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SUBJECT: Final 2019 Year 9 Long-Term Monitoring Annual Report, SEADs 16 and 17, Seneca Army Depot Activity in Romulus, NY; EPA Site ID# NY0213820830 and NY Site ID# 8-50-006

Dear Mr. Gallo, Ms. Sweet, and Mr. Sergott:

Please see the attached Annual Report and Year 9 Review for SEADs 16 and 17 at Seneca Army Depot Activity, located in Romulus, New York. This Final Annual Report and Year 9 Review provides a review of long-term groundwater monitoring for 2019 and provides recommendations for future long-term monitoring at the site. This Final Report has been updated to reflect the responses to EPA and NYSDEC comments, which are included as Appendix G.

If you have any questions about the attached document, please call me at 917-533-8022.

Sincerely,

Kathleen Cuzzolino
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Seneca Army Depot Activity
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Final 2019

Year 9 Annual Report

for the former Abandoned Deactivation Furnace (SEAD-16) and the former Active Deactivation Furnace (SEAD-17)

Seneca Army Depot Activity



Contract No. W912DY-09-D-0062

Task Order No. 0023

EPA SITE ID# NY0213820830

NY Site ID# 8-50-006

February 2021

**FINAL
2019 YEAR-9 ANNUAL REPORT**

**FOR THE FORMER ABANDONED DEACTIVATION FURNACE (SEAD-16)
AND THE FORMER ACTIVE DEACTIVATION FURNACE (SEAD-17)**

SENECA ARMY DEPOT ACTIVITY, ROMULUS, NEW YORK

Prepared for:

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**Contract Number W912DY-09-D-0062
Task Order No. 0023
EPA Site ID# NY0213820830
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February 2021

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Acronyms and Abbreviations

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminants of concern
DO	dissolved oxygen
DoD	Department of Defense
ELAP	Environmental Laboratory Accreditation Program
EPA	United States Environmental Protection Agency
ESI	Expanded Site Inspection
LTM	long-term monitoring
LUC	Land Use Control
MCL	maximum contaminant level
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NELAP	National Environmental Accreditation Program
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
ORP	oxidation-reduction potential
Parsons	Parsons Federal
PCMM	Post-closure monitoring and maintenance
PID	Planned Industrial Development
QAPP	Quality Assurance Project Plans
QC	Quality Control
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RSL	Regional Screening Level
ROD	Record of Decision
SEAD	Seneca Army Depot site designation
SEDA	Seneca Army Depot Activity
TAL	Target Analyte List
U.S.	United States
UFP	Uniform Federal Policy
µg/L	microgram(s) per liter

Chapter 1 Introduction

This Final 2019 Year 9 Annual Report 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 groundwater monitoring data collected in November 2019, comparisons of the 2019 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 a review of the effectiveness of the remedy implemented at the sites in 2007. Based on the recommendation in the 2015 Year 8 LTM Report issued in 2015, EPA and Army agreed to conduct the next round of groundwater sampling at SEAD-16/17 in 2019 (Year 3 of the 5 Year Review cycle). This Year 9 report presents and discusses the results for the Year 9 LTM event, November 2019.

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), a RA was completed in August 2007 at SEAD-16 and SEAD-17 [the areas of concern (AOCs)]. The RA consisted of the excavation and disposal of soil, from both AOCs, that was contaminated with metals (antimony, arsenic, cadmium, copper, lead, mercury, thallium, and zinc) at levels above identified risk-based action levels. In addition, soil at SEAD-16 was also contaminated with polycyclic aromatic hydrocarbons (PAHs) at concentrations in excess of risk-based action levels. The RA at SEAD-16 involved the removal of approximately 1,862 cubic yards (cy) of soil which was impacted with metals and PAHs. The RA at SEAD-17 involved the removal of approximately 2,565 cy of metals-impacted soil (Parsons, 2008a).

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 associated with either the New York State Class GA (NYS Class GA) Ambient Water Quality Standards or United States (U.S.) Environmental Protection Agency (EPA) maximum contaminant levels (EPA MCLs). 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. The PID area 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.

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 (Parsons, 2007). LTM results are summarized in annual reports beginning in December 2007 (**Exhibit 1.1**).

Exhibit 1.1
LTM and Inspection Summary

ROUND NUMBER	EVENT	DATE	REPORT TITLE
1	LTM	December 2007	Final Construction Completion Report for the Abandoned Deactivation Furnace (SEAD-16) and Active Deactivation Furnace (SEAD-17) (Parsons, 2008a).
2	LTM	December 2008	Final Annual Report - Year 2 (Parsons, 2009)
3	LTM	November 2009	Final Annual Report - Year 3 (Parsons, 2010)
4	LTM	December 2010	Draft Final Annual Report - Year 4 (Parsons, 2013)
5	LTM	December 2012	Final Annual Report - Year 5 (Parsons, 2014a)
6	LTM	December 2013	Draft Annual Report - Year 6 (Parsons, 2014b)
7	LTM	December 2014	Draft Annual Report - Year 7 (Parsons, 2015)
8	LTM	December 2015	Draft Annual Report - Year 8 (Parsons, 2016)
9	LTM	November 2019	Draft Annual Report - Year 9

Chapter 2 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 U.S. 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. The primary mission of SEDA was the receipt, storage, maintenance, and supply of military items. A location map of SEDA is presented as **Figure 1**.

SEAD-16 and SEAD-17 are located in the east-central portion of the SEDA within the former ammunition storage area. SEAD-16 and SEAD-17 are located in the portion of SEDA where land is presently designated for future PID (i.e., industrial) uses. The planned future uses of SEDA and 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. 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. Two sets of SEDA railroad tracks and utilities are presently on-site (**Figure 3**).

SEAD-17, the former Active Deactivation Furnace, was constructed to replace the Abandoned Deactivation Furnace at SEAD-16. The furnace began operation in 1962; 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 (**Figure 4**). Details and results of the demolition are documented in the Building Cleaning and Building Demolition Completion Report (Parsons, 2008b).

2.2 Site Hydrology

The hydrogeologic setting of SEAD-16 and SEAD-17, based on data from previous investigations, suggest that a regional groundwater divide exists near, and approximately parallel to, Route 96 near Romulus, New York. Groundwater to the west of this divide flows west towards Seneca Lake. All of the LTM monitoring wells are shallow and installed within the till/weathered bedrock overburden. Within SEAD 16 and 17 groundwater flow generally trends to the west-southwest based on previous subsurface investigations. Historical groundwater elevation data collected during LTM depict a local groundwater high southwest of former Building S-311 (SEAD-16), which may contribute to local fluctuations in groundwater flow for the Site. Interpretation of SEAD 17 groundwater elevation data indicates that groundwater flows to the southwest.

2.3 Impacts in Groundwater

During the Expanded Site Inspection (ESI) through the RI, groundwater was sampled three times, once in 1993 and twice in 1996, in order to determine a baseline for contamination levels at SEAD 16 and 17. The initial sampling rounds found concentrations of five metals elevated above the NYS Class GA Standard or EPA standards. These five metals (antimony, iron, lead, sodium, and thallium) were categorized as contaminants of concern (COCs) for the site. Pre-remediation results are provided in **Appendix A**.

2.4 Impacts in Soil

The soil at both SEAD-16 and SEAD-17 was impacted with metals and PAHs (SEAD-16 only) at concentrations greater than the site-specific cleanup standards. A removal action to address the soil was conducted in 2007 and is documented in the Construction Completion Report (Parsons, 2008a).

Chapter 3 Long-Term Monitoring Results

3.1 Year 9 LTM Event

Long-term groundwater monitoring is being performed at SEAD-16 and SEAD-17 as part of the PCMM operations in accordance with the ROD and as outlined in the Final Work Plan. The Year 9 LTM event was conducted at SEAD-16 and SEAD-17 on 15 December 2019. Groundwater samples were collected from six monitoring wells (MW16-1, MW16-2, MW16-4, MW16-5, MW16-6, and MW16-7) at SEAD-16 and from five monitoring wells (MW17-1, MW17-2, MW17-3, MW17-4, and MW17-5) located at SEAD-17. Field forms completed for the Year 9 sampling event are included in **Appendix B**. Groundwater data results for each LTM event are presented in **Appendix C**, and the laboratory analytical report for Year 9 is included as **Appendix D**. A discussion of data validation results is presented in **Appendix E**. Historical groundwater trends are presented in **Appendix F** and responses to regulator comments are included as **Appendix H**.

3.1.1 YEAR 9 GROUNDWATER ELEVATIONS FOR SEAD-16 AND SEAD-17

Prior to the collection of groundwater samples, groundwater elevation measurements were collected from all of the wells at SEADs 16 and 17. Groundwater elevations were measured on 15 December 2019. Groundwater elevation data for the Year 9 LTM event and a summary of historical maximum and minimum data from past events are presented in **Table 1**.

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 is present in the vicinity of the former Building S-311.

Based on the most recent elevation data (December 2019), groundwater at SEAD-17 appears to flow generally to the west-southwest, which is consistent with historical groundwater flow observations at SEAD-17 (**Figure 5**).

3.1.2 YEAR 9 LTM SAMPLE COLLECTION

Samples for the Year 9 LTM event were collected using a peristaltic pump and low-flow sampling techniques. Sample collection, handling and custody, holding times, and field parameter collection procedures were conducted in accordance with the Final Uniform Federal Policy-Quality Assurance Project Plans (UFP-QAPP) for LTM (Parsons, 2017). Samples collected from the six SEAD-16 wells and the five SEAD-17 wells were submitted to Katahdin Analytical Services (Scarborough, ME) for the following analyses:

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

The Katahdin Scarborough, ME laboratory is certified by the Department of Defense (DoD) 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 well location 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.

3.1.3 YEAR 9 GROUNDWATER RESULTS FOR SEAD-16

A summary of metals detected in groundwater during the Year 9 LTM event for SEAD-16 is presented in **Table 2**. Groundwater data results for each LTM event are presented in **Appendix C** and the laboratory analytical report for Year 9 is included as **Appendix D**. Data validation results are presented in **Appendix E**. Data validation utilized the EPA Region 2 Standard Operating Procedures (SOPs) revised in March 2013. Groundwater concentrations were compared against NYS Water Quality Standards, Class GA (6 CRR-NY 703.5) or, if not available, EPA Regional Screening Levels (RSLs) (TR=1E-06, THQ=1.0, May 2020) for Tap Water.

Within SEAD-16, concentrations of antimony, iron, lead, and sodium were detected above applicable NYS Class GA standards (**Table 2**).

Antimony exceeded the NYS Class GA standard of 3 µg/L at one well, MW16-7, where it was detected at a concentration of 49 µg/L in the sample and 50.8 µg/L in the associated duplicate.

Iron exceeded the NYS Class GA standard (300 µg/L) at three separate SEAD 16 wells; well MW16-2 (309 µg/L), MW16-5 (475 µg/L), and MW16-6 (534 µg/L); however, the NYS Class GA standard for iron is not a health-based standard. Iron was detected at all of the other SEAD 16 wells at concentrations lower than the NYS GA Standard.

Lead exceeded the NYS Class GA standard (25 µg/L) at MW16-7 with a concentration of 33.45 µg/L. Lead was also detected at MW16-2 (6.1 µg/L) and MW16-6 (1.4 µg/L) below the GA Standard.

Sodium was detected at concentrations above the NYS Class GA standard (20,000 µg/L) in wells MW16-1 (29,100 µg/L) and MW16-4 (70,800 µg/L); however, the NYS Class GA standard for sodium is not a health-based standard.

3.1.4 YEAR 9 GROUNDWATER RESULTS FOR SEAD-17

A summary of metals detected in the Year 9 groundwater samples event for SEAD-17 is presented in **Table 3**. Groundwater analytical results for each LTM event are presented in **Appendix C** and the laboratory analytical report for Year 9 is included as **Appendix D**. A discussion of data validation results is presented in **Appendix E**; there were no non-compliance issues reported. Data validation utilized the EPA Region 2 SOPs revised in March 2013.

No metals exceeded applicable groundwater standards at any of the wells in SEAD 17 (**Table 3**).

3.1.5 LTM GROUNDWATER DATA TRENDS

An examination of the data trends from the Year 1 to 9 LTM events is provided for SEAD-16 and SEAD-17 in the following discussions. The LTM trends were examined to determine if the LTM results show: 1) an overall decreasing trend; and 2) overall compliance with groundwater standards. Summaries of metal exceedances detected during the Year 9 groundwater monitoring event for SEAD-16 and SEAD-17 are provided in **Tables 2** and **3**, respectively. The data results for the Year 1 through Year 9 LTM events are included as **Appendix C**. Iron and sodium commonly exceed NYS GA standards and are discussed below; however, the Army does not consider these exceedances actionable as the standards are not health-based criteria, but are based on aesthetics (i.e., taste, color, odor) and are typically applicable to public water supplies. There are no applicable EPA MCLs (federal water quality standards) for iron or sodium.

3.1.5.1 LTM Groundwater Trends for SEAD-16

During the nine years of LTM sampling at SEAD-16, five metals have exceeded project action limits: antimony, iron, lead, manganese, and sodium. Although iron concentrations typically exceed its action level, in the past

three events, iron concentrations are similar to the action level (**Figure 6C** and **Appendix F-1**). Iron is not expected to pose a risk beyond what is naturally found in local groundwater therefore it is not discussed further below. Manganese concentrations are historically below its NYS Class GA standard (300 µg/L). One exceedance (631 µg/L) of manganese was detected in well MW16-7 during Event 1 (**Appendix F-3**).

The full LTM data set is provided in **Appendix C** and a comparison of pre-LTM trends to LTM trends of select metals is presented in **Appendix F**.

Antimony

Over the course of LTM, groundwater at three wells (MW16-2, MW16-4 and MW16-7) frequently had detections of antimony above the NYS Class GA standard of 3 µg/L (**Appendix F-5**). In the most recent event, antimony only exceeded the NYS Class GA standard in one well (MW16-7) (**Figure 6D**).

- MW16-2: antimony concentrations have decreased over time and was below the standard in 2015 and non-detect in the recent 2019 round, shown in **Figure 6B**;
- MW16-4: concentrations of antimony at MW16-4 have decreased over time; antimony was below the standard in 2015 and non-detect in the recent 2019 round (**Figure 6C**);
- MW16-7: antimony was detected above the standard in each event at concentrations ranging from 9.58 µg/L to 49.9 µg/L (**Figure 6D**);
- Concentrations of antimony above the NYS Class GA standard are restricted to one well MW16-7 and do not show evidence for migration to the other wells on site.

Lead

Lead has not historically been a persistent COC in any of the wells at SEAD-16 (**Appendix F-7**). Lead has exceeded the NYS Class GA standard (25 µg/L) three times in one well (MW16-7) during nine years of post-RA monitoring (**Figure 6D**). The exceedances occurred during the first and second LTM sampling events and the most recent event (**Appendix F-7**).

- MW16-7: Lead concentrations are elevated above the action level.
- Elevated lead concentrations are not migrating between LTM wells.

3.1.5.2 LTM Groundwater Trends for SEAD-17

During the nine years of LTM sampling, five metals have exceeded project action limits including antimony, iron, lead, manganese, and sodium (**Appendix C**). Historically, lead and manganese exceeded their applicable screening levels once and twice, respectively; sodium exceeded its screening criterion three times (**Appendix C**). None of these three metals exceeded their respective criteria in Event 9. Lead, manganese, and sodium are not persistent COCs at SEAD-17 and are therefore not discussed below. A comparison of pre-LTM trends to LTM trends of select metals is presented in **Appendix F**.

Antimony

Exceedances of the 3 µg/L NYS Class GA standard for antimony are limited to well MW17-2 (**Figure 6E**).

- The maximum concentration (4.4 µg/L) reported for antimony was detected in Year 5 from MW17-2.
- The concentrations of antimony show a declining trend over time with detected concentrations from the last three monitoring events approximately equal to, or below, the NYS GA standard.

Overall, post-RA LTM results indicate that groundwater quality at SEAD-17 is not impacted by historic operations conducted in this area. There are no trends associated with the elevated concentrations of sodium at SEAD-17 (**Appendix C**). These concentrations are estimated and, in general, return to the historical baseline condition at each well.

The SEAD-17 Year 9 data continues to support that the groundwater at SEAD-17 has not been impacted by metals released from the former Active Deactivation Furnace site. The most recent concentrations of antimony were below the NYS Class GA standard or not detected.

The ROD (Parsons, 2007) specifies that an element of the remedy is “Conducting groundwater monitoring at both SEAD-16 and SEAD-17 until concentrations are below the GA criteria. Groundwater use restrictions will continue until groundwater constituent concentrations have been reduced to levels that allow for unlimited exposure and unrestricted use. With USEPA approval, once groundwater cleanup standards are achieved, the groundwater use restrictions may be eliminated.”

Exhibit 3.1 presents the last three rounds of data from each well for the five metals with historic exceedances. A concentration above its NYSDEC GA Standard is shaded in gray. The concentrations at monitoring wells MW17-3, MW17-4, and MW17-5 have been in compliance with the NYSDEC GA Standard for the past three rounds. Data for monitoring well MW17-2 have been in compliance for the past two rounds and the overall trend for antimony is decreasing (**Figure 6E**). Data from monitoring well MW17-1 have been in compliance for the past three rounds with the exception of the iron detected in the 2015 sampling event. Iron was detected just above the GA standard and there is an overall decreasing trend for iron at MW17-1. A review of the nine rounds of data collected since the removal action was completed show that the concentrations of metals at SEAD-17 are below the GA criteria.

EXHIBIT 3.1
RECENT SEAD-17 DATA COMPARED TO NYS GA STANDARD

Metal (µg/L)	GA STD	MW17-1			MW17-2		
		2014	2015	2019	2014	2015	2019
Antimony	3	ND	ND	1.7 J	3.3 J	0.63 J	1.9 J
Iron	300	79 J	360	235	46	140	131
Lead	25	ND	ND	2.5 J	ND	ND	1.6 J
Manganese	300	8.7	89	2.4 J	4.1	35	15.7
Sodium	20,000	3,500	6,400	1,570	7800	12,000	8,360

	GA STD	MW17-3			MW17-4			MW17-5		
		2014	2015	2019	2014	2015	2019	2014	2015	2019
Antimony	3	ND	ND	ND	ND	0.56 J	ND	ND	ND	ND
Iron	300	160	43 J	64 J	130	59 J	85.8 J	55 J	43 J	269
Lead	25	1.1 J	ND	ND	ND	1.5 J	ND	ND	2.5 U	ND
Manganese	300	6.1	ND	ND	120	99	61.6	ND	5.8	27.6
Sodium	20,000	1,900	8,400	2,930	7,300	6,000	3,890	4,900	5,800	4,210

Based on these results, the Army recommends no additional groundwater sampling at SEAD 17.

3.1.6 ROUTINE INSPECTIONS OF SEAD-16 AND SEAD-17 MONITORING WELLS

Observation of the wells at SEAD-16 and SEAD-17 during the Year 9 LTM event indicates that the wells located on the site are in acceptable condition with the exception of MW16-7. At this time, well MW16-7 is recommended to be abandoned consistent with NYSDEC regulations. A new replacement well will be installed in close proximity to the existing location, as the Army believes that the well has been compromised. A finer grained filter pack and

smaller screen slot size will be installed to address turbidity concerns. No obstructions were encountered in the wells at SEAD-16 and SEAD-17 during the Year 9 sampling event.

Chapter 4 Conclusions and Recommendations

4.1 Conclusions

- The soil excavation remedy at SEAD-16 and SEAD-17 was an effective method for controlling, and in some cases eliminating, the migration of select metals from soil to groundwater based on the evaluation of the results of the nine post-RA LTM sampling events. Trends demonstrate that the remedial action performed did not adversely impact groundwater.
- There is no ongoing treatment process at either site to continue monitoring for concentration reductions.
- Antimony is a COC in one well, MW16-7; the concentrations at this well are stable.
- Antimony is not migrating, as evidenced by absence of increasing antimony concentrations in other wells.
- Lead was detected above its applicable action level at one well, MW16-7, for the first time since year 2. Lead will continue to be closely monitored. At this time, well MW16-7 is recommended to be abandoned. A new replacement well is recommended to be installed in close proximity to the existing location.
- Groundwater use is prohibited by the area-wide LUC and an alternate potable water source is available. The land use and groundwater use restrictions imposed at SEAD-16 and SEAD-17 are maintained as part of both the approved RODs for SEAD 16/17 and the larger PID area (Parsons, 2004; 2006). There are no signs of unauthorized use or access to the AOCs. Based on these results, the Army recommends no additional groundwater sampling at SEAD 17.

4.2 Recommendations

Based on the current area-wide LUC prohibiting the use of groundwater within the PID area (includes SEADs 16 and 17), and the stable conditions at the site, the Army recommends that the next round of sampling at SEAD-16 be performed after five years. This recommendation was accepted by the EPA and NYSDEC. As noted, the Army recommends abandoning MW16-7 and installing a replacement well in 2021 prior to the next sampling event. Annual LUC inspections will continue at SEAD-16 to ensure that the groundwater is not accessed.

Based on comments on the Draft Final Annual Report from EPA and NYSDEC, the Army agrees to conduct two more rounds of groundwater sampling at SEAD-17 to demonstrate that there are no seasonal variations in the results. The sampling will be targeted for March and October of 2021. The sampling frequency for SEAD 16 would remain at 5 years. The next sampling event for SEAD 16 is anticipated to be in the spring of 2025.

Chapter 5 References

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TABLES

Table 1	SEAD-16 and SEAD 17 - Groundwater Table Elevations Summary
Table 2	SEAD-16 - Year 9 Detected Groundwater Compounds
Table 3	SEAD-17 - Year 9 Detected Groundwater Compounds

Table 1
SEAD-16 and 17 - Groundwater Elevation Summary
Draft Annual Report - SEAD-16 and SEAD-17
Seneca Army Depot Activity

Monitoring Well	Top of Riser Elevation	LTM Year 9 - January 2020			Historical Data		
		Date Measured	Depth to Groundwater	Water Level Elevation	Groundwater Elevation (ft)		
					Maximum	Minimum	Range
MW 16-1	735.53	12/15/2019	2.97	732.56	732.59	729.78	2.81
MW 16-2	734.86	12/15/2019	2.94	731.92	731.92	729.13	2.79
MW 16-4	734.51	12/15/2019	2.68	731.83	731.87	730.02	1.85
MW 16-5	735.36	12/15/2019	1.85	733.51	734.14	731.50	2.64
MW 16-6	734.25	12/15/2019	2.28	731.97	731.97	729.88	2.09
MW 16-7	734.96	12/15/2019	2.91	732.05	732.05	729.67	2.38
MW 17-1	736.39	12/15/2019	3.17	733.22	733.22	730.70	2.52
MW 17-2	733.65	12/15/2019	2.79	730.86	731.55	728.48	3.07
MW 17-3	732.05	12/15/2019	2.52	729.53	730.12	726.48	3.64
MW 17-4	734.62	12/15/2019	2.97	731.65	731.65	728.84	2.81
MW 17-5	734.12	12/15/2019	2.5	731.62	731.62	728.93	2.69

- (1) Elevations are relative to the North American Vertical Datum (NAVD) 1988.
 - (2) Monitoring well MW16-3 was destroyed during the remedial action conducted at SEAD-16.
 - (3) PVC riser pipe for wells MW16-2 and MW16-5 were cut during December 2008 sampling event due to the PVC preventing the metal casing lid from opening.
 - (4) MW16-2 and MW16-5 were re-surveyed in December 2008 and this data was used for water table elevation calculations for December 9, 2008 through December 13, 2010. MW16-2 Top of PVC elevation is 733.48 ft and MW16-5 Top of PVC elevation is 735.82 ft.
 - (5) 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.
 - (6) MW17-3 was re-surveyed in December 2008 and this data was used for water table elevation calculations for December 9, 2008 through December 13, 2010. MW17-3 Top of PVC elevation is 732.63 ft.
 - (7) 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 and future water table elevation calculations.
- NA = Not Available.

Table 2
SEAD-16 Detected Groundwater Compounds
SEAD 16 and SEAD 17 Annual Report
Seneca Army Depot Activity

Area	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16
Loc ID	MW16-1	MW16-2	MW16-4	MW16-5	MW16-6	MW16-7	MW16-7
Matrix	GW	GW	GW	GW	GW	GW	GW
Sample ID	16LM20056	16LM20057	16LM20058	16LM20059	16LM20060	16LM20061	16LM20062
Sample Date	12/15/2019	12/15/2019	12/15/2019	12/15/2019	12/15/2019	12/15/2019	12/15/2019
QC Type	SA	SA	SA	SA	SA	SA	DU
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	9	9	9	9	9	9	9
Filtered	Total	Total	Total	Total	Total	Total	Total

Parameter	Unit	Max Detected Value		Max Detected Loc ID	Number of Detects	Number of Analyses	Source Criteria	Action Level	Number of Exceedances	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
Inorganics																							
Aluminum	UG/L	271	J	MW16-2	7	7	EPA RSL	20,000	0	100	J	271	J	42	J	96	J	72	J	98	J	87	J
Antimony	UG/L	50.8		MW16-7	2	7	NYS CLASS GA	3	2	5	U	5	U	5	U	5	U	5	U	49		50.8	
Barium	UG/L	110		MW16-7	7	7	NYS CLASS GA	1,000	0	88.6		80.9		83.3		35.5		64.7		110		87.8	
Cadmium	UG/L	0.21	J	MW16-4	4	7	NYS CLASS GA	5	0	3	U	0.18	J	0.21	J	5	U	0.14	J	5	U	0.15	J
Calcium	UG/L	147,000		MW16-4	7	7				125,000		90,600		147,000		61,400		88,100		92,900		100,000	
Chromium	UG/L	1.3	J	MW16-2	7	7	NYS CLASS GA	50	0	0.92	J	1.3	J	0.81	J	0.99	J	0.74	J	0.6	J	0.89	J
Cobalt	UG/L	0.34	J	MW16-7	3	7	EPA RSL	6	0	4	U	0.26	J	4	U	4	U	4	U	0.34	J	0.33	J
Copper	UG/L	5	J	MW16-1	6	7	NYS CLASS GA	200	0	5	J	4	J	1.8	J	3.4	J	10	U	2.7	J	3	J
Iron	UG/L	534		MW16-6	7	7	NYS CLASS GA	300	3	115		309		159		475		534		223		225	
Iron+Manganese	UG/L	640		MW16-6	7	7				130		402		320		507		640		243		247	
Lead	UG/L	33.6		MW16-7	4	7	NYS CLASS GA	25	2	4	U	6.1		4	U	1.4	J	4	U	33.6		33.3	
Magnesium	UG/L	24,100		MW16-7	7	7				18,000		8,520		21,600		6,000		8,180		23,400		24,100	
Manganese	UG/L	161		MW16-4	7	7	NYS CLASS GA	300	0	14.6		93		161		32.2		106		19.6		21.9	
Nickel	UG/L	1.7	J	MW16-2	7	7	NYS CLASS GA	100	0	1.1	J	1.7	J	1.2	J	1.5	J	0.52	J	0.84	J	1.1	J
Potassium	UG/L	1,830		MW16-6	7	7				1,010		1,480		1,320		1,110		1,830		1,380		1,460	
Selenium	UG/L	3.1	J	MW16-1	2	7	NYS CLASS GA	10	0	3.1	J	7	U	7	U	7	U	7	U	2.7	J	7	U
Silver	UG/L	0.71	J	MW16-2	1	7	NYS CLASS GA	50	0	10	U	0.71	J	4	U	10	U	10	U	10	U	4	U
Sodium	UG/L	70,800		MW16-4	7	7	NYS CLASS GA	20,000	2	29,100		4,410		70,800		1,060		7,540		2,940		3,150	
Vanadium	UG/L	1	J	MW16-2	7	7	EPA RSL	86	0	0.3	J	1	J	0.71	J	0.63	J	0.29	J	0.47	J	0.4	J
Zinc	UG/L	19.9	J	MW16-2	7	7	EPA RSL	6,000	0	6	J	19.9	J	3.4	J	2.7	J	1.6	J	12.2	J	14.2	J

Notes:

- The criteria values (where available) are NYS Class GA Groundwater Standards (6 CRR-NY 703.5; 29 February 2020) and EPA 2020-05 RSL Tap Water (HQ=1.0), Source <https://semspub.epa.gov/work/HQ/200043.pdf>
 - Shading indicates a concentration above the GA or EPA groundwater standard.
 - A blank in the Criteria Level column indicates no standard established for that compound.
- U = compound was not detected; reported to LOD
SA = Sample
J = the reported value is an estimated concentration
DU = Duplicate Sample

[6 CRR-NY 703.5](#)

Table 3
SEAD-17 Detected Groundwater Compounds
SEAD 16 and SEAD 17 Annual Report
Seneca Army Depot Activity

Parameter	Unit	Max Detected Value		Max Detected Loc ID	Number of Detects	Number of Analyses	Source Criteria	Action Level	Number of Exceedances	SEAD-17 MW17-1 GW 17LM20040 12/15/2019 SA LTM 9		SEAD-17 MW17-2 GW 17LM20041 12/15/2019 SA LTM 9		SEAD-17 MW17-3 GW 17LM20042 12/15/2019 SA LTM 9		SEAD-17 MW17-4 GW 17LM20043 12/15/2019 SA LTM 9		SEAD-17 MW17-5 GW 17LM20044 12/15/2019 SA LTM 9		
										Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	
Inorganics																				
Aluminum	UG/L	163	J	MW17-1	5	5	EPA RSL	20,000	0	163	J	61	J	71	J	67	J	93	J	
Antimony	UG/L	1.9	J	MW17-2	2	5	NYS CLASS GA	3	0	1.7	J	1.9	J	5	U	5	U	5	U	
Barium	UG/L	94.7		MW17-5	5	5	NYS CLASS GA	1,000	0	22.2		85.6		51.2		31.4		94.7		
Cadmium	UG/L	0.26	J	MW17-1	4	5	NYS CLASS GA	5	0	0.26	J	0.19	J	0.17	J	0.15	J	5	U	
Calcium	UG/L	125,000		MW17-2	5	5				45,200		125,000		71,700		75,400		104,000		
Chromium	UG/L	0.91	J	MW17-1	5	5	NYS CLASS GA	50	0	0.91	J	0.78	J	0.8	J	0.76	J	0.65	J	
Cobalt	UG/L	0.27	J	MW17-4	1	5	EPA RSL	6	0	4	U	4	U	4	U	0.27	J	4	U	
Copper	UG/L	7.86	J	MW17-2	5	5	NYS CLASS GA	200	0	7.6	J	7.86	J	2.4	J	2	J	0.93	J	
Iron	UG/L	269		MW17-5	5	5	NYS CLASS GA	300	0	235		131		64	J	85.8	J	269		
Iron+Manganese	UG/L	297		MW17-5	5	5				237	J	147		65	J	147	J	297		
Lead	UG/L	2.5	J	MW17-1	2	5	NYS CLASS GA	25	0	2.5	J	1.6	J	4	U	4	U	4	U	
Magnesium	UG/L	13,900		MW17-5	5	5				5,500		10,700		6,480		9,580		13,900		
Manganese	UG/L	61.6		MW17-4	4	5	NYS CLASS GA	300	0	2.4	J	15.7		4	U	61.6		27.6		
Mercury	UG/L	0.019	J	MW17-1	1	5	EPA RSL	0.63	0	0.019	J	0.1	U	0.1	U	0.1	U	0.1	U	
Nickel	UG/L	1.3	J	MW17-2	5	5	NYS CLASS GA	100	0	0.7	J	1.3	J	0.87	J	1	J	1.3	J	
Potassium	UG/L	1,550		MW17-2	5	5				433	J	1,550		1,260		460	J	1,130		
Selenium	UG/L	3.2	J	MW17-5	3	5	NYS CLASS GA	10	0	2.5	J	2.8	J	7	U	7	U	3.2	J	
Sodium	UG/L	8,360		MW17-2	5	5	NYS CLASS GA	20,000	0	1,570		8,360		2,930		3,890		4,210		
Vanadium	UG/L	0.64	J	MW17-1	3	5	EPA RSL	86	0	0.64	J	4	U	4	U	0.4	J	0.41	J	
Zinc	UG/L	35.1		MW17-2	5	5	EPA RSL	6,000	0	7.51	J	35.1		29.9		2.3	J	4.4	J	

Notes:

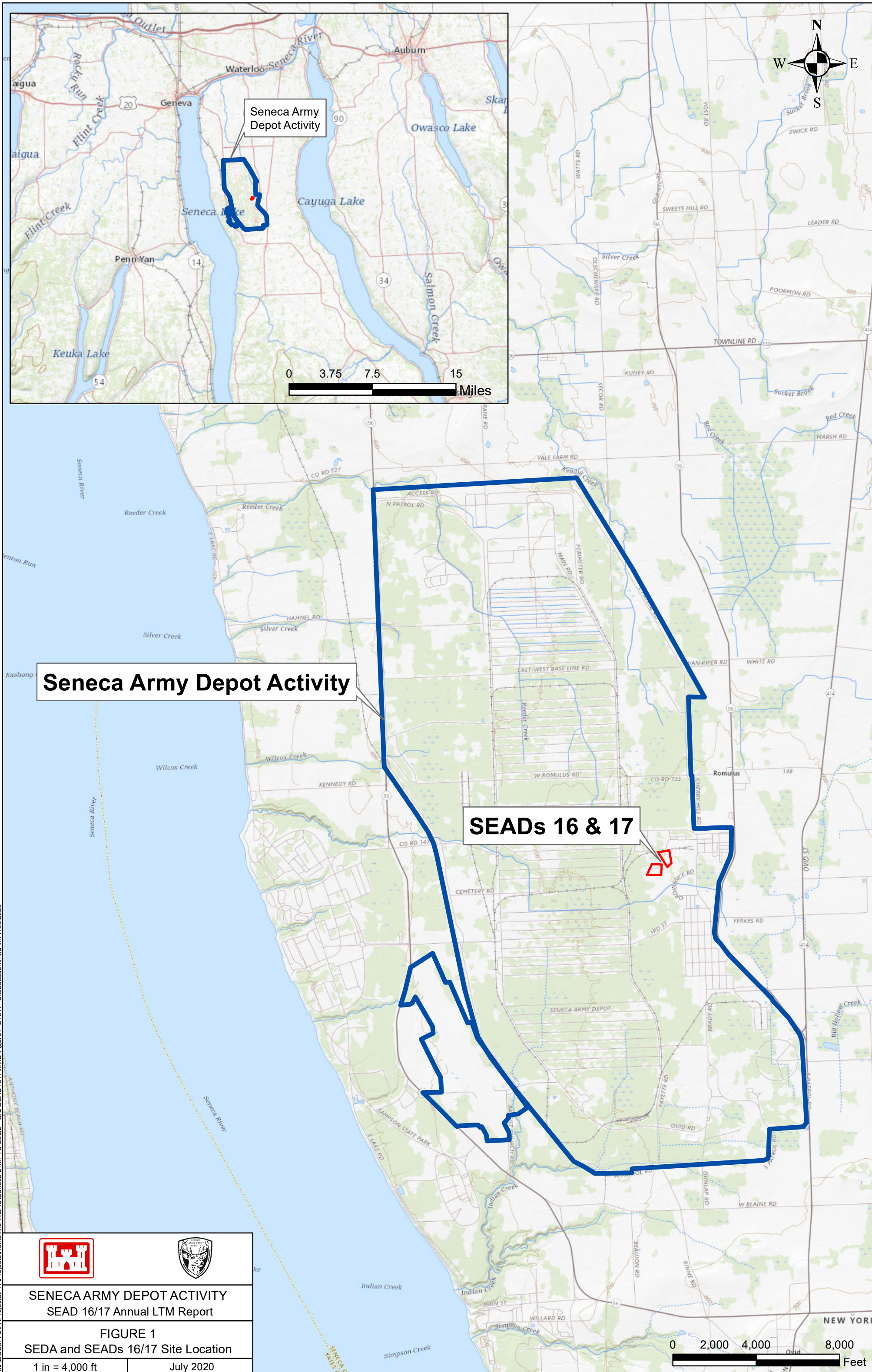
- The criteria values (where available) are NYS Class GA Groundwater Standards (6 CRR-NY 703.5; 29 February 2020) and EPA 2020-05 RSL Tap Water (HQ=1.0), Source <https://semsub.epa.gov/work/HQ/200043.pdf>
 - Shading indicates a concentration above the GA or EPA groundwater standard.
 - A blank in the Criteria Level column indicates no standard established for that compound.
- U = compound was not detected; reported to LOD
J = the reported value is an estimated concentration

[6 CRR-NY 703.5](#)

SA = Sample
DU = Duplicate Sample

FIGURES

Figure 1	SEDA and SEADs 16/17 Site Location
Figure 2	Location of SEAD-16/17 and SEDA Future Land Use
Figure 3	SEAD-16 Site Plan
Figure 4	SEAD-17 Site Plan
Figure 5	SEAD-16 and SEAD-17 Groundwater Contours
Figure 6A	Concentrations of Antimony Iron and Lead Over Time at MW16-1
Figure 6B	Concentrations of Antimony Iron and Lead Over Time at MW16-2
Figure 6C	Concentrations of Antimony Iron and Lead Over Time at MW16-4
Figure 6D	Concentrations of Antimony Iron and Lead Over Time at MW16-7
Figure 6E	Concentrations of Antimony Iron and Lead Over Time at MW17-2



Seneca Army Depot Activity

SEADs 16 & 17



SENECA ARMY DEPOT ACTIVITY
SEAD 16/17 Annual LTM Report

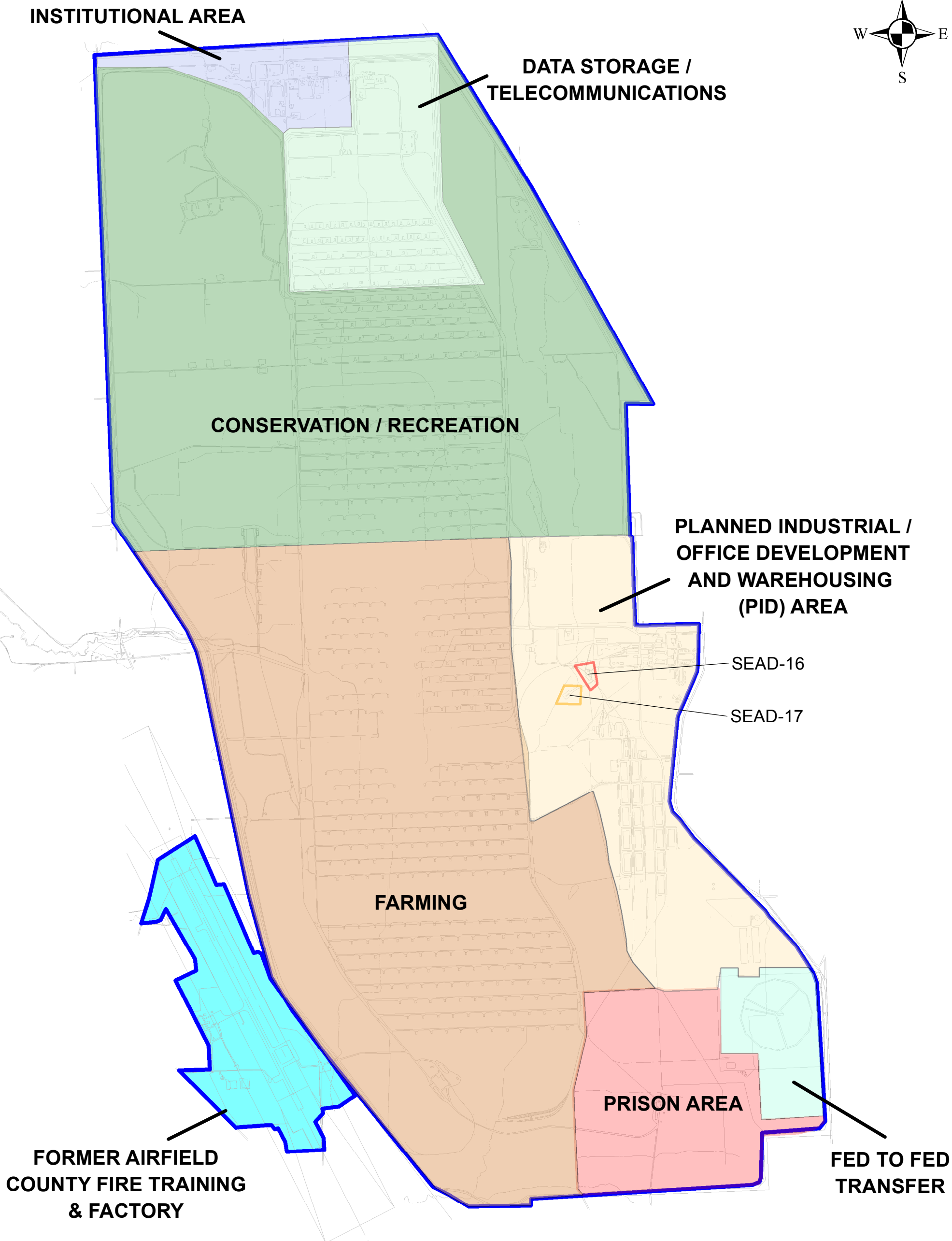
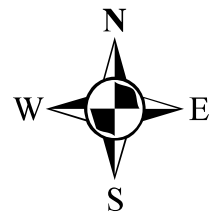
FIGURE 1
SEDA and SEADs 16/17 Site Location

1 in = 4,000 ft



July 2020

0 2,000 4,000 8,000 Feet




\\MABOS07FS01\Projects\PIT\Projects\Huntsville\WERS\Seneca LTM_TO_2302 - GIS\SEAD1617\MXD\Figure1_S1617_Sitelocation.mxd.kh 7/30/2020

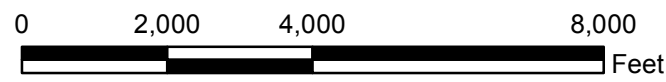


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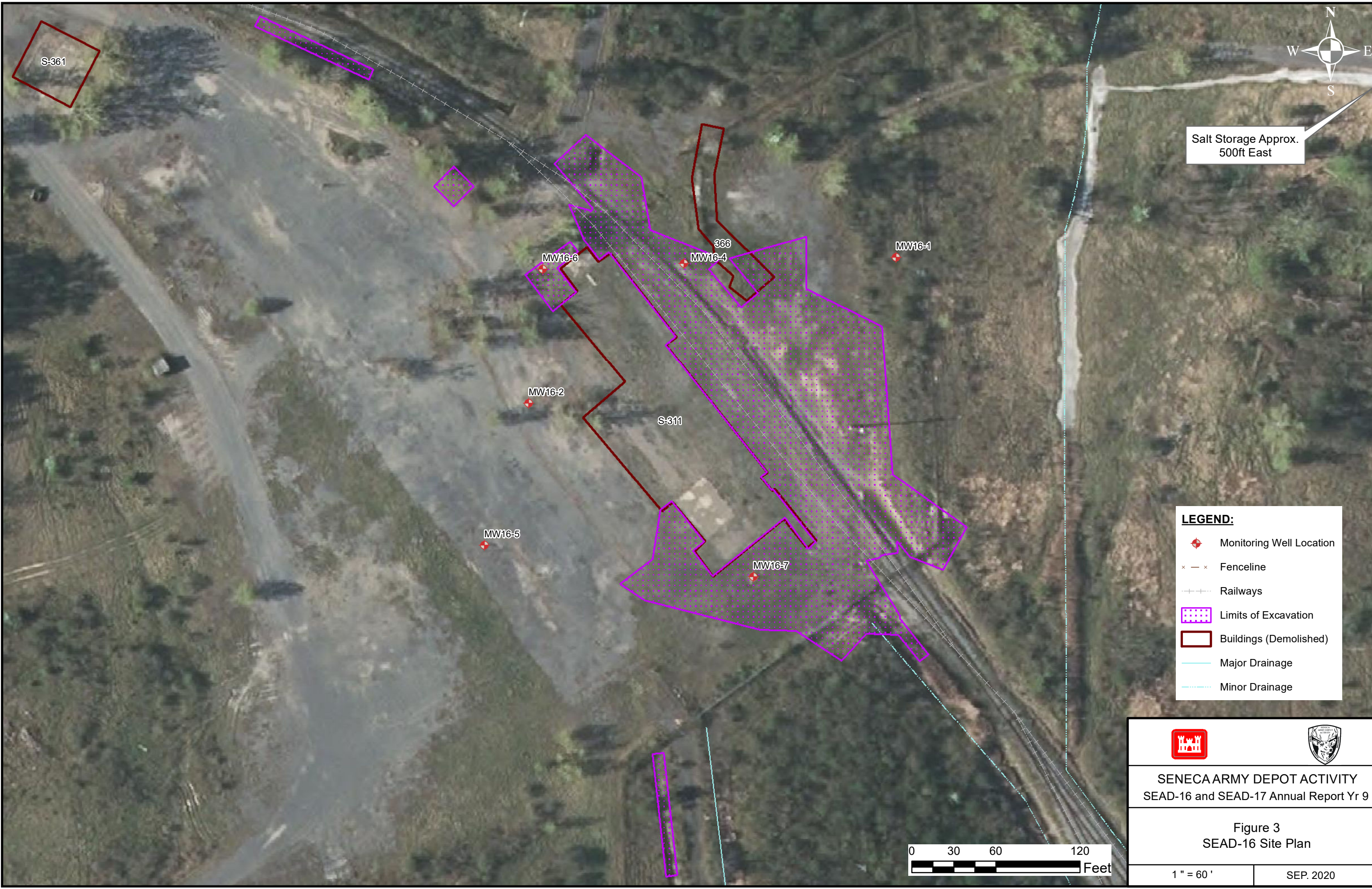
 PARSONS 
SENECA ARMY DEPOT ACTIVITY SEAD 16/17 Annual LTM Report
FIGURE 2 Location of SEAD-16/17 and SEDA Future Land Use
January 2017

Legend

-  SEAD-16
-  SEAD-17
-  SEDA Boundary










\\MABOS07FS01\Projects\PI\Projects\Huntsville WERS\Seneca LTM, TO 23107 - SEAD-16_17 LTM Annual Report - Yr 9 Dec 2019\Draft\Figures\Source\FIGURE 3.mxd



Salt Storage Approx.
500ft East

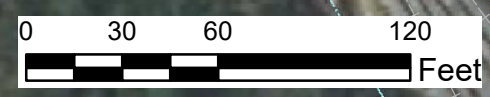
LEGEND:

-  Monitoring Well Location
-  Fenceline
-  Railways
-  Limits of Excavation
-  Buildings (Demolished)
-  Major Drainage
-  Minor Drainage



SENECA ARMY DEPOT ACTIVITY
SEAD-16 and SEAD-17 Annual Report Yr 9

Figure 3
SEAD-16 Site Plan










1" = 60'

SEP. 2020

\\MABOS07FS01\Projects\PT\Projects\Huntsville\WERS\Seneca LTM, TO 2307 - SEAD-16_17 LTM\Annual Report - Yr 9 Dec 2019\Draft\Figures\Source\FIGURE 4.mxd



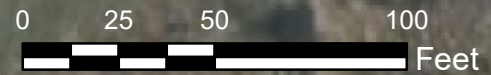
LEGEND:

-  Monitoring Well Location
-  Fenceline
-  Railways
-  Limits of Excavation
-  Buildings (Demolished)
-  Major Drainage
-  Minor Drainage



SENECA ARMY DEPOT ACTIVITY
SEAD-16 and SEAD-17 Annual Report Yr 9

Figure 4
SEAD-17 Site Plan



1" = 50'

SEP. 2020

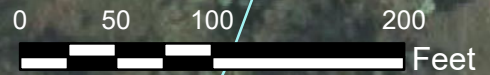


I:\MABOS07FS01\Projects\PIT\Projects\Huntsville WERS\Seneca LTM, TO 2307 - SEAD-16_17 LTM Annual Report - Yr 9 Dec 2019\Draft\Figures\Source\FIGURE 5.mxd



LEGEND:

- Monitoring Well Location
- Groundwater Contours (0.2 ft interval)
- Groundwater Flow Direction
- Fenceline
- Railways
- Buildings (Demolished)
- Major Drainage
- Minor Drainage





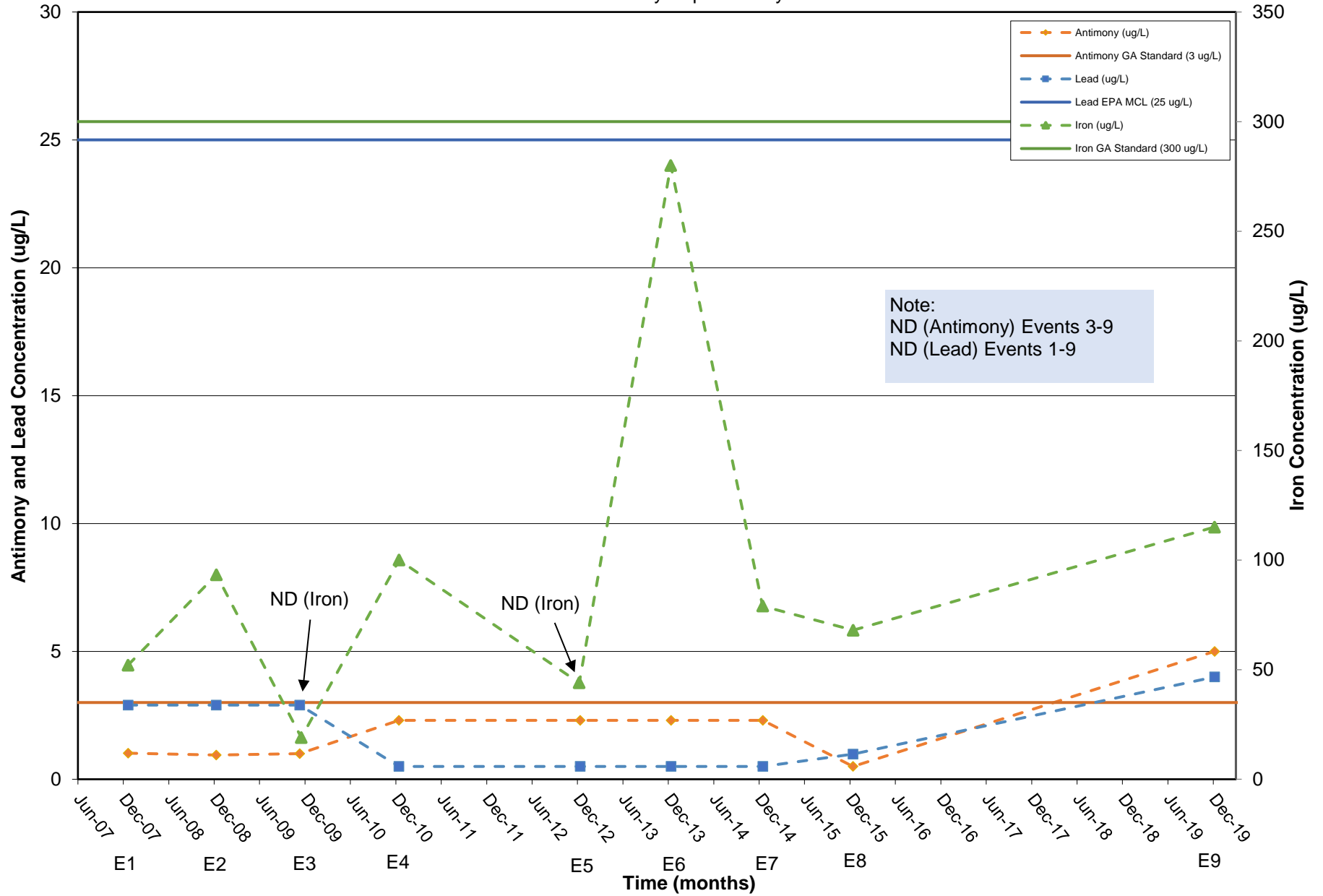
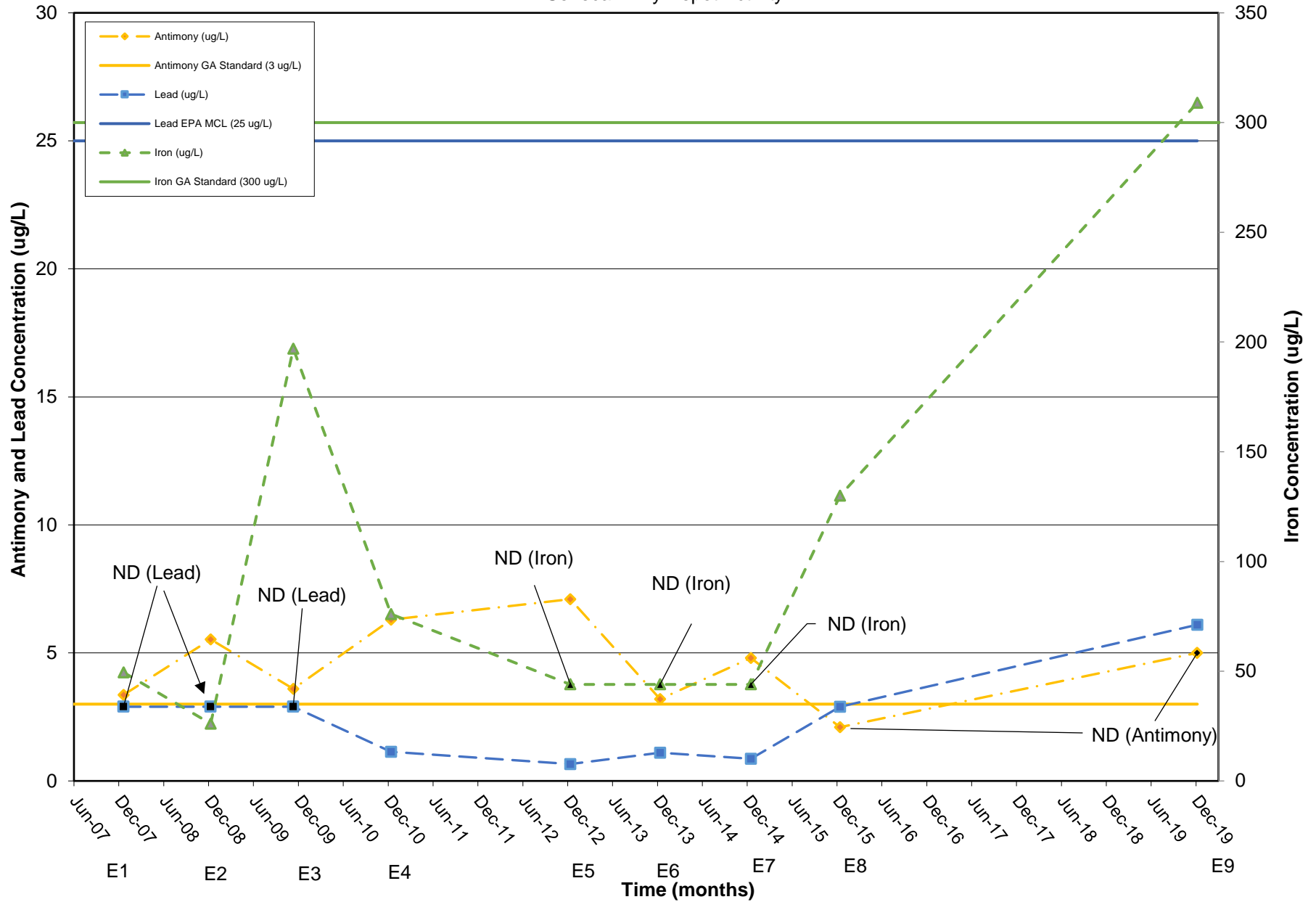
	
SENECA ARMY DEPOT ACTIVITY SEAD-16 and SEAD-17 Annual Report Yr 9	
Figure 5 SEAD-16 and SEAD-17 Groundwater Contours	
1" = 100'	SEP. 2020

Figure 6A
 Concentrations of Antimony Iron and Lead Over Time at MW16-1
 SEAD 16/17 Annual Report
 Seneca Army Depot Activity



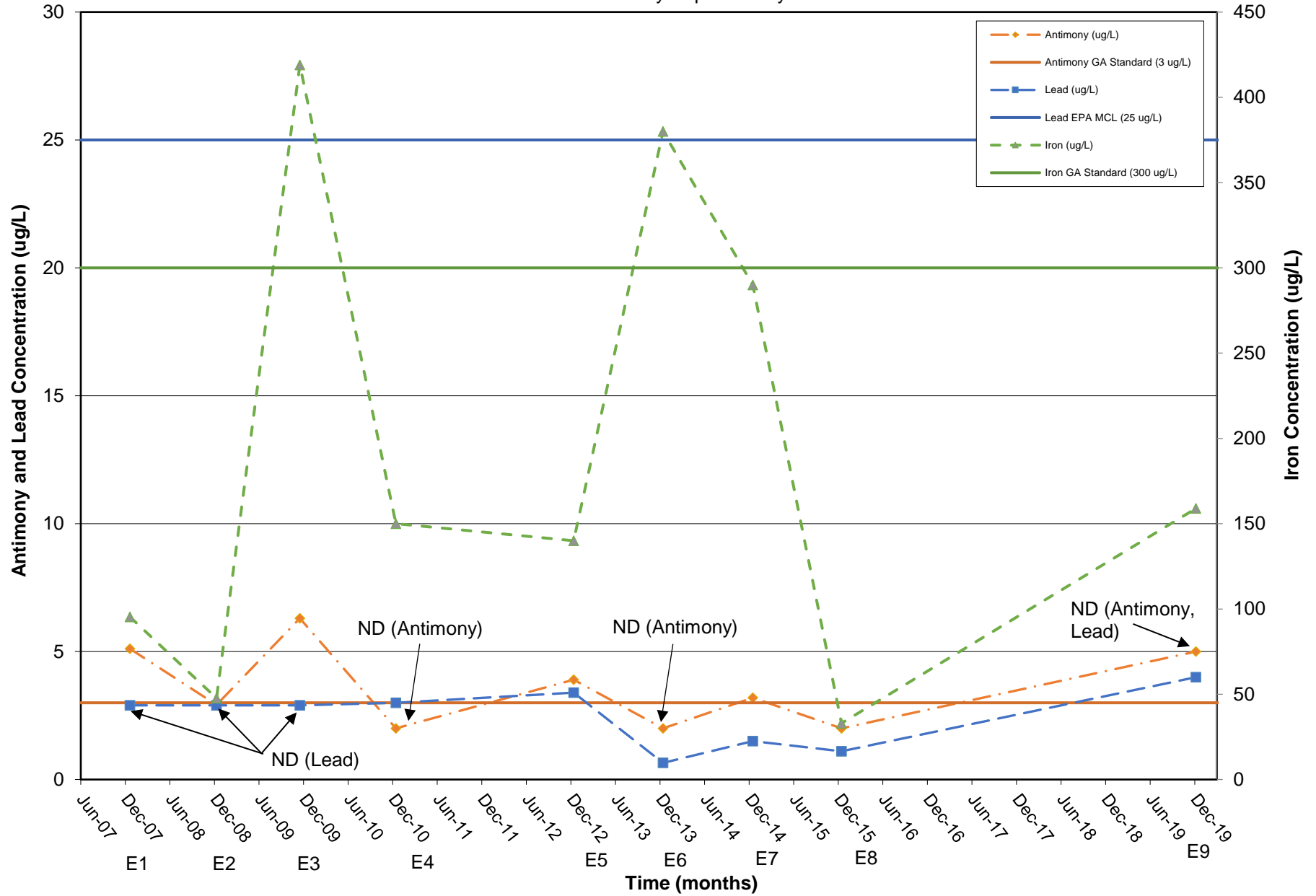
Note:
 ND = not detected (MDL plotted).

