ti	# 3	23.58	23.58	ug/l	1.52	1800.00		27904.60	27707.68	27600.85
51 V	# 2	21.71	21.71	ug/l	0.87	1800.00		54053.13	54857.88	54732.69
52 Cr	# 2	20.96	20.96	ug/l	0.49	1800.00		61119.55	61229.29	61650.93
55 Mn	# 3	133.6	133.6	ug/l	1.42	2700.00		2738741.50	2676195.50	2600017.80
56 Fe	# 1	1152	1152	ug/l	1.40	90000.00		15351025.00	15427105.00	15299875.00
59 Co	# 3	9.557	9.557	ug/l	0.43	1800.00		143048.88	141885.39	138740.17
60 Ni	# 2	21.16	21.16	ug/l	1.01	1800.00		21464.37	21326.19	21410.94
63 Cu	# 2	21.48	21.48	ug/l	0.83	1800.00		56654.21	56319.65	56727.18
66 Zn	# 3	22.05	22.05	ug/l	1.32	1800.00		41778.75	41100.66	41517.84
75 As	# 2	21.53	21.53	ug/l	0.77	1800.00		5540.64	5591.33	5587.66
78 Se	# 1	20.12	20.12	ug/l	0.32	100.00		7330.04	7257.00	7296.02
88 Sr	# 3	29.99	29.99	ug/l	0.97	1800.00		623476.44	612729.25	618925.25
95 Mo	# 3	19.93	19.93	ug/l	1.31	1800.00		64932.07	64309.71	63218.55
107 Ag	# 3	9.833	9.833	ug/l	1.02	100.00		81588.73	80258.14	79920.35
111 Cd	# 3	9.792	9.792	ug/l	0.98	100.00		16865.78	17099.47	16796.22
118 Sn	# 3	19.38	19.38	ug/l	1.41	1800.00		98927.37	97162.88	96070.67
121 Sb	# 3	10.28	10.28	ug/l	0.94	100.00		56594.84	55598.08	56116.60
137 Ba	# 3	24.12	24.12	ug/l	1.09	1800.00		55094.18	56104.67	55137.67
202 Hg	# 3	0.936	0.936	ug/l	1.20	5.00		1575.42	1545.09	1544.09
205 Tl	# 3	7.487	7.487	ug/l	1.66	20.00		93619.77	95595.83	94045.73
208 Pb	# 3	9.264	9.264	ug/l	0.78	1800.00		166883.70	167454.95	163456.33

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	690925.94	0.74	762890.69	90.6	60 - 125.4		696679.06	689154.25	686944.50
45 Sc	# 1	574981.00	1.05	620105.56	92.7	60 - 125.4		580157.50	568321.13	576464.31
45 Sc	# 3	773585.19	1.92	771387.50	100.3	60 - 125.4		783877.25	780315.38	756562.88
74 Ge	# 1	149633.16	0.18	164848.81	90.8	60 - 125.4		149907.06	149357.00	149635.39
74 Ge	# 2	29119.69	0.95	33226.06	87.6	60 - 125.4		28916.53	29008.40	29434.14
74 Ge	# 3	171168.50	1.19	178474.77	95.9	60 - 125.4		173028.16	171483.59	168993.78
89 Y	# 3	1025654.10	0.81	1057065.90	97.0	60 - 125.4		1033454.60	1026508.80	1016998.80
115 In	# 3	871311.19	0.08	917456.31	95.0	60 - 125.4		872137.19	870834.25	870962.19
159 Tb	# 3	1125496.10	0.62	1264337.30	89.0	60 - 125.4		1126297.80	1118161.90	1132028.80
209 Bi	# 3	616212.44	0.56	698508.81	88.2	60 - 125.4		616771.06	619331.31	612535.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\203SMPL.D\203SMPL.D#
Date Acquired:	Dec 22 2012 02:37 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-2-a
Misc Info:	3005 1/5
Vial Number:	3108
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04761	-0.04761	ug/l	2.92	100.00		20.00	26.67	30.00
11 B # 3	0.7657	0.7657	ug/l	8.41	200.00		14560.10	14219.81	13836.07
23 Na # 1	497.7	497.7	ug/l	1.99	90000.00		3273699.50	3308597.50	3219224.50
24 Mg # 1	1155	1155	ug/l	0.46	90000.00		4636522.00	4679984.50	4669261.00
27 Al # 1	4.377	4.377	ug/l	2.03	90000.00		24548.89	24134.88	24142.02
39 K # 2	182.2	182.2	ug/l	1.58	90000.00		92959.56	93522.31	95246.49
40 Ca # 1	2104	2104	ug/l	1.09	90000.00		19510930.00	19639616.00	19399008.00
47 Ti # 3	0.05896	0.05896	ug/l	55.73	1800.00		403.35	483.36	446.69
51 V # 2	0.6973	0.6973	ug/l	0.58	1800.00		2358.85	2355.52	2373.52
52 Cr # 2	0.1044	0.1044	ug/l	9.10	1800.00		510.01	482.01	541.35
55 Mn # 3	40.61	40.61	ug/l	1.87	2700.00		871765.50	857813.13	853311.88
56 Fe # 1	12.87	12.87	ug/l	0.49	90000.00		185080.38	185478.56	185767.94
59 Co # 3	0.1353	0.1353	ug/l	6.02	1800.00		2456.93	2330.24	2236.89
60 Ni # 2	1.152	1.152	ug/l	2.10	1800.00		1220.06	1213.39	1176.05
63 Cu # 2	0.02775	0.02775	ug/l	4.57	1800.00		219.34	222.67	225.34
66 Zn # 3	0.3058	0.3058	ug/l	13.53	1800.00		2086.86	1956.85	2016.87
75 As # 2	0.1587	0.1587	ug/l	7.04	1800.00		64.00	58.67	64.33
78 Se # 1	0.0315	0.0315	ug/l	25.79	100.00		25.67	20.33	21.33
88 Sr # 3	8.588	8.588	ug/l	1.31	1800.00		183007.08	182042.83	181649.77
95 Mo # 3	-0.2205	-0.2205	ug/l	4.96	1800.00		283.34	223.34	216.67
107 Ag # 3	-0.02768	-0.02768	ug/l	9.61	100.00		63.34	66.67	26.67
111 Cd # 3	-0.01861	-0.01861	ug/l	30.68	100.00		39.90	26.58	19.92
118 Sn # 3	0.03462	0.03462	ug/l	6.17	1800.00		500.02	516.69	510.03
121 Sb # 3	0.0179	0.0179	ug/l	23.48	100.00		346.68	400.02	363.35
137 Ba # 3	4.476	4.476	ug/l	1.90	1800.00		10617.37	10760.83	10337.18
202 Hg # 3	0.02126	0.02126	ug/l	10.16	5.00		60.00	54.00	60.67
205 Tl # 3	0.01905	0.01905	ug/l	14.46	20.00		733.38	676.71	646.70
208 Pb # 3	-0.03993	-0.03993	ug/l	3.54	1800.00		413.35	450.02	403.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	705990.81	0.83	762890.69	92.5	60 - 125.4		711770.94	706192.25	700009.25
45 Sc # 1	575719.94	0.64	620105.56	92.8	60 - 125.4		572116.19	575544.19	579499.38
45 Sc # 3	778521.31	0.57	771387.50	100.9	60 - 125.4		777339.19	783419.19	774805.50
74 Ge # 1	152118.78	0.69	164848.81	92.3	60 - 125.4		150941.20	152462.95	152952.16
74 Ge # 2	29718.53	0.42	33226.06	89.4	60 - 125.4		29818.15	29579.40	29758.04
74 Ge # 3	180209.67	0.74	178474.77	101.0	60 - 125.4		178668.22	181057.91	180902.89
89 Y # 3	1046943.90	1.23	1057065.90	99.0	60 - 125.4		1042195.20	1061503.40	1037133.20
115 In # 3	884546.00	0.59	917456.31	96.4	60 - 125.4		890345.19	882948.19	880344.75
159 Tb # 3	1135563.10	1.66	1264337.30	89.8	60 - 125.4		1148798.90	1143938.10	1113952.40
209 Bi # 3	634196.25	1.50	698508.81	90.8	60 - 125.4		644865.94	631206.75	626516.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\204SMPL.D\204SMPL.D#
Date Acquired:	Dec 22 2012 02:44 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-3-a
Misc Info:	3005 1/5
Vial Number:	3109
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.02854	-0.02854	ug/l	26.32	100.00		100.00	120.00	66.67
11 B # 3	0.9025	0.9025	ug/l	17.01	200.00		14019.68	14636.80	14393.23
23 Na # 1	731.4	731.4	ug/l	1.97	90000.00		4606953.00	4698823.00	4603498.00
24 Mg # 1	1208	1208	ug/l	1.44	90000.00		4791053.00	4853713.00	4810683.50
27 Al # 1	2.628	2.628	ug/l	2.51	90000.00		16615.60	16732.52	16595.61
39 K # 2	616.5	616.5	ug/l	0.86	90000.00		275720.63	276303.31	279966.22
40 Ca # 1	1446	1446	ug/l	2.61	90000.00		13432019.00	13107249.00	13250121.00
47 Ti # 3	0.03645	0.03645	ug/l	71.47	1800.00		390.02	416.68	430.02
51 V # 2	0.448	0.448	ug/l	3.47	1800.00		1656.10	1758.77	1720.10
52 Cr # 2	0.02572	0.02572	ug/l	14.00	1800.00		262.67	286.67	272.67
55 Mn # 3	374.7	374.7	ug/l	1.20	2700.00		7474611.50	7481281.50	7432343.00
56 Fe # 1	6257	6257	ug/l	1.15	90000.00		82200776.00	82189632.00	83189496.00
59 Co # 3	9.211	9.211	ug/l	2.29	1800.00		135344.38	135096.72	137049.64
60 Ni # 2	2.574	2.574	ug/l	2.22	1800.00		2668.23	2612.23	2642.90
63 Cu # 2	0.1358	0.1358	ug/l	1.47	1800.00		504.01	502.01	513.35
66 Zn # 3	3.537	3.537	ug/l	1.71	1800.00		7992.22	7808.81	7548.67
75 As # 2	0.3863	0.3863	ug/l	3.71	1800.00		123.33	119.33	120.00
78 Se # 1	0.01171	0.01171	ug/l	91.72	100.00		19.00	11.33	14.67
88 Sr # 3	8.659	8.659	ug/l	1.44	1800.00		187318.66	182330.52	182528.69
95 Mo # 3	-0.2422	-0.2422	ug/l	3.34	1800.00		150.01	160.01	193.34
107 Ag # 3	-0.03096	-0.03096	ug/l	5.01	100.00		33.33	10.00	30.00
111 Cd # 3	-0.009218	-0.009218	ug/l	83.88	100.00		36.61	59.94	36.60
118 Sn # 3	0.03063	0.03063	ug/l	39.50	1800.00		553.36	430.02	456.69
121 Sb # 3	0.0134	0.0134	ug/l	47.72	100.00		380.02	306.68	350.02
137 Ba # 3	8.795	8.795	ug/l	1.82	1800.00		20280.76	20147.25	20294.16
202 Hg # 3	0.01023	0.01023	ug/l	23.10	5.00		42.00	40.00	33.67
205 Tl # 3	0.004395	0.004395	ug/l	65.30	20.00		516.69	453.36	510.03
208 Pb # 3	-0.03197	-0.03197	ug/l	10.22	1800.00		536.69	616.69	503.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	688457.94	1.80	762890.69	90.2	60 - 125.4		700781.88	676000.38	688591.63
45 Sc # 1	569050.44	1.60	620105.56	91.8	60 - 125.4		559335.75	570426.13	577389.50
45 Sc # 3	768578.06	2.62	771387.50	99.6	60 - 125.4		791692.88	754622.88	759418.38
74 Ge # 1	150448.22	0.63	164848.81	91.3	60 - 125.4		149523.42	150410.42	151410.78
74 Ge # 2	29396.83	1.42	33226.06	88.5	60 - 125.4		28954.88	29450.80	29784.80
74 Ge # 3	170843.97	1.52	178474.77	95.7	60 - 125.4		172888.38	171710.75	167932.78
89 Y # 3	1048822.50	2.12	1057065.90	99.2	60 - 125.4		1068634.30	1053079.90	1024753.20
115 In # 3	868280.50	1.62	917456.31	94.6	60 - 125.4		879825.81	872413.75	852601.94
159 Tb # 3	1121285.90	0.59	1264337.30	88.7	60 - 125.4		1125497.50	1124702.80	1113657.80
209 Bi # 3	616592.63	1.47	698508.81	88.3	60 - 125.4		626421.44	614712.00	608644.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\205SMPL.D\205SMPL.D#
Date Acquired:	Dec 22 2012 02:51 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-4-a
Misc Info:	3005 1/5
Vial Number:	3110
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04184	-0.04184	ug/l	5.10	100.00		50.00	53.33	36.67
11 B # 3	0.4207	0.4207	ug/l	34.56	200.00		12381.64	12965.42	12505.04
23 Na # 1	1190	1190	ug/l	2.43	90000.00		7335983.00	7380233.00	7320530.00
24 Mg # 1	2478	2478	ug/l	1.70	90000.00		9703288.00	9820354.00	9892132.00
27 Al # 1	1.603	1.603	ug/l	6.02	90000.00		11894.99	12893.23	11991.52
39 K # 2	680.1	680.1	ug/l	1.67	90000.00		297953.81	304772.94	306773.19
40 Ca # 1	3862	3862	ug/l	0.85	90000.00		34338444.00	35399252.00	35652380.00
47 Ti # 3	0.03456	0.03456	ug/l	76.79	1800.00		380.02	426.70	403.35
51 V # 2	0.5001	0.5001	ug/l	4.00	1800.00		1870.12	1776.78	1858.12
52 Cr # 2	0.03852	0.03852	ug/l	9.19	1800.00		307.34	302.00	322.01
55 Mn # 3	2311	2311	ug/l	2.61	2700.00		46097144.00	45878812.00	45600020.00
56 Fe # 1	2357	2357	ug/l	1.25	90000.00		30393812.00	31038386.00	31177030.00
59 Co # 3	120.2	120.2	ug/l	2.99	1800.00		1775763.80	1755469.10	1766347.90
60 Ni # 2	5.947	5.947	ug/l	1.32	1800.00		5979.14	6129.86	6067.84
63 Cu # 2	0.1872	0.1872	ug/l	2.33	1800.00		643.35	627.35	650.02
66 Zn # 3	3.679	3.679	ug/l	4.17	1800.00		8112.31	7872.14	8072.28
75 As # 2	0.3165	0.3165	ug/l	5.72	1800.00		97.00	105.33	104.67
78 Se # 1	0.003248	0.003248	ug/l	64.26	100.00		11.00	12.67	11.67
88 Sr # 3	29.79	29.79	ug/l	3.51	1800.00		625288.81	605761.06	610040.75
95 Mo # 3	-0.1995	-0.1995	ug/l	1.91	1800.00		313.35	313.35	273.34
107 Ag # 3	-0.03034	-0.03034	ug/l	4.70	100.00		20.00	26.67	40.00
111 Cd # 3	-0.01615	-0.01615	ug/l	2.61	100.00		33.22	33.22	29.90
118 Sn # 3	0.04204	0.04204	ug/l	14.25	1800.00		580.03	520.03	493.36
121 Sb # 3	0.006569	0.006569	ug/l	210.84	100.00		270.01	256.68	370.02
137 Ba # 3	35.93	35.93	ug/l	3.29	1800.00		81304.86	81905.02	80574.98
202 Hg # 3	0.007839	0.007839	ug/l	10.38	5.00		33.67	36.00	33.00
205 Tl # 3	0.1587	0.1587	ug/l	6.69	20.00		2326.94	2503.63	2386.95
208 Pb # 3	-0.03174	-0.03174	ug/l	9.65	1800.00		566.69	610.03	476.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	691249.06	3.10	762890.69	90.6	60 - 125.4		712937.69	690702.00	670107.44
45 Sc # 1	564934.44	2.46	620105.56	91.1	60 - 125.4		549086.38	574851.06	570865.81
45 Sc # 3	756205.44	4.57	771387.50	98.0	60 - 125.4		777508.75	774740.63	716367.06
74 Ge # 1	148506.31	0.97	164848.81	90.1	60 - 125.4		146841.59	149359.94	149317.42
74 Ge # 2	29282.18	0.06	33226.06	88.1	60 - 125.4		29303.93	29268.82	29273.80
74 Ge # 3	170487.67	3.14	178474.77	95.5	60 - 125.4		175583.06	170961.22	164918.70
89 Y # 3	1025762.20	4.26	1057065.90	97.0	60 - 125.4		1065803.90	1032295.30	979187.38
115 In # 3	858696.25	3.87	917456.31	93.6	60 - 125.4		881924.38	873565.63	820598.69
159 Tb # 3	1114529.00	3.85	1264337.30	88.2	60 - 125.4		1149374.10	1127561.40	1066651.90
209 Bi # 3	609828.25	3.17	698508.81	87.3	60 - 125.4		623975.63	617714.13	587794.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\206_CCV.D\206_CCV.D#
Date Acquired: Dec 22 2012 02:57 pm
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	50.69 ug/l	1.58	50.00	89.6 - 110	
11 B	97.94 ug/l	0.92	100.00	89.6 - 110	
23 Na	4391.00 ug/l	1.22	5000.00	89.6 - 110	Fail
24 Mg	4486.00 ug/l	1.42	5000.00	89.6 - 110	
27 Al	445.20 ug/l	2.15	500.00	89.6 - 110	Fail
39 K	5135.00 ug/l	1.47	5000.00	89.6 - 110	
40 Ca	4725.00 ug/l	1.46	5000.00	89.6 - 110	
47 Ti	48.26 ug/l	0.98	50.00	89.6 - 110	
51 V	50.64 ug/l	1.05	50.00	89.6 - 110	
52 Cr	50.13 ug/l	1.07	50.00	89.6 - 110	
55 Mn	504.10 ug/l	0.77	500.00	89.6 - 110	
56 Fe	4722.00 ug/l	2.18	5000.00	89.6 - 110	
59 Co	50.87 ug/l	0.64	50.00	89.6 - 110	
60 Ni	50.69 ug/l	1.21	50.00	89.6 - 110	
63 Cu	50.64 ug/l	0.73	50.00	89.6 - 110	
66 Zn	48.35 ug/l	0.79	50.00	89.6 - 110	
75 As	49.61 ug/l	1.21	50.00	89.6 - 110	
78 Se	47.80 ug/l	1.75	50.00	89.6 - 110	
88 Sr	49.86 ug/l	1.23	50.00	89.6 - 110	
95 Mo	49.97 ug/l	0.01	50.00	89.6 - 110	
107 Ag	48.08 ug/l	0.39	50.00	89.6 - 110	
111 Cd	47.29 ug/l	0.68	50.00	89.6 - 110	
118 Sn	47.83 ug/l	0.44	50.00	89.6 - 110	
121 Sb	45.29 ug/l	0.85	50.00	89.6 - 110	
137 Ba	48.76 ug/l	0.49	50.00	89.6 - 110	
202 Hg	2.30 ug/l	1.04	2.50	89.6 - 110	
205 Tl	9.20 ug/l	0.45	10.00	89.6 - 110	
208 Pb	46.47 ug/l	0.27	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	706764.31	1.73	762890.69	92.6	59.6 - 125	
45 Sc	602556.88	1.50	620105.56	97.2	59.6 - 125	
45 Sc	796378.75	0.86	771387.50	103.2	59.6 - 125	
74 Ge	153538.23	1.77	164848.81	93.1	59.6 - 125	
74 Ge	29449.68	0.74	33226.06	88.6	59.6 - 125	
74 Ge	171846.70	0.46	178474.77	96.3	59.6 - 125	
89 Y	1051135.00	0.80	1057065.90	99.4	59.6 - 125	
115 In	863763.56	0.59	917456.31	94.1	59.6 - 125	
159 Tb	1131365.90	0.71	1264337.30	89.5	59.6 - 125	
209 Bi	589720.81	0.84	698508.81	84.4	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\207_CCB.D\207_CCB.D#
Date Acquired: Dec 22 2012 03:04 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.03 ug/l	52.34	0.05	
11 B	0.61 ug/l	10.34	10.00	
23 Na	-9.92 ug/l	7.39	25.00	
24 Mg	2.05 ug/l	5.31	25.00	
27 Al	-0.72 ug/l	1.66	5.00	
39 K	6.97 ug/l	11.94	25.00	
40 Ca	3.25 ug/l	4.31	25.00	
47 Ti	-0.24 ug/l	4.89	0.50	
51 V	-0.03 ug/l	15.26	0.50	
52 Cr	0.01 ug/l	33.37	0.50	
55 Mn	0.14 ug/l	28.86	0.50	
56 Fe	3.01 ug/l	4.31	10.00	
59 Co	0.03 ug/l	18.84	0.05	
60 Ni	0.02 ug/l	19.92	0.50	
63 Cu	0.02 ug/l	43.24	0.50	
66 Zn	-0.47 ug/l	0.95	2.00	
75 As	0.03 ug/l	33.14	0.25	
78 Se	0.05 ug/l	41.69	0.25	
88 Sr	-0.07 ug/l	4.53	0.10	
95 Mo	-0.17 ug/l	6.91	0.50	
107 Ag	-0.01 ug/l	26.47	0.10	
111 Cd	0.00 ug/l	541.81	0.05	
118 Sn	0.02 ug/l	32.54	0.50	
121 Sb	0.31 ug/l	6.82	0.50	
137 Ba	-0.02 ug/l	30.01	0.50	
202 Hg	0.05 ug/l	3.62	0.08	
205 Tl	-0.02 ug/l	3.53	0.10	
208 Pb	-0.02 ug/l	9.98	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	757993.19	1.72	762890.69	99.4	59.6 - 125	
45 Sc	585670.31	0.75	620105.56	94.4	59.6 - 125	
45 Sc	816735.31	0.91	771387.50	105.9	59.6 - 125	
74 Ge	152953.27	0.23	164848.81	92.8	59.6 - 125	
74 Ge	30214.44	0.73	33226.06	90.9	59.6 - 125	
74 Ge	177834.55	0.49	178474.77	99.6	59.6 - 125	
89 Y	1083483.60	0.44	1057065.90	102.5	59.6 - 125	
115 In	893209.88	1.44	917456.31	97.4	59.6 - 125	
159 Tb	1149902.80	1.17	1264337.30	90.9	59.6 - 125	
209 Bi	602548.56	0.68	698508.81	86.3	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\208SMPL.D\208SMPL.D#
Date Acquired:	Dec 22 2012 03:11 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-12-a
Misc Info:	3005 1/5
Vial Number:	3111
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03613	-0.03613	ug/l	6.82	100.00		76.67	76.67	60.00
11 B # 3	0.5931	0.5931	ug/l	9.38	200.00		13976.28	14089.71	13666.08
23 Na # 1	134.1	134.1	ug/l	2.10	90000.00		1040610.40	1057965.90	1079141.40
24 Mg # 1	295.6	295.6	ug/l	0.07	90000.00		1198647.40	1210270.00	1206118.10
27 Al # 1	33.6	33.6	ug/l	4.71	90000.00		155808.81	149150.34	143116.09
39 K # 2	349.7	349.7	ug/l	0.62	90000.00		169502.00	168233.08	168067.69
40 Ca # 1	6.907	6.907	ug/l	1.24	90000.00		97485.12	98763.52	96868.52
47 Ti # 3	0.4899	0.4899	ug/l	12.26	1800.00		996.73	993.40	880.05
51 V # 2	0.2724	0.2724	ug/l	1.68	1800.00		1293.39	1318.06	1306.73
52 Cr # 2	0.07446	0.07446	ug/l	13.48	1800.00		395.34	455.34	436.68
55 Mn # 3	1.833	1.833	ug/l	1.20	2700.00		46952.59	45585.57	45916.27
56 Fe # 1	25.78	25.78	ug/l	1.17	90000.00		362583.16	357530.63	360171.81
59 Co # 3	0.04272	0.04272	ug/l	7.96	1800.00		943.39	830.05	880.05
60 Ni # 2	0.4583	0.4583	ug/l	2.84	1800.00		512.01	493.34	483.34
63 Cu # 2	1.316	1.316	ug/l	3.19	1800.00		3760.46	3629.76	3822.48
66 Zn # 3	2.478	2.478	ug/l	3.56	1800.00		6284.78	5891.27	5947.95
75 As # 2	0.1067	0.1067	ug/l	10.05	1800.00		51.33	46.33	50.67
78 Se # 1	0.01572	0.01572	ug/l	43.47	100.00		19.67	16.33	14.67
88 Sr # 3	-0.008763	-0.008763	ug/l	23.12	1800.00		1946.86	2020.20	1940.18
95 Mo # 3	-0.2486	-0.2486	ug/l	3.57	1800.00		156.67	180.01	120.00
107 Ag # 3	-0.02892	-0.02892	ug/l	1.43	100.00		46.67	40.00	40.00
111 Cd # 3	-0.01745	-0.01745	ug/l	5.38	100.00		33.28	29.93	29.96
118 Sn # 3	0.03054	0.03054	ug/l	42.96	1800.00		423.35	553.36	500.02
121 Sb # 3	0.1042	0.1042	ug/l	5.44	100.00		876.72	836.71	880.05
137 Ba # 3	3.438	3.438	ug/l	2.21	1800.00		8439.41	8059.06	8182.44
202 Hg # 3	0.02219	0.02219	ug/l	14.80	5.00		55.33	66.33	59.00
205 Tl # 3	-0.01779	-0.01779	ug/l	18.99	20.00		266.68	186.67	200.01
208 Pb # 3	0.02473	0.02473	ug/l	21.25	1800.00		1703.43	1513.42	1636.76