Figure 6B
 Concentrations of Antimony Iron and Lead Over Time at MW16-2
 SEAD 16/17 Annual Report
 Seneca Army Depot Activity



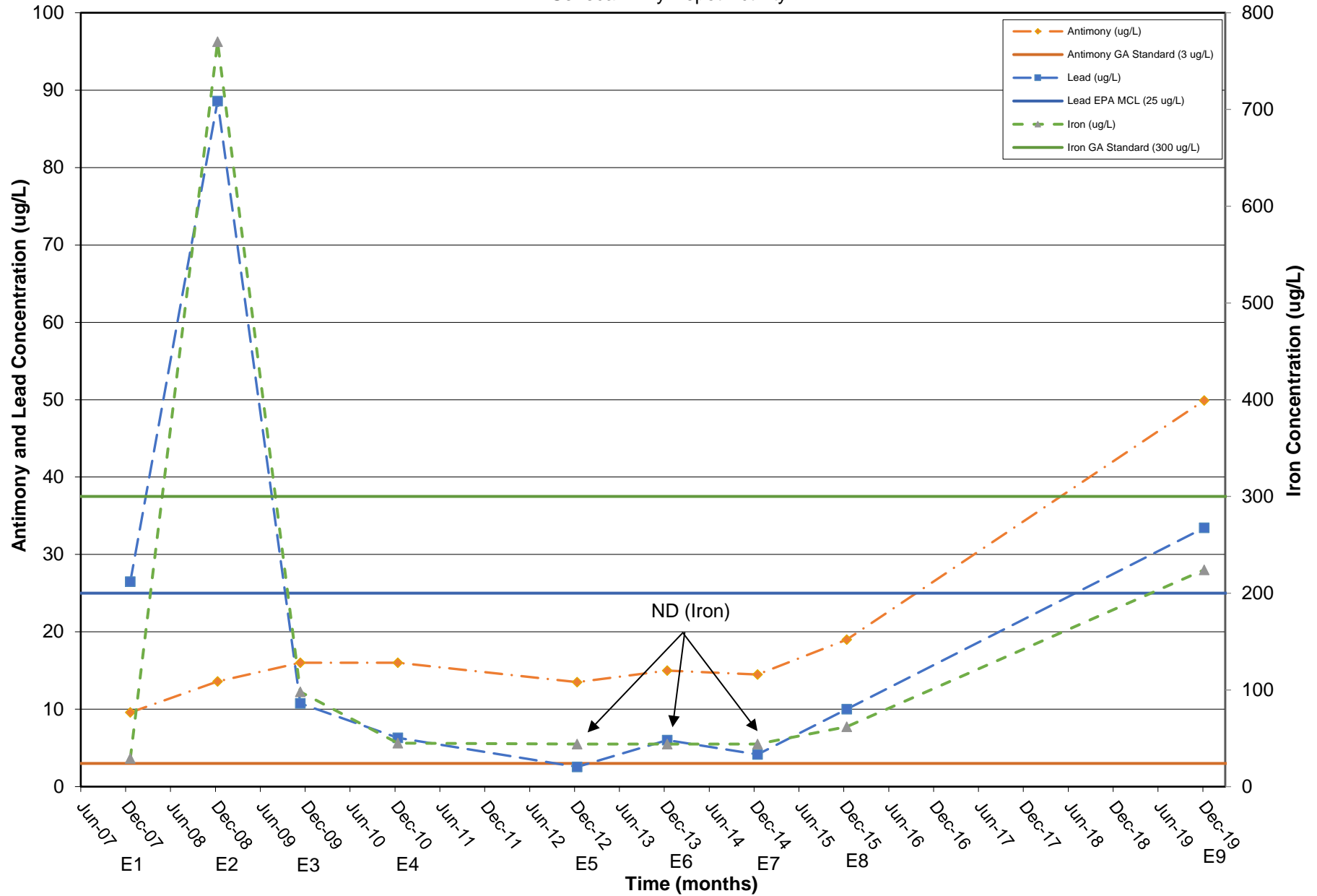
Note:
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Figure 6C
 Concentrations of Antimony Iron and Lead Over Time at MW16-4
 SEAD 16/17 Annual Report
 Seneca Army Depot Activity



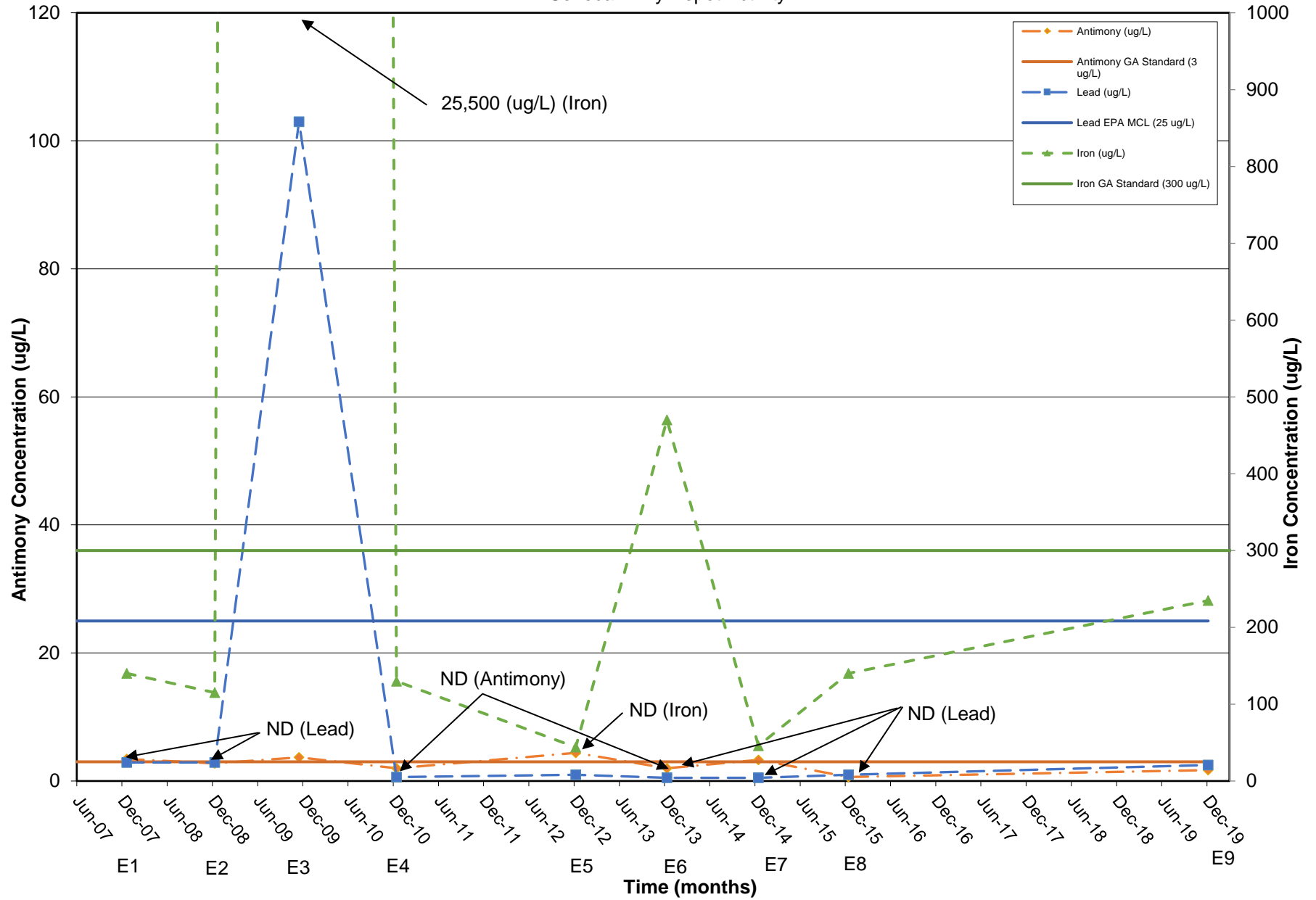
Note:
 ND = not detected (MDL plotted).

Figure 6D
 Concentrations of Antimony Iron and Lead Over Time at MW16-7
 SEAD 16/17 Annual Report
 Seneca Army Depot Activity



Note:
 ND = not detected (MDL plotted).

Figure 6E
 Concentrations of Antimony Iron and Lead Over Time at MW17-2
 SEAD 16/17 Annual Report
 Seneca Army Depot Activity



Note:
 ND = not detected (MDL plotted).

APPENDICES

- APPENDIX A** Pre-Remedial Action Monitoring Data
- APPENDIX B** Year 9 LTM Groundwater Sampling Activities Field Forms
- APPENDIX C** Post-Remedial Action Monitoring Results (Years 1 through 9)
- APPENDIX D** Laboratory Analytical Report
- APPENDIX E** Data Validation
- APPENDIX F** Historical Groundwater Trends
- APPENDIX G** Response to Comments

APPENDIX A

PRE-REMEDIAL ACTION MONITORING DATA

Appendix A
Pre-Remedial Action Groundwater Monitoring Results
Draft Annual Report - SEAD-16 and SEAD-17
Seneca Army Depot Activity

PARAMETER	ACTION LEVEL	SOURCE ⁽¹⁾	UNIT	MW16-1		MW16-2		MW16-3		MW16-4		MW16-5		MW16-6		MW16-7		MW16-7		MW16-7	
				VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q	VALUE	Q
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 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 ROUND1 RI ROUND2 RI ROUND1 RI ROUND2 RI ROUND1 RI ROUND2 RI ROUND1 RI ROUND2 RI ROUND2 MATRIX: GW 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																					
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 U	25 U	25 U	25 U	25 U	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 U	10 U	10 U	10 U	10 U	10 U
Benzo[ghi]perylene			UG/L	10 UJ	10 U	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	10 U	10 U
Dibenz[a,h]anthracene			UG/L	10 UJ	10 U	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	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	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene			UG/L	10 UJ	10 U	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	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	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 U	0.26 U	0.26 U	0.26 U	0.26 U	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	0.26 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	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	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	0.1 U	0.2 U	0.21	0.2 U	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	0.6 U			
Calcium			UG/L	157,000	116,000	193,000	164,000	99,800	85,500	130,000	158,000	90,000	44,600	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	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	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	6,370	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	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	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	396,000	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 standard or standard is a secondary value.
 4. Reported metals results are for total metals.

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

Appendix A
Pre-Remedial Action Groundwater Monitoring Results
Draft Annual Report - SEAD-16 and SEAD-17
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:	GW	GW	GW	GW	GW	GW	GW	GW								
			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		
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:

- 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>
- Shading indicates a concentration above groundwater standard.
- A blank in the action level column indicates no Class GA and/or MCL standard or standard is a secondary value.
- Wells MW17-2, MW17-3, and MW17-4 were not sampled in August 1996 since they were dry.
- Reported metals results are for total metals.

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

APPENDIX B

Field Forms - Year 9 LTM Groundwater Sampling Activities

GROUNDWATER ELEVATION REPORT

PARSONS		CLIENT: USACE		DATE: 12/15/19	
PROJECT: Seneca Army Depot				PROJECT NO:	
LOCATION: SEAD 16/17 LTM				INSPECTOR: CMG MRM	
MONITORING EQUIPMENT:				WATER LEVEL INDICATOR:	
INSTRUMENT	DETECTOR	BGD	TIME	REMARKS	CORRECTION FACTOR

WELL	TIME	DEPTH TO		REMARKS	DEPTH TO		HISTORIC DEPTH TO BOTTOM	WELL STATUS / COMMENTS <small>(Lock? Well #? Surface Disturbance? Riser marked? Condition of riser, concrete, protective casing, etc)</small>
		WATER	PRODUCT		BOTTOM	TO BOTTOM		
MW16-1	0858	2.77	—	—	7.98	7.8		
MW16-2	0850	2.94	—	—	5.61	5.8		
MW16-4	0855	2.68	—	—	7.09	6.8		
MW16-5	0902	1.85	—	—	5.12	5.3		
MW16-6	0853	2.18	—	—	6.89	6.6		
MW16-7	0900	2.91	—	—	6.88	6.9		
MW17-1	0905	3.17	—	—	9.52	10.4		
MW17-2	0915	2.79	—	—	7.94	8.1		
MW17-3	0911	2.52	—	—	7.50	8.00	7.50	
MW17-4	0908	2.97	—	—	8.24	8.1		
MW17-5	0925	2.50	—	—	10.18	10.4		

(ALL DEPTH MEASUREMENTS IN FEET FROM MARKED LOCATION ON RISER)

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY

PARSONS

WELL #: 16W16-1

PROJECT: SAD
 LOCATION: SEAP 16

DATE: 12/15/19
 INSPECTORS: [Signature]
 PUMP #: Rev
 SAMPLE ID #: See Below

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
1345	32	wind/snow	Mel	15-20	S	wet

MONITORING

INSTRUMENT	DETECTOR
YST 550A	Heck 21004
YST PDSJ	

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)]

7.78

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
	[Blank]					

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
		[Blank]	2.77		

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)	PUMP AFTER SAMPLING (cps)
	[Blank]	[Blank]

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)
1355	3.05	1.0	1.0	0.76	8.4	682	7.03	216.7	4018
1405	3.05	1.0	2.0	0.77	8.4	682	7.03	217.2	104
1410	3.05	1.0	2.5	2.75	8.4	682	7.02	218.2 218.2	1.74
1415	3.05	1.0	3.0	0.75	8.4	683	7.02	218.5	1.63
1420	3.05	1.0	3.5	0.74	8.4	683	7.02	218.7	1.67
1425	3.05	1.0	4.25	0.73	8.4	683	7.01	218.1	1.88

After

16LM20056 @ 1420

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY

PARSONS

WELL #: *ML-16-2*

PROJECT: *SAD*
LOCATION: *to feed 16*

DATE: *12/15/19*
INSPECTORS: *[Signature]*
PUMP #: *Pri*
SAMPLE ID #: *See Below*

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND (FROM)		GROUND / SITE SURFACE CONDITIONS	MONITORING	
				VELOCITY (APPRX)	DIRECTION (0-360)		INSTRUMENT	DETECTOR
<i>1020</i>	<i>32</i>	<i>Snow/Wind</i>	<i>med</i>	<i>18</i>	<i>SW</i>	<i>wet</i>	<i>PST 550A</i>	<i>Hack 21002</i>

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)]

5.61

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	FID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		<i>2.94</i>	<i>3.05</i>	<i>5.00</i>	<i>1020</i>

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

1109

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)
<i>1025</i>	<i>3.05</i>	<i>1w</i>	<i>0.5</i>	<i>1.98</i>	<i>5.3</i>	<i>250.7</i>	<i>7.35</i>	<i>138.6</i>	<i>22.7</i>
<i>1030</i>	<i>3.05</i>	<i>1w</i>	<i>1.0</i>	<i>1.92</i>	<i>5.5</i>	<i>341.2</i>	<i>7.37</i>	<i>152.3</i>	<i>2.1</i>
<i>1035</i>	<i>3.05</i>	<i>1w</i>	<i>1.5</i>	<i>1.60</i>	<i>5.5</i>	<i>413.9</i>	<i>7.30</i>	<i>164.7</i>	<i>4.7</i>
<i>1040</i>	<i>3.05</i>	<i>1w</i>	<i>2.0</i>	<i>1.00</i>	<i>5.7</i>	<i>430.1</i>	<i>7.29</i>	<i>168.7</i>	<i>4.6</i>
<i>1045</i>	<i>3.05</i>	<i>1w</i>	<i>2.5</i>	<i>0.47</i>	<i>5.7</i>	<i>433.6</i>	<i>7.27</i>	<i>171.3</i>	<i>5.1</i>
<i>1050</i>	<i>3.05</i>	<i>1w</i>	<i>3.0</i>	<i>0.46</i>	<i>5.7</i>	<i>433.8</i>	<i>7.27</i>	<i>170.4</i>	<i>4.9</i>
<i>1055</i>	<i>3.05</i>	<i>1w</i>	<i>3.5</i>	<i>0.46</i>	<i>5.7</i>	<i>435.1</i>	<i>7.26</i>	<i>172.1</i>	<i>5.2</i>
<i>1100</i>	<i>3.05</i>	<i>1w</i>	<i>4.25</i>	<i>0.46</i>	<i>5.7</i>	<i>436.7</i>	<i>7.27</i>	<i>173.4</i>	<i>5.3</i>

After

16LM 20057 @ 1055

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY

PARSONS

WELL #: MW16-4

PROJECT: SAD
 LOCATION: SEAD16

DATE: 12/15/18
 INSPECTORS: Per
 PUMP #: Per
 SAMPLE ID #: See Below

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND (FROM)		GROUND / SITE SURFACE CONDITIONS
				VELOCITY (APPRX)	DIRECTION (0 - 360)	
1245	32	wind/snow	med	18	sw	wet

MONITORING	
INSTRUMENT	DETECTOR
YSI STOR	Hunk 2100B
YSI Pro DSS	

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)]

7.09

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
		2.65	3.00		1245

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)
1255	2.81	100	1.0	0.70	6.6	935	7.19	196.3	15.7
1305	2.94	100	2.0	0.65	6.6	944	7.18	194.5	8.10
1315	3.00	100	3.0	0.64	6.6	945	7.18	195.4	7.11
1320	3.00	100	3.5	0.69	6.1	942	7.15	197.5	4.09
1325	3.00	100	4.0	0.71	6.2	940	7.14	197.7.	4.80
1330	3.00	100	4.5	0.70	6.2	938	7.14	197.9	4.75
1335	3.00	100	5.25	0.69	6.2	937	7.14	197.8	5.01

AFK

16LM20058E 1330

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-16-5
PROJECT: S40 LOCATION: Sew 16		DATE: 12/15/19 INSPECTORS: Per. PUMP #: Per. SAMPLE ID #: _____

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)						
TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) (0 - 360)	GROUND / SITE SURFACE CONDITIONS
0925	32	Windy/overcast	med	18	SW	wet/over

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)]
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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	FID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
			1.25	1.96	

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)
0630	1.85	1w	0.5	10.2	4.7	482	6.73	29.2	24.3
0635	1.88	1w	1.0	1.40	4.3	399	6.94	21.4	20.1
0640	1.90	1w	1.5	1.39	4.3	3690	7.00	19.0	75.0
0645	1.92	1w	2.0	1.44	4.1	348.4	7.07	14.7	11.7
0650	1.95	1w	2.5	1.47	4.1	347.7	7.09	13.8	8.56
0655	1.96	1w	3.0	1.48	4.1	325.6	7.14	30.6	7.27
0700	1.96	1w	3.5	1.47	4.2	317.7	7.17	39.8	4.86
1005	1.96	1w	4.0	1.45	4.3	318.4	7.18	40.4	4.74
1010	1.96	1w	4.5	1.44	4.4	317.6	7.18	41.7	4.25
1014	1.96	1w	5.00	1.44	4.4	316.6	7.18	42.2	4.40

16 Lm 20059 @ 1010

Pump at min purge rate

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY			PARSONS			WELL #: <u>16W16-6</u>			
PROJECT: <u>S12</u>						DATE: <u>12/15/19</u>			
LOCATION: <u>Scud 16</u>						INSPECTORS: <u>W</u>			
						PUMP #: <u>Peri</u>			
WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)									
TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND (FROM)		GROUND / SITE SURFACE CONDITIONS	MONITORING		
				VELOCITY (APPRX)	DIRECTION (0-360)		INSTRUMENT	DETECTOR	
<u>1155</u>	<u>32</u>	<u>Wind/Snow</u>	<u>med</u>	<u>18</u>	<u>SW</u>	<u>wey</u>	<u>YSI 550A</u>	<u>Hack 2100</u>	
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
		<u>—</u>		<u>2.18</u>					<u>1155</u>
RADIATION SCREENING DATA		PUMP PRIOR TO SAMPLING (cps)			PUMP AFTER SAMPLING (cps)		<u>—</u>		

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)
<u>1200</u>	<u>2.33</u>	<u>100</u>	<u>0.5</u>	<u>4.11</u>	<u>6.9</u>	<u>444.7</u>	<u>7.41</u>	<u>134.7</u>	<u>22.3</u>
<u>1205</u>	<u>2.54</u>	<u>100</u>	<u>1.0</u>	<u>3.11</u>	<u>6.7</u>	<u>456.1</u>	<u>7.34</u>	<u>128.2</u>	<u>10.3</u>
<u>1210</u>	<u>2.65</u>	<u>100</u>	<u>1.5</u>	<u>3.09</u>	<u>6.7</u>	<u>456.8</u>	<u>7.31</u>	<u>127.6</u>	<u>8.01</u>
<u>1215</u>	<u>2.65</u>	<u>100</u>	<u>2.0</u>	<u>2.85</u>	<u>6.8</u>	<u>458.2</u>	<u>7.28</u>	<u>107.7</u>	<u>6.8</u>
<u>1220</u>	<u>2.65</u>	<u>100</u>	<u>2.5</u>	<u>2.66</u>	<u>6.8</u>	<u>458.0</u>	<u>7.28</u>	<u>106.4</u>	<u>5.1</u>
<u>1225</u>	<u>2.65</u>	<u>100</u>	<u>3.0</u>	<u>2.47</u>	<u>6.8</u>	<u>457.3</u>	<u>7.28</u>	<u>101.9</u>	<u>4.6</u>
<u>1230</u>	<u>2.65</u>	<u>100</u>	<u>3.5</u>	<u>2.45</u>	<u>6.8</u>	<u>457.4</u>	<u>7.28</u>	<u>101.4</u>	<u>4.5</u>
<u>1235</u>	<u>2.65</u>	<u>100</u>	<u>4.0</u>	<u>2.44</u>	<u>6.8</u>	<u>457.5</u>	<u>7.28</u>	<u>101.0</u>	<u>4.3</u>
<u>1240</u>	<u>2.65</u>	<u>100</u>	<u>4.75</u>	<u>2.42</u>	<u>6.8</u>	<u>457.7</u>	<u>7.28</u>	<u>100.4</u>	<u>4.7</u>

16LM20060 @ 1235

6.89

After

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: <u>MW 16-7</u>
PROJECT: <u>SAD</u>		DATE: <u>12/15/19</u>
LOCATION: <u>SEAD 16</u>		INSPECTORS: <u>[Signature]</u>
		PUMP #: <u>P01</u>
		SAMPLE ID #: <u>See Below</u>

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)						
TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND DIRECTION (FROM) (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1105	32	wind / snow	med	18	sw	wet

MONITORING	
INSTRUMENT	DETECTOR
YSI 550A	Huck 2100
YST P0 D5J	

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

6.54

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
			2.91	3.36	5.5

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)
1110	3.4	1.2	0.5	3.29	5.8	547	7.38	180.0	16.6
1115	3.36	1.2	1.0	3.27	5.7	547	7.37	189.0	14.2
1120	3.36	1.2	1.5	3.15	5.7	547	7.35	190.4	11.1
1125	3.36	1.2	2.0	3.12	5.7	547	7.35	193.6	10.6
1130	3.36	1.2	2.5	2.52	5.7	546	7.35	196.3	3.3
1135	3.36	1.2	3.0	2.51	5.7	546	7.35	196.3	3.0
1140	3.36	1.2	3.5	2.49	5.7	546	7.35	196.5	2.9
1147	3.36	1.2	4.25	2.50	5.7	546	7.35	196.4	3.4

After

16LM20061 @ 1140
 16LM20061 MS 9MSD @ 1140
 16LM20062 @ 1200

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY

PARSONS

WELL #: 17-2

PROJECT: Seneca Army Depot
 LOCATION: SEAD 17

DATE: 12/15
 INSPECTORS: Matt Muth
 PUMP #: 029646
 SAMPLE ID #: 17LM20041

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND (FROM)		GROUND / SITE SURFACE CONDITIONS
				VELOCITY (APPRX)	DIRECTION (0 - 360)	
1100	34	SNOW	68	15	W	SNOW

MONITORING	
INSTRUMENT	DETECTOR
YSI Pro DA	Merion Paper - T

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
		7.94	2.94	5	—	—
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	
	0.0	2.87	4.42	~ 5.0	1050	

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)
1055	3.53	100	0.5	7.07	5.3	558	7.41	81.7	23.6
1100	3.89	100	1.0	4.42	5.4	613	7.42	103.6	7.17
1105	3.89	100	1.5	3.71	5.4	612	7.40	102.7	5.07
1110	3.91	100	2.0	1.23	5.4	610	7.42	100.1	1.08
1115	4.42	100	2.5	0.59	5.4	605	7.42	99.7	1.29
1120	4.42	100	3.0	0.49	5.5	604	7.43	99.1	1.01
1125	4.42	100	3.5	0.49	5.5	603	7.47	91.2	0.75
1130	4.42	100	4.0	0.45	5.5	603	7.47	90.7	0.11
1135	4.42	100	4.5	0.42	5.5	600	7.47	90.9	0.23
1140	4.42	100	5.0	0.42	5.6	600	7.47	90.6	0.41

0.41 5.6 600 7.47 90.2 0.33

Sample ID: 17LM20041
 at 1140

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY

PARSONS

WELL #: 17-3

PROJECT: Seneca Army Depot
LOCATION: JEAD 17

DATE: 12/15
INSPECTORS: mat/mut
PUMP #: 029648
SAMPLE ID #: 17LM20042

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND (FROM)		GROUND / SITE SURFACE CONDITIONS	MONITORING	
				VELOCITY (APPRX)	DIRECTION (0 - 360)		INSTRUMENT	DETECTOR
1200	35	SNOW	65	19	W	SNOW	VSI Pro DSS	Ham Dipper -T

WELL VOLUME CALCULATION FACTORS

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

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
	7.50	2.5	5	-	-	-

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
	0.6	2.59	-	~ 4.5	1200

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)
1200	3.83	100	0.5	6.44	5.9	345	7.87	110.7	13.8
1205	3.90	100	1.0	5.45	5.5	336	7.51	120.1	3.52
1216	3.90	100	1.5	5.00	5.7	341	7.50	123.1	3.70
1215	3.90	100	2.0	4.98	5.7	343	7.41	127.6	2.09
1220	3.90	100	2.5	5.56	5.7	347	7.40	127.9	1.02
1225	3.90	100	3.0	5.50	5.7	350	7.40	129.0	0.75
1230	3.90	100	3.5	5.49	5.7	355	7.38	131.6	0.08
1235	3.90	100	4.0	5.48	5.7	358	7.40	132.0	0.02
1240	3.90	100	4.5	5.44	5.7	358	7.38	133.3	0.10
1245	3.90	100	5.0	5.44	5.7	358	7.40	134.7	0.04

Sample ID: 17LM20042 5.44 5.7 358 7.40 132.3 0.50
 at
 1245

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY

PARSONS

WELL #: 17-4

PROJECT: *Seneca Army Depot*
LOCATION: *SEAD 17*

DATE: *12/15*
INSPECTORS: *M&H/M*
PUMP #: *029648*
SAMPLE ID #: *17LM20043*

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND (FROM)		GROUND / SITE SURFACE CONDITIONS
				VELOCITY (APPRX)	DIRECTION (0 - 360)	
1300	37	Cloudy	65	17	W	Snow

MONITORING	
INSTRUMENT	DETECTOR
YSI Pro DSS	Meran Dipper-t

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	-	-	-
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	
	0.0	2.92			1300	
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)
1305	3.22	100	0.5	2.75	4.6	429	7.41	140.1	7.32
1310	3.31	100	1.0	1.56	4.8	429	7.47	133.3	4.59
1315	3.33	100	1.5	1.01	4.9	430	7.41	124.7	5.40
1320	3.33	100	2.0	0.30	4.9	431	7.40	115.4	4.50
1325	3.42	100	2.5	0.49	4.9	429	7.42	90.9	3.75
1330	3.47	100	3.0	0.53	4.9	428	7.42	80.5	2.10
1335	3.50	100	3.5	0.51	4.9	427	7.42	71.7	0.90
1340	3.50	100	4.0	0.47	4.9	427	7.42	65.7	0.71
1345	3.50	100	4.5	0.50	4.9	420	7.42	60.1	0.61
1350	3.50	100	5.0	0.48	4.9	416	7.42	57.9	0.89
1355	3.50	100	5.5	0.50	4.9	416	7.42	53.6	0.06
1400	3.50	100	6.0	0.44	4.9	414	7.42	50.9	0.15
1405	3.50	100	6.5	0.45	4.9	413	7.42	49.7	0.09

0.46 4.9 414 7.42 48.9 0.15

Sample ID: 17LM20043
at 1405

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: 17-5
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PROJECT: <u>Seneca Army Depot</u>	DATE: <u>12/15</u>
LOCATION: <u>SEAD 17</u>	INSPECTORS: <u>Matt Muto</u>
	PUMP #: <u>B29648</u>
	SAMPLE ID #: <u>17LM20044</u>

WEATHER / FIELD CONDITIONS CHECKLIST					(RECORD MAJOR CHANGES)			
TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND (FROM)		GROUND / SITE SURFACE CONDITIONS	MONITORING	
				VELOCITY (APPRX)	DIRECTION (0-360)		INSTRUMENT	DETECTOR
1415	33	Snow	62	17	W	Snow	YSI Pa.D55	Heron Dipper-T

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))
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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
		10.18	5.18	5	—	—
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	
	0.0	2.50	2.65	~ 8	1415	
RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)	PUMP AFTER 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)
1415	2.55	100	0.5	0.59	6.6	509	7.38	70.8	9.99
1420	2.65	100	1.0	0.40	6.6	503	7.34	61.4	6.92
1425	2.65	100	1.5	0.41	6.5	511	7.34	58.5	5.17
1430	2.65	100	2.0	0.43	6.5	521	7.34	45.4	4.08
1435	2.65	100	2.5	0.23	6.5	522	7.34	41.7	4.02
1440	2.65	100	3.0	0.22	6.5	524	7.34	38.3	3.16
1445	2.65	100	3.5	0.25	6.5	525	7.34	36.1	3.02
1450	2.65	100	4.0	0.25	6.5	525	7.34	34.2	2.71
1455	2.65	100	4.5	0.25	6.5	527	7.34	33.0	2.97

ASAC
 0.25 6.5 527 7.34 32.1 2.43 After

Sample ID: 17LM20044 at 1455



600 Technology Way
 Scarborough, ME 04074
 Tel: (207) 874-2400
 Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND
 PRINT LEGIBLY IN PEN

Client Parsons Contact _____ Phone # _____ Fax # _____
 Address 100 High St. 4th Fl City Boston State MA Zip Code 02110
 Purchase Order # _____ Proj. Name / No. Seneca Army Depot Katahdin Quote # _____
 Bill (if different than above) Address _____

Sampler (Print / Sign) Cory Meloy Copies To: _____

LAB USE ONLY WORK ORDER # _____
 KATAHDIN PROJECT NUMBER _____

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

REMARKS: _____

Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.	Filt.
O	Y	N	O	Y	N	O	Y	N	O	Y	N	O	Y	N

SHIPPING INFO: FED EX UPS CLIENT

AIRBILL NO: _____

TEMP °C _____ TEMP BLANK INTACT NOT INTACT

* Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.
16LM20059	14/15/11/1010	GW	1
16LM20057	14/15/11/1055	GW	1
16LM20062	14/15/11/1200	GW	1
16LM20061	14/15/11/1140	GW	1
16LM20061MS	14/15/11/1140	GW	1
16LM20061MSD	14/15/11/1140	GW	1
16LM20060	14/15/11/1235	GW	1
16LM20058	14/15/11/1330	GW	1
16LM20056	14/15/11/1420	GW	1
17LM20040	14/15/11/1040	GW	1
12LM20041	14/15/11/1140	GW	1
17LM20042	14/15/11/1245	GW	1
17LM20043	14/15/11/1405	GW	1
17LM20044	14/15/11/1455	GW	1
/	/		
/	/		

Met. 15 Hg
6020A, 7470A

COMMENTS _____

Relinquished By: (Signature) _____	Date / Time _____	Received By: (Signature) _____	Relinquished By: (Signature) _____	Date / Time _____	Received By: (Signature) _____
Relinquished By: (Signature) _____	Date / Time _____	Received By: (Signature) _____	Relinquished By: (Signature) _____	Date / Time _____	Received By: (Signature) _____

APPENDIX C

Post-Remedial Action Monitoring Results (Years 1 through 9)

Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 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 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	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	61.4 J	91.6 J	148 J	24 U	45 J	23 U	50 U	23 UJ
Antimony	UG/L	120	GA	3	44	55	98	1 U	1.02	0.95 J	0.2 U	0.2 U	2.9 U	2 U	2.9 UJ
Arsenic	UG/L	2.7	GA	25	0	9	98	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	600	GA	1,000	0	98	98	60.4	59	125	105	104	110	97 J	78 J
Beryllium	UG/L	0	MCL	25	0	0	98	0.27 U	0.27 U	0.33 U	0.3 U	0.3 U	0.25 U	0.25 U	0.25 UJ
Cadmium	UG/L	0.46	GA	5	0	10	98	0.36 U	0.36 U	0.33 U	0.3 U	0.3 U	0.2 U	0.2 U	0.2 UJ
Calcium	UG/L	510,000				98	98	107,000 J	105,000 J	176,000	111,000 J	110,000 J	140,000	130,000	120,000 J
Chromium	UG/L	4.6	GA	50	0	14	98	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	2	MCL	6	0	40	98	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	34.7	GA	200	0	75	98	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	4,000	GA	300	27	72	98	35.8 J	68.3	93.3	19 UJ	19 UJ	77 J	100 J	33 UJ
Iron+Manganese	UG/L	1,430				85	91	39 J	73	105	1 J	2.4 J	131	152	34 U
Lead	UG/L	88.6	GA	25	5	46	98	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	98,000				95	95	16,100 J	15,900 J	25,800	18,000	17,900	21,000	20,000 J	18,000 J
Manganese	UG/L	631	GA	300	1	92	98	3.3	5	11.8	1 J	2.4 J	54	52	1 UJ
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.12 U	0.12 U	0.12 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Nickel	UG/L	5.5	GA	100	0	61	98	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	15,000				92	92	886 R	907 R	1,340 J	1,110	1,100	1,200	1,100	900 J
Selenium	UG/L	3.1	GA	10	0	3	98	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	0.71	GA	50	0	1	98	1 U	1 U	1.3 U	1.3 U	1.3 U	0.25 U	0.25 U	0.25 UJ
Sodium	UG/L	550,000	GA	20,000	58	96	96	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	0.03	MCL	0.2	0	1	98	0.03 U	0.03 U	0.09 U	0.008 U	0.008 U	0.5 U	0.25 U	0.5 UJ
Vanadium	UG/L	2.3	MCL	86	0	14	98	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	34.4	MCL	6,000	0	43	98	4.4 J	7.8 J	5.8 J	3.6 U	3.6 U	8.3 U	8.8 J	8.3 UJ

Notes:

- 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.
- Data validation qualifier.
 [empty cell] = data is not qualified
 U = compound not detected at concentration listed
 J = the reported value is an estimated concentration
 J+ = result is an estimated quantity, biased high
 R = the result was rejected due to QA/QC considerations
 UJ = detection limit is estimated.
- Shading indicates a concentration above the identified criteria value.
 SA = Sample
 DU = Duplicate Sample
- Rejected values are not included in the number of samples analyzed.

Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 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	MW16-2
Matrix	GW	GW	GW	GW	GW	GW	GW	GW
Sample ID	16LM20028U	16LM20035F	16LM20035U	16LM20042F	16LM20042U	16LM20049	16LM20056	16LM20002
Sample Date	12/15/2012	12/17/2013	12/17/2013	12/21/2014	12/21/2014	12/20/2015	12/15/2019	12/20/2007
QC Type	SA	SA	SA	SA	SA	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	5	6	6	7	7	8	9	1
Filtered	Total	Dissolved	Total	Dissolved	Total	Total	Total	Total

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	50 UJ	50 UJ	100 UJ	50 U	100 U	44 J	100 J	98.8 J
Antimony	UG/L	120	GA	3	44	55	98	2 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U	3.36
Arsenic	UG/L	2.7	GA	25	0	9	98	1.3 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	3 U	5 U	4.2 U
Barium	UG/L	600	GA	1,000	0	98	98	78 J	63 J	69 J	99	94	81	88.6	64.6
Beryllium	UG/L	0	MCL	25	0	0	98	0.25 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.27 U
Cadmium	UG/L	0.46	GA	5	0	10	98	0.2 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	3 U	0.36 U
Calcium	UG/L	510,000				98	98	120,000 J	140,000 J	130,000 J	160,000	150,000	120,000	125,000	143,000 J
Chromium	UG/L	4.6	GA	50	0	14	98	2.5 UJ	5 UJ	5 UJ	5 U	5 U	3 J	0.92 J	0.84 U
Cobalt	UG/L	2	MCL	6	0	40	98	0.16 J	0.9 J	0.94 J	0.5 U	0.5 U	0.12 J	4 U	0.89 U
Copper	UG/L	34.7	GA	200	0	75	98	5 UJ	1.2 J	5 UJ	1.3 J	1.9 J	5 U	5 J	4.5 J
Iron	UG/L	4,000	GA	300	27	72	98	44 UJ	260 J	280 J	100 U	79 J	68 J	115	49.5 J
Iron+Manganese	UG/L	1,430				85	91	46 U	352 J	378 J	11	91	130	53 J	
Lead	UG/L	88.6	GA	25	5	46	98	0.5 UJ	1.5 UJ	1.5 UJ	1.5 U	1.5 U	2.5 U	4 U	2.9 U
Magnesium	UG/L	98,000				95	95	18,000 J	22,000 J+	22,000 J	25,000	24,000	19,000	18,000	15,600 J
Manganese	UG/L	631	GA	300	1	92	98	2 UJ	92 J	98 J	11	12	8.7	14.6	3.4
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.1 UJ	0.2 UJ	0.2 UJ	0.2 U	0.2 U	0.2 U	0.1 U	0.12 U
Nickel	UG/L	5.5	GA	100	0	61	98	2 UJ	3.6 J	5 UJ	2 J	5 U	3.8 J	1.1 J	1.2 U
Potassium	UG/L	15,000				92	92	870 J	810 J	790 J	950	890 J	1,000	1,010	2,050 R
Selenium	UG/L	3.1	GA	10	0	3	98	1.1 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	3.1 J	6.1 U
Silver	UG/L	0.71	GA	50	0	1	98	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	10 U	1 U
Sodium	UG/L	550,000	GA	20,000	58	96	96	62,000 J	57,000 J	60,000 J	63,000	63,000	62,000	29,100	49,600 J
Thallium	UG/L	0.03	MCL	0.2	0	1	98	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	5 U	0.03 U
Vanadium	UG/L	2.3	MCL	86	0	14	98	3.2 UJ	10 UJ	10 UJ	10 U	10 U	10 U	0.3 J	0.78 U
Zinc	UG/L	34.4	MCL	6,000	0	43	98	8.4 UJ	20 UJ	20 UJ	20 U	20 U	20 U	6 J	8.2 J

Notes:

- 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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Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Area	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16
Loc ID	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
Sample ID	16LM20007	16LM20015FIL	16LM20015UNFIL	16LM20022FIL	16LM20022UNF	16LM20023FIL	16LM20023UNF	16LM20029F
Sample Date	12/9/2008	11/11/2009	11/11/2009	12/15/2010	12/15/2010	12/15/2010	12/15/2010	12/15/2012
QC Type	SA	SA	SA	SA	SA	DU	DU	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	2	3	3	4	4	4	4	5
Filtered	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	97.1 J	24 U	205	23 U	50 U	23 U	50 U	23 UJ
Antimony	UG/L	120	GA	3	44	55	98	5.53	3.6	3.6	6.1	6.6	6.1	6	7.8 J
Arsenic	UG/L	2.7	GA	25	0	9	98	3.7 U	3.7 U	3.7 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 UJ
Barium	UG/L	600	GA	1,000	0	98	98	69.7	71.9	72.7	68	77 J	67	69 J	65 J
Beryllium	UG/L	0	MCL	25	0	0	98	0.33 U	0.3 U	0.3 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ
Cadmium	UG/L	0.46	GA	5	0	10	98	0.33 U	0.3 U	0.3 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ
Calcium	UG/L	510,000				98	98	138,000	118,000 J	117,000 J	100,000 J	110,000 J	96,000	100,000	110,000 J
Chromium	UG/L	4.6	GA	50	0	14	98	0.88 U	0.9 U	0.9 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ
Cobalt	UG/L	2	MCL	6	0	40	98	1.1 U	1.1 U	1.1 U	0.15 U	0.3 U	0.15 U	0.3 U	0.15 UJ
Copper	UG/L	34.7	GA	200	0	75	98	4 J	3.4 J	5.1 J	4.4 J	5.9	4.5 J	5.1	4.5 J
Iron	UG/L	4,000	GA	300	27	72	98	26.1 J	19 UJ	197 J	33 U	89 J	33 U	63 J	33 UJ
Iron+Manganese	UG/L	1,430				85	91	27	39.5	260.7 J	12	105	12	76	34 U
Lead	UG/L	88.6	GA	25	5	46	98	2.9 U	2.9 U	2.9 U	0.21 J	1.3 J	0.2 U	0.97 J	0.24 J
Magnesium	UG/L	98,000				95	95	15,700	12,600	12,300	12,000	14,000 J	11,000	12,000 J	13,000 J
Manganese	UG/L	631	GA	300	1	92	98	0.84 J	39.5	63.7	12	16	12	13	1 UJ
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.148 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Nickel	UG/L	5.5	GA	100	0	61	98	1.6 J	2.2 J	2.6 J	0.5 U	2 J	2.2 J	2.2 J	2.2 J
Potassium	UG/L	15,000				92	92	2,410 J	3,170	3,140	2,300 J	2,500 J	2,200 J	2,200 J	2,200 J
Selenium	UG/L	3.1	GA	10	0	3	98	6.1 U	6.1 U	6.1 U	1 U	1.1 U	1 U	1.1 U	1 UJ
Silver	UG/L	0.71	GA	50	0	1	98	1.3 U	1.3 U	1.3 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ
Sodium	UG/L	550,000	GA	20,000	58	96	96	63,500	19,500 J	18,800 J	33,000 J	34,000 J	31,000 J	32,000 J	20,000 J
Thallium	UG/L	0.03	MCL	0.2	0	1	98	0.09 U	0.008 U	0.008 U	0.5 U	0.25 U	0.5 U	0.25 U	0.5 UJ
Vanadium	UG/L	2.3	MCL	86	0	14	98	0.98 U	1 U	1 U	3.8 U	3.2 U	3.8 U	3.2 U	3.8 UJ
Zinc	UG/L	34.4	MCL	6,000	0	43	98	10.2	11.1	11.3	11 J	14 J	12 J	12 J	9.5 J

Notes:

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- Data validation qualifier.
 [empty cell] = data is not qualified
 U = compound not detected at concentration listed
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 SA = Sample
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Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Area	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16
Loc ID	MW16-2	MW16-2	MW16-2	MW16-2	MW16-2	MW16-2	MW16-2	MW16-4
Matrix	GW	GW	GW	GW	GW	GW	GW	GW
Sample ID	16LM20029U	16LM20036F	16LM20036U	16LM20043F	16LM20043U	16LM20050	16LM20057	16LM20003
Sample Date	12/15/2012	12/16/2013	12/16/2013	12/21/2014	12/21/2014	12/19/2015	12/15/2019	12/20/2007
QC Type	SA	SA	SA	SA	SA	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	5	6	6	7	7	8	9	1
Filtered	Total	Dissolved	Total	Dissolved	Total	Total	Total	Total

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	50 UJ	50 UJ	100 UJ	50 U	100 U	58 J	271 J	167 J
Antimony	UG/L	120	GA	3	44	55	98	7.1 J	3.6 J	3.2 J	4.8 J	4.8 J	2.1 J	5 U	5.11
Arsenic	UG/L	2.7	GA	25	0	9	98	1.3 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	3 U	5 U	4.2 U
Barium	UG/L	600	GA	1,000	0	98	98	62 J	70 J	66 J	72	68	94	80.9	44.5
Beryllium	UG/L	0	MCL	25	0	0	98	0.25 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.27 U
Cadmium	UG/L	0.46	GA	5	0	10	98	0.2 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.18 J	0.36 U
Calcium	UG/L	510,000				98	98	100,000 J	120,000 J	100,000 J	110,000	100,000	130,000	90,600	87,100 J
Chromium	UG/L	4.6	GA	50	0	14	98	2.5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	1.3 J	1 J
Cobalt	UG/L	2	MCL	6	0	40	98	0.3 UJ	0.23 J	0.23 J	0.5 U	0.5 U	0.68	0.26 J	0.89 U
Copper	UG/L	34.7	GA	200	0	75	98	5 J	4 J	4.7 J	3.3 J	4.2 J	3 J	4 J	5.4 J
Iron	UG/L	4,000	GA	300	27	72	98	44 UJ	100 UJ	100 UJ	33 J	100 U	130	309	95.4
Iron+Manganese	UG/L	1,430				85	91	46 U	19 J	19 J	105 U	105 U	402	127	
Lead	UG/L	88.6	GA	25	5	46	98	0.66 J	0.38 J	1.1 J	1.5 U	0.87 J	2.9	6.1	2.9 U
Magnesium	UG/L	98,000				95	95	11,000 J	14,000 J+	13,000 J	12,000	11,000	13,000	8,520	9,440 R
Manganese	UG/L	631	GA	300	1	92	98	2 UJ	19 J	19 J	5 U	5 U	63	93	31.2
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.1 UJ	0.2 UJ	0.2 UJ	0.2 U	0.2 U	0.2 U	0.1 U	0.12 U
Nickel	UG/L	5.5	GA	100	0	61	98	2 UJ	5 UJ	5 UJ	2.2 J	2.3 J	2.6 J	1.7 J	1.2 U
Potassium	UG/L	15,000				92	92	1,900 J	1,800 J	1,700 J	1,500	1,400	1,900	1,480	1,300 R
Selenium	UG/L	3.1	GA	10	0	3	98	1.1 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	7 U	6.1 U
Silver	UG/L	0.71	GA	50	0	1	98	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	0.71 J	1 U
Sodium	UG/L	550,000	GA	20,000	58	96	96	17,000 J	22,000 J	21,000 J	11,000	9,900	11,000	4,410	40,800 J
Thallium	UG/L	0.03	MCL	0.2	0	1	98	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	5 U	0.03 U
Vanadium	UG/L	2.3	MCL	86	0	14	98	3.2 UJ	10 UJ	10 UJ	10 U	10 U	10 U	1 J	0.78 U
Zinc	UG/L	34.4	MCL	6,000	0	43	98	8.8 J	24 J	12 J	13 J	12 J	17 J	19.9 J	5.3 J

Notes:

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- Data validation qualifier.
 [empty cell] = data is not qualified
 U = compound not detected at concentration listed
 J = the reported value is an estimated concentration
 J+ = result is an estimated quantity, biased high
 R = the result was rejected due to QA/QC considerations
 UJ = detection limit is estimated.
- Shading indicates a concentration above the identified criteria value.
 SA = Sample
 DU = Duplicate Sample
- Rejected values are not included in the number of samples analyzed.

Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Area	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16
Loc ID	MW16-4	MW16-4	MW16-4	MW16-4	MW16-4	MW16-4	MW16-4	MW16-4
Matrix	GW	GW	GW	GW	GW	GW	GW	GW
Sample ID	16LM20008	16LM20009	16LM20016UNFIL	16LM20016FIL	16LM20024FIL	16LM20024UNF	16LM20030F	16LM20030U
Sample Date	12/9/2008	12/9/2008	11/17/2009	11/17/2009	12/16/2010	12/16/2010	12/15/2012	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	2	2	3	3	4	4	5	5
Filtered	Total	Total	Total	Dissolved	Dissolved	Total	Dissolved	Total

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	104 J	101 J	68 J	24 U	23 U	50 U	23 UJ	50 UJ
Antimony	UG/L	120	GA	3	44	55	98	2.89	2.94	6.3	6	2.9 U	2 U	4 J	3.9 J
Arsenic	UG/L	2.7	GA	25	0	9	98	3.7 U	3.7 U	3.7 U	3.7 U	1.3 U	1.3 U	1.5 J	1.3 J
Barium	UG/L	600	GA	1,000	0	98	98	290	279	123	129	220	240 J	240 J	230 J
Beryllium	UG/L	0	MCL	25	0	0	98	0.33 U	0.33 U	0.3 U	0.3 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ
Cadmium	UG/L	0.46	GA	5	0	10	98	0.33 U	0.33 U	0.3 U	0.3 U	0.2 U	0.2 U	0.2 UJ	0.23 J
Calcium	UG/L	510,000				98	98	275,000	267,000	125,000 J	130,000 J	210,000	210,000	230,000 J	220,000 J
Chromium	UG/L	4.6	GA	50	0	14	98	0.88 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	2	MCL	6	0	40	98	1.1 U	1.1 U	2 J	1.8 J	0.7	0.71	1.9 J	1.9 J
Copper	UG/L	34.7	GA	200	0	75	98	4.4 J	4.2 J	6.2 J	2.4 J	1.4 J	2.8 J	4.1 J	11 J
Iron	UG/L	4,000	GA	300	27	72	98	57 J	38.4 J	419 J	329 J	130 J	150 J	130 J	140 J
Iron+Manganese	UG/L	1,430				85	91	65	46 J	513.5 J	417.7 J	260	290	270 J	280 J
Lead	UG/L	88.6	GA	25	5	46	98	2.9 U	2.9 U	2.9 U	2.9 U	0.7 J	3	0.2 UJ	3.4 J
Magnesium	UG/L	98,000				95	95	35,200	34,500	16,000	16,800	31,000	32,000 J	34,000 J	32,000 J
Manganese	UG/L	631	GA	300	1	92	98	7.7	8	94.5	88.7	130	140	140 J	140 J
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.12 U	0.12 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
Nickel	UG/L	5.5	GA	100	0	61	98	2.2 J	1.9 J	1.4 J	1.7 J	2.2 J	2.3 J	2.6 J	3.2 J
Potassium	UG/L	15,000				92	92	3,830 J	3,690 J	3,270	3,270	2,600 J	2,600 J	3,200 J	3,100 J
Selenium	UG/L	3.1	GA	10	0	3	98	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	0.71	GA	50	0	1	98	1.3 U	1.3 U	1.3 U	1.3 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ
Sodium	UG/L	550,000	GA	20,000	58	96	96	434,000	419,000	363,000 J	380,000 J	540,000 J	550,000 J	340,000 J	310,000 J
Thallium	UG/L	0.03	MCL	0.2	0	1	98	0.09 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	2.3	MCL	86	0	14	98	0.98 U	0.98 U	1.1 J	1.1 J	3.8 U	3.2 U	3.8 UJ	3.2 UJ
Zinc	UG/L	34.4	MCL	6,000	0	43	98	14.6 J	9.8 J	3.6 U	3.6 U	9.2 J	13 J	12 J	11 J

Notes:

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Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Area	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16
Loc ID	MW16-4	MW16-4	MW16-4	MW16-4	MW16-4	MW16-4	MW16-5	MW16-5
Matrix	GW	GW	GW	GW	GW	GW	GW	GW
Sample ID	16LM20037F	16LM20037U	16LM20044F	16LM20044U	16LM20051	16LM20058	16LM20004	16LM20010
Sample Date	12/17/2013	12/17/2013	12/21/2014	12/21/2014	12/20/2015	12/15/2019	12/20/2007	12/10/2008
QC Type	SA	SA	SA	SA	SA	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	6	6	7	7	8	9	1	2
Filtered	Dissolved	Total	Dissolved	Total	Total	Total	Total	Total

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	50 UJ	100 UJ	50 U	100 U	100 U	42 J	160 J	563
Antimony	UG/L	120	GA	3	44	55	98	5 UJ	5 UJ	3.3 J	3.2 J	2 J	5 U	1.82	4.23
Arsenic	UG/L	2.7	GA	25	0	9	98	2.5 UJ	2.5 UJ	2.5 U	2.5 U	3 U	5 U	4.2 U	3.7 U
Barium	UG/L	600	GA	1,000	0	98	98	140 J	150 J	170	160	140	83.3	38.9	22
Beryllium	UG/L	0	MCL	25	0	0	98	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.27 U	0.33 U
Cadmium	UG/L	0.46	GA	5	0	10	98	0.5 UJ	0.15 J	0.11 J	0.5 U	0.34 J	0.21 J	0.36 U	0.33 U
Calcium	UG/L	510,000				98	98	210,000 J	190,000 J	220,000	210,000	160,000	147,000	89,000 J	53,100
Chromium	UG/L	4.6	GA	50	0	14	98	5 UJ	3.6 J	5 U	5 U	5 U	0.81 J	1.1 J	1.2 J
Cobalt	UG/L	2	MCL	6	0	40	98	1 J	0.94 J	1.1	1.1	0.28 J	4 U	0.89 U	1.1 U
Copper	UG/L	34.7	GA	200	0	75	98	1.2 J	1.5 J	4.3 J	5.8	6.8	1.8 J	3.1 J	10.6
Iron	UG/L	4,000	GA	300	27	72	98	350 J	380 J	170	290	33 J	159	1,200	699
Iron+Manganese	UG/L	1,430				85	91	580 J	590 J	370	490	320	1,238	731	
Lead	UG/L	88.6	GA	25	5	46	98	0.28 J	0.65 J	0.27 J	1.5	1.1 J	4 U	2.9 U	10.1
Magnesium	UG/L	98,000				95	95	33,000 J+	31,000 J	33,000	32,000	25,000	21,600	9,380 R	6,050
Manganese	UG/L	631	GA	300	1	92	98	230 J	210 J	200	200	52	161	37.6	32.4
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.2 UJ	0.2 UJ	0.2 U	0.2 U	0.2 U	0.1 U	0.12 U	0.12 U
Nickel	UG/L	5.5	GA	100	0	61	98	3.3 J	2.9 J	4 J	3.5 J	3.7 J	1.2 J	1.2 U	2.6 J
Potassium	UG/L	15,000				92	92	2,500 J	2,400 J	2,000	1,900	1,900	1,320	4,420 R	2,610 J
Selenium	UG/L	3.1	GA	10	0	3	98	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	7 U	6.1 U	6.1 U
Silver	UG/L	0.71	GA	50	0	1	98	1 UJ	1 UJ	1 U	1 U	1 U	4 U	1 U	1.3 U
Sodium	UG/L	550,000	GA	20,000	58	96	96	290,000 J	270,000 J	300,000	300,000	250,000	70,800	8,410 R	2,180
Thallium	UG/L	0.03	MCL	0.2	0	1	98	1 UJ	1 UJ	1 U	1 U	1 U	5 U	0.03 U	0.09 U
Vanadium	UG/L	2.3	MCL	86	0	14	98	10 UJ	10 UJ	10 U	10 U	10 U	0.71 J	1.2 J	2.3 J
Zinc	UG/L	34.4	MCL	6,000	0	43	98	20 UJ	20 UJ	14 J	12 J	16 J	3.4 J	34.4	10.3

Notes:

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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	MW16-5	MW16-5	MW16-5	MW16-5
Matrix	GW	GW	GW	GW	GW	GW	GW	GW
Sample ID	16LM20017UNFIL	16LM20017FIL	16LM20025FIL	16LM20025UNF	16LM20031F	16LM20031U	16LM20038F	16LM20038U
Sample Date	11/16/2009	11/16/2009	12/15/2010	12/15/2010	12/15/2012	12/15/2012	12/16/2013	12/16/2013
QC Type	SA	SA	SA	SA	SA	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	3	3	4	4	5	5	6	6
Filtered	Total	Dissolved	Dissolved	Total	Dissolved	Total	Dissolved	Total

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	164 J	24 U	23 U	160	23 UJ	50 UJ	50 UJ	100 UJ
Antimony	UG/L	120	GA	3	44	55	98	0.2 U	0.2 U	2.9 U	2 U	2.9 UJ	2 UJ	5 UJ	5 UJ
Arsenic	UG/L	2.7	GA	25	0	9	98	3.7 U	3.7 U	1.3 U	1.3 U	2.6 J	2.7 J	2.5 UJ	2.5 UJ
Barium	UG/L	600	GA	1,000	0	98	98	42	42.8	34	33 J	34 J	39 J	40 J	38 J
Beryllium	UG/L	0	MCL	25	0	0	98	0.3 U	0.3 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.5 UJ	0.5 UJ
Cadmium	UG/L	0.46	GA	5	0	10	98	0.3 U	0.3 U	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.5 UJ	0.5 UJ
Calcium	UG/L	510,000				98	98	110,000 J	115,000 J	90,000	86,000	97,000 J	96,000 J	100,000 J	88,000 J
Chromium	UG/L	4.6	GA	50	0	14	98	0.9 U	0.9 U	2.5 U	2.5 U	2.5 UJ	2.5 UJ	5 UJ	5 UJ
Cobalt	UG/L	2	MCL	6	0	40	98	1.1 U	1.1 U	0.15 U	0.3 U	0.22 J	0.23 J	0.5 UJ	0.5 UJ
Copper	UG/L	34.7	GA	200	0	75	98	1.3 U	1.3 U	1.1 U	1.1 U	1.1 J	5 UJ	5 UJ	5 UJ
Iron	UG/L	4,000	GA	300	27	72	98	1,150 J	800 J	480 J	660 J	1,100 J	1,300 J	440 J	510 J
Iron+Manganese	UG/L	1,430				85	91	1,323 J	970 J	680	820	1,230 J	1,430 J	670 J	680 J
Lead	UG/L	88.6	GA	25	5	46	98	2.9 U	2.9 U	0.2 U	0.77 J	0.2 UJ	0.5 UJ	1.5 UJ	1.5 UJ
Magnesium	UG/L	98,000				95	95	11,800	12,200	10,000	9,700 J	9,900 J	9,800 J	10,000 J+	9,500 J
Manganese	UG/L	631	GA	300	1	92	98	173	170	200	160	130 J	130 J	230 J	170 J
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.1 U	0.1 U	0.1 U	0.1 U	0.1 J	0.1 UJ	0.2 UJ	0.2 UJ
Nickel	UG/L	5.5	GA	100	0	61	98	2 J	1.8 J	0.5 U	2 U	2.1 J	2 UJ	5 UJ	5 UJ
Potassium	UG/L	15,000				92	92	2,380	2,370	2,200 J	2,100 J	2,100 J	2,100 J	2,300 J	1,900 J
Selenium	UG/L	3.1	GA	10	0	3	98	6.1 U	6.1 U	1 U	1.1 U	1 UJ	1.1 UJ	2.5 UJ	2.5 UJ
Silver	UG/L	0.71	GA	50	0	1	98	1.3 U	1.3 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	1 UJ	1 UJ
Sodium	UG/L	550,000	GA	20,000	58	96	96	2,800 J	2,700 J	1,800 J	1,800 J	1,600 J	1,500 J	1,400 J	1,300 J
Thallium	UG/L	0.03	MCL	0.2	0	1	98	0.008 U	0.008 U	0.5 U	0.25 U	0.5 UJ	0.25 UJ	1 UJ	1 UJ
Vanadium	UG/L	2.3	MCL	86	0	14	98	1.1 J	1 U	3.8 U	3.2 U	3.8 UJ	3.2 UJ	10 UJ	10 UJ
Zinc	UG/L	34.4	MCL	6,000	0	43	98	3.6 U	3.6 U	8.3 U	8.4 U	8.3 UJ	8.4 UJ	20 UJ	20 UJ

Notes:

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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	MW16-5	MW16-5	MW16-6	MW16-6
Matrix	GW	GW	GW	GW	GW	GW	GW	GW
Sample ID	16LM20039F	16LM20039U	16LM20045F	16LM20045U	16LM20052	16LM20059	16LM20005	16LM20011
Sample Date	12/17/2013	12/17/2013	12/20/2014	12/20/2014	12/19/2015	12/15/2019	12/20/2007	12/9/2008
QC Type	DU	DU	SA	SA	SA	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	6	6	7	7	8	9	1	2
Filtered	Dissolved	Total	Dissolved	Total	Total	Total	Total	Total

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	50 UJ	100 UJ	50 U	53 J	31 J	96 J	168 J	189 J
Antimony	UG/L	120	GA	3	44	55	98	5 UJ	5 UJ	5 U	5 U	0.75 J	5 U	1 U	0.92 J
Arsenic	UG/L	2.7	GA	25	0	9	98	2.5 UJ	2.5 UJ	1.8 J	1.3 J	3 U	5 U	4.2 U	3.7 U
Barium	UG/L	600	GA	1,000	0	98	98	41 J	41 J	49 J	40 J	41	35.5	31.8	39.1
Beryllium	UG/L	0	MCL	25	0	0	98	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.27 U	0.33 U
Cadmium	UG/L	0.46	GA	5	0	10	98	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	5 U	0.36 U	0.33 U
Calcium	UG/L	510,000				98	98	110,000 J	95,000 J	110,000	92,000	110,000	61,400	80,400 J	84,300
Chromium	UG/L	4.6	GA	50	0	14	98	5 UJ	5 UJ	5 U	5 U	5 U	0.99 J	0.84 U	0.88 U
Cobalt	UG/L	2	MCL	6	0	40	98	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	4 U	0.89 U	1.1 U
Copper	UG/L	34.7	GA	200	0	75	98	5 UJ	5 UJ	5 U	3.1 J	5 U	3.4 J	3.4 J	2.1 J
Iron	UG/L	4,000	GA	300	27	72	98	490 J	530 J	360 J	280 J	570	475	418	153
Iron+Manganese	UG/L	1,430				85	91	710 J	720 J	520 J	410 J		507	441	158
Lead	UG/L	88.6	GA	25	5	46	98	0.22 J	1.5 UJ	1.5 U	1.5 U	2.5 U	1.4 J	2.9 U	2.9 U
Magnesium	UG/L	98,000				95	95	11,000 J+	10,000 J	11,000	9,000	10,000	6,000	7,100 R	7,380
Manganese	UG/L	631	GA	300	1	92	98	220 J	190 J	160 J	130 J	140	32.2	23.3	4.8
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.2 UJ	0.2 UJ	0.2 U	0.2 U	0.2 U	0.1 U	0.12 U	0.12 U
Nickel	UG/L	5.5	GA	100	0	61	98	5 UJ	5 UJ	2.1 J	2.3 J	2.3 J	1.5 J	1.2 U	1 U
Potassium	UG/L	15,000				92	92	2,300 J	2,100 J	3,500 J	2,800 J	2,500	1,110	2,690 R	2,310 J
Selenium	UG/L	3.1	GA	10	0	3	98	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	7 U	6.1 U	6.1 U
Silver	UG/L	0.71	GA	50	0	1	98	1 UJ	1 UJ	1 U	1 U	1 U	10 U	1 U	1.3 U
Sodium	UG/L	550,000	GA	20,000	58	96	96	1,400 J	1,300 J	1,900	1,600	1,800	1,060	6,110 R	9,200
Thallium	UG/L	0.03	MCL	0.2	0	1	98	1 UJ	1 UJ	1 U	1 U	1 U	5 U	0.03 U	0.09 U
Vanadium	UG/L	2.3	MCL	86	0	14	98	10 UJ	10 UJ	10 U	10 U	10 U	0.63 J	0.86 J	0.98 U
Zinc	UG/L	34.4	MCL	6,000	0	43	98	20 UJ	20 UJ	20 U	20 U	20 U	2.7 J	5.5 J	3.7 J

Notes:

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- Data validation qualifier.
 [empty cell] = data is not qualified
 U = compound not detected at concentration listed
 J = the reported value is an estimated concentration
 J+ = result is an estimated quantity, biased high
 R = the result was rejected due to QA/QC considerations
 UJ = detection limit is estimated.
- Shading indicates a concentration above the identified criteria value.
 SA = Sample
 DU = Duplicate Sample
- Rejected values are not included in the number of samples analyzed.

Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Area	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16	SEAD-16
Loc ID	MW16-6	MW16-6	MW16-6	MW16-6	MW16-6	MW16-6	MW16-6
Matrix	GW	GW	GW	GW	GW	GW	GW
Sample ID	16LM20018FIL	16LM20018UNFIL	16LM20026FIL	16LM20026UNF	16LM20032F	16LM20032U	16LM20040F
Sample Date	11/17/2009	11/17/2009	12/15/2010	12/15/2010	12/15/2012	12/15/2012	12/17/2013
QC Type	SA	SA	SA	SA	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	3	3	4	4	5	5	6
Filtered	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	107 J	442	23 U	61 J	23 UJ	300 J	50 UJ	100 UJ
Antimony	UG/L	120	GA	3	44	55	98	0.9 J	0.2 U	2.9 U	2 U	2.9 UJ	2 UJ	5 UJ	5 UJ
Arsenic	UG/L	2.7	GA	25	0	9	98	3.7 U	3.7 U	1.3 U	1.3 U	1.3 UJ	1.3 J	2.5 UJ	2.5 UJ
Barium	UG/L	600	GA	1,000	0	98	98	78.5	80.2	44	50 J	41 J	45 J	53 J	58 J
Beryllium	UG/L	0	MCL	25	0	0	98	0.3 U	0.3 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.5 UJ	0.5 UJ
Cadmium	UG/L	0.46	GA	5	0	10	98	0.3 U	0.3 U	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.5 UJ	0.5 UJ
Calcium	UG/L	510,000				98	98	112,000 J	112,000 J	68,000	78,000	70,000 J	74,000 J	92,000 J	84,000 J
Chromium	UG/L	4.6	GA	50	0	14	98	0.9 U	0.9 U	2.5 U	2.5 U	2.5 UJ	2.5 UJ	5 UJ	5 UJ
Cobalt	UG/L	2	MCL	6	0	40	98	1.1 U	1.1 U	0.15 U	0.3 U	0.18 J	0.43 J	0.35 J	0.34 J
Copper	UG/L	34.7	GA	200	0	75	98	1.9 J	2.5 J	1.5 J	2 J	4.5 J	5 UJ	5 UJ	5 UJ
Iron	UG/L	4,000	GA	300	27	72	98	55 J	440 J	33 U	110 J	33 J	790 J	180 J	210 J
Iron+Manganese	UG/L	1,430				85	91	153.4 J	515 J	2.1 J	113.5 J	43 J	816 J	340 J	360 J
Lead	UG/L	88.6	GA	25	5	46	98	2.9 U	2.9 U	0.2 U	0.5 U	0.2 UJ	0.5 UJ	1.5 UJ	0.54 J
Magnesium	UG/L	98,000				95	95	9,970	9,950	6,600	7,600 J	7,200 J	7,600 J	9,500 J+	9,500 J
Manganese	UG/L	631	GA	300	1	92	98	98.4	75	2.1 J	3.5 J	10 J	26 J	160 J	150 J
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.2 UJ	0.2 UJ
Nickel	UG/L	5.5	GA	100	0	61	98	1.2 J	2.6 J	0.5 U	2 U	2 UJ	2 J	5 UJ	5 UJ
Potassium	UG/L	15,000				92	92	2,380	2,580	1,500	1,800	2,400 J	2,400 J	1,900 J	1,800 J
Selenium	UG/L	3.1	GA	10	0	3	98	6.1 U	6.1 U	1 U	1.1 U	1 UJ	1.1 UJ	2.5 UJ	2.5 UJ
Silver	UG/L	0.71	GA	50	0	1	98	1.3 U	1.3 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	1 UJ	1 UJ
Sodium	UG/L	550,000	GA	20,000	58	96	96	22,000 J	20,600 J	7,600 J	8,400 J	8,700 J	8,000 J	14,000 J	13,000 J
Thallium	UG/L	0.03	MCL	0.2	0	1	98	0.008 U	0.008 U	0.5 U	0.25 U	0.5 UJ	0.25 UJ	1 UJ	1 UJ
Vanadium	UG/L	2.3	MCL	86	0	14	98	1 U	1.3 J	3.8 U	3.2 U	3.8 UJ	3.2 UJ	10 UJ	10 UJ
Zinc	UG/L	34.4	MCL	6,000	0	43	98	3.6 U	3.6 U	8.3 U	8.4 U	8.3 UJ	8.4 UJ	20 UJ	20 UJ

Notes:

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Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 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	MW16-6	MW16-6	MW16-6	MW16-6	MW16-7	MW16-7	MW16-7	MW16-7	MW16-7
Matrix	GW	GW	GW	GW	GW	GW	GW	GW	GW
Sample ID	16LM20046F	16LM20046U	16LM20053	16LM20060	16LM20006	16LM20012	16LM20019FIL	16LM20019UNFIL	
Sample Date	12/21/2014	12/21/2014	12/19/2015	12/15/2019	12/20/2007	12/10/2008	11/12/2009	11/12/2009	
QC Type	SA	SA	SA	SA	SA	SA	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	7	7	8	9	1	2	3	3	
Filtered	Dissolved	Total	Total	Total	Total	Total	Dissolved	Total	

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	50 U	140	2,400	72 J	45.9 J	577	32 J	182 J
Antimony	UG/L	120	GA	3	44	55	98	5 U	5 U	1 J	5 U	9.58	13.6	15.2	15.7
Arsenic	UG/L	2.7	GA	25	0	9	98	2.5 U	2.5 U	1.9 J	5 U	4.2 U	3.7 U	3.7 U	3.7 U
Barium	UG/L	600	GA	1,000	0	98	98	58	58	73	64.7	170	122	83.6	81.6
Beryllium	UG/L	0	MCL	25	0	0	98	0.5 U	0.5 U	0.5 U	0.5 U	0.27 U	0.33 U	0.3 U	0.3 U
Cadmium	UG/L	0.46	GA	5	0	10	98	0.5 U	0.5 U	0.33 J	0.14 J	0.46 J	0.33 U	0.3 U	0.3 U
Calcium	UG/L	510,000				98	98	83,000	83,000	80,000	88,100	194,000	133,000	85,000 J	84,600 J
Chromium	UG/L	4.6	GA	50	0	14	98	5 U	5 U	4.6 J	0.74 J	0.84 U	1.6 J	0.9 U	0.9 U
Cobalt	UG/L	2	MCL	6	0	40	98	0.5 U	0.5 U	1.6	4 U	1.6 J	1.1 J	1.1 U	1.1 U
Copper	UG/L	34.7	GA	200	0	75	98	2.3 J	2.8 J	6.3	10 U	34.7	20.2	3.1 J	5 J
Iron	UG/L	4,000	GA	300	27	72	98	57 J	140	4,000	534	29.2 J	770	19 UJ	135 J
Iron+Manganese	UG/L	1,430				85	91	58.8 J	148.4		640	660 J	990	136	244 J
Lead	UG/L	88.6	GA	25	5	46	98	1.5 U	1.5 U	2.2 J	4 U	26.5	88.6	4.4 J	12.1
Magnesium	UG/L	98,000				95	95	8,300	8,500	8,300	8,180	32,000 J	25,100	15,900	16,500
Manganese	UG/L	631	GA	300	1	92	98	1.8 J	8.4	120	106	631	220	136	109
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.2 U	0.2 U	0.2 U	0.1 U	0.507	0.12 U	0.1 U	0.1 U
Nickel	UG/L	5.5	GA	100	0	61	98	2.2 J	5 U	5.1	0.52 J	5.5 J	2.6 J	1.9 J	1.7 J
Potassium	UG/L	15,000				92	92	2,100	2,000	2,600	1,830	5,480 J	5,670 J	6,520	5,780
Selenium	UG/L	3.1	GA	10	0	3	98	2.5 U	2.5 U	1.1 J	7 U	6.1 U	6.1 U	6.1 U	6.1 U
Silver	UG/L	0.71	GA	50	0	1	98	1 U	1 U	1 U	10 U	1 U	1.3 U	1.3 U	1.3 U
Sodium	UG/L	550,000	GA	20,000	58	96	96	8,500	8,300	10,000	7,540	68,400 J	74,900	52,100 J	47,100 J
Thallium	UG/L	0.03	MCL	0.2	0	1	98	1 U	1 U	1 U	5 U	0.03 J	0.09 U	0.008 U	0.008 U
Vanadium	UG/L	2.3	MCL	86	0	14	98	10 U	10 U	10 U	0.29 J	0.78 U	0.98 U	1 U	1 U
Zinc	UG/L	34.4	MCL	6,000	0	43	98	20 U	20 U	18 J	1.6 J	3.6 U	8.6 J	3.6 U	3.6 U

Notes:

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Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
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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	16LM20034U	16LM20034F
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	Total	Dissolved

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	25 J	116 J	23 U	50 U	23 UJ	50 UJ	50 UJ	23 UJ
Antimony	UG/L	120	GA	3	44	55	98	13.9	16.3	15	16	13 J	13 J	14 J	13 J
Arsenic	UG/L	2.7	GA	25	0	9	98	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	600	GA	1,000	0	98	98	83.9	80.3	69	71 J	100 J	100 J	100 J	99 J
Beryllium	UG/L	0	MCL	25	0	0	98	0.3 U	0.3 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 UJ	0.25 UJ
Cadmium	UG/L	0.46	GA	5	0	10	98	0.3 U	0.3 U	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ
Calcium	UG/L	510,000				98	98	81,900 J	82,800 J	82,000	86,000	110,000 J	100,000 J	110,000 J	100,000 J
Chromium	UG/L	4.6	GA	50	0	14	98	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	2	MCL	6	0	40	98	1.1 U	1.1 U	0.15 U	0.3 U	0.23 J	0.22 J	0.24 J	0.24 J
Copper	UG/L	34.7	GA	200	0	75	98	3.5 J	4.1 J	1.8 J	2.7 J	4.1 J	8.3 J	5.6 J	1.7 J
Iron	UG/L	4,000	GA	300	27	72	98	19 UJ	61 J	33 U	45 J	33 UJ	44 UJ	44 UJ	33 UJ
Iron+Manganese	UG/L	1,430				85	91	152	168 J	35	79	92 J	90 J	91 J	98 J
Lead	UG/L	88.6	GA	25	5	46	98	4.9 J	9.4	1 J	6.3	1.3 J	2.5 J	2.6 J	2.3 J
Magnesium	UG/L	98,000				95	95	14,800	16,200	18,000	19,000 J	21,000 J	21,000 J	22,000 J	20,000 J
Manganese	UG/L	631	GA	300	1	92	98	152	107	35	34	92 J	90 J	91 J	98 J
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Nickel	UG/L	5.5	GA	100	0	61	98	2 J	1.1 J	0.5 U	2 U	2 UJ	2.2 J	2.4 J	2 UJ
Potassium	UG/L	15,000				92	92	7,010	5,630	2,800 J	2,700 J	5,300 J	5,200 J	5,400 J	5,100 J
Selenium	UG/L	3.1	GA	10	0	3	98	6.1 U	6.1 U	1 U	1.1 U	1 UJ	1.1 UJ	1.1 UJ	1 UJ
Silver	UG/L	0.71	GA	50	0	1	98	1.3 U	1.3 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 UJ	0.25 UJ
Sodium	UG/L	550,000	GA	20,000	58	96	96	55,900 J	46,100 J	29,000 J	28,000 J	35,000 J	32,000 J	32,000 J	33,000 J
Thallium	UG/L	0.03	MCL	0.2	0	1	98	0.008 U	0.008 U	0.5 U	0.25 U	0.5 UJ	0.25 UJ	0.25 UJ	0.5 UJ
Vanadium	UG/L	2.3	MCL	86	0	14	98	1 U	1 U	3.8 U	3.2 U	3.8 UJ	3.2 UJ	3.2 UJ	3.8 UJ
Zinc	UG/L	34.4	MCL	6,000	0	43	98	3.6 U	3.6 U	8.3 U	8.4 U	8.3 UJ	8.4 UJ	8.4 UJ	8.3 UJ

Notes:

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Appendix C
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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	16LM20041F	16LM20041U	16LM20047F	16LM20047U	16LM20048F	16LM20048U	16LM20054	16LM20055
Sample Date	12/17/2013	12/17/2013	12/20/2014	12/20/2014	12/20/2014	12/20/2014	12/19/2015	12/19/2015
QC Type	SA	SA	SA	SA	DU	DU	SA	DU
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	6	6	7	7	7	7	8	8
Filtered	Dissolved	Total	Dissolved	Total	Dissolved	Total	Total	Total

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics															
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	50 UJ	100 UJ	29 J	100 U	50 U	100 U	140 J	36 J
Antimony	UG/L	120	GA	3	44	55	98	16 J	15 J	16	15	15	14	120 J	19 J
Arsenic	UG/L	2.7	GA	25	0	9	98	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U	15 U	3 U
Barium	UG/L	600	GA	1,000	0	98	98	100 J	100 J	110	95	110	100	600 J	130 J
Beryllium	UG/L	0	MCL	25	0	0	98	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U
Cadmium	UG/L	0.46	GA	5	0	10	98	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Calcium	UG/L	510,000					98	120,000 J	110,000 J	110,000	100,000	110,000	110,000	510,000 J	110,000 J
Chromium	UG/L	4.6	GA	50	0	14	98	5 UJ	5 UJ	5 U	5 U	5 U	5 U	25 U	5 U
Cobalt	UG/L	2	MCL	6	0	40	98	0.19 J	0.2 J	0.25 J	0.5 U	0.5 U	0.5 U	2.5 U	0.12 J
Copper	UG/L	34.7	GA	200	0	75	98	3.4 J	2.5 J	3.2 J	3.6 J	3.3 J	3.8 J	21 J	4.2 J
Iron	UG/L	4,000	GA	300	27	72	98	100 UJ	100 UJ	52 J	100 U	100 U	100 U	370 J	62 J
Iron+Manganese	UG/L	1,430					91	16 J	15 J	80 J	23 J	38 J	33 J		
Lead	UG/L	88.6	GA	25	5	46	98	1.9 J	6 J	1.8	4.2	1.8	4.1	48 J	10 J
Magnesium	UG/L	98,000					95	26,000 J+	27,000 J	23,000	22,000	23,000	21,000	98,000 J	20,000 J
Manganese	UG/L	631	GA	300	1	92	98	16 J	15 J	28 J	23 J	38 J	33 J	26 J	7.4 J
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.2 UJ	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	UG/L	5.5	GA	100	0	61	98	5 UJ	5 UJ	3.2 J	2.4 J	2 J	5 U	25 U	5 U
Potassium	UG/L	15,000					92	3,100 J	2,900 J	3,700	3,500	4,600	3,900	15,000 J	3,600 J
Selenium	UG/L	3.1	GA	10	0	3	98	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U	13 U	2.5 U
Silver	UG/L	0.71	GA	50	0	1	98	1 UJ	1 UJ	1 U	1 U	1 U	1 U	5 U	1 U
Sodium	UG/L	550,000	GA	20,000	58	96	96	28,000 J	27,000 J	30,000	29,000	36,000	33,000	89,000 J	23,000 J
Thallium	UG/L	0.03	MCL	0.2	0	1	98	1 UJ	1 UJ	1 U	1 U	1 U	1 U	5 U	1 U
Vanadium	UG/L	2.3	MCL	86	0	14	98	10 UJ	10 UJ	10 U	10 U	10 U	10 U	50 U	10 U
Zinc	UG/L	34.4	MCL	6,000	0	43	98	20 UJ	20 UJ	20 U	20 U	8.7 J	20 U	100 U	20 U

Notes:

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- Shading indicates a concentration above the identified criteria value.
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Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Area	SEAD-16	SEAD-16
Loc ID	MW16-7	MW16-7
Matrix	GW	GW
Sample ID	16LM20061	16LM20062
Sample Date	12/15/2019	12/15/2019
QC Type	SA	DU
Study ID	LTM	LTM
Sample Round	9	9
Filtered	Total	Total

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual
Inorganics									
Aluminum	UG/L	2,400	MCL	20,000	0	43	98	98 J	87 J
Antimony	UG/L	120	GA	3	44	55	98	49	50.8
Arsenic	UG/L	2.7	GA	25	0	9	98	5 U	5 U
Barium	UG/L	600	GA	1,000	0	98	98	110	87.8
Beryllium	UG/L	0	MCL	25	0	0	98	0.5 U	0.5 U
Cadmium	UG/L	0.46	GA	5	0	10	98	5 U	0.15 J
Calcium	UG/L	510,000				98	98	92,900	100,000
Chromium	UG/L	4.6	GA	50	0	14	98	0.6 J	0.89 J
Cobalt	UG/L	2	MCL	6	0	40	98	0.34 J	0.33 J
Copper	UG/L	34.7	GA	200	0	75	98	2.7 J	3 J
Iron	UG/L	4,000	GA	300	27	72	98	223	225
Iron+Manganese	UG/L	1,430				85	91	243	247
Lead	UG/L	88.6	GA	25	5	46	98	33.6	33.3
Magnesium	UG/L	98,000				95	95	23,400	24,100
Manganese	UG/L	631	GA	300	1	92	98	19.6	21.9
Mercury	UG/L	0.507	MCL	0.63	0	3	98	0.1 U	0.1 U
Nickel	UG/L	5.5	GA	100	0	61	98	0.84 J	1.1 J
Potassium	UG/L	15,000				92	92	1,380	1,460
Selenium	UG/L	3.1	GA	10	0	3	98	2.7 J	7 U
Silver	UG/L	0.71	GA	50	0	1	98	10 U	4 U
Sodium	UG/L	550,000	GA	20,000	58	96	96	2,940	3,150
Thallium	UG/L	0.03	MCL	0.2	0	1	98	5 U	5 U
Vanadium	UG/L	2.3	MCL	86	0	14	98	0.47 J	0.4 J
Zinc	UG/L	34.4	MCL	6,000	0	43	98	12.2 J	14.2 J

Notes:

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Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17
								MW17-1 GW	MW17-1 GW	MW17-1 GW	MW17-1 GW	MW17-1 GW	MW17-1 GW	MW17-1 GW
Sample ID	Sample Date	QC Type	Study ID	Sample Round	Filtered	Total	Total	Dissolved	Total	Dissolved	Total	Total		
Inorganics														
Aluminum	UG/L	19,600	MCL	20,000	0	30	70	204	219	37 J	59 J	23 U	50 U	50 UJ
Antimony	UG/L	4.4	GA	3	6	18	70	1 U	0.15 U	0.2 U	0.2 U	2.9 U	2 U	2.7 J
Arsenic	UG/L	7.8	GA	25	0	2	70	4.2 U	3.7 U	3.7 U	3.7 U	1.3 U	1.3 U	1.3 UJ
Barium	UG/L	251	GA	1,000	0	70	70	70	79	99.1	99	61	63 J	28 J
Beryllium	UG/L	1.2	MCL	25	0	1	70	0.27 U	0.33 U	0.3 U	0.3 U	0.25 U	0.25 U	0.25 UJ
Cadmium	UG/L	1.7	GA	5	0	8	70	0.36 U	0.33 U	0.3 U	0.3 U	0.2 U	0.2 U	0.44 J
Calcium	UG/L	195,000				70	70	98,300 J	95,600	109,000 J	108,000 J	96,000	100,000	55,000 J
Chromium	UG/L	37.2	GA	50	0	9	70	0.84 U	0.88 U	0.9 U	0.9 U	2.5 U	2.5 U	2.5 UJ
Cobalt	UG/L	10.5	MCL	6	1	44	70	0.89 U	1.1 U	1.1 U	1.1 U	0.15 U	0.3 J	0.37 J
Copper	UG/L	46.7	GA	200	0	38	70	1.3 U	1.3 U	1.3 U	1.3 U	1.1 U	1.1 J	5.4 J
Iron	UG/L	25,500	GA	300	15	56	70	106	126	19 UJ	42 J	33 U	270 J	90 J
Iron+Manganese	UG/L	25,929				61	65	119	141	38.9	67.6 J	4.2 J	312	98.1 J
Lead	UG/L	103	GA	25	1	13	70	2.9 U	2.9 U	2.9 U	2.9 U	0.2 U	0.5 U	1.1 J
Magnesium	UG/L	27,300				67	67	21,800 J	20,600	24,300	24,000	19,000	20,000 J	7,700 J
Manganese	UG/L	911	GA	300	2	64	70	13.2	14.9	38.9	25.6	4.2 J	42	8.1 J
Mercury	UG/L	0.14	MCL	0.63	0	3	70	0.12 U	0.12 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Nickel	UG/L	34	GA	100	0	27	70	1.2 U	1.3 J	1 U	1 U	0.5 U	2 U	2 UJ
Potassium	UG/L	7,810				64	65	614 R	462 J	260 J	254 J	690	690 J	410 J
Selenium	UG/L	3.2	GA	10	0	3	70	6.1 U	6.1 U	6.1 U	6.1 U	1 U	1.1 U	1.1 UJ
Silver	UG/L	0	GA	50	0	0	70	1 U	1.3 U	1.3 U	1.3 U	0.25 U	0.25 U	0.25 UJ
Sodium	UG/L	366,000	GA	20,000	4	66	66	7,790 R	8,380	7,300 J	7,400 J	6,000 J	6,200 J	2,500 J
Thallium	UG/L	0.08	MCL	0.2	0	2	70	0.03 U	0.09 U	0.008 U	0.008 U	0.5 U	0.25 U	0.25 UJ
Vanadium	UG/L	32.8	MCL	86	0	5	70	0.78 U	0.98 U	1 U	1 U	3.8 U	3.2 U	3.2 UJ
Zinc	UG/L	935	MCL	6,000	0	40	70	4.7 J	4 J	3.6 U	3.6 U	8.3 U	8.4 U	8.4 UJ

Notes:

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Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17
								MW17-1 GW 17LM20020F 12/11/2012 SA LTM 5 Dissolved	MW17-1 GW 17LM20025F 12/15/2013 SA LTM 6 Dissolved	MW17-1 GW 17LM20025U 12/15/2013 SA LTM 6 Total	MW17-1 GW 17LM20030F 12/20/2014 SA LTM 7 Dissolved	MW17-1 GW 17LM20030U 12/20/2014 SA LTM 7 Total	MW17-1 GW 17LM20035 12/21/2015 SA LTM 8 Total	MW17-1 GW 17LM20040 12/15/2019 SA LTM 9 Total
Inorganics														
Aluminum	UG/L	19,600	MCL	20,000	0	30	70	23 UJ	50 UJ	100 UJ	50 U	100 U	18 J	163 J
Antimony	UG/L	4.4	GA	3	6	18	70	2.9 UJ	5 UJ	5 UJ	5 U	5 U	5 U	1.7 J
Arsenic	UG/L	7.8	GA	25	0	2	70	1.3 UJ	1.3 J	2.5 UJ	2.5 U	2.5 U	3 U	5 U
Barium	UG/L	251	GA	1,000	0	70	70	28 J	60 J	56 J	44	41	70	22.2
Beryllium	UG/L	1.2	MCL	25	0	1	70	0.25 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	UG/L	1.7	GA	5	0	8	70	0.2 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.26 J
Calcium	UG/L	195,000				70	70	53,000 J	120,000 J	91,000 J	81,000	77,000	98,000	45,200
Chromium	UG/L	37.2	GA	50	0	9	70	2.5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	0.91 J
Cobalt	UG/L	10.5	MCL	6	1	44	70	0.32 J	0.34 J	0.29 J	0.19 J	0.16 J	0.3 J	4 U
Copper	UG/L	46.7	GA	200	0	38	70	4.7 J	5 UJ	5 UJ	3.5 J	3.6 J	5 U	7.6 J
Iron	UG/L	25,500	GA	300	15	56	70	47 J	800 J	680 J	190	79 J	360	235
Iron+Manganese	UG/L	25,929				61	65	54.2 J	897 J	765 J	199.6	87.7		237 J
Lead	UG/L	103	GA	25	1	13	70	0.2 UJ	1.5 UJ	1.5 UJ	0.23 J	1.5 U	2.5 U	2.5 J
Magnesium	UG/L	27,300				67	67	7,200 J	24,000 J+	19,000 J	14,000	13,000	19,000	5,500
Manganese	UG/L	911	GA	300	2	64	70	7.2 J	97 J	85 J	9.6	8.7	89	2.4 J
Mercury	UG/L	0.14	MCL	0.63	0	3	70	0.14 J	0.2 UJ	0.2 UJ	0.2 U	0.2 U	0.2 U	0.019 J
Nickel	UG/L	34	GA	100	0	27	70	2 UJ	5 UJ	5 UJ	2.5 J	5 U	5 U	0.7 J
Potassium	UG/L	7,810				64	65	380 J	500 J	400 J	280 J	1,000 U	520 J	433 J
Selenium	UG/L	3.2	GA	10	0	3	70	1 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 J
Silver	UG/L	0	GA	50	0	0	70	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	10 U
Sodium	UG/L	366,000	GA	20,000	4	66	66	2,400 J	6,000 J	4,800 J	3,700	3,500	6,400	1,570
Thallium	UG/L	0.08	MCL	0.2	0	2	70	0.5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	5 U
Vanadium	UG/L	32.8	MCL	86	0	5	70	3.8 UJ	10 UJ	10 UJ	10 U	10 U	10 U	0.64 J
Zinc	UG/L	935	MCL	6,000	0	40	70	8.3 UJ	20 UJ	20 UJ	12 J	9 J	20 U	7.51 J

- Notes:**
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 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17
								MW17-2 GW	MW17-2 GW	MW17-2 GW	MW17-2 GW	MW17-2 GW	MW17-2 GW	MW17-2 GW
Sample ID	Sample Date	QC Type	Study ID	Sample Round	Filtered	Total	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Inorganics														
Aluminum	UG/L	19,600	MCL	20,000	0	30	70	110 J	142 J	88 J	19,600	23 U	51 J	23 UJ
Antimony	UG/L	4.4	GA	3	6	18	70	3.44	2.76	2.2	3.7	2.9 U	2 U	4 J
Arsenic	UG/L	7.8	GA	25	0	2	70	4.2 U	3.7 U	3.7 U	7.8 J	1.3 U	1.3 U	1.3 UJ
Barium	UG/L	251	GA	1,000	0	70	70	58.8	51.8	82.3	251	54	58 J	69 J
Beryllium	UG/L	1.2	MCL	25	0	1	70	0.27 U	0.33 U	0.3 U	1.2 J	0.25 U	0.25 U	0.25 UJ
Cadmium	UG/L	1.7	GA	5	0	8	70	0.36 U	0.33 U	0.3 U	1.7	0.2 U	0.2 U	0.2 UJ
Calcium	UG/L	195,000				70	70	110,000 J	112,000	154,000 J	195,000 J	140,000	150,000	120,000 J
Chromium	UG/L	37.2	GA	50	0	9	70	0.84 U	2.9 J	0.9 U	37.2	2.5 U	2.5 U	2.5 UJ
Cobalt	UG/L	10.5	MCL	6	1	44	70	0.89 U	1.1 U	1.1 U	10.5	0.32 J	0.46 J	0.39 J
Copper	UG/L	46.7	GA	200	0	38	70	6.2 J	4.4 J	2.9 J	46.7	1.5 J	1.9 J	7.7 J
Iron	UG/L	25,500	GA	300	15	56	70	140	115	19 UJ	25,500 J	33 U	130 J	33 UJ
Iron+Manganese	UG/L	25,929				61	65	160	121	1.5 J	25,929 J	23	173	12 J
Lead	UG/L	103	GA	25	1	13	70	2.9 U	2.9 U	2.9 U	103	0.2 U	0.6 J	0.2 UJ
Magnesium	UG/L	27,300				67	67	11,000 R	11,200	18,200	23,300	18,000	19,000 J	12,000 J
Manganese	UG/L	911	GA	300	2	64	70	20.5	6.1	1.5 J	429	23	43	12 J
Mercury	UG/L	0.14	MCL	0.63	0	3	70	0.12 U	0.12 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Nickel	UG/L	34	GA	100	0	27	70	1.2 U	2.8 J	1.2 J	34	0.5 U	2 U	2 UJ
Potassium	UG/L	7,810				64	65	1,690 R	1,260 J	2,390	7,810	1,300 J	1,300	2,500 J
Selenium	UG/L	3.2	GA	10	0	3	70	6.1 U	6.1 U	6.1 U	6.1 U	1 U	1.1 U	1 UJ
Silver	UG/L	0	GA	50	0	0	70	1 U	1.3 U	1.3 U	1.3 U	0.25 U	0.25 U	0.25 UJ
Sodium	UG/L	366,000	GA	20,000	4	66	66	6,620 R	7,860	19,800 J	20,300 J	14,000 J	14,000 J	8,400 J
Thallium	UG/L	0.08	MCL	0.2	0	2	70	0.03 U	0.09 U	0.008 U	0.008 U	0.5 U	0.25 U	0.5 UJ
Vanadium	UG/L	32.8	MCL	86	0	5	70	0.78 U	0.98 U	1 U	32.8	3.8 U	3.2 U	3.8 UJ
Zinc	UG/L	935	MCL	6,000	0	40	70	72 J	27.6	28.6	935	17 J	21	24 J

Notes:

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 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17
								MW17-2 GW 17LM20021U 12/11/2012 SA LTM 5 Total	MW17-2 GW 17LM20026F 12/15/2013 SA LTM 6 Dissolved	MW17-2 GW 17LM20026U 12/15/2013 SA LTM 6 Total	MW17-2 GW 17LM20031U 12/20/2014 SA LTM 7 Total	MW17-2 GW 17LM20031F 12/20/2014 SA LTM 7 Dissolved	MW17-2 GW 17LM20036 12/20/2015 SA LTM 8 Total	MW17-2 GW 17LM20041 12/15/2019 SA LTM 9 Total
Inorganics														
Aluminum	UG/L	19,600	MCL	20,000	0	30	70	50 UJ	50 UJ	100 UJ	100 U	50 U	19 J	61 J
Antimony	UG/L	4.4	GA	3	6	18	70	4.4 J	5 UJ	5 UJ	3.3 J	3.2 J	0.63 J	1.9 J
Arsenic	UG/L	7.8	GA	25	0	2	70	1.3 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	3 U	5 U
Barium	UG/L	251	GA	1,000	0	70	70	68 J	46 J	47 J	57	63	66	85.6
Beryllium	UG/L	1.2	MCL	25	0	1	70	0.25 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	UG/L	1.7	GA	5	0	8	70	0.2 UJ	0.5 UJ	0.5 UJ	0.14 J	0.12 J	0.5 U	0.19 J
Calcium	UG/L	195,000				70	70	120,000 J	180,000 J	150,000 J	120,000	130,000	160,000	125,000
Chromium	UG/L	37.2	GA	50	0	9	70	2.5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	0.78 J
Cobalt	UG/L	10.5	MCL	6	1	44	70	0.42 J	0.44 J	0.38 J	0.13 J	0.5 U	0.42 J	4 U
Copper	UG/L	46.7	GA	200	0	38	70	7.8 J	5 UJ	5 UJ	6.3	6.4	2.4 J	7.86 J
Iron	UG/L	25,500	GA	300	15	56	70	44 UJ	520 J	470 J	46 J	100 U	140	131
Iron+Manganese	UG/L	25,929				61	65	14 J	594 J	534 J	50.1 J	2 J		147
Lead	UG/L	103	GA	25	1	13	70	0.99 J	1.5 UJ	1.5 UJ	1.5 UJ	1.5 U	2.5 U	1.6 J
Magnesium	UG/L	27,300				67	67	12,000 J	24,000 J+	22,000 J	11,000	13,000	16,000	10,700
Manganese	UG/L	911	GA	300	2	64	70	14 J	74 J	64 J	4.1 J	2 J	35	15.7
Mercury	UG/L	0.14	MCL	0.63	0	3	70	0.1 UJ	0.2 UJ	0.2 UJ	0.2 U	0.2 U	0.2 U	0.1 U
Nickel	UG/L	34	GA	100	0	27	70	2 UJ	5 UJ	5 UJ	2.2 J	5 U	5 U	1.3 J
Potassium	UG/L	7,810				64	65	2,500 J	1,100 J	1,000 J	1,600	1,600	1,600	1,550
Selenium	UG/L	3.2	GA	10	0	3	70	1.1 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	2.8 J
Silver	UG/L	0	GA	50	0	0	70	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	4 U
Sodium	UG/L	366,000	GA	20,000	4	66	66	8,400 J	16,000 J	14,000 J	7,800	8,800	12,000	8,360
Thallium	UG/L	0.08	MCL	0.2	0	2	70	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	5 U
Vanadium	UG/L	32.8	MCL	86	0	5	70	3.2 UJ	10 UJ	10 UJ	10 U	10 U	10 U	4 U
Zinc	UG/L	935	MCL	6,000	0	40	70	26 J	11 J	9.3 J	40 J	28 J	26	35.1

Notes:

- 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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Sensitive

Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round Filtered	SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17			
	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW		
	17LM20002	17LM20007	17LM20012FIL	17LM20012UNFIL	17LM20017FIL	17LM20017UNF	17LM20022U							
	12/20/2007	12/10/2008	11/18/2009	11/18/2009	12/16/2010	12/16/2010	12/11/2012							
	SA	SA	SA	SA	SA	SA	SA							
	LTM	LTM	LTM	LTM	LTM	LTM	LTM							
	1	2	3	3	4	4	5							
	Total	Total	Dissolved	Total	Dissolved	Total	Total							
Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	
Inorganics														
Aluminum	UG/L	19,600	MCL	20,000	0	30	70	106 J	386	141 J	1,550 J	23 U	50 U	50 UJ
Antimony	UG/L	4.4	GA	3	6	18	70	1 U	0.15 U	0.2 U	1.5	2.9 U	2 U	2 UJ
Arsenic	UG/L	7.8	GA	25	0	2	70	4.2 U	3.7 U	3.7 U	3.7 U	1.3 U	1.3 U	1.3 UJ
Barium	UG/L	251	GA	1,000	0	70	70	39	29.3	49.4	54.5	37	38 J	36 J
Beryllium	UG/L	1.2	MCL	25	0	1	70	0.27 U	0.33 U	0.3 U	0.3 U	0.25 U	0.25 U	0.25 UJ
Cadmium	UG/L	1.7	GA	5	0	8	70	0.36 U	0.33 U	0.3 U	0.3 U	0.2 U	0.2 U	0.2 UJ
Calcium	UG/L	195,000				70	70	69,000 J	67,200	99,400 J	95,900 J	90,000	93,000	67,000 J
Chromium	UG/L	37.2	GA	50	0	9	70	0.84 U	0.88 U	0.9 U	5.2	2.5 U	2.5 U	2.5 UJ
Cobalt	UG/L	10.5	MCL	6	1	44	70	0.89 U	1.1 U	1.5 J	1.7 J	0.63	0.7	0.3 UJ
Copper	UG/L	46.7	GA	200	0	38	70	2.6 J	2.8 J	2.5 J	7.9 J	1.1 U	1.1 U	5 UJ
Iron	UG/L	25,500	GA	300	15	56	70	133	1,300	827 J	2,690 J	730 J	770 J	44 UJ
Iron+Manganese	UG/L	25,929				61	65	170	1,573	968 J	2,858 J	890	940	46 U
Lead	UG/L	103	GA	25	1	13	70	2.9 U	2.9 U	2.9 U	8.6	0.2 U	0.5 U	0.78 J
Magnesium	UG/L	27,300				67	67	7,560 R	7,400	9,850	9,170	9,900	10,000 J	5,800 J
Manganese	UG/L	911	GA	300	2	64	70	36.7	273	141	168	160	170	2 UJ
Mercury	UG/L	0.14	MCL	0.63	0	3	70	0.12 U	0.12 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Nickel	UG/L	34	GA	100	0	27	70	1.2 U	1.8 J	3.1 J	4.5 J	0.5 U	2 U	2 UJ
Potassium	UG/L	7,810				64	65	2,620 R	1,840 J	1,290	1,590	1,200 J	1,200	1,700 J
Selenium	UG/L	3.2	GA	10	0	3	70	6.1 U	6.1 U	6.1 U	6.1 U	1 U	1.1 U	1.1 UJ
Silver	UG/L	0	GA	50	0	0	70	1 U	1.3 U	1.3 U	1.3 U	0.25 U	0.25 U	0.25 UJ
Sodium	UG/L	366,000	GA	20,000	4	66	66	4,550 R	5,500	7,500 J	6,200 J	6,000 J	6,100 J	3,100 J
Thallium	UG/L	0.08	MCL	0.2	0	2	70	0.03 U	0.09 U	0.008 U	0.008 U	0.5 U	0.25 U	0.25 UJ
Vanadium	UG/L	32.8	MCL	86	0	5	70	0.78 U	0.98 U	1 U	1.7 J	3.8 U	3.2 U	3.2 UJ
Zinc	UG/L	935	MCL	6,000	0	40	70	27 J	14.2	21.1	45.7	8.3 U	12 J	26 J

Notes:

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- Rejected values are not included in the number of samples analyzed.

Sensitive

Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round Filtered	SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17	
	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW	MW17-3 GW
Sample ID	17LM20022F	17LM20027F	17LM20027U	17LM20032F	17LM20032U	17LM20037	17LM20042							
Sample Date	12/11/2012	12/15/2013	12/15/2013	12/20/2014	12/20/2014	12/20/2015	12/20/2015							
QC Type	SA	SA	SA	SA	SA	SA	SA							
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM							
Sample Round	5	6	6	7	7	8	9							
Filtered	Dissolved	Dissolved	Total	Dissolved	Total	Total	Total							
Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics														
Aluminum	UG/L	19,600	MCL	20,000	0	30	70	23 UJ	50 UJ	100 UJ	50 U	180	31 J	71 J
Antimony	UG/L	4.4	GA	3	6	18	70	2.9 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U
Arsenic	UG/L	7.8	GA	25	0	2	70	1.3 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	3 U	5 U
Barium	UG/L	251	GA	1,000	0	70	70	37 J	52 J	53 J	41	38	51	51.2
Beryllium	UG/L	1.2	MCL	25	0	1	70	0.25 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	UG/L	1.7	GA	5	0	8	70	0.2 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.17 J
Calcium	UG/L	195,000				70	70	74,000 J	130,000 J	110,000 J	73,000	69,000	100,000	71,700
Chromium	UG/L	37.2	GA	50	0	9	70	2.5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	0.8 J
Cobalt	UG/L	10.5	MCL	6	1	44	70	0.15 UJ	0.31 J	0.3 J	0.5 U	0.12 J	0.5 U	4 U
Copper	UG/L	46.7	GA	200	0	38	70	3.3 J	1.3 J	1.1 J	13	15	5 U	2.4 J
Iron	UG/L	25,500	GA	300	15	56	70	33 UJ	100 UJ	110 J	100 U	160	43 J	64 J
Iron+Manganese	UG/L	25,929				61	65	34 U	2.3 J	112 J	5.1	166.1		65 J
Lead	UG/L	103	GA	25	1	13	70	0.24 J	0.35 J	1.5 UJ	1.5 U	1.1 J	2.5 U	4 U
Magnesium	UG/L	27,300				67	67	6,100 J	15,000 J+	15,000 J	5,800	5,600	11,000	6,480
Manganese	UG/L	911	GA	300	2	64	70	1 UJ	2.3 J	2 J	5.1	6.1	5 U	4 U
Mercury	UG/L	0.14	MCL	0.63	0	3	70	0.1 UJ	0.2 UJ	0.2 UJ	0.2 U	0.2 U	0.2 U	0.1 U
Nickel	UG/L	34	GA	100	0	27	70	2 UJ	5 UJ	5 UJ	2.6 J	2 J	5 U	0.87 J
Potassium	UG/L	7,810				64	65	1,800 J	870 J	840 J	1,400	1,500	810 J	1,260
Selenium	UG/L	3.2	GA	10	0	3	70	1 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	7 U
Silver	UG/L	0	GA	50	0	0	70	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	10 U
Sodium	UG/L	366,000	GA	20,000	4	66	66	3,300 J	11,000 J	10,000 J	1,900	1,900	8,400	2,930
Thallium	UG/L	0.08	MCL	0.2	0	2	70	0.5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	5 U
Vanadium	UG/L	32.8	MCL	86	0	5	70	3.8 UJ	10 UJ	10 UJ	10 U	10 U	10 U	4 U
Zinc	UG/L	935	MCL	6,000	0	40	70	29 J	35 J	33 J	42 J	44 J	27	29.9

Notes:
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Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Area	Loc ID	Matrix	Sample ID	Sample Date	QC Type	Study ID	Sample Round	Filtered	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	
									MW17-4	MW17-4	MW17-4	MW17-4	MW17-4	MW17-4	MW17-4	MW17-4
									GW	GW	GW	GW	GW	GW	GW	
									17LM20003	17LM20008	17LM20013UNFIL	17LM20013FIL	17LM20018FIL	17LM20018UNF	17LM20023F	
									12/20/2007	12/10/2008	11/17/2009	11/17/2009	12/16/2010	12/16/2010	12/11/2012	
									SA	SA	SA	SA	SA	SA	SA	
									LTM	LTM	LTM	LTM	LTM	LTM	LTM	
									1	2	3	3	4	4	5	
									Total	Total	Total	Dissolved	Dissolved	Total	Dissolved	
Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses		Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	
Inorganics																
Aluminum	UG/L	19,600	MCL	20,000	0	30	70		50.2 J	125 J	70 J	28 J	23 U	50 U	23 UJ	
Antimony	UG/L	4.4	GA	3	6	18	70		1 U	0.62 J	0.2 U	0.2 U	2.9 U	2 U	2.9 UJ	
Arsenic	UG/L	7.8	GA	25	0	2	70		4.2 U	3.7 U	3.7 U	3.7 U	1.3 U	1.3 U	1.3 UJ	
Barium	UG/L	251	GA	1,000	0	70	70		32.5	35.9	36.6	36.3	27	28 J	65 J	
Beryllium	UG/L	1.2	MCL	25	0	1	70		0.27 U	0.33 U	0.3 U	0.3 U	0.25 U	0.25 U	0.25 UJ	
Cadmium	UG/L	1.7	GA	5	0	8	70		0.36 U	0.33 U	0.3 U	0.3 U	0.2 U	0.2 U	0.2 UJ	
Calcium	UG/L	195,000				70	70		74,900 J	74,700	97,600 J	96,600 J	90,000	88,000	83,000 J	
Chromium	UG/L	37.2	GA	50	0	9	70		1 J	0.88 U	0.9 U	0.9 U	2.5 U	2.5 U	2.5 UJ	
Cobalt	UG/L	10.5	MCL	6	1	44	70		0.89 U	2.4 J	1.3 J	1.5 J	0.96	1.1	0.21 J	
Copper	UG/L	46.7	GA	200	0	38	70		1.8 J	1.8 J	1.3 U	1.3 U	1.1 U	1.1 U	1.1 J	
Iron	UG/L	25,500	GA	300	15	56	70		45.4 J	1,760	142 J	60 J	240 J	260 J	33 UJ	
Iron+Manganese	UG/L	25,929				61	65		59 J	2,671	355 J	258 J	370	400	9.5 J	
Lead	UG/L	103	GA	25	1	13	70		2.9 U	2.9 U	2.9 U	2.9 U	0.2 U	0.5 U	0.2 UJ	
Magnesium	UG/L	27,300				67	67		10,400 R	10,200	13,000	12,900	13,000	13,000 J	15,000 J	
Manganese	UG/L	911	GA	300	2	64	70		13.7	911	213	198	130	140	9.5 J	
Mercury	UG/L	0.14	MCL	0.63	0	3	70		0.12 U	0.12 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	
Nickel	UG/L	34	GA	100	0	27	70		1.2 U	2.6 J	2.4 J	2.2 J	0.5 U	2 U	2 UJ	
Potassium	UG/L	7,810				64	65		838 R	1,190 J	866	844	540	530 J	750 J	
Selenium	UG/L	3.2	GA	10	0	3	70		6.1 U	6.1 U	6.1 U	6.1 U	1 U	1.1 U	1 UJ	
Silver	UG/L	0	GA	50	0	0	70		1 U	1.3 U	1.3 U	1.3 U	0.25 U	0.25 U	0.25 UJ	
Sodium	UG/L	366,000	GA	20,000	4	66	66		28,500 J	15,500	10,500 J	10,400 J	12,000 J	12,000 J	8,900 J	
Thallium	UG/L	0.08	MCL	0.2	0	2	70		0.03 U	0.09 U	0.008 U	0.008 U	0.5 U	0.25 U	0.5 UJ	
Vanadium	UG/L	32.8	MCL	86	0	5	70		0.78 U	0.98 U	1 U	1 U	3.8 U	3.2 U	3.8 UJ	
Zinc	UG/L	935	MCL	6,000	0	40	70		5.1 J	6.7 J	3.6 U	3.6 U	8.7 J	8.4 U	8.3 UJ	

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 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17
								MW17-4 GW 17LM20023U 12/11/2012 SA LTM 5 Total	MW17-4 GW 17LM20028U 12/15/2013 SA LTM 6 Total	MW17-4 GW 17LM20028F 12/15/2013 SA LTM 6 Dissolved	MW17-4 GW 17LM20033U 12/20/2014 SA LTM 7 Total	MW17-4 GW 17LM20033F 12/20/2014 SA LTM 7 Dissolved	MW17-4 GW 17LM20038 12/21/2015 SA LTM 8 Total	MW17-4 GW 17LM20043 12/15/2019 SA LTM 9 Total
Inorganics														
Aluminum	UG/L	19,600	MCL	20,000	0	30	70	50 UJ	100 UJ	50 UJ	100 U	50 U	100 U	67 J
Antimony	UG/L	4.4	GA	3	6	18	70	2 UJ	5 UJ	5 UJ	5 U	5 U	0.56 J	5 U
Arsenic	UG/L	7.8	GA	25	0	2	70	1.3 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	3 U	5 U
Barium	UG/L	251	GA	1,000	0	70	70	67 J	23 J	20 J	27	27	29	31.4
Beryllium	UG/L	1.2	MCL	25	0	1	70	0.25 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	UG/L	1.7	GA	5	0	8	70	0.2 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.15 J
Calcium	UG/L	195,000				70	70	87,000 J	93,000 J	96,000 J	75,000	80,000	80,000	75,400
Chromium	UG/L	37.2	GA	50	0	9	70	2.5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	0.76 J
Cobalt	UG/L	10.5	MCL	6	1	44	70	0.25 J	1.1 J	1 J	0.24 J	0.31 J	1.1	0.27 J
Copper	UG/L	46.7	GA	200	0	38	70	5 UJ	5 UJ	5 UJ	2.8 J	2.3 J	5 U	2 J
Iron	UG/L	25,500	GA	300	15	56	70	72 J	810 J	810 J	130	120	59 J	85.8 J
Iron+Manganese	UG/L	25,929				61	65	83 J	1,090 J	1,090 J	250	260		147 J
Lead	UG/L	103	GA	25	1	13	70	0.5 UJ	1.5 UJ	1.5 UJ	1.5 U	1.5 U	1.5 J	4 U
Magnesium	UG/L	27,300				67	67	15,000 J	15,000 J	15,000 J+	11,000	12,000	11,000	9,580
Manganese	UG/L	911	GA	300	2	64	70	11 J	280 J	280 J	120	140	99	61.6
Mercury	UG/L	0.14	MCL	0.63	0	3	70	0.1 UJ	0.2 UJ	0.2 UJ	0.2 U	0.2 U	0.2 U	0.1 U
Nickel	UG/L	34	GA	100	0	27	70	2.1 J	5 UJ	5 UJ	2 J	3 J	2.1 J	1 J
Potassium	UG/L	7,810				64	65	780 J	430 J	450 J	420 J	480 J	500 J	460 J
Selenium	UG/L	3.2	GA	10	0	3	70	1.1 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	7 U
Silver	UG/L	0	GA	50	0	0	70	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	10 U
Sodium	UG/L	366,000	GA	20,000	4	66	66	8,600 J	7,800 J	7,800 J	7,300	7,700	6,000	3,890
Thallium	UG/L	0.08	MCL	0.2	0	2	70	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	5 U
Vanadium	UG/L	32.8	MCL	86	0	5	70	3.2 UJ	10 UJ	10 UJ	10 U	10 U	10 U	0.4 J
Zinc	UG/L	935	MCL	6,000	0	40	70	8.4 UJ	20 UJ	20 UJ	20 U	20 U	20 U	2.3 J

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 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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 3. Shading indicates a concentration above the identified criteria value.
 SA = Sample
 DU = Duplicate Sample
 4. Rejected values are not included in the number of samples analyzed.

Sensitive

Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17	SEAD-17
								MW17-5 GW 17LM20004 12/20/2007 SA LTM 1 Total	MW17-5 GW 17LM20009 12/11/2008 SA LTM 2 Total	MW17-5 GW 17LM20014FIL 11/17/2009 SA LTM 3 Dissolved	MW17-5 GW 17LM20014UNFIL 11/17/2009 SA LTM 3 Total	MW17-5 GW 17LM20019FIL 12/16/2010 SA LTM 4 Dissolved	MW17-5 GW 17LM20019UNF 12/16/2010 SA LTM 4 Total	MW17-5 GW 17LM20024U 12/11/2012 SA LTM 5 Total
Inorganics														
Aluminum	UG/L	19,600	MCL	20,000	0	30	70	98.5 J	125 J	29 J	98 J	23 U	50 U	50 UJ
Antimony	UG/L	4.4	GA	3	6	18	70	1 U	0.56 J	1	1	2.9 U	2 U	2 UJ
Arsenic	UG/L	7.8	GA	25	0	2	70	4.2 U	3.7 U	3.7 U	3.7 U	1.3 U	1.3 U	1.3 UJ
Barium	UG/L	251	GA	1,000	0	70	70	86.7	82.9	166	168	81	82 J	26 J
Beryllium	UG/L	1.2	MCL	25	0	1	70	0.27 U	0.33 U	0.3 U	0.3 U	0.25 U	0.25 U	0.25 UJ
Cadmium	UG/L	1.7	GA	5	0	8	70	0.36 U	0.33 U	0.3 U	0.3 U	0.2 U	0.2 U	0.2 UJ
Calcium	UG/L	195,000				70	70	97,100 J	97,300	184,000 J	185,000 J	100,000	110,000	75,000 J
Chromium	UG/L	37.2	GA	50	0	9	70	0.84 U	0.88 U	0.9 U	0.9 U	2.5 U	2.5 U	2.5 UJ
Cobalt	UG/L	10.5	MCL	6	1	44	70	0.89 U	1.1 U	1.1 U	1.1 U	0.17 J	0.19 J	0.31 J
Copper	UG/L	46.7	GA	200	0	38	70	1.3 U	1.5 J	1.3 U	1.3 U	1.1 U	1.1 U	5 UJ
Iron	UG/L	25,500	GA	300	15	56	70	91.7	76	19 UJ	34 J	83 J	110 J	160 J
Iron+Manganese	UG/L	25,929				61	65	128	85	24.3	61.4 J	118	145	219 J
Lead	UG/L	103	GA	25	1	13	70	2.9 U	2.9 U	2.9 U	2.9 U	0.2 U	0.5 U	0.5 UJ
Magnesium	UG/L	27,300				67	67	15,800 J	15,600	27,100	27,300	17,000	18,000 J	11,000 J
Manganese	UG/L	911	GA	300	2	64	70	36.5	8.9	24.3	27.4	35	35	59 J
Mercury	UG/L	0.14	MCL	0.63	0	3	70	0.12 U	0.12 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Nickel	UG/L	34	GA	100	0	27	70	1.2 U	1.2 J	1.7 J	1.8 J	0.5 U	2 U	2 UJ
Potassium	UG/L	7,810				64	65	972 R	824 J	1,920	1,960	1,600 J	1,600	460 J
Selenium	UG/L	3.2	GA	10	0	3	70	6.1 U	6.1 U	6.1 U	6.1 U	1 U	1.1 U	1.1 UJ
Silver	UG/L	0	GA	50	0	0	70	1 U	1.3 U	1.3 U	1.3 U	0.25 U	0.25 U	0.25 UJ
Sodium	UG/L	366,000	GA	20,000	4	66	66	7,950 R	7,360	364,000 J	366,000 J	8,200 J	8,300 J	9,100 J
Thallium	UG/L	0.08	MCL	0.2	0	2	70	0.03 U	0.09 U	0.08 J	0.08 J	0.5 U	0.25 U	0.25 UJ
Vanadium	UG/L	32.8	MCL	86	0	5	70	0.78 U	0.98 U	1 U	1 U	3.8 U	3.2 U	3.2 UJ
Zinc	UG/L	935	MCL	6,000	0	40	70	4.7 J	41.6	3.6 U	3.6 U	20	8.4 U	8.4 UJ

Notes:

- 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.
- Data validation qualifier.
 [empty cell] = data is not qualified
 U = compound not detected at concentration listed
 J = the reported value is an estimated concentration
 J+ = result is an estimated quantity, biased high
 R = the result was rejected due to QA/QC considerations
 UJ = detection limit is estimated.
- Shading indicates a concentration above the identified criteria value.
 SA = Sample
 DU = Duplicate Sample
- Rejected values are not included in the number of samples analyzed.

Sensitive

Appendix C
 Post-Remedial Action Groundwater Monitoring Results (Years 1 through 9)
 Annual Report - SEAD 16 and SEAD 17
 Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round Filtered	SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17		SEAD-17	
	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW	MW17-5 GW
	17LM20024F	17LM20029F	17LM20029U	17LM20034F	17LM20034U	17LM20039	17LM20044							
	12/11/2012	12/15/2013	12/15/2013	12/20/2014	12/20/2014	12/20/2015	12/15/2019							
	SA	SA	SA	SA	SA	SA	SA							
	LTM	LTM	LTM	LTM	LTM	LTM	LTM							
	5	6	6	7	7	8	9							
	Dissolved	Dissolved	Total	Dissolved	Total	Total	Total							
Parameter	Unit	Maximum Value	Criteria Source	Criteria Level	Num of Exceedances	Num of Detects	Num of Analyses	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Inorganics														
Aluminum	UG/L	19,600	MCL	20,000	0	30	70	23 UJ	50 UJ	100 UJ	50 U	100 U	100 U	93 J
Antimony	UG/L	4.4	GA	3	6	18	70	2.9 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U
Arsenic	UG/L	7.8	GA	25	0	2	70	1.3 UJ	2.5 UJ	2.5 UJ	2.5 U	3 U	5 U	5 U
Barium	UG/L	251	GA	1,000	0	70	70	24 J	75 J	86 J	83	92	86	94.7
Beryllium	UG/L	1.2	MCL	25	0	1	70	0.25 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	UG/L	1.7	GA	5	0	8	70	0.2 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	5 U
Calcium	UG/L	195,000			70	70	70	68,000 J	110,000 J	100,000 J	91,000	100,000	100,000	104,000
Chromium	UG/L	37.2	GA	50	0	9	70	2.5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	0.65 J
Cobalt	UG/L	10.5	MCL	6	1	44	70	0.31 J	0.2 J	0.22 J	0.5 U	0.14 J	0.5 U	4 U
Copper	UG/L	46.7	GA	200	0	38	70	3.7 J	5 UJ	5 UJ	5 U	2.6 J	5 U	0.93 J
Iron	UG/L	25,500	GA	300	15	56	70	44 J	350 J	140 J	100 U	55 J	43 J	269
Iron+Manganese	UG/L	25,929			61	65	70	82 J	374 J	167 J	105 U	105 U		297
Lead	UG/L	103	GA	25	1	13	70	0.2 UJ	1.5 UJ	1.5 UJ	1.5 U	1.5 U	2.5 U	4 U
Magnesium	UG/L	27,300			67	67	70	9,900 J	18,000 J+	17,000 J	14,000	15,000	17,000	13,900
Manganese	UG/L	911	GA	300	2	64	70	38 J	24 J	27 J	5 U	5 U	5.8	27.6
Mercury	UG/L	0.14	MCL	0.63	0	3	70	0.12 J	0.2 UJ	0.2 UJ	0.2 U	0.2 U	0.2 U	0.1 U
Nickel	UG/L	34	GA	100	0	27	70	2 UJ	5 UJ	5 UJ	2.8 J	5 U	5 U	1.3 J
Potassium	UG/L	7,810			64	65	70	460 J	1,200 J	1,100 J	810	860 J	1,300	1,130
Selenium	UG/L	3.2	GA	10	0	3	70	1 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	3.2 J
Silver	UG/L	0	GA	50	0	0	70	0.25 UJ	1 UJ	1 UJ	1 U	1 U	1 U	4 U
Sodium	UG/L	366,000	GA	20,000	4	66	66	9,400 J	5,400 J	5,300 J	4,900	4,900	5,800	4,210
Thallium	UG/L	0.08	MCL	0.2	0	2	70	0.5 UJ	1 UJ	1 UJ	1 U	1 U	1 U	5 U
Vanadium	UG/L	32.8	MCL	86	0	5	70	3.8 UJ	10 UJ	10 UJ	10 U	10 U	10 U	0.41 J
Zinc	UG/L	935	MCL	6,000	0	40	70	8.3 UJ	20 UJ	20 UJ	20 U	20 U	20 U	4.4 J

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
 J+ = result is an estimated quantity, biased high
 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.
 SA = Sample
 DU = Duplicate Sample
 4. Rejected values are not included in the number of samples analyzed.

APPENDIX D

Laboratory Analytical Report

**PARSONS
SENECA ARMY DEPOT
TM3232**

**KATAHDIN ANALYTICAL SERVICES
600 TECHNOLOGY WAY
SCARBOROUGH, ME 04074**

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SAMPLE DATA PACKAGE



NH ELAP Lab ID 2001 (DW, NPW, SCM)
 NYSDOH ELAP Lab ID 11121 (AE - T015)

**NARRATIVE
 KATAHDIN ANALYTICAL SERVICES
 PARSONS
 SENECA ARMY DEPOT
 TM3232**

Sample Receipt

The following samples were received on December 17, 2019 and were logged in under Katahdin Analytical Services work order number TM3232 for a hardcopy due date of January 07, 2020.

<u>KATAHDIN</u> <u>Sample No.</u>	<u>PARSONS</u> <u>Sample Identification</u>
TM3232-1	16LM20059
TM3232-2	16LM20057
TM3232-3	16LM20062
TM3232-4	16LM20061
TM3232-5	16LM20060
TM3232-6	16LM20058
TM3232-7	16LM20056
TM3232-8	17LM20040
TM3232-9	17LM20041
TM3232-10	17LM20042
TM3232-11	17LM20043
TM3232-12	17LM20044

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

We certify that the test results provided in this report meet all the requirements of the NELAP standards unless otherwise noted in this narrative or in the Report of Analysis.

We certify that the test results provided in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation L2223.

Analytes which are reported but not listed on our ANAB scope of accreditation will be “^” flagged and the following language will be included in the case narrative for all DoD compliant work: “^” Indicates this analyte is not included on Katahdin Analytical Services DoD-ELAP Scope of Accreditation.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Ms. Heather Manz**. This narrative is an integral part of the Report of Analysis.

Metals Analysis

The samples of Katahdin Work Order TM3232 were prepared and analyzed for metals in accordance with Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA publication SW846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015), Office of Solid Waste and Emergency Response, U.S. EPA.