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	724800.81	0.12	762890.69	95.0	60 - 125.4		723901.00	725642.63	724858.75
45 Sc # 1	579570.06	0.43	620105.56	93.5	60 - 125.4		576964.00	581871.06	579875.06
45 Sc # 3	786140.88	0.84	771387.50	101.9	60 - 125.4		789580.75	778540.06	790301.88
74 Ge # 1	154310.58	0.47	164848.81	93.6	60 - 125.4		154493.41	153504.14	154934.17
74 Ge # 2	30213.94	0.45	33226.06	90.9	60 - 125.4		30235.64	30337.50	30068.67
74 Ge # 3	176114.78	0.97	178474.77	98.7	60 - 125.4		177904.61	175926.56	174513.22
89 Y # 3	1067484.80	1.59	1057065.90	101.0	60 - 125.4		1080683.50	1073395.30	1048375.60
115 In # 3	892248.81	1.35	917456.31	97.3	60 - 125.4		901722.06	896315.69	878708.50
159 Tb # 3	1130823.80	0.35	1264337.30	89.4	60 - 125.4		1131689.40	1126561.30	1134220.50
209 Bi # 3	638778.88	0.59	698508.81	91.4	60 - 125.4		641460.81	640426.25	634449.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\209SMPL.D\209SMPL.D#
Date Acquired:	Dec 22 2012 03:17 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-13-a
Misc Info:	3005 1/5
Vial Number:	3112
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03071	-0.03071	ug/l	16.90	100.00		100.00	70.00	110.00
11 B # 3	0.2503	0.2503	ug/l	13.98	200.00		12765.27	12695.20	12671.85
23 Na # 1	134.7	134.7	ug/l	3.99	90000.00		1043477.50	1090494.10	1034045.70
24 Mg # 1	432.7	432.7	ug/l	0.90	90000.00		1736390.40	1764296.60	1751423.50
27 Al # 1	5.366	5.366	ug/l	5.00	90000.00		26902.95	28798.26	29811.24
39 K # 2	353.1	353.1	ug/l	1.32	90000.00		173857.11	169790.08	171512.34
40 Ca # 1	141.9	141.9	ug/l	1.31	90000.00		1343992.10	1357031.80	1343130.50
47 Ti # 3	0.004555	0.004555	ug/l	3194.30	1800.00		594.43	310.01	263.34
51 V # 2	0.3957	0.3957	ug/l	3.93	1800.00		1591.42	1650.76	1676.76
52 Cr # 2	0.03457	0.03457	ug/l	6.80	1800.00		302.67	314.01	317.34
55 Mn # 3	23.74	23.74	ug/l	2.80	2700.00		516678.31	490574.47	489578.75
56 Fe # 1	31.5	31.5	ug/l	1.37	90000.00		434294.00	435645.66	433025.81
59 Co # 3	0.2012	0.2012	ug/l	1.44	1800.00		3300.44	3273.77	3363.80
60 Ni # 2	0.5774	0.5774	ug/l	2.23	1800.00		611.35	636.68	633.35
63 Cu # 2	0.7858	0.7858	ug/l	1.93	1800.00		2266.17	2343.52	2332.85
66 Zn # 3	1.291	1.291	ug/l	4.57	1800.00		3863.90	3717.19	3953.95
75 As # 2	0.1283	0.1283	ug/l	4.56	1800.00		54.00	57.00	56.33
78 Se # 1	0.01051	0.01051	ug/l	82.45	100.00		11.33	15.67	17.67
88 Sr # 3	1.059	1.059	ug/l	1.22	1800.00		25274.17	25013.84	24623.18
95 Mo # 3	-0.2616	-0.2616	ug/l	0.82	1800.00		103.34	110.00	116.67
107 Ag # 3	-0.02829	-0.02829	ug/l	10.28	100.00		66.67	20.00	56.67
111 Cd # 3	-0.007444	-0.007444	ug/l	145.35	100.00		43.30	69.96	33.29
118 Sn # 3	0.04049	0.04049	ug/l	12.86	1800.00		556.69	513.36	566.70
121 Sb # 3	0.05	0.05	ug/l	5.87	100.00		576.70	540.03	570.03
137 Ba # 3	3.463	3.463	ug/l	4.09	1800.00		8742.79	8119.11	8085.75
202 Hg # 3	0.01441	0.01441	ug/l	4.38	5.00		48.33	46.67	46.00
205 Tl # 3	-0.00746	-0.00746	ug/l	24.30	20.00		336.68	373.35	356.68
208 Pb # 3	-0.01685	-0.01685	ug/l	22.39	1800.00		870.04	770.03	913.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	732574.88	0.74	762890.69	96.0	60 - 125.4		728115.38	731024.81	738584.44
45 Sc # 1	576099.44	1.19	620105.56	92.9	60 - 125.4		568763.44	577188.25	582346.69
45 Sc # 3	792765.63	1.28	771387.50	102.8	60 - 125.4		804434.75	786990.94	786871.06
74 Ge # 1	153724.56	0.18	164848.81	93.3	60 - 125.4		153438.84	154000.89	153733.95
74 Ge # 2	30503.92	0.40	33226.06	91.8	60 - 125.4		30466.08	30404.30	30641.37
74 Ge # 3	177356.11	0.39	178474.77	99.4	60 - 125.4		178049.92	176671.27	177347.13
89 Y # 3	1074493.50	0.60	1057065.90	101.6	60 - 125.4		1081413.80	1068699.30	1073367.80
115 In # 3	895545.69	0.47	917456.31	97.6	60 - 125.4		900103.19	891726.94	894806.94
159 Tb # 3	1155857.30	1.52	1264337.30	91.4	60 - 125.4		1176084.80	1143852.90	1147634.00
209 Bi # 3	638674.13	0.61	698508.81	91.4	60 - 125.4		642080.75	634381.13	639560.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\210SMPL.D\210SMPL.D#
Date Acquired:	Dec 22 2012 03:24 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-14-a
Misc Info:	3005 1/5
Vial Number:	3201
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05144	-0.05144	ug/l	3.63	100.00		3.33	13.33	16.67
11 B # 3	0.07965	0.07965	ug/l	146.26	200.00		11761.16	11877.90	11811.20
23 Na # 1	450	450	ug/l	1.03	90000.00		2983900.80	3031118.50	2968112.00
24 Mg # 1	177.3	177.3	ug/l	0.85	90000.00		725794.31	725286.75	720904.06
27 Al # 1	2.562	2.562	ug/l	12.13	90000.00		18033.97	16278.61	15665.22
39 K # 2	286.8	286.8	ug/l	0.49	90000.00		140121.48	141334.80	141914.97
40 Ca # 1	592.4	592.4	ug/l	0.38	90000.00		5493528.50	5577654.00	5585824.00
47 Ti # 3	-0.1189	-0.1189	ug/l	33.21	1800.00		276.68	190.01	253.34
51 V # 2	0.5435	0.5435	ug/l	2.78	1800.00		1954.80	2032.81	2026.81
52 Cr # 2	0.09463	0.09463	ug/l	10.36	1800.00		522.68	470.01	477.34
55 Mn # 3	-0.09457	-0.09457	ug/l	6.11	2700.00		6644.91	6818.31	6391.46
56 Fe # 1	6.941	6.941	ug/l	10.67	90000.00		116180.94	107321.04	97312.99
59 Co # 3	-0.007705	-0.007705	ug/l	2.69	1800.00		120.00	123.34	113.34
60 Ni # 2	0.2204	0.2204	ug/l	1.41	1800.00		243.34	246.00	250.67
63 Cu # 2	0.06434	0.06434	ug/l	2.91	1800.00		329.34	327.34	320.67
66 Zn # 3	0.02961	0.02961	ug/l	104.56	1800.00		1423.44	1460.11	1486.78
75 As # 2	0.154	0.154	ug/l	10.44	1800.00		66.33	62.00	58.00
78 Se # 1	0.01385	0.01385	ug/l	1.53	100.00		16.33	16.33	16.33
88 Sr # 3	5.378	5.378	ug/l	2.47	1800.00		117222.63	117729.27	116729.13
95 Mo # 3	-0.05228	-0.05228	ug/l	17.07	1800.00		816.71	806.71	726.71
107 Ag # 3	-0.02994	-0.02994	ug/l	2.59	100.00		26.67	36.67	36.67
111 Cd # 3	-0.01504	-0.01504	ug/l	53.77	100.00		49.70	36.37	19.73
118 Sn # 3	0.02836	0.02836	ug/l	32.44	1800.00		496.69	430.02	503.36
121 Sb # 3	0.01304	0.01304	ug/l	17.18	100.00		356.68	363.35	330.01
137 Ba # 3	2.962	2.962	ug/l	1.60	1800.00		7081.86	7175.24	6881.75
202 Hg # 3	0.008761	0.008761	ug/l	15.91	5.00		37.00	40.67	35.67
205 Tl # 3	-0.02651	-0.02651	ug/l	5.49	20.00		103.34	130.01	90.00
208 Pb # 3	-0.04152	-0.04152	ug/l	2.63	1800.00		430.02	380.02	390.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	719665.44	3.77	762890.69	94.3	60 - 125.4		733315.06	737240.31	688441.06
45 Sc # 1	579084.50	0.63	620105.56	93.4	60 - 125.4		575003.31	582015.13	580235.13
45 Sc # 3	790885.19	2.77	771387.50	102.5	60 - 125.4		802038.81	804960.38	765656.44
74 Ge # 1	155657.44	0.49	164848.81	94.4	60 - 125.4		155139.64	155299.86	156532.80
74 Ge # 2	30206.65	0.23	33226.06	90.9	60 - 125.4		30127.02	30242.25	30250.69
74 Ge # 3	176099.27	1.91	178474.77	98.7	60 - 125.4		178281.84	177793.39	172222.55
89 Y # 3	1068412.00	2.61	1057065.90	101.1	60 - 125.4		1096775.60	1067455.50	1041004.70
115 In # 3	884611.00	2.78	917456.31	96.4	60 - 125.4		905209.56	891186.44	857437.19
159 Tb # 3	1128927.10	2.27	1264337.30	89.3	60 - 125.4		1140007.80	1147166.80	1099606.60
209 Bi # 3	644948.50	2.89	698508.81	92.3	60 - 125.4		662127.00	647548.56	625169.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\211SMPL.D\211SMPL.D#
Date Acquired:	Dec 22 2012 03:31 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-15-a
Misc Info:	3005 1/5
Vial Number:	3202
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04386	-0.04386	ug/l	6.05	100.00		40.00	30.00	50.00
11 B # 3	-0.1243	-0.1243	ug/l	66.09	200.00		10647.04	10943.92	11030.64
23 Na # 1	149.6	149.6	ug/l	1.98	90000.00		1148730.30	1155919.50	1166039.80
24 Mg # 1	54.53	54.53	ug/l	1.11	90000.00		226545.91	228191.38	226704.97
27 Al # 1	1.906	1.906	ug/l	14.62	90000.00		13503.35	13029.06	15176.70
39 K # 2	129.4	129.4	ug/l	1.61	90000.00		72602.98	72696.75	72622.90
40 Ca # 1	234.1	234.1	ug/l	2.24	90000.00		2186056.80	2239828.80	2237544.30
47 Ti # 3	-0.06686	-0.06686	ug/l	79.72	1800.00		303.36	236.68	356.72
51 V # 2	0.5441	0.5441	ug/l	1.52	1800.00		1994.80	2022.81	2018.81
52 Cr # 2	0.1308	0.1308	ug/l	3.88	1800.00		613.35	587.35	603.35
55 Mn # 3	-0.01513	-0.01513	ug/l	32.94	2700.00		8322.41	8339.09	8112.28
56 Fe # 1	2.973	2.973	ug/l	2.98	90000.00		55535.32	53824.57	52282.93
59 Co # 3	-0.008667	-0.008667	ug/l	18.47	1800.00		113.34	123.34	76.67
60 Ni # 2	0.1447	0.1447	ug/l	5.74	1800.00		159.34	176.67	167.34
63 Cu # 2	0.04444	0.04444	ug/l	20.79	1800.00		298.67	258.67	259.34
66 Zn # 3	-0.07437	-0.07437	ug/l	58.05	1800.00		1200.08	1353.43	1240.09
75 As # 2	0.1258	0.1258	ug/l	15.84	1800.00		49.00	54.33	61.00
78 Se # 1	0.006	0.006	ug/l	78.92	100.00		11.33	14.67	13.67
88 Sr # 3	1.251	1.251	ug/l	1.08	1800.00		28730.35	28990.82	28195.93
95 Mo # 3	-0.2691	-0.2691	ug/l	3.41	1800.00		56.67	83.34	113.34
107 Ag # 3	-0.03088	-0.03088	ug/l	2.06	100.00		30.00	20.00	26.67
111 Cd # 3	-0.0148	-0.0148	ug/l	44.08	100.00		46.65	36.64	23.29
118 Sn # 3	0.01538	0.01538	ug/l	29.79	1800.00		403.35	400.02	430.02
121 Sb # 3	0.005947	0.005947	ug/l	116.92	100.00		313.35	343.35	263.34
137 Ba # 3	2.665	2.665	ug/l	4.62	1800.00		6351.56	6178.14	6538.30
202 Hg # 3	0.008201	0.008201	ug/l	34.11	5.00		38.33	31.67	41.00
205 Tl # 3	-0.02812	-0.02812	ug/l	7.66	20.00		106.67	103.34	56.67
208 Pb # 3	-0.04512	-0.04512	ug/l	3.89	1800.00		353.35	296.68	353.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	708987.69	1.04	762890.69	92.9	60 - 125.4		717395.06	705999.44	703568.50
45 Sc # 1	580954.00	0.86	620105.56	93.7	60 - 125.4		586657.31	578974.38	577230.44
45 Sc # 3	783307.25	0.93	771387.50	101.5	60 - 125.4		787484.25	787545.81	774891.63
74 Ge # 1	153915.23	0.44	164848.81	93.4	60 - 125.4		154702.09	153524.06	153519.56
74 Ge # 2	30297.42	1.25	33226.06	91.2	60 - 125.4		30020.18	30142.14	30729.94
74 Ge # 3	176338.50	0.38	178474.77	98.8	60 - 125.4		177025.28	176319.73	175670.48
89 Y # 3	1057092.10	0.58	1057065.90	100.0	60 - 125.4		1054134.60	1064188.40	1052953.60
115 In # 3	885056.63	1.67	917456.31	96.5	60 - 125.4		887630.38	898385.31	869154.13
159 Tb # 3	1147849.60	0.54	1264337.30	90.8	60 - 125.4		1152147.80	1150647.50	1140753.80
209 Bi # 3	648134.50	0.07	698508.81	92.8	60 - 125.4		647625.81	648518.75	648259.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\212SMPL.D\212SMPL.D#
Date Acquired:	Dec 22 2012 03:37 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-16-a
Misc Info:	3005 1/5
Vial Number:	3203
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04914	-0.04914	ug/l	4.38	100.00		30.00	13.33	16.67
11 B # 3	8.867	8.867	ug/l	1.24	200.00		46101.41	44507.47	44684.59
23 Na # 1	2107	2107	ug/l	1.33	90000.00		13329681.00	13324268.00	13351641.00
24 Mg # 1	1109	1109	ug/l	1.27	90000.00		4563891.50	4554561.50	4578716.00
27 Al # 1	2.439	2.439	ug/l	2.67	90000.00		16388.70	16492.08	16205.16
39 K # 2	171.2	171.2	ug/l	1.63	90000.00		92134.77	89881.94	92750.84
40 Ca # 1	997.2	997.2	ug/l	1.64	90000.00		9405843.00	9434768.00	9515432.00
47 Ti # 3	0.2548	0.2548	ug/l	120.29	1800.00		426.68	1049.44	490.02
51 V # 2	0.6199	0.6199	ug/l	4.36	1800.00		2202.16	2170.16	2302.18
52 Cr # 2	0.03275	0.03275	ug/l	11.30	1800.00		308.67	292.67	316.67
55 Mn # 3	51.82	51.82	ug/l	1.95	2700.00		1059393.10	1058005.90	1044515.80
56 Fe # 1	10.09	10.09	ug/l	2.20	90000.00		152095.45	152934.69	148747.45
59 Co # 3	0.3647	0.3647	ug/l	4.73	1800.00		5644.50	5551.16	5831.23
60 Ni # 2	0.2517	0.2517	ug/l	4.34	1800.00		298.00	272.00	277.34
63 Cu # 2	0.04264	0.04264	ug/l	12.66	1800.00		288.00	254.67	266.00
66 Zn # 3	0.1254	0.1254	ug/l	43.82	1800.00		1553.46	1600.13	1673.46
75 As # 2	0.1549	0.1549	ug/l	11.16	1800.00		67.33	64.00	57.67
78 Se # 1	0.007815	0.007815	ug/l	81.09	100.00		15.67	11.33	15.00
88 Sr # 3	6.233	6.233	ug/l	2.55	1800.00		130614.16	129692.84	128563.67
95 Mo # 3	-0.2738	-0.2738	ug/l	1.98	1800.00		76.67	80.00	46.67
107 Ag # 3	-0.03204	-0.03204	ug/l	2.99	100.00		20.00	6.67	20.00
111 Cd # 3	-0.005653	-0.005653	ug/l	94.66	100.00		43.31	59.97	46.65
118 Sn # 3	0.01778	0.01778	ug/l	50.28	1800.00		386.68	400.02	446.69
121 Sb # 3	-0.001366	-0.001366	ug/l	215.52	100.00		253.34	273.35	243.34
137 Ba # 3	7.219	7.219	ug/l	2.17	1800.00		16686.29	16432.76	16359.23
202 Hg # 3	0.01394	0.01394	ug/l	9.98	5.00		48.00	46.00	41.00
205 Tl # 3	-0.02821	-0.02821	ug/l	3.91	20.00		86.67	73.34	96.67
208 Pb # 3	-0.04568	-0.04568	ug/l	3.90	1800.00		300.01	293.34	336.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	708988.44	2.58	762890.69	92.9	60 - 125.4		729742.38	702118.06	695104.88
45 Sc # 1	587163.00	1.31	620105.56	94.7	60 - 125.4		595479.38	580358.25	585651.50
45 Sc # 3	761737.94	4.30	771387.50	98.7	60 - 125.4		797300.69	755066.25	732846.94
74 Ge # 1	155047.50	0.34	164848.81	94.1	60 - 125.4		154636.39	155639.16	154866.95
74 Ge # 2	30524.54	0.76	33226.06	91.9	60 - 125.4		30778.40	30324.17	30471.04
74 Ge # 3	173303.42	2.57	178474.77	97.1	60 - 125.4		178024.09	172726.61	169159.53
89 Y # 3	1021952.50	3.30	1057065.90	96.7	60 - 125.4		1058108.40	1016398.30	991350.81
115 In # 3	860820.38	3.09	917456.31	93.8	60 - 125.4		887150.94	861368.00	833942.13
159 Tb # 3	1122774.30	3.85	1264337.30	88.8	60 - 125.4		1165493.40	1123865.30	1078964.10
209 Bi # 3	621429.81	3.35	698508.81	89.0	60 - 125.4		643547.31	618485.38	602256.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\213SMPL.D\213SMPL.D#
Date Acquired:	Dec 22 2012 03:44 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-17-a
Misc Info:	3005 1/5
Vial Number:	3204
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03066	-0.03066	ug/l	9.54	100.00		103.34	83.34	90.00
11 B # 3	0.1123	0.1123	ug/l	76.28	200.00		11964.70	11781.25	12298.23
23 Na # 1	151.4	151.4	ug/l	1.37	90000.00		1166885.40	1139152.40	1162555.50
24 Mg # 1	223	223	ug/l	0.60	90000.00		906117.69	897038.63	907089.75
27 Al # 1	51.63	51.63	ug/l	0.51	90000.00		226417.86	222982.91	224994.31
39 K # 2	430.6	430.6	ug/l	0.97	90000.00		204727.11	202902.00	203565.28
40 Ca # 1	104.8	104.8	ug/l	1.45	90000.00		1009885.80	985557.56	1013205.70
47 Ti # 3	5.398	5.398	ug/l	1.54	1800.00		6681.55	6801.62	6721.61
51 V # 2	0.6726	0.6726	ug/l	3.16	1800.00		2281.51	2400.19	2326.85
52 Cr # 2	0.1681	0.1681	ug/l	5.18	1800.00		710.69	737.36	687.35
55 Mn # 3	2.156	2.156	ug/l	0.28	2700.00		53255.65	53282.32	52941.24
56 Fe # 1	78.21	78.21	ug/l	1.37	90000.00		1045478.40	1059174.00	1064686.50
59 Co # 3	0.06491	0.06491	ug/l	4.98	1800.00		1176.74	1246.76	1266.75
60 Ni # 2	0.3086	0.3086	ug/l	0.50	1800.00		335.34	340.67	340.67
63 Cu # 2	0.2271	0.2271	ug/l	7.02	1800.00		740.02	744.02	822.69
66 Zn # 3	0.4795	0.4795	ug/l	8.18	1800.00		2283.56	2413.58	2253.57
75 As # 2	0.1364	0.1364	ug/l	16.09	1800.00		63.33	56.33	52.33
78 Se # 1	0.009259	0.009259	ug/l	39.28	100.00		14.33	15.67	13.00
88 Sr # 3	1.502	1.502	ug/l	1.06	1800.00		34488.48	34047.86	33870.67
95 Mo # 3	-0.2838	-0.2838	ug/l	1.09	1800.00		46.67	40.00	26.67
107 Ag # 3	-0.03105	-0.03105	ug/l	7.53	100.00		16.67	46.67	10.00
111 Cd # 3	-0.01363	-0.01363	ug/l	29.48	100.00		29.98	43.32	39.99
118 Sn # 3	0.0307	0.0307	ug/l	25.93	1800.00		496.69	533.36	450.02
121 Sb # 3	-7.82E-005	-7.82E-005	ug/l	7812.90	100.00		263.34	246.68	313.35
137 Ba # 3	5.931	5.931	ug/l	1.39	1800.00		14363.88	13883.37	13990.14
202 Hg # 3	0.004306	0.004306	ug/l	22.05	5.00		28.67	31.33	30.00
205 Tl # 3	-0.02064	-0.02064	ug/l	13.12	20.00		183.34	150.01	220.01
208 Pb # 3	-0.001065	-0.001065	ug/l	467.04	1800.00		1266.73	1063.38	1116.72

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	723429.44	1.29	762890.69	94.8	60 - 125.4		713562.63	732085.63	724640.00
45 Sc # 1	575245.13	0.43	620105.56	92.8	60 - 125.4		578072.94	573892.94	573769.50
45 Sc # 3	784941.63	0.82	771387.50	101.8	60 - 125.4		791710.75	784177.38	778936.88
74 Ge # 1	152776.92	0.08	164848.81	92.7	60 - 125.4		152773.89	152662.89	152894.02
74 Ge # 2	30186.63	0.51	33226.06	90.9	60 - 125.4		30021.83	30213.91	30324.17
74 Ge # 3	177418.77	0.52	178474.77	99.4	60 - 125.4		177480.44	178310.59	176465.25
89 Y # 3	1063316.80	1.47	1057065.90	100.6	60 - 125.4		1079689.50	1048527.30	1061733.60
115 In # 3	892283.75	0.53	917456.31	97.3	60 - 125.4		897403.75	891458.75	887988.75
159 Tb # 3	1147020.90	1.02	1264337.30	90.7	60 - 125.4		1133625.60	1152620.50	1154816.50
209 Bi # 3	642170.00	1.27	698508.81	91.9	60 - 125.4		651317.13	639486.75	635706.06

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\214SMPL.D\214SMPL.D#
Date Acquired:	Dec 22 2012 03:51 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-18-a
Misc Info:	3005 1/5
Vial Number:	3205
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03698	-0.03698	ug/l	2.86	100.00		70.00	63.34	70.00
11 B # 3	-0.1841	-0.1841	ug/l	46.32	200.00		11160.74	10940.59	10550.31
23 Na # 1	835.7	835.7	ug/l	0.88	90000.00		5411570.00	5465279.00	5411421.50
24 Mg # 1	254.7	254.7	ug/l	1.02	90000.00		1055129.00	1056261.80	1043711.30
27 Al # 1	2.561	2.561	ug/l	2.31	90000.00		16769.29	16632.23	17236.14
39 K # 2	228.9	228.9	ug/l	2.44	90000.00		115614.26	115318.71	116836.22
40 Ca # 1	613.7	613.7	ug/l	0.88	90000.00		5872072.50	5766325.00	5840986.50
47 Ti # 3	0.1966	0.1966	ug/l	22.59	1800.00		670.04	560.03	620.03
51 V # 2	0.6573	0.6573	ug/l	1.47	1800.00		2334.85	2288.17	2277.51
52 Cr # 2	0.2645	0.2645	ug/l	1.47	1800.00		1016.71	1022.71	976.03
55 Mn # 3	0.06848	0.06848	ug/l	5.39	2700.00		10306.96	10226.84	9996.77
56 Fe # 1	9.095	9.095	ug/l	0.76	90000.00		137633.11	138177.77	137216.91
59 Co # 3	0.002019	0.002019	ug/l	115.80	1800.00		306.68	233.34	276.68
60 Ni # 2	0.3198	0.3198	ug/l	6.38	1800.00		330.01	370.67	352.67
63 Cu # 2	0.8348	0.8348	ug/l	2.18	1800.00		2443.53	2398.20	2439.53
66 Zn # 3	-0.02314	-0.02314	ug/l	191.62	1800.00		1420.10	1296.76	1446.77
75 As # 2	0.2733	0.2733	ug/l	1.73	1800.00		95.67	93.33	93.33
78 Se # 1	0.01245	0.01245	ug/l	39.53	100.00		15.00	14.33	17.67
88 Sr # 3	4.862	4.862	ug/l	0.96	1800.00		105627.73	105432.94	104866.59
95 Mo # 3	-0.2106	-0.2106	ug/l	3.87	1800.00		270.01	306.68	250.01
107 Ag # 3	0.02511	0.02511	ug/l	14.88	100.00		530.03	476.69	476.69
111 Cd # 3	-0.0238	-0.0238	ug/l	13.47	100.00		23.23	23.22	13.24
118 Sn # 3	0.01598	0.01598	ug/l	82.73	1800.00		476.69	346.68	430.02
121 Sb # 3	-0.007416	-0.007416	ug/l	36.56	100.00		233.34	246.68	216.67
137 Ba # 3	2.97	2.97	ug/l	2.16	1800.00		7261.97	7218.60	6915.11
202 Hg # 3	0.004143	0.004143	ug/l	60.90	5.00		27.00	28.33	35.00
205 Tl # 3	-0.03044	-0.03044	ug/l	3.54	20.00		43.33	66.67	66.67
208 Pb # 3	-0.01513	-0.01513	ug/l	3.31	1800.00		916.71	886.71	893.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	724723.75	0.48	762890.69	95.0	60 - 125.4		721237.56	728257.50	724676.13
45 Sc # 1	586762.25	0.36	620105.56	94.6	60 - 125.4		585805.13	585313.25	589168.44
45 Sc # 3	793332.31	1.07	771387.50	102.8	60 - 125.4		801240.50	794391.63	784364.88
74 Ge # 1	154337.44	0.58	164848.81	93.6	60 - 125.4		153996.63	155351.75	153663.91
74 Ge # 2	30235.07	1.41	33226.06	91.0	60 - 125.4		30504.44	30456.09	29744.67
74 Ge # 3	179901.14	0.83	178474.77	100.8	60 - 125.4		181228.30	180200.94	178274.23
89 Y # 3	1059265.00	1.17	1057065.90	100.2	60 - 125.4		1073584.40	1052121.10	1052089.60
115 In # 3	892779.25	0.80	917456.31	97.3	60 - 125.4		892275.38	900137.19	885925.31
159 Tb # 3	1145660.50	0.78	1264337.30	90.6	60 - 125.4		1152870.90	1148376.30	1135734.40
209 Bi # 3	650516.44	0.71	698508.81	93.1	60 - 125.4		655566.44	646550.31	649432.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\215SMPL.D\215SMPL.D#
Date Acquired:	Dec 22 2012 03:57 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-19-a
Misc Info:	3005 1/5
Vial Number:	3206
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.03122	-0.03122	ug/l	11.31	100.00		86.67	106.67	80.00
11 B	# 3	-0.7623	-0.7623	ug/l	3.66	200.00		8869.23	8569.12	8705.83
23 Na	# 1	21.43	21.43	ug/l	2.46	90000.00		369667.09	373418.91	370241.88
24 Mg	# 1	-0.05197	-0.05197	ug/l	248.99	90000.00		5696.17	4901.46	4876.17
27 Al	# 1	-0.07952	-0.07952	ug/l	141.73	90000.00		5364.35	5962.13	4967.56
39 K	# 2	5.689	5.689	ug/l	13.30	90000.00		18701.33	18871.46	18511.04
40 Ca	# 1	14.83	14.83	ug/l	1.67	90000.00		173364.95	173754.66	172150.08
47 Ti	# 3	-0.2292	-0.2292	ug/l	3.68	1800.00		100.00	113.34	120.00
51 V	# 2	0.4365	0.4365	ug/l	2.49	1800.00		1722.10	1781.44	1760.11
52 Cr	# 2	0.1109	0.1109	ug/l	3.21	1800.00		553.35	534.01	554.01
55 Mn	# 3	-0.3036	-0.3036	ug/l	1.77	2700.00		2376.92	2506.94	2290.22
56 Fe	# 1	0.7803	0.7803	ug/l	6.64	90000.00		24827.37	23961.72	24733.52
59 Co	# 3	-0.00904	-0.00904	ug/l	18.05	1800.00		86.67	86.67	130.00
60 Ni	# 2	0.211	0.211	ug/l	8.36	1800.00		258.67	236.00	226.00
63 Cu	# 2	1.066	1.066	ug/l	1.04	1800.00		3044.31	3094.32	3162.33
66 Zn	# 3	-0.2267	-0.2267	ug/l	13.22	1800.00		1036.73	933.39	1040.07
75 As	# 2	0.1171	0.1171	ug/l	10.56	1800.00		54.00	49.00	56.00
78 Se	# 1	0.0007962	0.0007962	ug/l	666.67	100.00		11.67	13.33	9.33
88 Sr	# 3	-0.07499	-0.07499	ug/l	4.38	1800.00		560.03	500.02	636.70
95 Mo	# 3	-0.2539	-0.2539	ug/l	0.71	1800.00		136.67	143.34	133.34
107 Ag	# 3	-0.03229	-0.03229	ug/l	3.01	100.00		23.33	6.67	13.33
111 Cd	# 3	-0.0215	-0.0215	ug/l	47.77	100.00		23.28	43.28	6.62
118 Sn	# 3	0.01726	0.01726	ug/l	52.52	1800.00		460.02	376.68	466.69
121 Sb	# 3	-0.001983	-0.001983	ug/l	74.99	100.00		273.34	280.01	260.01
137 Ba	# 3	-0.02139	-0.02139	ug/l	17.62	1800.00		113.34	110.00	96.67
202 Hg	# 3	0.01728	0.01728	ug/l	13.64	5.00		48.67	53.67	55.67
205 Tl	# 3	-0.03155	-0.03155	ug/l	2.85	20.00		33.33	46.67	56.67
208 Pb	# 3	-0.04761	-0.04761	ug/l	4.48	1800.00		246.68	296.68	320.01

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	731464.63	1.35	762890.69	95.9	60 - 125.4		742216.06	729299.06	722878.69
45 Sc	# 1	584824.50	1.17	620105.56	94.3	60 - 125.4		576980.31	589566.06	587927.19
45 Sc	# 3	802320.00	0.82	771387.50	104.0	60 - 125.4		804475.44	794900.50	807583.94
74 Ge	# 1	156006.83	0.30	164848.81	94.6	60 - 125.4		156543.48	155832.38	155644.64
74 Ge	# 2	30652.57	0.96	33226.06	92.3	60 - 125.4		30420.96	30552.92	30983.83
74 Ge	# 3	180719.72	0.72	178474.77	101.3	60 - 125.4		182231.80	179934.38	179993.02
89 Y	# 3	1093048.60	0.59	1057065.90	103.4	60 - 125.4		1094240.60	1098791.30	1086114.00
115 In	# 3	913024.06	0.64	917456.31	99.5	60 - 125.4		916265.31	906329.44	916477.50
159 Tb	# 3	1165851.30	0.39	1264337.30	92.2	60 - 125.4		1168631.00	1160611.50	1168311.30
209 Bi	# 3	648615.69	0.90	698508.81	92.9	60 - 125.4		654830.50	647721.06	643295.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\216SMPL.D\216SMPL.D#
Date Acquired:	Dec 22 2012 04:04 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-23-a
Misc Info:	3005 1/5
Vial Number:	3207
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.03581	-0.03581	ug/l	8.99	100.00		90.00	66.67	63.34
11 B	# 3	-0.1671	-0.1671	ug/l	25.78	200.00		11334.25	10913.87	10953.92
23 Na	# 1	812.8	812.8	ug/l	1.75	90000.00		5351783.00	5257810.00	5289627.50
24 Mg	# 1	393.5	393.5	ug/l	0.95	90000.00		1628630.60	1636036.60	1613210.10
27 Al	# 1	51.1	51.1	ug/l	2.80	90000.00		224332.42	223742.70	234659.27
39 K	# 2	321.2	321.2	ug/l	0.75	90000.00		156137.31	158677.83	158041.67
40 Ca	# 1	753.6	753.6	ug/l	1.18	90000.00		7200971.50	7150846.50	7143255.50
47 Ti	# 3	3.807	3.807	ug/l	1.27	1800.00		5047.72	4907.58	4997.60
51 V	# 2	0.8626	0.8626	ug/l	0.50	1800.00		2854.93	2876.94	2831.60
52 Cr	# 2	1.416	1.416	ug/l	1.95	1800.00		4429.96	4632.16	4529.99
55 Mn	# 3	0.5224	0.5224	ug/l	2.43	2700.00		19662.59	19365.60	19211.99
56 Fe	# 1	88.03	88.03	ug/l	0.89	90000.00		1192090.30	1229470.90	1221451.10
59 Co	# 3	0.06513	0.06513	ug/l	6.88	1800.00		1263.42	1153.41	1283.43
60 Ni	# 2	1.117	1.117	ug/l	1.97	1800.00		1174.05	1202.72	1218.72
63 Cu	# 2	1.004	1.004	ug/l	2.06	1800.00		2856.27	2921.62	2964.96
66 Zn	# 3	0.4184	0.4184	ug/l	12.66	1800.00		2110.20	2306.91	2186.88
75 As	# 2	0.1017	0.1017	ug/l	8.09	1800.00		48.33	46.67	50.67
78 Se	# 1	0.01348	0.01348	ug/l	23.20	100.00		15.67	15.00	17.00
88 Sr	# 3	5.706	5.706	ug/l	1.47	1800.00		126753.36	125439.03	124001.14
95 Mo	# 3	-0.08966	-0.08966	ug/l	5.58	1800.00		686.71	673.37	660.03
107 Ag	# 3	-0.02158	-0.02158	ug/l	4.05	100.00		103.34	113.34	96.67
111 Cd	# 3	-0.01578	-0.01578	ug/l	31.10	100.00		43.08	26.42	33.09
118 Sn	# 3	0.008036	0.008036	ug/l	107.91	1800.00		416.68	393.35	330.02
121 Sb	# 3	-0.01163	-0.01163	ug/l	16.36	100.00		223.34	203.34	210.01
137 Ba	# 3	4.098	4.098	ug/l	1.70	1800.00		9706.75	10170.32	9683.33
202 Hg	# 3	0.0127	0.0127	ug/l	26.77	5.00		51.67	42.00	40.33
205 Tl	# 3	-0.03069	-0.03069	ug/l	3.74	20.00		46.67	50.00	73.34
208 Pb	# 3	-0.0237	-0.0237	ug/l	11.96	1800.00		686.70	786.70	726.70

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	732543.19	2.56	762890.69	96.0	60 - 125.4		751045.00	733001.56	713583.19
45 Sc	# 1	588231.00	0.77	620105.56	94.9	60 - 125.4		583424.50	592345.06	588923.31
45 Sc	# 3	804653.81	0.56	771387.50	104.3	60 - 125.4		804480.94	800236.88	809243.81
74 Ge	# 1	152802.72	0.91	164848.81	92.7	60 - 125.4		153778.69	153425.34	151204.11
74 Ge	# 2	30494.45	0.49	33226.06	91.8	60 - 125.4		30427.65	30666.47	30389.24
74 Ge	# 3	177405.14	0.21	178474.77	99.4	60 - 125.4		177183.48	177193.13	177838.81
89 Y	# 3	1077894.00	0.36	1057065.90	102.0	60 - 125.4		1073531.30	1079158.30	1080992.40
115 In	# 3	899191.13	1.14	917456.31	98.0	60 - 125.4		891870.00	910881.75	894821.88
159 Tb	# 3	1164537.10	1.10	1264337.30	92.1	60 - 125.4		1158411.60	1179296.00	1155903.60
209 Bi	# 3	646538.00	0.59	698508.81	92.6	60 - 125.4		650751.06	645517.50	643345.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\217SMPL.D\217SMPL.D#
Date Acquired:	Dec 22 2012 04:11 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-25-a
Misc Info:	3005 1/5
Vial Number:	3208
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05091	-0.05091	ug/l	1.68	100.00		13.33	10.00	16.67
11 B # 3	-0.4094	-0.4094	ug/l	20.99	200.00		10133.36	10013.28	9729.80
23 Na # 1	1283	1283	ug/l	1.83	90000.00		7864154.00	8053462.50	7871396.50
24 Mg # 1	604.1	604.1	ug/l	2.61	90000.00		2382590.00	2412250.80	2413611.80
27 Al # 1	25.17	25.17	ug/l	4.87	90000.00		106371.43	117321.84	109033.88
39 K # 2	326.9	326.9	ug/l	6.02	90000.00		152064.03	154770.17	155990.89
40 Ca # 1	1803	1803	ug/l	2.78	90000.00		16471068.00	16376281.00	16569151.00
47 Ti # 3	2.03	2.03	ug/l	11.49	1800.00		2760.32	2907.02	2696.98
51 V # 2	0.8075	0.8075	ug/l	6.12	1800.00		2554.88	2662.90	2621.56
52 Cr # 2	0.604	0.604	ug/l	5.63	1800.00		1940.13	1983.48	2005.47
55 Mn # 3	1.515	1.515	ug/l	5.00	2700.00		39883.53	40074.08	39699.66
56 Fe # 1	59.68	59.68	ug/l	3.34	90000.00		787633.94	797504.00	807242.88
59 Co # 3	0.06541	0.06541	ug/l	9.20	1800.00		1280.09	1286.76	1143.41
60 Ni # 2	0.9645	0.9645	ug/l	7.96	1800.00		1010.04	982.04	1001.37
63 Cu # 2	0.7566	0.7566	ug/l	8.04	1800.00		2166.83	2168.16	2114.15
66 Zn # 3	1.413	1.413	ug/l	7.13	1800.00		4033.97	4113.98	4067.30
75 As # 2	0.2187	0.2187	ug/l	14.15	1800.00		76.67	84.33	70.67
78 Se # 1	0.01943	0.01943	ug/l	50.52	100.00		13.67	21.00	18.67
88 Sr # 3	9.061	9.061	ug/l	5.89	1800.00		192282.11	194289.08	190592.28
95 Mo # 3	-0.1229	-0.1229	ug/l	10.90	1800.00		630.03	520.02	510.03
107 Ag # 3	1.377	1.377	ug/l	4.99	100.00		11704.73	11534.63	11611.39
111 Cd # 3	-0.00375	-0.00375	ug/l	149.52	100.00		46.44	53.14	63.15
118 Sn # 3	0.05047	0.05047	ug/l	35.80	1800.00		540.03	650.03	560.03
121 Sb # 3	-0.01107	-0.01107	ug/l	38.33	100.00		210.01	183.34	236.68
137 Ba # 3	2.872	2.872	ug/l	6.84	1800.00		6858.43	6918.48	6588.30
202 Hg # 3	0.01593	0.01593	ug/l	11.17	5.00		55.33	45.00	48.33
205 Tl # 3	-0.02919	-0.02919	ug/l	2.49	20.00		90.00	63.34	73.34
208 Pb # 3	-0.01312	-0.01312	ug/l	19.12	1800.00		946.72	836.70	970.05

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	721715.88	3.99	762890.69	94.6	60 - 125.4		754098.63	698977.31	712071.75
45 Sc # 1	567045.88	2.19	620105.56	91.4	60 - 125.4		572358.25	575923.06	552856.38
45 Sc # 3	793495.69	6.26	771387.50	102.9	60 - 125.4		837583.75	739681.31	803221.88
74 Ge # 1	149939.41	2.45	164848.81	91.0	60 - 125.4		149306.09	153883.63	146628.50
74 Ge # 2	29450.36	6.43	33226.06	88.6	60 - 125.4		27261.99	30547.88	30541.23
74 Ge # 3	177425.41	3.71	178474.77	99.4	60 - 125.4		184399.11	171313.59	176563.53
89 Y # 3	1050141.10	5.22	1057065.90	99.3	60 - 125.4		1105437.80	995907.25	1049078.40
115 In # 3	880240.94	5.61	917456.31	95.9	60 - 125.4		930011.44	831337.81	879373.63
159 Tb # 3	1149279.50	5.49	1264337.30	90.9	60 - 125.4		1211865.50	1085799.90	1150172.90
209 Bi # 3	637108.13	4.69	698508.81	91.2	60 - 125.4		666415.00	606715.13	638194.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\218_CCV.D\218_CCV.D#
Date Acquired:	Dec 22 2012 04:17 pm
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	49.79 ug/l	0.37	50.00	89.6 - 110	
11 B	95.98 ug/l	0.40	100.00	89.6 - 110	
23 Na	4509.00 ug/l	0.65	5000.00	89.6 - 110	
24 Mg	4542.00 ug/l	1.78	5000.00	89.6 - 110	
27 Al	455.70 ug/l	0.85	500.00	89.6 - 110	
39 K	5077.00 ug/l	1.53	5000.00	89.6 - 110	
40 Ca	4791.00 ug/l	0.47	5000.00	89.6 - 110	
47 Ti	48.28 ug/l	2.52	50.00	89.6 - 110	
51 V	50.18 ug/l	1.01	50.00	89.6 - 110	
52 Cr	49.92 ug/l	1.10	50.00	89.6 - 110	
55 Mn	509.80 ug/l	0.85	500.00	89.6 - 110	
56 Fe	4876.00 ug/l	0.91	5000.00	89.6 - 110	
59 Co	50.96 ug/l	0.37	50.00	89.6 - 110	
60 Ni	50.29 ug/l	1.13	50.00	89.6 - 110	
63 Cu	49.83 ug/l	0.89	50.00	89.6 - 110	
66 Zn	48.45 ug/l	0.46	50.00	89.6 - 110	
75 As	49.30 ug/l	0.87	50.00	89.6 - 110	
78 Se	47.76 ug/l	0.93	50.00	89.6 - 110	
88 Sr	49.37 ug/l	0.67	50.00	89.6 - 110	
95 Mo	49.76 ug/l	0.99	50.00	89.6 - 110	
107 Ag	47.89 ug/l	0.38	50.00	89.6 - 110	
111 Cd	47.42 ug/l	0.92	50.00	89.6 - 110	
118 Sn	47.71 ug/l	0.62	50.00	89.6 - 110	
121 Sb	45.28 ug/l	0.61	50.00	89.6 - 110	
137 Ba	48.74 ug/l	0.44	50.00	89.6 - 110	
202 Hg	2.33 ug/l	0.20	2.50	89.6 - 110	
205 Tl	9.24 ug/l	0.98	10.00	89.6 - 110	
208 Pb	46.08 ug/l	2.00	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	722424.31	1.00	762890.69	94.7	59.6 - 125	
45 Sc	588270.13	0.50	620105.56	94.9	59.6 - 125	
45 Sc	804283.19	1.83	771387.50	104.3	59.6 - 125	
74 Ge	151240.83	0.53	164848.81	91.7	59.6 - 125	
74 Ge	29621.15	0.82	33226.06	89.2	59.6 - 125	
74 Ge	171951.69	0.95	178474.77	96.3	59.6 - 125	
89 Y	1050712.60	0.94	1057065.90	99.4	59.6 - 125	
115 In	862386.56	1.31	917456.31	94.0	59.6 - 125	
159 Tb	1123615.40	0.91	1264337.30	88.9	59.6 - 125	
209 Bi	593006.44	0.78	698508.81	84.9	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\219_CCB.D\219_CCB.D#
Date Acquired: Dec 22 2012 04:24 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	4.70	0.05	
11 B	0.14 ug/l	20.56	10.00	
23 Na	-11.73 ug/l	2.65	25.00	
24 Mg	1.58 ug/l	28.91	25.00	
27 Al	-0.79 ug/l	3.94	5.00	
39 K	5.86 ug/l	7.39	25.00	
40 Ca	2.37 ug/l	7.05	25.00	
47 Ti	-0.24 ug/l	2.97	0.50	
51 V	-0.03 ug/l	34.41	0.50	
52 Cr	0.01 ug/l	62.26	0.50	
55 Mn	-0.16 ug/l	3.48	0.50	
56 Fe	2.14 ug/l	5.82	10.00	
59 Co	0.00 ug/l	300.75	0.05	
60 Ni	0.02 ug/l	30.07	0.50	
63 Cu	0.01 ug/l	25.03	0.50	
66 Zn	-0.49 ug/l	3.71	2.00	
75 As	0.03 ug/l	33.89	0.25	
78 Se	0.06 ug/l	8.26	0.25	
88 Sr	-0.08 ug/l	0.98	0.10	
95 Mo	-0.18 ug/l	7.94	0.50	
107 Ag	-0.02 ug/l	17.28	0.10	
111 Cd	0.00 ug/l	82.73	0.05	
118 Sn	0.00 ug/l	206.50	0.50	
121 Sb	0.29 ug/l	2.61	0.50	
137 Ba	-0.04 ug/l	2.20	0.50	
202 Hg	0.03 ug/l	11.98	0.08	
205 Tl	-0.03 ug/l	4.01	0.10	
208 Pb	-0.03 ug/l	3.90	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	768538.50	0.92	762890.69	100.7	59.6 - 125	
45 Sc	586372.25	0.52	620105.56	94.6	59.6 - 125	
45 Sc	811898.56	2.72	771387.50	105.3	59.6 - 125	
74 Ge	152227.30	0.71	164848.81	92.3	59.6 - 125	
74 Ge	29880.51	0.63	33226.06	89.9	59.6 - 125	
74 Ge	175800.95	0.88	178474.77	98.5	59.6 - 125	
89 Y	1071202.30	0.61	1057065.90	101.3	59.6 - 125	
115 In	889371.00	0.08	917456.31	96.9	59.6 - 125	
159 Tb	1135130.30	0.96	1264337.30	89.8	59.6 - 125	
209 Bi	601628.69	1.14	698508.81	86.1	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\220SMPL.D\220SMPL.D#
Date Acquired:	Dec 22 2012 04:31 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-27-a
Misc Info:	3005 1/5
Vial Number:	3209
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04975	-0.04975	ug/l	3.53	100.00		23.33	10.00	20.00
11 B # 3	0.1464	0.1464	ug/l	15.50	200.00		12194.88	12081.42	11937.94
23 Na # 1	1436	1436	ug/l	0.82	90000.00		8885113.00	8934031.00	8906182.00
24 Mg # 1	609.1	609.1	ug/l	0.92	90000.00		2450519.80	2461338.30	2407200.30
27 Al # 1	1.481	1.481	ug/l	3.83	90000.00		11945.01	11738.49	11935.16
39 K # 2	422	422	ug/l	1.91	90000.00		194360.47	197467.94	196759.45
40 Ca # 1	1963	1963	ug/l	1.45	90000.00		18004118.00	17995764.00	18183858.00
47 Ti # 3	0.09537	0.09537	ug/l	53.68	1800.00		546.69	426.69	483.36
51 V # 2	0.4106	0.4106	ug/l	4.44	1800.00		1598.09	1634.76	1656.09
52 Cr # 2	0.158	0.158	ug/l	10.70	1800.00		636.68	650.02	718.02
55 Mn # 3	0.1516	0.1516	ug/l	10.11	2700.00		11320.93	11637.84	11671.26
56 Fe # 1	5.732	5.732	ug/l	1.32	90000.00		89108.90	91425.88	87816.93
59 Co # 3	0.01421	0.01421	ug/l	35.63	1800.00		396.68	533.36	410.02
60 Ni # 2	0.432	0.432	ug/l	4.17	1800.00		444.01	475.34	458.68
63 Cu # 2	0.1508	0.1508	ug/l	9.85	1800.00		516.01	550.68	584.01
66 Zn # 3	0.04342	0.04342	ug/l	50.02	1800.00		1473.46	1433.44	1496.78
75 As # 2	0.1521	0.1521	ug/l	14.44	1800.00		67.67	56.00	57.67
78 Se # 1	0.02931	0.02931	ug/l	10.35	100.00		22.33	20.33	21.33
88 Sr # 3	26.44	26.44	ug/l	0.48	1800.00		563874.06	556472.31	550300.19
95 Mo # 3	-0.1937	-0.1937	ug/l	1.82	1800.00		313.35	336.68	326.68
107 Ag # 3	0.1567	0.1567	ug/l	3.46	100.00		1583.46	1533.46	1596.79
111 Cd # 3	-0.009553	-0.009553	ug/l	76.01	100.00		29.89	53.21	49.88
118 Sn # 3	0.02989	0.02989	ug/l	29.52	1800.00		483.36	530.03	433.35
121 Sb # 3	0.08382	0.08382	ug/l	25.63	100.00		850.06	610.03	746.71
137 Ba # 3	6.47	6.47	ug/l	1.51	1800.00		15348.25	14981.21	15027.88
202 Hg # 3	0.009666	0.009666	ug/l	17.47	5.00		42.00	40.00	36.33
205 Tl # 3	-0.03015	-0.03015	ug/l	6.51	20.00		76.67	33.33	76.67
208 Pb # 3	-0.0405	-0.0405	ug/l	4.52	1800.00		413.35	456.68	390.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	718868.88	1.72	762890.69	94.2	60 - 125.4		732298.00	716366.31	707942.25
45 Sc # 1	570858.13	1.04	620105.56	92.1	60 - 125.4		567489.81	577737.44	567347.00
45 Sc # 3	776482.56	1.53	771387.50	100.7	60 - 125.4		783503.19	783146.81	762797.69
74 Ge # 1	149914.17	0.48	164848.81	90.9	60 - 125.4		149287.66	150690.81	149764.02
74 Ge # 2	29622.82	1.04	33226.06	89.2	60 - 125.4		29941.72	29597.78	29328.97
74 Ge # 3	174287.30	1.08	178474.77	97.7	60 - 125.4		176214.31	174181.69	172465.88
89 Y # 3	1047412.60	0.91	1057065.90	99.1	60 - 125.4		1054902.30	1050690.40	1036645.00
115 In # 3	879229.56	0.80	917456.31	95.8	60 - 125.4		880700.38	885397.88	871590.50
159 Tb # 3	1135201.30	0.71	1264337.30	89.8	60 - 125.4		1144504.00	1130323.10	1130776.60
209 Bi # 3	646840.31	0.09	698508.81	92.6	60 - 125.4		646633.25	646367.75	647519.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\221SMPL.D\221SMPL.D#
Date Acquired:	Dec 22 2012 04:37 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-28-a
Misc Info:	3005 1/5
Vial Number:	3210
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9	Be	# 3	-0.04887	-0.04887	ug/l	7.22	100.00		6.67	23.33	33.33
11	B	# 3	-0.5425	-0.5425	ug/l	4.23	200.00		9503.04	9493.00	9232.83
23	Na	# 1	23.8	23.8	ug/l	5.46	90000.00		359010.41	377650.34	373012.84
24	Mg	# 1	0.09694	0.09694	ug/l	199.81	90000.00		5534.92	6265.71	4790.89
27	Al	# 1	0.2357	0.2357	ug/l	18.27	90000.00		6458.11	6328.09	6744.91
39	K	# 2	5.126	5.126	ug/l	17.23	90000.00		17877.10	17670.20	17733.41
40	Ca	# 1	15.29	15.29	ug/l	1.50	90000.00		170004.50	171091.67	169281.69
47	Ti	# 3	-0.2236	-0.2236	ug/l	7.31	1800.00		133.34	110.00	100.00
51	V	# 2	0.5168	0.5168	ug/l	1.88	1800.00		1920.13	1866.79	1888.12
52	Cr	# 2	0.06606	0.06606	ug/l	2.86	1800.00		408.01	388.67	386.67
55	Mn	# 3	-0.3052	-0.3052	ug/l	1.68	2700.00		2376.91	2176.87	2336.92
56	Fe	# 1	1.742	1.742	ug/l	2.34	90000.00		35152.50	36528.09	36299.29
59	Co	# 3	-0.01099	-0.01099	ug/l	10.29	1800.00		50.00	83.34	73.34
60	Ni	# 2	0.1653	0.1653	ug/l	2.44	1800.00		192.00	175.34	186.67
63	Cu	# 2	0.2554	0.2554	ug/l	1.23	1800.00		854.03	812.69	814.69
66	Zn	# 3	-0.1448	-0.1448	ug/l	26.33	1800.00		1053.40	1153.41	1186.75
75	As	# 2	0.1065	0.1065	ug/l	12.77	1800.00		53.67	46.33	45.00
78	Se	# 1	0.01109	0.01109	ug/l	61.87	100.00		17.67	12.67	15.00
88	Sr	# 3	-0.07263	-0.07263	ug/l	2.99	1800.00		646.70	570.03	573.36
95	Mo	# 3	-0.253	-0.253	ug/l	2.71	1800.00		113.34	140.00	156.67
107	Ag	# 3	-0.03103	-0.03103	ug/l	1.94	100.00		30.00	23.33	20.00
111	Cd	# 3	-0.01859	-0.01859	ug/l	21.71	100.00		26.63	36.62	23.28
118	Sn	# 3	0.009725	0.009725	ug/l	8.81	1800.00		390.02	380.02	380.02
121	Sb	# 3	0.04776	0.04776	ug/l	24.62	100.00		496.69	613.36	510.03
137	Ba	# 3	-0.01197	-0.01197	ug/l	32.19	1800.00		116.67	133.34	126.67
202	Hg	# 3	0.006112	0.006112	ug/l	21.65	5.00		32.33	31.33	35.33
205	Tl	# 3	-0.03384	-0.03384	ug/l	1.93	20.00		6.67	16.67	23.33
208	Pb	# 3	-0.04845	-0.04845	ug/l	0.79	1800.00		263.34	270.01	273.34

ISTD Elements

Element			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6	Li	# 3	718604.31	1.49	762890.69	94.2	60 - 125.4		717974.13	729642.69	708196.13
45	Sc	# 1	560632.38	0.90	620105.56	90.4	60 - 125.4		555610.25	560591.94	565695.06
45	Sc	# 3	781284.13	1.69	771387.50	101.3	60 - 125.4		766945.81	784078.75	792827.69
74	Ge	# 1	153865.34	0.57	164848.81	93.3	60 - 125.4		153009.56	153815.27	154771.20
74	Ge	# 2	29522.65	2.72	33226.06	88.9	60 - 125.4		30375.83	28779.60	29412.51
74	Ge	# 3	176130.56	0.18	178474.77	98.7	60 - 125.4		176455.61	176129.95	175806.09
89	Y	# 3	1056395.30	0.78	1057065.90	99.9	60 - 125.4		1051355.40	1051865.30	1065965.40
115	In	# 3	886709.88	0.49	917456.31	96.6	60 - 125.4		890805.63	882145.63	887178.31
159	Tb	# 3	1151094.60	0.53	1264337.30	91.0	60 - 125.4		1156386.30	1144424.50	1152473.40
209	Bi	# 3	640494.06	0.74	698508.81	91.7	60 - 125.4		645558.75	639782.38	636141.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\222SMPL.D\222SMPL.D#
Date Acquired:	Dec 22 2012 04:44 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-29-a
Misc Info:	3005 1/5
Vial Number:	3211
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.07394	0.07394	ug/l	19.33	100.00		563.36	470.02	450.02
11 B # 3	0.006918	0.006918	ug/l	1030.40	200.00		11908.00	11307.55	11187.47
23 Na # 1	269.8	269.8	ug/l	2.18	90000.00		1854970.80	1882176.00	1940171.00
24 Mg # 1	928.2	928.2	ug/l	1.76	90000.00		3781452.50	3730432.00	3808645.80
27 Al # 1	188.9	188.9	ug/l	1.78	90000.00		818065.19	805737.50	817301.00
39 K # 2	577.5	577.5	ug/l	0.77	90000.00		266157.91	263076.03	269900.84
40 Ca # 1	61.28	61.28	ug/l	1.70	90000.00		608735.88	606187.44	599765.44
47 Ti # 3	15.12	15.12	ug/l	1.23	1800.00		17783.64	18067.19	18090.63
51 V # 2	1.299	1.299	ug/l	0.07	1800.00		3920.50	3909.16	3955.17
52 Cr # 2	0.4441	0.4441	ug/l	2.64	1800.00		1494.08	1546.08	1574.75
55 Mn # 3	71.2	71.2	ug/l	1.20	2700.00		1464194.80	1447445.50	1464160.30
56 Fe # 1	398.8	398.8	ug/l	1.10	90000.00		5378231.00	5387886.50	5354957.50
59 Co # 3	3.073	3.073	ug/l	0.78	1800.00		46772.15	46912.70	46006.73
60 Ni # 2	1.794	1.794	ug/l	1.18	1800.00		1904.79	1870.12	1880.12
63 Cu # 2	1.935	1.935	ug/l	1.30	1800.00		5302.91	5427.61	5440.28
66 Zn # 3	8.389	8.389	ug/l	1.21	1800.00		17353.17	16989.51	16622.44
75 As # 2	0.2536	0.2536	ug/l	13.44	1800.00		77.67	94.33	92.67
78 Se # 1	0.03738	0.03738	ug/l	17.59	100.00		22.00	26.67	25.00
88 Sr # 3	1.531	1.531	ug/l	0.78	1800.00		36740.68	36486.52	36563.18
95 Mo # 3	-0.2591	-0.2591	ug/l	1.67	1800.00		106.67	133.34	110.00
107 Ag # 3	-0.02941	-0.02941	ug/l	2.81	100.00		30.00	40.00	43.33
111 Cd # 3	0.03813	0.03813	ug/l	20.46	100.00		119.97	119.95	143.30
118 Sn # 3	0.04373	0.04373	ug/l	3.60	1800.00		546.69	566.70	550.03
121 Sb # 3	0.01437	0.01437	ug/l	30.28	100.00		403.35	363.35	356.68
137 Ba # 3	6.443	6.443	ug/l	2.46	1800.00		15475.03	14927.71	14971.12
202 Hg # 3	0.07535	0.07535	ug/l	4.11	5.00		160.00	152.33	145.33
205 Tl # 3	0.03165	0.03165	ug/l	15.64	20.00		933.39	823.39	806.72
208 Pb # 3	0.227	0.227	ug/l	1.32	1800.00		5560.62	5380.57	5323.89

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	714634.19	1.29	762890.69	93.7	60 - 125.4		722474.44	716958.88	704469.31
45 Sc # 1	579890.69	1.05	620105.56	93.5	60 - 125.4		573064.81	584771.69	581835.63
45 Sc # 3	776029.19	0.74	771387.50	100.6	60 - 125.4		776411.31	770132.38	781543.88
74 Ge # 1	151744.61	0.21	164848.81	92.1	60 - 125.4		152110.56	151523.88	151599.41
74 Ge # 2	30024.66	0.62	33226.06	90.4	60 - 125.4		29946.68	29891.74	30235.58
74 Ge # 3	174909.42	1.05	178474.77	98.0	60 - 125.4		176839.84	174718.39	173170.06
89 Y # 3	1119235.90	0.45	1057065.90	105.9	60 - 125.4		1116935.90	1124981.90	1115790.30
115 In # 3	883167.50	0.50	917456.31	96.3	60 - 125.4		879319.38	887983.19	882200.00
159 Tb # 3	1148091.40	0.92	1264337.30	90.8	60 - 125.4		1157446.50	1136695.50	1150132.10
209 Bi # 3	647467.94	2.17	698508.81	92.7	60 - 125.4		663268.31	636397.81	642737.81

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\223SMPL.D\223SMPL.D#
Date Acquired:	Dec 22 2012 04:51 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-b-29-a
Misc Info:	3005 1/5
Vial Number:	3212
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	0.04702	0.04702	ug/l	22.12	100.00		393.35	356.68	430.02
11 B	# 3	-0.01776	-0.01776	ug/l	654.28	200.00		11374.20	11781.17	11224.11
23 Na	# 1	269.5	269.5	ug/l	1.26	90000.00		1865081.90	1853051.60	1857862.90
24 Mg	# 1	837.4	837.4	ug/l	1.84	90000.00		3305509.00	3370416.00	3366572.80
27 Al	# 1	6.066	6.066	ug/l	2.04	90000.00		31527.62	30749.43	31137.60
39 K	# 2	436.2	436.2	ug/l	2.11	90000.00		205281.36	202867.00	202865.05
40 Ca	# 1	156.1	156.1	ug/l	0.52	90000.00		1471489.80	1466682.60	1453769.30
47 Ti	# 3	-0.1614	-0.1614	ug/l	5.02	1800.00		193.34	193.34	176.67
51 V	# 2	0.5773	0.5773	ug/l	1.33	1800.00		2061.48	2055.48	2078.81
52 Cr	# 2	0.04263	0.04263	ug/l	18.85	1800.00		333.34	344.67	306.67
55 Mn	# 3	64.92	64.92	ug/l	1.75	2700.00		1309469.60	1348844.40	1347893.00
56 Fe	# 1	99.03	99.03	ug/l	1.55	90000.00		1325321.60	1312953.80	1327530.90
59 Co	# 3	2.757	2.757	ug/l	1.91	1800.00		42700.99	41761.87	41344.13
60 Ni	# 2	1.512	1.512	ug/l	2.30	1800.00		1603.42	1535.42	1601.42
63 Cu	# 2	0.5348	0.5348	ug/l	1.96	1800.00		1601.42	1572.75	1587.42
66 Zn	# 3	7.231	7.231	ug/l	3.36	1800.00		15317.78	14833.99	14496.99
75 As	# 2	0.1842	0.1842	ug/l	15.15	1800.00		72.33	60.33	75.33
78 Se	# 1	0.01461	0.01461	ug/l	42.11	100.00		18.00	13.67	16.33
88 Sr	# 3	1.692	1.692	ug/l	1.27	1800.00		37886.56	37515.61	38010.21
95 Mo	# 3	-0.272	-0.272	ug/l	2.58	1800.00		53.34	73.34	96.67
107 Ag	# 3	-0.03207	-0.03207	ug/l	1.52	100.00		13.33	13.33	20.00
111 Cd	# 3	0.03796	0.03796	ug/l	30.43	100.00		149.99	109.98	119.97
118 Sn	# 3	0.01722	0.01722	ug/l	54.62	1800.00		370.02	423.35	456.69
121 Sb	# 3	0.00401	0.00401	ug/l	36.96	100.00		303.35	296.68	283.35
137 Ba	# 3	6.797	6.797	ug/l	1.68	1800.00		16159.06	15975.55	15381.50
202 Hg	# 3	0.03622	0.03622	ug/l	11.96	5.00		89.33	75.67	88.33
205 Tl	# 3	0.02148	0.02148	ug/l	19.76	20.00		673.37	760.05	746.71
208 Pb	# 3	-0.01387	-0.01387	ug/l	26.05	1800.00		883.37	866.71	980.05

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	720590.31	2.79	762890.69	94.5	60 - 125.4		743538.19	712085.00	706147.63
45 Sc	# 1	570072.56	1.08	620105.56	91.9	60 - 125.4		573429.81	573795.69	562992.19
45 Sc	# 3	782051.81	0.13	771387.50	101.4	60 - 125.4		781470.31	783251.44	781433.69
74 Ge	# 1	149918.48	0.98	164848.81	90.9	60 - 125.4		150445.22	151054.66	148255.58
74 Ge	# 2	29823.78	1.50	33226.06	89.8	60 - 125.4		29540.96	29591.14	30339.24
74 Ge	# 3	175492.41	0.51	178474.77	98.3	60 - 125.4		175412.78	174639.02	176425.41
89 Y	# 3	1052467.40	0.67	1057065.90	99.6	60 - 125.4		1057675.30	1055331.10	1044395.90
115 In	# 3	877090.63	0.92	917456.31	95.6	60 - 125.4		884423.63	878455.31	868392.81
159 Tb	# 3	1153030.90	1.14	1264337.30	91.2	60 - 125.4		1167522.40	1141835.30	1149734.80
209 Bi	# 3	641803.25	0.96	698508.81	91.9	60 - 125.4		648736.88	639774.25	636898.63

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\224SMPL.D\224SMPL.D#
Date Acquired:	Dec 22 2012 04:58 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-30-a
Misc Info:	3005 1/5
Vial Number:	3301
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.04095	-0.04095	ug/l	7.66	100.00		66.67	43.33	46.67
11 B	# 3	-0.1681	-0.1681	ug/l	29.22	200.00		10787.17	11010.63	10960.59
23 Na	# 1	1166	1166	ug/l	1.56	90000.00		7393540.50	7217210.00	7493543.00
24 Mg	# 1	676.6	676.6	ug/l	1.18	90000.00		2735691.80	2694947.00	2800974.80
27 Al	# 1	26.08	26.08	ug/l	2.03	90000.00		118060.86	114262.89	118462.03
39 K	# 2	427.7	427.7	ug/l	1.87	90000.00		197572.50	199188.64	201380.67
40 Ca	# 1	1401	1401	ug/l	1.08	90000.00		12998578.00	13101023.00	13089138.00
47 Ti	# 3	2.587	2.587	ug/l	2.35	1800.00		3417.13	3473.83	3350.45
51 V	# 2	0.7935	0.7935	ug/l	2.50	1800.00		2583.55	2594.89	2642.90
52 Cr	# 2	0.06895	0.06895	ug/l	17.24	1800.00		390.67	446.01	380.67
55 Mn	# 3	149.8	149.8	ug/l	0.69	2700.00		3075693.00	3039487.80	3030296.80
56 Fe	# 1	578	578	ug/l	0.86	90000.00		7715674.00	7765854.00	7792685.50
59 Co	# 3	7.069	7.069	ug/l	0.38	1800.00		107298.98	106456.08	105369.19
60 Ni	# 2	4.106	4.106	ug/l	2.15	1800.00		4183.23	4283.26	4288.59
63 Cu	# 2	0.6914	0.6914	ug/l	2.68	1800.00		1964.13	2010.81	2030.81
66 Zn	# 3	1.994	1.994	ug/l	5.46	1800.00		4954.24	5334.39	4950.90
75 As	# 2	10.52	10.52	ug/l	2.45	1800.00		2737.91	2842.26	2791.58
78 Se	# 1	0.0129	0.0129	ug/l	35.85	100.00		17.33	14.00	15.00
88 Sr	# 3	19.15	19.15	ug/l	0.67	1800.00		409347.72	404763.63	403150.25
95 Mo	# 3	-0.07679	-0.07679	ug/l	4.89	1800.00		716.71	686.71	700.04
107 Ag	# 3	-0.03006	-0.03006	ug/l	4.31	100.00		30.00	23.33	43.33
111 Cd	# 3	-0.0142	-0.0142	ug/l	19.81	100.00		43.07	33.08	33.08
118 Sn	# 3	0.01896	0.01896	ug/l	8.57	1800.00		446.69	416.69	420.02
121 Sb	# 3	0.005842	0.005842	ug/l	47.50	100.00		303.35	320.01	290.01
137 Ba	# 3	18.36	18.36	ug/l	1.33	1800.00		43158.82	42661.06	42289.94
202 Hg	# 3	0.004759	0.004759	ug/l	28.70	5.00		29.00	33.00	31.33
205 Tl	# 3	-0.02027	-0.02027	ug/l	13.48	20.00		170.01	166.67	230.01
208 Pb	# 3	0.2312	0.2312	ug/l	3.29	1800.00		5410.58	5553.94	5577.28

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	722982.50	0.76	762890.69	94.8	60 - 125.4		728850.88	722047.56	718049.06
45 Sc	# 1	578091.06	1.28	620105.56	93.2	60 - 125.4		572239.63	575599.31	586434.19
45 Sc	# 3	782518.38	1.78	771387.50	101.4	60 - 125.4		797979.38	778499.06	771076.75
74 Ge	# 1	150455.25	0.47	164848.81	91.3	60 - 125.4		150569.41	149696.72	151099.58
74 Ge	# 2	29727.48	0.78	33226.06	89.5	60 - 125.4		29976.84	29686.25	29519.35
74 Ge	# 3	174224.33	0.92	178474.77	97.6	60 - 125.4		175197.19	175095.72	172380.05
89 Y	# 3	1051936.80	0.22	1057065.90	99.5	60 - 125.4		1054171.90	1049582.10	1052056.10
115 In	# 3	881165.94	2.34	917456.31	96.0	60 - 125.4		903886.31	876116.00	863495.31
159 Tb	# 3	1145264.40	1.32	1264337.30	90.6	60 - 125.4		1157589.80	1128464.60	1149738.80
209 Bi	# 3	649363.50	1.14	698508.81	93.0	60 - 125.4		656371.25	641673.88	650045.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\225SMPL.D\225SMPL.D#
Date Acquired:	Dec 22 2012 05:04 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	640-41588-a-31-a
Misc Info:	3005 1/5
Vial Number:	3302
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03127	-0.03127	ug/l	7.58	100.00		80.00	96.67	93.34
11 B # 3	-0.1661	-0.1661	ug/l	21.97	200.00		10883.86	11087.32	10867.22
23 Na # 1	227.6	227.6	ug/l	1.37	90000.00		1572449.30	1615054.40	1611778.10
24 Mg # 1	171	171	ug/l	1.55	90000.00		672944.50	697973.00	684226.63
27 Al # 1	12.64	12.64	ug/l	0.26	90000.00		58298.54	58882.26	58569.09
39 K # 2	279	279	ug/l	0.76	90000.00		139049.64	138703.48	138262.69
40 Ca # 1	83.78	83.78	ug/l	0.68	90000.00		789442.56	801375.00	803414.69
47 Ti # 3	0.8319	0.8319	ug/l	6.90	1800.00		1406.77	1423.45	1310.09
51 V # 2	0.5898	0.5898	ug/l	5.92	1800.00		2055.48	2246.17	2116.82
52 Cr # 2	0.1036	0.1036	ug/l	10.19	1800.00		554.01	513.34	495.34
55 Mn # 3	2.205	2.205	ug/l	3.20	2700.00		56095.40	54516.46	52359.59
56 Fe # 1	20.41	20.41	ug/l	0.79	90000.00		278858.44	283402.78	284333.66
59 Co # 3	0.0424	0.0424	ug/l	24.95	1800.00		1083.41	783.38	800.04
60 Ni # 2	0.3133	0.3133	ug/l	1.57	1800.00		350.67	345.34	343.34
63 Cu # 2	0.2368	0.2368	ug/l	7.99	1800.00		840.03	818.69	745.36
66 Zn # 3	0.5963	0.5963	ug/l	2.32	1800.00		2533.61	2563.63	2533.61
75 As # 2	0.1623	0.1623	ug/l	14.48	1800.00		71.67	62.33	60.33
78 Se # 1	0.01054	0.01054	ug/l	57.43	100.00		16.33	12.33	15.67
88 Sr # 3	0.63	0.63	ug/l	3.54	1800.00		15955.13	15811.76	15037.57
95 Mo # 3	-0.2496	-0.2496	ug/l	5.22	1800.00		160.01	186.67	103.34
107 Ag # 3	-0.02029	-0.02029	ug/l	21.20	100.00		133.34	73.34	140.01
111 Cd # 3	-0.005149	-0.005149	ug/l	156.40	100.00		63.28	59.93	36.63
118 Sn # 3	0.04853	0.04853	ug/l	11.51	1800.00		563.36	610.03	596.70
121 Sb # 3	0.00968	0.00968	ug/l	4.82	100.00		333.35	330.02	326.68
137 Ba # 3	2.291	2.291	ug/l	1.62	1800.00		5614.53	5477.83	5664.56
202 Hg # 3	0.008003	0.008003	ug/l	25.65	5.00		33.67	40.33	37.67
205 Tl # 3	-0.02124	-0.02124	ug/l	10.02	20.00		206.67	180.01	150.01
208 Pb # 3	-0.01063	-0.01063	ug/l	26.59	1800.00		1056.72	936.71	993.39