Inductively-Coupled Plasma Atomic Emission Spectroscopic Analysis (ICP)

Aqueous-matrix Katahdin Sample Numbers TM3232-(1-12) were digested for ICP analysis on 12/24/19 (QC Batch ML24ICW1) in accordance USEPA Method 3010A. Katahdin Sample Number TM3232-4 was prepared with duplicate matrix-spiked aliquots, per client request. The measured concentrations of barium, beryllium, and nickel in the laboratory control sample (LCS), LCSWML24IMW1, associated with this batch are outside laboratory acceptance criteria. Because of this, all samples were redigested on 01/02/20 (QC Batch NA02ICW2). These digestates are identified throughout the raw data and on sample preparation and analysis run logs with the suffix “R” appended to the Katahdin Sample Number (e.g. “TM3232-001R”).

ICP analyses of Katahdin Work Order TM3232 sample digestates were performed using a Thermo iCAP 6500 ICP spectrometer in accordance with USEPA Method 6010C. All samples were analyzed within holding times and all analytical run QC criteria were met.

Analysis of Mercury by Cold Vapor Atomic Absorption (CVAA)

Aqueous-matrix Katahdin Sample Numbers TM3232-(1-12) were digested for mercury analysis on 12/19/19 (QC Batch ML19HGW1) in accordance with USEPA Method 7470A. Katahdin Sample Number TM3232-4 was prepared with duplicate matrix-spiked aliquots, per client request.

Mercury analyses of the Katahdin Work Order TM3232 sample digestates were performed using a Cetac M6100 automated mercury analyzer in accordance with USEPA Method 7470A. All samples were analyzed within holding times and all analytical run QC criteria were met.

Matrix QC Summary

The measured recoveries of aluminum, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, silver, vanadium, and zinc in one or both matrix-spiked aliquots of Katahdin Sample Number TM3232-4 are outside project acceptance criteria. For calcium and magnesium, this may be attributable to the native sample concentration being far greater than the spike added. Because the laboratory control sample and all other analytical run QC are acceptable, no action was taken.

The relative percent difference between the duplicate matrix-spiked analyses of Katahdin Sample Number TM3232-4 are within project acceptance criteria. (<20% relative difference between duplicate sample aliquots).

The measured recoveries of calcium and mercury in the post-digestion spiked aliquots of Katahdin Sample Number TM3232-4 are outside project acceptance criteria (80%-120% recovery of the added element). For calcium, this may be attributable to the native sample concentration being far greater than the spike added. Because the LCS and all other run QC are acceptable, no action was taken.

The serial dilution analyses of Katahdin Sample Numbers TM3232-4 are within project acceptance criteria (<10% relative percent difference, if the concentration in the original sample is greater than 50 times the LOD) for all analytes.

Reporting of Metals Results

Per client request, analytical results for client samples on Form I and preparation blanks on Form IIP have been reported using the laboratory's limits of detection (LOD). All results were evaluated down to the laboratory's method detection limits (MDLs). Results that fall between the MDL and the LOQ are flagged with "J" in the C-qualifier column, and the measured concentration appears in the concentration column. Results that are less than the MDL are flagged with "U" in the C-qualifier column, and the LOD is listed in the concentration column. These LOQs, MDLs and LODs have been adjusted for each sample based on the sample amounts used in preparation and analysis.

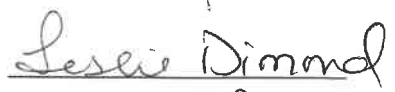
Analytical results on Forms VA, VD, VII, and IX for client samples, matrix QC samples (duplicates and matrix spikes), and laboratory control samples have been reported down to the laboratory's method detection limits (MDLs). Analytical results that are below the MDLs are flagged with "U" in the C-qualifier column, and the adjusted LOD is listed in the concentration column.

Analytical results for instrument run QC samples (ICVs, ICBs, etc.) have been reported down to the laboratory's instrument detection limits (IDLs).

IDLs, LODs, MDLs, and LOQs are listed on Form 10 of the accompanying data package.

Analytical results for client samples, matrix QC samples (duplicates and matrix spikes), and batch QC samples (preparation blanks and laboratory control samples) for simultaneously extractable metals analysis (SEM) have been reported in units of micromole per gram (umole/g) throughout the accompanying data package.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Quality Assurance Officer, or their designee, as verified by the following signature.


Leslie Dimond
Quality Assurance Officer

Katahdin Analytical Services, LLC.

Sample Receipt Condition Report

Client: PARSONS	KAS PM: HTM	Sampled By: Client
Project:	KIMS Entry By: JCB	Delivered By: Fedex
KAS Work Order#: TM3231/3232	KIMS Review By: HTM	Received By: JCB
SDG #:	Cooler: 1 of 1	Date/Time Rec.: 12.17.19 1030

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	/				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	<i>RDR</i>	✓			
4. Chain of Custody matches samples?	/				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 1.4 Thermometer ID: IR-1
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles:					
Aqueous: No bubble larger than a pea?				✓	
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
Air: Refer to KAS COC for canister/flow controller requirements.	✓ if air included				
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	/				
9. Samples within hold time upon receipt?	/				
10. Aqueous samples properly preserved?					
Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH - pH <2	✓				
Sulfide - >9				✓	
Cyanide - pH >12				✓	
11. Bottleware Prepped on: n/a					

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.



600 Technology Way
 Scarborough, ME 04074
 Tel: (207) 874-2400
 Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND
 PRINT LEGIBLY IN PEN

Page 1 of 1

Client Parsons Contact _____ Phone # _____ Fax # _____
 Address 100 High St. 4th Fl City Boston State MA Zip Code 02110
 Purchase Order # _____ Proj. Name / No. Sevaca Army Depot Katahdin Quote # _____
 Bill (if different than above) _____ Address _____

Sampler (Print / Sign) Cory Melroy Copies To: _____

LAB USE ONLY WORK ORDER # TMB3232 ANALYSIS AND CONTAINER TYPE PRESERVATIVES
 KATAHDIN PROJECT NUMBER _____

REMARKS: _____
 SHIPPING INFO: FED EX UPS CLIENT
 AIRBILL NO: _____
 TEMP °C _____ TEMP BLANK INTACT NOT INTACT

★	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES																		
					Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N	Filt. Y N							
	<u>16LM20059</u>	<u>12/15/10/1010</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>16LM20057</u>	<u>12/15/10/1015</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>16LM20062</u>	<u>12/15/10/1200</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>16LM20061</u>	<u>12/15/10/1140</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>16LM20061MS</u>	<u>12/15/10/1140</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>16LM20061MSD</u>	<u>12/15/10/1140</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>16LM20060</u>	<u>12/15/10/1235</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>16LM20058</u>	<u>12/15/10/1330</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>16LM20056</u>	<u>12/15/10/1420</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>17LM20040</u>	<u>12/15/10/1040</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>17LM20041</u>	<u>12/15/10/1140</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>17LM20042</u>	<u>12/15/10/1245</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>17LM20043</u>	<u>12/15/10/1405</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
	<u>17LM20044</u>	<u>12/15/10/1455</u>	<u>GW</u>	<u>1</u>	<u>1</u>																		
		/																					
		/																					

COMMENTS

Relinquished By: (Signature) <u>FEDEX</u>	Date / Time <u>12-17-10 1030</u>	Received By: (Signature) <u>Ray Robert</u>	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

000006

Login Number: TM3232

Quote/Incoming: PARSONS-SENACA

Account: PARSONS002 NoWeb
PARSONS

Project: PARSONS-SENACA-LTM
Seneca Army Depot 5 Year LTM

Primary Report Address:

Todd I. Belanger
Parsons
100 High Street, 4th Floor

Boston, MA 02110
Todd.Belanger@parsons.com

Primary Invoice Address:

Accounts Payable Katrina Zimmerman
Parsons Government Services, Inc.
401 Diamond Drive, NW

Huntsville, AL 35806

Report CC Addresses:

Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS : DoD QSM 5.1 w/ DoD limits. ND to LOD. Narratives need all details. Metals-Flag PDS per client request. Include GC/MS Performance checks. 6010C/6020A

CHECK NO. :

CLIENT PO# : PO-0007068

CLIENT PROJECT MANAGE :

CONTRACT : W912DY-09-D-0062

COOLER TEMPERATURE : 1.4

DELIVERY SERVICES : FedEx

EDD FORMAT : KAS126-CSV and KAS136-CSV

LOGIN INITIALS : JCB

PM : HHM

PROJECT NAME : Seneca Army Depot

QC LEVEL : IV

REPORT INSTRUCTIONS : Data Summary needs all forms. Email verbals with EDD. Email PDF and EDD to Todd.Belanger@parsons.com and Maryanne.Kosciewicz@parsons.com. Email invoice to Katrina Zimmerman@parsons.com

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	Verbal Date	PR Date	MAILED
TM3232-1	16LM20059	15-DEC-19 10:10	17-DEC-19			07-JAN-20
SDG STATUS						
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments	
Aqueous	P TAL-METALS-SW846					
SW3010-PREP	SW6010-ALUMINUM	SW6010-ANTIMONY				
SW6010-ARSENIC	SW6010-BARIUM	SW6010-BERYLLIUM				
SW6010-CADMIUM	SW6010-CALCIUM	SW6010-CHROMIUM				
SW6010-COBALT	SW6010-COPPER	SW6010-IRON				
SW6010-LEAD	SW6010-MAGNESIUM	SW6010-MANGANESE				
SW6010-NICKEL	SW6010-POTASSIUM	SW6010-SELENIUM				
SW6010-SILVER	SW6010-SODIUM	SW6010-THALLIUM				
SW6010-VANADIUM	SW6010-ZINC	SW7470-MERCURY				
TM3232-2	16LM20057	15-DEC-19 10:55	17-DEC-19			07-JAN-20
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments	
Aqueous	P TAL-METALS-SW846					
SW3010-PREP	SW6010-ALUMINUM	SW6010-ANTIMONY				
SW6010-ARSENIC	SW6010-BARIUM	SW6010-BERYLLIUM				
SW6010-CADMIUM	SW6010-CALCIUM	SW6010-CHROMIUM				
SW6010-COBALT	SW6010-COPPER	SW6010-IRON				
SW6010-LEAD	SW6010-MAGNESIUM	SW6010-MANGANESE				
SW6010-NICKEL	SW6010-POTASSIUM	SW6010-SELENIUM				
SW6010-SILVER	SW6010-SODIUM	SW6010-THALLIUM				
SW6010-VANADIUM	SW6010-ZINC	SW7470-MERCURY				
TM3232-3	16LM20062	15-DEC-19 12:00	17-DEC-19			07-JAN-20
Matrix	Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments	
Aqueous	P TAL-METALS-SW846					
SW3010-PREP	SW6010-ALUMINUM	SW6010-ANTIMONY				
SW6010-ARSENIC	SW6010-BARIUM	SW6010-BERYLLIUM				
SW6010-CADMIUM	SW6010-CALCIUM	SW6010-CHROMIUM				
SW6010-COBALT	SW6010-COPPER	SW6010-IRON				
SW6010-LEAD	SW6010-MAGNESIUM	SW6010-MANGANESE				
SW6010-NICKEL	SW6010-POTASSIUM	SW6010-SELENIUM				
SW6010-SILVER	SW6010-SODIUM	SW6010-THALLIUM				
SW6010-VANADIUM	SW6010-ZINC	SW7470-MERCURY				

HHM
12-17-19

Login Number: TM3232

Quote/Incoming: PARSONS-SENACA

Account: PARSONS002
PARSONS

NoWeb

Project: PARSONS-SENACA-LTM
Senaca Army Deport 5 Year LTM

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TM3232-4	16LM20061	15-DEC-19 11:40	17-DEC-19			07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>		
Aqueous	P TAL-METALS-SW846				MS/MSD		
SW3010-PREP		SW6010-ALUMINUM	SW6010-ANTIMONY				
SW6010-ARSENIC		SW6010-BARIUM	SW6010-BERYLLIUM				
SW6010-CADMIUM		SW6010-CALCIUM	SW6010-CHROMIUM				
SW6010-COBALT		SW6010-COPPER	SW6010-IRON				
SW6010-LEAD		SW6010-MAGNESIUM	SW6010-MANGANESE				
SW6010-NICKEL		SW6010-POTASSIUM	SW6010-SELENIUM				
SW6010-SILVER		SW6010-SODIUM	SW6010-THALLIUM				
SW6010-VANADIUM		SW6010-ZINC	SW7470-MERCURY				
TM3232-5	16LM20060	15-DEC-19 12:35	17-DEC-19			07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>		
Aqueous	P TAL-METALS-SW846						
SW3010-PREP		SW6010-ALUMINUM	SW6010-ANTIMONY				
SW6010-ARSENIC		SW6010-BARIUM	SW6010-BERYLLIUM				
SW6010-CADMIUM		SW6010-CALCIUM	SW6010-CHROMIUM				
SW6010-COBALT		SW6010-COPPER	SW6010-IRON				
SW6010-LEAD		SW6010-MAGNESIUM	SW6010-MANGANESE				
SW6010-NICKEL		SW6010-POTASSIUM	SW6010-SELENIUM				
SW6010-SILVER		SW6010-SODIUM	SW6010-THALLIUM				
SW6010-VANADIUM		SW6010-ZINC	SW7470-MERCURY				
TM3232-6	16LM20058	15-DEC-19 13:30	17-DEC-19			07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>		
Aqueous	P TAL-METALS-SW846						
SW3010-PREP		SW6010-ALUMINUM	SW6010-ANTIMONY				
SW6010-ARSENIC		SW6010-BARIUM	SW6010-BERYLLIUM				
SW6010-CADMIUM		SW6010-CALCIUM	SW6010-CHROMIUM				
SW6010-COBALT		SW6010-COPPER	SW6010-IRON				
SW6010-LEAD		SW6010-MAGNESIUM	SW6010-MANGANESE				
SW6010-NICKEL		SW6010-POTASSIUM	SW6010-SELENIUM				
SW6010-SILVER		SW6010-SODIUM	SW6010-THALLIUM				
SW6010-VANADIUM		SW6010-ZINC	SW7470-MERCURY				
TM3232-7	16LM20056	15-DEC-19 14:20	17-DEC-19			07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>		
Aqueous	P TAL-METALS-SW846						
SW3010-PREP		SW6010-ALUMINUM	SW6010-ANTIMONY				
SW6010-ARSENIC		SW6010-BARIUM	SW6010-BERYLLIUM				
SW6010-CADMIUM		SW6010-CALCIUM	SW6010-CHROMIUM				
SW6010-COBALT		SW6010-COPPER	SW6010-IRON				
SW6010-LEAD		SW6010-MAGNESIUM	SW6010-MANGANESE				
SW6010-NICKEL		SW6010-POTASSIUM	SW6010-SELENIUM				
SW6010-SILVER		SW6010-SODIUM	SW6010-THALLIUM				
SW6010-VANADIUM		SW6010-ZINC	SW7470-MERCURY				
TM3232-8	17LM20040	15-DEC-19 10:40	17-DEC-19			07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>		
Aqueous	P TAL-METALS-SW846						
SW3010-PREP		SW6010-ALUMINUM	SW6010-ANTIMONY				
SW6010-ARSENIC		SW6010-BARIUM	SW6010-BERYLLIUM				
SW6010-CADMIUM		SW6010-CALCIUM	SW6010-CHROMIUM				
SW6010-COBALT		SW6010-COPPER	SW6010-IRON				
SW6010-LEAD		SW6010-MAGNESIUM	SW6010-MANGANESE				
SW6010-NICKEL		SW6010-POTASSIUM	SW6010-SELENIUM				
SW6010-SILVER		SW6010-SODIUM	SW6010-THALLIUM				
SW6010-VANADIUM		SW6010-ZINC	SW7470-MERCURY				

Handwritten: HMM 12-17-19

Login Number: TM3232

Quote/Incoming: PARSONS-SENACA

Account: PARSONS002
PARSONS

NoWeb

Project: PARSONS-SENACA-LTM
Senaca Army Deport 5 Year LTM

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	Verbal PR Date	Due Date	Mailed
TM3232-9	17LM20041	15-DEC-19 11:40	17-DEC-19		07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>	
Aqueous	P TAL-METALS-SW846					
SW3010-PREP		SW6010-ALUMINUM	SW6010-ANTIMONY			
SW6010-ARSENIC		SW6010-BARIUM	SW6010-BERYLLIUM			
SW6010-CADMIUM		SW6010-CALCIUM	SW6010-CHROMIUM			
SW6010-COBALT		SW6010-COPPER	SW6010-IRON			
SW6010-LEAD		SW6010-MAGNESIUM	SW6010-MANGANESE			
SW6010-NICKEL		SW6010-POTASSIUM	SW6010-SELENIUM			
SW6010-SILVER		SW6010-SODIUM	SW6010-THALLIUM			
SW6010-VANADIUM		SW6010-ZINC	SW7470-MERCURY			
TM3232-10	17LM20042	15-DEC-19 12:45	17-DEC-19		07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>	
Aqueous	P TAL-METALS-SW846					
SW3010-PREP		SW6010-ALUMINUM	SW6010-ANTIMONY			
SW6010-ARSENIC		SW6010-BARIUM	SW6010-BERYLLIUM			
SW6010-CADMIUM		SW6010-CALCIUM	SW6010-CHROMIUM			
SW6010-COBALT		SW6010-COPPER	SW6010-IRON			
SW6010-LEAD		SW6010-MAGNESIUM	SW6010-MANGANESE			
SW6010-NICKEL		SW6010-POTASSIUM	SW6010-SELENIUM			
SW6010-SILVER		SW6010-SODIUM	SW6010-THALLIUM			
SW6010-VANADIUM		SW6010-ZINC	SW7470-MERCURY			
TM3232-11	17LM20043	15-DEC-19 14:05	17-DEC-19		07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>	
Aqueous	P TAL-METALS-SW846					
SW3010-PREP		SW6010-ALUMINUM	SW6010-ANTIMONY			
SW6010-ARSENIC		SW6010-BARIUM	SW6010-BERYLLIUM			
SW6010-CADMIUM		SW6010-CALCIUM	SW6010-CHROMIUM			
SW6010-COBALT		SW6010-COPPER	SW6010-IRON			
SW6010-LEAD		SW6010-MAGNESIUM	SW6010-MANGANESE			
SW6010-NICKEL		SW6010-POTASSIUM	SW6010-SELENIUM			
SW6010-SILVER		SW6010-SODIUM	SW6010-THALLIUM			
SW6010-VANADIUM		SW6010-ZINC	SW7470-MERCURY			
TM3232-12	17LM20044	15-DEC-19 14:55	17-DEC-19		07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>	
Aqueous	P TAL-METALS-SW846					
SW3010-PREP		SW6010-ALUMINUM	SW6010-ANTIMONY			
SW6010-ARSENIC		SW6010-BARIUM	SW6010-BERYLLIUM			
SW6010-CADMIUM		SW6010-CALCIUM	SW6010-CHROMIUM			
SW6010-COBALT		SW6010-COPPER	SW6010-IRON			
SW6010-LEAD		SW6010-MAGNESIUM	SW6010-MANGANESE			
SW6010-NICKEL		SW6010-POTASSIUM	SW6010-SELENIUM			
SW6010-SILVER		SW6010-SODIUM	SW6010-THALLIUM			
SW6010-VANADIUM		SW6010-ZINC	SW7470-MERCURY			
TM3232-13	MS CHARGE 16LM20061	15-DEC-19 11:40	17-DEC-19		07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>	
Aqueous	P TAL-METALS-SW846				Not a sample, MS charge for TM3232-4.	
TM3232-14	MSD CHARGE 16LM20061	15-DEC-19 11:40	17-DEC-19		07-JAN-20	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>	<i>Comments</i>	
Aqueous	P TAL-METALS-SW846				Not a sample, MSD charge for TM3232-4.	

Handwritten: HAWM 12-17-19



Katahdin Analytical Services
Login Chain of Custody Report (Ino1)
Dec. 17, 2019
05:28 PM

Login Number: TM3232

Quote/Incoming: PARSONS-SENACA

Account: PARSONS002
PARSONS

NoWeb

Project: PARSONS-SENACA-LTM
Senaca Army Deport 5 Year LTM

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
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Total Samples: 14

Total Analyses: 14

AAW
12-17-19

SAMPLE DATA SUMMARY PACKAGE

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	<p>The analyte was not detected above the specified level. This level may be the Limit of Quantitation (LOQ) (previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.</p> <p>Note: All results reported as “U” MDL have a 50% rate for false negatives compared to those results reported as “U” PQL/LOQ or “U” LOD, where the rate of false negatives is <1%.</p>
J	The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ) (previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20059

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	96	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	35.5			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.082	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	61400			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.99	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	3.4	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	475			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	1.4	J		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	6000			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	32.2			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.5	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1110			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.39	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	1060			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.63	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	2.7	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20057

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	271	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	80.9			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.18	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	90600			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	1.3	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	0.26	J		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	4.0	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	309			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	6.1			P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	8520			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	93.0			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.7	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1480			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.71	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	4410			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	1.0	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	19.9	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20062

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	87	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	50.8			P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	87.8			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.15	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	100000			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.89	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	0.33	J		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	3.0	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	225			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	33.3			P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	24100			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	21.9			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.1	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1460			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	4.0	U		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	3150			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.40	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	14.2	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20061

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	98	J	N	P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	49.0			P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	110			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.082	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	92900		NA	P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.60	J	N	P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	0.34	J	N	P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	2.7	J	N	P	1	25	0.63	10
7439-89-6	IRON, TOTAL	223		N	P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	33.6			P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	23400		N	P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	19.6		N	P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U	A	CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.84	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1380			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	2.7	J		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.31	J	N	P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	2940		A	P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.47	J	N	P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	12.2	J	N	P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20060

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	72	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	64.7			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.14	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	88100			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.74	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	10	U		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	534			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	8180			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	106			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.52	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1830			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.30	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	7540			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.29	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	1.6	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20058

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	42	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	83.3			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.21	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	147000			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.81	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	1.8	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	159			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	21600			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	161			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.2	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1320			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	4.0	U		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	70800			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.71	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	3.4	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20056

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	100	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	88.6			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	3.0	U		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	125000			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.92	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	5.0	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	115			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	18000			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	14.6			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.1	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1010			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	3.1	J		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.31	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	29100			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.30	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	6.0	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 17LM20040

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	163	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	1.7	J		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	22.2			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.26	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	45200			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.91	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	7.60	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	235			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	2.5	J		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	5500			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	2.4	J		P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.70	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	433	J		P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	2.5	J		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.66	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	1570			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.64	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	7.51	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 17LM20041

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-009

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	61	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	1.9	J		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	85.6			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.19	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	125000			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.78	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	7.86	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	131			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	1.6	J		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	10700			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	15.7			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.3	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1550			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	2.8	J		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	4.0	U		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	8360			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	4.0	U		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	35.1			P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 17LM20042

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-010

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	71	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	51.2			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.17	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	71700			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.80	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	2.4	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	64.0	J		P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	6480			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.87	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1260			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.37	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	2930			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	4.0	U		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	29.9			P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 17LM20043

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-011

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	67	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	31.4			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.15	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	75400			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.76	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	0.27	J		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	2.0	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	85.8	J		P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	9580			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	61.6			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.0	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	460	J		P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.61	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	3890			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.40	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	2.3	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 17LM20044

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-012

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	93	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	94.7			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.069	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	104000			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.65	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	0.93	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	269			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	13900			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	27.6			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.3	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1130			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	3.2	J		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	4.0	U		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	4210			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.41	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	4.4	J		P	1	20	0.72	10

Comments:

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICV

File: HML19B	Dec 19, 2019	14:26	
Analyte	True	Found	%R (1)
MERCURY	6.0	6.10	101.7

SAMPLE: CCV

File: HML19B	Dec 19, 2019	14:32	
Analyte	True	Found	%R (1)
MERCURY	5.0	4.88	97.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File: HML19B	Dec 19, 2019	14:56	
Analyte	True	Found	%R (1)
MERCURY	5.0	5.05	101.0

SAMPLE: CCV

File: HML19B	Dec 19, 2019	15:21	
Analyte	True	Found	%R (1)
MERCURY	5.0	5.05	101.0

(1) Control Limits: Mercury 80-120; Other Metals 90-110

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File: HML19B Dec 19, 2019 15:45

Analyte	True	Found	%R (1)
MERCURY	5.0	5.06	101.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN**Katahdin Analytical Services A0000017**

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICV

File:	IML27A	Dec 27, 2019	9:44
Analyte	True	Found	%R (1)
ALUMINUM	10000.0	9750.00	97.5
ANTIMONY	400.0	402.50	100.6
ARSENIC	400.0	390.60	97.7
CADMIUM	400.0	406.30	101.6
CALCIUM	10000.0	9927.00	99.3
CHROMIUM	400.0	407.50	101.9
COBALT	400.0	410.70	102.7
COPPER	400.0	401.90	100.5
IRON	10000.0	9886.00	98.9
LEAD	400.0	405.90	101.5
MAGNESIUM	10000.0	9709.00	97.1
MANGANESE	400.0	402.20	100.6
POTASSIUM	13600.0	13490.00	99.2
SELENIUM	400.0	404.80	101.2
SILVER	400.0	410.40	102.6
SODIUM	10000.0	9894.00	98.9
THALLIUM	400.0	403.10	100.8
VANADIUM	400.0	402.90	100.7
ZINC	400.0	408.90	102.2

SAMPLE: CCV

File:	IML27A	Dec 27, 2019	10:07
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12620.00	101.0
ANTIMONY	500.0	504.10	100.8
ARSENIC	500.0	499.80	100.0
CADMIUM	500.0	501.90	100.4
CALCIUM	12500.0	12550.00	100.4
CHROMIUM	500.0	504.70	100.9
COBALT	500.0	505.00	101.0
COPPER	500.0	505.80	101.2
IRON	12500.0	12670.00	101.4
LEAD	500.0	505.50	101.1
MAGNESIUM	12500.0	12130.00	97.0
MANGANESE	500.0	515.60	103.1
POTASSIUM	12500.0	12690.00	101.5
SELENIUM	500.0	501.10	100.2
SILVER	500.0	506.50	101.3
SODIUM	12500.0	12630.00	101.0
THALLIUM	500.0	503.30	100.7
VANADIUM	500.0	503.00	100.6
ZINC	500.0	500.10	100.0

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A0000018

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	IML27A	Dec 27, 2019	10:28
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	13040.00	104.3
ANTIMONY	500.0	509.50	101.9
ARSENIC	500.0	500.40	100.1
CADMIUM	500.0	505.90	101.2
CALCIUM	12500.0	12980.00	103.8
CHROMIUM	500.0	530.40	106.1
COBALT	500.0	505.30	101.1
COPPER	500.0	531.10	106.2
IRON	12500.0	13060.00	104.5
LEAD	500.0	509.20	101.8
MAGNESIUM	12500.0	12080.00	96.6
MANGANESE	500.0	530.60	106.1
POTASSIUM	12500.0	13180.00	105.4
SELENIUM	500.0	503.30	100.7
SILVER	500.0	531.70	106.3
SODIUM	12500.0	13090.00	104.7
THALLIUM	500.0	502.00	100.4
VANADIUM	500.0	532.60	106.5
ZINC	500.0	504.40	100.9

SAMPLE: CCV

File:	IML27A	Dec 27, 2019	11:27
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12970.00	103.8
ANTIMONY	500.0	531.70	106.3
ARSENIC	500.0	517.20	103.4
CADMIUM	500.0	527.90	105.6
CALCIUM	12500.0	12920.00	103.4
CHROMIUM	500.0	532.00	106.4
COBALT	500.0	523.80	104.8
COPPER	500.0	536.30	107.3
IRON	12500.0	12990.00	103.9
LEAD	500.0	531.10	106.2
MAGNESIUM	12500.0	12510.00	100.1
MANGANESE	500.0	523.90	104.8
POTASSIUM	12500.0	13030.00	104.2
SELENIUM	500.0	517.90	103.6
SILVER	500.0	533.20	106.6
SODIUM	12500.0	13140.00	105.1
THALLIUM	500.0	512.70	102.5
VANADIUM	500.0	535.60	107.1
ZINC	500.0	525.60	105.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A0000019

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	IML27A	Dec 27, 2019	12:19
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12810.00	102.5
ANTIMONY	500.0	512.70	102.5
ARSENIC	500.0	487.30	97.5
CADMIUM	500.0	504.50	100.9
CALCIUM	12500.0	12760.00	102.1
CHROMIUM	500.0	520.00	104.0
COBALT	500.0	492.40	98.5
COPPER	500.0	531.50	106.3
IRON	12500.0	12880.00	103.0
LEAD	500.0	506.50	101.3
MAGNESIUM	12500.0	11820.00	94.6
MANGANESE	500.0	513.80	102.8
POTASSIUM	12500.0	12970.00	103.8
SELENIUM	500.0	489.70	97.9
SILVER	500.0	522.70	104.5
SODIUM	12500.0	13030.00	104.2
THALLIUM	500.0	485.40	97.1
VANADIUM	500.0	534.30	106.9
ZINC	500.0	502.40	100.5

SAMPLE: CCV

File:	IML27A	Dec 27, 2019	13:13
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12940.00	103.5
ANTIMONY	500.0	528.10	105.6
ARSENIC	500.0	498.10	99.6
CADMIUM	500.0	520.70	104.1
CALCIUM	12500.0	12840.00	102.7
CHROMIUM	500.0	531.60	106.3
COBALT	500.0	504.70	100.9
COPPER	500.0	541.20	108.2
IRON	12500.0	12970.00	103.8
LEAD	500.0	520.90	104.2
MAGNESIUM	12500.0	11960.00	95.7
MANGANESE	500.0	515.30	103.1
POTASSIUM	12500.0	13010.00	104.1
SELENIUM	500.0	500.80	100.2
SILVER	500.0	528.60	105.7
SODIUM	12500.0	13240.00	105.9
THALLIUM	500.0	491.10	98.2
VANADIUM	500.0	551.50	110.3
ZINC	500.0	518.60	103.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A0000020

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICV

File:	IML30A	Dec 30, 2019	12:54
Analyte	True	Found	%R (1)
ALUMINUM	10000.0	9599.00	96.0
ANTIMONY	400.0	390.60	97.7
ARSENIC	400.0	382.10	95.5
CADMIUM	400.0	394.80	98.7
CALCIUM	10000.0	9838.00	98.4
IRON	10000.0	9809.00	98.1
MAGNESIUM	10000.0	9455.00	94.5
POTASSIUM	13600.0	13390.00	98.5
SODIUM	10000.0	9748.00	97.5
THALLIUM	400.0	393.00	98.3

SAMPLE: CCV

File:	IML30A	Dec 30, 2019	13:17
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12070.00	96.6
ANTIMONY	500.0	501.50	100.3
ARSENIC	500.0	511.80	102.4
CADMIUM	500.0	513.30	102.7
CALCIUM	12500.0	12130.00	97.0
IRON	12500.0	12180.00	97.4
MAGNESIUM	12500.0	12510.00	100.1
POTASSIUM	12500.0	12160.00	97.3
SODIUM	12500.0	12070.00	96.6
THALLIUM	500.0	513.40	102.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A0000021

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	IML30A	Dec 30, 2019	13:39
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12900.00	103.2
ANTIMONY	500.0	496.70	99.3
ARSENIC	500.0	506.20	101.2
CADMIUM	500.0	508.00	101.6
CALCIUM	12500.0	12920.00	103.4
IRON	12500.0	13070.00	104.6
MAGNESIUM	12500.0	12380.00	99.0
POTASSIUM	12500.0	12950.00	103.6
SODIUM	12500.0	12910.00	103.3
THALLIUM	500.0	506.10	101.2

SAMPLE: CCV

File:	IML30A	Dec 30, 2019	14:36
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12380.00	99.0
ANTIMONY	500.0	494.90	99.0
ARSENIC	500.0	503.60	100.7
CADMIUM	500.0	504.60	100.9
CALCIUM	12500.0	12330.00	98.6
IRON	12500.0	12390.00	99.1
MAGNESIUM	12500.0	12430.00	99.4
POTASSIUM	12500.0	12400.00	99.2
SODIUM	12500.0	12390.00	99.1
THALLIUM	500.0	503.90	100.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A000022

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	IML30A	Dec 30, 2019	15:28
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12290.00	98.3
ANTIMONY	500.0	489.30	97.9
ARSENIC	500.0	497.90	99.6
CADMIUM	500.0	496.80	99.4
CALCIUM	12500.0	12250.00	98.0
IRON	12500.0	12370.00	99.0
MAGNESIUM	12500.0	12300.00	98.4
POTASSIUM	12500.0	12320.00	98.6
SODIUM	12500.0	12300.00	98.4
THALLIUM	500.0	501.90	100.4

SAMPLE: CCV

File:	IML30A	Dec 30, 2019	16:21
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12080.00	96.6
ANTIMONY	500.0	498.90	99.8
ARSENIC	500.0	504.50	100.9
CADMIUM	500.0	508.80	101.8
CALCIUM	12500.0	12100.00	96.8
IRON	12500.0	12170.00	97.4
MAGNESIUM	12500.0	12230.00	97.8
POTASSIUM	12500.0	12170.00	97.4
SODIUM	12500.0	12150.00	97.2
THALLIUM	500.0	511.20	102.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A0000023

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File: IML30A Dec 30, 2019 17:13

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	13580.00	108.6
ANTIMONY	500.0	545.80	109.2
ARSENIC	500.0	550.30	110.1
CADMIUM	500.0	549.00	109.8
CALCIUM	12500.0	13400.00	107.2
IRON	12500.0	13630.00	109.0
MAGNESIUM	12500.0	13240.00	105.9
POTASSIUM	12500.0	13600.00	108.8
SODIUM	12500.0	13640.00	109.1
THALLIUM	500.0	545.60	109.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A0000024

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICV

File:	INA03A	Jan 03, 2020	15:07
Analyte	True	Found	%R (1)
ALUMINUM	10000.0	9946.00	99.5
BARIUM	400.0	409.90	102.5
BERYLLIUM	400.0	417.80	104.5
CALCIUM	10000.0	10170.00	101.7
IRON	10000.0	10010.00	100.1
MAGNESIUM	10000.0	9699.00	97.0
NICKEL	400.0	408.90	102.2

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	15:30
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12090.00	96.7
BARIUM	500.0	496.90	99.4
BERYLLIUM	500.0	493.20	98.6
CALCIUM	12500.0	12090.00	96.7
IRON	12500.0	12340.00	98.7
MAGNESIUM	12500.0	11770.00	94.2
NICKEL	500.0	495.20	99.0

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A0000025

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	15:51
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12350.00	98.8
BARIUM	500.0	508.80	101.8
BERYLLIUM	500.0	506.40	101.3
CALCIUM	12500.0	12340.00	98.7
IRON	12500.0	12640.00	101.1
MAGNESIUM	12500.0	11700.00	93.6
NICKEL	500.0	490.50	98.1

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	16:46
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12430.00	99.4
BARIUM	500.0	520.80	104.2
BERYLLIUM	500.0	512.70	102.5
CALCIUM	12500.0	12360.00	98.9
IRON	12500.0	12770.00	102.2
MAGNESIUM	12500.0	11970.00	95.8
NICKEL	500.0	501.40	100.3

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A0000026

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

SAMPLE: CCV			
File: INA03A	Jan 03, 2020	17:40	
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12200.00	97.6
BARIUM	500.0	516.50	103.3
BERYLLIUM	500.0	503.70	100.7
CALCIUM	12500.0	12110.00	96.9
IRON	12500.0	12620.00	101.0
MAGNESIUM	12500.0	11760.00	94.1
NICKEL	500.0	494.70	98.9

SAMPLE: CCV

SAMPLE: CCV			
File: INA03A	Jan 03, 2020	18:32	
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12250.00	98.0
BARIUM	500.0	529.00	105.8
BERYLLIUM	500.0	515.30	103.1
CALCIUM	12500.0	12100.00	96.8
IRON	12500.0	12950.00	103.6
MAGNESIUM	12500.0	11920.00	95.4
NICKEL	500.0	504.00	100.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A0000027

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	19:24
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12320.00	98.6
BARIUM	500.0	513.70	102.7
BERYLLIUM	500.0	511.00	102.2
CALCIUM	12500.0	12280.00	98.2
IRON	12500.0	12670.00	101.4
MAGNESIUM	12500.0	11980.00	95.8
NICKEL	500.0	506.50	101.3

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	20:17
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12160.00	97.3
BARIUM	500.0	510.70	102.1
BERYLLIUM	500.0	507.80	101.6
CALCIUM	12500.0	12190.00	97.5
IRON	12500.0	12560.00	100.5
MAGNESIUM	12500.0	11930.00	95.4
NICKEL	500.0	504.00	100.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services A0000028

2C
PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** TM3232

Concentration Units: ug/L

SAMPLE: PQL

File: HML19B Dec 19, 2019 14:30

Analyte	TRUE	FOUND	% R
MERCURY	0.2	0.19	95.0

2C
PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: PQL

File: IML27A Dec 27, 2019 09:52

Analyte	TRUE	FOUND	% R
ALUMINUM	300.0	301.50	100.5
ANTIMONY	8.0	8.45	105.6
ARSENIC	8.0	8.34	104.3
CADMIUM	5.0	5.31	106.2
CALCIUM	100.0	101.20	101.2
CHROMIUM	10.0	10.20	102.0
COBALT	10.0	10.73	107.3
COPPER	25.0	24.97	99.9
IRON	100.0	106.20	106.2
LEAD	5.0	4.79	95.8
MAGNESIUM	100.0	95.71	95.7
MANGANESE	5.0	4.61	92.2
POTASSIUM	1000.0	1020.00	102.0
SELENIUM	10.0	11.63	116.3
SILVER	10.0	10.01	100.1
SODIUM	1000.0	1038.00	103.8
THALLIUM	15.0	16.20	108.0
VANADIUM	10.0	10.71	107.1
ZINC	20.0	20.72	103.6

2C
PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: PQL

File: IML30A Dec 30, 2019 13:02

Analyte	TRUE	FOUND	% R
ALUMINUM	300.0	313.00	104.3
ANTIMONY	8.0	8.08	101.0
ARSENIC	8.0	7.61	95.1
CADMIUM	5.0	5.17	103.4
CALCIUM	100.0	103.30	103.3
IRON	100.0	105.60	105.6
MAGNESIUM	100.0	98.16	98.2
POTASSIUM	1000.0	1052.00	105.2
SODIUM	1000.0	1024.00	102.4
THALLIUM	15.0	15.86	105.7

2C
PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: PQL

File: INA03A Jan 03, 2020 15:15

Analyte	TRUE	FOUND	% R
ALUMINUM	300.0	307.10	102.4
BARIUM	5.0	5.08	101.6
BERYLLIUM	5.0	5.01	100.2
CALCIUM	100.0	105.10	105.1
IRON	100.0	98.92	98.9
MAGNESIUM	100.0	90.25	90.3
NICKEL	10.0	10.15	101.5

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICB

File: HML19B Dec 19, 2019 14:28

Analyte	Result	C
MERCURY	0.016	U

SAMPLE: CCB

File: HML19B Dec 19, 2019 14:34

Analyte	Result	C
MERCURY	0.016	U

SAMPLE: CCB

File: HML19B Dec 19, 2019 14:58

Analyte	Result	C
MERCURY	0.016	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: HML19B Dec 19, 2019 15:24

Analyte	Result	C
MERCURY	0.016	U

SAMPLE: CCB

File: HML19B Dec 19, 2019 15:47

Analyte	Result	C
MERCURY	0.016	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICB

File: IML27A Dec 27, 2019 9:48

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	0.550	U
IRON	3.600	U
LEAD	-1.215	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	2.300	U
SILVER	5.300	U
SODIUM	12.000	U
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

SAMPLE: CCB

File: IML27A Dec 27, 2019 10:12

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.138	J
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	0.550	U
IRON	3.600	U
LEAD	1.000	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	2.300	U
SILVER	5.300	U
SODIUM	15.820	J
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

SAMPLE: CCB

File: IML27A Dec 27, 2019 10:32

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.150	J
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	0.550	U
IRON	4.331	J
LEAD	1.000	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	3.165	J
SILVER	5.300	U
SODIUM	18.490	J
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: IML27A Dec 27, 2019 11:31

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	0.550	U
IRON	3.600	U
LEAD	1.000	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	2.300	U
SILVER	5.300	U
SODIUM	51.410	J
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

SAMPLE: CCB

File: IML27A Dec 27, 2019 12:23

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	-1.646	U
CADMIUM	0.160	J
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	-1.213	U
IRON	3.600	U
LEAD	1.000	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	2.300	U
SILVER	5.300	U
SODIUM	32.680	J
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

SAMPLE: CCB

File: IML27A Dec 27, 2019 13:17

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	-1.169	U
IRON	3.600	U
LEAD	-1.234	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	2.300	U
SILVER	5.300	U
SODIUM	38.680	J
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICB

File: IML30A Dec 30, 2019 12:58

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	12.000	U
THALLIUM	-1.491	U

SAMPLE: CCB

File: IML30A Dec 30, 2019 13:21

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	3.398	J
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	12.000	U
THALLIUM	1.300	U

SAMPLE: CCB

File: IML30A Dec 30, 2019 13:43

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.972	J
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	12.000	U
THALLIUM	1.300	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: IML30A Dec 30, 2019 14:40

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.861	J
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	44.080	J
THALLIUM	1.300	U

SAMPLE: CCB

File: IML30A Dec 30, 2019 15:32

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	12.000	U
THALLIUM	1.300	U

SAMPLE: CCB

File: IML30A Dec 30, 2019 16:25

Analyte	Result	C
ALUMINUM	10.860	J
ANTIMONY	1.942	J
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	19.190	J
THALLIUM	1.300	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: IML30A Dec 30, 2019 17:17

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.985	J
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	12.000	U
THALLIUM	1.300	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICB

File: INA03A Jan 03, 2020 15:11

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	4.111	J
MAGNESIUM	2.900	U
NICKEL	0.440	U

SAMPLE: CCB

File: INA03A Jan 03, 2020 15:35

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	4.188	J
MAGNESIUM	2.900	U
NICKEL	0.440	U

SAMPLE: CCB

File: INA03A Jan 03, 2020 15:55

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.919	J
NICKEL	0.440	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: INA03A Jan 03, 2020 16:51

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	5.067	J
MAGNESIUM	-3.140	U
NICKEL	0.440	U

SAMPLE: CCB

File: INA03A Jan 03, 2020 17:44

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	4.733	J
MAGNESIUM	2.900	U
NICKEL	0.440	U

SAMPLE: CCB

File: INA03A Jan 03, 2020 18:36

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	4.733	J
MAGNESIUM	2.900	U
NICKEL	0.440	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: INA03A Jan 03, 2020 19:28

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.280	J
IRON	3.600	U
MAGNESIUM	2.900	U
NICKEL	0.440	U

SAMPLE: CCB

File: INA03A Jan 03, 2020 20:21

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
NICKEL	0.440	U

3P
PREPARATION BLANKS

Lab Name: Katahdin Analytical Services

Sample ID: PBWML19HGW1

Matrix: WATER

SDG Name: TM3232

QC Batch ID: ML19HGW1

Concentration Units : ug/L

Analyte	RESULT	C
MERCURY	0.10	U

3P
PREPARATION BLANKS

Lab Name: Katahdin Analytical Services

Sample ID: PBWML24ICW1

Matrix: WATER

SDG Name: TM3232

QC Batch ID: ML24ICW1

Concentration Units : ug/L

Analyte	RESULT	C
ALUMINUM	15	J
ANTIMONY	5.0	U
ARSENIC	5.0	U
CADMIUM	0.088	J
CALCIUM	80	U
CHROMIUM	4.0	U
COBALT	4.0	U
COPPER	10	U
IRON	80	U
LEAD	4.0	U
MAGNESIUM	80	U
MANGANESE	4.0	U
POTASSIUM	46	J
SELENIUM	7.0	U
SILVER	0.65	J
SODIUM	500	U
THALLIUM	5.0	U
VANADIUM	4.0	U
ZINC	10	U

3P
PREPARATION BLANKS

Lab Name: Katahdin Analytical Services

Sample ID: PBWNA02ICW2

Matrix: WATER

SDG Name: TM3232

QC Batch ID: NA02ICW2

Concentration Units : ug/L

Analyte	RESULT	C
BARIUM	3.0	U
BERYLLIUM	0.50	U
NICKEL	0.28	J

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICSA				SAMPLE: ICSAB			
File: IML27A	Dec 27, 2019	09:57		File: IML27A	Dec 27, 2019	10:02	
Analyte	TRUE	FOUND	% R	Analyte	TRUE	FOUND	% R
ALUMINUM	500000.00	490400.00	98.1	ALUMINUM	500000.00	498900.00	99.8
ANTIMONY	0	-1.43		ANTIMONY	600.00	637.70	106.3
ARSENIC	0	-3.23		ARSENIC	100.00	103.30	103.0
CADMIUM	0	1.31		CADMIUM	1000.00	982.20	98.2
CALCIUM	500000.00	473100.00	94.6	CALCIUM	500000.00	480600.00	96.1
CHROMIUM	0	-1.53		CHROMIUM	500.00	487.60	97.6
COBALT	0	-0.72		COBALT	500.00	493.00	98.6
COPPER	0	-0.98		COPPER	500.00	532.60	106.6
IRON	200000.00	185600.00	92.8	IRON	200000.00	189500.00	94.8
LEAD	0	1.30		LEAD	50.00	50.78	102.0
MAGNESIUM	500000.00	490300.00	98.1	MAGNESIUM	500000.00	494200.00	98.8
MANGANESE	0	-2.38		MANGANESE	500.00	486.00	97.2
POTASSIUM	0	22.22		POTASSIUM	20000.00	21240.00	106.2
SELENIUM	0	2.13		SELENIUM	50.00	51.74	104.0
SILVER	0	3.59		SILVER	200.00	221.60	111.0
SODIUM	0	30.56		SODIUM	20000.00	21370.00	106.8
THALLIUM	0	1.34		THALLIUM	100.00	96.50	97.0
VANADIUM	0	-1.68		VANADIUM	500.00	493.70	98.8
ZINC	0	0.70		ZINC	1000.00	964.00	96.4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICSA

File: IML30A Dec 30, 2019 13:07

Analyte	TRUE	FOUND	% R
ALUMINUM	500000.00	478400.00	95.7
ANTIMONY	0	0.78	
ARSENIC	0	-2.70	
CADMIUM	0	0.47	
CALCIUM	500000.00	462000.00	92.4
IRON	200000.00	180200.00	90.1
MAGNESIUM	500000.00	493100.00	98.6
POTASSIUM	0	-20.84	
SODIUM	0	17.67	
THALLIUM	0	0.87	

SAMPLE: ICSAB

File: IML30A Dec 30, 2019 13:12

Analyte	TRUE	FOUND	% R
ALUMINUM	500000.00	476400.00	95.3
ANTIMONY	600.00	614.60	102.5
ARSENIC	100.00	104.80	105.0
CADMIUM	1000.00	954.30	95.4
CALCIUM	500000.00	459500.00	91.9
IRON	200000.00	181300.00	90.6
MAGNESIUM	500000.00	474000.00	94.8
POTASSIUM	20000.00	20640.00	103.2
SODIUM	20000.00	20380.00	101.9
THALLIUM	100.00	92.72	93.0

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICSA

File: INA03A Jan 03, 2020 15:20

Analyte	TRUE	FOUND	% R
ALUMINUM	500000.00	476300.00	95.3
BARIUM	0	0.21	
BERYLLIUM	0	-0.02	
CALCIUM	500000.00	456200.00	91.2
IRON	200000.00	179700.00	89.8
MAGNESIUM	500000.00	465200.00	93.0
NICKEL	0	1.63	

SAMPLE: ICSAB

File: INA03A Jan 03, 2020 15:25

Analyte	TRUE	FOUND	% R
ALUMINUM	500000.00	479900.00	96.0
BARIUM	500.00	501.70	100.4
BERYLLIUM	500.00	492.90	98.6
CALCIUM	500000.00	456400.00	91.3
IRON	200000.00	181700.00	90.8
MAGNESIUM	500000.00	486400.00	97.3
NICKEL	1000.00	953.60	95.4

5A
SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20061P

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-004P

Concentration Units : ug/L

Analyte	Spiked		Sample		Spike Added	%R	Q	Control Limits (%R)			
	Sample	Result	C	Result				C	Low	High	M
ALUMINUM, TOTAL		2460		98	J	2000	118.3	N	86	115	P
ANTIMONY, TOTAL		162		49.0		100	112.5		88	113	P
ARSENIC, TOTAL		104		5.0	U	100	104.4		87	113	P
BARIUM, TOTAL		2340		110		2000	111.5		88	113	P
BERYLLIUM, TOTAL		55.2		0.50	U	50	110.4		89	112	P
CADMIUM, TOTAL		265		0.082	J	250	105.9		88	113	P
CALCIUM, TOTAL	101000			92900		2500	324.0	N	87	113	P
CHROMIUM, TOTAL		237		0.60	J	200	118.4	N	90	113	P
COBALT, TOTAL		585		0.34	J	500	117.0	N	89	114	P
COPPER, TOTAL		309		2.7	J	250	122.5	N	86	114	P
IRON, TOTAL		1410		223		1000	118.9	N	87	115	P
LEAD, TOTAL		140		33.6		100	106.2		86	113	P
MAGNESIUM, TOTAL		29200		23400		5000	115.4	N	85	113	P
MANGANESE, TOTAL		611		19.6		500	118.2	N	90	114	P
MERCURY, TOTAL		1.01		0.10	U	1	100.6		82	119	CV
NICKEL, TOTAL		521		0.84	J	500	104.0		88	113	P
POTASSIUM, TOTAL	12200			1380		10000	108.7		86	114	P
SELENIUM, TOTAL		109		2.7	J	100	106.2		83	114	P
SILVER, TOTAL		60.1		0.31	J	50	119.5	N	84	115	P
SODIUM, TOTAL	11300			2940		7500	111.1		87	115	P
THALLIUM, TOTAL		103		5.0	U	100	103.0		85	114	P
VANADIUM, TOTAL		608		0.47	J	500	121.4	N	90	111	P
ZINC, TOTAL		599		12.2	J	500	117.4	N	87	115	P

Comments:

5A
SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20061S

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-004S

Concentration Units : ug/L

Analyte	Spiked		Sample		Spike Added	%R	Q	Control Limits (%R)			
	Sample	Result	C	Result				C	Low	High	M
ALUMINUM, TOTAL		2350		98	J	2000	112.6		86	115	P
ANTIMONY, TOTAL		154		49.0		100	105.2		88	113	P
ARSENIC, TOTAL		99.8		5.0	U	100	99.8		87	113	P
BARIUM, TOTAL		2260		110		2000	107.3		88	113	P
BERYLLIUM, TOTAL		53.8		0.50	U	50	107.6		89	112	P
CADMIUM, TOTAL		251		0.082	J	250	100.4		88	113	P
CALCIUM, TOTAL		97300		92900		2500	175.6	N	87	113	P
CHROMIUM, TOTAL		222		0.60	J	200	110.7		90	113	P
COBALT, TOTAL		550		0.34	J	500	109.9		89	114	P
COPPER, TOTAL		288		2.7	J	250	114.1	N	86	114	P
IRON, TOTAL		1370		223		1000	114.3		87	115	P
LEAD, TOTAL		132		33.6		100	98.6		86	113	P
MAGNESIUM, TOTAL		27600		23400		5000	83.8	N	85	113	P
MANGANESE, TOTAL		587		19.6		500	113.5		90	114	P
MERCURY, TOTAL		0.957		0.10	U	1	95.7		82	119	CV
NICKEL, TOTAL		511		0.84	J	500	102.1		88	113	P
POTASSIUM, TOTAL		11700		1380		10000	103.6		86	114	P
SELENIUM, TOTAL		99.9		2.7	J	100	97.2		83	114	P
SILVER, TOTAL		56.6		0.31	J	50	112.5		84	115	P
SODIUM, TOTAL		10900		2940		7500	105.9		87	115	P
THALLIUM, TOTAL		96.8		5.0	U	100	96.8		85	114	P
VANADIUM, TOTAL		567		0.47	J	500	113.3	N	90	111	P
ZINC, TOTAL		564		12.2	J	500	110.3		87	115	P

Comments:

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20061A

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-004A

Concentration Units : ug/L

Analyte	Spiked		Sample		Spike Added	%R	Q	Control Limits (%R)			
	Sample	Result	C	Result				C	Low	High	M
ALUMINUM, TOTAL		11300		98	J	10500	107.0		80	120	P
ANTIMONY, TOTAL		590		49.0		500	108.2		80	120	P
ARSENIC, TOTAL		522		1.4	U	500	104.5		80	120	P
BARIUM, TOTAL		652		110		500	108.4		80	120	P
BERYLLIUM, TOTAL		542		0.10	U	500	108.4		80	120	P
CADMIUM, TOTAL		534		0.082	J	500	106.8		80	120	P
CALCIUM, TOTAL		99700		92900		5500	124.0	A	80	120	P
CHROMIUM, TOTAL		547		0.60	J	500	109.3		80	120	P
COBALT, TOTAL		529		0.34	J	500	105.7		80	120	P
COPPER, TOTAL		562		2.7	J	500	111.8		80	120	P
IRON, TOTAL		6700		223		5500	117.7		80	120	P
LEAD, TOTAL		571		33.6		500	107.4		80	120	P
MAGNESIUM, TOTAL		28800		23400		5500	99.1		80	120	P
MANGANESE, TOTAL		558		19.6		500	107.7		80	120	P
MERCURY, TOTAL		2.12		0.013	U	1	211.5	A	80	120	CV
NICKEL, TOTAL		516		0.84	J	500	103.1		80	120	P
POTASSIUM, TOTAL		12900		1380		10000	115.0		80	120	P
SELENIUM, TOTAL		528		2.7	J	500	105.0		80	120	P
SILVER, TOTAL		537		0.31	J	500	107.3		80	120	P
SODIUM, TOTAL		9600		2940		5500	121.2	A	80	120	P
THALLIUM, TOTAL		524		1.1	U	500	104.8		80	120	P
VANADIUM, TOTAL		558		0.47	J	500	111.4		80	120	P
ZINC, TOTAL		540		12.2	J	500	105.5		80	120	P

Comments:

5D
SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20061

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-004

Concentration Units : ug/L

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ALUMINUM, TOTAL		2350		2460		4.7		P
ANTIMONY, TOTAL		154		162		4.6		P
ARSENIC, TOTAL		99.8		104		4.5		P
BARIUM, TOTAL		2260		2340		3.7		P
BERYLLIUM, TOTAL		53.8		55.2		2.6		P
CADMIUM, TOTAL		251		265		5.3		P
CALCIUM, TOTAL		97300		101000		3.7		P
CHROMIUM, TOTAL		222		237		6.7		P
COBALT, TOTAL		550		585		6.2		P
COPPER, TOTAL		288		309		7.0		P
IRON, TOTAL		1370		1410		3.3		P
LEAD, TOTAL		132		140		5.6		P
MAGNESIUM, TOTAL		27600		29200		5.6		P
MANGANESE, TOTAL		587		611		3.9		P
MERCURY, TOTAL		0.957		1.01		5.0		CV
NICKEL, TOTAL		511		521		1.9		P
POTASSIUM, TOTAL		11700		12200		4.3		P
SELENIUM, TOTAL		99.9		109		8.6		P
SILVER, TOTAL		56.6		60.1		6.0		P
SODIUM, TOTAL		10900		11300		3.5		P
THALLIUM, TOTAL		96.8		103		6.3		P
VANADIUM, TOTAL		567		608		7.0		P
ZINC, TOTAL		564		599		6.1		P

Comments:

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services**Sample ID:** LCSWML19HGW1**Matrix:** WATER**SDG Name:** TM3232**QC Batch ID:** ML19HGW1

Concentration Units : ug/L					
Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	5.00	5.00	100.0	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services**Sample ID:** LCSWML24ICW1**Matrix:** WATER**SDG Name:** TM3232**QC Batch ID:** ML24ICW1**Concentration Units :** ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ALUMINUM	2000	2170	108.6	86	115
ANTIMONY	100	111	110.6	88	113
ARSENIC	100	107	106.8	87	113
CADMIUM	250	274	109.7	88	113
CALCIUM	2500	2620	104.6	87	113
CHROMIUM	200	223	111.4	90	113
COBALT	500	570	114.0	89	114
COPPER	250	279	111.7	86	114
IRON	1000	1120	111.9	87	115
LEAD	100	99.5	99.5	86	113
MAGNESIUM	5000	5160	103.3	85	113
MANGANESE	500	560	112.0	90	114
POTASSIUM	10000	10700	106.7	86	114
SELENIUM	100	102	102.2	83	114
SILVER	50.0	56.3	112.6	84	115
SODIUM	7500	7990	106.6	87	115
THALLIUM	100	104	104.1	85	114
VANADIUM	500	555	111.1	90	111
ZINC	500	567	113.3	87	115

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services**Sample ID:** LCSWNA02ICW2**Matrix:** WATER**SDG Name:** TM3232**QC Batch ID:** NA02ICW2**Concentration Units :** ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
BARIUM	2000	2260	112.8	88	113
BERYLLIUM	50.0	54.9	109.8	89	112
NICKEL	500	532	106.5	88	113

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20061L

Matrix: WATER

SDG Name: TM3232

Lab Sample ID: TM3232-004L

Concentration Units: ug/L

Analyte	Sample Result	C	Dilution	Result	C	% Difference	Q	M
ALUMINUM, TOTAL	98	J		75	U	100.0		P
ANTIMONY, TOTAL	49.0			45		8.2		P
ARSENIC, TOTAL	1.4	U		7.0	U			P
BARIUM, TOTAL	110			105		4.5		P
BERYLLIUM, TOTAL	0.10	U		0.50	U			P
CADMIUM, TOTAL	0.082	J		0.25	U	100.0		P
CALCIUM, TOTAL	92900			94700		1.9		P
CHROMIUM, TOTAL	0.60	J		1.8	U	100.0		P
COBALT, TOTAL	0.34	J		1.2	U	100.0		P
COPPER, TOTAL	2.7	J		3.1	U	100.0		P
IRON, TOTAL	223			230	J	3.1		P
LEAD, TOTAL	33.6			24	J	28.6		P
MAGNESIUM, TOTAL	23400			22400		4.3		P
MANGANESE, TOTAL	19.6			18	J	8.2		P
MERCURY, TOTAL	0.013	U		0.065	U			CV
NICKEL, TOTAL	0.84	J		1.4	U	100.0		P
POTASSIUM, TOTAL	1380			1400	J	1.4		P
SELENIUM, TOTAL	2.7	J		12	U	100.0		P
SILVER, TOTAL	0.31	J		2.5	J	706.5		P
SODIUM, TOTAL	2940			3120	J	6.1		P
THALLIUM, TOTAL	1.1	U		5.5	U			P
VANADIUM, TOTAL	0.47	J		1.2	U	100.0		P
ZINC, TOTAL	12.2	J		11	J	9.8		P

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services**Instrument Code: H****Instrument Name: CETAC M6100****Date: 1/17/2019**

Analyte	Concentration Units: ug/L		
	PQL/LOQ	IDL	M
MERCURY	0.20	0.016	CV

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services**Instrument Code: I****Instrument Name: THERMO ICAP 6500****Date: 1/22/2018**

Analyte	Concentration Units: ug/L		
	PQL/LOQ	IDL	M
ALUMINUM	300	10	P
ANTIMONY	8.0	1.7	P
ARSENIC	8.0	1.4	P
BARIUM	5.0	0.41	P
BERYLLIUM	5.0	0.17	P
CADMIUM	5.0	0.092	P
CALCIUM	100	11	P
CHROMIUM	10	0.20	P
COBALT	10	0.23	P
COPPER	25	0.55	P
IRON	100	3.6	P
LEAD	5.0	1.0	P
MAGNESIUM	100	2.9	P
MANGANESE	5.0	0.87	P
NICKEL	10	0.44	P
POTASSIUM	1000	73	P
SELENIUM	10	2.3	P
SILVER	10	5.3	P
SODIUM	1000	12	P
THALLIUM	15	1.3	P
VANADIUM	10	0.53	P
ZINC	20	0.45	P

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services**Instrument Code: H****Instrument Name: CETAC M6100****Date: 6/11/2010**

Analyte	LOD	Units	M	EPA Prep./Anal. Method
MERCURY	0.10	ug/L	CV	SW846 7470A / SW846 7470A

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services**Instrument Code: I****Instrument Name: THERMO ICAP 6500****Date: 6/11/2010**