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	724186.94	0.61	762890.69	94.9	60 - 125.4		728876.56	723614.38	720070.06
45 Sc # 1	567890.06	0.32	620105.56	91.6	60 - 125.4		565847.81	569249.94	568572.38
45 Sc # 3	797708.50	0.91	771387.50	103.4	60 - 125.4		802710.69	789334.44	801080.38
74 Ge # 1	152574.09	0.67	164848.81	92.6	60 - 125.4		151855.03	153739.14	152128.13
74 Ge # 2	30421.02	0.42	33226.06	91.6	60 - 125.4		30274.07	30497.79	30491.18
74 Ge # 3	177885.30	0.77	178474.77	99.7	60 - 125.4		179263.45	177871.42	176521.02
89 Y # 3	1065403.10	0.61	1057065.90	100.8	60 - 125.4		1072322.80	1059523.50	1064363.10
115 In # 3	900593.19	0.85	917456.31	98.2	60 - 125.4		909287.50	894907.38	897584.75
159 Tb # 3	1160385.90	0.98	1264337.30	91.8	60 - 125.4		1171390.90	1148632.10	1161134.80
209 Bi # 3	658361.56	0.72	698508.81	94.3	60 - 125.4		663859.50	655632.06	655593.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\226_CCV.D\226_CCV.D#
Date Acquired: Dec 22 2012 05:11 pm
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	49.94 ug/l	0.66	50.00	89.6 - 110	
11 B	96.37 ug/l	0.91	100.00	89.6 - 110	
23 Na	4626.00 ug/l	1.18	5000.00	89.6 - 110	
24 Mg	4623.00 ug/l	0.93	5000.00	89.6 - 110	
27 Al	464.70 ug/l	1.13	500.00	89.6 - 110	
39 K	5128.00 ug/l	0.76	5000.00	89.6 - 110	
40 Ca	4864.00 ug/l	2.54	5000.00	89.6 - 110	
47 Ti	48.49 ug/l	1.81	50.00	89.6 - 110	
51 V	51.07 ug/l	1.41	50.00	89.6 - 110	
52 Cr	50.60 ug/l	1.45	50.00	89.6 - 110	
55 Mn	509.70 ug/l	1.05	500.00	89.6 - 110	
56 Fe	4898.00 ug/l	0.68	5000.00	89.6 - 110	
59 Co	51.41 ug/l	0.53	50.00	89.6 - 110	
60 Ni	51.06 ug/l	1.04	50.00	89.6 - 110	
63 Cu	50.74 ug/l	0.62	50.00	89.6 - 110	
66 Zn	48.46 ug/l	1.68	50.00	89.6 - 110	
75 As	50.15 ug/l	1.48	50.00	89.6 - 110	
78 Se	48.68 ug/l	0.49	50.00	89.6 - 110	
88 Sr	51.06 ug/l	0.97	50.00	89.6 - 110	
95 Mo	49.86 ug/l	0.36	50.00	89.6 - 110	
107 Ag	47.96 ug/l	0.22	50.00	89.6 - 110	
111 Cd	47.78 ug/l	1.57	50.00	89.6 - 110	
118 Sn	48.09 ug/l	0.48	50.00	89.6 - 110	
121 Sb	46.18 ug/l	0.79	50.00	89.6 - 110	
137 Ba	48.71 ug/l	0.29	50.00	89.6 - 110	
202 Hg	2.34 ug/l	1.98	2.50	89.6 - 110	
205 Tl	9.27 ug/l	2.36	10.00	89.6 - 110	
208 Pb	46.07 ug/l	0.90	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	721876.81	1.28	762890.69	94.6	59.6 - 125	
45 Sc	581601.94	0.90	620105.56	93.8	59.6 - 125	
45 Sc	799239.13	0.73	771387.50	103.6	59.6 - 125	
74 Ge	149545.56	0.48	164848.81	90.7	59.6 - 125	
74 Ge	29184.81	1.26	33226.06	87.8	59.6 - 125	
74 Ge	170420.03	0.66	178474.77	95.5	59.6 - 125	
89 Y	1030355.40	0.52	1057065.90	97.5	59.6 - 125	
115 In	856721.25	0.61	917456.31	93.4	59.6 - 125	
159 Tb	1110591.60	0.92	1264337.30	87.8	59.6 - 125	
209 Bi	592769.19	0.38	698508.81	84.9	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\227_CCB.D\227_CCB.D#
Date Acquired: Dec 22 2012 05:17 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	14.47	0.05	
11 B	0.25 ug/l	6.98	10.00	
23 Na	-7.61 ug/l	32.76	25.00	
24 Mg	2.35 ug/l	12.01	25.00	
27 Al	-0.46 ug/l	13.79	5.00	
39 K	6.18 ug/l	8.67	25.00	
40 Ca	3.48 ug/l	10.79	25.00	
47 Ti	-0.24 ug/l	8.28	0.50	
51 V	-0.02 ug/l	14.67	0.50	
52 Cr	0.01 ug/l	27.92	0.50	
55 Mn	-0.13 ug/l	2.80	0.50	
56 Fe	3.26 ug/l	7.21	10.00	
59 Co	0.01 ug/l	26.97	0.05	
60 Ni	0.03 ug/l	15.43	0.50	
63 Cu	0.01 ug/l	56.29	0.50	
66 Zn	-0.48 ug/l	1.34	2.00	
75 As	0.03 ug/l	45.98	0.25	
78 Se	0.05 ug/l	3.37	0.25	
88 Sr	-0.08 ug/l	2.34	0.10	
95 Mo	-0.18 ug/l	2.38	0.50	
107 Ag	-0.01 ug/l	26.97	0.10	
111 Cd	0.00 ug/l	293.45	0.05	
118 Sn	0.02 ug/l	24.38	0.50	
121 Sb	0.30 ug/l	5.50	0.50	
137 Ba	-0.03 ug/l	4.75	0.50	
202 Hg	0.03 ug/l	12.62	0.08	
205 Tl	-0.03 ug/l	8.40	0.10	
208 Pb	-0.03 ug/l	6.22	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	757858.00	1.32	762890.69	99.3	59.6 - 125	
45 Sc	588136.56	0.39	620105.56	94.8	59.6 - 125	
45 Sc	816421.94	1.11	771387.50	105.8	59.6 - 125	
74 Ge	153006.41	0.59	164848.81	92.8	59.6 - 125	
74 Ge	30323.55	1.12	33226.06	91.3	59.6 - 125	
74 Ge	182159.70	1.00	178474.77	102.1	59.6 - 125	
89 Y	1078748.90	0.51	1057065.90	102.1	59.6 - 125	
115 In	891906.31	0.71	917456.31	97.2	59.6 - 125	
159 Tb	1148879.00	0.92	1264337.30	90.9	59.6 - 125	
209 Bi	600262.00	0.26	698508.81	85.9	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\228SMPL.D\228SMPL.D#
Date Acquired:	Dec 22 2012 05:24 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	mb 680-260732_1-a
Misc Info:	200.8TR 1/5
Vial Number:	2401
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	-0.05112	-0.05112	ug/l	2.78	100.00		16.67	16.67	6.67
11 B	# 3	-0.1558	-0.1558	ug/l	95.25	200.00		11977.98	11947.94	11180.75
23 Na	# 1	-13.48	-13.48	ug/l	1.90	90000.00		163217.23	160001.41	158170.94
24 Mg	# 1	-0.4636	-0.4636	ug/l	9.69	90000.00		3827.47	3563.85	3403.84
27 Al	# 1	-0.4199	-0.4199	ug/l	6.50	90000.00		4260.68	4020.66	4020.61
39 K	# 2	5.69	5.69	ug/l	7.44	90000.00		18774.63	18671.17	18734.58
40 Ca	# 1	1.974	1.974	ug/l	2.43	90000.00		54776.97	53749.91	53475.39
47 Ti	# 3	-0.2598	-0.2598	ug/l	5.74	1800.00		70.00	60.00	96.67
51 V	# 2	-0.01238	-0.01238	ug/l	32.21	1800.00		577.35	577.35	588.01
52 Cr	# 2	-0.009862	-0.009862	ug/l	21.93	1800.00		174.67	172.67	182.67
55 Mn	# 3	-0.3037	-0.3037	ug/l	0.29	2700.00		2383.58	2406.91	2386.92
56 Fe	# 1	0.09583	0.09583	ug/l	37.38	90000.00		16425.55	15624.67	15254.27
59 Co	# 3	-0.01097	-0.01097	ug/l	7.53	1800.00		80.00	56.67	76.67
60 Ni	# 2	0.1699	0.1699	ug/l	5.72	1800.00		188.00	196.00	206.67
63 Cu	# 2	0.005938	0.005938	ug/l	75.95	1800.00		167.34	159.34	181.34
66 Zn	# 3	-0.1963	-0.1963	ug/l	2.72	1800.00		1043.40	1076.73	1070.07
75 As	# 2	0.01833	0.01833	ug/l	67.65	1800.00		29.00	22.67	27.00
78 Se	# 1	5.58E-005	5.58E-005	ug/l	4969.50	100.00		11.33	10.33	12.33
88 Sr	# 3	-0.0941	-0.0941	ug/l	2.07	1800.00		156.67	180.01	100.00
95 Mo	# 3	-0.2531	-0.2531	ug/l	3.78	1800.00		133.34	170.01	110.00
107 Ag	# 3	-0.02801	-0.02801	ug/l	3.86	100.00		56.67	40.00	53.34
111 Cd	# 3	-0.02067	-0.02067	ug/l	13.27	100.00		19.95	29.94	26.63
118 Sn	# 3	-0.02182	-0.02182	ug/l	40.78	1800.00		266.68	180.01	226.68
121 Sb	# 3	0.05368	0.05368	ug/l	31.67	100.00		683.37	540.03	533.36
137 Ba	# 3	-0.05445	-0.05445	ug/l	10.69	1800.00		40.00	13.33	26.67
202 Hg	# 3	0.01593	0.01593	ug/l	3.45	5.00		48.67	47.67	48.33
205 Tl	# 3	-0.03243	-0.03243	ug/l	3.36	20.00		46.67	33.33	20.00
208 Pb	# 3	-0.04974	-0.04974	ug/l	7.16	1800.00		186.67	310.01	216.68

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	771738.50	1.48	762890.69	101.2	60 - 125.4		761562.25	769509.56	784143.63
45 Sc	# 1	605251.88	0.79	620105.56	97.6	60 - 125.4		608505.38	607478.81	599771.44
45 Sc	# 3	815635.06	1.14	771387.50	105.7	60 - 125.4		806190.06	815922.56	824792.50
74 Ge	# 1	158427.59	0.59	164848.81	96.1	60 - 125.4		158869.33	159052.48	157360.97
74 Ge	# 2	30703.18	0.81	33226.06	92.4	60 - 125.4		30693.23	30955.28	30461.04
74 Ge	# 3	180991.80	0.83	178474.77	101.4	60 - 125.4		179307.39	181491.84	182176.13
89 Y	# 3	1081360.00	2.00	1057065.90	102.3	60 - 125.4		1057173.40	1087977.80	1098928.90
115 In	# 3	895501.75	1.88	917456.31	97.6	60 - 125.4		879076.88	894727.19	912701.00
159 Tb	# 3	1145493.60	2.17	1264337.30	90.6	60 - 125.4		1128873.40	1133505.40	1174102.10
209 Bi	# 3	621245.06	1.22	698508.81	88.9	60 - 125.4		613568.69	621381.88	628784.56

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\229SMPL.D\229SMPL.D#
Date Acquired:	Dec 22 2012 05:31 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	lcs 680-260732_2-a
Misc Info:	200.8TR 1/5
Vial Number:	2402
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	9.996	9.996	ug/l	1.87	100.00		41622.65	40954.59	40874.05
11 B # 3	37.85	37.85	ug/l	2.30	200.00		166191.44	166798.28	166673.17
23 Na # 1	912.9	912.9	ug/l	2.03	90000.00		5907090.50	5913009.00	5882314.00
24 Mg # 1	941.2	941.2	ug/l	1.73	90000.00		3842996.50	3866513.30	3892417.00
27 Al # 1	925	925	ug/l	0.91	90000.00		3965237.50	4052390.80	3997798.30
39 K # 2	967.8	967.8	ug/l	0.58	90000.00		440703.94	439725.31	444095.34
40 Ca # 1	972.8	972.8	ug/l	1.90	90000.00		9183065.00	9196721.00	9234119.00
47 Ti # 3	19.39	19.39	ug/l	0.10	1800.00		23898.22	23801.40	23567.75
51 V # 2	20.07	20.07	ug/l	0.97	1800.00		52344.22	52831.77	53007.68
52 Cr # 2	20.09	20.09	ug/l	0.60	1800.00		61333.55	61571.86	61405.19
55 Mn # 3	104.5	104.5	ug/l	0.84	2700.00		2152361.80	2136993.50	2124015.50
56 Fe # 1	954.6	954.6	ug/l	2.15	90000.00		12980761.00	12935580.00	13020380.00
59 Co # 3	9.583	9.583	ug/l	1.08	1800.00		146256.73	144594.25	143478.39
60 Ni # 2	20.66	20.66	ug/l	0.92	1800.00		22099.22	21792.81	21628.56
63 Cu # 2	20.45	20.45	ug/l	0.44	1800.00		56668.86	56177.86	56022.00
66 Zn # 3	21.78	21.78	ug/l	1.82	1800.00		42069.63	42373.88	41267.34
75 As # 2	21.74	21.74	ug/l	0.69	1800.00		5940.12	5857.42	5838.75
78 Se # 1	20.51	20.51	ug/l	0.69	100.00		7672.86	7561.47	7673.53
88 Sr # 3	17.59	17.59	ug/l	1.26	1800.00		379663.13	373051.66	373323.63
95 Mo # 3	19.62	19.62	ug/l	0.13	1800.00		64463.26	63610.09	63740.33
107 Ag # 3	9.678	9.678	ug/l	1.89	100.00		80596.86	81478.19	78857.48
111 Cd # 3	9.889	9.889	ug/l	1.46	100.00		17493.14	17423.45	16986.19
118 Sn # 3	19.14	19.14	ug/l	0.90	1800.00		97853.89	97753.48	96536.43
121 Sb # 3	10.03	10.03	ug/l	2.71	100.00		56270.32	57558.77	55648.40
137 Ba # 3	19.55	19.55	ug/l	1.39	1800.00		46682.74	44797.00	45111.04
202 Hg # 3	0.9195	0.9195	ug/l	1.92	5.00		1552.42	1492.08	1505.42
205 Tl # 3	7.322	7.322	ug/l	0.52	20.00		94184.27	91727.63	92298.19
208 Pb # 3	9.178	9.178	ug/l	1.54	1800.00		166324.80	161645.19	161623.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	759875.69	2.07	762890.69	99.6	60 - 125.4		766190.94	771449.56	741986.63
45 Sc # 1	586148.88	1.96	620105.56	94.5	60 - 125.4		574442.06	597455.75	586548.88
45 Sc # 3	803331.00	0.76	771387.50	104.1	60 - 125.4		807878.50	805772.56	796341.94
74 Ge # 1	153706.28	0.16	164848.81	93.2	60 - 125.4		153865.61	153423.34	153829.91
74 Ge # 2	30428.73	0.40	33226.06	91.6	60 - 125.4		30544.49	30302.41	30439.29
74 Ge # 3	175012.05	0.47	178474.77	98.1	60 - 125.4		175373.66	174074.95	175587.58
89 Y # 3	1059105.60	2.19	1057065.90	100.2	60 - 125.4		1085070.80	1051786.60	1040459.40
115 In # 3	882168.63	0.83	917456.31	96.2	60 - 125.4		890410.81	876463.50	879631.44
159 Tb # 3	1130315.50	1.88	1264337.30	89.4	60 - 125.4		1154640.10	1115801.40	1120505.30
209 Bi # 3	611675.44	0.33	698508.81	87.6	60 - 125.4		612781.69	609355.25	612889.31

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\230SMPL.D\230SMPL.D#
Date Acquired:	Dec 22 2012 05:37 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	280-37042-h-1-d
Misc Info:	200.8TR 1/5
Vial Number:	2403
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.03589	-0.03589	ug/l	6.20	100.00		66.67	83.34	76.67
11 B # 3	1.681	1.681	ug/l	6.40	200.00		19505.38	18761.14	18841.18
23 Na # 1	19120	19120	ug/l	0.77	90000.00		120085960.00	118028240.00	117940580.00
24 Mg # 1	30.09	30.09	ug/l	1.43	90000.00		128533.89	128375.30	129138.93
27 Al # 1	130.4	130.4	ug/l	1.32	90000.00		566982.00	569241.44	569794.50
39 K # 2	53.34	53.34	ug/l	1.88	90000.00		48797.21	49021.31	48589.88
40 Ca # 1	498.4	498.4	ug/l	1.09	90000.00		4752150.00	4698828.00	4725825.00
47 Ti # 3	0.7226	0.7226	ug/l	11.23	1800.00		1350.25	1267.05	1140.23
51 V # 2	0.04238	0.04238	ug/l	11.48	1800.00		870.70	898.70	891.36
52 Cr # 2	0.01829	0.01829	ug/l	30.82	1800.00		326.67	338.67	301.34
55 Mn # 3	2.037	2.037	ug/l	1.38	2700.00		64372.40	62943.95	63054.11
56 Fe # 1	48.17	48.17	ug/l	1.39	90000.00		669558.94	662883.69	669655.13
59 Co # 3	-0.003924	-0.003924	ug/l	40.67	1800.00		240.01	240.01	186.67
60 Ni # 2	0.1895	0.1895	ug/l	5.62	1800.00		282.00	256.00	262.00
63 Cu # 2	0.2817	0.2817	ug/l	0.73	1800.00		1144.71	1128.05	1154.05
66 Zn # 3	0.0005906	0.0005906	ug/l	3447.30	1800.00		1756.82	1730.15	1820.15
75 As # 2	0.1669	0.1669	ug/l	8.59	1800.00		84.33	83.67	76.67
78 Se # 1	0.01257	0.01257	ug/l	36.87	100.00		18.67	21.67	17.67
88 Sr # 3	10.66	10.66	ug/l	1.31	1800.00		228414.86	226965.23	224026.89
95 Mo # 3	9.19	9.19	ug/l	1.65	1800.00		29862.79	29561.98	29204.68
107 Ag # 3	-0.02454	-0.02454	ug/l	7.87	100.00		76.67	60.00	90.00
111 Cd # 3	-0.01585	-0.01585	ug/l	99.37	100.00		62.29	22.40	12.53
118 Sn # 3	0.1331	0.1331	ug/l	5.48	1800.00		1010.06	960.06	960.06
121 Sb # 3	0.104	0.104	ug/l	13.90	100.00		896.72	753.38	900.06
137 Ba # 3	8.515	8.515	ug/l	1.12	1800.00		19422.99	19412.92	19129.21
202 Hg # 3	0.02681	0.02681	ug/l	4.64	5.00		63.00	66.67	64.67
205 Tl # 3	-0.006373	-0.006373	ug/l	36.48	20.00		373.35	376.68	316.68
208 Pb # 3	0.001765	0.001765	ug/l	132.69	1800.00		1123.39	1180.06	1106.72

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	760461.31	1.55	762890.69	99.7	60 - 125.4		762420.13	747834.13	771129.50
45 Sc # 1	585246.69	1.07	620105.56	94.4	60 - 125.4		590389.06	587103.88	578247.06
45 Sc # 3	799383.56	0.77	771387.50	103.6	60 - 125.4		806456.63	796752.00	794942.19
74 Ge # 1	189875.08	0.35	164848.81	115.2	60 - 125.4		190595.95	189269.30	189759.97
74 Ge # 2	37587.98	0.69	33226.06	113.1	60 - 125.4		37501.14	37382.47	37880.32
74 Ge # 3	222018.25	0.14	178474.77	124.4	60 - 125.4		222308.36	222040.55	221705.86
89 Y # 3	1050060.40	0.45	1057065.90	99.3	60 - 125.4		1050702.00	1045035.40	1054443.60
115 In # 3	855830.94	0.92	917456.31	93.3	60 - 125.4		849387.19	864586.56	853519.06
159 Tb # 3	1110472.80	1.48	1264337.30	87.8	60 - 125.4		1116210.30	1123212.30	1091996.00
209 Bi # 3	607954.13	0.27	698508.81	87.0	60 - 125.4		609447.63	606179.69	608235.00

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\231SMPL.D\231SMPL.D#
Date Acquired:	Dec 22 2012 05:44 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	280-37042-h-1-d SD
Misc Info:	200.8TR 1/25
Vial Number:	2404
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.2583	-0.05166	ug/l	0.79	100.00		13.33	10.00	10.00
11 B # 3	-0.9915	-0.1983	ug/l	18.78	200.00		11601.01	11517.67	11380.90
23 Na # 1	19890	3978	ug/l	0.95	90000.00		24678642.00	24331236.00	24633510.00
24 Mg # 1	27.11	5.422	ug/l	0.25	90000.00		27142.99	27153.14	27393.38
27 Al # 1	125.1	25.02	ug/l	1.49	90000.00		111948.81	113436.12	111421.90
39 K # 2	75.3	15.06	ug/l	1.97	90000.00		24118.40	23794.71	24024.90
40 Ca # 1	541.5	108.3	ug/l	1.12	90000.00		1036238.50	1045892.30	1034506.00
47 Ti # 3	-0.3675	-0.0735	ug/l	57.18	1800.00		293.35	360.02	260.02
51 V # 2	0.611	0.1222	ug/l	10.96	1800.00		1024.70	950.70	959.37
52 Cr # 2	0.010605	0.002121	ug/l	363.88	1800.00		234.00	195.34	242.00
55 Mn # 3	1.291	0.2582	ug/l	0.80	2700.00		14877.23	14747.16	14703.76
56 Fe # 1	45	9	ug/l	0.72	90000.00		134436.61	133702.64	134497.34
59 Co # 3	-0.05775	-0.01155	ug/l	8.49	1800.00		46.67	76.67	70.00
60 Ni # 2	1.5815	0.3163	ug/l	1.86	1800.00		369.34	364.01	376.01
63 Cu # 2	0.3078	0.06156	ug/l	5.89	1800.00		334.67	332.01	350.01
66 Zn # 3	-0.5955	-0.1191	ug/l	60.05	1800.00		1380.10	1100.07	1293.42
75 As # 2	0.21785	0.04357	ug/l	45.17	1800.00		28.33	37.67	38.00
78 Se # 1	0.011295	0.002259	ug/l	174.50	100.00		12.33	11.00	14.00
88 Sr # 3	10.595	2.119	ug/l	2.11	1800.00		47505.85	47225.06	47853.85
95 Mo # 3	7.965	1.593	ug/l	2.42	1800.00		6298.14	6064.67	6038.02
107 Ag # 3	-0.16185	-0.03237	ug/l	2.14	100.00		6.67	16.67	16.67
111 Cd # 3	-0.06835	-0.01367	ug/l	35.93	100.00		47.67	31.09	34.43
118 Sn # 3	-0.015535	-0.003107	ug/l	133.18	1800.00		343.35	300.01	316.68
121 Sb # 3	0.10245	0.02049	ug/l	6.77	100.00		390.02	393.35	393.35
137 Ba # 3	8.195	1.639	ug/l	3.69	1800.00		3880.62	3987.32	4137.36
202 Hg # 3	0.08775	0.01755	ug/l	7.72	5.00		53.33	53.00	48.00
205 Tl # 3	-0.1335	-0.0267	ug/l	3.79	20.00		103.34	96.67	120.00
208 Pb # 3	-0.1992	-0.03984	ug/l	4.00	1800.00		453.35	426.68	380.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	769707.38	1.95	762890.69	100.9	60 - 125.4		787035.69	760747.19	761339.25
45 Sc # 1	577430.50	0.69	620105.56	93.1	60 - 125.4		574314.06	576054.81	581922.56
45 Sc # 3	818491.44	0.34	771387.50	106.1	60 - 125.4		816630.31	817160.63	821683.50
74 Ge # 1	161891.70	0.44	164848.81	98.2	60 - 125.4		161409.56	162710.75	161554.80
74 Ge # 2	32171.10	0.39	33226.06	96.8	60 - 125.4		32312.98	32126.08	32074.24
74 Ge # 3	187856.20	0.46	178474.77	105.3	60 - 125.4		188587.59	188088.59	186892.44
89 Y # 3	1068984.00	1.57	1057065.90	101.1	60 - 125.4		1085808.80	1068795.90	1052347.40
115 In # 3	892414.88	0.33	917456.31	97.3	60 - 125.4		895272.50	892502.25	889469.88
159 Tb # 3	1146055.10	1.05	1264337.30	90.6	60 - 125.4		1140530.90	1159884.50	1137750.00
209 Bi # 3	627681.13	2.18	698508.81	89.9	60 - 125.4		642741.19	624327.63	615974.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\232SMPL.D\232SMPL.D#
Date Acquired:	Dec 22 2012 05:51 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	280-37042-h-1-d PDS
Misc Info:	200.8TR 1/5
Vial Number:	2405
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	20.52	20.52	ug/l	1.25	100.00		82279.91	81908.16	81965.23
11 B # 3	40.28	40.28	ug/l	0.99	200.00		171061.20	173114.23	171580.05
23 Na # 1	20800	20800	ug/l	1.71	90000.00		127195890.00	128690690.00	127199970.00
24 Mg # 1	1938	1938	ug/l	2.04	90000.00		7893198.00	7886898.00	7806005.00
27 Al # 1	324.3	324.3	ug/l	2.39	90000.00		1409507.80	1379895.90	1383188.40
39 K # 2	1758	1758	ug/l	0.61	90000.00		955513.75	980228.00	962906.00
40 Ca # 1	2523	2523	ug/l	1.89	90000.00		23694126.00	23438234.00	23465478.00
47 Ti # 3	20.63	20.63	ug/l	1.10	1800.00		25003.33	25080.07	25110.37
51 V # 2	16.52	16.52	ug/l	0.87	1800.00		53080.56	53251.87	53575.55
52 Cr # 2	16.15	16.15	ug/l	0.35	1800.00		60408.14	60825.03	60451.65
55 Mn # 3	164.5	164.5	ug/l	1.15	2700.00		4232513.50	4115105.00	4147788.30
56 Fe # 1	2057	2057	ug/l	1.25	90000.00		27407640.00	27782162.00	27666410.00
59 Co # 3	15.25	15.25	ug/l	0.14	1800.00		286857.28	285812.72	283686.09
60 Ni # 2	16.6	16.6	ug/l	0.38	1800.00		21414.28	21577.81	21489.73
63 Cu # 2	16.6	16.6	ug/l	0.49	1800.00		55983.79	56203.90	55769.76
66 Zn # 3	16.62	16.62	ug/l	1.08	1800.00		40184.58	39720.25	40208.12
75 As # 2	16.77	16.77	ug/l	2.32	1800.00		5580.99	5462.28	5644.35
78 Se # 1	16.56	16.56	ug/l	1.01	100.00		7518.12	7613.83	7476.44
88 Sr # 3	32.14	32.14	ug/l	0.95	1800.00		669128.25	666701.69	658883.13
95 Mo # 3	29.87	29.87	ug/l	0.36	1800.00		94221.00	94417.88	92346.05
107 Ag # 3	16.08	16.08	ug/l	1.06	100.00		130628.20	129085.91	126924.71
111 Cd # 3	19.97	19.97	ug/l	1.01	100.00		34170.20	33796.12	33215.63
118 Sn # 3	19.89	19.89	ug/l	0.41	1800.00		98579.32	98719.69	96324.77
121 Sb # 3	19.55	19.55	ug/l	1.34	100.00		107994.84	106370.34	106008.34
137 Ba # 3	28.58	28.58	ug/l	1.15	1800.00		64658.42	64240.00	64025.88
202 Hg # 3	0.9003	0.9003	ug/l	1.38	5.00		1434.41	1432.41	1443.07
205 Tl # 3	3.812	3.812	ug/l	1.08	20.00		47880.21	47482.20	47568.95
208 Pb # 3	18.88	18.88	ug/l	0.25	1800.00		325605.88	324107.28	320911.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	740113.56	1.01	762890.69	97.0	60 - 125.4		731865.00	741980.94	746494.75
45 Sc # 1	579069.56	1.44	620105.56	93.4	60 - 125.4		572001.94	576907.31	588299.50
45 Sc # 3	797474.25	1.11	771387.50	103.4	60 - 125.4		792986.31	807629.88	791806.63
74 Ge # 1	187813.45	0.08	164848.81	113.9	60 - 125.4		187906.17	187636.11	187898.06
74 Ge # 2	37273.31	0.72	33226.06	112.2	60 - 125.4		37073.45	37579.56	37166.93
74 Ge # 3	216907.94	0.69	178474.77	121.5	60 - 125.4		218316.11	217059.88	215347.83
89 Y # 3	1029312.90	1.69	1057065.90	97.4	60 - 125.4		1038635.00	1040030.40	1009273.20
115 In # 3	853141.38	1.31	917456.31	93.0	60 - 125.4		855258.63	863095.69	841069.88
159 Tb # 3	1110634.50	1.51	1264337.30	87.8	60 - 125.4		1129575.30	1097500.30	1104827.90
209 Bi # 3	591631.25	0.99	698508.81	84.7	60 - 125.4		596531.69	593206.38	585155.69

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\233SMPL.D\233SMPL.D#
Date Acquired:	Dec 22 2012 05:57 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	280-37042-h-1-e ms
Misc Info:	200.8TR 1/5
Vial Number:	2406
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10	10	ug/l	1.03	100.00		40439.66	40169.12	40429.82
11 B # 3	39.78	39.78	ug/l	0.43	200.00		172687.17	171041.80	169245.94
23 Na # 1	20790	20790	ug/l	1.35	90000.00		126228260.00	127034380.00	127768090.00
24 Mg # 1	971.7	971.7	ug/l	1.84	90000.00		3900768.30	3951102.80	3920857.50
27 Al # 1	1055	1055	ug/l	1.15	90000.00		4462881.50	4471774.50	4536770.00
39 K # 2	807.4	807.4	ug/l	1.13	90000.00		458716.66	461507.38	462676.91
40 Ca # 1	1485	1485	ug/l	1.91	90000.00		13783924.00	13796861.00	13796469.00
47 Ti # 3	20.55	20.55	ug/l	1.56	1800.00		25453.99	25036.55	24973.19
51 V # 2	15.81	15.81	ug/l	0.77	1800.00		51740.95	51666.02	51892.11
52 Cr # 2	15.63	15.63	ug/l	0.72	1800.00		59426.53	59482.71	59516.26
55 Mn # 3	83.33	83.33	ug/l	0.47	2700.00		2145756.80	2152241.80	2138805.50
56 Fe # 1	1002	1002	ug/l	2.03	90000.00		13372343.00	13427342.00	13359194.00
59 Co # 3	7.443	7.443	ug/l	0.48	1800.00		142574.31	140619.77	141036.02
60 Ni # 2	15.99	15.99	ug/l	0.67	1800.00		21009.75	20978.37	21032.42
63 Cu # 2	15.91	15.91	ug/l	0.29	1800.00		54692.84	54462.60	54223.11
66 Zn # 3	17.03	17.03	ug/l	0.23	1800.00		41892.23	41484.63	41314.04
75 As # 2	17.1	17.1	ug/l	0.74	1800.00		5748.72	5772.72	5739.71
78 Se # 1	16.01	16.01	ug/l	1.01	100.00		7289.69	7315.36	7419.08
88 Sr # 3	31.58	31.58	ug/l	0.94	1800.00		664126.00	657659.94	657618.88
95 Mo # 3	29.75	29.75	ug/l	0.64	1800.00		93975.87	94281.12	92778.80
107 Ag # 3	9.698	9.698	ug/l	1.12	100.00		78988.34	77119.56	78317.71
111 Cd # 3	9.79	9.79	ug/l	1.05	100.00		16534.59	16604.56	16755.28
118 Sn # 3	19.59	19.59	ug/l	0.61	1800.00		96924.84	96271.00	97062.83
121 Sb # 3	10.38	10.38	ug/l	1.28	100.00		57250.61	57575.34	57418.07
137 Ba # 3	28.65	28.65	ug/l	0.61	1800.00		65291.13	64260.73	64598.37
202 Hg # 3	0.9361	0.9361	ug/l	0.43	5.00		1545.09	1496.41	1511.75
205 Tl # 3	7.243	7.243	ug/l	1.22	20.00		92807.70	90996.41	90378.73
208 Pb # 3	9.142	9.142	ug/l	1.13	1800.00		160339.50	160006.88	159121.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	744655.69	1.10	762890.69	97.6	60 - 125.4		753959.06	741477.50	738530.63
45 Sc # 1	576139.13	1.96	620105.56	92.9	60 - 125.4		565408.63	575118.50	587890.31
45 Sc # 3	803341.94	1.87	771387.50	104.1	60 - 125.4		811438.38	812543.94	786043.50
74 Ge # 1	189279.31	0.68	164848.81	114.8	60 - 125.4		187947.31	190532.39	189358.20
74 Ge # 2	37809.00	0.65	33226.06	113.8	60 - 125.4		38087.50	37711.53	37627.99
74 Ge # 3	219997.42	0.54	178474.77	123.3	60 - 125.4		221187.39	219985.95	218818.92
89 Y # 3	1039592.10	1.18	1057065.90	98.3	60 - 125.4		1048647.10	1044537.50	1025591.60
115 In # 3	856559.50	0.37	917456.31	93.4	60 - 125.4		859841.88	856374.06	853462.69
159 Tb # 3	1125865.60	0.48	1264337.30	89.0	60 - 125.4		1130183.50	1119780.30	1127633.30
209 Bi # 3	601412.63	1.33	698508.81	86.1	60 - 125.4		610571.06	595882.31	597784.50

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\234SMPL.D\234SMPL.D#
Date Acquired:	Dec 22 2012 06:04 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	280-37042-h-1-f msd
Misc Info:	200.8TR 1/5
Vial Number:	2407
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.02	10.02	ug/l	1.75	100.00		40132.41	40246.16	39925.23
11 B # 3	40.51	40.51	ug/l	1.14	200.00		174533.95	172643.77	170287.73
23 Na # 1	20210	20210	ug/l	1.57	90000.00		125322320.00	125157690.00	126709460.00
24 Mg # 1	950.5	950.5	ug/l	1.30	90000.00		3881841.50	3870538.30	3978884.00
27 Al # 1	1051	1051	ug/l	0.52	90000.00		4481875.00	4562863.00	4618350.50
39 K # 2	819.9	819.9	ug/l	1.78	90000.00		458841.75	462536.13	465212.91
40 Ca # 1	1458	1458	ug/l	1.38	90000.00		13646810.00	13607333.00	14153803.00
47 Ti # 3	20.53	20.53	ug/l	0.51	1800.00		25213.64	25160.06	25133.86
51 V # 2	15.96	15.96	ug/l	1.23	1800.00		51535.02	51866.03	51488.80
52 Cr # 2	15.83	15.83	ug/l	1.49	1800.00		59179.00	59530.26	59716.31
55 Mn # 3	82.64	82.64	ug/l	1.03	2700.00		2136497.50	2152556.30	2129471.80
56 Fe # 1	980.5	980.5	ug/l	1.05	90000.00		13227256.00	13316958.00	13501979.00
59 Co # 3	7.439	7.439	ug/l	0.86	1800.00		144154.14	142844.83	139349.14
60 Ni # 2	16.22	16.22	ug/l	1.76	1800.00		20875.57	21202.66	21081.18
63 Cu # 2	16.17	16.17	ug/l	0.71	1800.00		54861.95	54629.84	54484.72
66 Zn # 3	16.98	16.98	ug/l	0.46	1800.00		41969.24	41598.13	41487.79
75 As # 2	17.38	17.38	ug/l	1.27	1800.00		5784.06	5729.71	5816.07
78 Se # 1	15.83	15.83	ug/l	0.27	100.00		7240.66	7332.70	7375.39
88 Sr # 3	31.23	31.23	ug/l	0.66	1800.00		671212.00	658691.25	647390.31
95 Mo # 3	29.45	29.45	ug/l	1.54	1800.00		94729.65	93931.87	94397.85
107 Ag # 3	9.579	9.579	ug/l	0.93	100.00		78097.44	78482.12	79008.77
111 Cd # 3	9.613	9.613	ug/l	1.04	100.00		16547.65	16587.91	16714.59
118 Sn # 3	19.29	19.29	ug/l	2.03	1800.00		98035.88	96499.05	96304.26
121 Sb # 3	10.17	10.17	ug/l	0.67	100.00		57177.19	56544.65	56588.66
137 Ba # 3	28.34	28.34	ug/l	0.72	1800.00		64892.96	65442.01	65053.70
202 Hg # 3	0.9405	0.9405	ug/l	0.55	5.00		1543.42	1512.75	1484.41
205 Tl # 3	7.319	7.319	ug/l	0.99	20.00		92576.01	91657.47	91412.13
208 Pb # 3	9.212	9.212	ug/l	0.28	1800.00		162187.69	160001.28	157406.83

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	738712.56	1.75	762890.69	96.8	60 - 125.4		753656.44	730581.75	731899.56
45 Sc # 1	586844.69	2.02	620105.56	94.6	60 - 125.4		574542.00	587797.88	598194.13
45 Sc # 3	804669.94	0.66	771387.50	104.3	60 - 125.4		810640.38	803032.06	800337.38
74 Ge # 1	190755.95	1.05	164848.81	115.7	60 - 125.4		188793.22	190668.69	192805.97
74 Ge # 2	37356.90	1.04	33226.06	112.4	60 - 125.4		37801.85	37180.38	37088.45
74 Ge # 3	221197.00	1.01	178474.77	123.9	60 - 125.4		223504.42	221023.38	219063.17
89 Y # 3	1049740.90	1.20	1057065.90	99.3	60 - 125.4		1063463.80	1046997.90	1038760.70
115 In # 3	871534.63	1.10	917456.31	95.0	60 - 125.4		861277.56	880317.38	873008.81
159 Tb # 3	1120345.90	0.98	1264337.30	88.6	60 - 125.4		1121935.30	1130427.80	1108675.00
209 Bi # 3	596994.75	1.45	698508.81	85.5	60 - 125.4		606218.63	595661.88	589103.75

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\235SMPL.D\235SMPL.D#
Date Acquired:	Dec 22 2012 06:11 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	280-37181-a-1-c
Misc Info:	200.8TR 1/5
Vial Number:	2408
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.04407	-0.04407	ug/l	3.98	100.00		43.33	46.67	33.33
11 B # 3	4.28	4.28	ug/l	2.20	200.00		29263.13	28425.03	29283.19
23 Na # 1	121300	121300	ug/l	0.88	90000.00	Fail	727140100.00	726924480.00	726044420.00
24 Mg # 1	164.4	164.4	ug/l	0.91	90000.00		656379.50	654717.13	657222.94
27 Al # 1	0.5072	0.5072	ug/l	21.77	90000.00		8097.94	7715.53	7285.21
39 K # 2	377.2	377.2	ug/l	0.64	90000.00		194202.69	194835.48	195611.95
40 Ca # 1	492.9	492.9	ug/l	0.52	90000.00		4499511.00	4521124.50	4532372.50
47 Ti # 3	-0.1714	-0.1714	ug/l	4.94	1800.00		170.01	180.01	186.68
51 V # 2	0.06105	0.06105	ug/l	9.99	1800.00		798.03	842.03	824.03
52 Cr # 2	0.2678	0.2678	ug/l	1.73	1800.00		1100.71	1088.71	1094.04
55 Mn # 3	-0.0454	-0.0454	ug/l	18.26	2700.00		8229.02	8469.11	8285.70
56 Fe # 1	3.096	3.096	ug/l	2.22	90000.00		54577.28	53727.23	53894.95
59 Co # 3	0.01927	0.01927	ug/l	13.88	1800.00		533.36	610.03	586.69
60 Ni # 2	0.5418	0.5418	ug/l	4.74	1800.00		656.68	612.68	620.02
63 Cu # 2	0.374	0.374	ug/l	4.41	1800.00		1278.06	1293.39	1215.39
66 Zn # 3	4.393	4.393	ug/l	2.44	1800.00		10386.95	10650.48	10493.82
75 As # 2	0.06423	0.06423	ug/l	5.72	1800.00		41.33	40.00	42.00
78 Se # 1	0.03786	0.03786	ug/l	24.18	100.00		22.67	28.33	30.00
88 Sr # 3	93.84	93.84	ug/l	1.27	1800.00		1913183.30	1933806.00	1902306.00
95 Mo # 3	-0.03336	-0.03336	ug/l	60.52	1800.00		726.71	793.38	833.38
107 Ag # 3	-0.02691	-0.02691	ug/l	1.61	100.00		56.67	56.67	50.00
111 Cd # 3	-0.02432	-0.02432	ug/l	19.21	100.00		26.40	13.04	13.03
118 Sn # 3	-0.001084	-0.001084	ug/l	723.52	1800.00		323.35	263.34	326.68
121 Sb # 3	0.07106	0.07106	ug/l	27.74	100.00		716.70	703.38	520.02
137 Ba # 3	30.15	30.15	ug/l	0.55	1800.00		66115.02	65334.71	64815.81
202 Hg # 3	0.02075	0.02075	ug/l	13.44	5.00		51.33	45.00	52.33
205 Tl # 3	0.001143	0.001143	ug/l	149.61	20.00		460.02	420.02	433.35
208 Pb # 3	0.01953	0.01953	ug/l	32.82	1800.00		1400.07	1203.40	1313.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	743534.63	0.42	762890.69	97.5	60 - 125.4		746031.88	740074.06	744498.00
45 Sc # 1	565672.19	0.83	620105.56	91.2	60 - 125.4		560278.00	568759.31	567979.25
45 Sc # 3	794878.44	1.00	771387.50	103.0	60 - 125.4		801351.56	797319.88	785963.81
74 Ge # 1	165536.91	0.74	164848.81	100.4	60 - 125.4		164334.14	165492.58	166783.98
74 Ge # 2	32604.19	0.91	33226.06	98.1	60 - 125.4		32272.93	32695.51	32844.13
74 Ge # 3	192337.63	0.98	178474.77	107.8	60 - 125.4		194509.22	191462.34	191041.33
89 Y # 3	1018275.90	0.94	1057065.90	96.3	60 - 125.4		1029228.90	1014227.30	1011371.40
115 In # 3	822775.38	0.97	917456.31	89.7	60 - 125.4		827975.69	826744.75	813605.63
159 Tb # 3	1084290.90	0.13	1264337.30	85.8	60 - 125.4		1083034.30	1083974.30	1085864.00
209 Bi # 3	548007.31	0.22	698508.81	78.5	60 - 125.4		546813.69	549226.56	547981.88

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\236_CCV.D\236_CCV.D#
Date Acquired: Dec 22 2012 06:17 pm
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	49.71 ug/l	1.74	50.00	89.6 - 110	
11 B	97.09 ug/l	1.70	100.00	89.6 - 110	
23 Na	4640.00 ug/l	0.63	5000.00	89.6 - 110	
24 Mg	4652.00 ug/l	1.33	5000.00	89.6 - 110	
27 Al	458.40 ug/l	1.15	500.00	89.6 - 110	
39 K	5040.00 ug/l	1.46	5000.00	89.6 - 110	
40 Ca	4854.00 ug/l	0.61	5000.00	89.6 - 110	
47 Ti	48.70 ug/l	0.96	50.00	89.6 - 110	
51 V	50.05 ug/l	0.60	50.00	89.6 - 110	
52 Cr	49.49 ug/l	0.83	50.00	89.6 - 110	
55 Mn	510.70 ug/l	0.39	500.00	89.6 - 110	
56 Fe	4937.00 ug/l	0.30	5000.00	89.6 - 110	
59 Co	51.13 ug/l	0.19	50.00	89.6 - 110	
60 Ni	50.48 ug/l	0.43	50.00	89.6 - 110	
63 Cu	50.36 ug/l	0.32	50.00	89.6 - 110	
66 Zn	48.62 ug/l	0.63	50.00	89.6 - 110	
75 As	49.65 ug/l	0.60	50.00	89.6 - 110	
78 Se	48.36 ug/l	0.03	50.00	89.6 - 110	
88 Sr	50.37 ug/l	1.31	50.00	89.6 - 110	
95 Mo	49.99 ug/l	2.22	50.00	89.6 - 110	
107 Ag	48.04 ug/l	1.49	50.00	89.6 - 110	
111 Cd	47.93 ug/l	1.30	50.00	89.6 - 110	
118 Sn	47.84 ug/l	1.85	50.00	89.6 - 110	
121 Sb	45.81 ug/l	0.42	50.00	89.6 - 110	
137 Ba	49.10 ug/l	2.17	50.00	89.6 - 110	
202 Hg	2.32 ug/l	0.50	2.50	89.6 - 110	
205 Tl	9.14 ug/l	0.55	10.00	89.6 - 110	
208 Pb	46.26 ug/l	0.81	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	720776.06	0.78	762890.69	94.5	59.6 - 125	
45 Sc	581547.06	0.05	620105.56	93.8	59.6 - 125	
45 Sc	806570.44	1.17	771387.50	104.6	59.6 - 125	
74 Ge	151436.47	0.45	164848.81	91.9	59.6 - 125	
74 Ge	29591.09	0.39	33226.06	89.1	59.6 - 125	
74 Ge	172162.77	0.36	178474.77	96.5	59.6 - 125	
89 Y	1046228.80	0.33	1057065.90	99.0	59.6 - 125	
115 In	865917.31	1.16	917456.31	94.4	59.6 - 125	
159 Tb	1131460.90	0.29	1264337.30	89.5	59.6 - 125	
209 Bi	590805.44	0.31	698508.81	84.6	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\237_CCB.D\237_CCB.D#
Date Acquired: Dec 22 2012 06:24 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	7.81	0.05	
11 B	0.52 ug/l	20.56	10.00	
23 Na	0.08 ug/l	1389.40	25.00	
24 Mg	1.79 ug/l	20.81	25.00	
27 Al	-0.55 ug/l	30.33	5.00	
39 K	5.46 ug/l	17.89	25.00	
40 Ca	2.72 ug/l	7.25	25.00	
47 Ti	-0.26 ug/l	2.59	0.50	
51 V	-0.02 ug/l	6.75	0.50	
52 Cr	0.01 ug/l	19.45	0.50	
55 Mn	-0.12 ug/l	10.14	0.50	
56 Fe	2.62 ug/l	6.81	10.00	
59 Co	0.01 ug/l	25.90	0.05	
60 Ni	0.02 ug/l	18.66	0.50	
63 Cu	0.01 ug/l	29.59	0.50	
66 Zn	-0.46 ug/l	8.18	2.00	
75 As	0.03 ug/l	48.77	0.25	
78 Se	0.04 ug/l	10.61	0.25	
88 Sr	-0.07 ug/l	3.06	0.10	
95 Mo	-0.16 ug/l	10.23	0.50	
107 Ag	-0.01 ug/l	21.43	0.10	
111 Cd	0.00 ug/l	79.04	0.05	
118 Sn	0.02 ug/l	66.03	0.50	
121 Sb	0.30 ug/l	11.10	0.50	
137 Ba	-0.03 ug/l	35.52	0.50	
202 Hg	0.03 ug/l	6.77	0.08	
205 Tl	-0.02 ug/l	5.74	0.10	
208 Pb	-0.03 ug/l	5.11	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	760464.31	0.61	762890.69	99.7	59.6 - 125	
45 Sc	586288.25	0.44	620105.56	94.5	59.6 - 125	
45 Sc	809129.19	1.05	771387.50	104.9	59.6 - 125	
74 Ge	152189.78	0.27	164848.81	92.3	59.6 - 125	
74 Ge	30100.36	1.15	33226.06	90.6	59.6 - 125	
74 Ge	178057.91	0.56	178474.77	99.8	59.6 - 125	
89 Y	1074533.60	0.50	1057065.90	101.7	59.6 - 125	
115 In	903683.50	0.74	917456.31	98.5	59.6 - 125	
159 Tb	1165548.30	1.05	1264337.30	92.2	59.6 - 125	
209 Bi	606604.50	0.82	698508.81	86.8	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\238_CCV.D\238_CCV.D#
Date Acquired:	Dec 24 2012 10:55 am
Operator:	BR
Sample Name:	CCV
Misc Info:	
Vial Number:	3
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	44.95 ug/l	0.50	50.00	89.6 - 110	
11 B	89.19 ug/l	0.82	100.00	89.6 - 110	Fail
23 Na	4428.00 ug/l	0.72	5000.00	89.6 - 110	Fail
24 Mg	4505.00 ug/l	0.59	5000.00	89.6 - 110	
27 Al	455.90 ug/l	1.48	500.00	89.6 - 110	
39 K	5181.00 ug/l	1.41	5000.00	89.6 - 110	
40 Ca	4549.00 ug/l	0.27	5000.00	89.6 - 110	
47 Ti	46.02 ug/l	1.63	50.00	89.6 - 110	
51 V	48.42 ug/l	0.48	50.00	89.6 - 110	
52 Cr	47.13 ug/l	1.27	50.00	89.6 - 110	
55 Mn	468.80 ug/l	0.64	500.00	89.6 - 110	
56 Fe	4118.00 ug/l	1.58	5000.00	89.6 - 110	Fail
59 Co	48.70 ug/l	0.92	50.00	89.6 - 110	
60 Ni	46.30 ug/l	1.12	50.00	89.6 - 110	
63 Cu	45.66 ug/l	1.14	50.00	89.6 - 110	
66 Zn	46.67 ug/l	0.51	50.00	89.6 - 110	
75 As	49.42 ug/l	0.78	50.00	89.6 - 110	
78 Se	45.75 ug/l	0.15	50.00	89.6 - 110	
88 Sr	45.48 ug/l	1.70	50.00	89.6 - 110	
95 Mo	48.13 ug/l	1.94	50.00	89.6 - 110	
107 Ag	46.01 ug/l	2.82	50.00	89.6 - 110	
111 Cd	44.69 ug/l	1.98	50.00	89.6 - 110	Fail
118 Sn	45.02 ug/l	2.18	50.00	89.6 - 110	
121 Sb	42.69 ug/l	1.10	50.00	89.6 - 110	Fail
137 Ba	46.66 ug/l	2.03	50.00	89.6 - 110	
202 Hg	1.80 ug/l	3.18	2.50	89.6 - 110	Fail
205 Tl	8.86 ug/l	0.97	10.00	89.6 - 110	Fail
208 Pb	36.07 ug/l	1.67	50.00	89.6 - 110	Fail

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	905806.63	1.24	762890.69	118.7	59.6 - 125	
45 Sc	671169.00	0.42	620105.56	108.2	59.6 - 125	
45 Sc	940105.00	0.57	771387.50	121.9	59.6 - 125	
74 Ge	156844.67	0.14	164848.81	95.1	59.6 - 125	
74 Ge	35263.19	0.95	33226.06	106.1	59.6 - 125	
74 Ge	183262.06	0.87	178474.77	102.7	59.6 - 125	
89 Y	1093373.90	1.62	1057065.90	103.4	59.6 - 125	
115 In	899815.94	1.84	917456.31	98.1	59.6 - 125	
159 Tb	1136916.50	0.71	1264337.30	89.9	59.6 - 125	
209 Bi	736367.88	1.54	698508.81	105.4	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

8 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\239_CCB.D\239_CCB.D#
Date Acquired:	Dec 24 2012 11:01 am
Operator:	BR
Sample Name:	CCB
Misc Info:	
Vial Number:	4
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCB
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.05 ug/l	0.73	0.05	
11 B	-0.27 ug/l	18.83	10.00	
23 Na	-18.04 ug/l	26.77	25.00	
24 Mg	-0.60 ug/l	30.74	25.00	
27 Al	-1.08 ug/l	2.13	5.00	
39 K	7.01 ug/l	11.33	25.00	
40 Ca	0.04 ug/l	657.87	25.00	
47 Ti	-0.27 ug/l	7.62	0.50	
51 V	-0.03 ug/l	21.74	0.50	
52 Cr	0.00 ug/l	144.67	0.50	
55 Mn	-0.28 ug/l	2.00	0.50	
56 Fe	0.15 ug/l	146.47	10.00	
59 Co	-0.01 ug/l	12.26	0.05	
60 Ni	-0.01 ug/l	76.30	0.50	
63 Cu	-0.03 ug/l	9.46	0.50	
66 Zn	-0.57 ug/l	1.91	2.00	
75 As	0.03 ug/l	35.39	0.25	
78 Se	0.03 ug/l	35.22	0.25	
88 Sr	-0.09 ug/l	0.42	0.10	
95 Mo	-0.18 ug/l	8.21	0.50	
107 Ag	-0.02 ug/l	7.18	0.10	
111 Cd	-0.01 ug/l	10.56	0.05	
118 Sn	0.00 ug/l	164.86	0.50	
121 Sb	0.27 ug/l	4.94	0.50	
137 Ba	-0.05 ug/l	4.09	0.50	
202 Hg	0.00 ug/l	58.27	0.08	
205 Tl	-0.03 ug/l	2.06	0.10	
208 Pb	-0.05 ug/l	2.58	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	842582.00	1.30	762890.69	110.4	59.6 - 125	
45 Sc	590136.38	0.63	620105.56	95.2	59.6 - 125	
45 Sc	855591.38	2.23	771387.50	110.9	59.6 - 125	
74 Ge	149208.53	0.24	164848.81	90.5	59.6 - 125	
74 Ge	32577.43	0.29	33226.06	98.0	59.6 - 125	
74 Ge	179053.72	0.20	178474.77	100.3	59.6 - 125	
89 Y	1000110.00	0.94	1057065.90	94.6	59.6 - 125	
115 In	821172.44	1.48	917456.31	89.5	59.6 - 125	
159 Tb	1045615.40	1.01	1264337.30	82.7	59.6 - 125	
209 Bi	652319.81	1.26	698508.81	93.4	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\240_CCV.D\240_CCV.D#
Date Acquired: Dec 24 2012 11:08 am
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	47.90 ug/l	0.94	50.00	89.6 - 110	
11 B	95.79 ug/l	0.46	100.00	89.6 - 110	
23 Na	4785.00 ug/l	0.38	5000.00	89.6 - 110	
24 Mg	4851.00 ug/l	0.17	5000.00	89.6 - 110	
27 Al	493.90 ug/l	1.41	500.00	89.6 - 110	
39 K	5213.00 ug/l	1.72	5000.00	89.6 - 110	
40 Ca	4933.00 ug/l	0.44	5000.00	89.6 - 110	
47 Ti	48.60 ug/l	0.39	50.00	89.6 - 110	
51 V	48.89 ug/l	0.89	50.00	89.6 - 110	
52 Cr	47.90 ug/l	0.74	50.00	89.6 - 110	
55 Mn	473.80 ug/l	0.90	500.00	89.6 - 110	
56 Fe	4544.00 ug/l	0.13	5000.00	89.6 - 110	
59 Co	48.69 ug/l	0.55	50.00	89.6 - 110	
60 Ni	47.60 ug/l	1.13	50.00	89.6 - 110	
63 Cu	47.21 ug/l	1.13	50.00	89.6 - 110	
66 Zn	46.70 ug/l	0.25	50.00	89.6 - 110	
75 As	49.55 ug/l	1.18	50.00	89.6 - 110	
78 Se	46.54 ug/l	0.44	50.00	89.6 - 110	
88 Sr	48.18 ug/l	0.69	50.00	89.6 - 110	
95 Mo	51.22 ug/l	0.15	50.00	89.6 - 110	
107 Ag	48.80 ug/l	0.30	50.00	89.6 - 110	
111 Cd	47.33 ug/l	0.87	50.00	89.6 - 110	
118 Sn	47.94 ug/l	0.60	50.00	89.6 - 110	
121 Sb	45.11 ug/l	0.64	50.00	89.6 - 110	
137 Ba	49.49 ug/l	0.63	50.00	89.6 - 110	
202 Hg	2.04 ug/l	0.73	2.50	89.6 - 110	Fail
205 Tl	9.31 ug/l	0.71	10.00	89.6 - 110	
208 Pb	41.30 ug/l	0.81	50.00	89.6 - 110	Fail

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	796659.56	0.65	762890.69	104.4	59.6 - 125	
45 Sc	570782.94	0.13	620105.56	92.0	59.6 - 125	
45 Sc	824997.81	0.07	771387.50	106.9	59.6 - 125	
74 Ge	145130.69	0.48	164848.81	88.0	59.6 - 125	
74 Ge	31227.01	0.66	33226.06	94.0	59.6 - 125	
74 Ge	169775.88	1.19	178474.77	95.1	59.6 - 125	
89 Y	966060.06	0.59	1057065.90	91.4	59.6 - 125	
115 In	784899.00	0.69	917456.31	85.6	59.6 - 125	
159 Tb	1018591.60	1.56	1264337.30	80.6	59.6 - 125	
209 Bi	604545.50	1.12	698508.81	86.5	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\241_CCB.D\241_CCB.D#
Date Acquired:	Dec 24 2012 11:15 am
Operator:	BR
Sample Name:	CCB
Misc Info:	
Vial Number:	4
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update:	Dec 22 2012 11:02 am
Sample Type:	CCB
Total Dil Factor:	1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	1.92	0.05	
11 B	0.09 ug/l	44.25	10.00	
23 Na	-18.07 ug/l	1.13	25.00	
24 Mg	1.70 ug/l	2.59	25.00	
27 Al	-0.88 ug/l	3.32	5.00	
39 K	8.35 ug/l	8.67	25.00	
40 Ca	2.44 ug/l	3.87	25.00	
47 Ti	-0.25 ug/l	3.09	0.50	
51 V	-0.04 ug/l	15.44	0.50	
52 Cr	0.00 ug/l	562.38	0.50	
55 Mn	-0.24 ug/l	1.61	0.50	
56 Fe	2.34 ug/l	2.34	10.00	
59 Co	0.00 ug/l	19.83	0.05	
60 Ni	0.00 ug/l	20.99	0.50	
63 Cu	-0.03 ug/l	5.80	0.50	
66 Zn	-0.63 ug/l	4.08	2.00	
75 As	0.04 ug/l	21.05	0.25	
78 Se	0.05 ug/l	13.54	0.25	
88 Sr	-0.09 ug/l	1.60	0.10	
95 Mo	-0.16 ug/l	4.43	0.50	
107 Ag	-0.02 ug/l	8.85	0.10	
111 Cd	-0.01 ug/l	94.56	0.05	
118 Sn	-0.01 ug/l	60.44	0.50	
121 Sb	0.31 ug/l	6.36	0.50	
137 Ba	-0.05 ug/l	13.23	0.50	
202 Hg	0.01 ug/l	13.55	0.08	
205 Tl	-0.03 ug/l	4.06	0.10	
208 Pb	-0.05 ug/l	2.87	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	805686.63	0.86	762890.69	105.6	59.6 - 125	
45 Sc	565990.44	1.06	620105.56	91.3	59.6 - 125	
45 Sc	814869.00	1.71	771387.50	105.6	59.6 - 125	
74 Ge	145138.11	0.33	164848.81	88.0	59.6 - 125	
74 Ge	30856.23	0.87	33226.06	92.9	59.6 - 125	
74 Ge	170791.91	0.56	178474.77	95.7	59.6 - 125	
89 Y	971395.38	0.89	1057065.90	91.9	59.6 - 125	
115 In	785013.94	1.18	917456.31	85.6	59.6 - 125	
159 Tb	1008985.40	0.70	1264337.30	79.8	59.6 - 125	
209 Bi	606420.50	1.95	698508.81	86.8	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\242SMPL.D\242SMPL.D#
Date Acquired:	Dec 24 2012 11:21 am
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	660-51678 CONFIRM
Misc Info:	
Vial Number:	3512
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.05034	-0.05034	ug/l	2.81	100.00		10.00	20.00	20.00
11 B # 3	82.86	82.86	ug/l	1.02	200.00		358257.56	359166.13	355040.09
23 Na # 1	126000	126000	ug/l	1.38	90000.00	Fail	780809150.00	796451330.00	800870270.00
24 Mg # 1	20440	20440	ug/l	1.42	90000.00		83780936.00	85366768.00	86003560.00
27 Al # 1	2.014	2.014	ug/l	3.38	90000.00		14553.59	14953.15	14576.98
39 K # 2	4258	4258	ug/l	0.36	90000.00		1841230.10	1864210.40	1852022.00
40 Ca # 1	97150	97150	ug/l	1.24	90000.00	Fail	914217340.00	935960700.00	936330620.00
47 Ti # 3	0.8817	0.8817	ug/l	2.60	1800.00		1556.79	1490.11	1440.11
51 V # 2	-0.05446	-0.05446	ug/l	12.92	1800.00		449.34	480.01	444.01
52 Cr # 2	0.5054	0.5054	ug/l	1.11	1800.00		1695.43	1715.43	1728.77
55 Mn # 3	0.6872	0.6872	ug/l	2.69	2700.00		20843.98	20750.60	20787.15
56 Fe # 1	102.3	102.3	ug/l	1.69	90000.00		1408422.60	1433006.00	1429187.90
59 Co # 3	0.5259	0.5259	ug/l	1.32	1800.00		7598.68	7525.42	7508.66
60 Ni # 2	368.4	368.4	ug/l	0.65	1800.00		383965.50	382018.47	379591.41
63 Cu # 2	1669	1669	ug/l	0.62	1800.00		4488697.50	4483686.50	4514513.50
66 Zn # 3	5528	5528	ug/l	0.59	1800.00	Fail	9588986.00	9535647.00	9379738.00
75 As # 2	0.1273	0.1273	ug/l	13.87	1800.00		58.67	49.67	54.67
78 Se # 1	0.0635	0.0635	ug/l	14.94	100.00		29.00	31.00	35.67
88 Sr # 3	645.1	645.1	ug/l	0.51	1800.00		12427160.00	12216829.00	12083806.00
95 Mo # 3	-0.1169	-0.1169	ug/l	6.24	1800.00		483.36	496.69	506.69
107 Ag # 3	-0.02196	-0.02196	ug/l	20.45	100.00		73.34	63.34	120.01
111 Cd # 3	0.5102	0.5102	ug/l	9.71	100.00		876.54	743.19	846.53
118 Sn # 3	2.933	2.933	ug/l	2.77	1800.00		13726.44	13065.88	12682.23
121 Sb # 3	0.2728	0.2728	ug/l	2.24	100.00		1623.47	1590.14	1623.47
137 Ba # 3	23.07	23.07	ug/l	0.50	1800.00		47261.02	46692.64	45452.28
202 Hg # 3	0.006621	0.006621	ug/l	39.38	5.00		26.67	20.67	25.67
205 Tl # 3	-0.02684	-0.02684	ug/l	8.95	20.00		106.67	60.00	106.67
208 Pb # 3	188.5	188.5	ug/l	0.76	1800.00		2504541.80	2518789.00	2491588.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	775683.50	1.47	762890.69	101.7	60 - 125.4		785272.19	778667.00	763111.31
45 Sc # 1	594396.75	2.57	620105.56	95.9	60 - 125.4		576818.06	604646.06	601726.19
45 Sc # 3	828382.50	2.06	771387.50	107.4	60 - 125.4		844632.69	829877.88	810636.88
74 Ge # 1	141663.70	1.02	164848.81	85.9	60 - 125.4		140032.63	142792.20	142166.30
74 Ge # 2	29859.93	0.32	33226.06	89.9	60 - 125.4		29799.76	29971.87	29808.17
74 Ge # 3	161701.81	1.73	178474.77	90.6	60 - 125.4		163943.23	162594.31	158567.89
89 Y # 3	946975.19	1.21	1057065.90	89.6	60 - 125.4		956643.81	950030.50	934251.31
115 In # 3	763269.19	1.85	917456.31	83.2	60 - 125.4		772228.75	770546.88	747031.94
159 Tb # 3	993446.00	1.14	1264337.30	78.6	60 - 125.4		1006467.30	987896.63	985974.06
209 Bi # 3	460067.75	0.86	698508.81	65.9	60 - 125.4		464005.78	460129.47	456068.13

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

3 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\243_CCV.D\243_CCV.D#
Date Acquired: Dec 24 2012 11:28 am
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)		Flag
9 Be	47.37 ug/l	0.87	50.00	89.6 -	110	
11 B	95.36 ug/l	1.54	100.00	89.6 -	110	
23 Na	4729.00 ug/l	1.45	5000.00	89.6 -	110	
24 Mg	4733.00 ug/l	1.60	5000.00	89.6 -	110	
27 Al	476.00 ug/l	2.12	500.00	89.6 -	110	
39 K	5114.00 ug/l	1.43	5000.00	89.6 -	110	
40 Ca	4861.00 ug/l	2.17	5000.00	89.6 -	110	
47 Ti	48.30 ug/l	1.55	50.00	89.6 -	110	
51 V	49.52 ug/l	0.58	50.00	89.6 -	110	
52 Cr	48.47 ug/l	0.42	50.00	89.6 -	110	
55 Mn	477.50 ug/l	0.38	500.00	89.6 -	110	
56 Fe	4549.00 ug/l	1.95	5000.00	89.6 -	110	
59 Co	48.85 ug/l	1.36	50.00	89.6 -	110	
60 Ni	49.07 ug/l	1.06	50.00	89.6 -	110	
63 Cu	49.21 ug/l	0.61	50.00	89.6 -	110	
66 Zn	47.46 ug/l	0.99	50.00	89.6 -	110	
75 As	49.87 ug/l	0.93	50.00	89.6 -	110	
78 Se	46.94 ug/l	0.76	50.00	89.6 -	110	
88 Sr	47.99 ug/l	0.48	50.00	89.6 -	110	
95 Mo	50.94 ug/l	0.71	50.00	89.6 -	110	
107 Ag	48.93 ug/l	0.66	50.00	89.6 -	110	
111 Cd	47.78 ug/l	0.24	50.00	89.6 -	110	
118 Sn	48.06 ug/l	0.57	50.00	89.6 -	110	
121 Sb	45.00 ug/l	1.47	50.00	89.6 -	110	
137 Ba	50.00 ug/l	0.46	50.00	89.6 -	110	
202 Hg	2.02 ug/l	1.62	2.50	89.6 -	110	Fail
205 Tl	9.31 ug/l	0.66	10.00	89.6 -	110	
208 Pb	41.03 ug/l	0.39	50.00	89.6 -	110	Fail