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ALUMINUM	100	ug/L	P	SW846 3010A / SW846 6010C
ANTIMONY	5.0	ug/L	P	SW846 3010A / SW846 6010C
ARSENIC	5.0	ug/L	P	SW846 3010A / SW846 6010C
BARIUM	3.0	ug/L	P	SW846 3010A / SW846 6010C
BERYLLIUM	0.50	ug/L	P	SW846 3010A / SW846 6010C
CADMIUM	3.0	ug/L	P	SW846 3010A / SW846 6010C
CALCIUM	80	ug/L	P	SW846 3010A / SW846 6010C
CHROMIUM	4.0	ug/L	P	SW846 3010A / SW846 6010C
COBALT	4.0	ug/L	P	SW846 3010A / SW846 6010C
COPPER	10	ug/L	P	SW846 3010A / SW846 6010C
IRON	80	ug/L	P	SW846 3010A / SW846 6010C
LEAD	4.0	ug/L	P	SW846 3010A / SW846 6010C
MAGNESIUM	80	ug/L	P	SW846 3010A / SW846 6010C
MANGANESE	4.0	ug/L	P	SW846 3010A / SW846 6010C
NICKEL	4.0	ug/L	P	SW846 3010A / SW846 6010C
POTASSIUM	500	ug/L	P	SW846 3010A / SW846 6010C
SELENIUM	7.0	ug/L	P	SW846 3010A / SW846 6010C
SILVER	4.0	ug/L	P	SW846 3010A / SW846 6010C
SODIUM	500	ug/L	P	SW846 3010A / SW846 6010C
THALLIUM	5.0	ug/L	P	SW846 3010A / SW846 6010C
VANADIUM	4.0	ug/L	P	SW846 3010A / SW846 6010C
ZINC	10	ug/L	P	SW846 3010A / SW846 6010C

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services**Instrument Code: H****Instrument Name: CETAC M6100****Date: 2/9/2011**

Analyte	MDL	Units	M	EPA Prep./Anal. Method
MERCURY	0.013	ug/L	CV	SW846 7470A / SW846 7470A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services

Instrument Code: I

Instrument Name: THERMO ICAP 6500

Date: 1/19/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ALUMINUM	15	ug/L	P	SW846 3010A / SW846 6010C
ANTIMONY	1.3	ug/L	P	SW846 3010A / SW846 6010C
ARSENIC	1.4	ug/L	P	SW846 3010A / SW846 6010C
BARIUM	0.23	ug/L	P	SW846 3010A / SW846 6010C
BERYLLIUM	0.10	ug/L	P	SW846 3010A / SW846 6010C
CADMIUM	0.049	ug/L	P	SW846 3010A / SW846 6010C
CALCIUM	11	ug/L	P	SW846 3010A / SW846 6010C
CHROMIUM	0.36	ug/L	P	SW846 3010A / SW846 6010C
COBALT	0.24	ug/L	P	SW846 3010A / SW846 6010C
COPPER	0.63	ug/L	P	SW846 3010A / SW846 6010C
IRON	5.4	ug/L	P	SW846 3010A / SW846 6010C
LEAD	1.1	ug/L	P	SW846 3010A / SW846 6010C
MAGNESIUM	7.8	ug/L	P	SW846 3010A / SW846 6010C
MANGANESE	1.1	ug/L	P	SW846 3010A / SW846 6010C
NICKEL	0.28	ug/L	P	SW846 3010A / SW846 6010C
POTASSIUM	41	ug/L	P	SW846 3010A / SW846 6010C
SELENIUM	2.4	ug/L	P	SW846 3010A / SW846 6010C
SILVER	0.27	ug/L	P	SW846 3010A / SW846 6010C
SODIUM	24	ug/L	P	SW846 3010A / SW846 6010C
THALLIUM	1.1	ug/L	P	SW846 3010A / SW846 6010C
VANADIUM	0.23	ug/L	P	SW846 3010A / SW846 6010C
ZINC	0.72	ug/L	P	SW846 3010A / SW846 6010C

ICP INTERELEMENT CORRECTION FACTORS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument Name: THERMO ICAP 6500

Instrument ID: I

Date: 10/31/2019

Analyte	Wavelength (nm)	Interelement Correction Factors for:												
		Al	Ca	Fe	Mg	As	Cr	Co	Cu	Mn	Mo	Ni	Ti	V
ALUMINUM	396.15	0.0	0.0004837	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0299385	0.0	0.0	0.0
ANTIMONY	206.83	0.0000046	0.0	0.0000158	0.0	0.0000731	0.0053159	0.0	0.0	0.0	-0.0000148	-0.0004021	0.0	-0.0011428
ARSENIC	189.04	0.0000103	0.0	-0.0001057	0.0	0.0	0.0001984	0.0	0.0	0.0	0.0018390	0.0	0.0	0.0
BARIUM	455.40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	313.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0006836	0.0000896
BORON	208.96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0328838	0.0	0.0	0.0
CADMIUM	226.50	0.0	0.0	0.0000944	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0001135	0.0000801	0.0
CALCIUM	315.89	0.0	0.0	0.0	0.0	0.0	-0.0002011	0.0007850	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	267.72	0.0	0.0	-0.0000006	0.0	0.0	0.0	0.0	0.0	0.0000828	0.0	0.0	0.0	-0.0000100
COBALT	228.62	0.0	0.0	0.0000045	0.0	0.0	-0.0001286	0.0	0.0	0.0	0.0	0.0001562	0.0022114	0.0
COPPER	327.40	0.0000079	0.0	-0.0000147	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0006988	0.0002004
GOLD	242.79	0.0	0.0	0.0001110	0.0	0.0	0.0	0.0	0.0	0.0058700	0.0	0.0	0.0	0.0
IRON	259.94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	220.35	-0.0000865	0.0	0.0000372	0.0	0.0	-0.0000772	-0.0000211	0.0000931	0.0	-0.0012809	0.0000645	-0.0000220	0.0
LITHIUM	670.78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	202.58	0.0	0.0	0.0000557	0.0	0.0	0.0	0.1395100	0.0	0.0	0.0145280	0.0	0.0001229	0.0
MANGANESE	257.61	0.0000017	0.0	0.0000273	0.0000391	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	202.03	0.0	0.0	0.0	0.0	0.0	0.0000270	0.0	0.0	-0.0000204	0.0	0.0	0.0	-0.0001163
NICKEL	231.60	0.0	0.0	-0.0000260	0.0	0.0	0.0	0.0001789	0.0	0.0	0.0011098	0.0	0.0	0.0
POTASSIUM	766.49	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	196.09	0.0000345	0.0	0.0000204	0.0	0.0000996	0.0	0.0002593	0.0	0.0003979	0.0	0.0	0.0	0.0001059
SILICON	251.61	0.0	0.0	-0.0000932	0.0	0.0	0.0	0.0	0.0	0.0	0.0093424	0.0	0.0253899	0.0
SILVER	328.07	0.0	0.0	-0.0003035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0008413	0.0
SODIUM	589.59	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	421.55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	190.86	0.0000086	0.0	0.0000026	0.0	0.0	0.0	0.0014338	0.0001027	-0.0015199	-0.0000004	0.0	-0.0006457	-0.0032486
TIN	189.99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TITANIUM	334.90	0.0	0.0	0.0	0.0	0.0	0.0001510	0.0	0.0	0.0	0.0002068	0.0	0.0	0.0
VANADIUM	292.40	0.0	0.0	0.0000127	0.0	0.0	-0.0026455	0.0	0.0	-0.0007989	-0.0089144	0.0	0.0003126	0.0
ZINC	206.20	0.0	0.0	0.0	0.0	0.0	-0.0010444	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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ICP LINEAR RANGES

Lab Name: Katahdin Analytical Services

Instrument Code: I

Instrument Name: THERMO ICAP 6500

Date: 8/6/2019

Concentration Units: ug/L

Analyte	Integration Time (sec)	Linear Range	M
ALUMINUM	5.00	500000	P
ANTIMONY	45.00	20000	P
ARSENIC	45.00	20000	P
BARIUM	5.00	20000	P
BERYLLIUM	5.00	20000	P
CADMIUM	45.00	20000	P
CALCIUM	5.00	500000	P
CHROMIUM	10.00	20000	P
COBALT	45.00	20000	P
COPPER	10.00	20000	P
IRON	5.00	250000	P
LEAD	45.00	20000	P
MAGNESIUM	45.00	200000	P
MANGANESE	5.00	20000	P
NICKEL	10.00	20000	P
POTASSIUM	5.00	300000	P
SELENIUM	45.00	20000	P
SILVER	10.00	2000	P
SODIUM	5.00	200000	P
THALLIUM	45.00	20000	P
VANADIUM	10.00	20000	P
ZINC	45.00	20000	P

PREPARATION LOG

Lab Name: Katahdin Analytical Services**QC Batch ID:** ML19HGW1**Matrix:** WATER**SDG Name:** TM3232**Method:** CV**Prep Date:** 12/19/2019

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWML19HGW1	LCSWML19HGW1	0.025	0.025	
PBWML19HGW1	PBWML19HGW1	0.025	0.025	
16LM20059	TM3232-001	0.025	0.025	A
16LM20057	TM3232-002	0.025	0.025	A
16LM20062	TM3232-003	0.025	0.025	A
16LM20061	TM3232-004	0.025	0.025	A
16LM20061P	TM3232-004P	0.025	0.025	A
16LM20061S	TM3232-004S	0.025	0.025	A
16LM20060	TM3232-005	0.025	0.025	A
16LM20058	TM3232-006	0.025	0.025	A
16LM20056	TM3232-007	0.025	0.025	A
17LM20040	TM3232-008	0.025	0.025	A
17LM20041	TM3232-009	0.025	0.025	A
17LM20042	TM3232-010	0.025	0.025	A
17LM20043	TM3232-011	0.025	0.025	A
17LM20044	TM3232-012	0.025	0.025	A

PREPARATION LOG

Lab Name: Katahdin Analytical Services**QC Batch ID:** ML24ICW1**Matrix:** WATER**SDG Name:** TM3232**Method:** P**Prep Date:** 12/24/2019

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWML24ICW1	LCSWML24ICW1	0.05	0.05	
PBWML24ICW1	PBWML24ICW1	0.05	0.05	
16LM20059	TM3232-001	0.05	0.05	A
16LM20057	TM3232-002	0.05	0.05	A
16LM20062	TM3232-003	0.05	0.05	A
16LM20061	TM3232-004	0.05	0.05	A
16LM20061P	TM3232-004P	0.05	0.05	A
16LM20061S	TM3232-004S	0.05	0.05	A
16LM20060	TM3232-005	0.05	0.05	A
16LM20058	TM3232-006	0.05	0.05	A
16LM20056	TM3232-007	0.05	0.05	A
17LM20040	TM3232-008	0.05	0.05	A
17LM20041	TM3232-009	0.05	0.05	A
17LM20042	TM3232-010	0.05	0.05	A
17LM20043	TM3232-011	0.05	0.05	A
17LM20044	TM3232-012	0.05	0.05	A

PREPARATION LOG

Lab Name: Katahdin Analytical Services**QC Batch ID:** NA02ICW2**Matrix:** WATER**SDG Name:** TM3232**Method:** P**Prep Date:** 01/02/2020

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWNA02ICW2	LCSWNA02ICW2	0.05	0.05	
PBWNA02ICW2	PBWNA02ICW2	0.05	0.05	
16LM20059	TM3232-001R	0.05	0.05	A
16LM20057	TM3232-002R	0.05	0.05	A
16LM20062	TM3232-003R	0.05	0.05	A
16LM20061	TM3232-004R	0.05	0.05	B
16LM20061P	TM3232-004RP	0.05	0.05	B
16LM20061S	TM3232-004RS	0.05	0.05	B
16LM20060	TM3232-005R	0.05	0.05	A
16LM20058	TM3232-006R	0.05	0.05	A
16LM20056	TM3232-007R	0.05	0.05	A
17LM20040	TM3232-008R	0.05	0.05	A
17LM20041	TM3232-009R	0.05	0.05	A
17LM20042	TM3232-010R	0.05	0.05	A
17LM20043	TM3232-011R	0.05	0.05	A
17LM20044	TM3232-012R	0.05	0.05	A

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ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: CETAC M6100

File Name: HML19B

Date: 12/19/2019

Method: CV

Lab Sample ID	Client ID	D.F.	Time	Elements
Calibration Blank		1	14:13	Hg
Standard #1 (0.2 ppb)		1	14:15	Hg
Standard #2 (0.5 ppb)		1	14:17	Hg
Standard #3 (1.0 ppb)		1	14:20	Hg
Standard #4 (5.0 ppb)		1	14:22	Hg
Standard #5 (10.0 ppb)		1	14:24	Hg
ICV		1	14:26	HG
ICB		1	14:28	HG
PQL		1	14:30	HG
CCV		1	14:32	HG
CCB		1	14:34	HG
LCSWML19HGW1		1	14:37	HG
PBWML19HGW1		1	14:39	HG
ZZZZZZ		1	14:41	
ZZZZZZ		1	14:43	
TM3232-001	16LM20059	1	14:45	HG
TM3232-002	16LM20057	1	14:47	HG
TM3232-003	16LM20062	1	14:49	HG
TM3232-004	16LM20061	1	14:52	HG
TM3232-004S	16LM20061S	1	14:54	HG
CCV		1	14:56	HG
CCB		1	14:58	HG
TM3232-004P	16LM20061P	1	15:00	HG
TM3232-004A	16LM20061A	1	15:02	HG
TM3232-004L	16LM20061L	5	15:04	HG
TM3232-005	16LM20060	1	15:06	HG
TM3232-006	16LM20058	1	15:09	HG

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: CETAC M6100

File Name: HML19B

Date: 12/19/2019

Method: CV

Lab Sample ID	Client ID	D.F.	Time	Elements
TM3232-007	16LM20056	1	15:11	HG
TM3232-008	17LM20040	1	15:13	HG
TM3232-009	17LM20041	1	15:15	HG
TM3232-010	17LM20042	1	15:17	HG
TM3232-011	17LM20043	1	15:19	HG
CCV		1	15:21	HG
CCB		1	15:24	HG
TM3232-012	17LM20044	1	15:26	HG
ZZZZZZ		1	15:28	
ZZZZZZ		1	15:30	
ZZZZZZ		1	15:32	
ZZZZZZ		1	15:34	
ZZZZZZ		1	15:37	
ZZZZZZ		1	15:39	
ZZZZZZ		1	15:41	
ZZZZZZ		1	15:43	
CCV		1	15:45	HG
CCB		1	15:47	HG

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: IML27A

Date: 12/27/2019

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements											
Blank		1	9:35	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
Std 1		1	9:40	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
ICV		1	9:44	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
ICB		1	9:48	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
PQL		1	9:52	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
ICSA		1	9:57	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
ICSAB		1	10:02	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
CCV		1	10:07	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
CCB		1	10:12	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
LRS1		1	10:16	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
LRS2		1	10:23	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
CCV		1	10:28	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
CCB		1	10:32	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
PBWML24ICW1		1	10:37	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
LCSWML24ICW1		1	10:41	AL		CR CO CU	FE PB	MN	SE	AG			V	ZN	
ZZZZZZ		1	10:45												
ZZZZZZ		1	10:51												
ZZZZZZ		1	10:56												
ZZZZZZ		1	11:01												
ZZZZZZ		1	11:07												
ZZZZZZ		1	11:12												
ZZZZZZ		1	11:17												
TM3232-001	16LM20059	1	11:23	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
CCV		1	11:27	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
CCB		1	11:31	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
TM3232-002	16LM20057	1	11:36	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	
TM3232-003	16LM20062	1	11:40	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL			V	ZN	

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: IML27A

Date: 12/27/2019

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements											
TM3232-004	16LM20061	1	11:44	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-004L	16LM20061L	5	11:49	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-004A	16LM20061A	1	11:53	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-004S	16LM20061S	1	11:57	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-004P	16LM20061P	1	12:02	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-005	16LM20060	1	12:06	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-006	16LM20058	1	12:10	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-007	16LM20056	1	12:14	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
CCV		1	12:19	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
CCB		1	12:23	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-008	17LM20040	1	12:27	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-009	17LM20041	1	12:32	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-010	17LM20042	1	12:36	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-011	17LM20043	1	12:41	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-012	17LM20044	1	12:45	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
<u>ZZZZZ</u>		1	12:49												
<u>ZZZZZ</u>		1	12:54												
<u>ZZZZZ</u>		1	12:58												
<u>ZZZZZ</u>		1	13:03												
<u>ZZZZZ</u>		1	13:08												
CCV		1	13:13	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
CCB		1	13:17	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: IML30A

Date: 12/30/2019

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements							
Blank		1	12:45	AL SB AS	CD CA	FE	MG	K	NA	TL	
Std 1		1	12:50	AL SB AS	CD CA	FE	MG	K	NA	TL	
ICV		1	12:54	AL SB AS	CD CA	FE	MG	K	NA	TL	
ICB		1	12:58	AL SB AS	CD CA	FE	MG	K	NA	TL	
PQL		1	13:02	AL SB AS	CD CA	FE	MG	K	NA	TL	
ICSA		1	13:07	AL SB AS	CD CA	FE	MG	K	NA	TL	
ICSAB		1	13:12	AL SB AS	CD CA	FE	MG	K	NA	TL	
CCV		1	13:17	AL SB AS	CD CA	FE	MG	K	NA	TL	
CCB		1	13:21	AL SB AS	CD CA	FE	MG	K	NA	TL	
LRS1		1	13:26	AL SB AS	CD CA	FE	MG	K	NA	TL	
LRS2		1	13:33	AL SB AS	CD CA	FE	MG	K	NA	TL	
CCV		1	13:39	AL SB AS	CD CA	FE	MG	K	NA	TL	
CCB		1	13:43	AL SB AS	CD CA	FE	MG	K	NA	TL	
ZZZZZZ		1	13:47								
ZZZZZZ		1	13:52								
ZZZZZZ		1	13:56								
ZZZZZZ		1	14:01								
ZZZZZZ		1	14:07								
ZZZZZZ		1	14:12								
ZZZZZZ		1	14:17								
ZZZZZZ		1	14:22								
ZZZZZZ		1	14:27								
ZZZZZZ		1	14:32								
CCV		1	14:36	AL SB AS	CD CA	FE	MG	K	NA	TL	
CCB		1	14:40	AL SB AS	CD CA	FE	MG	K	NA	TL	
ZZZZZZ		1	14:44								
ZZZZZZ		1	14:49								

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: IML30A

Date: 12/30/2019

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements									
ZZZZZZ		1	14:54										
ZZZZZZ		1	14:58										
ZZZZZZ		1	15:02										
ZZZZZZ		1	15:07										
ZZZZZZ		1	15:11										
ZZZZZZ		1	15:15										
ZZZZZZ		2	15:19										
ZZZZZZ		5	15:24										
CCV		1	15:28	AL	SB	AS	CD	CA	FE	MG	K	NA	TL
CCB		1	15:32	AL	SB	AS	CD	CA	FE	MG	K	NA	TL
ZZZZZZ		2	15:37										
ZZZZZZ		10	15:41										
ZZZZZZ		2	15:45										
ZZZZZZ		2	15:50										
ZZZZZZ		2	15:54										
ZZZZZZ		5	15:58										
ZZZZZZ		1	16:03										
ZZZZZZ		5	16:08										
ZZZZZZ		1	16:12										
ZZZZZZ		1	16:16										
CCV		1	16:21	AL	SB	AS	CD	CA	FE	MG	K	NA	TL
CCB		1	16:25	AL	SB	AS	CD	CA	FE	MG	K	NA	TL
ZZZZZZ		1	16:29										
ZZZZZZ		1	16:33										
ZZZZZZ		1	16:38										
ZZZZZZ		1	16:42										
ZZZZZZ		1	16:46										

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: IML30A

Date: 12/30/2019

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements									
ZZZZZZ		1	16:51										
ZZZZZZ		1	16:56										
ZZZZZZ		1	17:00										
ZZZZZZ		1	17:04										
LCSWML24ICW1		1	17:09	SB	AS	CD	CA	MG	K	NA	TL		
CCV		1	17:13	AL	SB	AS	CD	CA	FE	MG	K	NA	TL
CCB		1	17:17	AL	SB	AS	CD	CA	FE	MG	K	NA	TL

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: INA03A

Date: 1/3/2020

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements						
Blank		1	14:58	AL	BA	BE	CA	FE	MG	NI
Std 1		1	15:03	AL	BA	BE	CA	FE	MG	NI
ICV		1	15:07	AL	BA	BE	CA	FE	MG	NI
ICB		1	15:11	AL	BA	BE	CA	FE	MG	NI
PQL		1	15:15	AL	BA	BE	CA	FE	MG	NI
ICSA		1	15:20	AL	BA	BE	CA	FE	MG	NI
ICSAB		1	15:25	AL	BA	BE	CA	FE	MG	NI
CCV		1	15:30	AL	BA	BE	CA	FE	MG	NI
CCB		1	15:35	AL	BA	BE	CA	FE	MG	NI
LRS1		1	15:39	AL	BA	BE	CA	FE	MG	NI
LRS2		1	15:46	AL	BA	BE	CA	FE	MG	NI
CCV		1	15:51	AL	BA	BE	CA	FE	MG	NI
CCB		1	15:55	AL	BA	BE	CA	FE	MG	NI
<i>ZZZZZZ</i>		1	16:00							
<i>ZZZZZZ</i>		1	16:04							
<i>ZZZZZZ</i>		5	16:09							
<i>ZZZZZZ</i>		1	16:13							
<i>ZZZZZZ</i>		5	16:18							
<i>ZZZZZZ</i>		1	16:22							
<i>ZZZZZZ</i>		1	16:27							
<i>ZZZZZZ</i>		1	16:32							
<i>ZZZZZZ</i>		1	16:38							
<i>ZZZZZZ</i>		1	16:42							
CCV		1	16:46	AL	BA	BE	CA	FE	MG	NI
CCB		1	16:51	AL	BA	BE	CA	FE	MG	NI
<i>ZZZZZZ</i>		1	16:55							
<i>ZZZZZZ</i>		1	16:59							

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: INA03A

Date: 1/3/2020

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements							
ZZZZZZ		1	17:04								
ZZZZZZ		1	17:08								
ZZZZZZ		1	17:12								
ZZZZZZ		1	17:17								
ZZZZZZ		1	17:21								
ZZZZZZ		1	17:26								
ZZZZZZ		1	17:31								
ZZZZZZ		1	17:35								
CCV		1	17:40	AL	BA	BE	CA	FE	MG	NI	
CCB		1	17:44	AL	BA	BE	CA	FE	MG	NI	
ZZZZZZ		1	17:48								
ZZZZZZ		1	17:53								
ZZZZZZ		1	17:57								
ZZZZZZ		1	18:01								
ZZZZZZ		1	18:06								
ZZZZZZ		1	18:10								
ZZZZZZ		1	18:14								
ZZZZZZ		1	18:19								
ZZZZZZ		1	18:23								
ZZZZZZ		1	18:27								
CCV		1	18:32	AL	BA	BE	CA	FE	MG	NI	
CCB		1	18:36	AL	BA	BE	CA	FE	MG	NI	
PBWNA02ICW2		1	18:41		BA	BE				NI	
LCSWNA02ICW2		1	18:45		BA	BE				NI	
TM3232-001R	16LM20059	1	18:49		BA	BE				NI	
TM3232-002R	16LM20057	1	18:54		BA	BE				NI	
TM3232-003R	16LM20062	1	18:58		BA	BE				NI	

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: INA03A

Date: 1/3/2020

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements						
TM3232-004R	16LM20061	1	19:03	BA	BE					NI
TM3232-004RL	16LM20061L	5	19:07	BA	BE					NI
TM3232-004RA	16LM20061A	1	19:11	BA	BE					NI
TM3232-004RS	16LM20061S	1	19:16	BA	BE					NI
TM3232-004RP	16LM20061P	1	19:20	BA	BE					NI
CCV		1	19:24	AL	BA	BE	CA	FE	MG	NI
CCB		1	19:28	AL	BA	BE	CA	FE	MG	NI
TM3232-005R	16LM20060	1	19:33	BA	BE					NI
TM3232-006R	16LM20058	1	19:37	BA	BE					NI
TM3232-007R	16LM20056	1	19:41	BA	BE					NI
TM3232-008R	17LM20040	1	19:46	BA	BE					NI
TM3232-009R	17LM20041	1	19:50	BA	BE					NI
ZZZZZ		1	19:54							
TM3232-010R	17LM20042	1	19:59	BA	BE					NI
TM3232-011R	17LM20043	1	20:04	BA	BE					NI
TM3232-012R	17LM20044	1	20:08	BA	BE					NI
ZZZZZ		1	20:12							
CCV		1	20:17	AL	BA	BE	CA	FE	MG	NI
CCB		1	20:21	AL	BA	BE	CA	FE	MG	NI

METALS DATA

Sample Data Section

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	<p>The analyte was not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.</p> <p>Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL, "U" LOQ or "U" LOD, where the rate of false negatives is <1%.</p>
J	Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

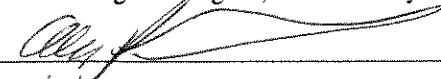
SOW No. SW846

Client Field ID	Lab Sample ID
16LM20056	TM3232-007
16LM20057	TM3232-002
16LM20058	TM3232-006
16LM20059	TM3232-001
16LM20060	TM3232-005
16LM20061	TM3232-004
16LM20061P	TM3232-004P
16LM20061S	TM3232-004S
16LM20062	TM3232-003
17LM20040	TM3232-008
17LM20041	TM3232-009
17LM20042	TM3232-010
17LM20043	TM3232-011
17LM20044	TM3232-012

Were ICP interelement corrections applied ?	Yes
Were ICP background corrections applied ?	Yes
If yes - were raw data generated before application of background corrections ?	No

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:  Name: Alex Permentel
 Date: 2/11/09 Title: Analyst

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20059

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	96	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	35.5			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.082	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	61400			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.99	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	3.4	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	475			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	1.4	J		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	6000			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	32.2			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.5	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1110			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.39	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	1060			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.63	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	2.7	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20057

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	271	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	80.9			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.18	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	90600			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	1.3	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	0.26	J		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	4.0	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	309			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	6.1			P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	8520			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	93.0			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.7	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1480			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.71	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	4410			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	1.0	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	19.9	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20062

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	87	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	50.8			P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	87.8			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.15	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	100000			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.89	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	0.33	J		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	3.0	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	225			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	33.3			P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	24100			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	21.9			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.1	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1460			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	4.0	U		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	3150			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.40	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	14.2	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20061

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	98	J	N	P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	49.0			P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	110			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.082	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	92900		NA	P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.60	J	N	P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	0.34	J	N	P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	2.7	J	N	P	1	25	0.63	10
7439-89-6	IRON, TOTAL	223		N	P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	33.6			P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	23400		N	P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	19.6		N	P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U	A	CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.84	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1380			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	2.7	J		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.31	J	N	P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	2940		A	P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.47	J	N	P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	12.2	J	N	P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20060

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	72	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	64.7			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.14	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	88100			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.74	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	10	U		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	534			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	8180			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	106			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.52	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1830			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.30	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	7540			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.29	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	1.6	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20058

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	42	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	83.3			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.21	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	147000			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.81	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	1.8	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	159			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	21600			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	161			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.2	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1320			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	4.0	U		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	70800			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.71	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	3.4	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20056

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	100	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	88.6			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	3.0	U		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	125000			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.92	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	5.0	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	115			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	18000			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	14.6			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.1	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1010			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	3.1	J		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.31	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	29100			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.30	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	6.0	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 17LM20040

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	163	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	1.7	J		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	22.2			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.26	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	45200			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.91	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	7.60	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	235			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	2.5	J		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	5500			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	2.4	J		P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.019	J		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.70	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	433	J		P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	2.5	J		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.66	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	1570			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.64	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	7.51	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 17LM20041

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-009

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	61	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	1.9	J		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	85.6			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.19	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	125000			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.78	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	7.86	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	131			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	1.6	J		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	10700			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	15.7			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.3	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1550			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	2.8	J		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	4.0	U		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	8360			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	4.0	U		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	35.1			P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 17LM20042

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-010

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	71	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	51.2			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.17	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	71700			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.80	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	2.4	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	64.0	J		P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	6480			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.87	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1260			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.37	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	2930			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	4.0	U		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	29.9			P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 17LM20043

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-011

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	67	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	31.4			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.15	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	75400			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.76	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	0.27	J		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	2.0	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	85.8	J		P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	9580			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	61.6			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.0	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	460	J		P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	7.0	U		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	0.61	J		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	3890			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.40	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	2.3	J		P	1	20	0.72	10

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: 17LM20044

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-012

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED		
							LOQ	MDL	LOD
7429-90-5	ALUMINUM, TOTAL	93	J		P	1	300	15	100
7440-36-0	ANTIMONY, TOTAL	5.0	U		P	1	8.0	1.3	5.0
7440-38-2	ARSENIC, TOTAL	5.0	U		P	1	8.0	1.4	5.0
7440-39-3	BARIUM, TOTAL	94.7			P	1	5.0	0.23	3.0
7440-41-7	BERYLLIUM, TOTAL	0.50	U		P	1	5.0	0.10	0.50
7440-43-9	CADMIUM, TOTAL	0.069	J		P	1	5.0	0.049	3.0
7440-70-2	CALCIUM, TOTAL	104000			P	1	100	11	80
7440-47-3	CHROMIUM, TOTAL	0.65	J		P	1	10	0.36	4.0
7440-48-4	COBALT, TOTAL	4.0	U		P	1	10	0.24	4.0
7440-50-8	COPPER, TOTAL	0.93	J		P	1	25	0.63	10
7439-89-6	IRON, TOTAL	269			P	1	100	5.4	80
7439-92-1	LEAD, TOTAL	4.0	U		P	1	5.0	1.1	4.0
7439-95-4	MAGNESIUM, TOTAL	13900			P	1	100	7.8	80
7439-96-5	MANGANESE, TOTAL	27.6			P	1	5.0	1.1	4.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.3	J		P	1	10	0.28	4.0
7440-09-7	POTASSIUM, TOTAL	1130			P	1	1000	41	500
7782-49-2	SELENIUM, TOTAL	3.2	J		P	1	10	2.4	7.0
7440-22-4	SILVER, TOTAL	4.0	U		P	1	10	0.27	4.0
7440-23-5	SODIUM, TOTAL	4210			P	1	1000	24	500
7440-28-0	THALLIUM, TOTAL	5.0	U		P	1	15	1.1	5.0
7440-62-2	VANADIUM, TOTAL	0.41	J		P	1	10	0.23	4.0
7440-66-6	ZINC, TOTAL	4.4	J		P	1	20	0.72	10

Comments:

QC Summary Section

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICV

File: HML19B	Dec 19, 2019	14:26	
Analyte	True	Found	%R (1)
MERCURY	6.0	6.10	101.7

SAMPLE: CCV

File: HML19B	Dec 19, 2019	14:32	
Analyte	True	Found	%R (1)
MERCURY	5.0	4.88	97.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File: HML19B	Dec 19, 2019	14:56	
Analyte	True	Found	%R (1)
MERCURY	5.0	5.05	101.0

SAMPLE: CCV

File: HML19B	Dec 19, 2019	15:21	
Analyte	True	Found	%R (1)
MERCURY	5.0	5.05	101.0

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File: HML19B Dec 19, 2019 15:45

Analyte	True	Found	%R (1)
MERCURY	5.0	5.06	101.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICV

File:	IML27A	Dec 27, 2019	9:44
Analyte	True	Found	%R (1)
ALUMINUM	10000.0	9750.00	97.5
ANTIMONY	400.0	402.50	100.6
ARSENIC	400.0	390.60	97.7
CADMIUM	400.0	406.30	101.6
CALCIUM	10000.0	9927.00	99.3
CHROMIUM	400.0	407.50	101.9
COBALT	400.0	410.70	102.7
COPPER	400.0	401.90	100.5
IRON	10000.0	9886.00	98.9
LEAD	400.0	405.90	101.5
MAGNESIUM	10000.0	9709.00	97.1
MANGANESE	400.0	402.20	100.6
POTASSIUM	13600.0	13490.00	99.2
SELENIUM	400.0	404.80	101.2
SILVER	400.0	410.40	102.6
SODIUM	10000.0	9894.00	98.9
THALLIUM	400.0	403.10	100.8
VANADIUM	400.0	402.90	100.7
ZINC	400.0	408.90	102.2

SAMPLE: CCV

File:	IML27A	Dec 27, 2019	10:07
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12620.00	101.0
ANTIMONY	500.0	504.10	100.8
ARSENIC	500.0	499.80	100.0
CADMIUM	500.0	501.90	100.4
CALCIUM	12500.0	12550.00	100.4
CHROMIUM	500.0	504.70	100.9
COBALT	500.0	505.00	101.0
COPPER	500.0	505.80	101.2
IRON	12500.0	12670.00	101.4
LEAD	500.0	505.50	101.1
MAGNESIUM	12500.0	12130.00	97.0
MANGANESE	500.0	515.60	103.1
POTASSIUM	12500.0	12690.00	101.5
SELENIUM	500.0	501.10	100.2
SILVER	500.0	506.50	101.3
SODIUM	12500.0	12630.00	101.0
THALLIUM	500.0	503.30	100.7
VANADIUM	500.0	503.00	100.6
ZINC	500.0	500.10	100.0

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services 4000021

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	IML27A	Dec 27, 2019	10:28
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	13040.00	104.3
ANTIMONY	500.0	509.50	101.9
ARSENIC	500.0	500.40	100.1
CADMIUM	500.0	505.90	101.2
CALCIUM	12500.0	12980.00	103.8
CHROMIUM	500.0	530.40	106.1
COBALT	500.0	505.30	101.1
COPPER	500.0	531.10	106.2
IRON	12500.0	13060.00	104.5
LEAD	500.0	509.20	101.8
MAGNESIUM	12500.0	12080.00	96.6
MANGANESE	500.0	530.60	106.1
POTASSIUM	12500.0	13180.00	105.4
SELENIUM	500.0	503.30	100.7
SILVER	500.0	531.70	106.3
SODIUM	12500.0	13090.00	104.7
THALLIUM	500.0	502.00	100.4
VANADIUM	500.0	532.60	106.5
ZINC	500.0	504.40	100.9

SAMPLE: CCV

File:	IML27A	Dec 27, 2019	11:27
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12970.00	103.8
ANTIMONY	500.0	531.70	106.3
ARSENIC	500.0	517.20	103.4
CADMIUM	500.0	527.90	105.6
CALCIUM	12500.0	12920.00	103.4
CHROMIUM	500.0	532.00	106.4
COBALT	500.0	523.80	104.8
COPPER	500.0	536.30	107.3
IRON	12500.0	12990.00	103.9
LEAD	500.0	531.10	106.2
MAGNESIUM	12500.0	12510.00	100.1
MANGANESE	500.0	523.90	104.8
POTASSIUM	12500.0	13030.00	104.2
SELENIUM	500.0	517.90	103.6
SILVER	500.0	533.20	106.6
SODIUM	12500.0	13140.00	105.1
THALLIUM	500.0	512.70	102.5
VANADIUM	500.0	535.60	107.1
ZINC	500.0	525.60	105.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services 400022

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	IML27A	Dec 27, 2019	12:19
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12810.00	102.5
ANTIMONY	500.0	512.70	102.5
ARSENIC	500.0	487.30	97.5
CADMIUM	500.0	504.50	100.9
CALCIUM	12500.0	12760.00	102.1
CHROMIUM	500.0	520.00	104.0
COBALT	500.0	492.40	98.5
COPPER	500.0	531.50	106.3
IRON	12500.0	12880.00	103.0
LEAD	500.0	506.50	101.3
MAGNESIUM	12500.0	11820.00	94.6
MANGANESE	500.0	513.80	102.8
POTASSIUM	12500.0	12970.00	103.8
SELENIUM	500.0	489.70	97.9
SILVER	500.0	522.70	104.5
SODIUM	12500.0	13030.00	104.2
THALLIUM	500.0	485.40	97.1
VANADIUM	500.0	534.30	106.9
ZINC	500.0	502.40	100.5

SAMPLE: CCV

File:	IML27A	Dec 27, 2019	13:13
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12940.00	103.5
ANTIMONY	500.0	528.10	105.6
ARSENIC	500.0	498.10	99.6
CADMIUM	500.0	520.70	104.1
CALCIUM	12500.0	12840.00	102.7
CHROMIUM	500.0	531.60	106.3
COBALT	500.0	504.70	100.9
COPPER	500.0	541.20	108.2
IRON	12500.0	12970.00	103.8
LEAD	500.0	520.90	104.2
MAGNESIUM	12500.0	11960.00	95.7
MANGANESE	500.0	515.30	103.1
POTASSIUM	12500.0	13010.00	104.1
SELENIUM	500.0	500.80	100.2
SILVER	500.0	528.60	105.7
SODIUM	12500.0	13240.00	105.9
THALLIUM	500.0	491.10	98.2
VANADIUM	500.0	551.50	110.3
ZINC	500.0	518.60	103.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services 4000023

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICV

File:	IML30A	Dec 30, 2019	12:54
Analyte	True	Found	%R (1)
ALUMINUM	10000.0	9599.00	96.0
ANTIMONY	400.0	390.60	97.7
ARSENIC	400.0	382.10	95.5
CADMIUM	400.0	394.80	98.7
CALCIUM	10000.0	9838.00	98.4
IRON	10000.0	9809.00	98.1
MAGNESIUM	10000.0	9455.00	94.5
POTASSIUM	13600.0	13390.00	98.5
SODIUM	10000.0	9748.00	97.5
THALLIUM	400.0	393.00	98.3

SAMPLE: CCV

File:	IML30A	Dec 30, 2019	13:17
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12070.00	96.6
ANTIMONY	500.0	501.50	100.3
ARSENIC	500.0	511.80	102.4
CADMIUM	500.0	513.30	102.7
CALCIUM	12500.0	12130.00	97.0
IRON	12500.0	12180.00	97.4
MAGNESIUM	12500.0	12510.00	100.1
POTASSIUM	12500.0	12160.00	97.3
SODIUM	12500.0	12070.00	96.6
THALLIUM	500.0	513.40	102.7

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services 4000024

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	IML30A	Dec 30, 2019	13:39
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12900.00	103.2
ANTIMONY	500.0	496.70	99.3
ARSENIC	500.0	506.20	101.2
CADMIUM	500.0	508.00	101.6
CALCIUM	12500.0	12920.00	103.4
IRON	12500.0	13070.00	104.6
MAGNESIUM	12500.0	12380.00	99.0
POTASSIUM	12500.0	12950.00	103.6
SODIUM	12500.0	12910.00	103.3
THALLIUM	500.0	506.10	101.2

SAMPLE: CCV

File:	IML30A	Dec 30, 2019	14:36
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12380.00	99.0
ANTIMONY	500.0	494.90	99.0
ARSENIC	500.0	503.60	100.7
CADMIUM	500.0	504.60	100.9
CALCIUM	12500.0	12330.00	98.6
IRON	12500.0	12390.00	99.1
MAGNESIUM	12500.0	12430.00	99.4
POTASSIUM	12500.0	12400.00	99.2
SODIUM	12500.0	12390.00	99.1
THALLIUM	500.0	503.90	100.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	IML30A	Dec 30, 2019	15:28
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12290.00	98.3
ANTIMONY	500.0	489.30	97.9
ARSENIC	500.0	497.90	99.6
CADMIUM	500.0	496.80	99.4
CALCIUM	12500.0	12250.00	98.0
IRON	12500.0	12370.00	99.0
MAGNESIUM	12500.0	12300.00	98.4
POTASSIUM	12500.0	12320.00	98.6
SODIUM	12500.0	12300.00	98.4
THALLIUM	500.0	501.90	100.4

SAMPLE: CCV

File:	IML30A	Dec 30, 2019	16:21
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12080.00	96.6
ANTIMONY	500.0	498.90	99.8
ARSENIC	500.0	504.50	100.9
CADMIUM	500.0	508.80	101.8
CALCIUM	12500.0	12100.00	96.8
IRON	12500.0	12170.00	97.4
MAGNESIUM	12500.0	12230.00	97.8
POTASSIUM	12500.0	12170.00	97.4
SODIUM	12500.0	12150.00	97.2
THALLIUM	500.0	511.20	102.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File: IML30A Dec 30, 2019 17:13

Analyte	True	Found	%R (1)
ALUMINUM	12500.0	13580.00	108.6
ANTIMONY	500.0	545.80	109.2
ARSENIC	500.0	550.30	110.1
CADMIUM	500.0	549.00	109.8
CALCIUM	12500.0	13400.00	107.2
IRON	12500.0	13630.00	109.0
MAGNESIUM	12500.0	13240.00	105.9
POTASSIUM	12500.0	13600.00	108.8
SODIUM	12500.0	13640.00	109.1
THALLIUM	500.0	545.60	109.1

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICV

File:	INA03A	Jan 03, 2020	15:07
Analyte	True	Found	%R (1)
ALUMINUM	10000.0	9946.00	99.5
BARIUM	400.0	409.90	102.5
BERYLLIUM	400.0	417.80	104.5
CALCIUM	10000.0	10170.00	101.7
IRON	10000.0	10010.00	100.1
MAGNESIUM	10000.0	9699.00	97.0
NICKEL	400.0	408.90	102.2

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	15:30
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12090.00	96.7
BARIUM	500.0	496.90	99.4
BERYLLIUM	500.0	493.20	98.6
CALCIUM	12500.0	12090.00	96.7
IRON	12500.0	12340.00	98.7
MAGNESIUM	12500.0	11770.00	94.2
NICKEL	500.0	495.20	99.0

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

Katahdin Analytical Services 4000028

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	15:51
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12350.00	98.8
BARIUM	500.0	508.80	101.8
BERYLLIUM	500.0	506.40	101.3
CALCIUM	12500.0	12340.00	98.7
IRON	12500.0	12640.00	101.1
MAGNESIUM	12500.0	11700.00	93.6
NICKEL	500.0	490.50	98.1

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	16:46
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12430.00	99.4
BARIUM	500.0	520.80	104.2
BERYLLIUM	500.0	512.70	102.5
CALCIUM	12500.0	12360.00	98.9
IRON	12500.0	12770.00	102.2
MAGNESIUM	12500.0	11970.00	95.8
NICKEL	500.0	501.40	100.3

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	17:40
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12200.00	97.6
BARIUM	500.0	516.50	103.3
BERYLLIUM	500.0	503.70	100.7
CALCIUM	12500.0	12110.00	96.9
IRON	12500.0	12620.00	101.0
MAGNESIUM	12500.0	11760.00	94.1
NICKEL	500.0	494.70	98.9

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	18:32
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12250.00	98.0
BARIUM	500.0	529.00	105.8
BERYLLIUM	500.0	515.30	103.1
CALCIUM	12500.0	12100.00	96.8
IRON	12500.0	12950.00	103.6
MAGNESIUM	12500.0	11920.00	95.4
NICKEL	500.0	504.00	100.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	19:24
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12320.00	98.6
BARIUM	500.0	513.70	102.7
BERYLLIUM	500.0	511.00	102.2
CALCIUM	12500.0	12280.00	98.2
IRON	12500.0	12670.00	101.4
MAGNESIUM	12500.0	11980.00	95.8
NICKEL	500.0	506.50	101.3

SAMPLE: CCV

File:	INA03A	Jan 03, 2020	20:17
Analyte	True	Found	%R (1)
ALUMINUM	12500.0	12160.00	97.3
BARIUM	500.0	510.70	102.1
BERYLLIUM	500.0	507.80	101.6
CALCIUM	12500.0	12190.00	97.5
IRON	12500.0	12560.00	100.5
MAGNESIUM	12500.0	11930.00	95.4
NICKEL	500.0	504.00	100.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2C
PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: PQL

File: HML19B Dec 19, 2019 14:30

Analyte	TRUE	FOUND	% R
MERCURY	0.2	0.19	95.0

2C
PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: PQL

File: IML27A

Dec 27, 2019

09:52

Analyte	TRUE	FOUND	% R
ALUMINUM	300.0	301.50	100.5
ANTIMONY	8.0	8.45	105.6
ARSENIC	8.0	8.34	104.3
CADMIUM	5.0	5.31	106.2
CALCIUM	100.0	101.20	101.2
CHROMIUM	10.0	10.20	102.0
COBALT	10.0	10.73	107.3
COPPER	25.0	24.97	99.9
IRON	100.0	106.20	106.2
LEAD	5.0	4.79	95.8
MAGNESIUM	100.0	95.71	95.7
MANGANESE	5.0	4.61	92.2
POTASSIUM	1000.0	1020.00	102.0
SELENIUM	10.0	11.63	116.3
SILVER	10.0	10.01	100.1
SODIUM	1000.0	1038.00	103.8
THALLIUM	15.0	16.20	108.0
VANADIUM	10.0	10.71	107.1
ZINC	20.0	20.72	103.6

2C
PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: PQL

File: IML30A Dec 30, 2019 13:02

Analyte	TRUE	FOUND	% R
ALUMINUM	300.0	313.00	104.3
ANTIMONY	8.0	8.08	101.0
ARSENIC	8.0	7.61	95.1
CADMIUM	5.0	5.17	103.4
CALCIUM	100.0	103.30	103.3
IRON	100.0	105.60	105.6
MAGNESIUM	100.0	98.16	98.2
POTASSIUM	1000.0	1052.00	105.2
SODIUM	1000.0	1024.00	102.4
THALLIUM	15.0	15.86	105.7

2C
PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: PQL

File: INA03A Jan 03, 2020 15:15

Analyte	TRUE	FOUND	% R
ALUMINUM	300.0	307.10	102.4
BARIUM	5.0	5.08	101.6
BERYLLIUM	5.0	5.01	100.2
CALCIUM	100.0	105.10	105.1
IRON	100.0	98.92	98.9
MAGNESIUM	100.0	90.25	90.3
NICKEL	10.0	10.15	101.5

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICB

File: HML19B Dec 19, 2019 14:28

Analyte	Result	C
MERCURY	0.016	U

SAMPLE: CCB

File: HML19B Dec 19, 2019 14:34

Analyte	Result	C
MERCURY	0.016	U

SAMPLE: CCB

File: HML19B Dec 19, 2019 14:58

Analyte	Result	C
MERCURY	0.016	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: HML19B Dec 19, 2019 15:24

<u>Analyte</u>	<u>Result</u>	<u>C</u>
MERCURY	0.016	U

SAMPLE: CCB

File: HML19B Dec 19, 2019 15:47

<u>Analyte</u>	<u>Result</u>	<u>C</u>
MERCURY	0.016	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICB

File: IML27A Dec 27, 2019 9:48

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	0.550	U
IRON	3.600	U
LEAD	-1.215	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	2.300	U
SILVER	5.300	U
SODIUM	12.000	U
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

SAMPLE: CCB

File: IML27A Dec 27, 2019 10:12

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.138	J
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	0.550	U
IRON	3.600	U
LEAD	1.000	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	2.300	U
SILVER	5.300	U
SODIUM	15.820	J
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

SAMPLE: CCB

File: IML27A Dec 27, 2019 10:32

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.150	J
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	0.550	U
IRON	4.331	J
LEAD	1.000	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	3.165	J
SILVER	5.300	U
SODIUM	18.490	J
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: IML27A Dec 27, 2019 11:31

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	0.550	U
IRON	3.600	U
LEAD	1.000	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	2.300	U
SILVER	5.300	U
SODIUM	51.410	J
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

SAMPLE: CCB

File: IML27A Dec 27, 2019 12:23

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	-1.646	U
CADMIUM	0.160	J
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	-1.213	U
IRON	3.600	U
LEAD	1.000	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	2.300	U
SILVER	5.300	U
SODIUM	32.680	J
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

SAMPLE: CCB

File: IML27A Dec 27, 2019 13:17

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
CHROMIUM	0.200	U
COBALT	0.230	U
COPPER	-1.169	U
IRON	3.600	U
LEAD	-1.234	U
MAGNESIUM	2.900	U
MANGANESE	0.870	U
POTASSIUM	73.000	U
SELENIUM	2.300	U
SILVER	5.300	U
SODIUM	38.680	J
THALLIUM	1.300	U
VANADIUM	0.530	U
ZINC	0.450	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICB

File: IML30A Dec 30, 2019 12:58

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	12.000	U
THALLIUM	-1.491	U

SAMPLE: CCB

File: IML30A Dec 30, 2019 13:21

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	3.398	J
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	12.000	U
THALLIUM	1.300	U

SAMPLE: CCB

File: IML30A Dec 30, 2019 13:43

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.972	J
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	12.000	U
THALLIUM	1.300	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: IML30A Dec 30, 2019 14:40

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.861	J
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	44.080	J
THALLIUM	1.300	U

SAMPLE: CCB

File: IML30A Dec 30, 2019 15:32

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.700	U
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	12.000	U
THALLIUM	1.300	U

SAMPLE: CCB

File: IML30A Dec 30, 2019 16:25

Analyte	Result	C
ALUMINUM	10.860	J
ANTIMONY	1.942	J
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	19.190	J
THALLIUM	1.300	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: IML30A Dec 30, 2019 17:17

Analyte	Result	C
ALUMINUM	10.000	U
ANTIMONY	1.985	J
ARSENIC	1.400	U
CADMIUM	0.092	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
POTASSIUM	73.000	U
SODIUM	12.000	U
THALLIUM	1.300	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICB

File: INA03A Jan 03, 2020 15:11

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	4.111	J
MAGNESIUM	2.900	U
NICKEL	0.440	U

SAMPLE: CCB

File: INA03A Jan 03, 2020 15:35

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	4.188	J
MAGNESIUM	2.900	U
NICKEL	0.440	U

SAMPLE: CCB

File: INA03A Jan 03, 2020 15:55

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.919	J
NICKEL	0.440	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: INA03A Jan 03, 2020 16:51

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	5.067	J
MAGNESIUM	-3.140	U
NICKEL	0.440	U

SAMPLE: CCB

File: INA03A Jan 03, 2020 17:44

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	4.733	J
MAGNESIUM	2.900	U
NICKEL	0.440	U

SAMPLE: CCB

File: INA03A Jan 03, 2020 18:36

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	4.733	J
MAGNESIUM	2.900	U
NICKEL	0.440	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: CCB

File: INA03A Jan 03, 2020 19:28

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.280	J
IRON	3.600	U
MAGNESIUM	2.900	U
NICKEL	0.440	U

SAMPLE: CCB

File: INA03A Jan 03, 2020 20:21

Analyte	Result	C
ALUMINUM	10.000	U
BARIUM	0.410	U
BERYLLIUM	0.170	U
CALCIUM	11.000	U
IRON	3.600	U
MAGNESIUM	2.900	U
NICKEL	0.440	U

3P
PREPARATION BLANKS

Lab Name: Katahdin Analytical Services

Sample ID: PBWML19HGW1

Matrix: WATER

SDG Name: TM3232

QC Batch ID: ML19HGW1

Concentration Units : ug/L

Analyte	RESULT	C
MERCURY	0.10	U

3P
PREPARATION BLANKS

Lab Name: Katahdin Analytical Services

Sample ID: PBWML24ICW1

Matrix: WATER

SDG Name: TM3232

QC Batch ID: ML24ICW1

Concentration Units : ug/L

Analyte	RESULT	C
ALUMINUM	15	J
ANTIMONY	5.0	U
ARSENIC	5.0	U
CADMIUM	0.088	J
CALCIUM	80	U
CHROMIUM	4.0	U
COBALT	4.0	U
COPPER	10	U
IRON	80	U
LEAD	4.0	U
MAGNESIUM	80	U
MANGANESE	4.0	U
POTASSIUM	46	J
SELENIUM	7.0	U
SILVER	0.65	J
SODIUM	500	U
THALLIUM	5.0	U
VANADIUM	4.0	U
ZINC	10	U

3P
PREPARATION BLANKS

Lab Name: Katahdin Analytical Services

Sample ID: PBWNA02ICW2

Matrix: WATER

SDG Name: TM3232

QC Batch ID: NA02ICW2

Concentration Units : ug/L

Analyte	RESULT	C
BARIUM	3.0	U
BERYLLIUM	0.50	U
NICKEL	0.28	J

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICSA				SAMPLE: ICSAB			
File: IML27A	Dec 27, 2019	09:57		File: IML27A	Dec 27, 2019	10:02	
Analyte	TRUE	FOUND	% R	Analyte	TRUE	FOUND	% R
ALUMINUM	500000.00	490400.00	98.1	ALUMINUM	500000.00	498900.00	99.8
ANTIMONY	0	-1.43		ANTIMONY	600.00	637.70	106.3
ARSENIC	0	-3.23		ARSENIC	100.00	103.30	103.0
CADMIUM	0	1.31		CADMIUM	1000.00	982.20	98.2
CALCIUM	500000.00	473100.00	94.6	CALCIUM	500000.00	480600.00	96.1
CHROMIUM	0	-1.53		CHROMIUM	500.00	487.60	97.6
COBALT	0	-0.72		COBALT	500.00	493.00	98.6
COPPER	0	-0.98		COPPER	500.00	532.60	106.6
IRON	200000.00	185600.00	92.8	IRON	200000.00	189500.00	94.8
LEAD	0	1.30		LEAD	50.00	50.78	102.0
MAGNESIUM	500000.00	490300.00	98.1	MAGNESIUM	500000.00	494200.00	98.8
MANGANESE	0	-2.38		MANGANESE	500.00	486.00	97.2
POTASSIUM	0	22.22		POTASSIUM	20000.00	21240.00	106.2
SELENIUM	0	2.13		SELENIUM	50.00	51.74	104.0
SILVER	0	3.59		SILVER	200.00	221.60	111.0
SODIUM	0	30.56		SODIUM	20000.00	21370.00	106.8
THALLIUM	0	1.34		THALLIUM	100.00	96.50	97.0
VANADIUM	0	-1.68		VANADIUM	500.00	493.70	98.8
ZINC	0	0.70		ZINC	1000.00	964.00	96.4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICSA

File: IML30A Dec 30, 2019 13:07

Analyte	TRUE	FOUND	% R
ALUMINUM	500000.00	478400.00	95.7
ANTIMONY	0	0.78	
ARSENIC	0	-2.70	
CADMIUM	0	0.47	
CALCIUM	500000.00	462000.00	92.4
IRON	200000.00	180200.00	90.1
MAGNESIUM	500000.00	493100.00	98.6
POTASSIUM	0	-20.84	
SODIUM	0	17.67	
THALLIUM	0	0.87	

SAMPLE: ICSAB

File: IML30A Dec 30, 2019 13:12

Analyte	TRUE	FOUND	% R
ALUMINUM	500000.00	476400.00	95.3
ANTIMONY	600.00	614.60	102.5
ARSENIC	100.00	104.80	105.0
CADMIUM	1000.00	954.30	95.4
CALCIUM	500000.00	459500.00	91.9
IRON	200000.00	181300.00	90.6
MAGNESIUM	500000.00	474000.00	94.8
POTASSIUM	20000.00	20640.00	103.2
SODIUM	20000.00	20380.00	101.9
THALLIUM	100.00	92.72	93.0

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services SDG Name: TM3232

Concentration Units: ug/L

SAMPLE: ICSA

File: INA03A Jan 03, 2020 15:20

Analyte	TRUE	FOUND	% R
ALUMINUM	500000.00	476300.00	95.3
BARIUM	0	0.21	
BERYLLIUM	0	-0.02	
CALCIUM	500000.00	456200.00	91.2
IRON	200000.00	179700.00	89.8
MAGNESIUM	500000.00	465200.00	93.0
NICKEL	0	1.63	

SAMPLE: ICSAB

File: INA03A Jan 03, 2020 15:25

Analyte	TRUE	FOUND	% R
ALUMINUM	500000.00	479900.00	96.0
BARIUM	500.00	501.70	100.4
BERYLLIUM	500.00	492.90	98.6
CALCIUM	500000.00	456400.00	91.3
IRON	200000.00	181700.00	90.8
MAGNESIUM	500000.00	486400.00	97.3
NICKEL	1000.00	953.60	95.4

5A
SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services
Matrix: WATER
Percent Solids: 0.00

Client Field ID: 16LM20061P
SDG Name: TM3232
Lab Sample ID: TM3232-004P

Concentration Units : ug/L

Analyte	Spiked		Sample		Spike Added	%R	Q	Control Limits (%R)			
	Sample	Result	C	Result				C	Low	High	M
ALUMINUM, TOTAL		2460		98	J	2000	118.3	N	86	115	P
ANTIMONY, TOTAL		162		49.0		100	112.5		88	113	P
ARSENIC, TOTAL		104		5.0	U	100	104.4		87	113	P
BARIUM, TOTAL		2340		110		2000	111.5		88	113	P
BERYLLIUM, TOTAL		55.2		0.50	U	50	110.4		89	112	P
CADMIUM, TOTAL		265		0.082	J	250	105.9		88	113	P
CALCIUM, TOTAL	101000			92900		2500	324.0	N	87	113	P
CHROMIUM, TOTAL		237		0.60	J	200	118.4	N	90	113	P
COBALT, TOTAL		585		0.34	J	500	117.0	N	89	114	P
COPPER, TOTAL		309		2.7	J	250	122.5	N	86	114	P
IRON, TOTAL		1410		223		1000	118.9	N	87	115	P
LEAD, TOTAL		140		33.6		100	106.2		86	113	P
MAGNESIUM, TOTAL		29200		23400		5000	115.4	N	85	113	P
MANGANESE, TOTAL		611		19.6		500	118.2	N	90	114	P
MERCURY, TOTAL		1.01		0.10	U	1	100.6		82	119	CV
NICKEL, TOTAL		521		0.84	J	500	104.0		88	113	P
POTASSIUM, TOTAL	12200			1380		10000	108.7		86	114	P
SELENIUM, TOTAL		109		2.7	J	100	106.2		83	114	P
SILVER, TOTAL		60.1		0.31	J	50	119.5	N	84	115	P
SODIUM, TOTAL	11300			2940		7500	111.1		87	115	P
THALLIUM, TOTAL		103		5.0	U	100	103.0		85	114	P
VANADIUM, TOTAL		608		0.47	J	500	121.4	N	90	111	P
ZINC, TOTAL		599		12.2	J	500	117.4	N	87	115	P

Comments:

5A
SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20061S

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-004S

Concentration Units : ug/L

Analyte	Spiked		Sample		Spike Added	%R	Q	Control Limits (%R)		M	
	Sample	Result	C	Result				C	Low		High
ALUMINUM, TOTAL		2350		98	J	2000	112.6	86	115	P	
ANTIMONY, TOTAL		154		49.0		100	105.2	88	113	P	
ARSENIC, TOTAL		99.8		5.0	U	100	99.8	87	113	P	
BARIUM, TOTAL		2260		110		2000	107.3	88	113	P	
BERYLLIUM, TOTAL		53.8		0.50	U	50	107.6	89	112	P	
CADMIUM, TOTAL		251		0.082	J	250	100.4	88	113	P	
CALCIUM, TOTAL		97300		92900		2500	175.6	N	87	113	P
CHROMIUM, TOTAL		222		0.60	J	200	110.7	90	113	P	
COBALT, TOTAL		550		0.34	J	500	109.9	89	114	P	
COPPER, TOTAL		288		2.7	J	250	114.1	N	86	114	P
IRON, TOTAL		1370		223		1000	114.3	87	115	P	
LEAD, TOTAL		132		33.6		100	98.6	86	113	P	
MAGNESIUM, TOTAL		27600		23400		5000	83.8	N	85	113	P
MANGANESE, TOTAL		587		19.6		500	113.5	90	114	P	
MERCURY, TOTAL		0.957		0.10	U	1	95.7	82	119	CV	
NICKEL, TOTAL		511		0.84	J	500	102.1	88	113	P	
POTASSIUM, TOTAL		11700		1380		10000	103.6	86	114	P	
SELENIUM, TOTAL		99.9		2.7	J	100	97.2	83	114	P	
SILVER, TOTAL		56.6		0.31	J	50	112.5	84	115	P	
SODIUM, TOTAL		10900		2940		7500	105.9	87	115	P	
THALLIUM, TOTAL		96.8		5.0	U	100	96.8	85	114	P	
VANADIUM, TOTAL		567		0.47	J	500	113.3	N	90	111	P
ZINC, TOTAL		564		12.2	J	500	110.3	87	115	P	

Comments:

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20061A

Matrix: WATER

SDG Name: TM3232

Percent Solids: 0.00

Lab Sample ID: TM3232-004A

Concentration Units : ug/L

Analyte	Spiked		Sample		Spike Added	%R	Q	Control Limits (%R)			
	Sample	Result	C	Result				C	Low	High	M
ALUMINUM, TOTAL		11300		98	J	10500	107.0		80	120	P
ANTIMONY, TOTAL		590		49.0		500	108.2		80	120	P
ARSENIC, TOTAL		522		1.4	U	500	104.5		80	120	P
BARIUM, TOTAL		652		110		500	108.4		80	120	P
BERYLLIUM, TOTAL		542		0.10	U	500	108.4		80	120	P
CADMIUM, TOTAL		534		0.082	J	500	106.8		80	120	P
CALCIUM, TOTAL		99700		92900		5500	124.0	A	80	120	P
CHROMIUM, TOTAL		547		0.60	J	500	109.3		80	120	P
COBALT, TOTAL		529		0.34	J	500	105.7		80	120	P
COPPER, TOTAL		562		2.7	J	500	111.8		80	120	P
IRON, TOTAL		6700		223		5500	117.7		80	120	P
LEAD, TOTAL		571		33.6		500	107.4		80	120	P
MAGNESIUM, TOTAL		28800		23400		5500	99.1		80	120	P
MANGANESE, TOTAL		558		19.6		500	107.7		80	120	P
MERCURY, TOTAL		2.12		0.013	U	1	211.5	A	80	120	CV
NICKEL, TOTAL		516		0.84	J	500	103.1		80	120	P
POTASSIUM, TOTAL		12900		1380		10000	115.0		80	120	P
SELENIUM, TOTAL		528		2.7	J	500	105.0		80	120	P
SILVER, TOTAL		537		0.31	J	500	107.3		80	120	P
SODIUM, TOTAL		9600		2940		5500	121.2	A	80	120	P
THALLIUM, TOTAL		524		1.1	U	500	104.8		80	120	P
VANADIUM, TOTAL		558		0.47	J	500	111.4		80	120	P
ZINC, TOTAL		540		12.2	J	500	105.5		80	120	P

Comments:

5D
SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services
Matrix: WATER
Percent Solids: 0.00

Client Field ID: 16LM20061
SDG Name: TM3232
Lab Sample ID: TM3232-004

Concentration Units : ug/L

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ALUMINUM, TOTAL		2350		2460		4.7		P
ANTIMONY, TOTAL		154		162		4.6		P
ARSENIC, TOTAL		99.8		104		4.5		P
BARIUM, TOTAL		2260		2340		3.7		P
BERYLLIUM, TOTAL		53.8		55.2		2.6		P
CADMIUM, TOTAL		251		265		5.3		P
CALCIUM, TOTAL		97300		101000		3.7		P
CHROMIUM, TOTAL		222		237		6.7		P
COBALT, TOTAL		550		585		6.2		P
COPPER, TOTAL		288		309		7.0		P
IRON, TOTAL		1370		1410		3.3		P
LEAD, TOTAL		132		140		5.6		P
MAGNESIUM, TOTAL		27600		29200		5.6		P
MANGANESE, TOTAL		587		611		3.9		P
MERCURY, TOTAL		0.957		1.01		5.0		CV
NICKEL, TOTAL		511		521		1.9		P
POTASSIUM, TOTAL		11700		12200		4.3		P
SELENIUM, TOTAL		99.9		109		8.6		P
SILVER, TOTAL		56.6		60.1		6.0		P
SODIUM, TOTAL		10900		11300		3.5		P
THALLIUM, TOTAL		96.8		103		6.3		P
VANADIUM, TOTAL		567		608		7.0		P
ZINC, TOTAL		564		599		6.1		P

Comments:

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services**Sample ID:** LCSWML19HGW1**Matrix:** WATER**SDG Name:** TM3232**QC Batch ID:** ML19HGW1

Concentration Units : ug/L					
Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	5.00	5.00	100.0	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services

Sample ID: LCSWML24ICW1

Matrix: WATER

SDG Name: TM3232

QC Batch ID: ML24ICW1

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ALUMINUM	2000	2170	108.6	86	115
ANTIMONY	100	111	110.6	88	113
ARSENIC	100	107	106.8	87	113
CADMIUM	250	274	109.7	88	113
CALCIUM	2500	2620	104.6	87	113
CHROMIUM	200	223	111.4	90	113
COBALT	500	570	114.0	89	114
COPPER	250	279	111.7	86	114
IRON	1000	1120	111.9	87	115
LEAD	100	99.5	99.5	86	113
MAGNESIUM	5000	5160	103.3	85	113
MANGANESE	500	560	112.0	90	114
POTASSIUM	10000	10700	106.7	86	114
SELENIUM	100	102	102.2	83	114
SILVER	50.0	56.3	112.6	84	115
SODIUM	7500	7990	106.6	87	115
THALLIUM	100	104	104.1	85	114
VANADIUM	500	555	111.1	90	111
ZINC	500	567	113.3	87	115

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services**Sample ID:** LCSWNA02ICW2**Matrix:** WATER**SDG Name:** TM3232**QC Batch ID:** NA02ICW2**Concentration Units :** ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
BARIUM	2000	2260	112.8	88	113
BERYLLIUM	50.0	54.9	109.8	89	112
NICKEL	500	532	106.5	88	113

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services

Client Field ID: 16LM20061L

Matrix: WATER

SDG Name: TM3232

Lab Sample ID: TM3232-004L

Concentration Units: ug/L

Analyte	Sample Result	C	Dilution	Result	C	% Difference	Q	M
ALUMINUM, TOTAL	98	J		75	U	100.0		P
ANTIMONY, TOTAL	49.0			45		8.2		P
ARSENIC, TOTAL	1.4	U		7.0	U			P
BARIUM, TOTAL	110			105		4.5		P
BERYLLIUM, TOTAL	0.10	U		0.50	U			P
CADMIUM, TOTAL	0.082	J		0.25	U	100.0		P
CALCIUM, TOTAL	92900			94700		1.9		P
CHROMIUM, TOTAL	0.60	J		1.8	U	100.0		P
COBALT, TOTAL	0.34	J		1.2	U	100.0		P
COPPER, TOTAL	2.7	J		3.1	U	100.0		P
IRON, TOTAL	223			230	J	3.1		P
LEAD, TOTAL	33.6			24	J	28.6		P
MAGNESIUM, TOTAL	23400			22400		4.3		P
MANGANESE, TOTAL	19.6			18	J	8.2		P
MERCURY, TOTAL	0.013	U		0.065	U			CV
NICKEL, TOTAL	0.84	J		1.4	U	100.0		P
POTASSIUM, TOTAL	1380			1400	J	1.4		P
SELENIUM, TOTAL	2.7	J		12	U	100.0		P
SILVER, TOTAL	0.31	J		2.5	J	706.5		P
SODIUM, TOTAL	2940			3120	J	6.1		P
THALLIUM, TOTAL	1.1	U		5.5	U			P
VANADIUM, TOTAL	0.47	J		1.2	U	100.0		P
ZINC, TOTAL	12.2	J		11	J	9.8		P

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services**Instrument Code: H****Instrument Name: CETAC M6100****Date: 1/17/2019**

Analyte	Concentration Units: ug/L		
	PQL/LOQ	IDL	M
MERCURY	0.20	0.016	CV

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services**Instrument Code: I****Instrument Name: THERMO ICAP 6500****Date: 1/22/2018**

Analyte	Concentration Units: ug/L		
	PQL/LOQ	IDL	M
ALUMINUM	300	10	P
ANTIMONY	8.0	1.7	P
ARSENIC	8.0	1.4	P
BARIUM	5.0	0.41	P
BERYLLIUM	5.0	0.17	P
CADMIUM	5.0	0.092	P
CALCIUM	100	11	P
CHROMIUM	10	0.20	P
COBALT	10	0.23	P
COPPER	25	0.55	P
IRON	100	3.6	P
LEAD	5.0	1.0	P
MAGNESIUM	100	2.9	P
MANGANESE	5.0	0.87	P
NICKEL	10	0.44	P
POTASSIUM	1000	73	P
SELENIUM	10	2.3	P
SILVER	10	5.3	P
SODIUM	1000	12	P
THALLIUM	15	1.3	P
VANADIUM	10	0.53	P
ZINC	20	0.45	P

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services**Instrument Code: H****Instrument Name: CETAC M6100****Date: 6/11/2010**

Analyte	LOD	Units	M	EPA Prep./Anal. Method
MERCURY	0.10	ug/L	CV	SW846 7470A / SW846 7470A

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services**Instrument Code: I****Instrument Name: THERMO ICAP 6500****Date: 6/11/2010**

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ALUMINUM	100	ug/L	P	SW846 3010A / SW846 6010C
ANTIMONY	5.0	ug/L	P	SW846 3010A / SW846 6010C
ARSENIC	5.0	ug/L	P	SW846 3010A / SW846 6010C
BARIUM	3.0	ug/L	P	SW846 3010A / SW846 6010C
BERYLLIUM	0.50	ug/L	P	SW846 3010A / SW846 6010C
CADMIUM	3.0	ug/L	P	SW846 3010A / SW846 6010C
CALCIUM	80	ug/L	P	SW846 3010A / SW846 6010C
CHROMIUM	4.0	ug/L	P	SW846 3010A / SW846 6010C
COBALT	4.0	ug/L	P	SW846 3010A / SW846 6010C
COPPER	10	ug/L	P	SW846 3010A / SW846 6010C
IRON	80	ug/L	P	SW846 3010A / SW846 6010C
LEAD	4.0	ug/L	P	SW846 3010A / SW846 6010C
MAGNESIUM	80	ug/L	P	SW846 3010A / SW846 6010C
MANGANESE	4.0	ug/L	P	SW846 3010A / SW846 6010C
NICKEL	4.0	ug/L	P	SW846 3010A / SW846 6010C
POTASSIUM	500	ug/L	P	SW846 3010A / SW846 6010C
SELENIUM	7.0	ug/L	P	SW846 3010A / SW846 6010C
SILVER	4.0	ug/L	P	SW846 3010A / SW846 6010C
SODIUM	500	ug/L	P	SW846 3010A / SW846 6010C
THALLIUM	5.0	ug/L	P	SW846 3010A / SW846 6010C
VANADIUM	4.0	ug/L	P	SW846 3010A / SW846 6010C
ZINC	10	ug/L	P	SW846 3010A / SW846 6010C

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services**Instrument Code: H****Instrument Name: CETAC M6100****Date: 2/9/2011**

Analyte	MDL	Units	M	EPA Prep./Anal. Method
MERCURY	0.013	ug/L	CV	SW846 7470A / SW846 7470A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services

Instrument Code: I

Instrument Name: THERMO ICAP 6500

Date: 1/19/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ALUMINUM	15	ug/L	P	SW846 3010A / SW846 6010C
ANTIMONY	1.3	ug/L	P	SW846 3010A / SW846 6010C
ARSENIC	1.4	ug/L	P	SW846 3010A / SW846 6010C
BARIUM	0.23	ug/L	P	SW846 3010A / SW846 6010C
BERYLLIUM	0.10	ug/L	P	SW846 3010A / SW846 6010C
CADMIUM	0.049	ug/L	P	SW846 3010A / SW846 6010C
CALCIUM	11	ug/L	P	SW846 3010A / SW846 6010C
CHROMIUM	0.36	ug/L	P	SW846 3010A / SW846 6010C
COBALT	0.24	ug/L	P	SW846 3010A / SW846 6010C
COPPER	0.63	ug/L	P	SW846 3010A / SW846 6010C
IRON	5.4	ug/L	P	SW846 3010A / SW846 6010C
LEAD	1.1	ug/L	P	SW846 3010A / SW846 6010C
MAGNESIUM	7.8	ug/L	P	SW846 3010A / SW846 6010C
MANGANESE	1.1	ug/L	P	SW846 3010A / SW846 6010C
NICKEL	0.28	ug/L	P	SW846 3010A / SW846 6010C
POTASSIUM	41	ug/L	P	SW846 3010A / SW846 6010C
SELENIUM	2.4	ug/L	P	SW846 3010A / SW846 6010C
SILVER	0.27	ug/L	P	SW846 3010A / SW846 6010C
SODIUM	24	ug/L	P	SW846 3010A / SW846 6010C
THALLIUM	1.1	ug/L	P	SW846 3010A / SW846 6010C
VANADIUM	0.23	ug/L	P	SW846 3010A / SW846 6010C
ZINC	0.72	ug/L	P	SW846 3010A / SW846 6010C

ICP INTERELEMENT CORRECTION FACTORS

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument Name: THERMO ICAP 6500

Instrument ID: I

Date: 10/31/2019

Analyte	Wavelength (nm)	Interelement Correction Factors for:												
		Al	Ca	Fe	Mg	As	Cr	Co	Cu	Mn	Mo	Ni	Ti	V
ALUMINUM	396.15	0.0	0.0004837	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0299385	0.0	0.0	0.0
ANTIMONY	206.83	0.0000046	0.0	0.0000158	0.0	0.0000731	0.0053159	0.0	0.0	0.0	-0.0000148	-0.0004021	0.0	-0.0011428
ARSENIC	189.04	0.0000103	0.0	-0.0001057	0.0	0.0	0.0001984	0.0	0.0	0.0	0.0018390	0.0	0.0	0.0
BARIUM	455.40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BERYLLIUM	313.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0006836	0.0000896
BORON	208.96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0328838	0.0	0.0	0.0
CADMIUM	226.50	0.0	0.0	0.0000944	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0001135	0.0000801	0.0
CALCIUM	315.89	0.0	0.0	0.0	0.0	0.0	-0.0002011	0.0007850	0.0	0.0	0.0	0.0	0.0	0.0
CHROMIUM	267.72	0.0	0.0	-0.0000006	0.0	0.0	0.0	0.0	0.0	0.0000828	0.0	0.0	0.0	-0.0000100
COBALT	228.62	0.0	0.0	0.0000045	0.0	0.0	-0.0001286	0.0	0.0	0.0	0.0	0.0001562	0.0022114	0.0
COPPER	327.40	0.0000079	0.0	-0.0000147	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0006988	0.0002004
GOLD	242.79	0.0	0.0	0.0001110	0.0	0.0	0.0	0.0	0.0	0.0058700	0.0	0.0	0.0	0.0
IRON	259.94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LEAD	220.35	-0.0000865	0.0	0.0000372	0.0	0.0	-0.0000772	-0.0000211	0.0000931	0.0	-0.0012809	0.0000645	-0.0000220	0.0
LITHIUM	670.78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAGNESIUM	202.58	0.0	0.0	0.0000557	0.0	0.0	0.0	0.1395100	0.0	0.0	0.0145280	0.0	0.0001229	0.0
MANGANESE	257.61	0.0000017	0.0	0.0000273	0.0000391	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MOLYBDENUM	202.03	0.0	0.0	0.0	0.0	0.0	0.0000270	0.0	0.0	-0.0000204	0.0	0.0	0.0	-0.0001163
NICKEL	231.60	0.0	0.0	-0.0000260	0.0	0.0	0.0	0.0001789	0.0	0.0	0.0011098	0.0	0.0	0.0
POTASSIUM	766.49	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SELENIUM	196.09	0.0000345	0.0	0.0000204	0.0	0.0000996	0.0	0.0002593	0.0	0.0003979	0.0	0.0	0.0	0.0001059
SILICON	251.61	0.0	0.0	-0.0000932	0.0	0.0	0.0	0.0	0.0	0.0	0.0093424	0.0	0.0253899	0.0
SILVER	328.07	0.0	0.0	-0.0003035	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0008413	0.0
SODIUM	589.59	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRONTIUM	421.55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THALLIUM	190.86	0.0000086	0.0	0.0000026	0.0	0.0	0.0	0.0014338	0.0001027	-0.0015199	-0.0000004	0.0	-0.0006457	-0.0032486
TIN	189.99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TITANIUM	334.90	0.0	0.0	0.0	0.0	0.0	0.0001510	0.0	0.0	0.0	0.0002068	0.0	0.0	0.0
VANADIUM	292.40	0.0	0.0	0.0000127	0.0	0.0	-0.0026455	0.0	0.0	-0.0007989	-0.0089144	0.0	0.0003126	0.0
ZINC	206.20	0.0	0.0	0.0	0.0	0.0	-0.0010444	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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ICP LINEAR RANGES

Lab Name: Katahdin Analytical Services

Instrument Code: I

Instrument Name: THERMO ICAP 6500

Date: 8/6/2019

Concentration Units: ug/L

Analyte	Integration Time (sec)	Linear Range	M
ALUMINUM	5.00	500000	P
ANTIMONY	45.00	20000	P
ARSENIC	45.00	20000	P
BARIUM	5.00	20000	P
BERYLLIUM	5.00	20000	P
CADMIUM	45.00	20000	P
CALCIUM	5.00	500000	P
CHROMIUM	10.00	20000	P
COBALT	45.00	20000	P
COPPER	10.00	20000	P
IRON	5.00	250000	P
LEAD	45.00	20000	P
MAGNESIUM	45.00	200000	P
MANGANESE	5.00	20000	P
NICKEL	10.00	20000	P
POTASSIUM	5.00	300000	P
SELENIUM	45.00	20000	P
SILVER	10.00	2000	P
SODIUM	5.00	200000	P
THALLIUM	45.00	20000	P
VANADIUM	10.00	20000	P
ZINC	45.00	20000	P

PREPARATION LOG

Lab Name: Katahdin Analytical Services**QC Batch ID:** ML19HGW1**Matrix:** WATER**SDG Name:** TM3232**Method:** CV**Prep Date:** 12/19/2019

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWML19HGW1	LCSWML19HGW1	0.025	0.025	
PBWML19HGW1	PBWML19HGW1	0.025	0.025	
16LM20059	TM3232-001	0.025	0.025	A
16LM20057	TM3232-002	0.025	0.025	A
16LM20062	TM3232-003	0.025	0.025	A
16LM20061	TM3232-004	0.025	0.025	A
16LM20061P	TM3232-004P	0.025	0.025	A
16LM20061S	TM3232-004S	0.025	0.025	A
16LM20060	TM3232-005	0.025	0.025	A
16LM20058	TM3232-006	0.025	0.025	A
16LM20056	TM3232-007	0.025	0.025	A
17LM20040	TM3232-008	0.025	0.025	A
17LM20041	TM3232-009	0.025	0.025	A
17LM20042	TM3232-010	0.025	0.025	A
17LM20043	TM3232-011	0.025	0.025	A
17LM20044	TM3232-012	0.025	0.025	A

PREPARATION LOG

Lab Name: Katahdin Analytical Services**QC Batch ID:** ML24ICW1**Matrix:** WATER**SDG Name:** TM3232**Method:** P**Prep Date:** 12/24/2019

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWML24ICW1	LCSWML24ICW1	0.05	0.05	
PBWML24ICW1	PBWML24ICW1	0.05	0.05	
16LM20059	TM3232-001	0.05	0.05	A
16LM20057	TM3232-002	0.05	0.05	A
16LM20062	TM3232-003	0.05	0.05	A
16LM20061	TM3232-004	0.05	0.05	A
16LM20061P	TM3232-004P	0.05	0.05	A
16LM20061S	TM3232-004S	0.05	0.05	A
16LM20060	TM3232-005	0.05	0.05	A
16LM20058	TM3232-006	0.05	0.05	A
16LM20056	TM3232-007	0.05	0.05	A
17LM20040	TM3232-008	0.05	0.05	A
17LM20041	TM3232-009	0.05	0.05	A
17LM20042	TM3232-010	0.05	0.05	A
17LM20043	TM3232-011	0.05	0.05	A
17LM20044	TM3232-012	0.05	0.05	A

PREPARATION LOG

Lab Name: Katahdin Analytical Services**QC Batch ID:** NA02ICW2**Matrix:** WATER**SDG Name:** TM3232**Method:** P**Prep Date:** 01/02/2020

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWNA02ICW2	LCSWNA02ICW2	0.05	0.05	
PBWNA02ICW2	PBWNA02ICW2	0.05	0.05	
16LM20059	TM3232-001R	0.05	0.05	A
16LM20057	TM3232-002R	0.05	0.05	A
16LM20062	TM3232-003R	0.05	0.05	A
16LM20061	TM3232-004R	0.05	0.05	B
16LM20061P	TM3232-004RP	0.05	0.05	B
16LM20061S	TM3232-004RS	0.05	0.05	B
16LM20060	TM3232-005R	0.05	0.05	A
16LM20058	TM3232-006R	0.05	0.05	A
16LM20056	TM3232-007R	0.05	0.05	A
17LM20040	TM3232-008R	0.05	0.05	A
17LM20041	TM3232-009R	0.05	0.05	A
17LM20042	TM3232-010R	0.05	0.05	A
17LM20043	TM3232-011R	0.05	0.05	A
17LM20044	TM3232-012R	0.05	0.05	A

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: CETAC M6100

File Name: HML19B

Date: 12/19/2019

Method: CV

Lab Sample ID	Client ID	D.F.	Time	Elements
Calibration Blank		1	14:13	Hg
Standard #1 (0.2 ppb)		1	14:15	Hg
Standard #2 (0.5 ppb)		1	14:17	Hg
Standard #3 (1.0 ppb)		1	14:20	Hg
Standard #4 (5.0 ppb)		1	14:22	Hg
Standard #5 (10.0 ppb)		1	14:24	Hg
ICV		1	14:26	HG
ICB		1	14:28	HG
PQL		1	14:30	HG
CCV		1	14:32	HG
CCB		1	14:34	HG
LCSWML19HGW1		1	14:37	HG
PBWML19HGW1		1	14:39	HG
ZZZZZZ		1	14:41	
ZZZZZZ		1	14:43	
TM3232-001	16LM20059	1	14:45	HG
TM3232-002	16LM20057	1	14:47	HG
TM3232-003	16LM20062	1	14:49	HG
TM3232-004	16LM20061	1	14:52	HG
TM3232-004S	16LM20061S	1	14:54	HG
CCV		1	14:56	HG
CCB		1	14:58	HG
TM3232-004P	16LM20061P	1	15:00	HG
TM3232-004A	16LM20061A	1	15:02	HG
TM3232-004L	16LM20061L	5	15:04	HG
TM3232-005	16LM20060	1	15:06	HG
TM3232-006	16LM20058	1	15:09	HG

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ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: CETAC M6100

File Name: HML19B

Date: 12/19/2019

Method: CV

Lab Sample ID	Client ID	D.F.	Time	Elements
TM3232-007	16LM20056	1	15:11	HG
TM3232-008	17LM20040	1	15:13	HG
TM3232-009	17LM20041	1	15:15	HG
TM3232-010	17LM20042	1	15:17	HG
TM3232-011	17LM20043	1	15:19	HG
CCV		1	15:21	HG
CCB		1	15:24	HG
TM3232-012	17LM20044	1	15:26	HG
ZZZZZZ		1	15:28	
ZZZZZZ		1	15:30	
ZZZZZZ		1	15:32	
ZZZZZZ		1	15:34	
ZZZZZZ		1	15:37	
ZZZZZZ		1	15:39	
ZZZZZZ		1	15:41	
ZZZZZZ		1	15:43	
CCV		1	15:45	HG
CCB		1	15:47	HG

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: IML27A

Date: 12/27/2019

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements										
Blank		1	9:35	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
Std 1		1	9:40	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
ICV		1	9:44	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
ICB		1	9:48	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
PQL		1	9:52	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
ICSA		1	9:57	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
ICSAB		1	10:02	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
CCV		1	10:07	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
CCB		1	10:12	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
LRS1		1	10:16	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
LRS2		1	10:23	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
CCV		1	10:28	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
CCB		1	10:32	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
PBWML24ICW1		1	10:37	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
LCSWML24ICW1		1	10:41	AL	CR CO CU	FE PB	MN	SE	AG		V	ZN		
ZZZZZZ		1	10:45											
ZZZZZZ		1	10:51											
ZZZZZZ		1	10:56											
ZZZZZZ		1	11:01											
ZZZZZZ		1	11:07											
ZZZZZZ		1	11:12											
ZZZZZZ		1	11:17											
TM3232-001	16LM20059	1	11:23	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
CCV		1	11:27	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
CCB		1	11:31	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
TM3232-002	16LM20057	1	11:36	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		
TM3232-003	16LM20062	1	11:40	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN		

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: IML27A

Date: 12/27/2019

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements											
TM3232-004	16LM20061	1	11:44	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-004L	16LM20061L	5	11:49	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-004A	16LM20061A	1	11:53	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-004S	16LM20061S	1	11:57	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-004P	16LM20061P	1	12:02	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-005	16LM20060	1	12:06	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-006	16LM20058	1	12:10	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-007	16LM20056	1	12:14	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
CCV		1	12:19	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
CCB		1	12:23	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-008	17LM20040	1	12:27	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-009	17LM20041	1	12:32	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-010	17LM20042	1	12:36	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-011	17LM20043	1	12:41	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
TM3232-012	17LM20044	1	12:45	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
<u>ZZZZZ</u>		1	12:49												
<u>ZZZZZ</u>		1	12:54												
<u>ZZZZZ</u>		1	12:58												
<u>ZZZZZ</u>		1	13:03												
<u>ZZZZZ</u>		1	13:08												
CCV		1	13:13	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			
CCB		1	13:17	AL SB AS	CD CA CR CO CU	FE PB	MGMN	K SE	AG NA	TL	V	ZN			

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ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: IML30A

Date: 12/30/2019

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements							
Blank		1	12:45	AL SB AS	CD CA	FE	MG	K	NA	TL	
Std 1		1	12:50	AL SB AS	CD CA	FE	MG	K	NA	TL	
ICV		1	12:54	AL SB AS	CD CA	FE	MG	K	NA	TL	
ICB		1	12:58	AL SB AS	CD CA	FE	MG	K	NA	TL	
PQL		1	13:02	AL SB AS	CD CA	FE	MG	K	NA	TL	
ICSA		1	13:07	AL SB AS	CD CA	FE	MG	K	NA	TL	
ICSAB		1	13:12	AL SB AS	CD CA	FE	MG	K	NA	TL	
CCV		1	13:17	AL SB AS	CD CA	FE	MG	K	NA	TL	
CCB		1	13:21	AL SB AS	CD CA	FE	MG	K	NA	TL	
LRS1		1	13:26	AL SB AS	CD CA	FE	MG	K	NA	TL	
LRS2		1	13:33	AL SB AS	CD CA	FE	MG	K	NA	TL	
CCV		1	13:39	AL SB AS	CD CA	FE	MG	K	NA	TL	
CCB		1	13:43	AL SB AS	CD CA	FE	MG	K	NA	TL	
ZZZZZZ		1	13:47								
ZZZZZZ		1	13:52								
ZZZZZZ		1	13:56								
ZZZZZZ		1	14:01								
ZZZZZZ		1	14:07								
ZZZZZZ		1	14:12								
ZZZZZZ		1	14:17								
ZZZZZZ		1	14:22								
ZZZZZZ		1	14:27								
ZZZZZZ		1	14:32								
CCV		1	14:36	AL SB AS	CD CA	FE	MG	K	NA	TL	
CCB		1	14:40	AL SB AS	CD CA	FE	MG	K	NA	TL	
ZZZZZZ		1	14:44								
ZZZZZZ		1	14:49								

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: IML30A

Date: 12/30/2019

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements									
ZZZZZZ		1	14:54										
ZZZZZZ		1	14:58										
ZZZZZZ		1	15:02										
ZZZZZZ		1	15:07										
ZZZZZZ		1	15:11										
ZZZZZZ		1	15:15										
ZZZZZZ		2	15:19										
ZZZZZZ		5	15:24										
CCV		1	15:28	AL	SB	AS	CD	CA	FE	MG	K	NA	TL
CCB		1	15:32	AL	SB	AS	CD	CA	FE	MG	K	NA	TL
ZZZZZZ		2	15:37										
ZZZZZZ		10	15:41										
ZZZZZZ		2	15:45										
ZZZZZZ		2	15:50										
ZZZZZZ		2	15:54										
ZZZZZZ		5	15:58										
ZZZZZZ		1	16:03										
ZZZZZZ		5	16:08										
ZZZZZZ		1	16:12										
ZZZZZZ		1	16:16										
CCV		1	16:21	AL	SB	AS	CD	CA	FE	MG	K	NA	TL
CCB		1	16:25	AL	SB	AS	CD	CA	FE	MG	K	NA	TL
ZZZZZZ		1	16:29										
ZZZZZZ		1	16:33										
ZZZZZZ		1	16:38										
ZZZZZZ		1	16:42										
ZZZZZZ		1	16:46										

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: IML30A

Date: 12/30/2019

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements									
ZZZZZZ		1	16:51										
ZZZZZZ		1	16:56										
ZZZZZZ		1	17:00										
ZZZZZZ		1	17:04										
LCSWML24ICW1		1	17:09	SB	AS	CD	CA	MG	K	NA	TL		
CCV		1	17:13	AL	SB	AS	CD	CA	FE	MG	K	NA	TL
CCB		1	17:17	AL	SB	AS	CD	CA	FE	MG	K	NA	TL

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: INA03A

Date: 1/3/2020

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements						
Blank		1	14:58	AL	BA	BE	CA	FE	MG	NI
Std 1		1	15:03	AL	BA	BE	CA	FE	MG	NI
ICV		1	15:07	AL	BA	BE	CA	FE	MG	NI
ICB		1	15:11	AL	BA	BE	CA	FE	MG	NI
PQL		1	15:15	AL	BA	BE	CA	FE	MG	NI
ICSA		1	15:20	AL	BA	BE	CA	FE	MG	NI
ICSAB		1	15:25	AL	BA	BE	CA	FE	MG	NI
CCV		1	15:30	AL	BA	BE	CA	FE	MG	NI
CCB		1	15:35	AL	BA	BE	CA	FE	MG	NI
LRS1		1	15:39	AL	BA	BE	CA	FE	MG	NI
LRS2		1	15:46	AL	BA	BE	CA	FE	MG	NI
CCV		1	15:51	AL	BA	BE	CA	FE	MG	NI
CCB		1	15:55	AL	BA	BE	CA	FE	MG	NI
ZZZZZZ		1	16:00							
ZZZZZZ		1	16:04							
ZZZZZZ		5	16:09							
ZZZZZZ		1	16:13							
ZZZZZZ		5	16:18							
ZZZZZZ		1	16:22							
ZZZZZZ		1	16:27							
ZZZZZZ		1	16:32							
ZZZZZZ		1	16:38							
ZZZZZZ		1	16:42							
CCV		1	16:46	AL	BA	BE	CA	FE	MG	NI
CCB		1	16:51	AL	BA	BE	CA	FE	MG	NI
ZZZZZZ		1	16:55							
ZZZZZZ		1	16:59							

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: INA03A

Date: 1/3/2020

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements						
ZZZZZZ		1	17:04							
ZZZZZZ		1	17:08							
ZZZZZZ		1	17:12							
ZZZZZZ		1	17:17							
ZZZZZZ		1	17:21							
ZZZZZZ		1	17:26							
ZZZZZZ		1	17:31							
ZZZZZZ		1	17:35							
CCV		1	17:40	AL	BA	BE	CA	FE	MG	NI
CCB		1	17:44	AL	BA	BE	CA	FE	MG	NI
ZZZZZZ		1	17:48							
ZZZZZZ		1	17:53							
ZZZZZZ		1	17:57							
ZZZZZZ		1	18:01							
ZZZZZZ		1	18:06							
ZZZZZZ		1	18:10							
ZZZZZZ		1	18:14							
ZZZZZZ		1	18:19							
ZZZZZZ		1	18:23							
ZZZZZZ		1	18:27							
CCV		1	18:32	AL	BA	BE	CA	FE	MG	NI
CCB		1	18:36	AL	BA	BE	CA	FE	MG	NI
PBWNA02ICW2		1	18:41		BA	BE				NI
LCSWNA02ICW2		1	18:45		BA	BE				NI
TM3232-001R	16LM20059	1	18:49		BA	BE				NI
TM3232-002R	16LM20057	1	18:54		BA	BE				NI
TM3232-003R	16LM20062	1	18:58		BA	BE				NI

14
ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services

SDG Name: TM3232

Instrument ID: THERMO ICAP 6500

File Name: INA03A

Date: 1/3/2020

Method: P

Lab Sample ID	Client ID	D.F.	Time	Elements						
TM3232-004R	16LM20061	1	19:03	BA	BE					NI
TM3232-004RL	16LM20061L	5	19:07	BA	BE					NI
TM3232-004RA	16LM20061A	1	19:11	BA	BE					NI
TM3232-004RS	16LM20061S	1	19:16	BA	BE					NI
TM3232-004RP	16LM20061P	1	19:20	BA	BE					NI
CCV		1	19:24	AL	BA	BE	CA	FE	MG	NI
CCB		1	19:28	AL	BA	BE	CA	FE	MG	NI
TM3232-005R	16LM20060	1	19:33	BA	BE					NI
TM3232-006R	16LM20058	1	19:37	BA	BE					NI
TM3232-007R	16LM20056	1	19:41	BA	BE					NI
TM3232-008R	17LM20040	1	19:46	BA	BE					NI
TM3232-009R	17LM20041	1	19:50	BA	BE					NI
ZZZZZ		1	19:54							
TM3232-010R	17LM20042	1	19:59	BA	BE					NI
TM3232-011R	17LM20043	1	20:04	BA	BE					NI
TM3232-012R	17LM20044	1	20:08	BA	BE					NI
ZZZZZ		1	20:12							
CCV		1	20:17	AL	BA	BE	CA	FE	MG	NI
CCB		1	20:21	AL	BA	BE	CA	FE	MG	NI

Raw Data Section

KATAHDIN ANALYTICAL SERVICES, LLC METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: Cetac M6100 (H) **ANALYST:** JK **ANALYSIS DATE:** 12/19/2019

FILE NAME: HML19B **METHOD:** CVAA

Analyte : Mercury

SnCl₂ Lot : MR2562

- 245.1
- 7470
- 7471
- DoD
- _____

REVIEWED
RY 12/19/19
KATAHDIN ANALYTICAL
METALS SECTION

STANDARDS USED:

Standard Name	Prep. Date	Expiration Date	Standard Conc.
Cal. Blank / ICB / CCB	12/19/2019	1/6/2020	0.00 ug/L
Standard #1 / PQL	12/19/2019	1/6/2020	0.20 ug/L
Standard #2	12/19/2019	1/6/2020	0.50 ug/L
Standard #3	12/19/2019	1/6/2020	1.00 ug/L
Standard #4 / CCV	12/19/2019	1/6/2020	5.00 ug/L
Standard #5	12/19/2019	1/6/2020	10.00 ug/L
ICV	12/19/2019	1/6/2020	6.00 ug/L

Additional Comments and Notes:

Post Spike (7470/245.1): 0.005 mL MW18925 (pipet M17) into 8.0mL (pipet M13) 5x Diln. sample
5x Diln.: 6.4 mL (pipet M13) of Cal. Blank + 1.6mL (pipet M11) of sample
25x Diln.: 6.4mL (pipet M13) of Cal. Blank + 1.6mL (pipet M11) of 5x Diln.

50x Diln.: 5mL (pipet M13) of Cal. Blank + 1.0mL (pipet M11) of 10x sample

10x Diln.: 9mL (pipet M13) of Cal. Blank + 1.0mL (pipet M11) of sample

100x Diln.: 9mL (pipet M13) of Cal. Blank + 1.0mL (pipet M11) of 10x sample

Post Spike (7470/245.1): 0.005 mL MW18925 (pipet M17) into 8.0mL (pipet M13) of sample

Post Spike (7471): 0.008mL MW18925 (pipet M17) + 8.0mL (pipet M13) of sample

O flag: Sample concentration over calibration; reanalyzed at dilution

s flag: Relative Standard Difference (RSD) of sample analysis exceeds limits; sample reanalyzed

INSTRUMENT RUNLOG

Instrument: CETAC M6100

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Calibration Blank	1.0000	HML19B	12/19/2019	14:13	JK
Standard #1 (0.2 ppb)	1.0000	HML19B	12/19/2019	14:15	JK
Standard #2 (0.5 ppb)	1.0000	HML19B	12/19/2019	14:17	JK
Standard #3 (1.0 ppb)	1.0000	HML19B	12/19/2019	14:20	JK
Standard #4 (5.0 ppb)	1.0000	HML19B	12/19/2019	14:22	JK
Standard #5 (10.0 ppb)	1.0000	HML19B	12/19/2019	14:24	JK
ICV	1.0000	HML19B	12/19/2019	14:26	JK
ICB	1.0000	HML19B	12/19/2019	14:28	JK
PQL	1.0000	HML19B	12/19/2019	14:30	JK
CCV	1.0000	HML19B	12/19/2019	14:32	JK
CCB	1.0000	HML19B	12/19/2019	14:34	JK
LCSWML19HGW1	1.0000	HML19B	12/19/2019	14:37	JK
PBWML19HGW1	1.0000	HML19B	12/19/2019	14:39	JK
TM2209-002	1.0000	HML19B	12/19/2019	14:41	JK
TM2675-001	1.0000	HML19B	12/19/2019	14:43	JK
TM3232-001	1.0000	HML19B	12/19/2019	14:45	JK
TM3232-002	1.0000	HML19B	12/19/2019	14:47	JK
TM3232-003	1.0000	HML19B	12/19/2019	14:49	JK
TM3232-004	1.0000	HML19B	12/19/2019	14:52	JK
TM3232-004S	1.0000	HML19B	12/19/2019	14:54	JK
CCV	1.0000	HML19B	12/19/2019	14:56	JK
CCB	1.0000	HML19B	12/19/2019	14:58	JK
TM3232-004P	1.0000	HML19B	12/19/2019	15:00	JK
TM3232-004A	1.0000	HML19B	12/19/2019	15:02	JK
TM3232-004L	5.0000	HML19B	12/19/2019	15:04	JK
TM3232-005	1.0000	HML19B	12/19/2019	15:06	JK
TM3232-006	1.0000	HML19B	12/19/2019	15:09	JK
TM3232-007	1.0000	HML19B	12/19/2019	15:11	JK
TM3232-008	1.0000	HML19B	12/19/2019	15:13	JK
TM3232-009	1.0000	HML19B	12/19/2019	15:15	JK
TM3232-010	1.0000	HML19B	12/19/2019	15:17	JK
TM3232-011	1.0000	HML19B	12/19/2019	15:19	JK
CCV	1.0000	HML19B	12/19/2019	15:21	JK
CCB	1.0000	HML19B	12/19/2019	15:24	JK
TM3232-012	1.0000	HML19B	12/19/2019	15:26	JK
TM3293-001	1.0000	HML19B	12/19/2019	15:28	JK
TM3293-002	1.0000	HML19B	12/19/2019	15:30	JK
LCSWML19HGW2	1.0000	HML19B	12/19/2019	15:32	JK
PBWML19HGW2	1.0000	HML19B	12/19/2019	15:34	JK
TM3242-001	1.0000	HML19B	12/19/2019	15:37	JK
TM3291-001	1.0000	HML19B	12/19/2019	15:39	JK
TM3291-003	1.0000	HML19B	12/19/2019	15:41	JK
TM3311-002	1.0000	HML19B	12/19/2019	15:43	JK
CCV	1.0000	HML19B	12/19/2019	15:45	JK

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
CCB	1.0000	HML19B	12/19/2019	15:47	JK

Report Generated By CETAC QuickTrace

Analyst: metals

Worksheet file: C:\Program Files\QuickTrace\Worksheets\HML19B.wsz

Date Started: 12/19/2019 2:01:58 PM

Comment:

Results

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
Calibration Blank					STD	12/19/19 02:13:44 pm	0.000	-50	20.99		1.00
Replicates	-52.6	-58.9	-54.2	-34.9							
Standard #1 (0.2 ppb)					STD	12/19/19 02:15:51 pm	0.200	706	6.74		1.00
Replicates	742.3	728.4	715.4	636.2							
Standard #2 (0.5 ppb)					STD	12/19/19 02:17:58 pm	0.500	1815	2.77		1.00
Replicates	1812.8	1879.3	1813.5	1756.5							
Standard #3 (1.0 ppb)					STD	12/19/19 02:20:05 pm	1.000	3597	1.84		1.00
Replicates	3656.9	3648.8	3560.8	3522.3							
Standard #4 (5.0 ppb)					STD	12/19/19 02:22:13 pm	5.000	18034	1.16		1.00
Replicates	18273.0	18084.3	18011.8	17766.1							
Standard #5 (10.0 ppb)					STD	12/19/19 02:24:22 pm	10.000	36092	1.01		1.00
Replicates	36520.3	36226.4	35954.9	35667.5							

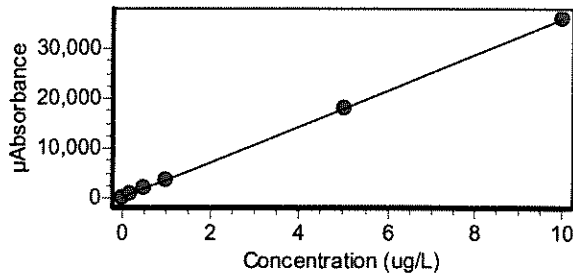
Calibration

Equation: $A = -18.573 + 3611.116C$

R2: 1.00000

SEE: 21.4661

Flags:



ICV					ICV	12/19/19 02:26:31 pm	6.096	21996	1.08		1.00
Replicates	22296.7	22054.2	21893.0	21740.7							
% Recovery	101.61										

ICB					ICB	12/19/19 02:28:37 pm	0.004	-3	529.23		1.00
Replicates	-22.4	10.8	0.1	0.9							

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
PQL				CRDL	12/19/19 02:30:44 pm	0.189	664	5.61		1.00
Replicates	709.3	622.8	647.0	675.3						
% Recovery	94.45									
CCV				CCV	12/19/19 02:32:52 pm	4.883	17614	1.35		1.00
Replicates	17905.8	17687.0	17517.5	17347.4						
% Recovery	97.66									
CCB				CCB	12/19/19 02:34:59 pm	0.013	27	83.79		1.00
Replicates	36.9	19.9	-0.6	52.0						
LCSWML19HGW1				LCS	12/19/19 02:37:06 pm	4.999	18035	0.46		1.00
Replicates	18128.0	18061.8	18021.0	17928.6						
% Recovery	99.99									
PBWML19HGW1				PBK	12/19/19 02:39:13 pm	-0.001	-21	28.58		1.00
Replicates	-28.3	-17.1	-15.1	-21.9						
TM2209-002				UNK	12/19/19 02:41:21 pm	0.021	57	25.82		1.00
Replicates	66.5	37.5	69.8	53.6						
TM2675-001				UNK	12/19/19 02:43:29 pm	0.000	-19	166.01		1.00
Replicates	25.7	-35.5	-19.9	-47.7						
TM3232-001				UNK	12/19/19 02:45:38 pm	0.002	-10	263.49		1.00
Replicates	-15.1	27.1	-32.6	-18.4						
TM3232-002				UNK	12/19/19 02:47:45 pm	0.007	6	617.40		1.00
Replicates	18.6	16.0	32.9	-45.1						
TM3232-003				UNK	12/19/19 02:49:53 pm	0.005	-2	605.55		1.00
Replicates	-1.3	14.9	-3.6	-19.1						
TM3232-004				UNK	12/19/19 02:52:01 pm	0.011	20	199.36		1.00
Replicates	-18.4	22.5	1.5	74.0						
TM3232-004S				UNK	12/19/19 02:54:10 pm	0.957	3436	0.82		1.00
Replicates	3463.4	3454.6	3401.3	3426.6						

Sample Name				Type	Date/Time	Conc (ug/L)	μAbs	%RSD	Flags	DF
CCV				CCV	12/19/19 02:56:18 pm	5.053	18228	0.98		1.00
Replicates	18420.0	18315.4	18166.9	18010.1						
% Recovery	101.06									
CCB				CCB	12/19/19 02:58:24 pm	-0.003	-30	83.00		1.00
Replicates	-44.3	-58.6	-8.5	-9.8						
TM3232-004P				UNK	12/19/19 03:00:33 pm	1.006	3614	1.29		1.00
Replicates	3684.0	3590.0	3585.1	3598.8						
TM3232-004A				UNK	12/19/19 03:02:41 pm	2.115	7617	1.10		1.00
Replicates	7718.7	7650.2	7564.7	7535.0						
TM3232-004L				UNK	12/19/19 03:04:50 pm	0.054	21	109.82		5.00
Replicates	38.7	-10.8	35.9	18.9						
TM3232-005				UNK	12/19/19 03:06:58 pm	0.011	20	97.21		1.00
Replicates	11.8	23.1	-0.3	45.4						
TM3232-006				UNK	12/19/19 03:09:07 pm	0.003	-9	199.78		1.00
Replicates	-17.5	14.0	-4.3	-29.8						
TM3232-007				UNK	12/19/19 03:11:16 pm	-0.001	-23	152.54		1.00
Replicates	-68.0	17.4	-23.2	-18.1						
TM3232-008				UNK	12/19/19 03:13:24 pm	0.019	51	34.15		1.00
Replicates	74.5	34.6	55.1	41.5						
TM3232-009				UNK	12/19/19 03:15:33 pm	0.009	13	112.27		1.00
Replicates	27.7	-3.6	22.1	5.4						
TM3232-010				UNK	12/19/19 03:17:42 pm	-0.003	-29	21.90		1.00
Replicates	-25.7	-25.0	-38.5	-27.0						
TM3232-011				UNK	12/19/19 03:19:51 pm	0.002	-11	80.22		1.00
Replicates	-22.9	-0.7	-9.8	-12.2						

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV	CCV	12/19/19 03:21:59 pm	5.052	18226	0.91		1.00
Replicates			18440.0	18265.9	18132.2	18064.5	
% Recovery			101.04				
CCB	CCB	12/19/19 03:24:06 pm	0.001	-14	246.95		1.00
Replicates			-0.7	22.5	-19.1	-57.5	
TM3232-012	UNK	12/19/19 03:26:15 pm	0.011	21	84.65		1.00
Replicates			-1.8	42.0	21.2	23.5	
TM3293-001	UNK	12/19/19 03:28:24 pm	0.061	203	14.06		1.00
Replicates			200.4	215.8	165.1	232.1	
TM3293-002	UNK	12/19/19 03:30:33 pm	0.063	207	8.11		1.00
Replicates			199.0	188.2	225.4	216.7	
LCSWML19HGW2	LCS	12/19/19 03:32:42 pm	5.078	18318	1.00		1.00
Replicates			18558.1	18338.8	18251.3	18121.9	
% Recovery			101.55				
PBWML19HGW2	PBK	12/19/19 03:34:51 pm	0.008	10	279.85		1.00
Replicates			34.5	-16.1	-11.6	32.5	
TM3242-001	UNK	12/19/19 03:37:01 pm	0.014	34	102.66		1.00
Replicates			49.4	46.5	56.4	-17.8	
TM3291-001	UNK	12/19/19 03:39:10 pm	0.006	4	867.68		1.00
Replicates			13.1	41.7	-34.3	-5.8	
TM3291-003	UNK	12/19/19 03:41:19 pm	0.013	29	51.40		1.00
Replicates			29.1	8.3	35.7	43.0	
TM3311-002	UNK	12/19/19 03:43:29 pm	0.128	445	4.65		1.00
Replicates			458.6	430.3	466.1	424.1	
CCV	CCV	12/19/19 03:45:37 pm	5.058	18245	1.01		1.00
Replicates			18465.0	18302.4	18180.4	18032.4	
% Recovery			101.15				

Sample Name	Type	Date/Time	Conc (ug/L)	μAbs	%RSD	Flags	DF
CCB	CCB	12/19/19 03:47:43 pm	0.012	25	190.01		1.00
Replicates							

KATAHDIN ANALYTICAL SERVICES, LLC METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: I (Thermo iCAP 6500)

ANALYST: RS

ANALYSIS DATE: 12/27/2019

METHOD: ICP

FILE NAME: IML27A

200.7

6010

DOD

The pHs of all samples that were tested by direct analysis in this analytical run were checked just prior to analysis and confirmed to be <2. The time of preservation of these samples was checked in the "Measured Turbidity and Preservation of Incoming Samples" logbook to verify that they had been preserved at least 16 hours prior to analysis. These verifications were performed by _____ (initials) on _____ (date).

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
Cal. Bik/ICB/CCB	MW19013	12/11/2019	12/11/2020	0 ug/L
Standard 1	MW19012	12/10/2019	01/31/2020	Varies by Element
ICV	MW19010	12/06/2019	02/04/2020	Varies by Element
PQL	MW18995	12/03/2019	01/31/2020	Varies by Element
LRS1	MW19026	12/18/2019	01/31/2020	Varies by Element
LRS2	MW19022	12/17/2019	03/17/2020	Varies by Element
ICSA	MW18980	11/21/2019	02/21/2020	Varies by Element
ICSAB	MW18981	11/21/2019	01/01/2020	Varies by Element
CCV	MW19030	12/20/2019	01/30/2020	Varies by Element
Internal Standard	MW19014	12/11/2019	03/11/2020	5.0 mg/L Yttrium

Additional Comments and Notes:

REVIEWED
mc 1/9/2020
KATAHDIN ANALYTICAL
METALS SECTION

Dilutions: Some samples were diluted based on history or due to interfering element concentrations.

Dilution preparations are as follows:

5x diln.: 1.6mL of sample (pipet M23) + 6.4mL of MW19013 (pipet M23)

Post Spike: 0.04mL of MS2125, MS2151 (pipet M16), 0.08mL of MS2111 (pipet M16), 0.004mL of MS2109(pipet M17) to 8.0mL of sample (pipet M23) (Unless otherwise specified)

INSTRUMENT RUNLOG

Instrument: ICAP 6500

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Blank	1.000	IML27A	12/27/2019	09:35	RS
Std 1	1.000	IML27A	12/27/2019	09:40	RS
ICV	1.000	IML27A	12/27/2019	09:44	RS
ICB	1.000	IML27A	12/27/2019	09:48	RS
PQL	1.000	IML27A	12/27/2019	09:52	RS
ICSA	1.000	IML27A	12/27/2019	09:57	RS
ICSAB	1.000	IML27A	12/27/2019	10:02	RS
CCV	1.000	IML27A	12/27/2019	10:07	RS
CCB	1.000	IML27A	12/27/2019	10:12	RS
LRS1	1.000	IML27A	12/27/2019	10:16	RS
LRS2	1.000	IML27A	12/27/2019	10:23	RS
CCV	1.000	IML27A	12/27/2019	10:28	RS
CCB	1.000	IML27A	12/27/2019	10:32	RS
PBWML24ICW1	1.000	IML27A	12/27/2019	10:37	RS
LCSWML24ICW1	1.000	IML27A	12/27/2019	10:41	RS
TM3475-001	1.000	IML27A	12/27/2019	10:45	RS
TM3475-002	1.000	IML27A	12/27/2019	10:51	RS
TM3475-003	1.000	IML27A	12/27/2019	10:56	RS
TM3475-004	1.000	IML27A	12/27/2019	11:01	RS
TM3475-005	1.000	IML27A	12/27/2019	11:07	RS
PBT1603A	1.000	IML27A	12/27/2019	11:12	RS
PBT1602A	1.000	IML27A	12/27/2019	11:17	RS
TM3232-001	1.000	IML27A	12/27/2019	11:23	RS
CCV	1.000	IML27A	12/27/2019	11:27	RS
CCB	1.000	IML27A	12/27/2019	11:31	RS
TM3232-002	1.000	IML27A	12/27/2019	11:36	RS
TM3232-003	1.000	IML27A	12/27/2019	11:40	RS
TM3232-004	1.000	IML27A	12/27/2019	11:44	RS
TM3232-004L	5.000	IML27A	12/27/2019	11:49	RS
TM3232-004A	1.000	IML27A	12/27/2019	11:53	RS
TM3232-004S	1.000	IML27A	12/27/2019	11:57	RS
TM3232-004P	1.000	IML27A	12/27/2019	12:02	RS
TM3232-005	1.000	IML27A	12/27/2019	12:06	RS
TM3232-006	1.000	IML27A	12/27/2019	12:10	RS
TM3232-007	1.000	IML27A	12/27/2019	12:14	RS
CCV	1.000	IML27A	12/27/2019	12:19	RS
CCB	1.000	IML27A	12/27/2019	12:23	RS
TM3232-008	1.000	IML27A	12/27/2019	12:27	RS
TM3232-009	1.000	IML27A	12/27/2019	12:32	RS
TM3232-010	1.000	IML27A	12/27/2019	12:36	RS
TM3232-011	1.000	IML27A	12/27/2019	12:41	RS
TM3232-012	1.000	IML27A	12/27/2019	12:45	RS
PBWML20ICW2	1.000	IML27A	12/27/2019	12:49	RS
LCSWML20ICW2	1.000	IML27A	12/27/2019	12:54	RS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
TM2763-041	1.000	IML27A	12/27/2019	12:58	RS
TM2768-001	1.000	IML27A	12/27/2019	13:03	RS
TM3041-001	1.000	IML27A	12/27/2019	13:08	RS
CCV	1.000	IML27A	12/27/2019	13:13	RS
CCB	1.000	IML27A	12/27/2019	13:17	RS
TM3041-002	1.000	IML27A	12/27/2019	13:21	RS
TM3041-003	1.000	IML27A	12/27/2019	13:27	RS
TM3143-001	1.000	IML27A	12/27/2019	13:32	RS
TM3143-002	1.000	IML27A	12/27/2019	13:37	RS
TM3143-003	1.000	IML27A	12/27/2019	13:43	RS
TM3143-004	1.000	IML27A	12/27/2019	13:48	RS
TM3229-001	1.000	IML27A	12/27/2019	13:53	RS
TM3345-001	1.000	IML27A	12/27/2019	13:58	RS
TM3345-002	1.000	IML27A	12/27/2019	14:02	RS
TM3345-003	1.000	IML27A	12/27/2019	14:06	RS
CCV	1.000	IML27A	12/27/2019	14:11	RS
CCB	1.000	IML27A	12/27/2019	14:15	RS
PBSML23ICS1	1.000	IML27A	12/27/2019	14:19	RS
LCSOML23ICS1	1.000	IML27A	12/27/2019	14:24	RS
LC2OML23ICS1	1.000	IML27A	12/27/2019	14:28	RS
TM2881-007	1.000	IML27A	12/27/2019	14:32	RS
TM2881-011	1.000	IML27A	12/27/2019	14:36	RS
TM2987-002	1.000	IML27A	12/27/2019	14:41	RS
TM2998-001	1.000	IML27A	12/27/2019	14:45	RS
TM2998-002	1.000	IML27A	12/27/2019	14:50	RS
TM2998-003	1.000	IML27A	12/27/2019	14:55	RS
TM2998-003L	5.000	IML27A	12/27/2019	15:01	RS
CCV	1.000	IML27A	12/27/2019	15:05	RS
CCB	1.000	IML27A	12/27/2019	15:09	RS
TM2998-003A	1.000	IML27A	12/27/2019	15:14	RS
TM2998-003S	1.000	IML27A	12/27/2019	15:19	RS
TM2998-003P	1.000	IML27A	12/27/2019	15:24	RS
TM2998-004	1.000	IML27A	12/27/2019	15:29	RS
TM2998-005	1.000	IML27A	12/27/2019	15:34	RS
TM2998-006	1.000	IML27A	12/27/2019	15:39	RS
TM3317-002	1.000	IML27A	12/27/2019	15:45	RS
TM3329-001	1.000	IML27A	12/27/2019	15:49	RS
PBWML23ICW1	1.000	IML27A	12/27/2019	15:53	RS
LCSWML23ICW1	1.000	IML27A	12/27/2019	15:58	RS
CCV	1.000	IML27A	12/27/2019	16:02	RS
CCB	1.000	IML27A	12/27/2019	16:06	RS
TM3326-001	1.000	IML27A	12/27/2019	16:10	RS
TM3362-001	1.000	IML27A	12/27/2019	16:15	RS
TM3362-001L	5.000	IML27A	12/27/2019	16:19	RS
TM3362-001A	1.000	IML27A	12/27/2019	16:24	RS
TM3362-001S	1.000	IML27A	12/27/2019	16:28	RS
TM3362-001P	1.000	IML27A	12/27/2019	16:32	RS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
TM3362-002	1.000	IN127A	12/27/2019	16:36	RS
TM3374-001	1.000	IN127A	12/27/2019	16:41	RS
TM3375-001	1.000	IN127A	12/27/2019	16:46	RS
CCV	1.000	IN127A	12/27/2019	16:51	RS
CCB	1.000	IN127A	12/27/2019	16:55	RS
PQL	1.000	IN127A	12/27/2019	17:00	RS
ICSA	1.000	IN127A	12/27/2019	17:04	RS
ICSAB	1.000	IN127A	12/27/2019	17:10	RS
CCV	1.000	IN127A	12/27/2019	17:15	RS
CCB	1.000	IN127A	12/27/2019	17:19	RS

Intensity Report

Author:

Published: 12/30/2019 8:59:41AM

Notes:

Blank

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 9:35:49AM

Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.00004800	Cts/S	0.000008000	17.65	6.280
Al3961_R		0.000008000	Cts/S	0.0008470	10,270	-0.05526
As1891_A		-0.0003370	Cts/S	0.000008000	2.382	-2.753
B_2089_A		0.0004780	Cts/S	0.00008200	17.25	3.900
Ba4554_R		0.004301	Cts/S	0.0004820	11.21	59.92
Be3130_R		-0.0003170	Cts/S	0.00006900	21.74	-4.408
Ca3158_R		-0.002163	Cts/S	0.0002520	11.66	-30.14
Cd2265_A		-0.0003250	Cts/S	0.00002500	7.588	-2.657
Co2286_A		0.0003350	Cts/S	0.00005600	16.64	2.742
Cr2677_A		0.00003000	Cts/S	0.000006000	21.53	3.949
Cu3273_A		-0.0001830	Cts/S	0.00001400	7.813	-23.98
Fe2599_R		0.0002500	Cts/S	0.0001420	56.68	3.502
K_7664_R		-0.007759	Cts/S	0.0002650	3.421	-108.2
Li6707_R		-0.003300	Cts/S	0.0002590	7.857	-46.02
Mg2025_A		-0.0005480	Cts/S	0.00009700	17.76	-4.470
Mn2576_R		0.0005520	Cts/S	0.0001890	34.22	7.708
Mo2020_A		0.00004200	Cts/S	0.00003100	72.72	0.3462
Na5895_R		0.001210	Cts/S	0.002069	170.9	17.02
Ni2316_A		-0.0002390	Cts/S	0.00004600	19.15	-1.953
Pb2203_A		0.00001100	Cts/S	0.0001310	1,200	0.08417
Sb2068_A		0.000005000	Cts/S	0.00001300	272.2	0.04057
Se1960_A		0.0002700	Cts/S	0.00002600	9.584	2.208
Si2516_R		0.003460	Cts/S	0.0002980	8.610	48.22
Sn1899_A		0.0002560	Cts/S	0.00006800	26.43	2.097
Sr4215_R		-0.002093	Cts/S	0.0003580	17.13	-29.20
Ti3349_A		-0.0001740	Cts/S	0.000001000	0.4983	-22.81
Tl1908_A		-0.0002920	Cts/S	0.000007000	2.449	-2.385
V_2924_A		-0.00005000	Cts/S	0.000007000	13.98	-6.612
Zn2062_A		0.0001510	Cts/S	0.000007000	4.589	1.234
Y_3600_R		13,940	Cts/S	140.90	1.0108	13,940
Y_2243_A		8,169.7	Cts/S	75.283	0.92149	8,169.7
Y_3600_A		131,000	Cts/S	526.70	0.40207	131,000

Std 1

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 9:40:11AM

Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1160	Cts/S	0.001147	0.9883	14,760
Al3961_R		1.409	Cts/S	0.006488	0.4604	18,890
As1891_A		0.04521	Cts/S	0.0005350	1.182	355.4
B_2089_A		0.1614	Cts/S	0.002018	1.251	1,269
Ba4554_R		3.436	Cts/S	0.005715	0.1663	46,080
Be3130_R		4.878	Cts/S	0.009923	0.2034	65,400
Ca3158_R		1.684	Cts/S	0.006210	0.3687	22,580
Cd2265_A		1.471	Cts/S	0.01890	1.285	11,570
Co2286_A		0.3930	Cts/S	0.005279	1.343	3,090
Cr2677_A		0.08819	Cts/S	0.001066	1.208	11,220
Cu3273_A		0.08605	Cts/S	0.0008690	1.010	10,950
Fe2599_R		2.704	Cts/S	0.01557	0.5760	36,250
K_7664_R		0.9423	Cts/S	0.0007920	0.08409	12,640
Li6707_R		0.6982	Cts/S	0.00002100	0.003000	9,362