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)		Flag
6 Li	765273.50	1.39	762890.69	100.3	59.6 -	125	
45 Sc	547522.19	1.70	620105.56	88.3	59.6 -	125	
45 Sc	791313.81	1.65	771387.50	102.6	59.6 -	125	
74 Ge	140938.34	0.41	164848.81	85.5	59.6 -	125	
74 Ge	28635.49	0.57	33226.06	86.2	59.6 -	125	
74 Ge	163590.13	0.95	178474.77	91.7	59.6 -	125	
89 Y	932103.50	1.33	1057065.90	88.2	59.6 -	125	
115 In	752505.69	0.82	917456.31	82.0	59.6 -	125	
159 Tb	980580.31	0.32	1264337.30	77.6	59.6 -	125	
209 Bi	586649.31	0.34	698508.81	84.0	59.6 -	125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\244_CCB.D\244_CCB.D#
Date Acquired: Dec 24 2012 11:35 am
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	4.99	0.05	
11 B	0.67 ug/l	2.36	10.00	
23 Na	-10.93 ug/l	5.49	25.00	
24 Mg	1.13 ug/l	4.71	25.00	
27 Al	-1.07 ug/l	0.94	5.00	
39 K	7.65 ug/l	10.52	25.00	
40 Ca	6.03 ug/l	6.17	25.00	
47 Ti	-0.26 ug/l	1.74	0.50	
51 V	-0.04 ug/l	5.67	0.50	
52 Cr	0.00 ug/l	864.41	0.50	
55 Mn	-0.23 ug/l	8.19	0.50	
56 Fe	0.74 ug/l	10.16	10.00	
59 Co	0.00 ug/l	164.55	0.05	
60 Ni	0.02 ug/l	8.32	0.50	
63 Cu	0.08 ug/l	9.07	0.50	
66 Zn	-0.43 ug/l	6.88	2.00	
75 As	0.03 ug/l	13.91	0.25	
78 Se	0.04 ug/l	21.84	0.25	
88 Sr	-0.07 ug/l	9.33	0.10	
95 Mo	-0.16 ug/l	3.38	0.50	
107 Ag	-0.02 ug/l	10.90	0.10	
111 Cd	-0.01 ug/l	87.10	0.05	
118 Sn	0.01 ug/l	23.87	0.50	
121 Sb	0.32 ug/l	3.22	0.50	
137 Ba	-0.05 ug/l	5.23	0.50	
202 Hg	0.01 ug/l	23.23	0.08	
205 Tl	-0.03 ug/l	7.38	0.10	
208 Pb	-0.04 ug/l	14.33	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	790296.00	1.73	762890.69	103.6	59.6 - 125	
45 Sc	559760.88	0.84	620105.56	90.3	59.6 - 125	
45 Sc	807109.50	1.07	771387.50	104.6	59.6 - 125	
74 Ge	146214.25	0.83	164848.81	88.7	59.6 - 125	
74 Ge	30178.89	1.08	33226.06	90.8	59.6 - 125	
74 Ge	170378.88	0.46	178474.77	95.5	59.6 - 125	
89 Y	955678.00	0.33	1057065.90	90.4	59.6 - 125	
115 In	782502.88	1.32	917456.31	85.3	59.6 - 125	
159 Tb	1002403.60	0.56	1264337.30	79.3	59.6 - 125	
209 Bi	591751.56	0.84	698508.81	84.7	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\245_CCV.D\245_CCV.D#
Date Acquired: Dec 24 2012 01:51 pm
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	48.82 ug/l	0.89	50.00	89.6 - 110	
11 B	96.57 ug/l	0.53	100.00	89.6 - 110	
23 Na	4852.00 ug/l	1.45	5000.00	89.6 - 110	
24 Mg	4884.00 ug/l	1.81	5000.00	89.6 - 110	
27 Al	498.50 ug/l	1.45	500.00	89.6 - 110	
39 K	5247.00 ug/l	1.08	5000.00	89.6 - 110	
40 Ca	4979.00 ug/l	1.29	5000.00	89.6 - 110	
47 Ti	49.69 ug/l	0.89	50.00	89.6 - 110	
51 V	48.60 ug/l	0.36	50.00	89.6 - 110	
52 Cr	47.51 ug/l	0.54	50.00	89.6 - 110	
55 Mn	480.80 ug/l	0.88	500.00	89.6 - 110	
56 Fe	4504.00 ug/l	1.57	5000.00	89.6 - 110	
59 Co	49.32 ug/l	0.67	50.00	89.6 - 110	
60 Ni	46.62 ug/l	0.68	50.00	89.6 - 110	
63 Cu	46.12 ug/l	0.84	50.00	89.6 - 110	
66 Zn	47.72 ug/l	0.84	50.00	89.6 - 110	
75 As	49.38 ug/l	0.76	50.00	89.6 - 110	
78 Se	46.46 ug/l	0.88	50.00	89.6 - 110	
88 Sr	48.94 ug/l	0.58	50.00	89.6 - 110	
95 Mo	51.43 ug/l	0.01	50.00	89.6 - 110	
107 Ag	49.50 ug/l	0.56	50.00	89.6 - 110	
111 Cd	48.34 ug/l	1.44	50.00	89.6 - 110	
118 Sn	48.91 ug/l	0.57	50.00	89.6 - 110	
121 Sb	46.56 ug/l	1.13	50.00	89.6 - 110	
137 Ba	50.67 ug/l	1.31	50.00	89.6 - 110	
202 Hg	2.22 ug/l	2.10	2.50	89.6 - 110	Fail
205 Tl	9.67 ug/l	0.57	10.00	89.6 - 110	
208 Pb	46.14 ug/l	1.54	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	772098.81	0.63	762890.69	101.2	59.6 - 125	
45 Sc	591794.31	1.95	620105.56	95.4	59.6 - 125	
45 Sc	807255.06	0.55	771387.50	104.6	59.6 - 125	
74 Ge	149937.30	0.34	164848.81	91.0	59.6 - 125	
74 Ge	32828.50	0.66	33226.06	98.8	59.6 - 125	
74 Ge	168847.67	0.89	178474.77	94.6	59.6 - 125	
89 Y	945184.06	0.62	1057065.90	89.4	59.6 - 125	
115 In	780930.13	0.77	917456.31	85.1	59.6 - 125	
159 Tb	1018811.90	0.95	1264337.30	80.6	59.6 - 125	
209 Bi	558682.19	1.15	698508.81	80.0	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\246_CCB.D\246_CCB.D#
Date Acquired: Dec 24 2012 01:58 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	1.19	0.05	
11 B	-0.05 ug/l	169.28	10.00	
23 Na	-19.04 ug/l	5.46	25.00	
24 Mg	0.28 ug/l	88.65	25.00	
27 Al	-1.05 ug/l	1.49	5.00	
39 K	6.34 ug/l	17.09	25.00	
40 Ca	1.11 ug/l	2.67	25.00	
47 Ti	-0.25 ug/l	7.56	0.50	
51 V	-0.02 ug/l	87.87	0.50	
52 Cr	0.00 ug/l	10498.00	0.50	
55 Mn	-0.21 ug/l	8.95	0.50	
56 Fe	0.81 ug/l	5.07	10.00	
59 Co	0.00 ug/l	0.37	0.05	
60 Ni	0.00 ug/l	245.77	0.50	
63 Cu	-0.02 ug/l	8.63	0.50	
66 Zn	-0.65 ug/l	1.99	2.00	
75 As	0.03 ug/l	58.04	0.25	
78 Se	0.04 ug/l	3.27	0.25	
88 Sr	-0.09 ug/l	0.60	0.10	
95 Mo	-0.14 ug/l	13.92	0.50	
107 Ag	-0.02 ug/l	11.28	0.10	
111 Cd	-0.01 ug/l	29.76	0.05	
118 Sn	-0.01 ug/l	71.61	0.50	
121 Sb	0.27 ug/l	2.63	0.50	
137 Ba	-0.05 ug/l	16.73	0.50	
202 Hg	0.01 ug/l	10.64	0.08	
205 Tl	-0.03 ug/l	4.26	0.10	
208 Pb	-0.04 ug/l	4.41	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	804036.81	0.93	762890.69	105.4	59.6 - 125	
45 Sc	575921.63	0.71	620105.56	92.9	59.6 - 125	
45 Sc	807746.31	0.86	771387.50	104.7	59.6 - 125	
74 Ge	148599.94	0.32	164848.81	90.1	59.6 - 125	
74 Ge	31653.43	1.26	33226.06	95.3	59.6 - 125	
74 Ge	170436.70	0.96	178474.77	95.5	59.6 - 125	
89 Y	963121.25	0.27	1057065.90	91.1	59.6 - 125	
115 In	792620.13	0.74	917456.31	86.4	59.6 - 125	
159 Tb	1029686.90	0.76	1264337.30	81.4	59.6 - 125	
209 Bi	572073.88	1.07	698508.81	81.9	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

ICPMSB

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\248_CCV.D\248_CCV.D#
Date Acquired: Dec 24 2012 02:11 pm
Operator: BR
Sample Name: CCV
Misc Info:
Vial Number: 3
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	48.13 ug/l	0.42	50.00	89.6 - 110	
11 B	95.99 ug/l	0.92	100.00	89.6 - 110	
23 Na	4630.00 ug/l	0.75	5000.00	89.6 - 110	
24 Mg	4683.00 ug/l	0.59	5000.00	89.6 - 110	
27 Al	484.30 ug/l	0.93	500.00	89.6 - 110	
39 K	5175.00 ug/l	1.70	5000.00	89.6 - 110	
40 Ca	4863.00 ug/l	0.40	5000.00	89.6 - 110	
47 Ti	47.71 ug/l	0.92	50.00	89.6 - 110	
51 V	49.11 ug/l	0.99	50.00	89.6 - 110	
52 Cr	48.24 ug/l	0.82	50.00	89.6 - 110	
55 Mn	480.90 ug/l	0.73	500.00	89.6 - 110	
56 Fe	4567.00 ug/l	0.23	5000.00	89.6 - 110	
59 Co	49.08 ug/l	0.42	50.00	89.6 - 110	
60 Ni	48.16 ug/l	0.27	50.00	89.6 - 110	
63 Cu	47.74 ug/l	0.42	50.00	89.6 - 110	
66 Zn	46.54 ug/l	0.72	50.00	89.6 - 110	
75 As	49.40 ug/l	0.66	50.00	89.6 - 110	
78 Se	46.80 ug/l	1.02	50.00	89.6 - 110	
88 Sr	48.69 ug/l	0.75	50.00	89.6 - 110	
95 Mo	50.16 ug/l	1.17	50.00	89.6 - 110	
107 Ag	48.26 ug/l	0.43	50.00	89.6 - 110	
111 Cd	47.12 ug/l	0.47	50.00	89.6 - 110	
118 Sn	47.49 ug/l	0.99	50.00	89.6 - 110	
121 Sb	45.26 ug/l	0.58	50.00	89.6 - 110	
137 Ba	49.42 ug/l	0.59	50.00	89.6 - 110	
202 Hg	2.17 ug/l	1.84	2.50	89.6 - 110	Fail
205 Tl	9.25 ug/l	1.14	10.00	89.6 - 110	
208 Pb	44.82 ug/l	1.42	50.00	89.6 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	769140.38	0.43	762890.69	100.8	59.6 - 125	
45 Sc	589645.69	0.15	620105.56	95.1	59.6 - 125	
45 Sc	821480.44	0.93	771387.50	106.5	59.6 - 125	
74 Ge	149772.98	0.91	164848.81	90.9	59.6 - 125	
74 Ge	31004.29	0.50	33226.06	93.3	59.6 - 125	
74 Ge	168595.09	0.28	178474.77	94.5	59.6 - 125	
89 Y	960743.94	0.25	1057065.90	90.9	59.6 - 125	
115 In	792791.75	0.22	917456.31	86.4	59.6 - 125	
159 Tb	1037508.40	0.51	1264337.30	82.1	59.6 - 125	
209 Bi	565130.88	0.78	698508.81	80.9	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\247SMPL.D\247SMPL.D#
Date Acquired:	Dec 24 2012 02:05 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	85660-3
Misc Info:	
Vial Number:	2412
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	3.856	0.7712	ug/l	4.40	100.00		3517.16	3230.41	3363.78
11 B # 3	433	86.6	ug/l	0.98	200.00		367009.44	365443.94	360680.63
23 Na # 1	38855	7771	ug/l	1.92	90000.00		48312484.00	49489412.00	48032224.00
24 Mg # 1	14670	2934	ug/l	2.42	90000.00		12118080.00	12102385.00	12036768.00
27 Al # 1	70850	14170	ug/l	2.87	90000.00		61947744.00	61758772.00	60716052.00
39 K # 2	39005	7801	ug/l	0.46	90000.00		3425435.50	3432505.30	3430126.50
40 Ca # 1	176950	35390	ug/l	1.83	90000.00		333507840.00	337744260.00	333363620.00
47 Ti # 3	235.05	47.01	ug/l	3.93	1800.00		55870.86	58153.97	53181.02
51 V # 2	54.3	10.86	ug/l	1.24	1800.00		28781.58	28822.31	28415.60
52 Cr # 2	66.45	13.29	ug/l	0.37	1800.00		40364.84	40700.34	40555.34
55 Mn # 3	1673	334.6	ug/l	0.58	2700.00		6473519.50	6407767.50	6424335.50
56 Fe # 1	42575	8515	ug/l	2.37	90000.00		116313600.00	116607360.00	115266410.00
59 Co # 3	13.435	2.687	ug/l	0.99	1800.00		39118.41	38106.07	38025.89
60 Ni # 2	79.85	15.97	ug/l	0.52	1800.00		16794.81	16744.76	16885.55
63 Cu # 2	2393.5	478.7	ug/l	1.45	1800.00		1317606.90	1312065.40	1293670.10
66 Zn # 3	4149	829.8	ug/l	0.05	1800.00		1466146.30	1457180.10	1444823.50
75 As # 2	13.06	2.612	ug/l	0.99	1800.00		721.35	714.68	729.02
78 Se # 1	15.58	3.116	ug/l	1.14	100.00		1089.71	1119.38	1126.04
88 Sr # 3	212.35	42.47	ug/l	1.18	1800.00		902427.69	919496.25	909390.81
95 Mo # 3	24.6	4.92	ug/l	1.09	1800.00		14864.16	14991.02	14724.06
107 Ag # 3	17.02	3.404	ug/l	0.82	100.00		25428.21	25431.46	24840.56
111 Cd # 3	9.29	1.858	ug/l	0.81	100.00		2944.87	2914.82	2928.27
118 Sn # 3	129.65	25.93	ug/l	0.63	1800.00		118457.97	117447.29	115082.62
121 Sb # 3	7.075	1.415	ug/l	2.94	100.00		8172.43	8139.06	8499.27
137 Ba # 3	1233.5	246.7	ug/l	0.19	1800.00		514216.34	508511.13	502546.75
202 Hg # 3	1.8925	0.3785	ug/l	1.14	5.00		1315.73	1251.06	1277.39
205 Tl # 3	0.46	0.092	ug/l	4.39	20.00		1470.12	1503.47	1406.79
208 Pb # 3	39.64	7.928	ug/l	1.26	1800.00		287574.34	283799.53	279985.78

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	757609.69	1.84	762890.69	99.3	60 - 125.4		768815.63	762032.69	741980.69
45 Sc # 1	588224.19	2.21	620105.56	94.9	60 - 125.4		573619.75	598548.50	592504.38
45 Sc # 3	784836.88	0.57	771387.50	101.7	60 - 125.4		784206.63	789587.19	780716.88
74 Ge # 1	146104.09	1.60	164848.81	88.6	60 - 125.4		144337.70	145225.86	148748.75
74 Ge # 2	30287.37	0.54	33226.06	91.2	60 - 125.4		30107.04	30329.06	30426.01
74 Ge # 3	164949.59	0.78	178474.77	92.4	60 - 125.4		166179.66	165056.53	163612.61
89 Y # 3	1067536.00	0.48	1057065.90	101.0	60 - 125.4		1072309.00	1068142.10	1062156.90
115 In # 3	782935.75	1.02	917456.31	85.3	60 - 125.4		791366.81	781900.69	775539.75
159 Tb # 3	1030324.10	1.10	1264337.30	81.5	60 - 125.4		1043174.10	1025839.90	1021958.20
209 Bi # 3	1230320.50	2.25	698508.81	176.1	60 - 125.4	IS F	1262330.00	1214973.40	1213658.10

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

1 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Fail

CCB QC Report

Data File: C:\ICPCHEM\1\DATA\12L21p00.B\249_CCB.D\249_CCB.D#
Date Acquired: Dec 24 2012 02:18 pm
Operator: BR
Sample Name: CCB
Misc Info:
Vial Number: 4
Current Method: C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File: C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal Update: Dec 22 2012 11:02 am
Sample Type: CCB
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	-0.04 ug/l	3.99	0.05	
11 B	0.59 ug/l	24.59	10.00	
23 Na	-18.83 ug/l	3.69	25.00	
24 Mg	0.86 ug/l	21.24	25.00	
27 Al	-0.06 ug/l	129.99	5.00	
39 K	8.84 ug/l	5.12	25.00	
40 Ca	4.04 ug/l	6.73	25.00	
47 Ti	-0.22 ug/l	15.52	0.50	
51 V	-0.02 ug/l	58.07	0.50	
52 Cr	0.01 ug/l	8.16	0.50	
55 Mn	-0.12 ug/l	3.74	0.50	
56 Fe	1.81 ug/l	4.97	10.00	
59 Co	0.01 ug/l	29.63	0.05	
60 Ni	0.01 ug/l	39.05	0.50	
63 Cu	0.01 ug/l	27.61	0.50	
66 Zn	-0.61 ug/l	1.16	2.00	
75 As	0.05 ug/l	10.42	0.25	
78 Se	0.04 ug/l	13.31	0.25	
88 Sr	-0.08 ug/l	3.78	0.10	
95 Mo	-0.15 ug/l	11.25	0.50	
107 Ag	-0.01 ug/l	15.24	0.10	
111 Cd	0.00 ug/l	989.47	0.05	
118 Sn	0.01 ug/l	22.98	0.50	
121 Sb	0.32 ug/l	5.18	0.50	
137 Ba	-0.03 ug/l	10.23	0.50	
202 Hg	0.02 ug/l	3.32	0.08	
205 Tl	-0.03 ug/l	4.76	0.10	
208 Pb	-0.03 ug/l	3.24	0.15	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	794488.94	1.45	762890.69	104.1	59.6 - 125	
45 Sc	584707.25	0.47	620105.56	94.3	59.6 - 125	
45 Sc	823531.19	0.57	771387.50	106.8	59.6 - 125	
74 Ge	150204.61	0.28	164848.81	91.1	59.6 - 125	
74 Ge	31710.19	0.81	33226.06	95.4	59.6 - 125	
74 Ge	172189.64	0.37	178474.77	96.5	59.6 - 125	
89 Y	973555.69	0.86	1057065.90	92.1	59.6 - 125	
115 In	805333.94	1.14	917456.31	87.8	59.6 - 125	
159 Tb	1033369.40	0.45	1264337.30	81.7	59.6 - 125	
209 Bi	563342.50	0.44	698508.81	80.6	59.6 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\250SMPL.D\250SMPL.D#
Date Acquired:	Dec 24 2012 02:25 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	85660-3
Misc Info:	
Vial Number:	2412
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	25.00
Autodil Factor:	Undiluted
Final Dil Factor:	25.00

Tune Step
1 051012h2.u
2 051012he.u
3 051012_n.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	2.79	0.1116	ug/l	10.43	100.00		663.36	716.70	723.37
11 B # 3	407.75	16.31	ug/l	4.20	200.00		81651.68	80475.33	81634.20
23 Na # 1	36150	1446	ug/l	3.00	90000.00		9113585.00	9044955.00	9036838.00
24 Mg # 1	14120	564.8	ug/l	3.56	90000.00		2279495.80	2291101.30	2289454.30
27 Al # 1	67375	2695	ug/l	3.28	90000.00		11451611.00	11543279.00	11431306.00
39 K # 2	36875	1475	ug/l	0.20	90000.00		683615.81	685702.38	684204.06
40 Ca # 1	169400	6776	ug/l	3.57	90000.00		62795832.00	62886524.00	63084004.00
47 Ti # 3	206.55	8.262	ug/l	2.10	1800.00		10635.66	10743.27	10253.95
51 V # 2	48.85	1.954	ug/l	2.04	1800.00		5924.44	5735.04	5899.10
52 Cr # 2	59.55	2.382	ug/l	0.98	1800.00		7777.24	7678.51	7612.50
55 Mn # 3	1602.25	64.09	ug/l	0.37	2700.00		1288299.40	1277065.50	1270033.90
56 Fe # 1	40800	1632	ug/l	3.54	90000.00		21900954.00	21654200.00	21947066.00
59 Co # 3	12.42	0.4968	ug/l	2.14	1800.00		7535.33	7652.05	7358.55
60 Ni # 2	77.425	3.097	ug/l	1.82	1800.00		3401.04	3321.69	3433.05
63 Cu # 2	2178.75	87.15	ug/l	0.28	1800.00		246597.38	246190.58	246854.80
66 Zn # 3	3817.5	152.7	ug/l	0.27	1800.00		279799.22	276860.13	276203.69
75 As # 2	13.1375	0.5255	ug/l	6.47	1800.00		178.00	165.67	159.00
78 Se # 1	14.6725	0.5869	ug/l	1.86	100.00		227.00	224.00	218.00
88 Sr # 3	206.425	8.257	ug/l	0.57	1800.00		167655.36	166448.50	164798.78
95 Mo # 3	18.76	0.7504	ug/l	3.23	1800.00		3103.74	2957.05	3070.39
107 Ag # 3	15.9675	0.6387	ug/l	3.44	100.00		5151.01	5137.66	4837.55
111 Cd # 3	8.3525	0.3341	ug/l	2.86	100.00		598.88	565.60	585.56
118 Sn # 3	119.35	4.774	ug/l	0.13	1800.00		22340.13	22236.81	22156.58
121 Sb # 3	8.825	0.353	ug/l	3.50	100.00		2163.55	2033.53	2140.21
137 Ba # 3	1138	45.52	ug/l	0.46	1800.00		96751.69	95822.13	95145.66
202 Hg # 3	3.205	0.1282	ug/l	3.97	5.00		265.34	270.67	251.67
205 Tl # 3	-0.241775	-0.009671	ug/l	15.44	20.00		280.01	300.01	310.01
208 Pb # 3	65.2	2.608	ug/l	0.92	1800.00		54605.71	53627.33	53326.91

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	785006.44	3.03	762890.69	102.9	60 - 125.4		799579.06	797890.31	757550.06
45 Sc # 1	577378.88	3.34	620105.56	93.1	60 - 125.4		596819.44	577065.81	558251.56
45 Sc # 3	818773.38	0.43	771387.50	106.1	60 - 125.4		819774.69	821645.69	814899.75
74 Ge # 1	149549.23	0.37	164848.81	90.7	60 - 125.4		150192.70	149260.34	149194.66
74 Ge # 2	31341.12	0.16	33226.06	94.3	60 - 125.4		31371.18	31369.53	31282.64
74 Ge # 3	170194.89	0.92	178474.77	95.4	60 - 125.4		172008.39	169301.80	169274.50
89 Y # 3	993086.25	0.40	1057065.90	93.9	60 - 125.4		997613.75	991110.81	990534.06
115 In # 3	799624.75	0.42	917456.31	87.2	60 - 125.4		803419.88	798188.81	797265.38
159 Tb # 3	1048054.30	0.80	1264337.30	82.9	60 - 125.4		1054955.60	1050482.60	1038724.40
209 Bi # 3	698219.69	0.34	698508.81	100.0	60 - 125.4		700909.94	697410.63	696338.44

ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

	ICPMSB
Data File:	C:\ICPCHEM\1\DATA\12L21p00.B\251SMPL.D\251SMPL.D#
Date Acquired:	Dec 24 2012 02:31 pm
Acq. Method:	ICPMSB.M
Operator:	BR
Sample Name:	85660-3
Misc Info:	
Vial Number:	2411
Current Method:	C:\ICPCHEM\1\METHODS\ICPMSB.M
Calibration File:	C:\ICPCHEM\1\CALIB\ICPMSB.C
Last Cal. Update:	Dec 22 2012 11:02 am
Sample Type:	Sample
Dilution Factor:	10.00
Autodil Factor:	Undiluted
Final Dil Factor:	10.00

Tune Step	
1	051012h2.u
2	051012he.u
3	051012_n.u

QC Elements

Element		Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	# 3	3.714	0.3714	ug/l	7.49	100.00		1756.81	1900.17	1706.81
11 B	# 3	432.4	43.24	ug/l	2.45	200.00		195892.84	195212.91	189186.97
23 Na	# 1	45450	4545	ug/l	16.46	90000.00		25939390.00	25530132.00	25681352.00
24 Mg	# 1	17430	1743	ug/l	16.31	90000.00		6530362.00	6421947.50	6472243.00
27 Al	# 1	83860	8386	ug/l	15.57	90000.00		32770120.00	33020710.00	32691440.00
39 K	# 2	42400	4240	ug/l	8.33	90000.00		1836394.50	1862670.60	1841932.50
40 Ca	# 1	209700	20970	ug/l	15.92	90000.00		179631700.00	178374400.00	178891440.00
47 Ti	# 3	232.3	23.23	ug/l	9.42	1800.00		31467.52	27015.40	26413.55
51 V	# 2	57.77	5.777	ug/l	9.02	1800.00		15322.62	15553.51	15127.10
52 Cr	# 2	70.64	7.064	ug/l	8.53	1800.00		21257.32	21588.44	21209.93
55 Mn	# 3	1710	171	ug/l	1.74	2700.00		3420811.30	3366253.30	3261674.80
56 Fe	# 1	50430	5043	ug/l	15.90	90000.00		62183532.00	61975712.00	61837240.00
59 Co	# 3	13.99	1.399	ug/l	1.69	1800.00		20944.23	20383.37	20026.39
60 Ni	# 2	86.45	8.645	ug/l	7.90	1800.00		9010.57	9035.24	8913.17
63 Cu	# 2	2609	260.9	ug/l	7.98	1800.00		705836.69	708172.25	696768.56
66 Zn	# 3	4388	438.8	ug/l	0.64	1800.00		791079.88	788231.88	771741.63
75 As	# 2	14.33	1.433	ug/l	9.11	1800.00		395.34	404.67	399.67
78 Se	# 1	16.98	1.698	ug/l	10.88	100.00		599.01	584.01	584.68
88 Sr	# 3	216.8	21.68	ug/l	1.28	1800.00		455254.06	450202.19	439314.25
95 Mo	# 3	23.53	2.353	ug/l	3.21	1800.00		7938.90	7552.03	7442.00
107 Ag	# 3	17.6	1.76	ug/l	0.33	100.00		13486.22	13219.28	13309.46
111 Cd	# 3	9.635	0.9635	ug/l	3.81	100.00		1603.86	1594.00	1497.36
118 Sn	# 3	130	13	ug/l	3.10	1800.00		60726.97	60523.23	57401.39
121 Sb	# 3	7.276	0.7276	ug/l	4.24	100.00		4094.00	4260.73	4304.06
137 Ba	# 3	1243	124.3	ug/l	1.73	1800.00		263918.28	260490.64	254024.89
202 Hg	# 3	2.668	0.2668	ug/l	2.66	5.00		655.35	668.02	669.02
205 Tl	# 3	0.3287	0.03287	ug/l	14.46	20.00		826.72	730.04	826.72
208 Pb	# 3	55.28	5.528	ug/l	0.95	1800.00		147464.19	143973.58	140636.72

ISTD Elements

Element		CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	# 3	779490.19	1.00	762890.69	102.2	60 - 125.4		785954.75	770820.38	781695.38
45 Sc	# 1	538780.00	14.79	620105.56	86.9	60 - 125.4		451913.38	555985.81	608440.81
45 Sc	# 3	800731.69	0.50	771387.50	103.8	60 - 125.4		804610.94	800973.25	796611.00
74 Ge	# 1	141936.09	8.85	164848.81	86.1	60 - 125.4		127814.23	146123.52	151870.53
74 Ge	# 2	30009.38	7.24	33226.06	90.3	60 - 125.4		31732.36	27567.48	30728.29
74 Ge	# 3	167746.84	0.69	178474.77	94.0	60 - 125.4		168609.14	168205.73	166425.66
89 Y	# 3	1026945.80	1.40	1057065.90	97.2	60 - 125.4		1043537.70	1018159.70	1019140.00
115 In	# 3	793088.75	0.70	917456.31	86.4	60 - 125.4		799024.13	788018.19	792223.88
159 Tb	# 3	1048637.50	0.55	1264337.30	82.9	60 - 125.4		1043238.00	1047939.90	1054734.60
209 Bi	# 3	892173.00	1.44	698508.81	127.7	60 - 125.4	IS I	905600.81	890926.44	879991.88

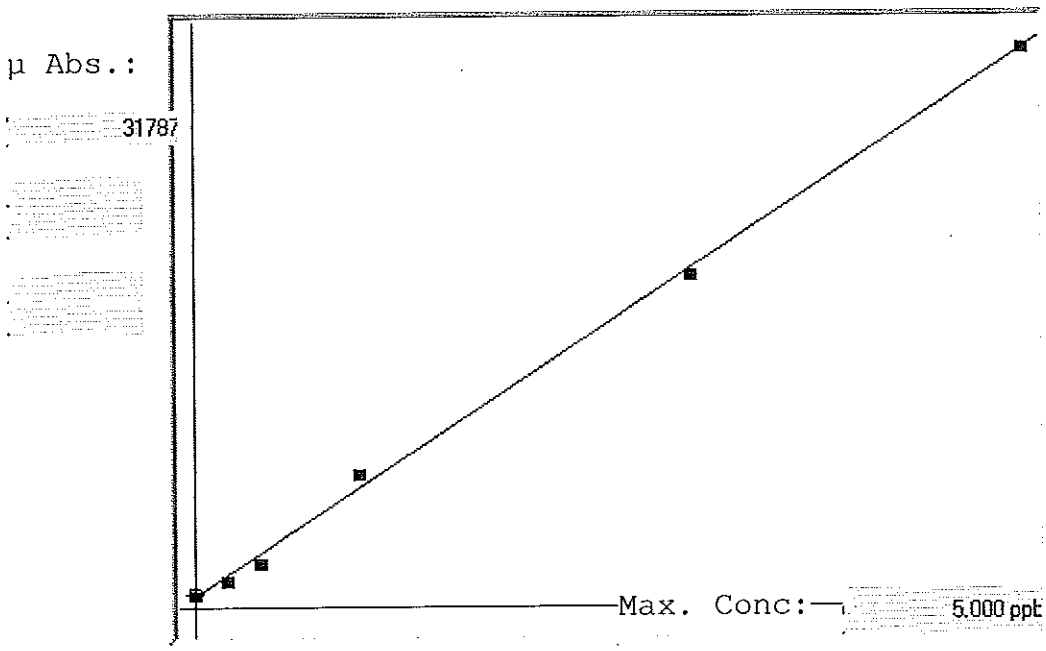
ISTD Ref File : C:\ICPCHEM\1\DATA\12L21p00.B\007CALB.D\007CALB.D#

0 :Element Failures	0 :Max. Number of Failures Allowed
1 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Fail

Hg Norm2



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
blank	0.000	0.041	0.041	832	3.859	838	831	829		
0.2	0.200	0.160	-0.040	1573	0.8 %	1556	1578	1587		
0.4	0.400	0.314	-0.086	2531	0.2 %	2537	2530	2528		
1.0	1.000	1.129	0.129	7610	0.3 %	7591	7636	7603		
3.0	3.000	2.946	-0.054	18932	0.5 %	18998	18996	18804		
5.0	5.000	5.009	0.009	31787	0.0 %	31790	31786	31785		

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Method: Hg Norm2 Operator: Admin Date of Analysis: 24 Dec 2012 09:58:24

Sample ID	Extended ID	Mean	RSD	Date
blank		833	0.4634	24 Dec 2012 09:59:17
0.2		1574	0.8275	24 Dec 2012 10:01:37
0.4		2532	0.1524	24 Dec 2012 10:03:59
1.0		7610	0.2500	24 Dec 2012 10:06:21
3.0		18933	0.4806	24 Dec 2012 10:08:42
5.0		31787	0.0068	24 Dec 2012 10:11:02
ICV		(L)3.5676	0.4573	24 Dec 2012 10:13:25
ICB		0.0356	2.2173	24 Dec 2012 10:15:45
ICV		3.6249	0.4065	24 Dec 2012 10:18:35
ICB		0.0331	1.1425	24 Dec 2012 10:20:55
CRA		0.1544	0.6371	24 Dec 2012 10:23:15
CCV		2.5790	0.8099	24 Dec 2012 10:25:37
CCB		0.0358	1.8432	24 Dec 2012 10:27:59
MB	7470 CE 260807	0.3533	0.8974	24 Dec 2012 10:30:19
LCS	7470 CE 260807	-0.0941	-0.1392	24 Dec 2012 10:32:39
85612-5	7470 CE 260807	-0.0926	-0.2946	24 Dec 2012 10:34:59
85617-1	7470 CE 260807	-0.0930	-0.1626	24 Dec 2012 10:37:20
CCV		2.6645	1.3094	24 Dec 2012 10:41:08
CCB		0.0380	1.8258	24 Dec 2012 10:43:29
MB	7470 CE 260807	0.3444	0.3960	24 Dec 2012 10:45:49
LCS	7470 CE 260807	3.2511	1.1115	24 Dec 2012 10:48:09
85612-5	7470 CE 260807	1.5908	0.9200	24 Dec 2012 10:50:29
85617-1	7470 CE 260807	0.7374	0.2619	24 Dec 2012 10:52:50
85617-2	7470 CE 260807	0.4137	0.2731	24 Dec 2012 10:55:10
85617-3	7470 CE 260807	0.1945	0.7449	24 Dec 2012 10:57:31
85617-4	7470 CE 260807	0.5746	0.0000	24 Dec 2012 10:59:52
CCV		2.6837	0.4325	24 Dec 2012 11:38:11
CCB		0.0402	0.4983	24 Dec 2012 11:40:32
85617-4	7470 CE 260807	0.5888	0.2720	24 Dec 2012 11:42:52
85617-6	7470 CE 260807	0.4138	0.4153	24 Dec 2012 11:45:13
85617-7	7470 CE 260807	0.3431	1.7602	24 Dec 2012 11:47:34
85740-9	7470 CE 260807	0.1959	0.1770	24 Dec 2012 11:49:55
85740-17	7470 CE 260807	-0.0368	-0.5446	24 Dec 2012 11:52:17
85830-2	7470 CE 260807	0.8676	0.4331	24 Dec 2012 11:54:39
85830-3	7470 CE 260807	0.5356	1.4342	24 Dec 2012 11:57:01
85620-2	7470 CE 260807	0.2564	0.3109	24 Dec 2012 11:59:22
85620-6	7470 CE 260807	0.2021	0.5063	24 Dec 2012 12:01:43
85620-4	7470 CE 260807	0.1557	0.5475	24 Dec 2012 12:04:04
CCV		2.6079	0.4472	24 Dec 2012 12:06:25
CCB		0.0381	1.6973	24 Dec 2012 12:08:46
85631-1	7470 CE 260807	0.1923	0.8520	24 Dec 2012 12:11:07
85631-1MS	7470 CE 260807	1.4625	0.4973	24 Dec 2012 12:13:27
85631-1MSD	7470 CE 260807	1.2107	0.3978	24 Dec 2012 12:15:48
85631-2	7470 CE 260807	0.1952	1.1940	24 Dec 2012 12:18:08
85631-3	7470 CE 260807	0.1209	0.1083	24 Dec 2012 12:20:30
85627-1	7470 CE 260807	0.0616	1.4475	24 Dec 2012 12:22:52
85627-2	7470 CE 260807	0.6592	0.5679	24 Dec 2012 12:25:13
85660-3	7470 CE 260807	11.2988	0.1784	24 Dec 2012 12:27:35
BLK	7470 CE 260807	0.0481	1.6407	24 Dec 2012 12:29:58
BLK	7470 CE 260807	-0.0225	-3.5626	24 Dec 2012 12:32:18
CCV		2.6237	0.1200	24 Dec 2012 12:34:40
CCB		0.0339	1.2422	24 Dec 2012 12:37:02
CCV		2.5607	0.4678	24 Dec 2012 12:39:21
CCB		0.0340	1.5432	24 Dec 2012 12:41:43
CCV		2.5818	1.0179	24 Dec 2012 13:09:34
CCB		-0.0302	-1.7338	24 Dec 2012 13:11:54

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Method: Hg Norm2 Operator: Admin Date of Analysis: 24 Dec 2012 09:58:24

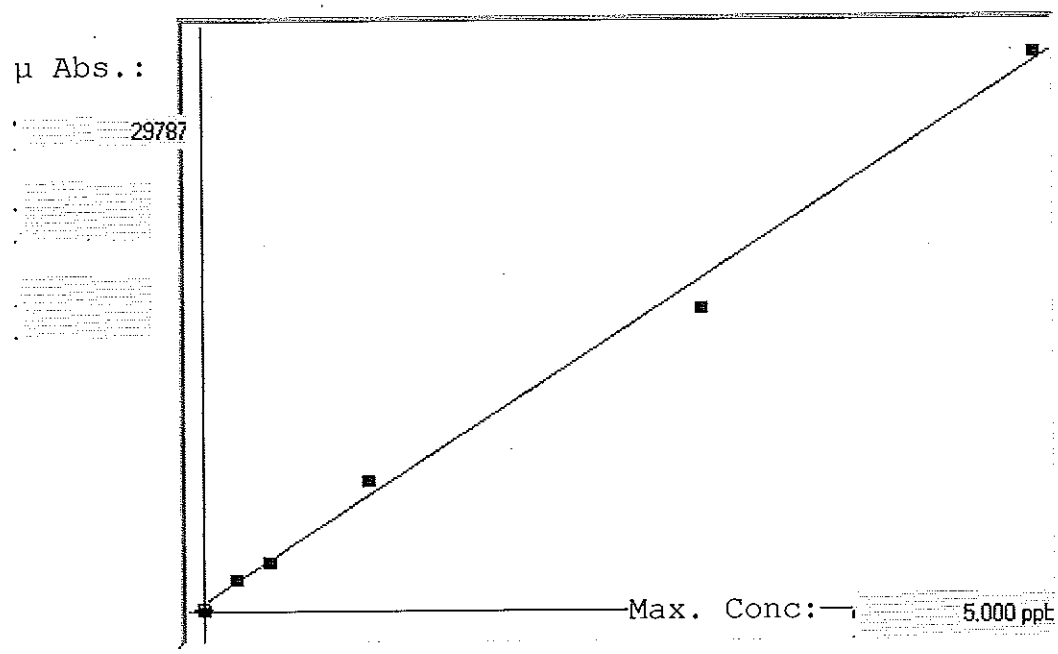
Sample ID	Extended ID	Mean	RSD	Date
LCS	7470 CE 260807	-0.0897	-0.1687	24 Dec 2012 13:14:14
LCS	7470 CE 260807	3.1689	0.1565	24 Dec 2012 13:16:35
CCV		2.6035	0.3930	24 Dec 2012 13:18:55
CCB		-0.0342	-1.5490	24 Dec 2012 13:21:16
CCV		2.6536	0.2199	24 Dec 2012 15:12:16
CCB		-0.0195	-3.1705	24 Dec 2012 15:14:37
MB	7470 CE 260870	0.2967	0.8427	24 Dec 2012 15:16:57
LCS	7470 CE 260870	2.8396	0.4456	24 Dec 2012 15:19:17
85871-1	7470 CE 260870	0.1308	3.5085	24 Dec 2012 15:21:37
85871-2	7470 CE 260870	0.1838	0.4853	24 Dec 2012 15:23:58
85871-3	7470 CE 260870	0.1799	0.5116	24 Dec 2012 15:26:18
85871-4	7470 CE 260870	0.1844	0.7795	24 Dec 2012 15:28:39
85871-5	7470 CE 260870	0.2082	0.6659	24 Dec 2012 15:30:59
85871-6	7470 CE 260870	0.1066	1.9993	24 Dec 2012 15:33:20
85871-6MS	7470 CE 260870	1.3477	1.3956	24 Dec 2012 15:35:41
85871-6MSD	7470 CE 260870	1.5015	0.7112	24 Dec 2012 15:38:04
CCV		2.6247	0.8655	24 Dec 2012 15:40:26
CCB		-0.0202	-1.3521	24 Dec 2012 15:42:47
85871-7	7470 CE 260870	0.1402	0.4856	24 Dec 2012 15:45:07
85871-8	7470 CE 260870	0.0907	1.3660	24 Dec 2012 15:47:31
85871-9	7470 CE 260870	0.2163	0.8826	24 Dec 2012 15:49:53
85871-10	7470 CE 260870	0.5087	0.8122	24 Dec 2012 15:52:14
85871-11	7470 CE 260870	0.1366	0.4327	24 Dec 2012 15:54:35
85871-12	7470 CE 260870	0.0304	1.4915	24 Dec 2012 15:56:56
85871-13	7470 CE 260870	0.4778	0.2488	24 Dec 2012 15:59:16
85871-14	7470 CE 260870	0.1327	1.6294	24 Dec 2012 16:01:37
85871-15	7470 CE 260870	0.1644	0.3652	24 Dec 2012 16:03:57
85871-16	7470 CE 260870	0.0160	11.5895	24 Dec 2012 16:06:18
CCV		2.7131	0.1508	24 Dec 2012 16:08:39
CCB		-0.0056	-3.5941	24 Dec 2012 16:11:00
85871-17	7470 CE 260870	0.0103	3.1958	24 Dec 2012 16:13:21
85830-1	7470 CE 260870	0.0042	20.2011	24 Dec 2012 16:15:42
85332-7	7470 CE 260870	0.2220	0.4018	24 Dec 2012 16:18:04
85814-1	7470 CE 260870	-0.0054	-14.8029	24 Dec 2012 16:20:26
MB	7470 CE 260873	-0.0091	-9.5878	24 Dec 2012 16:22:48
LCS	7470 CE 260873	2.8294	1.2320	24 Dec 2012 16:25:08
85871-18	7470 CE 260873	0.0209	1.5770	24 Dec 2012 16:27:29
85871-18MS	7470 CE 260873	1.0093	0.9107	24 Dec 2012 16:29:51
85871-18SD	7470 CE 260873	1.3246	0.4096	24 Dec 2012 16:32:12
85871-19	7470 CE 260873	0.0237	1.2744	24 Dec 2012 16:34:33
CCV		2.6700	0.6306	24 Dec 2012 16:36:54
CCB		-0.0055	-11.8338	24 Dec 2012 16:39:15
85871-20	7470 CE 260873	0.1351	1.0369	24 Dec 2012 16:41:36
85871-21	7470 CE 260873	0.0719	0.9167	24 Dec 2012 16:43:57
85871-22	7470 CE 260873	-0.0041	-14.7491	24 Dec 2012 16:46:19
85871-23	7470 CE 260873	0.0360	2.1942	24 Dec 2012 16:48:41
85871-24	7470 CE 260873	0.1227	2.0289	24 Dec 2012 16:51:02
MB	7470 CE 260881	-0.0448	-1.5016	24 Dec 2012 16:53:24
LCS	7470 CE 260881	2.4854	0.3524	24 Dec 2012 16:55:46
85793-14	7470 CE 260881	0.0372	0.7050	24 Dec 2012 16:58:08
85793-15	7470 CE 260881	-0.0287	-2.9728	24 Dec 2012 17:00:29
85793-16	7470 CE 260881	0.0878	0.3107	24 Dec 2012 17:02:51
CCV		2.7272	0.2547	24 Dec 2012 17:05:12
CCB		-0.0064	-3.1153	24 Dec 2012 17:07:33
85793-17	7470 CE 260881	-0.0154	-2.7330	24 Dec 2012 17:09:54
85793-18	7470 CE 260881	0.0004	82.0577	24 Dec 2012 17:12:15

C122412B

Method: Hg Norm2 Operator: Admin Date of Analysis: 24 Dec 2012 09:58:24

Sample ID	Extended ID	Mean	RSD	Date
85793-18MS	7470 CE 260881	1.2921	0.4336	24 Dec 2012 17:14:37
85793-18SD	7470 CE 260881	0.9728	0.1308	24 Dec 2012 17:16:58
85793-19	7470 CE 260881	-0.0005	-55.9947	24 Dec 2012 17:19:21
85793-20	7470 CE 260881	-0.0082	-3.1790	24 Dec 2012 17:21:42
85793-21	7470 CE 260881	0.1197	0.4424	24 Dec 2012 17:24:04
85793-22	7470 CE 260881	-0.0309	-3.0060	24 Dec 2012 17:26:27
85793-23	7470 CE 260881	0.0294	2.4533	24 Dec 2012 17:28:49
41590-1	7470 CE 260881	-0.0177	-1.9573	24 Dec 2012 17:31:10
CCV		2.6330	0.4201	24 Dec 2012 17:33:33
CCB		-0.0054	-8.5082	24 Dec 2012 17:35:54
41590-2	7470 CE 260881	0.1263	0.5900	24 Dec 2012 17:38:16
85845-2	7470 CE 260881	0.2858	0.7195	24 Dec 2012 17:40:37
85922-1	7470 CE 260881	-0.0281	-1.8624	24 Dec 2012 17:42:59
85922-4	7470 CE 260881	0.2287	1.0255	24 Dec 2012 17:45:21
85733-1	7470 CE 260881	-0.0309	-4.2444	24 Dec 2012 17:47:42
85733-2	7470 CE 260881	-0.0695	-0.6527	24 Dec 2012 17:50:03
85764-1	7470 CE 260881	-0.0494	-0.4053	24 Dec 2012 17:52:24
85706-1	7470 CE 260881	-0.0446	-0.3395	24 Dec 2012 17:54:46
37093-1	7470 CE 260881	0.4924	0.4673	24 Dec 2012 17:57:08
MB	7470 CE 260870	0.2443	1.2887	24 Dec 2012 17:59:31
CCV		2.7081	0.0879	24 Dec 2012 18:01:54
CCB		-0.0074	-3.5218	24 Dec 2012 18:04:17
CCV 1		2.6930	0.1186	24 Dec 2012 18:06:38
CCV 2		2.7370	0.6595	24 Dec 2012 18:09:00
CCV 3		2.5870	1.0333	24 Dec 2012 18:11:22
CCV 4		2.6609	0.1110	24 Dec 2012 18:13:43
CCB 1		0.0128	7.6637	24 Dec 2012 18:16:05
CCB 2		-0.0693	-0.2887	24 Dec 2012 18:18:26
CCB 3		-0.0660	-0.4135	24 Dec 2012 18:20:49
CCB 4		-0.0642	-0.3118	24 Dec 2012 18:23:11
ICV		3.7830	0.3393	24 Dec 2012 18:25:32
ICB		-0.0190	-0.3971	24 Dec 2012 18:27:54
CCV		2.5828	0.3640	24 Dec 2012 18:30:16
CCB		-0.0103	-12.0515	24 Dec 2012 18:32:39
CCV		2.6660	0.3659	24 Dec 2012 18:35:00
CCB		-0.0090	-3.8323	24 Dec 2012 18:37:21

Hg Norm2



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
blank	0.000	-0.041	-0.041	172	5.249	180	170	168		
0.2	0.200	0.236	0.036	1767	0.5 %	1756	1766	1779		
0.4	0.400	0.406	0.006	2745	1.0 %	2708	2751	2777		
1.0	1.000	1.148	0.148	7027	0.6 %	6978	7030	7073		
3.0	3.000	2.754	-0.246	16278	0.4 %	16204	16278	16352		
5.0	5.000	5.097	0.097	29786	0.6 %	29556	29775	30029		

C12302012A

Method: Hg Norm2 Operator: Admin Date of Analysis: 30 Dec 2012 13:18:01

Sample ID	Extended ID	Mean	RSD	Date
blank		173	3.0402	30 Dec 2012 13:23:42
0.2		1767	0.5329	30 Dec 2012 13:26:07
0.4		2745	1.0364	30 Dec 2012 13:28:35
1.0		7027	0.5527	30 Dec 2012 13:31:02
3.0		16278	0.3712	30 Dec 2012 13:33:30
5.0		29787	0.6489	30 Dec 2012 13:35:56
ICV		(L)2.6684	0.0988	30 Dec 2012 13:38:23
ICB		-0.0707	0.0000	30 Dec 2012 13:40:48
ICV		(L)3.5924	0.0439	30 Dec 2012 13:42:39
ICB		-0.0479	-1.4881	30 Dec 2012 13:45:03
CRA		0.2318	0.0933	30 Dec 2012 13:47:28
CCV		2.1857	0.2991	30 Dec 2012 13:49:55
CCB		-0.0450	-0.3638	30 Dec 2012 13:52:21
MB	BCB 7470 261369	-0.0221	-0.6404	30 Dec 2012 13:54:46
LCS	BCB 7470 261369	2.0334	0.5763	30 Dec 2012 13:57:11
85871-1	BCB 7470 261369	0.0258	6.7564	30 Dec 2012 13:59:36
85871-2	BCB 7470 261369	0.0434	2.5351	30 Dec 2012 14:02:01
85871-3	BCB 7470 261369	0.0725	0.2985	30 Dec 2012 14:04:26
85871-4	BCB 7470 261369	0.0053	34.9636	30 Dec 2012 14:06:52
85871-5	BCB 7470 261369	0.0343	1.0938	30 Dec 2012 14:09:17
85871-6	BCB 7470 261369	0.0162	5.2395	30 Dec 2012 14:11:42
85871-6S	BCB 7470 261369	0.9746	0.7575	30 Dec 2012 14:14:09
85871-6SD	BCB 7470 261369	0.8554	0.6454	30 Dec 2012 14:16:35
CCV		2.2256	0.3861	30 Dec 2012 14:19:01
CCB		-0.0434	-0.6794	30 Dec 2012 14:21:27
85871-7	BCB 7470 261369	0.0673	0.9941	30 Dec 2012 14:23:53
85871-8	BCB 7470 261369	0.0753	2.0731	30 Dec 2012 14:26:19
85871-9	BCB 7470 261369	0.0292	1.0107	30 Dec 2012 14:28:45
85871-10	BCB 7470 261369	-0.0019	-28.5356	30 Dec 2012 14:31:11
85871-11	BCB 7470 261369	0.0098	3.8234	30 Dec 2012 14:33:36
85871-12	BCB 7470 261369	-0.0176	-3.6864	30 Dec 2012 14:36:01
85871-13	BCB 7470 261369	0.0041	23.3188	30 Dec 2012 14:38:27
85871-14	BCB 7470 261369	0.0619	0.4581	30 Dec 2012 14:40:53
85871-15	BCB 7470 261369	0.0344	0.4758	30 Dec 2012 14:43:19
85871-16	BCB 7470 261369	0.0998	0.8557	30 Dec 2012 14:45:44
CCV		2.2027	1.5865	30 Dec 2012 14:48:11
CCB		-0.0435	-0.8624	30 Dec 2012 14:50:38
85871-17	BCB 7470 261369	0.0328	2.7412	30 Dec 2012 14:53:03
85830-1	BCB 7470 261369	-0.0160	-1.3532	30 Dec 2012 14:55:29
85332-1	BCB 7470 261369	0.0196	3.0127	30 Dec 2012 14:57:55
85814-1 10	BCB 7470 261369	0.0326	1.5239	30 Dec 2012 15:00:23
MB	BCB 7470 261363	0.0066	2.4920	30 Dec 2012 15:02:49
LCS	BCB 7470 261363	2.0417	0.9940	30 Dec 2012 15:05:16
85612-5	BCB 7470 261363	-0.0134	-3.6496	30 Dec 2012 15:07:42
85617-1	BCB 7470 261363	0.3190	0.2051	30 Dec 2012 15:10:06
85617-2	BCB 7470 261363	-0.0203	-3.1424	30 Dec 2012 15:12:32
85617-3	BCB 7470 261363	-0.0341	-1.6621	30 Dec 2012 15:14:58
CCV		2.1829	0.1113	30 Dec 2012 15:17:23
CCB		-0.0409	-0.3467	30 Dec 2012 15:19:49
85617-4	BCB 7470 261363	0.1844	1.0230	30 Dec 2012 15:22:15
85617-6	BCB 7470 261363	0.0016	63.1896	30 Dec 2012 15:24:41
85617-7	BCB 7470 261363	-0.0166	-1.3015	30 Dec 2012 15:27:07
85740-9	BCB 7470 261363	0.0697	1.2248	30 Dec 2012 15:29:32
85740-17	BCB 7470 261363	0.0098	6.6223	30 Dec 2012 15:32:00
85830-2	BCB 7470 261363	-0.0141	-9.5570	30 Dec 2012 15:34:28
85830-3	BCB 7470 261363	-0.0165	1.9884	30 Dec 2012 15:36:54

C12302012A

Method: Hg Norm2 Operator: Admin Date of Analysis: 30 Dec 2012 13:18:01

Sample ID	Extended ID	Mean	RSD	Date
85620-2	BCB 7470 261363	0.1210	0.7620	30 Dec 2012 15:39:20
85620-2S	BCB 7470 261363	1.0232	0.3324	30 Dec 2012 15:41:45
85620-2SD	BCB 7470 261363	0.8976	0.5331	30 Dec 2012 15:44:10
CCV		2.2017	0.1006	30 Dec 2012 15:46:37
CCB		-0.0453	-0.7878	30 Dec 2012 15:49:02
85620-6	BCB 7470 261363	0.0776	0.7953	30 Dec 2012 15:51:27
85620-4	BCB 7470 261363	0.0632	0.8960	30 Dec 2012 15:53:52
85631-1	BCB 7470 261363	0.0365	2.1397	30 Dec 2012 15:56:18
85631-2	BCB 7470 261363	0.0042	5.1608	30 Dec 2012 15:58:43
85631-3	BCB 7470 261363	0.0029	39.2047	30 Dec 2012 16:01:09
85627-1	BCB 7470 261363	-0.0073	-1.1180	30 Dec 2012 16:03:34
85627-2	BCB 7470 261363	0.0612	1.7488	30 Dec 2012 16:06:00
85660-3	BCB 7470 261363	7.7000	0.2890	30 Dec 2012 16:08:27
MB	BCB 7470 261387	-0.0499	-1.0240	30 Dec 2012 16:10:53
LCS	BCB 7470 261387	1.8867	0.2384	30 Dec 2012 16:13:19
CCV		2.1644	0.2030	30 Dec 2012 16:15:45
CCB		-0.0451	-0.9060	30 Dec 2012 16:18:11
86133-4	BCB 7470 261387	0.0071	3.0544	30 Dec 2012 16:20:36
86133-4S	BCB 7470 261387	0.7253	1.2041	30 Dec 2012 16:23:01
86133-4SD	BCB 7470 261387	0.7231	0.4077	30 Dec 2012 16:25:27
86133-9	BCB 7470 261387	-0.0324	-0.5046	30 Dec 2012 16:27:52
86133-13	BCB 7470 261387	-0.0160	-5.8986	30 Dec 2012 16:30:18
86106-3	BCB 7470 261387	-0.0253	-0.8552	30 Dec 2012 16:32:44
41671-3	BCB 7470 261387	-0.0394	-0.5490	30 Dec 2012 16:35:09
41671-1	BCB 7470 261387	1.0945	0.2076	30 Dec 2012 16:37:34
41681-19	BCB 7470 261387	1.5834	0.1640	30 Dec 2012 16:40:00
41681-38	BCB 7470 261387	2.2594	0.7026	30 Dec 2012 16:42:27
CCV		2.1881	0.9096	30 Dec 2012 16:44:53
CCB		-0.0444	-1.2067	30 Dec 2012 16:47:19
41681-39	BCB 7470 261387	0.6992	0.0819	30 Dec 2012 16:49:44
CCV		2.2246	0.0855	30 Dec 2012 16:52:10
CCB		-0.0462	-0.1771	30 Dec 2012 16:54:36
CCV		2.1875	0.3571	31 Dec 2012 08:41:43
CCB		-0.0368	-0.5879	31 Dec 2012 08:44:08
LCS	BCB 7470 261387	2.1465	0.1714	31 Dec 2012 08:46:33
CCV		2.1405	0.1415	31 Dec 2012 08:48:58
CCB		-0.0410	-1.3810	31 Dec 2012 08:51:24

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Batch Number: 260618 Batch Start Date: 12/21/12 07:54 Batch Analyst: Lawhon, Jon

Batch Method: 3005A Batch End Date: 12/21/12 13:18

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MS lcs1cpi 00031	MS_LCS2_wk 00139	
MB 680-260618/1		3005A, 6020			50 mL	250 mL			
LCS 680-260618/2		3005A, 6020			50 mL	250 mL	0.5 mL	0.5 mL	
640-41590-L-2 MS		3005A, 6020	R	<2	50 mL	250 mL	0.5 mL	0.5 mL	
640-41590-L-2 MSD		3005A, 6020	R	<2	50 mL	250 mL	0.5 mL	0.5 mL	
680-85871-A-20	17LM20020F	3005A, 6020	D	<2	50 mL	250 mL			
680-85871-A-21	17LM20021F	3005A, 6020	D	<2	50 mL	250 mL			
680-85871-A-22	17LM20022F	3005A, 6020	D	<2	50 mL	250 mL			

Batch Notes	
Lot # of hydrochloric acid	13500
Lot # of Nitric Acid	L08022
Hood ID or number	FH10
Hot Block ID number	3
Oven, Bath or Block Temperature 1	98
pH Paper Lot Number	315
Pipette ID	ME 6
ID number of the thermometer	MEhgWb2-C
Digestion Tube/Cup Lot #	1207143
Uncorrected Temperature	98 Celsius

Basis	Basis Description
R	Total Recoverable
D	Dissolved

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Batch Number: 260719 Batch Start Date: 12/21/12 15:36 Batch Analyst: Lawhon, Jon

Batch Method: 3005A Batch End Date: 12/22/12 10:08

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MS lcs1cpi 00031	MS_LCS2_wk 00139	
MB 680-260719/1		3005A, 6020			50 mL	250 mL			
LCS 680-260719/2		3005A, 6020			50 mL	250 mL	0.5 mL	0.5 mL	
680-85852-A-1 MS		3005A, 6020	D	<2	50 mL	250 mL	0.5 mL	0.5 mL	
680-85852-A-1 MSD		3005A, 6020	D	<2	50 mL	250 mL	0.5 mL	0.5 mL	
680-85871-A-13	16LM20028F	3005A, 6020	D	<2	50 mL	250 mL			
680-85871-A-14	16LM20029F	3005A, 6020	D	<2	50 mL	250 mL			
680-85871-A-15	16LM20030F	3005A, 6020	D	<2	50 mL	250 mL			
680-85871-A-16	16LM20031F	3005A, 6020	D	<2	50 mL	250 mL			
680-85871-A-17	16LM20032F	3005A, 6020	D	<2	50 mL	250 mL			

Batch Notes	
Lot # of hydrochloric acid	13500
Lot # of Nitric Acid	L08022
Hood ID or number	FH10
Hot Block ID number	3
Oven, Bath or Block Temperature 1	98
pH Paper Lot Number	315
Pipette ID	ME 6
ID number of the thermometer	MEHGWB2-C
Digestion Tube/Cup Lot #	1207143
Uncorrected Temperature	98 Celsius

Basis	Basis Description
D	Dissolved

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Batch Number: 260740 Batch Start Date: 12/21/12 17:23 Batch Analyst: Lawhon, Jon

Batch Method: 3005A Batch End Date: 12/22/12 10:41

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MS lcs1cpi 00031	MS_LCS2_wk 00139	
MB 680-260740/1		3005A, 6020			50 mL	250 mL			
LCS 680-260740/2		3005A, 6020			50 mL	250 mL	0.5 mL	0.5 mL	
680-85871-A-18	16LM20033F	3005A, 6020	D	<2	50 mL	250 mL			
680-85871-A-18 MS	16LM20033F	3005A, 6020	D	<2	50 mL	250 mL	0.5 mL	0.5 mL	
680-85871-A-18 MSD	16LM20033F	3005A, 6020	D	<2	50 mL	250 mL	0.5 mL	0.5 mL	
680-85871-A-19	16LM20034F	3005A, 6020	D	<2	50 mL	250 mL			
680-85871-A-23	17LM20023F	3005A, 6020	D	<2	50 mL	250 mL			
680-85871-A-24	17LM20024F	3005A, 6020	D	<2	50 mL	250 mL			

Batch Notes	
Lot # of hydrochloric acid	13500
Lot # of Nitric Acid	L08022
Hood ID or number	FH10
Hot Block ID number	3
Oven, Bath or Block Temperature 1	98
pH Paper Lot Number	315
Pipette ID	ME 6
ID number of the thermometer	MEHGWB2-C
Digestion Tube/Cup Lot #	1207143
Uncorrected Temperature	98 Celsius

Basis	Basis Description
D	Dissolved

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Batch Number: 260764 Batch Start Date: 12/22/12 08:17 Batch Analyst: Lawhon, Jon

Batch Method: 3010A Batch End Date: 12/22/12 12:02

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MS lcs1cpi 00031	MS_LCS2_wk 00139	
MB 680-260764/1		3010A, 6020			50 mL	250 mL			
LCS 680-260764/2		3010A, 6020			50 mL	250 mL	0.5 mL	0.5 mL	
680-85871-A-1	16LM20028U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-2	16LM20029U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-3	16LM20030U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-4	16LM20031U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-5	16LM20032U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-6	16LM20033U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-6 MS	16LM20033U	3010A, 6020	T	<2	50 mL	250 mL	0.5 mL	0.5 mL	
680-85871-A-6 MSD	16LM20033U	3010A, 6020	T	<2	50 mL	250 mL	0.5 mL	0.5 mL	
680-85871-A-7	16LM20034U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-8	17LM20020U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-9	17LM20021U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-10	17LM20022U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-11	17LM20023U	3010A, 6020	T	<2	50 mL	250 mL			
680-85871-A-12	17LM20024U	3010A, 6020	T	<2	50 mL	250 mL			

Batch Notes	
Batch Comment	257374
Lot # of hydrochloric acid	13500
Lot # of Nitric Acid	L08022
Hot Block ID number	7
Oven, Bath or Block Temperature 1	98 Degrees C
Oven, Bath or Block Temperature 2	98 Degrees C
Pipette ID	MEPREP 6
ID number of the thermometer	MEHGWB2-C
Digestion Tube/Cup Lot #	1207143
Vendor of Reagent used	MACRON

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Batch Number: 260764 Batch Start Date: 12/22/12 08:17 Batch Analyst: Lawhon, Jon

Batch Method: 3010A Batch End Date: 12/22/12 12:02

Basis	Basis Description
T	Total/NA

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Batch Number: 260873 Batch Start Date: 12/24/12 12:20 Batch Analyst: Umbehr, Uli

Batch Method: 7470A Batch End Date: 12/24/12 14:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Hg_Int_Cal 00085		
MB 680-260873/1		7470A, 7470A			50 mL	50 mL			
LCS 680-260873/2		7470A, 7470A			50 mL	50 mL	0.25 mL		
680-85871-A-18	16LM20033F	7470A, 7470A	D	<2	50 mL	50 mL			
680-85871-A-18 MS	16LM20033F	7470A, 7470A	D	<2	50 mL	50 mL	0.1 mL		
680-85871-A-18 MSD	16LM20033F	7470A, 7470A	D	<2	50 mL	50 mL	0.1 mL		
680-85871-A-19	16LM20034F	7470A, 7470A	D	<2	50 mL	50 mL			
680-85871-A-20	17LM20020F	7470A, 7470A	D	<2	50 mL	50 mL			
680-85871-A-21	17LM20021F	7470A, 7470A	D	<2	50 mL	50 mL			
680-85871-A-22	17LM20022F	7470A, 7470A	D	<2	50 mL	50 mL			
680-85871-A-23	17LM20023F	7470A, 7470A	D	<2	50 mL	50 mL			
680-85871-A-24	17LM20024F	7470A, 7470A	D	<2	50 mL	50 mL			

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Batch Number: 260873 Batch Start Date: 12/24/12 12:20 Batch Analyst: Umbehr, Uli

Batch Method: 7470A Batch End Date: 12/24/12 14:50

Batch Notes	
Hydroxylamine Sulfate Lot Number	2834960
Hydroxylamine Hydrochloride Lot	2907399
Sulfuric Acid Lot Number	2844762
Lot # of hydrochloric acid	2844674
Lot # of Nitric Acid	2900088
Hood ID or number	WB2
Hot Block ID number	11
Potassium Persulfate Lot Number	2907187
Potassium Permanganate Lot Number	2907189
NaCL Lot #	2891381
Oven, Bath or Block Temperature 1	95 Celsius
Oven, Bath or Block Temperature 2	95 Celsius
Pipette ID	ME1, ME7, ME10
Repittetor Volume Check	11/30/12
Stannous Chloride Lot Number	2245645
SOP Number	ME028
Temperature	95
ID number of the thermometer	MEHgWB2-C
Digestion Tube/Cup Lot #	J151322-263-100
Uncorrected Temperature	95 Celsius
Uncorrected Temperature 2	95 Celsius

Basis	Basis Description
D	Dissolved

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Batch Number: 261369 Batch Start Date: 12/28/12 17:10 Batch Analyst: Umbehr, Uli

Batch Method: 7470A Batch End Date: 12/29/12 01:09

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Hg_Int_Cal 00086		
MB 680-261369/1		7470A, 7470A			50 mL	50 mL			
LCS 680-261369/2		7470A, 7470A			50 mL	50 mL	0.25 mL		
680-85871-A-1	16LM20028U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-2	16LM20029U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-3	16LM20030U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-4	16LM20031U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-5	16LM20032U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-6	16LM20033U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-6 MS	16LM20033U	7470A, 7470A	T	<2	50 mL	50 mL	0.1 mL		
680-85871-A-6 MSD	16LM20033U	7470A, 7470A	T	<2	50 mL	50 mL	0.1 mL		
680-85871-A-7	16LM20034U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-8	17LM20020U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-9	17LM20021U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-10	17LM20022U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-11	17LM20023U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-12	17LM20024U	7470A, 7470A	T	<2	50 mL	50 mL			
680-85871-A-13	16LM20028F	7470A, 7470A	D	<2	50 mL	50 mL			
680-85871-A-14	16LM20029F	7470A, 7470A	D	<2	50 mL	50 mL			
680-85871-A-15	16LM20030F	7470A, 7470A	D	<2	50 mL	50 mL			
680-85871-A-16	16LM20031F	7470A, 7470A	D	<2	50 mL	50 mL			
680-85871-A-17	16LM20032F	7470A, 7470A	D	<2	50 mL	50 mL			

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-85871-1

SDG No.:

Batch Number: 261369 Batch Start Date: 12/28/12 17:10 Batch Analyst: Umbehr, Uli

Batch Method: 7470A Batch End Date: 12/29/12 01:09

Batch Notes	
Hydroxylamine Sulfate Lot Number	2834960
Hydroxylamine Hydrochloride Lot	2907399
Sulfuric Acid Lot Number	2844762
Lot # of hydrochloric acid	2844674
Lot # of Nitric Acid	2900088
Hood ID or number	WB2
Hot Block ID number	12
Potassium Persulfate Lot Number	2907187
Potassium Permanganate Lot Number	2907189
NaCL Lot #	2891381
Oven, Bath or Block Temperature 1	95 Celsius
Oven, Bath or Block Temperature 2	95 Celsius
Pipette ID	ME1, ME7, ME10
Repittetor Volume Check	11/30/12
Stannous Chloride Lot Number	2245645
SOP Number	ME028
Temperature	93
ID number of the thermometer	MEHgWB2-C
Digestion Tube/Cup Lot #	J151322-263-100
Uncorrected Temperature	95 Celsius
Uncorrected Temperature 2	95 Celsius

Basis	Basis Description
T	Total/NA
D	Dissolved

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

TestAmerica
5102 LaRoche Avenue
Savannah, GA 31404
Ph: 912-354-7858
Fax:
Website: www.stl-inc.com

STL JOB/LOG #: 680-85871

Possible Hazards: Unknown

Sample Disposal: Lab Disposal

PAGE 1 OF 4

PROJECT & CLIENT INFORMATION		Project State
PROJECT REFERENCE/NAME: SEAD-16/17 Long-Term Monitoring	PROJECT NO.: 748662-04000	NY
LAB PROJECT MANAGER: Linda Wolfe	P.O. NUMBER: 748662-04000	CONTRACT/Quote NO.: 748662-04000
CLIENT (SITE) PM: Cris Grill/Brendan Baranek-Olmstead	CLIENT PHONE: 617-285-6821 (BBO cell)	CLIENT FAX: 617-946-9777
CLIENT NAME: Parsons	CLIENT EMAIL: Brendan.Baranek-Olmstead@parsons.com	
CLIENT ADDRESS: 100 High Street, 4th Floor, Boston, MA 02110		
Samplers Signature & Initials:		

Final Report Type: ASP2000 Category B
EDD 30 calendar days

TAT/ DATE DUE 30 calendar days

EXPEDITED REPORT (circle one)
EMAIL or FAX
TAT/ DATE DUE 14 calendar days for preliminary results

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

SAMPLED ON DATE	SAMPLED ON TIME	SAMPLE IDENTIFICATION	LABORATORY SAMPLE ID	SAMPLE TYPE	FIELD FILTERED	MATRIX	Total Method 6020A - TAL Metals Method 7470A - Hg	HOLD ON ANALYSIS: NOTE #2 Dissolved Method 6020A - TAL Metals	REMARKS
			Sample Information				REQUIRED ANALYSES		
							NUMBER OF CONTAINERS SUBMITTED		
							2	2	
12/15/2012	1000	16LM20028U			N	GW	1		1. Please run a straight sample analysis (without dilution) for every sample. 2. Hold on analysis of Dissolved samples until Client approval. Analyze Total metals first and report preliminary results with 14 business days.
12/15/2012	1533	16LM20029U			N	GW	1		
12/15/2012	1250	16LM20030U			N	GW	1		
12/15/2012	1045	16LM20031U			N	GW	1		
12/15/2012	1545	16LM20032U			N	GW	1		
12/15/2012	1305	16LM20033U			N	GW	1		
12/15/2012	1305	16LM20033UMS		MS	N	GW	1		Preservative
12/15/2012	1305	16LM20033UMSD		MSD	N	GW	1		1 HCl 2 HNO3
		Please use this sample (16LM20033U) and its associated MS/MSD for QA/QC analyses for Total.							8 Ice

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	12/17/12	800						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LABORATORY REMARKS:
	12/18/12	0810	NO		2.4°C

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01/02/2013

Original - Return to Laboratory with Sample(s)

Serial or COC #: 16-12-12-1

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

TestAmerica
5102 LaRoche Avenue
Savannah, GA 31404
Ph: 912-354-7858
Fax:
Website: www.stl-inc.com