Std 1

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 9:40:11AM

Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Mg2025_A		0.9003	Cts/S	0.01405	1.561	7,077
Mn2576_R		0.5118	Cts/S	0.002171	0.4243	6,862
Mo2020_A		0.3556	Cts/S	0.005699	1.603	2,795
Na5895_R		3.154	Cts/S	0.007275	0.2307	42,290
Ni2316_A		0.1950	Cts/S	0.003175	1.628	1,533
Pb2203_A		0.1090	Cts/S	0.001778	1.631	856.9
Sb2068_A		0.05448	Cts/S	0.0007400	1.359	428.3
Se1960_A		0.03235	Cts/S	0.0003320	1.025	254.3
Si2516_R		0.6921	Cts/S	0.001734	0.2506	9,280
Sn1899_A		0.06004	Cts/S	0.0008180	1.363	471.9
Sr4215_R		4.526	Cts/S	0.01183	0.2613	60,690
Ti3349_A		0.1630	Cts/S	0.002125	1.304	20,740
Ti1908_A		0.06275	Cts/S	0.0007710	1.229	493.2
V_2924_A		0.08051	Cts/S	0.0008860	1.100	10,240
Zn2062_A		0.3723	Cts/S	0.004364	1.172	2,926
Y_3600_R		13,409	Cts/S	10.194	0.076020	13,409
Y_2243_A		7,860.8	Cts/S	4.0386	0.051377	7,860.8
Y_3600_A		127,220	Cts/S	1,147.9	0.90237	127,220

ICV

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 9:44:19AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		410.4	ug/L	2.624	0.6393	6,256
Al3961_R		9,750	ug/L	38.75	0.3975	7,589
As1891_A		390.6	ug/L	1.845	0.4724	140.8
B_2089_A		406.8	ug/L	0.8930	0.2195	532.0
Ba4554_R		407.0	ug/L	2.399	0.5894	19,350
Be3130_R		413.5	ug/L	4.308	1.042	27,850
Ca3158_R		9,927	ug/L	34.85	0.3510	9,217
Cd2265_A		406.3	ug/L	1.358	0.3343	4,821
Co2286_A		410.7	ug/L	0.9971	0.2428	1,304
Cr2677_A		407.5	ug/L	0.1656	0.04064	4,721
Cu3273_A		401.9	ug/L	1.911	0.4755	4,527
Fe2599_R		9,886	ug/L	116.8	1.182	14,770
K_7664_R		13,490	ug/L	2.007	0.01488	6,972
Li6707_R		396.4	ug/L	1.163	0.2933	3,794
Mg2025_A		9,709	ug/L	29.34	0.3022	2,819
Mn2576_R		402.2	ug/L	2.801	0.6964	2,847
Mo2020_A		409.3	ug/L	1.563	0.3818	1,174
Na5895_R		9,894	ug/L	45.56	0.4605	17,240
Ni2316_A		408.4	ug/L	1.033	0.2529	641.6
Pb2203_A		405.9	ug/L	0.2992	0.07372	357.1
Sb2068_A		402.5	ug/L	2.512	0.6241	176.9
Se1960_A		404.8	ug/L	1.152	0.2845	106.9
Si2516_R		10,070	ug/L	5.025	0.04990	3,803
Sn1899_A		403.6	ug/L	2.005	0.4968	196.7
Sr4215_R		407.4	ug/L	2.619	0.6430	25,440
Ti3349_A		404.9	ug/L	0.2012	0.04970	8,652
Ti1908_A		403.1	ug/L	1.004	0.2490	202.7
V_2924_A		402.9	ug/L	1.716	0.4259	4,254
Zn2062_A		408.9	ug/L	1.927	0.4713	1,229
Y_3600_R		13,809	Cts/S	73.484	0.53216	13,809
Y_2243_A		8,068.2	Cts/S	24.960	0.30936	8,068.2
Y_3600_A		131,300	Cts/S	537.63	0.40947	131,300

ICB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 9:48:29AM

Method Revision: 1,228

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6805	ug/L	0.5354	78.68	16.97
Al3961_R		0.5898	ug/L	13.46	2,283	0.3538
As1891_A		0.2582	ug/L	1.249	483.9	-2.706
B_2089_A		1.152	ug/L	0.3265	28.33	5.530
Ba4554_R		0.3933	ug/L	0.1214	30.87	78.03
Be3130_R		0.002174	ug/L	0.02140	984.4	-4.225
Ca3158_R		-0.6188	ug/L	3.737	604.0	-30.44
Cd2265_A		0.08500	ug/L	0.02933	34.51	-1.662
Co2286_A		-0.1326	ug/L	0.2238	168.8	2.360
Cr2677_A		0.1158	ug/L	0.04445	38.40	5.382
Cu3273_A		-0.1809	ug/L	0.01173	6.483	-26.51
Fe2599_R		2.110	ug/L	1.925	91.25	6.622
K_7664_R		0.4349	ug/L	2.147	493.6	-107.0
Li6707_R		1.762	ug/L	0.8261	46.88	-28.49
Mg2025_A		-0.7949	ug/L	0.6350	79.88	-4.790
Mn2576_R		-0.05137	ug/L	0.3890	757.3	7.271
Mo2020_A		1.611	ug/L	0.3772	23.41	5.120
Na5895_R		1.291	ug/L	3.463	268.3	18.99
Ni2316_A		0.07461	ug/L	0.5751	770.8	-1.845
Pb2203_A		-1.215	ug/L	0.9241	76.05	-1.012
Sb2068_A		-0.6752	ug/L	1.806	267.4	-0.2649
Se1960_A		0.09650	ug/L	1.148	1,190	2.272
Si2516_R		-2.676	ug/L	30.56	1,142	46.77
Sn1899_A		0.1152	ug/L	0.1733	150.5	2.189
Sr4215_R		-0.1144	ug/L	0.02955	25.83	-36.07
Ti3349_A		0.1502	ug/L	0.1805	120.1	-19.94
Tl1908_A		0.5295	ug/L	0.7072	133.6	-2.151
V_2924_A		0.06309	ug/L	0.03157	50.04	-6.150
Zn2062_A		-0.1073	ug/L	0.005001	4.659	0.9237
Y_3600_R		13,813	Cts/S	95.946	0.69461	13,813
Y_2243_A		8,316.8	Cts/S	58.796	0.70696	8,316.8
Y_3600_A		133,470	Cts/S	624.55	0.46793	133,470

PQL

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 9:52:52AM

Method Revision: 1,228

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		10.01	ug/L	0.1052	1.051	159.1
Al3961_R		301.5	ug/L	17.97	5.961	229.7
As1891_A		8.335	ug/L	0.2856	3.427	0.3549
B_2089_A		53.34	ug/L	0.7397	1.387	71.81
Ba4554_R		5.466	ug/L	0.3590	6.569	312.0
Be3130_R		5.187	ug/L	0.02974	0.5733	337.9
Ca3158_R		101.2	ug/L	0.9533	0.9416	63.14
Cd2265_A		5.312	ug/L	0.07036	1.324	60.30
Co2286_A		10.73	ug/L	0.1149	1.071	36.66
Cr2677_A		10.20	ug/L	0.2803	2.748	122.0
Cu3273_A		24.97	ug/L	0.9759	3.909	258.8
Fe2599_R		106.2	ug/L	0.9337	0.8789	158.8
K_7664_R		1,020	ug/L	25.39	2.488	419.8
Li6707_R		105.8	ug/L	3.004	2.840	959.4
Mg2025_A		95.71	ug/L	1.642	1.716	23.68
Mn2576_R		4.607	ug/L	0.2580	5.600	39.31
Mo2020_A		10.88	ug/L	0.05620	0.5165	31.50
Na5895_R		1,038	ug/L	25.11	2.419	1,788
Ni2316_A		10.78	ug/L	0.03956	0.3668	15.05

PQL

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 9:52:52AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		4.795	ug/L	1.002	20.90	4.277
Sb2068_A		8.454	ug/L	0.1858	2.197	3.315
Se1960_A		11.63	ug/L	3.614	31.07	5.177
Si2516_R		200.2	ug/L	16.50	8.243	120.0
Sn1899_A		102.6	ug/L	1.739	1.694	51.48
Sr4215_R		10.61	ug/L	0.1577	1.487	621.8
Ti3349_A		15.17	ug/L	0.1375	0.9068	302.2
Ti1908_A		16.20	ug/L	0.3118	1.925	5.867
V_2924_A		10.71	ug/L	0.4057	3.786	106.8
Zn2062_A		20.72	ug/L	0.1964	0.9475	63.36
Y_3600_R		13,531	Cts/S	53.153	0.39283	13,531
Y_2243_A		8,053.6	Cts/S	67.037	0.83238	8,053.6
Y_3600_A		131,340	Cts/S	1,277.1	0.97240	131,340

ICSA

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 9:57:16AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		3.594	ug/L	0.3275	9.111	-444.5
Al3961_R		490,400	ug/L	6,442	1.314	364,000
As1891_A		-3.231	ug/L	3.872	119.8	-13.75
B_2089_A		0.2797	ug/L	0.4286	153.2	3.657
Ba4554_R		0.3206	ug/L	0.1137	35.46	71.23
Be3130_R		-0.07448	ug/L	0.02775	37.26	-9.046
Ca3158_R		473,100	ug/L	3,149	0.6656	420,800
Cd2265_A		1.306	ug/L	0.04973	3.808	249.0
Co2286_A		-0.7202	ug/L	0.1958	27.18	2.713
Cr2677_A		-1.533	ug/L	0.08478	5.528	-13.83
Cu3273_A		-0.9760	ug/L	0.03153	3.230	-19.97
Fe2599_R		185,600	ug/L	1,077	0.5806	264,600
K_7664_R		22.22	ug/L	27.43	123.4	-91.20
Li6707_R		6.301	ug/L	0.9249	14.68	14.76
Mg2025_A		490,300	ug/L	2,753	0.5616	124,900
Mn2576_R		-2.382	ug/L	0.01689	0.7089	10.25
Mo2020_A		-2.280	ug/L	0.03431	1.505	-5.468
Na5895_R		30.56	ug/L	5.157	16.88	66.78
Ni2316_A		-0.3158	ug/L	0.4894	155.0	-14.55
Pb2203_A		1.297	ug/L	0.9420	72.63	-34.07
Sb2068_A		-1.427	ug/L	3.871	271.2	1.454
Se1960_A		2.130	ug/L	1.286	60.39	5.519
Si2516_R		-9.624	ug/L	9.369	97.35	30.31
Sn1899_A		9.078	ug/L	0.2832	3.120	5.686
Sr4215_R	W	4.314	ug/L	0.1252	2.902	230.0
Ti3349_A		0.1692	ug/L	0.1110	65.62	-17.57
Ti1908_A		1.343	ug/L	0.4649	34.62	-1.026
V_2924_A		-1.684	ug/L	0.4739	28.15	0.6303
Zn2062_A		0.7003	ug/L	0.2140	30.56	2.935
Y_3600_R		13,188	Cts/S	18.042	0.13681	13,188
Y_2243_A		7,115.7	Cts/S	27.335	0.38414	7,115.7
Y_3600_A		119,640	Cts/S	368.29	0.30782	119,640

ICSA B

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:02:40AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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ICSAB

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:02:40AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		221.6	ug/L	0.1213	0.05473	2,557
Al3961_R		498,900	ug/L	6.602	1.323	366,000
As1891_A		103.3	ug/L	0.3445	0.3333	20.70
B_2089_A		520.0	ug/L	9.540	1.834	596.3
Ba4554_R		522.7	ug/L	1.024	0.1959	23,440
Be3130_R		517.5	ug/L	3.859	0.7457	32,900
Ca3158_R		480,600	ug/L	11,200	2.331	422,500
Cd2265_A		982.2	ug/L	20.68	2.105	10,450
Co2286_A		493.0	ug/L	9.030	1.832	1,377
Cr2677_A		487.6	ug/L	1.236	0.2534	5,099
Cu3273_A		532.6	ug/L	0.9279	0.1742	5,436
Fe2599_R		189,500	ug/L	1,052	0.5549	267,100
K_7664_R		21,240	ug/L	34.77	0.1637	10,420
Li6707_R		546.6	ug/L	2.819	0.5158	4,955
Mg2025_A		494,200	ug/L	8,053	1.629	125,500
Mn2576_R		486.0	ug/L	5.685	1.170	3,265
Mo2020_A		513.1	ug/L	8.350	1.627	1,293
Na5895_R		21,370	ug/L	152.9	0.7158	35,140
Ni2316_A		962.1	ug/L	19.44	2.020	1,314
Pb2203_A		50.78	ug/L	1.274	2.510	3.542
Sb2068_A		637.7	ug/L	10.72	1.682	248.4
Se1960_A		51.74	ug/L	0.3567	0.6893	16.87
Si2516_R		2,031	ug/L	26.10	1.285	750.8
Sn1899_A		501.7	ug/L	9.534	1.901	214.4
Sr4215_R		522.8	ug/L	2.960	0.5663	30,830
Ti3349_A		503.4	ug/L	1.389	0.2759	9,719
Tl1908_A		96.50	ug/L	0.8989	0.9314	41.94
V_2924_A		493.7	ug/L	0.2492	0.05048	4,730
Zn2062_A		964.0	ug/L	19.34	2.007	2,545
Y_3600_R		13,035	Cts/S	70.876	0.54372	13,035
Y_2243_A		7,088.2	Cts/S	77.311	1.0907	7,088.2
Y_3600_A		118,560	Cts/S	4.8905	0.0041250	118,560

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:07:54AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		506.5	ug/L	3.033	0.5989	7,718
Al3961_R		12,620	ug/L	44.39	0.3518	9,642
As1891_A		499.8	ug/L	5.207	1.042	180.5
B_2089_A		500.6	ug/L	4.705	0.9399	652.2
Ba4554_R		522.1	ug/L	1.330	0.2547	24,350
Be3130_R		519.1	ug/L	2.133	0.4110	34,330
Ca3158_R		12,550	ug/L	79.06	0.6298	11,450
Cd2265_A		501.9	ug/L	4.378	0.8723	5,941
Co2286_A		505.0	ug/L	3.653	0.7234	1,599
Cr2677_A		504.7	ug/L	3.576	0.7086	5,846
Cu3273_A		505.8	ug/L	2.800	0.5535	5,703
Fe2599_R		12,670	ug/L	45.10	0.3561	18,580
K_7664_R		12,690	ug/L	88.08	0.6938	6,435
Li6707_R		507.0	ug/L	0.4382	0.08643	4,777
Mg2025_A		12,130	ug/L	77.87	0.6417	3,515
Mn2576_R		515.6	ug/L	1.350	0.2618	3,581
Mo2020_A		503.5	ug/L	2.714	0.5391	1,441
Na5895_R		12,630	ug/L	71.10	0.5627	21,620
Ni2316_A		507.3	ug/L	4.421	0.8714	795.3

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:07:54AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		505.5	ug/L	4.455	0.8814	443.4
Sb2068_A		504.1	ug/L	6.453	1.280	221.1
Se1960_A		501.1	ug/L	4.275	0.8530	131.5
Si2516_R		13,010	ug/L	147.3	1.132	4,811
Sn1899_A		490.6	ug/L	5.910	1.205	238.1
Sr4215_R		507.3	ug/L	1.305	0.2573	31,120
Ti3349_A		502.5	ug/L	2.772	0.5516	10,740
Ti1908_A		503.3	ug/L	5.309	1.055	253.0
V_2924_A		503.0	ug/L	3.049	0.6062	5,313
Zn2062_A		500.1	ug/L	3.739	0.7478	1,499
Y_3600_R		13,558	Cts/S	124.30	0.91677	13,558
Y_2243_A		8,047.3	Cts/S	27.811	0.34559	8,047.3
Y_3600_A		131,290	Cts/S	681.62	0.51917	131,290

CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:12:03AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1050	ug/L	0.06747	64.27	7.740
Al3961_R		-4.901	ug/L	4.347	88.70	-3.745
As1891_A		0.5652	ug/L	0.6946	122.9	-2.458
B_2089_A		1.576	ug/L	0.02609	1.656	5.775
Ba4554_R		0.2922	ug/L	0.1527	52.25	70.86
Be3130_R		-0.02404	ug/L	0.05870	244.1	-5.796
Ca3158_R		-3.060	ug/L	0.2704	8.837	-31.66
Cd2265_A		0.1379	ug/L	0.006236	4.523	-0.9665
Co2286_A		0.05274	ug/L	0.2660	504.4	2.809
Cr2677_A		-0.06328	ug/L	0.1863	294.3	3.170
Cu3273_A		0.1221	ug/L	0.3408	279.1	-22.22
Fe2599_R		2.676	ug/L	0.1319	4.930	7.213
K_7664_R		11.77	ug/L	4.636	39.37	-97.70
Li6707_R		0.7082	ug/L	0.6424	90.70	-37.47
Mg2025_A		-1.730	ug/L	0.02988	1.728	-4.805
Mn2576_R		-0.4117	ug/L	0.3894	94.58	4.558
Mo2020_A		1.560	ug/L	0.1918	12.29	4.713
Na5895_R		15.82	ug/L	15.47	97.79	42.87
Ni2316_A		0.4041	ug/L	0.3522	87.15	-1.249
Pb2203_A		-0.3502	ug/L	0.3284	93.80	-0.2162
Sb2068_A		-1.304	ug/L	0.9898	75.91	-0.5317
Se1960_A		0.3377	ug/L	1.433	424.3	2.218
Si2516_R		-1.510	ug/L	29.33	1,943	45.68
Sn1899_A		0.9366	ug/L	0.03322	3.546	2.467
Sr4215_R		-0.09517	ug/L	0.1667	175.2	-33.74
Ti3349_A		-0.1238	ug/L	0.005928	4.787	-25.00
Ti1908_A		-0.2030	ug/L	0.8275	407.5	-2.408
V_2924_A		0.05838	ug/L	0.1409	241.3	-5.970
Zn2062_A		-0.08573	ug/L	0.03267	38.11	0.9409
Y_3600_R		13,362	Cts/S	47.446	0.35508	13,362
Y_2243_A		7,897.1	Cts/S	38.329	0.48535	7,897.1
Y_3600_A		128,760	Cts/S	1,076.1	0.83576	128,760

LRS1

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:16:27AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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LRS1

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:16:27AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		2,093	ug/L	12.56	0.6001	30,550
Al3961_R		21.85	ug/L	19.78	90.53	159.7
As1891_A		19,990	ug/L	195.8	0.9795	7,178
B_2089_A		20,060	ug/L	148.8	0.7420	24,910
Ba4554_R		19,840	ug/L	200.7	1.012	930,200
Be3130_R		19,760	ug/L	136.0	0.6882	1,316,000
Ca3158_R		14.73	ug/L	3.550	24.10	-5.206
Cd2265_A		19,530	ug/L	192.3	0.9846	224,600
Co2286_A		20,070	ug/L	213.2	1.062	61,780
Cr2677_A		20,270	ug/L	108.7	0.5363	225,500
Cu3273_A		20,830	ug/L	93.23	0.4477	226,600
Fe2599_R		20.67	ug/L	2.740	13.26	33.94
K_7664_R		34.19	ug/L	54.11	158.2	-88.14
Li6707_R		19,720	ug/L	132.7	0.6732	188,900
Mg2025_A		1,332	ug/L	2.043	0.1534	1,185
Mn2576_R		19,730	ug/L	162.6	0.8242	137,800
Mo2020_A		5,032	ug/L	39.79	0.7907	14,020
Na5895_R		47.81	ug/L	1.448	3.028	98.87
Ni2316_A		19,830	ug/L	199.8	1.008	30,240
Pb2203_A		20,580	ug/L	188.7	0.9169	17,640
Sb2068_A		20,180	ug/L	140.9	0.6981	8,618
Se1960_A		20,460	ug/L	187.2	0.9149	5,146
Si2516_R		455.6	ug/L	144.1	31.62	305.0
Sn1899_A		19,960	ug/L	198.2	0.9928	9,357
Sr4215_R		20,100	ug/L	139.7	0.6950	1,243,000
Ti3349_A		20,180	ug/L	69.95	0.3466	415,200
Tl1908_A		20,030	ug/L	187.9	0.9379	9,900
V_2924_A		20,330	ug/L	86.09	0.4234	207,400
Zn2062_A		19,780	ug/L	231.8	1.172	57,700
Y_3600_R		13,659	Cts/S	88.692	0.64933	13,659
Y_2243_A		7,840.0	Cts/S	68.124	0.86894	7,840.0
Y_3600_A		126,160	Cts/S	380.44	0.30157	126,160

LRS2

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:23:09AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		4.589	ug/L	0.4013	8.745	-556.6
Al3961_R		513,300	ug/L	7,817	1.523	372,700
As1891_A		5.143	ug/L	0.6021	11.71	-15.51
B_2089_A		23.69	ug/L	2.543	10.74	29.78
Ba4554_R		0.7924	ug/L	0.2015	25.43	90.59
Be3130_R		-0.07594	ug/L	0.07841	103.2	-9.379
Ca3158_R		489,000	ug/L	1,361	0.2782	425,500
Cd2265_A		0.5164	ug/L	0.1598	30.94	308.3
Co2286_A		-0.9384	ug/L	0.1809	19.28	2.821
Cr2677_A		-1.765	ug/L	0.1572	8.905	-16.02
Cu3273_A		0.5837	ug/L	0.03541	6.067	-9.950
Fe2599_R		240,100	ug/L	1,399	0.5825	335,000
K_7664_R		320,400	ug/L	1,372	0.4283	157,000
Li6707_R		8.003	ug/L	1.314	16.42	29.83
Mg2025_A		206,100	ug/L	832.8	0.4041	52,110
Mn2576_R		16.51	ug/L	0.2652	1.607	66.30
Mo2020_A		2.454	ug/L	0.7167	29.20	6.463
Na5895_R		209,200	ug/L	1,402	0.6701	340,300
Ni2316_A		0.9100	ug/L	0.05614	6.170	-16.32

LRS2

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:23:09AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		3.048	ug/L	1.156	37.93	-33.97
Sb2068_A		0.8526	ug/L	0.7133	83.66	2.693
Se1960_A		3.711	ug/L	5.141	138.5	5.730
Si2516_R		51,920	ug/L	382.6	0.7370	18,110
Sn1899_A		10.96	ug/L	0.2373	2.165	6.436
Sr4215_R		2.485	ug/L	0.1241	4.993	118.2
Ti3349_A		10.19	ug/L	0.2204	2.164	171.3
Ti1908_A		0.1115	ug/L	1.864	1,672	-1.906
V_2924_A		-2.035	ug/L	0.09710	4.770	3.543
Zn2062_A		2.891	ug/L	0.1492	5.161	8.675
Y_3600_R		12,902	Cts/S	46.498	0.36040	12,902
Y_2243_A		7,060.6	Cts/S	24.374	0.34521	7,060.6
Y_3600_A		115,230	Cts/S	10.331	0.0089660	115,230

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:28:46AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A	W	531.7	ug/L	4.489	0.8442	7,756
Al3961_R		13,040	ug/L	4.213	0.03231	9,716
As1891_A		500.4	ug/L	5.969	1.193	179.5
B_2089_A		512.7	ug/L	5.000	0.9753	663.1
Ba4554_R	W	536.0	ug/L	1.723	0.3215	24,380
Be3130_R	W	540.1	ug/L	2.407	0.4456	34,830
Ca3158_R		12,980	ug/L	11.87	0.09143	11,550
Cd2265_A		505.9	ug/L	5.461	1.079	5,949
Co2286_A		505.3	ug/L	7.366	1.458	1,589
Cr2677_A	W	530.4	ug/L	5.192	0.9789	5,881
Cu3273_A	W	531.1	ug/L	5.437	1.024	5,734
Fe2599_R		13,060	ug/L	39.04	0.2990	18,670
K_7664_R	W	13,180	ug/L	9.531	0.07233	6,518
Li6707_R		526.4	ug/L	0.3426	0.06509	4,838
Mg2025_A		12,080	ug/L	133.0	1.101	3,476
Mn2576_R	W	530.6	ug/L	1.561	0.2941	3,593
Mo2020_A		506.6	ug/L	5.271	1.041	1,440
Na5895_R		13,090	ug/L	29.91	0.2285	21,830
Ni2316_A		510.6	ug/L	5.757	1.127	795.1
Pb2203_A		509.2	ug/L	4.899	0.9622	443.7
Sb2068_A		509.5	ug/L	5.841	1.146	222.0
Se1960_A		503.3	ug/L	4.728	0.9393	131.2
Si2516_R	W	13,680	ug/L	24.76	0.1810	4,930
Sn1899_A		496.3	ug/L	4.123	0.8307	239.2
Sr4215_R		524.2	ug/L	0.1142	0.02179	31,350
Ti3349_A	W	527.2	ug/L	1.503	0.2851	10,790
Ti1908_A		502.0	ug/L	4.617	0.9197	250.6
V_2924_A	W	532.6	ug/L	5.501	1.033	5,387
Zn2062_A		504.4	ug/L	3.882	0.7695	1,502
Y_3600_R		13,220	Cts/S	107.25	0.81125	13,220
Y_2243_A		7,994.2	Cts/S	67.506	0.84445	7,994.2
Y_3600_A		125,690	Cts/S	801.07	0.63737	125,690

CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:32:55AM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 10:32:55AM

Method Revision: 1,228

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3549	ug/L	0.3424	96.49	11.38
Al3961_R		-6.722	ug/L	8.305	123.5	-5.072
As1891_A		0.7214	ug/L	1.558	216.0	-2.414
B_2089_A		6.415	ug/L	0.7543	11.76	11.88
Ba4554_R		0.2148	ug/L	0.1586	73.82	67.08
Be3130_R		-0.06770	ug/L	0.05451	80.52	-8.611
Ca3158_R		-1.148	ug/L	2.776	241.8	-29.82
Cd2265_A		0.1503	ug/L	0.06570	43.72	-0.8223
Co2286_A		0.0007230	ug/L	0.1102	15,240	2.666
Cr2677_A		0.03184	ug/L	0.1791	562.7	4.194
Cu3273_A		-0.2110	ug/L	0.3604	170.8	-25.64
Fe2599_R		4.331	ug/L	0.2302	5.316	9.569
K_7664_R		-12.28	ug/L	15.40	125.4	-109.5
Li6707_R		0.1009	ug/L	0.3352	332.1	-42.98
Mg2025_A		0.6189	ug/L	1.703	275.1	-4.169
Mn2576_R		-0.2731	ug/L	0.06352	23.26	5.490
Mo2020_A		2.014	ug/L	0.3550	17.63	6.023
Na5895_R		18.49	ug/L	3.396	18.37	47.13
Ni2316_A		0.2018	ug/L	0.02000	9.910	-1.566
Pb2203_A		-0.3160	ug/L	1.199	379.5	-0.1931
Sb2068_A		0.4712	ug/L	0.2306	48.93	0.2435
Se1960_A		3.165	ug/L	0.6981	22.05	2.953
Si2516_R		-7.101	ug/L	23.91	336.7	43.49
Sn1899_A		-0.007460	ug/L	0.1141	1,529	2.034
Sr4215_R		-0.2152	ug/L	0.08712	40.49	-40.84
Ti3349_A		0.03115	ug/L	0.001160	3.724	-21.51
Tl1908_A		0.8959	ug/L	0.1433	16.00	-1.873
V_2924_A		-0.1992	ug/L	0.02323	11.66	-8.607
Zn2062_A		-0.1637	ug/L	0.008333	5.092	0.7161
Y_3600_R		13,311	Cts/S	61.821	0.46444	13,311
Y_2243_A		7,947.7	Cts/S	64.282	0.80881	7,947.7
Y_3600_A		127,440	Cts/S	382.23	0.29992	127,440

PBVML24ICW1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 10:37:19AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6545	ug/L	0.5517	84.30	16.10
Al3961_R		15.18	ug/L	1.030	6.788	11.47
As1891_A		0.9570	ug/L	0.7741	80.89	-2.338
B_2089_A		4.000	ug/L	0.09062	2.266	8.867
Ba4554_R		-0.01227	ug/L	0.08121	662.1	57.65
Be3130_R		-0.05349	ug/L	0.04099	76.62	-7.828
Ca3158_R		0.4808	ug/L	3.786	787.5	-28.85
Cd2265_A		0.08834	ug/L	0.01632	18.47	-1.555
Co2286_A		0.1279	ug/L	0.09992	78.15	3.075
Cr2677_A		0.08527	ug/L	0.03352	39.31	4.878
Cu3273_A		-0.1163	ug/L	0.4716	405.6	-25.01
Fe2599_R		2.804	ug/L	1.720	61.35	7.494
K_7664_R		46.49	ug/L	42.82	92.11	-81.11
Li6707_R		1.047	ug/L	1.903	181.8	-34.75
Mg2025_A		0.8462	ug/L	1.003	118.5	-4.122
Mn2576_R		-0.3816	ug/L	0.1227	32.15	4.829
Mo2020_A		0.8973	ug/L	0.04639	5.169	2.885
Na5895_R		16.70	ug/L	5.639	33.76	44.91
Ni2316_A		0.01502	ug/L	0.009026	60.10	-1.874

PBWML24ICW1

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:37:19AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-1.095	ug/L	0.06540	5.975	-0.8698
Sb2068_A		0.5690	ug/L	0.6619	116.3	0.2856
Se1960_A		-0.08805	ug/L	2.193	2,491	2.138
Si2516_R		-26.26	ug/L	3.836	14.60	37.25
Sn1899_A		0.1266	ug/L	0.06165	48.71	2.107
Sr4215_R		-0.02288	ug/L	0.2795	1,222	-29.75
Ti3349_A		-0.06058	ug/L	0.1448	239.1	-23.82
Ti1908_A		-0.4752	ug/L	0.4198	88.36	-2.568
V_2924_A		-0.2376	ug/L	0.3854	162.2	-9.095
Zn2062_A		0.2155	ug/L	0.02756	12.79	1.847
Y_3600_R		13,538	Cts/S	20.717	0.15303	13,538
Y_2243_A		7,983.0	Cts/S	116.22	1.4558	7,983.0
Y_3600_A		129,570	Cts/S	223.13	0.17221	129,570

LCSWML24ICW1

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:41:42AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		56.32	ug/L	0.2874	0.5103	865.4
Al3961_R		2,172	ug/L	30.41	1.400	1,668
As1891_A		97.61	ug/L	1.310	1.342	33.12
B_2089_A		491.0	ug/L	5.730	1.167	627.4
Ba4554_R	F	2,290	ug/L	9.275	0.4051	107,100
Be3130_R	F	57.27	ug/L	0.3276	0.5720	3,805
Ca3158_R		2,478	ug/L	22.29	0.8994	2,248
Cd2265_A		252.8	ug/L	3.450	1.365	2,975
Co2286_A		570.1	ug/L	7.643	1.341	1,799
Cr2677_A		222.8	ug/L	1.790	0.8033	2,603
Cu3273_A		279.3	ug/L	0.7310	0.2618	3,161
Fe2599_R		1,119	ug/L	4.185	0.3738	1,653
K_7664_R		9,991	ug/L	0.7950	0.007957	5,068
Li6707_R		495.5	ug/L	2.953	0.5961	4,690
Mg2025_A		4,761	ug/L	70.02	1.471	1,387
Mn2576_R		559.9	ug/L	4.642	0.8290	3,909
Mo2020_A		103.3	ug/L	1.395	1.351	294.9
Na5895_R		7,498	ug/L	19.37	0.2583	12,900
Ni2316_A	F	571.9	ug/L	7.295	1.276	890.3
Pb2203_A		99.54	ug/L	2.189	2.200	87.22
Sb2068_A		100.9	ug/L	0.7797	0.7725	42.33
Se1960_A		102.2	ug/L	3.067	3.002	28.53
Si2516_R		1,042	ug/L	7.841	0.7522	432.6
Sn1899_A		500.7	ug/L	6.330	1.264	242.3
Sr4215_R		506.5	ug/L	1.476	0.2914	31,220
Ti3349_A		491.8	ug/L	4.362	0.8870	10,590
Ti1908_A		98.51	ug/L	1.256	1.275	48.11
V_2924_A		555.3	ug/L	5.124	0.9227	5,945
Zn2062_A		566.6	ug/L	8.199	1.447	1,695
Y_3600_R		13,625	Cts/S	54.693	0.40140	13,625
Y_2243_A		8,026.5	Cts/S	81.250	1.0123	8,026.5
Y_3600_A		132,280	Cts/S	194.72	0.14720	132,280

TM3475-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:45:55AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3475-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 10:45:55AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1659	ug/L	0.004603	2.774	8.154
Al3961_R		25.06	ug/L	4.187	16.71	146.5
As1891_A		7.053	ug/L	1.400	19.85	-0.1050
B_2089_A		73.98	ug/L	0.3543	0.4789	91.65
Ba4554_R		32.33	ug/L	0.1355	0.4190	1,488
Be3130_R		-0.04811	ug/L	0.09329	193.9	-7.062
Ca3158_R	W	208,700	ug/L	657.5	0.3150	181,700
Cd2265_A		0.2629	ug/L	0.03999	15.21	0.4828
Co2286_A		2.005	ug/L	0.1722	8.591	8.465
Cr2677_A		9.749	ug/L	0.1298	1.332	108.6
Cu3273_A		35.96	ug/L	0.5368	1.493	356.2
Fe2599_R		19.19	ug/L	1.386	7.225	30.01
K_7664_R		1,597	ug/L	35.42	2.218	683.1
Li6707_R		5.054	ug/L	1.250	24.73	3.204
Mg2025_A		5,931	ug/L	11.95	0.2015	1,600
Mn2576_R		78.98	ug/L	1.159	1.468	529.7
Mo2020_A		0.9245	ug/L	0.1100	11.90	2.798
Na5895_R	F	375,200	ug/L	6,257	1.668	610,700
Ni2316_A		1.766	ug/L	0.01027	0.5815	0.7931
Pb2203_A		100.3	ug/L	0.3693	0.3680	82.93
Sb2068_A		1.621	ug/L	0.6162	38.01	0.7336
Se1960_A		3.489	ug/L	0.7148	20.49	2.896
Si2516_R		1,178	ug/L	28.90	2.454	455.1
Sn1899_A		0.2876	ug/L	0.4094	142.3	2.066
Sr4215_R		255.2	ug/L	1.626	0.6369	14,890
Ti3349_A		0.2192	ug/L	0.2401	109.5	-16.82
Tl1908_A		-2.147	ug/L	0.3686	17.17	-3.259
V_2924_A		0.9210	ug/L	0.2162	23.47	2.397
Zn2062_A		361.4	ug/L	0.6112	0.1691	1,018
Y_3600_R		12,910	Cts/S	107.06	0.82931	12,910
Y_2243_A		7,552.8	Cts/S	23.329	0.30888	7,552.8
Y_3600_A		121,980	Cts/S	649.65	0.53260	121,980

TM3475-002

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 10:51:12AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3473	ug/L	0.3669	105.6	10.87
Al3961_R		-44.70	ug/L	18.65	41.73	167.9
As1891_A		22.85	ug/L	0.3195	1.398	5.427
B_2089_A		127.4	ug/L	1.629	1.279	157.2
Ba4554_R		21.50	ug/L	0.2433	1.132	1,033
Be3130_R		-0.06435	ug/L	0.07735	120.2	-8.336
Ca3158_R	W	319,100	ug/L	756.6	0.2371	284,800
Cd2265_A		0.2645	ug/L	0.06544	24.74	0.5035
Co2286_A		1.326	ug/L	0.1174	8.854	6.543
Cr2677_A		4.789	ug/L	0.1822	3.804	55.93
Cu3273_A		25.58	ug/L	0.1068	0.4177	249.8
Fe2599_R		13.64	ug/L	0.6690	4.905	22.83
K_7664_R		3,243	ug/L	33.34	1.028	1,528
Li6707_R		8.189	ug/L	2.037	24.88	32.34
Mg2025_A		7,725	ug/L	118.5	1.534	2,112
Mn2576_R		114.1	ug/L	0.1128	0.09891	780.7
Mo2020_A		1.267	ug/L	0.1971	15.56	3.765
Na5895_R	F	429,900	ug/L	1,096	0.2551	717,200
Ni2316_A		1.916	ug/L	0.2385	12.45	1.028

TM3475-002

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:51:12AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		304.3	ug/L	5.418	1.781	254.4
Sb2068_A		1.241	ug/L	0.2161	17.42	0.5717
Se1960_A		3.932	ug/L	0.5916	15.05	3.046
Si2516_R		1,414	ug/L	16.01	1.132	550.7
Sn1899_A		0.9460	ug/L	0.1743	18.43	2.394
Sr4215_R		558.8	ug/L	1.173	0.2100	33,450
Ti3349_A		0.3352	ug/L	0.07037	20.99	-14.71
Ti1908_A		-0.7008	ug/L	0.1171	16.71	-2.624
V_2924_A		0.4720	ug/L	0.07412	15.70	-2.089
Zn2062_A		480.8	ug/L	7.741	1.610	1,371
Y_3600_R		13,231	Cts/S	1.4638	0.011063	13,231
Y_2243_A		7,647.9	Cts/S	106.13	1.3877	7,647.9
Y_3600_A		123,430	Cts/S	519.69	0.42105	123,430

TM3475-003

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 10:56:29AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3374	ug/L	0.1131	33.53	10.63
Al3961_R		-48.17	ug/L	8.252	17.13	169.1
As1891_A		-1.177	ug/L	1.225	104.1	-2.935
B_2089_A		67.02	ug/L	0.3930	0.5863	82.92
Ba4554_R		20.79	ug/L	0.02083	0.1002	991.9
Be3130_R		-0.09932	ug/L	0.02498	25.15	-10.46
Ca3158_R	W	327,500	ug/L	3,575	1.091	289,600
Cd2265_A		0.007960	ug/L	0.03815	479.3	-2.342
Co2286_A		0.6080	ug/L	0.01605	2.639	4.300
Cr2677_A		16.96	ug/L	0.3158	1.861	186.3
Cu3273_A		38.26	ug/L	0.1241	0.3245	380.7
Fe2599_R		11.31	ug/L	0.5900	5.216	19.32
K_7664_R		1,619	ug/L	71.04	4.387	705.0
Li6707_R		7.205	ug/L	1.678	23.30	23.01
Mg2025_A		139.8	ug/L	2.412	1.725	33.52
Mn2576_R		0.3384	ug/L	0.4936	145.9	9.541
Mo2020_A		1.756	ug/L	0.1167	6.647	5.008
Na5895_R	F	434,600	ug/L	11,230	2.584	718,400
Ni2316_A		1.657	ug/L	0.6385	38.53	0.6413
Pb2203_A		125.0	ug/L	0.7010	0.5606	102.7
Sb2068_A		0.7592	ug/L	1.523	200.6	0.3862
Se1960_A		3.762	ug/L	1.017	27.03	2.934
Si2516_R		339.7	ug/L	8.081	2.379	165.5
Sn1899_A		0.2057	ug/L	0.5794	281.7	2.017
Sr4215_R		383.0	ug/L	3.870	1.011	22,700
Ti3349_A		-0.4427	ug/L	0.1991	44.97	-30.00
Ti1908_A		-1.702	ug/L	0.5363	31.50	-2.995
V_2924_A		0.4375	ug/L	0.04696	10.74	-2.371
Zn2062_A		7.504	ug/L	0.05378	0.7168	22.08
Y_3600_R		13,109	Cts/S	40.228	0.30687	13,109
Y_2243_A		7,509.5	Cts/S	34.725	0.46241	7,509.5
Y_3600_A		122,100	Cts/S	223.05	0.18268	122,100

TM3475-004

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 11:01:51AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3475-004

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:01:51AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6465	ug/L	0.5124	79.26	15.01
Al3961_R		14.25	ug/L	5.172	36.28	194.7
As1891_A		7.360	ug/L	1.107	15.04	0.002503
B_2089_A		109.5	ug/L	2.054	1.876	134.6
Ba4554_R		26.66	ug/L	0.3033	1.138	1,257
Be3130_R		-0.1013	ug/L	0.001611	1.591	-10.64
Ca3158_R	W	294,600	ug/L	2,814	0.9549	260,700
Cd2265_A		0.4204	ug/L	0.1042	24.77	2.242
Co2286_A		1.789	ug/L	0.2102	11.75	7.868
Cr2677_A		14.51	ug/L	0.5589	3.852	160.2
Cu3273_A		68.63	ug/L	0.8773	1.278	702.0
Fe2599_R		26.76	ug/L	2.285	8.537	41.25
K_7664_R		2,678	ug/L	34.55	1.290	1,233
Li6707_R		7.093	ug/L	1.408	19.85	21.95
Mg2025_A		5,725	ug/L	125.9	2.199	1,553
Mn2576_R		106.8	ug/L	0.4185	0.3917	725.1
Mo2020_A		1.113	ug/L	0.1669	15.00	3.317
Na5895_R	F	389,100	ug/L	5,147	1.323	643,700
Ni2316_A		2.156	ug/L	0.09529	4.420	1.374
Pb2203_A		174.1	ug/L	3.924	2.254	144.5
Sb2068_A		1.602	ug/L	1.311	81.81	0.7416
Se1960_A		5.554	ug/L	0.3538	6.370	3.418
Si2516_R		1,154	ug/L	3.766	0.3262	454.1
Sn1899_A		1.192	ug/L	0.3236	27.15	2.487
Sr4215_R		364.1	ug/L	3.479	0.9557	21,600
Ti3349_A		0.8792	ug/L	0.4892	55.64	-3.706
Tl1908_A		-0.6202	ug/L	0.7400	119.3	-2.563
V_2924_A		0.7623	ug/L	0.03897	5.113	0.5961
Zn2062_A		498.2	ug/L	9.970	2.001	1,410
Y_3600_R		13,119	Cts/S	38.473	0.29326	13,119
Y_2243_A		7,593.9	Cts/S	103.29	1.3601	7,593.9
Y_3600_A		122,330	Cts/S	111.57	0.091205	122,330

TM3475-005

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:07:08AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.7974	ug/L	0.4750	59.57	17.41
Al3961_R		20.25	ug/L	15.69	77.48	172.1
As1891_A		8.930	ug/L	0.2615	2.928	0.5509
B_2089_A		87.11	ug/L	0.1799	0.2065	108.9
Ba4554_R		23.76	ug/L	0.2128	0.8958	1,124
Be3130_R		-0.1239	ug/L	0.01668	13.47	-12.05
Ca3158_R	W	252,000	ug/L	763.1	0.3028	222,600
Cd2265_A		0.1593	ug/L	0.002465	1.547	-0.6649
Co2286_A		0.8587	ug/L	0.5537	64.49	5.148
Cr2677_A		9.449	ug/L	0.2614	2.767	107.0
Cu3273_A		37.69	ug/L	0.5291	1.404	380.4
Fe2599_R		26.80	ug/L	0.3488	1.302	41.24
K_7664_R		1,579	ug/L	14.63	0.9265	684.6
Li6707_R		5.823	ug/L	0.1200	2.061	10.28
Mg2025_A		5,075	ug/L	9.691	0.1910	1,389
Mn2576_R		98.22	ug/L	0.7689	0.7829	666.0
Mo2020_A		0.6134	ug/L	0.1234	20.11	1.990
Na5895_R	F	332,900	ug/L	2,822	0.8477	549,900
Ni2316_A		1.732	ug/L	0.05197	3.001	0.7508

TM3475-005

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:07:08AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		122.7	ug/L	0.1693	0.1380	102.9
Sb2068_A		0.1829	ug/L	0.9366	512.2	0.1322
Se1960_A		1.355	ug/L	0.2458	18.13	2.417
Si2516_R		1,052	ug/L	10.34	0.9825	417.3
Sn1899_A		1.557	ug/L	0.7614	48.89	2.679
Sr4215_R		269.6	ug/L	0.1761	0.06534	15,960
Ti3349_A		0.5097	ug/L	0.03981	7.810	-11.24
Ti1908_A		-0.8220	ug/L	0.07017	8.535	-2.681
V_2924_A		0.8480	ug/L	0.3219	37.96	1.647
Zn2062_A		213.4	ug/L	0.8514	0.3990	610.5
Y_3600_R		13,098	Cts/S	166.92	1.2744	13,098
Y_2243_A		7,666.5	Cts/S	28.380	0.37019	7,666.5
Y_3600_A		123,930	Cts/S	769.87	0.62119	123,930

PBT1603A

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:12:25AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3774	ug/L	0.01583	4.193	11.24
Al3961_R		4.699	ug/L	3.047	64.84	3.306
As1891_A		-0.6659	ug/L	0.03324	4.991	-2.826
B_2089_A		6.050	ug/L	0.2654	4.387	11.00
Ba4554_R		27.15	ug/L	0.08188	0.3016	1,255
Be3130_R		-0.08779	ug/L	0.01485	16.91	-9.573
Ca3158_R		-2.934	ug/L	1.856	63.24	-30.40
Cd2265_A		0.08459	ug/L	0.03177	37.56	-1.541
Co2286_A		-0.1415	ug/L	0.02260	15.97	2.150
Cr2677_A		0.5075	ug/L	0.1075	21.18	9.156
Cu3273_A		-0.9211	ug/L	0.4515	49.01	-32.08
Fe2599_R		3.888	ug/L	1.216	31.27	8.635
K_7664_R		159.2	ug/L	53.85	33.83	-21.93
Li6707_R		4.058	ug/L	1.502	37.01	-5.893
Mg2025_A		2.467	ug/L	1.983	80.39	-3.531
Mn2576_R		-0.4627	ug/L	0.4459	96.37	4.051
Mo2020_A		0.1347	ug/L	0.2379	176.7	0.6917
Na5895_R	F	400,400	ug/L	993.4	0.2481	650,300
Ni2316_A		1.169	ug/L	0.004428	0.3787	-0.09021
Pb2203_A		-1.100	ug/L	0.6624	60.24	-0.8419
Sb2068_A		-0.3623	ug/L	0.5896	162.7	-0.1151
Se1960_A		2.107	ug/L	2.100	99.68	2.597
Si2516_R		-23.71	ug/L	15.03	63.39	36.31
Sn1899_A		0.1229	ug/L	0.3158	257.0	2.027
Sr4215_R		0.2517	ug/L	0.03495	13.89	-12.27
Ti3349_A		-0.4917	ug/L	0.2757	56.07	-31.10
Ti1908_A		-0.6506	ug/L	0.2714	41.71	-2.560
V_2924_A		0.03226	ug/L	0.09339	289.5	-5.869
Zn2062_A		10.29	ug/L	0.1727	1.679	30.62
Y_3600_R		12,879	Cts/S	87.104	0.67633	12,879
Y_2243_A		7,688.2	Cts/S	27.361	0.35589	7,688.2
Y_3600_A		122,260	Cts/S	581.91	0.47597	122,260

PBT1602A

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:17:49AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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PBT1602A

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:17:49AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.07067	ug/L	0.1092	154.6	7.103
Al3961_R		20.56	ug/L	9.920	48.24	15.42
As1891_A		-1.778	ug/L	0.6626	37.27	-3.227
B_2089_A		14.12	ug/L	0.5138	3.639	20.84
Ba4554_R		33.69	ug/L	0.4544	1.348	1,600
Be3130_R		-0.09891	ug/L	0.007624	7.708	-10.66
Ca3158_R		12.60	ug/L	4.409	35.00	-17.48
Cd2265_A		0.06989	ug/L	0.08355	119.5	-1.714
Co2286_A		-0.1908	ug/L	0.04122	21.61	2.012
Cr2677_A		0.5269	ug/L	0.1613	30.62	9.719
Cu3273_A		-0.8079	ug/L	0.1202	14.88	-32.04
Fe2599_R		0.3362	ug/L	0.9426	280.3	3.844
K_7664_R		111.1	ug/L	20.02	18.01	-47.30
Li6707_R		3.102	ug/L	1.154	37.20	-15.13
Mg2025_A		2.356	ug/L	0.8892	37.74	-3.572
Mn2576_R		-0.2469	ug/L	0.5547	224.6	5.635
Mo2020_A		0.06616	ug/L	0.02188	33.07	0.5074
Na5895_R	F	309,300	ug/L	5,800	1.875	520,400
Ni2316_A		1.088	ug/L	0.1357	12.48	-0.2139
Pb2203_A		-0.1195	ug/L	0.5019	419.8	-0.01966
Sb2068_A		-0.3246	ug/L	1.569	483.5	-0.1048
Se1960_A		0.4893	ug/L	2.446	500.0	2.203
Si2516_R		35.46	ug/L	3.667	10.34	58.94
Sn1899_A		1.036	ug/L	0.6821	65.81	2.454
Sr4215_R		0.7270	ug/L	0.03567	4.906	16.02
Ti3349_A		0.2600	ug/L	0.3429	131.9	-16.63
Tl1908_A		-0.4807	ug/L	0.8177	170.1	-2.487
V_2924_A		0.1431	ug/L	0.2714	189.7	-4.961
Zn2062_A		18.88	ug/L	0.1185	0.6276	55.41
Y_3600_R		13,344	Cts/S	309.25	2.3175	13,344
Y_2243_A		7,713.1	Cts/S	42,944	0.55677	7,713.1
Y_3600_A		126,710	Cts/S	2,074.7	1.6373	126,710

TM3232-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:23:12AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3909	ug/L	0.5349	136.8	10.44
Al3961_R		96.19	ug/L	2.273	2.364	109.9
As1891_A		-0.4102	ug/L	0.5220	127.3	-2.851
B_2089_A		2.680	ug/L	0.4371	16.31	7.102
Ba4554_R		29.65	ug/L	0.1643	0.5542	1,400
Be3130_R		-0.06153	ug/L	0.002592	4.212	-8.105
Ca3158_R	W	61,350	ug/L	85.36	0.1391	54,590
Cd2265_A		0.08238	ug/L	0.01043	12.67	-0.9386
Co2286_A		0.1427	ug/L	0.3426	240.1	3.076
Cr2677_A		0.9902	ug/L	0.1615	16.31	14.81
Cu3273_A		3.350	ug/L	0.4604	13.74	13.29
Fe2599_R		474.6	ug/L	1.756	0.3701	680.7
K_7664_R		1,108	ug/L	13.46	1.214	453.5
Li6707_R		2.874	ug/L	0.2958	10.29	-16.95
Mg2025_A		6,004	ug/L	199.5	3.323	1,689
Mn2576_R		32.20	ug/L	0.2075	0.6445	225.8
Mo2020_A		0.6938	ug/L	0.01209	1.742	2.274
Na5895_R		1,062	ug/L	9.440	0.8892	1,783
Ni2316_A		1.052	ug/L	0.3820	36.32	-0.2939

TM3232-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:23:12AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		1.396	ug/L	0.1832	13.13	1.284
Sb2068_A		0.3106	ug/L	0.07986	25.72	0.1778
Se1960_A		-0.9944	ug/L	1.935	194.6	1.886
Si2516_R		2,201	ug/L	1.280	0.05817	829.7
Sn1899_A		0.1087	ug/L	0.1205	110.8	2.071
Sr4215_R		266.9	ug/L	0.5647	0.2116	15,930
Ti3349_A		-0.1851	ug/L	0.06089	32.89	-25.71
Ti1908_A		-1.138	ug/L	0.5109	44.91	-2.881
V_2924_A		0.6326	ug/L	0.1685	26.63	-0.007485
Zn2062_A		2.730	ug/L	0.09012	3.301	9.197
Y_3600_R		13,200	Cts/S	48.551	0.36781	13,200
Y_2243_A		7,879.1	Cts/S	180.40	2.2897	7,879.1
Y_3600_A		125,930	Cts/S	52.549	0.041728	125,930

CCV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:27:35AM

Method Revision: 1,228

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A	W	533.2	ug/L	0.3776	0.07082	7,703
Al3961_R		12,970	ug/L	1.943	0.01498	9,565
As1891_A		517.2	ug/L	5.542	1.072	179.4
B_2089_A		523.6	ug/L	4.314	0.8238	654.5
Ba4554_R	W	536.6	ug/L	5.366	1.000	24,150
Be3130_R	W	540.2	ug/L	3.743	0.6929	34,470
Ca3158_R		12,920	ug/L	8.795	0.06808	11,370
Cd2265_A	W	527.9	ug/L	4.369	0.8276	5,998
Co2286_A		523.8	ug/L	4.170	0.7961	1,591
Cr2677_A	W	532.0	ug/L	1.643	0.3089	5,841
Cu3273_A	W	536.3	ug/L	2.936	0.5475	5,733
Fe2599_R		12,990	ug/L	135.1	1.040	18,390
K_7664_R		13,030	ug/L	23.04	0.1768	6,379
Li6707_R	W	527.8	ug/L	2.750	0.5210	4,801
Mg2025_A		12,510	ug/L	111.1	0.8877	3,479
Mn2576_R		523.9	ug/L	0.6984	0.1333	3,512
Mo2020_A		523.1	ug/L	3.197	0.6113	1,437
Na5895_R		13,140	ug/L	28.04	0.2134	21,690
Ni2316_A	W	532.3	ug/L	5.185	0.9740	801.0
Pb2203_A	W	531.1	ug/L	6.634	1.249	447.2
Sb2068_A	W	531.7	ug/L	3.245	0.6103	223.8
Se1960_A		517.9	ug/L	1.739	0.3358	130.4
Si2516_R	W	13,450	ug/L	10.67	0.07932	4,799
Sn1899_A		518.5	ug/L	5.898	1.138	241.4
Sr4215_R		525.0	ug/L	2.963	0.5643	31,080
Ti3349_A		523.5	ug/L	1.953	0.3730	10,610
Ti1908_A		512.7	ug/L	5.112	0.9970	247.4
V_2924_A	W	535.6	ug/L	1.866	0.3485	5,364
Zn2062_A		525.6	ug/L	4.949	0.9416	1,512
Y_3600_R		13,084	Cts/S	26.491	0.20247	13,084
Y_2243_A		7,724.5	Cts/S	51.324	0.66443	7,724.5
Y_3600_A		124,450	Cts/S	218.05	0.17521	124,450

CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:31:44AM

Method Revision: 1,228

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:31:44AM

Method Revision: 1,228

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4506	ug/L	0.05121	11.36	13.05
Al3961_R		7.239	ug/L	6.909	95.43	5.450
As1891_A		-0.3242	ug/L	0.1278	39.43	-2.745
B_2089_A		0.7410	ug/L	0.2632	35.52	4.672
Ba4554_R		0.3665	ug/L	0.02930	7.993	75.43
Be3130_R		-0.04860	ug/L	0.08449	173.8	-7.540
Ca3158_R		-2.599	ug/L	5.287	203.5	-31.73
Cd2265_A		0.03953	ug/L	0.02389	60.44	-2.081
Co2286_A		0.1716	ug/L	0.1658	96.60	3.146
Cr2677_A		0.1862	ug/L	0.03881	20.84	6.049
Cu3273_A		-0.2224	ug/L	0.2119	95.29	-26.28
Fe2599_R		0.8767	ug/L	1.720	196.2	4.685
K_7664_R		18.50	ug/L	6.371	34.43	-95.74
Li6707_R		1.859	ug/L	0.2860	15.38	-27.09
Mg2025_A		-0.3138	ug/L	1.113	354.8	-4.345
Mn2576_R		-0.2074	ug/L	0.04988	24.05	6.050
Mo2020_A		1.373	ug/L	0.3467	25.25	4.135
Na5895_R		51.41	ug/L	0.7032	1.368	104.4
Ni2316_A		0.1327	ug/L	0.1990	150.0	-1.650
Pb2203_A		-0.1868	ug/L	0.01366	7.312	-0.07594
Sb2068_A		0.07381	ug/L	0.2269	307.5	0.07158
Se1960_A		1.877	ug/L	1.875	99.90	2.575
Si2516_R		-1.240	ug/L	24.35	1,964	46.50
Sn1899_A		-0.4733	ug/L	0.2764	58.41	1.780
Sr4215_R		0.02050	ug/L	0.08235	401.8	-27.14
Ti3349_A		0.5254	ug/L	0.09544	18.17	-11.48
Tl1908_A		-0.6253	ug/L	0.6833	109.3	-2.586
V_2924_A		-0.04860	ug/L	0.3605	741.8	-7.159
Zn2062_A		-0.09134	ug/L	0.01538	16.83	0.9128
Y_3600_R		13,569	Cts/S	6.1101	0.045030	13,569
Y_2243_A		7,800.7	Cts/S	70.297	0.90115	7,800.7
Y_3600_A		129,940	Cts/S	546.26	0.42039	129,940

TM3232-002

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:36:08AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.7073	ug/L	0.4374	61.84	15.47
Al3961_R		270.7	ug/L	28.82	10.64	253.8
As1891_A		-1.466	ug/L	0.8847	60.33	-3.091
B_2089_A		12.66	ug/L	0.02257	0.1783	18.79
Ba4554_R		76.57	ug/L	0.7275	0.9500	3,472
Be3130_R		-0.07800	ug/L	0.07637	97.91	-9.083
Ca3158_R	W	90,550	ug/L	659.6	0.7285	79,370
Cd2265_A		0.1833	ug/L	0.04896	26.71	-0.003649
Co2286_A		0.2622	ug/L	0.4431	169.0	3.335
Cr2677_A		1.307	ug/L	0.2384	18.25	18.21
Cu3273_A		3.999	ug/L	0.09171	2.293	20.22
Fe2599_R		309.0	ug/L	1.776	0.5749	437.6
K_7664_R		1,484	ug/L	26.56	1.789	632.5
Li6707_R		7.363	ug/L	0.01329	0.1805	24.24
Mg2025_A		8,523	ug/L	39.12	0.4590	2,311
Mn2576_R		92.99	ug/L	0.4597	0.4944	627.0
Mo2020_A		1.389	ug/L	0.005851	0.4213	4.061
Na5895_R		4,414	ug/L	21.87	0.4954	7,252
Ni2316_A		1.607	ug/L	0.2963	18.44	0.5480

TM3232-002

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 11:36:08AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		6.121	ug/L	0.2355	3.848	5.137
Sb2068_A		-0.2921	ug/L	0.2339	80.05	-0.08451
Se1960_A		1.735	ug/L	0.1181	6.805	2.484
Si2516_R		2,445	ug/L	48.67	1.990	903.0
Sn1899_A		1.165	ug/L	0.2684	23.04	2.473
Sr4215_R		407.6	ug/L	2.441	0.5989	23,960
Ti3349_A		0.6206	ug/L	0.2108	33.98	-9.049
Ti1908_A		-0.1608	ug/L	1.380	857.8	-2.337
V_2924_A		1.053	ug/L	0.1325	12.59	3.964
Zn2062_A		19.90	ug/L	0.1124	0.5646	57.38
Y_3600_R		13,002	Cts/S	203.24	1.5632	13,002
Y_2243_A		7,585.6	Cts/S	42.331	0.55805	7,585.6
Y_3600_A		124,900	Cts/S	2,043.6	1.6361	124,900

TM3232-003

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 11:40:31AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.2669	ug/L	0.2866	107.4	9.043
Al3961_R		87.29	ug/L	1.840	2.108	123.2
As1891_A		-0.8325	ug/L	0.5991	71.96	-2.814
B_2089_A		12.48	ug/L	0.1031	0.8259	18.25
Ba4554_R		90.77	ug/L	0.2608	0.2873	4,019
Be3130_R		-0.06290	ug/L	0.05267	83.75	-7.882
Ca3158_R	W	100,200	ug/L	122.9	0.1226	85,980
Cd2265_A		0.1512	ug/L	0.01285	8.497	-0.4688
Co2286_A		0.3338	ug/L	0.08069	24.18	3.469
Cu2677_A		0.8924	ug/L	0.3066	34.36	13.32
Cu3273_A		2.973	ug/L	0.2919	9.817	8.955
Fe2599_R		225.2	ug/L	0.3751	0.1666	313.1
K_7664_R		1,455	ug/L	5.231	0.3595	605.0
Li6707_R		7.539	ug/L	0.03147	0.4174	25.30
Mg2025_A		24,130	ug/L	112.9	0.4678	6,431
Mn2576_R		21.93	ug/L	0.6573	2.997	154.5
Mo2020_A		2.064	ug/L	0.3630	17.59	5.781
Na5895_R		3,149	ug/L	4.021	0.1277	5,068
Ni2316_A		0.9074	ug/L	0.01477	1.628	-0.4620
Pb2203_A		33.26	ug/L	0.05359	0.1611	27.16
Sb2068_A		50.84	ug/L	0.1300	0.2556	20.80
Se1960_A		2.021	ug/L	0.7463	36.94	2.496
Si2516_R		3,597	ug/L	7.019	0.1952	1,279
Sn1899_A		0.5654	ug/L	0.2781	49.19	2.161
Sr4215_R	W	2,314	ug/L	3.882	0.1678	133,300
Ti3349_A		-0.9420	ug/L	0.2490	26.43	-40.02
Ti1908_A		-1.168	ug/L	0.03013	2.579	-2.733
V_2924_A		0.4042	ug/L	0.1566	38.74	-2.344
Zn2062_A		14.15	ug/L	0.1723	1.217	40.39
Y_3600_R		12,726	Cts/S	44.071	0.34630	12,726
Y_2243_A		7,447.7	Cts/S	35.277	0.47367	7,447.7
Y_3600_A		122,180	Cts/S	627.32	0.51345	122,180

TM3232-004

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 11:44:54AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3232-004