STL JOB/LOG #: 680-85871

Possible Hazards: Unknown

Sample Disposal: Lab Disposal

PAGE 2 OF 4

PROJECT & CLIENT INFORMATION		Project State
PROJECT REFERENCE/NAME: SEAD-16/17 Long-Term Monitoring	PROJECT NO.: 748662-04000	NY
LAB PROJECT MANAGER: Linda Wolfe	P.O. NUMBER: 748662-04000	CONTRACT/Quote NO.: 748662-04000
CLIENT (SITE) PM: Cris Grili/Brendan Baranek-Olmstead	CLIENT PHONE: 617-285-6821 (BBO cell)	CLIENT FAX: 617-946-9777
CLIENT NAME: Parsons	CLIENT EMAIL: Brendan.Baranek-Olmstead@parsons.com	
CLIENT ADDRESS: 100 High Street, 4th Floor, Boston, MA 02110		
Samplers Signature & Initials:		

Final Report Type (Circle at least one):
ASP2000 Category B
EDD 30 calendar days
TAT/ DATE DUE 30 calendar days Per QAP/Quote
EXPEDITED REPORT (circle one)
EMAIL or FAX
TAT/ DATE DUE 14 calendar days for preliminary results

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

SAMPLED ON DATE	SAMPLED ON TIME	SAMPLE IDENTIFICATION	LABORATORY SAMPLE ID	SAMPLE TYPE	FIELD FILTERED	MATRIX	Total Method 6020A - TAL Metals Method 7470A - Hg	HOLD ON ANALYSIS: NOTE #2 Dissolved Method 6020A - TAL Metals	REMARKS
							2	2	
12/15/2012	1311	16LM20034U			N	GW	1		1. Please run a straight sample analysis (without dilution) for every sample. 2. Hold on analysis of Dissolved samples until Client approval. Analyze Total metals first and report preliminary results with 14 business days.
12/11/2012	1640	17LM20020U			N	GW	1		
12/11/2012	1205	17LM20021U			N	GW	1		
12/11/2012	1435	17LM20022U			N	GW	1		
12/11/2012	1405	17LM20023U			N	GW	1		
12/11/2012	1200	17LM20024U			N	GW	1		
									Preservative
									1 HCl 2 HNO3
									8 Ice

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	12/17/12	800						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LABORATORY REMARKS:
	12/18/12	0810	NO		2.4°c

01/02/2013

Original - Return to Laboratory with Sample(s)

 Serial or COC #: 16-12-12-1

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

TestAmerica
5102 LaRoche Avenue
Savannah, GA 31404
Ph: 912-354-7858
Fax:
Website: www.stl-inc.com

STL JOB/LOG #: 680-85871

Possible Hazards: Unknown

Sample Disposal: Lab Disposal

PROJECT & CLIENT INFORMATION		Project State
PROJECT REFERENCE/NAME: SEAD-16/17 Long-Term Monitoring	PROJECT NO.: 748662-04000	NY
LAB PROJECT MANAGER: Linda Wolfe	P.O. NUMBER: 748662-04000	CONTRACT/Quote NO.: 748662-04000
CLIENT (SITE) PM: Cris Grill/Brendan Baranek-Olmstead	CLIENT PHONE: 617-285-6821 (BBO cell)	CLIENT FAX: 617-946-9777
CLIENT NAME: Parsons	CLIENT EMAIL: Brendan.Baranek-Olmstead@parsons.com	
CLIENT ADDRESS: 100 High Street, 4th Floor, Boston, MA 02110		
Samplers Signature & Initials:		

PAGE 3 OF 4

Final Report Type: ASP2000 Category B
EDD 30 calendar days

TAT/ DATE DUE 30 calendar days

EXPEDITED REPORT (circle one)
EMAIL or FAX
TAT/ DATE DUE 14 calendar days for preliminary results

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

SAMPLED ON DATE	SAMPLED ON TIME	SAMPLE IDENTIFICATION	LABORATORY SAMPLE ID	SAMPLE TYPE	FIELD FILTERED	MATRIX	Total Method 6020A - TAL Metals Method 7470A - Hg	HOLD ON ANALYSIS: NOTE #2 Dissolved Method 6020A - TAL Metals	REMARKS
							NUMBER OF CONTAINERS SUBMITTED		
							2	2	
12/15/2012	1003	16LM20028F			N	GW		1	1. Please run a straight sample analysis (without dilution) for every sample. 2. Hold on analysis of Dissolved samples until Client approval. Analyze Total metals first and report preliminary results with 14 business days.
12/15/2012	1535	16LM20029F			N	GW		1	
12/15/2012	1250	16LM20030F			N	GW		1	
12/15/2012	1045	16LM20031F			N	GW		1	
12/15/2012	1545	16LM20032F			N	GW		1	
12/15/2012	1313	16LM20033F			N	GW		1	
12/15/2012	1313	16LM20033FMS		MS	N	GW		1	Preservative
12/15/2012	1313	16LM20033FMSD		MSD	N	GW		1	1 HCl 2 HNO3
		Please use this sample (16LM20033F) and its associated MS/MSD for QA/QC analyses for Dissolved.							8 Ice

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	12/17/12	800						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LABORATORY REMARKS:
	12/18/12	0810	NO		2.4°C

01/02/2013

FCU036:12.20.00:2

Original - Return to Laboratory with Sample(s)

Serial or COC #: 16-12-12-1

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

TestAmerica
5102 LaRoche Avenue
Savannah, GA 31404
Ph: 912-354-7858
Fax:
Website: www.stl-inc.com

STL JOB/LOG #: 680-85871

Possible Hazards: Unknown

Sample Disposal: Lab Disposal

PAGE 4 OF 4

PROJECT & CLIENT INFORMATION		Project State
PROJECT REFERENCE/NAME: SEAD-16/17 Long-Term Monitoring	PROJECT NO.: 748662-04000	NY
LAB PROJECT MANAGER: Linda Wolfe	P.O. NUMBER: 748662-04000	CONTRACT/Quote NO.: 748662-04000
CLIENT (SITE) PM: Cris Grill/Brendan Baranek-Olmstead	CLIENT PHONE: 617-285-6821 (BBO cell)	CLIENT FAX: 617-946-9777
CLIENT NAME: Parsons	CLIENT EMAIL: Brendan.Baranek-Olmstead@parsons.com	
CLIENT ADDRESS: 100 High Street, 4th Floor, Boston, MA 02110		
Samplers Signature & Initials:		

SAMPLED ON DATE	SAMPLED ON TIME	SAMPLE IDENTIFICATION	LABORATORY SAMPLE ID	SAMPLE TYPE	FIELD FILTERED	MATRIX	Total Method 6020A - TAL Metals Method 7470A - Hg	HOLD ON ANALYSIS: NOTE #2 Dissolved Method 6020A - TAL Metals								REMARKS
			Sample Information				REQUIRED ANALYSES									
							2	2								
							NUMBER OF CONTAINERS SUBMITTED									
12/15/2012	1316	16LM20034F			N	GW		1								1. Please run a straight sample analysis (without dilution) for every sample. 2. Hold on analysis of Dissolved samples until Client approval. Analyze Total metals first and report preliminary results with 14 business days.
12/11/2012	1640	17LM20020F			N	GW		1								
12/11/2012	1205	17LM20021F			N	GW		1								
12/11/2012	1435	17LM20022F			N	GW		1								
12/11/2012	1409	17LM20023F			N	GW		1								
12/11/2012	1205	17LM20024F			N	GW		1								
																Preservative
																1 HCl 2 HNO3
																8 Ice

Final Report Type (Circle at least one):
ASP2000 Category B
EDD 30 calendar days
TAT/ DATE DUE 30 calendar days Per QAP/Quote
EXPEDITED REPORT (circle one)
EMAIL or FAX
TAT/ DATE DUE 14 calendar days for preliminary results

NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	12/17/12	800						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LABORATORY REMARKS:
	12/18/12	0810	NO		2.4°C

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01/02/2013

Original - Return to Laboratory with Sample(s)

APPENDIX F

DATA VALIDATION

PROJECT NAME/NO. USACE - Seneca Army Depot SEAD-16/17 LTM Round 5
LAB: TestAmerica
SDG: 680-85871-1 (aka J85871)
FRACTION: Metals (SW846 6020)
MEDIA: Groundwater
NUMBER OF SAMPLES: 12 Unfiltered and 12 Filtered

CRITERIA	Did Analyses Meet all criteria as specified in the SOPS?	Region 2 Acceptable limits / criteria	Comments/Qualifying Actions	Qualifiers Added?
Data Completeness, Holding Times & Preservation	Yes	Cooler temp < 10 C. Holding Time Hg < 28 days, all other metals < 180 days from collection.	Coolers were received at 2.4°C by the laboratory. All samples were received in good condition based on the laboratory login report. Samples were properly preserved and had pH < 2. Samples were analyzed within 10 days from collection.	No
Calibration	Yes	r^2 $\geq$ 0.995 CCV every 10 samps or 2 hours ICV/CCV %R btw 90-110%	Calibrations available, taken every ten samples, and within recovery limits (90-110%). Initial Calibration Verification for Total metals was conducted on 12/24/12 at 19:54. The ICV and subsequent CCVs for metals were all within accetance criteria. ICV for Total Be and Na was conducted on 12/24/12 at 19:54. The ICV and subsequent CCVs for metals were all within accetance criteria. ICV for Dissolved metals was conducted on 12/21/12 at 17:00. The ICV and subsequent CCVs for metals were all within accetance criteria. ICV for Dissolved metals (Sb, As, Ba, Cd, Ca, Co, Cu, Pb, and Mg) was conducted on 12/27/12 at 18:47. The ICV and subsequent CCVs for metals were all within accetance criteria.	No
Blanks (prep blank, ICB, CCB)	No	Method blanks: 1 per 20 project samples.	ICB analyzed on 12/24/12 at 20:02 for metals and all metals were non-detected. CCBs were analyzed from 12/24/12 at 20:24 to 12/25/12 at 14:58 for Total metals every ten samples; all CCBs were non-detect for Total metals except for Na (34.6 J ug/L at 11:00). No action was taken since no samples were analyzed before or after the 11:00 CCB. CCBs were analyzed from 12/24/12 at 20:02 to 12/26/12 at 15:51 for Total Be and Na every ten samples; all CCBs were non-detect for Be and Na. CCBs were analyzed from 12/21/12 at 17:06 to 12/22/12 at 01:27 for Dissolved metals every ten samples; all CCBs were non-detect for Dissolved metals. CCBs were analyzed from 12/27/12 at 18:54 to 12/27/12 at 21:52 for Dissolved metals (Sb, As, Ba, Cd, Ca, Co, Cu, Pb, and Mg) every ten samples; all CCBs were non-detect for Dissolved metals except for Cd (0.0222 J ug/L) and Mn (0.208 J ug/L) at 12/27/12 19:17. Project samples were not associated with this CCB. Three Preparation blank were analyzed for Dissolved metals and all results were non-detect. Two Preparation blank were analyzed for Total metals and all results were non-detect except for Cu (2.06 ug/L). Qualify project samples Total Cu detects < RL but > MDL as U and change to the RL for the following samples: 16LM20028U (5 U), 16LM20031U (5 U), 16LM20032U (5 U), 17LM20022U (5 U), 17LM20023U (5 U), and 17LM20024U (5 U).	Yes
CRDL Standard	No	CRDL results btw 70-130%	CRDL analyses for all remaining metals conducted at the beginning and end of the analysis. All met requirements except Total Ni (150%), Dissolved Be (53%), and Dissolved Cd (72%). However, all three were within the lab limits. Qualify Dissolved Be and Cd results < 2xRL as J; and qualify Total Ni detects < 2xRL as J.	Yes
Laboratory Control Sample	Yes	LCS/LCSD: 1 per 20 project samples or each preparation batch. LCS limits within 80-120%.	Two aqueous LCS results were within the limits for Total metals (of 14 unfiltered project samples). Three aqueous LCS results were within the limits for Dissolved metals (of 14 filtered project samples).	No
Duplicates	No	RPD < 20% or Absolute Diff < 2 RL when samp/dup value < 5x RL	Two field duplicate pairs were collected for this SDG; a unfiltered and filtered sample. Unfiltered sample 16LM20033U and its duplicate 16LM20034U, and filtered sample 16LM20033F and its duplicate 16LM20034F. All RPDs were within acceptance limits except for Dissolved Pb (56%) and Total Cu (39%). Qualify both samples Dissolved Pb and Total Cu results > CRDL as J. A lab duplicate was not analyzed for this SDG. Qualify all sample results as J since a lab duplicate was not performed.	Yes

PROJECT NAME/NO. USACE - Seneca Army Depot SEAD-16/17 LTM Round 5
LAB: TestAmerica
SDG: 680-85871-1 (aka J85871)
FRACTION: Metals (SW846 6020)
MEDIA: Groundwater
NUMBER OF SAMPLES: 12 Unfiltered and 12 Filtered

CRITERIA	Did Analyses Meet all criteria as specified in the SOPS?	Region 2 Acceptable limits / criteria	Comments/Qualifying Actions	Qualifiers Added?
Matrix Spike/Matrix Spike Duplicates	Yes	MS/MSD: 1 per 20 project samples or each preparation batch. Recoveries within lab limits. MS/MSD %RPDs <= 20%. Spike Recovery limits 75-125%	Two spike samples were associated with this SDG; samples 16LM20033U and 16LM20033F. All spike metal recoveries were within the recovery and RPD limits, and did not have a initial conc >4x spike conc. The post digestion spike was performed on 16LM20033U and 16LM20033F. Calcium recoveries were above the limits due to parent sample conc being >4x spike.	No
ICP Interference Check Sample (ICS)	Yes	ICS results within 80-120%.	All concentrations detected in all samples within the ICP Linear Range. No action was taken.	No
ICP Tune Analysis	Yes	RSD < 5%	Tune Analysis was conducted on 12/21/12, 12/24/12, and 12/27/12. All isotopes of each analyte had a RSD < 5%.	No
Internal Standard	No	Intensity within 60-125%	IS from 12/21/12 to 12/22/12 had %RI within acceptance limits. IS from 12/24/12 to 12/25/12 had %RI within acceptance limits except for 16LM20028U for Li-6 (59%) and 16LM20032U for Li-6 (58%). Qualifiy samples 16LM20028U and 16LM20032U results as J for metals with atomic masses between Li-6 and Sc-45 (Al, Be, Ca, Mg, Na, K). IS from 12/24/12 to 12/27/12 had %RI within acceptance limits. IS from 12/27/12 to 12/27/12 had %RI within acceptance limits.	Yes
Serial Dilution	Yes	Performed on samples of a similar matrix or 1 per 20 samples. %D ≤ 10% conc ≥ 25xDL (7470A/7471A) and 10x IDL (6010B) for 5-fold dilution.	Sample 16LM20033U serial dilution for all metal with %D < 10% and sample conc > 50xMDL met requirements. Sample 16LM20033F serial dilution for all metal with %D < 10% and sample conc > 50xMDL met requirements.	No
Total/Dissolved Comparison	No	%RPD less than 20%	Samples with Total and Dissolved results that have detected Dissolved concentrations greater than the Total and have a Dissolved concentration > 5xMDL. All sample results met this requiment except for in samples: 16LM20028U/16LM20028F for Cu (45%), and 17LM20024U/17LM20024F for Cu (55%). Qualify these samples results as J.	Yes
Field Duplicate Precision	No	%RPD less than 20%	Two field duplicate pairs were collected for this SDG; a unfiltered and filtered sample. Unfiltered sample 16LM20033U and its duplicate 16LM20034U, and filtered sample 16LM20033F and its duplicate 16LM20034F. All RPDs were within acceptance limits except for Dissolved Pb (56%) and Total Cu (39%). Qualify both samples Dissolved Pb and Total Cu results > CRDL as J.	Yes

RT = Retention Time; %D = Percent Deviation; %RPD = Relative Percent Difference; %RSD = Percent Relative Standard Deviation; RRF = Relative Response Factor; CCV = Continuing Calibration Verification
TCL = Target Compound List; MS = Matrix Spike; MSD = Matrix Spike Duplicate;

PROJECT NAME/NO. USACE - Seneca Army Depot SEAD-16/17 LTM Round 5
LAB: TestAmerica
SDG: 680-85871-1 (aka J85871)
FRACTION: Metals (SW846 7470A)
MEDIA: Groundwater
NUMBER OF SAMPLES: 12 Unfiltered and 12 Filtered

CRITERIA	Did Analyses Meet all criteria as specified in the SOPS?	Region 2 Acceptable limits / criteria	Comments/Qualifying Actions	Qualifiers Added?
Data Completeness, Holding Times & Preservation	Yes	Cooler temp < 10 C. Holding Time Hg < 28 days, all other metals < 180 days from collection.	Coolers were received at 2.4°C by the laboratory. All samples were received in good condition based on the laboratory login report. Samples were properly preserved and had pH < 2. Samples were analyzed within 15 days from collection.	No
Calibration	Yes	r^2 ≥ 0.995 CCV every 10 samps or 2 hours ICV/CCV %R btw 80-120% (specific to Hg)	Calibrations available, taken every ten samples, and within recovery limits (80-120%). Initial Calibration Verification (ICV) for Dissolved Hg associated was conducted on 12/24/12 at 10:18. The ICV and subsequent CCVs for Dissolved Hg were all within accetance criteria. ICV for Hg associated was conducted on 12/30/12 at 13:42. The ICV and subsequent CCVs for Hg were all within accetance criteria.	No
Blanks (prep blank, ICB, CCB)	Yes	Method blanks: 1 per 20 project samples.	ICB analyzed on 12/24/12 at 10:20 for Hg Method 7470. CCBs were analyzed from 12/24/12 at 16:11 to 12/24/12 at 17:07 for Dissolved Hg every ten samples; all CCBs were non-detect for Dissolved Hg (MDL = 0.1 and RL = 0.2 ug/L). CCBs were analyzed from 12/30/12 at 13:45 to 12/30/12 at 15:19 for Hg every ten samples; all CCBs were non-detect for Hg (MDL = 0.1 and RL = 0.2 ug/L). One Preparation blank analyzed for Total Hg, it was non-detect. One Preparation blank analyzed for Dissolved Hg, it was non-detect.	No
CRDL Standard	Yes	CRDL results btw 70-130%	CRDL analyses for Hg conducted at the beginning and end of the analysis. All met requirements.	No
Laboratory Control Sample	Yes	LCS/LCSD: 1 per 20 project samples or each preparation batch. LCS limits within 80-120%.	One aqueous LCS results were within the limits for Total Hg (of 14 unfiltered project samples). Two aqueous LCS results were within the limits for Dissolved Hg (of 14 filtered project samples).	No
Duplicates	No	RPD < 20% or Absolute Diff < 2 RL when samp/dup value < 5x RL	Two field duplicate pairs were collected for this SDG; a unfiltered and filtered sample. Unfiltered sample 16LM20033U and its duplicate 16LM20034U, and filtered sample 16LM20033F and its duplicate 16LM20034F. All results were non-detect. A lab duplicate was not analyzed for this SDG. Qualify all sample results as J since a lab duplicate was not performed.	Yes
Matrix Spike/Matrix Spike Duplicates	No	MS/MSD: 1 per 20 project samples or each preparation batch. Recoveries within lab limits. MS/MSD %RPDs <= 20%. Spike Recovery limits 75-125%	Two spike samples were associated with this SDG; samples 16LM20033U and 16LM20033F. The MS/MSD RPD were within limits except in sample 16LM20033F for Hg (27% RPD). All spike metal recoveries were within the recovery and RPD limits, and did not have a initial conc >4x spike conc. No action was taken for RPD issue.	No
ICP Interference Check Sample (ICS)	Yes	ICS results within 80-120%.	ICP Interference Check was performed and all recoveries were within acceptance limits.	No
Serial Dilution	NA	Performed on samples of a similar matrix or 1 per 20 samples. %D ≤ 10% conc ≥ 25xDL (7470A/7471A) and 10x IDL (6010B) for 5-fold dilution.	A serial dilution was not performed on this analysis.	NA
Total/Dissolved Comparison	Yes	%RPD less than 20%	Samples with Total and Dissolved results that have detected Dissolved concentrations greater than the Total and have a Dissolved concentration > 5xMDL. All sample results met this requiment.	No
Field Duplicate Precision	Yes	%RPD less than 20%	Two field duplicate pairs were collected for this SDG; a unfiltered and filtered sample. Unfiltered sample 16LM20033U and its duplicate 16LM20034U, and filtered sample 16LM20033F and its duplicate 16LM20034F. Both sample duplicate pairs Hg results were non-detect; therefore no action was taken.	No

RT = Retention Time; %D = Percent Deviation; %RPD = Relative Percent Difference; %RSD = Percent Relative Standard Deviation; RRF = Relative Response Factor; CCV = Continuing Calibration Veri
TCL = Target Compound List; MS = Matrix Spike; MSD = Matrix Spike Duplicate;

Table A
Comparison of Filtered and Unfiltered Groundwater at SEAD-16

Area		SEAD-16		SEAD-16			SEAD-16		SEAD-16			SEAD-16		SEAD-16			SEAD-16		
Loc ID		MW16-1		MW16-1			MW16-2		MW16-2			MW16-4		MW16-4			MW16-5		
Matrix		GW		GW			GW		GW			GW		GW			GW		
Sample ID		16LM20028U		16LM20028F			16LM20029U		16LM20029F			16LM20030U		16LM20030F			16LM20031U		16LM20031F	
Sample Date		12/15/2012		12/15/2012			12/15/2012		12/15/2012			12/15/2012		12/15/2012			12/15/2012		12/15/2012	
QC Type		SA		SA			SA		SA			SA		SA			SA		SA	
Study ID		LTM		LTM			LTM		LTM			LTM		LTM			LTM		LTM	
Sample Round		5		5			5		5			5		5			5		5	
Filtered Status:		Total		Dissolved			Total		Dissolved			Total		Dissolved			Total		Dissolved	
Parameter	**Units**	Value	Qual	Value	Qual	RPD	Value	Qual	Value	Qual	RPD	Value	Qual	Value	Qual	RPD	Value	Qual	Value	Qual	RPD
Aluminum	UG/L	50	U	23	U		50	U	23	U		50	U	23	U		50	U	23	U	
Antimony	UG/L	2	U	2.3	U		7.1		7.8		9%	3.9	J	4	J	3%	2	U	2.3	U	
Arsenic	UG/L	1.3	U	1.3	U		1.3	U	1.3	U		1.3	J	1.5	J	14%	2.7		2.6		
Barium	UG/L	78		78			62		65		5%	230		240		4%	39		34		
Beryllium	UG/L	0.15	U	0.25	U		0.15	U	0.25	U		0.15	U	0.25	U		0.15	U	0.25	U	
Cadmium	UG/L	0.13	U	0.095	U		0.13	U	0.095	U		0.23	J	0.095	U		0.13	U	0.095	U	
Calcium	UG/L	120,000		120,000			100,000		110,000		10%	220,000		230,000		4%	96,000		97,000		1%
Chromium	UG/L	2.5	U	2.5	U		2.5	U	2.5	U		2.5	U	2.5	U		2.5	U	2.5	U	
Cobalt	UG/L	0.16	J	0.15	U		0.12	U	0.15	U		1.9		1.9			0.23	J	0.22	J	
Copper	UG/L	3.3	J	5.2		45%	5		4.5	J	11%	11		4.1	J		3	J	1.1	J	
Iron	UG/L	44	U	33	U		44	U	33	U		140		130			1,300		1,100		
Iron+Manganese	UG/L	46	U	34	U		46	U	34	U		280		270			1,430		1,230		
Lead	UG/L	0.5	U	0.2	U		0.66	J	0.24	J		3.4		0.2	U		0.5	U	0.2	U	
Magnesium	UG/L	18,000		18,000			11,000		13,000		17%	32,000		34,000		6%	9,800		9,900		1%
Manganese	UG/L	2	U	1	U		2	U	1	U		140		140			130		130		
Mercury	UG/L	0.091	U	0.091	U		0.091	U	0.091	U		0.091	U	0.091	U		0.091	U	0.1	J	
Nickel	UG/L	2	U	2.3	J	14%	2	U	2.2	J	10%	3.2	J	2.6	J		2	U	2.1	J	5%
Potassium	UG/L	870	J	900			1,900		2,200		15%	3,100		3,200		3%	2,100		2,100		
Selenium	UG/L	1.1	U	1	U		1.1	U	1	U		1.1	U	1	U		1.1	U	1	U	
Silver	UG/L	0.18	U	0.25	U		0.18	U	0.25	U		0.18	U	0.25	U		0.18	U	0.25	U	
Sodium	UG/L	62,000		63,000		2%	17,000		20,000		16%	310,000		340,000		9%	1,500		1,600		6%
Thallium	UG/L	0.25	U	0.5	U		0.25	U	0.5	U		0.25	U	0.5	U		0.25	U	0.5	U	
Vanadium	UG/L	3.2	U	3.8	U		3.2	U	3.8	U		3.2	U	3.8	U		3.2	U	3.8	U	
Zinc	UG/L	8.4	U	8.3	U		8.8	J	9.5	J	8%	11	J	12	J	9%	8.4	U	8.3	U	
Turbidity (pre)	NTU	0.87		0.87			3.01		3.01			1.01		1.01			1.39		1.39		
Turbidity (post)	NTU	1.04					1.2					0.48					0.94				

U = compound was not detected
J = the reported value is
an estimated cocentration

Table A
Comparison of Filtered and Unfiltered Groundwater at SEAD-16

Area		SEAD-16		SEAD-16		SEAD-16		SEAD-16		SEAD-16		SEAD-16	
Loc ID		MW16-6		MW16-6		MW16-7		MW16-7		MW16-7		MW16-7	
Matrix		GW		GW		GW		GW		GW		GW	
Sample ID		16LM20032U		16LM20032F		16LM20033U		16LM20033F		16LM20034U		16LM20034F	
Sample Date		12/15/2012		12/15/2012		12/15/2012		12/15/2012		12/15/2012		12/15/2012	
QC Type		SA		SA		SA		SA		DU		DU	
Study ID		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round		5		5		5		5		5		5	
Filtered Status:		Total		Dissolved		Total		Dissolved		Total		Dissolved	
Parameter	**Units**	Value	Qual	Value	Qual	RPD	Value	Qual	Value	Qual	RPD	Value	Qual	Value	Qual	RPD
Aluminum	UG/L	300		23	U		50	U	23	U		50	U	23	U	
Antimony	UG/L	2	U	2.3	U		13		13			14		13		
Arsenic	UG/L	1.3	J	1.3	U		1.3	U	1.3	J		1.3	U	1.3	U	
Barium	UG/L	45		41			100		100			100		99		1%
Beryllium	UG/L	0.15	U	0.25	U		0.15	U	0.25	U		0.15	U	0.25	U	
Cadmium	UG/L	0.13	U	0.095	U		0.13	U	0.095	U		0.13	U	0.095	U	
Calcium	UG/L	74,000		70,000			100,000	J	110,000	J	10%	110,000		100,000		
Chromium	UG/L	2.5	U	2.5	U		2.5	U	2.5	U		2.5	U	2.5	U	
Cobalt	UG/L	0.43	J	0.18	J		0.22	J	0.23	J	4%	0.24	J	0.24	J	
Copper	UG/L	4.1	J	4.5	J	9%	8.3		4.1	J		5.6		1.7	J	
Iron	UG/L	790		33	J		44	U	33	U		44	U	33	U	
Iron+Manganese	UG/L	816		43	J		90		92		2%	91		98		7%
Lead	UG/L	0.5	U	0.2	U		2.5		1.3	J		2.6		2.3		
Magnesium	UG/L	7,600		7,200			21,000	J	21,000			22,000		20,000		
Manganese	UG/L	26		10			90		92		2%	91		98		7%
Mercury	UG/L	0.091	U	0.091	U		0.091	U	0.091	UJ		0.091	U	0.091	U	
Nickel	UG/L	2	J	2	U		2.2	J	2	U		2.4	J	2	U	
Potassium	UG/L	2,400		2,400			5,200		5,300		2%	5,400		5,100		
Selenium	UG/L	1.1	U	1	U		1.1	U	1	U		1.1	U	1	U	
Silver	UG/L	0.18	U	0.25	U		0.18	U	0.25	U		0.18	U	0.25	U	
Sodium	UG/L	8,000		8,700		8%	32,000		35,000		9%	32,000		33,000		3%
Thallium	UG/L	0.25	U	0.5	U		0.25	U	0.5	U		0.25	U	0.5	U	
Vanadium	UG/L	3.2	U	3.8	U		3.2	U	3.8	U		3.2	U	3.8	U	
Zinc	UG/L	8.4	U	8.3	U		8.4	U	8.3	U		8.4	U	8.3	U	
Turbidity (pre)	NTU	3.58		3.58			1.29		1.29			1.29		1.29		
Turbidity (post)	NTU	1.67					1.14					1.14				

U = compound was not detected
J = the reported value is
an estimated cocentration

Table B
Comparison of Filtered and Unfiltered Groundwater at SEAD-17

Area		SEAD-17		SEAD-17			SEAD-17		SEAD-17			SEAD-17		SEAD-17			SEAD-17		SEAD-17			SEAD-17		SEAD-17		
Loc ID		MW17-1		MW17-1			MW17-2		MW17-2			MW17-3		MW17-3			MW17-4		MW17-4			MW17-5		MW17-5		
Matrix		GW		GW			GW		GW			GW		GW			GW		GW			GW		GW		
Sample ID		17LM20020U		17LM20020F			17LM20021U		17LM20021F			17LM20022U		17LM20022F			17LM20023U		17LM20023F			17LM20024U		17LM20024F		
Sample Date		12/11/2012		12/11/2012			12/11/2012		12/11/2012			12/11/2012		12/11/2012			12/11/2012		12/11/2012			12/11/2012		12/11/2012		
QC Type		SA		SA			SA		SA			SA		SA			SA		SA			SA		SA		
Study ID		LTM		LTM			LTM		LTM			LTM		LTM			LTM		LTM			LTM		LTM		
Sample Round		5		5			5		5			5		5			5		5			5		5		
Filtered Status:		Total		Dissolved			Total		Dissolved			Total		Dissolved			Total		Dissolved			Total		Dissolved		
Parameter	**Units**	Value	Qual	Value	Qual	RPD	Value	Qual	Value	Qual	RPD	Value	Qual	Value	Qual	RPD	Value	Qual	Value	Qual	RPD	Value	Qual	Value	Qual	RPD
Antimony	UG/L	2.7	J	2.3	U		4.4	J	4	J		2	U	2.3	U		2	U	2.3	U		2	U	2.3	U	
Arsenic	UG/L	1.3	U	1.3	U		1.3	U	1.3	U		1.3	U	1.3	U		1.3	U	1.3	U		1.3	U	1.3	U	
Barium	UG/L	28		28			68		69		1%	36		37		3%	67		65			26		24		
Beryllium	UG/L	0.15	U	0.25	U		0.15	U	0.25	U		0.15	U	0.25	U		0.15	U	0.25	U		0.15	U	0.25	U	
Cadmium	UG/L	0.44	J	0.095	U		0.13	U	0.095	U		0.13	U	0.095	U		0.13	U	0.095	U		0.13	U	0.095	U	
Calcium	UG/L	55,000		53,000			120,000		120,000			67,000		74,000		10%	87,000		83,000			75,000		68,000		
Chromium	UG/L	2.5	U	2.5	U		2.5	U	2.5	U		2.5	U	2.5	U		2.5	U	2.5	U		2.5	U	2.5	U	
Cobalt	UG/L	0.37	J	0.32	J		0.42	J	0.39	J		0.12	U	0.15	U		0.25	J	0.21	J		0.31	J	0.31	J	
Copper	UG/L	5.4		4.7	J		7.8		7.7			3.2	J	3.3	J	3%	4.7	J	1.1	J		2.1	J	3.7	J	55%
Iron	UG/L	90	J	47	J		44	U	33	U		44	U	33	U		72	J	33	U		160		44	J	
Iron+Manganese	UG/L	98.1	J	54.2	J		14		12			46	U	34	U		83		9.5			219		82	J	
Lead	UG/L	1.1	J	0.2	U		0.99	J	0.2	U		0.78	J	0.24	J		0.5	U	0.2	U		0.5	U	0.2	U	
Magnesium	UG/L	7,700		7,200			12,000		12,000			5,800		6,100		5%	15,000		15,000			11,000		9,900		
Manganese	UG/L	8.1		7.2			14		12			2	U	1	U		11		9.5			59		38		
Mercury	UG/L	0.091	U	0.14	J		0.091	U	0.091	U		0.091	U	0.091	U		0.091	U	0.091	U		0.091	U	0.12	J	27%
Nickel	UG/L	2	U	2	U		2	U	2	U		2	U	2	U		2.1	J	2	U		2	U	2	U	
Potassium	UG/L	410	J	380	J		2,500		2,500			1,700		1,800		6%	780	J	750			460	J	460	J	
Selenium	UG/L	1.1	U	1	U		1.1	U	1	U		1.1	U	1	U		1.1	U	1	U		1.1	U	1	U	
Silver	UG/L	0.18	U	0.25	U		0.18	U	0.25	U		0.18	U	0.25	U		0.18	U	0.25	U		0.18	U	0.25	U	
Sodium	UG/L	2,500		2,400			8,400		8,400			3,100		3,300		6%	8,600		8,900		3%	9,100		9,400		3%
Thallium	UG/L	0.25	U	0.5	U		0.25	U	0.5	U		0.25	U	0.5	U		0.25	U	0.5	U		0.25	U	0.5	U	
Vanadium	UG/L	3.2	U	3.8	U		3.2	U	3.8	U		3.2	U	3.8	U		3.2	U	3.8	U		3.2	U	3.8	U	
Zinc	UG/L	8.4	U	8.3	U		26		24			26		29		11%	8.4	U	8.3	U		8.4	U	8.3	U	
Turbidity (pre)	NTU	3.28		3.28			2.16		2.16			2.02		2.02			1.85		1.85			2.01		2.01		
Turbidity (post)	NTU	3.6					2.17					1.9					1.6					1.87				

U = compound was not detected
J = the reported value is an estimated cocentration