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:44:54AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3116	ug/L	0.2339	75.05	9.891
Al3961_R		97.67	ug/L	3.271	3.349	131.5
As1891_A		-0.001255	ug/L	0.2744	21,860	-2.568
B_2089_A		12.25	ug/L	0.2906	2.372	18.23
Ba4554_R		86.03	ug/L	0.6120	0.7114	3,973
Be3130_R		-0.08687	ug/L	0.05149	59.28	-9.767
Ca3158_R	W	92,860	ug/L	199.6	0.2150	83,050
Cd2265_A		0.08221	ug/L	0.1423	173.1	-1.248
Co2286_A		0.3382	ug/L	0.04304	12.73	3.537
Cr2677_A		0.6023	ug/L	0.08670	14.39	10.39
Cu3273_A		2.691	ug/L	0.2954	10.98	6.119
Fe2599_R		223.4	ug/L	0.1736	0.07770	323.7
K_7664_R		1,382	ug/L	31.47	2.277	593.4
Li6707_R		7.570	ug/L	0.2054	2.714	26.65
Mg2025_A		23,360	ug/L	106.9	0.4576	6,320
Mn2576_R		19.57	ug/L	0.2738	1.399	144.8
Mo2020_A		1.372	ug/L	0.02541	1.852	4.006
Na5895_R		2,935	ug/L	16.73	0.5701	4,925
Ni2316_A		1.277	ug/L	0.3881	30.39	0.06879
Pb2203_A		33.60	ug/L	0.5996	1.784	27.84
Sb2068_A		48.98	ug/L	0.2043	0.4171	20.33
Se1960_A		2.716	ug/L	1.278	47.04	2.701
Si2516_R		3,359	ug/L	21.78	0.6485	1,248
Sn1899_A		1.393	ug/L	0.6833	49.05	2.566
Sr4215_R	W	2,149	ug/L	0.9494	0.04417	129,100
Ti3349_A		-0.5241	ug/L	0.3512	67.01	-32.29
Tl1908_A		-0.3327	ug/L	0.8078	242.8	-2.374
V_2924_A		0.4745	ug/L	0.05928	12.49	-1.627
Zn2062_A		12.15	ug/L	0.02903	0.2388	35.37
Y_3600_R		13,263	Cts/S	61.330	0.46242	13,263
Y_2243_A		7,558.9	Cts/S	47.317	0.62598	7,558.9
Y_3600_A		124,560	Cts/S	827.35	0.66420	124,560

TM3232-004L

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:49:16AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		2.504	ug/L	1.717	68.57	13.49
Al3961_R		52.38	ug/L	52.86	100.9	19.76
As1891_A		-3.077	ug/L	7.793	253.3	-2.853
B_2089_A		11.46	ug/L	1.394	12.16	6.556
Ba4554_R		86.96	ug/L	1.043	1.200	851.2
Be3130_R		-0.4121	ug/L	0.2898	70.33	-9.508
Ca3158_R		94,680	ug/L	501.3	0.5295	16,960
Cd2265_A		0.07069	ug/L	0.3516	497.4	-2.315
Co2286_A		0.4674	ug/L	0.4470	95.64	2.899
Cr2677_A		1.588	ug/L	1.060	66.74	7.452
Cu3273_A		1.215	ug/L	0.2866	23.59	-20.76
Fe2599_R		230.0	ug/L	6.199	2.695	69.50
K_7664_R		1,391	ug/L	79.21	5.696	37.40
Li6707_R		20.04	ug/L	2.284	11.40	-6.510
Mg2025_A		22,410	ug/L	265.5	1.185	1,249
Mn2576_R		18.12	ug/L	2.838	15.66	32.91
Mo2020_A		1.067	ug/L	0.6448	60.44	0.9202
Na5895_R		3,116	ug/L	2.967	0.09523	1,061
Ni2316_A		0.2555	ug/L	0.9442	369.5	-1.790

TM3232-004L

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 11:49:16AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		23.90	ug/L	6.219	26.02	4.158
Sb2068_A		44.99	ug/L	2.570	5.713	3.888
Se1960_A		11.39	ug/L	6.273	55.09	2.680
Si2516_R		3,186	ug/L	5.722	0.1796	274.8
Sn1899_A		3.510	ug/L	0.8777	25.00	2.329
Sr4215_R		2,176	ug/L	12.56	0.5773	26,180
Ti3349_A		-3.774	ug/L	0.6099	16.16	-38.06
Ti1908_A		-4.692	ug/L	3.804	81.08	-2.740
V_2924_A		0.9605	ug/L	0.9564	99.58	-4.498
Zn2062_A		11.22	ug/L	0.4654	4.149	7.701
Y_3600_R		13,302	Cts/S	64.105	0.48192	13,302
Y_2243_A		7,806.3	Cts/S	67.891	0.86970	7,806.3
Y_3600_A		128,100	Cts/S	257.92	0.20134	128,100

TM3232-004A

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 11:53:38AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		536.8	ug/L	0.2117	0.03944	7,649
Al3961_R		11,330	ug/L	80.25	0.7081	8,315
As1891_A		522.4	ug/L	6.371	1.220	180.7
B_2089_A		551.4	ug/L	5.654	1.025	685.0
Ba4554_R		650.1	ug/L	3.459	0.5321	28,900
Be3130_R		575.3	ug/L	1.189	0.2066	36,270
Ca3158_R	W	99,720	ug/L	592.5	0.5942	86,930
Cd2265_A		534.1	ug/L	7.452	1.395	6,024
Co2286_A		528.6	ug/L	6.714	1.270	1,596
Cr2677_A		547.3	ug/L	0.7231	0.1321	5,914
Cu3273_A		561.7	ug/L	2.009	0.3576	9,912
Fe2599_R		6,696	ug/L	39.26	0.5862	9,365
K_7664_R		12,880	ug/L	1.289	0.01001	6,228
Li6707_R		571.3	ug/L	2.535	0.4437	5,138
Mg2025_A	W	28,850	ug/L	377.1	1.307	7,952
Mn2576_R		558.2	ug/L	2.144	0.3841	3,700
Mo2020_A		549.4	ug/L	7.147	1.301	1,500
Na5895_R		9,604	ug/L	14.54	0.1514	15,670
Ni2316_A		532.1	ug/L	8.077	1.518	796.7
Pb2203_A		570.6	ug/L	6.405	1.123	477.9
Sb2068_A		590.1	ug/L	5.637	0.9552	247.0
Se1960_A		527.6	ug/L	5.148	0.9758	132.0
Si2516_R		3,733	ug/L	9.679	0.2593	1,350
Sn1899_A		542.9	ug/L	6.342	1.168	251.2
Sr4215_R	W	2,726	ug/L	5.664	0.2078	159,500
Ti3349_A		542.2	ug/L	1.918	0.3537	10,820
Ti1908_A		523.8	ug/L	5.181	0.9891	251.3
V_2924_A		557.5	ug/L	0.6161	0.1105	5,495
Zn2062_A		539.7	ug/L	7.015	1.300	1,543
Y_3600_R		12,928	Cts/S	15.876	0.12280	12,928
Y_2243_A		7,679.4	Cts/S	94.433	1.2297	7,679.4
Y_3600_A		122,490	Cts/S	37.598	0.030695	122,490

TM3232-004S

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 11:57:47AM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3232-004S

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 11:57:47AM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		56.57	ug/L	0.06534	0.1155	839.0
Al3961_R		2,350	ug/L	3.767	0.1603	1,806
As1891_A		99.77	ug/L	1.521	1.524	32.94
B_2089_A		517.8	ug/L	8.897	1.718	642.9
Ba4554_R	W	2,438	ug/L	16.42	0.6733	110,400
Be3130_R		59.55	ug/L	0.5258	0.8831	3,828
Ca3158_R	W	97,290	ug/L	958.4	0.9851	86,490
Cd2265_A		251.2	ug/L	4.355	1.733	2,874
Co2286_A		550.0	ug/L	10.48	1.906	1,687
Cr2677_A		221.9	ug/L	1.130	0.5093	2,504
Cu3273_A		287.9	ug/L	1.505	0.5228	3,149
Fe2599_R		1,366	ug/L	18.91	1.385	1,950
K_7664_R		11,740	ug/L	105.9	0.9019	5,779
Li6707_R		533.8	ug/L	6.119	1.146	4,893
Mg2025_A	W	27,590	ug/L	500.6	1.815	7,725
Mn2576_R		587.3	ug/L	7.341	1.250	3,972
Mo2020_A		106.2	ug/L	1.524	1.435	294.7
Na5895_R		10,880	ug/L	88.47	0.8129	18,110
Ni2316_A		559.2	ug/L	10.44	1.866	846.2
Pb2203_A		132.2	ug/L	2.438	1.843	112.7
Sb2068_A		154.2	ug/L	1.574	1.021	63.88
Se1960_A		99.94	ug/L	1.192	1.193	27.18
Si2516_R		4,627	ug/L	34.96	0.7556	1,694
Sn1899_A		512.0	ug/L	9.836	1.921	240.8
Sr4215_R	W	2,724	ug/L	24.23	0.8894	162,600
Ti3349_A		496.1	ug/L	2.638	0.5317	10,320
Tl1908_A		96.75	ug/L	0.8827	0.9124	45.85
V_2924_A		566.8	ug/L	5.188	0.9154	5,861
Zn2062_A		563.6	ug/L	9.951	1.766	1,638
Y_3600_R		13,185	Cts/S	42.024	0.31873	13,185
Y_2243_A		7,802.2	Cts/S	83.637	1.0720	7,802.2
Y_3600_A		127,780	Cts/S	720.27	0.56369	127,780

TM3232-004P

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:02:00PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		60.06	ug/L	0.3088	0.5142	858.1
Al3961_R		2,464	ug/L	23.34	0.9472	1,856
As1891_A		104.4	ug/L	0.4055	0.3886	33.47
B_2089_A		544.9	ug/L	1.122	0.2059	654.7
Ba4554_R	W	2,556	ug/L	17.82	0.6974	113,400
Be3130_R		62.59	ug/L	0.2560	0.4091	3,944
Ca3158_R	W	101,000	ug/L	76.95	0.07618	88,020
Cd2265_A		264.9	ug/L	0.1426	0.05382	2,934
Co2286_A		585.2	ug/L	0.7807	0.1334	1,737
Cr2677_A		237.4	ug/L	0.9205	0.3877	2,581
Cu3273_A		308.9	ug/L	0.4969	0.1609	3,258
Fe2599_R		1,412	ug/L	1.692	0.1199	1,976
K_7664_R		12,250	ug/L	37.82	0.3088	5,914
Li6707_R		558.5	ug/L	4.453	0.7974	5,020
Mg2025_A	W	29,170	ug/L	66.59	0.2283	7,908
Mn2576_R		610.7	ug/L	0.5964	0.09766	4,048
Mo2020_A		110.9	ug/L	0.02961	0.02671	297.8
Na5895_R		11,270	ug/L	48.09	0.4267	18,380
Ni2316_A		592.4	ug/L	0.4884	0.08244	867.8

TM3232-004P

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:02:00PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		139.8	ug/L	0.1134	0.08115	115.3
Sb2068_A		161.5	ug/L	2.031	1.258	64.73
Se1960_A		108.9	ug/L	0.6032	0.5541	28.47
Si2516_R		4,788	ug/L	10.26	0.2142	1,717
Sn1899_A		538.7	ug/L	1.343	0.2492	245.1
Sr4215_R	W	2,827	ug/L	12.20	0.4314	165,400
Ti3349_A		528.2	ug/L	0.5073	0.09604	10,590
Ti1908_A		103.0	ug/L	2.305	2.237	47.42
V_2924_A		607.7	ug/L	0.4824	0.07938	6,058
Zn2062_A		599.2	ug/L	0.3524	0.05882	1,686
Y_3600_R		12,923	Cts/S	53.890	0.41700	12,923
Y_2243_A		7,551.1	Cts/S	29.574	0.39165	7,551.1
Y_3600_A		123,140	Cts/S	180.29	0.14641	123,140

TM3232-005

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:06:12PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3058	ug/L	0.2084	68.17	9.089
Al3961_R		71.74	ug/L	4.377	6.101	109.0
As1891_A		-0.3025	ug/L	0.4230	139.8	-2.802
B_2089_A		5.360	ug/L	0.4104	7.657	10.40
Ba4554_R		60.19	ug/L	0.1535	0.2549	2,793
Be3130_R		-0.06831	ug/L	0.0005620	0.8223	-8.570
Ca3158_R	W	88,080	ug/L	646.9	0.7344	78,660
Cd2265_A		0.1398	ug/L	0.08163	58.37	-0.1868
Co2286_A		0.08086	ug/L	0.2347	290.2	2.882
Cr2677_A		0.7405	ug/L	0.1849	24.96	12.18
Cu3273_A		0.5391	ug/L	0.2857	53.00	-17.37
Fe2599_R		533.8	ug/L	1.495	0.2800	767.8
K_7664_R		1,829	ug/L	48.91	2.674	817.9
Li6707_R		3.910	ug/L	0.2146	5.490	-7.381
Mg2025_A		8,179	ug/L	49.74	0.6081	2,292
Mn2576_R		105.6	ug/L	0.02986	0.02828	723.9
Mo2020_A		1.554	ug/L	0.004163	0.2679	4.657
Na5895_R		7,544	ug/L	42.38	0.5618	12,610
Ni2316_A		0.4758	ug/L	0.007702	1.619	-1.171
Pb2203_A		-0.1142	ug/L	1.149	1,006	-0.01668
Sb2068_A		0.2614	ug/L	1.055	403.5	0.1544
Se1960_A		1.079	ug/L	0.6592	61.11	2.400
Si2516_R		4,429	ug/L	20.16	0.4551	1,629
Sn1899_A		0.1913	ug/L	0.4991	260.9	2.099
Sr4215_R		408.5	ug/L	1.876	0.4591	24,470
Ti3349_A		-0.5213	ug/L	0.1072	20.57	-32.83
Ti1908_A		0.3971	ug/L	0.1704	42.91	-2.151
V_2924_A		0.2895	ug/L	0.1009	34.85	-3.834
Zn2062_A		1.652	ug/L	0.03491	2.114	6.005
Y_3600_R		13,244	Cts/S	54.940	0.41484	13,244
Y_2243_A		7,838.7	Cts/S	15.137	0.19311	7,838.7
Y_3600_A		126,770	Cts/S	647.83	0.51103	126,770

TM3232-006

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:10:34PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3232-006

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:10:34PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.05604	ug/L	0.2413	430.6	4.703
Al3961_R		42.09	ug/L	0.1188	0.2822	120.7
As1891_A		-0.02301	ug/L	0.9070	3,941	-2.632
B_2089_A		35.64	ug/L	0.4399	1.234	47.14
Ba4554_R		74.84	ug/L	0.7488	1.001	3,358
Be3130_R		-0.1118	ug/L	0.06975	62.41	-11.01
Ca3158_R	W	147,300	ug/L	803.7	0.5456	127,800
Cd2265_A		0.2073	ug/L	0.04531	21.86	0.05958
Co2286_A		0.06760	ug/L	0.02385	35.28	2.799
Cr2677_A		0.8128	ug/L	0.2585	31.81	12.76
Cu3273_A		1.762	ug/L	0.1610	9.135	-3.855
Fe2599_R		159.4	ug/L	1.985	1.245	225.0
K_7664_R		1,322	ug/L	63.23	4.782	546.5
Li6707_R		10.59	ug/L	1.411	13.32	53.06
Mg2025_A		21,600	ug/L	240.6	1.114	5,978
Mn2576_R		161.3	ug/L	1.633	1.012	1,072
Mo2020_A		0.6407	ug/L	0.02407	3.757	2.080
Na5895_R	W	70,790	ug/L	462.0	0.6526	114,800
Ni2316_A		1.433	ug/L	0.05855	4.086	0.2997
Pb2203_A		-0.02407	ug/L	0.1436	596.9	0.06060
Sb2068_A		-0.4263	ug/L	1.090	255.6	-0.1420
Se1960_A		1.668	ug/L	2.621	157.1	2.522
Si2516_R		4,286	ug/L	28.39	0.6624	1,532
Sn1899_A		0.7243	ug/L	1.179	162.7	2.320
Sr4215_R		509.8	ug/L	4.377	0.8586	29,660
Ti3349_A		-0.5680	ug/L	0.1092	19.23	-33.01
Tl1908_A		-0.5964	ug/L	0.2794	46.85	-2.631
V_2924_A		0.7099	ug/L	0.4278	60.27	0.3006
Zn2062_A		3.388	ug/L	0.2051	6.055	10.93
Y_3600_R		12,860	Cts/S	69.744	0.54233	12,860
Y_2243_A		7,735.9	Cts/S	60.638	0.78385	7,735.9
Y_3600_A		123,830	Cts/S	870.66	0.70311	123,830

TM3232-007

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:14:55PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3088	ug/L	0.001133	0.3670	9.922
Al3961_R		104.1	ug/L	2.744	2.637	152.5
As1891_A		-0.5939	ug/L	0.6413	108.0	-2.816
B_2089_A		13.09	ug/L	0.2769	2.115	19.57
Ba4554_R		73.97	ug/L	0.9109	1.231	3,334
Be3130_R		-0.1066	ug/L	0.1261	118.3	-10.76
Ca3158_R	W	125,200	ug/L	1,103	0.8814	109,000
Cd2265_A		0.04309	ug/L	0.01037	24.06	-1.859
Co2286_A		-0.04553	ug/L	0.09080	199.4	2.444
Cr2677_A		0.9231	ug/L	0.1968	21.32	13.60
Cu3273_A		5.050	ug/L	0.6122	12.12	30.80
Fe2599_R		115.4	ug/L	2.610	2.261	164.4
K_7664_R		1,008	ug/L	2.631	0.2610	394.4
Li6707_R		6.508	ug/L	1.492	22.92	16.34
Mg2025_A		17,990	ug/L	105.7	0.5876	4,958
Mn2576_R		14.55	ug/L	0.03455	0.2374	106.8
Mo2020_A		0.3270	ug/L	0.01265	3.869	1.220
Na5895_R	W	29,130	ug/L	271.6	0.9324	47,440
Ni2316_A		1.244	ug/L	0.2361	18.97	0.01669

TM3232-007

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:14:55PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-0.3837	ug/L	0.2760	71.94	-0.2455
Sb2068_A		-0.3204	ug/L	1.225	382.4	-0.09395
Se1960_A		3.066	ug/L	0.8379	27.33	2.840
Si2516_R		4,314	ug/L	33.75	0.7823	1,548
Sn1899_A		0.06534	ug/L	0.8737	1,337	2.004
Sr4215_R		452.3	ug/L	4.745	1.049	26,420
Ti3349_A		-0.6023	ug/L	0.03887	6.453	-33.17
Ti1908_A		-0.3063	ug/L	0.3301	107.8	-2.405
V_2924_A		0.2961	ug/L	0.1737	58.66	-3.299
Zn2062_A		5.997	ug/L	0.09929	1.656	18.37
Y_3600_R		12,913	Cts/S	17.516	0.13565	12,913
Y_2243_A		7,703.6	Cts/S	38.331	0.49758	7,703.6
Y_3600_A		121,850	Cts/S	387.39	0.31793	121,850

CCV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:19:18PM

Method Revision: 1,228

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		522.7	ug/L	5.757	1.101	7,593
Al3961_R		12,810	ug/L	26.52	0.2071	9,439
As1891_A		487.3	ug/L	12.35	2.533	173.7
B_2089_A		502.1	ug/L	12.34	2.458	646.0
Ba4554_R	W	533.8	ug/L	1.098	0.2058	24,010
Be3130_R	W	542.2	ug/L	1.580	0.2913	34,580
Ca3158_R		12,760	ug/L	60.16	0.4715	11,230
Cd2265_A		504.5	ug/L	12.75	2.526	5,900
Co2286_A		492.4	ug/L	12.09	2.455	1,540
Cr2677_A		520.0	ug/L	6.106	1.174	5,742
Cu3273_A	W	531.5	ug/L	6.822	1.284	5,714
Fe2599_R		12,880	ug/L	1.563	0.01213	18,220
K_7664_R		12,970	ug/L	35.58	0.2743	6,344
Li6707_R	W	528.1	ug/L	2.291	0.4339	4,801
Mg2025_A	W	11,820	ug/L	316.3	2.676	3,382
Mn2576_R		513.8	ug/L	0.8427	0.1640	3,442
Mo2020_A		495.2	ug/L	11.83	2.389	1,400
Na5895_R		13,030	ug/L	103.6	0.7952	21,500
Ni2316_A		506.6	ug/L	13.87	2.737	784.5
Pb2203_A		506.5	ug/L	14.24	2.811	439.0
Sb2068_A		512.7	ug/L	16.76	3.268	222.1
Se1960_A		489.7	ug/L	10.09	2.060	127.0
Si2516_R	W	13,550	ug/L	131.5	0.9706	4,830
Sn1899_A		500.4	ug/L	11.81	2.360	239.9
Sr4215_R		521.6	ug/L	2.109	0.4043	30,850
Ti3349_A		509.6	ug/L	4.034	0.7915	10,390
Ti1908_A		485.4	ug/L	12.09	2.490	240.9
V_2924_A	W	534.3	ug/L	9.224	1.726	5,383
Zn2062_A		502.4	ug/L	13.23	2.633	1,487
Y_3600_R		13,077	Cts/S	13.003	0.099433	13,077
Y_2243_A		7,951.8	Cts/S	140.99	1.7730	7,951.8
Y_3600_A		125,170	Cts/S	1,479.5	1.1820	125,170

CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:23:28PM

Method Revision: 1,228

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:23:28PM

Method Revision: 1,228

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1917	ug/L	0.09783	51.05	8.819
Al3961_R		7.763	ug/L	1.796	23.13	5.666
As1891_A		-1.646	ug/L	1.362	82.78	-3.250
B_2089_A		0.7142	ug/L	0.3229	45.21	4.678
Ba4554_R		0.4348	ug/L	0.1811	41.66	76.28
Be3130_R		-0.06936	ug/L	0.0001230	0.1773	-8.644
Ca3158_R		-3.014	ug/L	2.929	97.15	-31.18
Cd2265_A		0.1603	ug/L	0.06611	41.23	-0.7065
Co2286_A		-0.07328	ug/L	0.3047	415.8	2.414
Cr2677_A		-0.04122	ug/L	0.3190	773.8	3.324
Cu3273_A		-1.213	ug/L	0.01309	1.079	-36.12
Fe2599_R		2.761	ug/L	2.305	83.46	7.220
K_7664_R		15.79	ug/L	53.09	336.3	-94.20
Li6707_R		1.727	ug/L	0.7847	45.44	-27.49
Mg2025_A		0.1545	ug/L	0.3973	257.2	-4.267
Mn2576_R		-0.1761	ug/L	0.04017	22.81	6.083
Mo2020_A		1.156	ug/L	0.3876	33.52	3.568
Na5895_R		32.68	ug/L	21.37	65.37	70.08
Ni2316_A		0.6334	ug/L	0.05710	9.014	-0.9005
Pb2203_A		-0.8538	ug/L	1.018	119.3	-0.6534
Sb2068_A		-0.2958	ug/L	0.8551	289.1	-0.08691
Se1960_A		1.511	ug/L	1.279	84.69	2.510
Si2516_R		-0.7120	ug/L	15.58	2,188	45.36
Sn1899_A		-0.3722	ug/L	0.1799	48.32	1.844
Sr4215_R		-0.07478	ug/L	0.01553	20.77	-32.02
Ti3349_A		0.2258	ug/L	0.5363	237.5	-17.21
Tl1908_A		0.01652	ug/L	0.2159	1,306	-2.292
V_2924_A		-0.1561	ug/L	0.2365	151.5	-7.992
Zn2062_A		-0.2225	ug/L	0.02473	11.11	0.5376
Y_3600_R		13,173	Cts/S	111.85	0.84905	13,173
Y_2243_A		7,876.0	Cts/S	45.152	0.57328	7,876.0
Y_3600_A		125,570	Cts/S	227.73	0.18136	125,570

TM3232-008

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:27:51PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6647	ug/L	0.5747	86.47	15.13
Al3961_R		163.4	ug/L	1.487	0.9103	149.6
As1891_A		0.1249	ug/L	0.8852	708.6	-2.613
B_2089_A		2.180	ug/L	0.09523	4.368	6.443
Ba4554_R		23.13	ug/L	0.3744	1.619	1,104
Be3130_R		-0.08898	ug/L	0.06130	68.89	-9.897
Ca3158_R	W	45,240	ug/L	436.8	0.9654	40,250
Cd2265_A		0.2570	ug/L	0.02259	8.791	0.7372
Co2286_A		0.1865	ug/L	0.05037	27.00	3.201
Cr2677_A		0.9148	ug/L	0.02669	2.917	13.95
Cu3273_A		7.601	ug/L	0.1867	2.456	59.51
Fe2599_R		235.0	ug/L	3.159	1.344	338.7
K_7664_R		433.0	ug/L	34.26	7.913	114.7
Li6707_R		3.300	ug/L	1.266	38.37	-13.04
Mg2025_A		5,496	ug/L	18.79	0.3418	1,535
Mn2576_R		2.379	ug/L	0.2001	8.411	24.42
Mo2020_A		0.7492	ug/L	0.09100	12.15	2.413
Na5895_R		1,567	ug/L	15.76	1.006	2,624
Ni2316_A		0.7154	ug/L	0.04606	6.438	-0.7913

TM3232-008

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:27:51PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		2.465	ug/L	0.7236	29.35	2.181
Sb2068_A		1.663	ug/L	1.199	72.07	0.7536
Se1960_A		2.488	ug/L	1.437	57.79	2.736
Si2516_R		2,563	ug/L	36.81	1.436	958.8
Sn1899_A		0.5985	ug/L	0.3025	50.55	2.285
Sr4215_R		209.0	ug/L	1.174	0.5619	12,460
Ti3349_A		0.6342	ug/L	0.1508	23.77	-8.882
Ti1908_A		-1.141	ug/L	1.468	128.7	-2.846
V_2924_A		0.6410	ug/L	0.03737	5.830	0.1573
Zn2062_A		7.513	ug/L	0.04879	0.6494	23.07
Y_3600_R		13,199	Cts/S	70.209	0.53194	13,199
Y_2243_A		7,821.9	Cts/S	30.897	0.39501	7,821.9
Y_3600_A		125,890	Cts/S	356.83	0.28345	125,890

TM3232-009

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:32:14PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.02683	ug/L	0.09936	370.4	6.094
Al3961_R		60.68	ug/L	19.38	31.94	119.9
As1891_A		-1.185	ug/L	1.198	101.1	-3.040
B_2089_A		19.87	ug/L	0.1758	0.8848	27.92
Ba4554_R		81.91	ug/L	5.902	7.205	3,671
Be3130_R		-0.09100	ug/L	0.01153	12.67	-9.737
Ca3158_R	W	124,600	ug/L	8,419	6.755	108,100
Cd2265_A		0.1878	ug/L	0.05367	28.58	-0.2029
Co2286_A		0.1878	ug/L	0.2198	117.0	3.161
Cr2677_A		0.7802	ug/L	0.1701	21.80	12.51
Cu3273_A		7.855	ug/L	0.6205	7.900	62.49
Fe2599_R		130.9	ug/L	9.238	7.059	185.2
K_7664_R		1,549	ug/L	77.00	4.972	657.3
Li6707_R		4.610	ug/L	0.5112	11.09	-0.9612
Mg2025_A		10,680	ug/L	2.962	0.02775	2,953
Mn2576_R		15.71	ug/L	1.202	7.652	112.5
Mo2020_A		0.5328	ug/L	0.1104	20.72	1.792
Na5895_R		8,359	ug/L	568.8	6.805	13,570
Ni2316_A		0.7593	ug/L	0.2895	38.13	-0.7119
Pb2203_A		1.630	ug/L	0.1305	8.006	1.460
Sb2068_A		1.900	ug/L	0.1845	9.706	0.8430
Se1960_A		2.808	ug/L	2.535	90.29	2.789
Si2516_R		2,808	ug/L	203.4	7.245	1,019
Sn1899_A		0.8959	ug/L	0.6602	73.70	2.398
Sr4215_R	W	1,827	ug/L	126.4	6.916	106,400
Ti3349_A		-0.9954	ug/L	0.1189	11.94	-42.49
Ti1908_A		0.004616	ug/L	0.1572	3,405	-2.265
V_2924_A		-0.03593	ug/L	0.3869	1,077	-6.844
Zn2062_A		35.07	ug/L	0.1236	0.3525	102.3
Y_3600_R		12,880	Cts/S	580.50	4.5069	12,880
Y_2243_A		7,736.8	Cts/S	9.9700	0.12887	7,736.8
Y_3600_A		126,330	Cts/S	215.54	0.17061	126,330

TM3232-010

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:36:38PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3232-010

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:36:38PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3685	ug/L	0.2492	67.63	11.28
Al3961_R		71.34	ug/L	9.854	13.81	96.78
As1891_A		-0.8869	ug/L	1.555	175.3	-2.937
B_2089_A		10.61	ug/L	0.4826	4.548	16.70
Ba4554_R		48.15	ug/L	0.4617	0.9589	2,211
Be3130_R		-0.09705	ug/L	0.05900	60.79	-10.28
Ca3158_R	W	71,710	ug/L	931.2	1.299	63,050
Cd2265_A		0.1674	ug/L	0.004805	2.870	-0.5287
Co2286_A		-0.02082	ug/L	0.02986	143.4	2.539
Cr2677_A		0.8013	ug/L	0.1007	12.57	12.69
Cu3273_A		2.453	ug/L	0.07601	3.099	3.607
Fe2599_R		64.00	ug/L	1.238	1.935	93.52
K_7664_R		1,260	ug/L	23.74	1.884	523.4
Li6707_R		4.241	ug/L	1.160	27.36	-4.227
Mg2025_A		6,478	ug/L	22.31	0.3445	1,797
Mn2576_R		0.8496	ug/L	0.2279	26.83	14.16
Mo2020_A		0.4234	ug/L	0.05111	12.07	1.497
Na5895_R		2,931	ug/L	39.09	1.334	4,835
Ni2316_A		0.6645	ug/L	0.1147	17.27	-0.8534
Pb2203_A		-0.2668	ug/L	0.8236	308.7	-0.1474
Sb2068_A		-0.4905	ug/L	1.372	279.7	-0.1698
Se1960_A		1.328	ug/L	0.1307	9.836	2.429
Si2516_R		3,277	ug/L	43.03	1.313	1,198
Sn1899_A		0.2707	ug/L	0.3904	144.2	2.116
Sr4215_R		382.1	ug/L	3.747	0.9807	22,530
Ti3349_A		-0.4978	ug/L	0.07411	14.89	-32.15
Tl1908_A		-0.5196	ug/L	0.1437	27.66	-2.522
V_2924_A		0.06351	ug/L	0.3866	608.7	-5.756
Zn2062_A		29.92	ug/L	0.3284	1.098	87.73
Y_3600_R		13,040	Cts/S	39.855	0.30564	13,040
Y_2243_A		7,765.0	Cts/S	8.8828	0.11440	7,765.0
Y_3600_A		125,990	Cts/S	237.35	0.18839	125,990

TM3232-011

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:41:00PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6118	ug/L	0.03769	6.160	14.80
Al3961_R		67.26	ug/L	6.856	10.19	96.68
As1891_A		0.1495	ug/L	0.2752	184.1	-2.555
B_2089_A		7.136	ug/L	0.3975	5.571	12.39
Ba4554_R		26.23	ug/L	0.5910	2.253	1,238
Be3130_R		-0.04026	ug/L	0.05595	139.0	-6.670
Ca3158_R	W	75,430	ug/L	424.5	0.5628	66,710
Cd2265_A		0.1511	ug/L	0.02680	17.73	-0.6795
Co2286_A		0.2730	ug/L	0.04645	17.01	3.411
Cr2677_A		0.7607	ug/L	0.3221	42.34	12.29
Cu3273_A		2.025	ug/L	0.09348	4.616	-1.049
Fe2599_R		85.75	ug/L	1.309	1.527	124.9
K_7664_R		460.3	ug/L	39.77	8.640	127.6
Li6707_R		3.038	ug/L	0.6630	21.82	-15.32
Mg2025_A		9,583	ug/L	52.73	0.5502	2,644
Mn2576_R		61.63	ug/L	0.6878	1.116	422.6
Mo2020_A		0.9162	ug/L	0.1428	15.59	2.836
Na5895_R		3,886	ug/L	21.76	0.5601	6,444
Ni2316_A		0.7945	ug/L	0.08165	10.28	-0.6500

TM3232-011

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 12:41:00PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-0.6501	ug/L	0.05101	7.847	-0.4695
Sb2068_A		1.007	ug/L	1.725	171.3	0.4636
Se1960_A		1.377	ug/L	0.6860	49.82	2.434
Si2516_R		3,490	ug/L	11.57	0.3316	1,281
Sn1899_A		0.2658	ug/L	0.8295	312.0	2.102
Sr4215_R		362.4	ug/L	2.760	0.7614	21,500
Ti3349_A		-0.7014	ug/L	0.0005870	0.08369	-36.33
Ti1908_A		-1.592	ug/L	0.1491	9.365	-3.057
V_2924_A		0.4023	ug/L	0.006366	1.582	-2.528
Zn2062_A		2.315	ug/L	0.08472	3.660	7.819
Y_3600_R		13,117	Cts/S	77.274	0.58910	13,117
Y_2243_A		7,717.6	Cts/S	24.170	0.31318	7,717.6
Y_3600_A		126,000	Cts/S	924.88	0.73403	126,000

TM3232-012

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 12:45:24PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1556	ug/L	0.3663	235.4	7.532
Al3961_R		92.96	ug/L	9.423	10.14	132.2
As1891_A		-0.2517	ug/L	0.2548	101.2	-2.748
B_2089_A		10.89	ug/L	0.1692	1.553	17.16
Ba4554_R		87.75	ug/L	1.177	1.341	3,962
Be3130_R		-0.08497	ug/L	0.03513	41.35	-9.428
Ca3158_R	W	104,400	ug/L	1,417	1.357	91,310
Cd2265_A		0.06885	ug/L	0.1178	171.1	-1.380
Co2286_A		0.03003	ug/L	0.2182	726.6	2.709
Cr2677_A		0.6538	ug/L	0.1448	22.14	11.07
Cu3273_A		0.9300	ug/L	0.2002	21.52	-12.99
Fe2599_R		269.0	ug/L	4.949	1.840	380.5
K_7664_R		1,134	ug/L	22.26	1.962	458.5
Li6707_R		4.900	ug/L	1.921	39.21	1.754
Mg2025_A		13,920	ug/L	154.0	1.107	3,888
Mn2576_R		27.63	ug/L	0.7293	2.639	193.2
Mo2020_A		0.7722	ug/L	0.01568	2.030	2.474
Na5895_R		4,207	ug/L	41.73	0.9920	6,895
Ni2316_A		1.286	ug/L	0.2856	22.21	0.07086
Pb2203_A		0.7783	ug/L	0.01343	1.726	0.7429
Sb2068_A		0.8457	ug/L	1.943	229.7	0.3987
Se1960_A		3.171	ug/L	0.3092	9.750	2.908
Si2516_R		4,475	ug/L	54.67	1.222	1,611
Sn1899_A		0.3105	ug/L	0.1034	33.29	2.148
Sr4215_R		424.6	ug/L	5.507	1.297	24,910
Ti3349_A		-0.7586	ug/L	0.07175	9.457	-37.51
Ti1908_A		-0.5860	ug/L	0.6538	111.6	-2.586
V_2924_A		0.4064	ug/L	0.2187	53.81	-2.314
Zn2062_A		4.433	ug/L	0.004265	0.09620	14.08
Y_3600_R		12,969	Cts/S	31.679	0.24426	12,969
Y_2243_A		7,812.2	Cts/S	63.225	0.80932	7,812.2
Y_3600_A		125,970	Cts/S	1,873.2	1.4870	125,970

PBWML201CW2

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 12:49:46PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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PBWML20ICW2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:49:46PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4154	ug/L	0.2620	63.07	11.96
Al3961_R		5.071	ug/L	15.18	299.4	3.503
As1891_A		-0.03849	ug/L	0.4790	1,244	-2.601
B_2089_A		-0.4388	ug/L	0.03552	8.096	3.139
Ba4554_R		0.2062	ug/L	0.2503	121.4	64.79
Be3130_R		-0.05046	ug/L	0.05111	101.3	-7.242
Ca3158_R		0.1291	ug/L	2.378	1,842	-27.89
Cd2265_A		-0.02931	ug/L	0.04834	164.9	-2.815
Co2286_A		-0.05139	ug/L	0.04472	87.02	2.418
Cr2677_A		0.1032	ug/L	0.09166	88.81	4.893
Cu3273_A		-0.07842	ug/L	0.1195	152.3	-23.64
Fe2599_R		7.206	ug/L	0.7981	11.08	13.35
K_7664_R		8.949	ug/L	7.518	84.01	-96.13
Li6707_R		0.4913	ug/L	0.5639	114.8	-38.33
Mg2025_A		2.799	ug/L	0.2446	8.739	-3.436
Mn2576_R		-0.1527	ug/L	0.5847	382.8	6.107
Mo2020_A		0.07382	ug/L	0.1708	231.4	0.5248
Na5895_R		34.04	ug/L	9.720	28.56	71.40
Ni2316_A		0.2084	ug/L	0.08575	41.14	-1.523
Pb2203_A		-1.820	ug/L	1.881	103.3	-1.441
Sb2068_A		0.1048	ug/L	0.5455	520.5	0.08118
Se1960_A		2.006	ug/L	0.2914	14.53	2.568
Si2516_R		-24.63	ug/L	14.69	59.62	36.17
Sn1899_A		0.07170	ug/L	0.4688	653.8	2.002
Sr4215_R		-0.03734	ug/L	0.02274	60.92	-29.29
Ti3349_A		-0.4295	ug/L	0.02421	5.637	-30.40
Tl1908_A		0.1679	ug/L	0.2228	132.7	-2.161
V_2924_A		0.07857	ug/L	0.2536	322.7	-5.480
Zn2062_A		0.3588	ug/L	0.1173	32.68	2.187
Y_3600_R		12,954	Cts/S	200.87	1.5507	12,954
Y_2243_A		7,677.6	Cts/S	30.663	0.39938	7,677.6
Y_3600_A		124,540	Cts/S	1,813.0	1.4557	124,540

LCSWML20ICW2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/27/2019 12:54:10PM

Method Revision: 1,228

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		52.26	ug/L	0.02917	0.05581	785.8
Al3961_R		2,120	ug/L	10.30	0.4861	1,602
As1891_A		93.25	ug/L	1.427	1.530	31.12
B_2089_A		483.8	ug/L	4.455	0.9209	610.3
Ba4554_R		2,227	ug/L	0.1709	0.007673	102,500
Be3130_R	F	56.61	ug/L	0.2305	0.4072	3,701
Ca3158_R		2,424	ug/L	11.89	0.4904	2,163
Cd2265_A		249.1	ug/L	2.248	0.9026	2,895
Co2286_A		538.2	ug/L	4.593	0.8534	1,677
Cr2677_A		215.0	ug/L	0.2702	0.1257	2,457
Cu3273_A		274.6	ug/L	0.004662	0.001697	3,042
Fe2599_R		1,087	ug/L	10.05	0.9247	1,579
K_7664_R		9,852	ug/L	36.77	0.3732	4,917
Li6707_R		502.5	ug/L	1.221	0.2430	4,683
Mg2025_A		4,560	ug/L	37.07	0.8131	1,312
Mn2576_R		530.8	ug/L	2.973	0.5601	3,647
Mo2020_A		99.60	ug/L	1.028	1.032	280.8
Na5895_R		7,467	ug/L	23.81	0.3189	12,640
Ni2316_A		551.9	ug/L	6.216	1.126	848.2

LCSWML20ICW2

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 12:54:10PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		98.75	ug/L	1.355	1.372	85.43
Sb2068_A		99.27	ug/L	0.5246	0.5285	41.05
Se1960_A		95.67	ug/L	2.574	2.691	26.52
Si2516_R		1,038	ug/L	23.35	2.249	424.2
Sn1899_A		501.4	ug/L	4.099	0.8176	239.5
Sr4215_R		508.5	ug/L	0.3422	0.06729	30,850
Ti3349_A		479.5	ug/L	0.9056	0.1889	10,100
Ti1908_A		92.71	ug/L	1.150	1.241	44.57
V_2924_A		549.2	ug/L	1.037	0.1888	5,753
Zn2062_A		548.5	ug/L	5.444	0.9926	1,620
Y_3600_R		13,409	Cts/S	60.730	0.45289	13,409
Y_2243_A		7,924.2	Cts/S	30.681	0.38718	7,924.2
Y_3600_A		129,430	Cts/S	104.42	0.080675	129,430

TM2763-041

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 12:58:23PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6160	ug/L	0.2781	45.14	14.19
Al3961_R		17.99	ug/L	6.213	34.54	20.00
As1891_A		-0.8171	ug/L	0.01595	1.952	-2.824
B_2089_A		6.014	ug/L	0.1967	3.270	10.73
Ba4554_R		114.1	ug/L	0.9874	0.8655	4,985
Be3130_R		-0.06344	ug/L	0.009954	15.69	-7.857
Ca3158_R		12,310	ug/L	132.4	1.075	10,430
Cd2265_A		0.1118	ug/L	0.03507	31.36	-1.165
Co2286_A		1.651	ug/L	0.03514	2.128	7.400
Cr2677_A		0.2933	ug/L	0.1238	42.20	6.825
Cu3273_A		0.3215	ug/L	0.1689	52.53	-18.53
Fe2599_R		40.07	ug/L	1.350	3.370	57.71
K_7664_R		492.2	ug/L	42.62	8.659	137.7
Li6707_R		1.521	ug/L	0.5508	36.21	-28.10
Mg2025_A		1,662	ug/L	33.43	2.011	444.2
Mn2576_R		160.9	ug/L	0.08405	0.05224	1,043
Mo2020_A		-0.08151	ug/L	0.008746	10.73	0.09075
Na5895_R	F	337,600	ug/L	5,590	1.656	536,000
Ni2316_A		2.379	ug/L	0.4331	18.20	1.671
Pb2203_A		4.545	ug/L	0.6359	13.99	3.819
Sb2068_A		0.01713	ug/L	1.218	7,111	0.03960
Se1960_A		2.431	ug/L	0.3917	16.11	2.641
Si2516_R		451.6	ug/L	21.32	4.722	197.1
Sn1899_A		0.1636	ug/L	0.5816	355.4	2.007
Sr4215_R		78.08	ug/L	0.1834	0.2349	4,425
Ti3349_A		-0.4292	ug/L	0.2244	52.29	-29.13
Ti1908_A		-0.7994	ug/L	1.281	160.3	-2.649
V_2924_A		0.2756	ug/L	0.08544	31.00	-3.892
Zn2062_A		8.824	ug/L	0.1955	2.216	25.89
Y_3600_R		12,592	Cts/S	133.79	1.0624	12,592
Y_2243_A		7,531.5	Cts/S	119.60	1.5880	7,531.5
Y_3600_A		119,370	Cts/S	321.81	0.26959	119,370

TM2768-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 1:03:43PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM2768-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 1:03:43PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.05953	ug/L	0.3815	640.8	5.785
Al3961_R		-1.599	ug/L	5.996	375.0	3.391
As1891_A		-1.897	ug/L	0.4539	23.93	-3.239
B_2089_A		18.56	ug/L	0.4141	2.231	25.75
Ba4554_R		80.46	ug/L	0.5164	0.6418	3,542
Be3130_R		-0.09156	ug/L	0.03042	33.22	-9.603
Ca3158_R		7,691	ug/L	43.39	0.5641	6,524
Cd2265_A		0.03469	ug/L	0.03463	99.83	-1.635
Co2286_A		0.5755	ug/L	0.08466	14.71	4.245
Cr2677_A		0.9644	ug/L	0.1064	11.03	15.19
Cu3273_A		-0.4424	ug/L	0.5711	129.1	-26.87
Fe2599_R		325.2	ug/L	4.692	1.443	447.3
K_7664_R		757.8	ug/L	24.83	3.276	265.7
Li6707_R		2.386	ug/L	2.427	101.7	-20.57
Mg2025_A		3,697	ug/L	9.197	0.2488	997.8
Mn2576_R	W	1,402	ug/L	7.498	0.5348	9,061
Mo2020_A		0.2335	ug/L	0.07560	32.38	0.8713
Na5895_R	W	27,530	ug/L	144.5	0.5251	43,850
Ni2316_A		1.912	ug/L	0.03386	1.771	0.9814
Pb2203_A		-1.344	ug/L	0.1354	10.08	-1.029
Sb2068_A		-0.9797	ug/L	1.486	151.6	-0.3656
Se1960_A		0.5853	ug/L	0.3182	54.37	2.366
Si2516_R		2,771	ug/L	0.4835	0.01745	988.4
Sn1899_A		0.2930	ug/L	0.9273	316.5	2.072
Sr4215_R		23.69	ug/L	0.2010	0.8484	1,328
Ti3349_A		-0.7249	ug/L	0.06462	8.915	-35.42
Tl1908_A		-0.3309	ug/L	0.7759	234.4	-3.061
V_2924_A		0.1700	ug/L	0.4461	262.4	-9.219
Zn2062_A		43.44	ug/L	0.1578	0.3634	123.6
Y_3600_R		12,629	Cts/S	30.965	0.24520	12,629
Y_2243_A		7,567.8	Cts/S	21.964	0.29023	7,567.8
Y_3600_A		121,210	Cts/S	477.58	0.39402	121,210

TM3041-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 1:08:04PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4474	ug/L	0.4144	92.62	12.05
Al3961_R		2.889	ug/L	12.09	418.6	1.926
As1891_A		-1.431	ug/L	0.07745	5.411	-3.005
B_2089_A		2.914	ug/L	0.01791	0.6146	6.996
Ba4554_R		9.121	ug/L	0.1108	1.215	448.2
Be3130_R		-0.1144	ug/L	0.07085	61.95	-11.01
Ca3158_R		44.70	ug/L	1.765	3.950	10.71
Cd2265_A		0.03310	ug/L	0.02865	86.57	-2.061
Co2286_A		-0.1285	ug/L	0.1387	108.0	2.124
Cr2677_A		0.4035	ug/L	0.1393	34.52	7.912
Cu3273_A		-1.044	ug/L	0.06169	5.907	-32.88
Fe2599_R		4.951	ug/L	1.699	34.32	9.881
K_7664_R		60.58	ug/L	9.623	15.88	-68.72
Li6707_R		3.263	ug/L	0.5430	16.64	-12.71
Mg2025_A		4.030	ug/L	3.586	88.99	-3.007
Mn2576_R		0.5802	ug/L	0.8351	143.9	10.65
Mo2020_A		0.1619	ug/L	0.06466	39.93	0.7442
Na5895_R	F	360,300	ug/L	5,022	1.394	572,000
Ni2316_A		1.256	ug/L	0.09693	7.720	0.03714

TM3041-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 1:08:04PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		6.968	ug/L	0.4873	6.993	5.769
Sb2068_A		-0.2421	ug/L	0.7220	298.2	-0.5944
Se1960_A		0.2295	ug/L	0.2872	125.1	2.072
Si2516_R		-14.28	ug/L	0.4461	3.124	38.71
Sn1899_A		124.5	ug/L	1.761	1.414	57.48
Sr4215_R		0.2085	ug/L	0.05682	27.25	-14.44
Ti3349_A		-0.2937	ug/L	0.1146	39.03	-26.72
Tl1908_A		0.4550	ug/L	0.3237	71.13	-1.966
V_2924_A		0.1346	ug/L	0.01556	11.56	-4.782
Zn2062_A		5.875	ug/L	0.1408	2.397	17.46
Y_3600_R		12,589	Cts/S	137.56	1.0927	12,589
Y_2243_A		7,464.5	Cts/S	71.473	0.95751	7,464.5
Y_3600_A		120,380	Cts/S	306.33	0.25446	120,380

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 1:13:26PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A	W	528.6	ug/L	5.034	0.9523	7,478
Al3961_R		12,940	ug/L	48.39	0.3741	9,340
As1891_A		498.1	ug/L	7.925	1.591	172.6
B_2089_A		514.3	ug/L	9.187	1.786	642.9
Ba4554_R	W	536.9	ug/L	1.759	0.3276	23,660
Be3130_R	W	551.3	ug/L	1.703	0.3089	34,450
Ca3158_R		12,840	ug/L	57.37	0.4468	11,070
Cd2265_A		520.7	ug/L	9.061	1.740	5,916
Co2286_A		504.7	ug/L	9.011	1.785	1,534
Cr2677_A	W	531.6	ug/L	5.772	1.086	5,716
Cu3273_A	W	541.2	ug/L	3.083	0.5697	5,667
Fe2599_R		12,970	ug/L	78.27	0.6033	17,980
K_7664_R		13,010	ug/L	85.69	0.6586	6,235
Li6707_R	W	533.4	ug/L	0.9992	0.1873	4,751
Mg2025_A		11,960	ug/L	247.5	2.070	3,326
Mn2576_R		515.3	ug/L	1.085	0.2105	3,381
Mo2020_A		508.3	ug/L	8.009	1.576	1,396
Na5895_R	W	13,240	ug/L	84.12	0.6351	21,410
Ni2316_A		522.5	ug/L	8.929	1.709	786.3
Pb2203_A		520.9	ug/L	9.364	1.798	438.6
Sb2068_A	W	528.1	ug/L	8.898	1.685	222.3
Se1960_A		500.8	ug/L	10.31	2.059	126.2
Si2516_R	W	13,850	ug/L	34.17	0.2467	4,837
Sn1899_A		514.2	ug/L	10.28	2.000	239.4
Sr4215_R	W	527.6	ug/L	1.794	0.3400	30,580
Ti3349_A		521.1	ug/L	4.547	0.8728	10,340
Tl1908_A		491.1	ug/L	7.717	1.571	236.9
V_2924_A	W	551.5	ug/L	3.079	0.5582	5,412
Zn2062_A		518.6	ug/L	9.555	1.842	1,492
Y_3600_R		12,811	Cts/S	32.598	0.25446	12,811
Y_2243_A		7,725.7	Cts/S	80.707	1.0446	7,725.7
Y_3600_A		121,900	Cts/S	780.25	0.64010	121,900

CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 1:17:35PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 1:17:35PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6548	ug/L	0.2047	31.26	15.62
Al3961_R		-3.755	ug/L	3.971	105.8	-2.822
As1891_A		-0.7772	ug/L	1.508	194.0	-2.860
B_2089_A		0.1459	ug/L	0.08438	57.83	3.878
Ba4554_R		0.3929	ug/L	0.2254	57.38	73.34
Be3130_R		-0.08127	ug/L	0.01215	14.95	-9.258
Ca3158_R		-6.997	ug/L	1.073	15.34	-34.22
Cd2265_A		0.06918	ug/L	0.01980	28.62	-1.712
Co2286_A		0.1656	ug/L	0.001396	0.8428	3.072
Cr2677_A		0.01436	ug/L	0.2938	2,047	3.941
Cu3273_A		-1.169	ug/L	0.07168	6.132	-35.69
Fe2599_R		3.494	ug/L	1.351	38.66	8.163
K_7664_R		30.06	ug/L	24.62	81.92	-85.94
Li6707_R		2.125	ug/L	1.625	76.48	-23.53
Mg2025_A		1.159	ug/L	0.1215	10.48	-3.873
Mn2576_R		-0.3656	ug/L	0.4780	130.7	4.745
Mo2020_A		1.317	ug/L	0.3558	27.02	3.921
Na5895_R		38.68	ug/L	13.09	33.85	79.08
Ni2316_A		0.2971	ug/L	0.2076	69.89	-1.377
Pb2203_A		-1.234	ug/L	0.01119	0.9068	-0.9528
Sb2068_A		-0.2355	ug/L	1.123	476.8	-0.06017
Se1960_A		0.4195	ug/L	1.375	327.8	2.176
Si2516_R		12.65	ug/L	21.07	166.5	49.36
Sn1899_A		-0.1254	ug/L	0.2841	226.6	1.910
Sr4215_R		-0.03071	ug/L	0.01173	38.20	-28.98
Ti3349_A		-0.1497	ug/L	0.2649	176.9	-24.93
Tl1908_A		0.5181	ug/L	0.8627	166.5	-1.990
V_2924_A		-0.1249	ug/L	0.2851	228.3	-7.700
Zn2062_A		-0.1662	ug/L	0.1118	67.30	0.6839
Y_3600_R		12,985	Cts/S	42.035	0.32372	12,985
Y_2243_A		7,677.2	Cts/S	34.987	0.45573	7,677.2
Y_3600_A		125,740	Cts/S	513.10	0.40808	125,740

TM3041-002

Method Name: FAST-2016_NO_AU

Method Revision: 1,228

Analyst Name: RS

Acquire Date: 12/27/2019 1:21:58PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		1.186	ug/L	0.01910	1.611	-172.0
Al3961_R		18,830	ug/L	11.81	0.06271	13,400
As1891_A		7.299	ug/L	0.8028	11.00	-6.635
B_2089_A	W	1,095	ug/L	10.91	0.9964	1,303
Ba4554_R		210.8	ug/L	0.7758	0.3681	9,198
Be3130_R		-0.09903	ug/L	0.07951	80.29	-10.19
Ca3158_R		14,850	ug/L	10.72	0.07216	12,640
Cd2265_A		0.4686	ug/L	0.04014	8.566	100.4
Co2286_A		13.04	ug/L	0.3221	2.471	42.06
Cr2677_A		46.59	ug/L	0.02467	0.05296	494.3
Cu3273_A		3.999	ug/L	0.5305	13.27	9.961
Fe2599_R	W	72,170	ug/L	107.9	0.1495	98,660
K_7664_R		8,944	ug/L	62.11	0.6944	4,199
Li6707_R		10.44	ug/L	1.933	18.52	50.90
Mg2025_A		1,773	ug/L	17.77	1.002	481.4
Mn2576_R		901.6	ug/L	0.7083	0.07856	5,822
Mo2020_A		-0.3994	ug/L	0.2955	73.99	-0.7999
Na5895_R	F	414,400	ug/L	707.4	0.1707	660,500
Ni2316_A		178.4	ug/L	2.250	1.261	254.1

KATAHDIN ANALYTICAL SERVICES, LLC METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: I (Thermo iCAP 6500)

ANALYST: RS

ANALYSIS DATE: 12/30/2019

METHOD: ICP

FILE NAME: IML30A

200.7

6010

DOD

The pHs of all samples that were tested by direct analysis in this analytical run were checked just prior to analysis and confirmed to be <2. The time of preservation of these samples was checked in the "Measured Turbidity and Preservation of Incoming Samples" logbook to verify that they had been preserved at least 16 hours prior to analysis. These verifications were performed by RS (initials) on 12/27/19 (date).

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
Cal. Blk/ICB/CCB	MW19013	12/11/2019	12/11/2020	0 ug/L
Standard 1	MW19012	12/10/2019	01/31/2020	Varies by Element
ICV	MW19010	12/06/2019	02/04/2020	Varies by Element
PQL	MW18995	12/03/2019	01/31/2020	Varies by Element
LRS1	MW19026	12/18/2019	01/31/2020	Varies by Element
LRS2	MW19022	12/17/2019	03/17/2020	Varies by Element
ICSA	MW19045	12/30/2019	03/30/2020	Varies by Element
ICSAB	MW19043	12/30/2019	02/04/2020	Varies by Element
CCV	MW19046	12/30/2019	03/31/2020	Varies by Element
Internal Standard	MW19014	12/11/2019	03/11/2020	5.0 mg/L Yttrium

Additional Comments and Notes:

REVIEWED
 mc 1/9/20
 KATAHDIN ANALYTICAL
 METALS SECTION

Dilutions: Some samples were diluted based on history or due to interfering element concentrations.

Dilution preparations are as follows:

2x diln.: 4.0mL of sample (pipet M23) + 4.0mL of MW19013(pipet M23)

5x diln.: 1.6mL of sample (pipet M23) + 6.4mL of MW19013 (pipet M23)

10x diln.: 1.0mL of sample (pipet M19) + 9.0mL of MW19013 (pipet M23)

Post Spike: 0.04mL of MS2125, MS2151 (pipet M16), 0.08mL of MS2111 (pipet M16), 0.004mL of MS2109(pipet M17) to 8.0mL of sample (pipet M23) (Unless otherwise specified)

INSTRUMENT RUNLOG

Instrument: ICAP 6500

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Blank	1.000	IML30A	12/30/2019	12:45	RS
Std 1	1.000	IML30A	12/30/2019	12:50	RS
ICV	1.000	IML30A	12/30/2019	12:54	RS
ICB	1.000	IML30A	12/30/2019	12:58	RS
PQL	1.000	IML30A	12/30/2019	13:02	RS
ICSA	1.000	IML30A	12/30/2019	13:07	RS
ICSAB	1.000	IML30A	12/30/2019	13:12	RS
CCV	1.000	IML30A	12/30/2019	13:17	RS
CCB	1.000	IML30A	12/30/2019	13:21	RS
LRS1	1.000	IML30A	12/30/2019	13:26	RS
LRS2	1.000	IML30A	12/30/2019	13:33	RS
CCV	1.000	IML30A	12/30/2019	13:39	RS
CCB	1.000	IML30A	12/30/2019	13:43	RS
PBWML27ICW2	1.000	IML30A	12/30/2019	13:47	RS
LCSWML27ICW2	1.000	IML30A	12/30/2019	13:52	RS
TM3476-001	1.000	IML30A	12/30/2019	13:56	RS
TM3476-002	1.000	IML30A	12/30/2019	14:01	RS
TM3476-003	1.000	IML30A	12/30/2019	14:07	RS
TM3476-004	1.000	IML30A	12/30/2019	14:12	RS
TM3476-005	1.000	IML30A	12/30/2019	14:17	RS
TM2888-034	1.000	IML30A	12/30/2019	14:22	RS
PBWML27ICW3	1.000	IML30A	12/30/2019	14:27	RS
LCSWML27ICW3	1.000	IML30A	12/30/2019	14:32	RS
CCV	1.000	IML30A	12/30/2019	14:36	RS
CCB	1.000	IML30A	12/30/2019	14:40	RS
PBT1604A	1.000	IML30A	12/30/2019	14:44	RS
TM3409-001	1.000	IML30A	12/30/2019	14:49	RS
TM3461-001	1.000	IML30A	12/30/2019	14:54	RS
PBSML23ICS1	1.000	IML30A	12/30/2019	14:58	RS
LCSOML23ICS1	1.000	IML30A	12/30/2019	15:02	RS
LC2OML23ICS1	1.000	IML30A	12/30/2019	15:07	RS
TM2881-007	1.000	IML30A	12/30/2019	15:11	RS
TM2881-011	1.000	IML30A	12/30/2019	15:15	RS
TM2998-001	2.000	IML30A	12/30/2019	15:19	RS
TM2998-002	5.000	IML30A	12/30/2019	15:24	RS
CCV	1.000	IML30A	12/30/2019	15:28	RS
CCB	1.000	IML30A	12/30/2019	15:32	RS
TM2998-003	2.000	IML30A	12/30/2019	15:37	RS
TM2998-003L	10.000	IML30A	12/30/2019	15:41	RS
TM2998-003A	2.000	IML30A	12/30/2019	15:45	RS
TM2998-003S	2.000	IML30A	12/30/2019	15:50	RS
TM2998-003P	2.000	IML30A	12/30/2019	15:54	RS
TM2998-004	5.000	IML30A	12/30/2019	15:58	RS
TM2998-005	1.000	IML30A	12/30/2019	16:03	RS

SAMPLE ID	IN	OUT	DATE	TIME	ANALYST
TM2998-006	12/30	12/30A	12/30/2019	16:08	RS
TM3329-001	12/30	12/30A	12/30/2019	16:12	RS
PBWML23ICW1	12/30	12/30A	12/30/2019	16:16	RS
CCV	12/30	12/30A	12/30/2019	16:21	RS
CCB	12/30	12/30A	12/30/2019	16:25	RS
LCSWML23ICW1	12/30	12/30A	12/30/2019	16:29	RS
TM3326-001	12/30	12/30A	12/30/2019	16:33	RS
PBWML23ICW2	12/30	12/30A	12/30/2019	16:38	RS
LCSWML24ICW2	12/30	12/30A	12/30/2019	16:42	RS
TM3363-001	12/30	12/30A	12/30/2019	16:46	RS
TM3403-001	12/30	12/30A	12/30/2019	16:51	RS
TM3403-002	12/30	12/30A	12/30/2019	16:56	RS
TM3403-003	12/30	12/30A	12/30/2019	17:00	RS
TM3403-004	12/30	12/30A	12/30/2019	17:04	RS
LCSWML24ICW1	12/30	12/30A	12/30/2019	17:09	RS
CCV	12/30	12/30A	12/30/2019	17:13	RS
CCB	12/30	12/30A	12/30/2019	17:17	RS
PRSMPL24ICS1	12/30	12/30A	12/30/2019	17:21	RS
LCSWML24ICS1	12/30	12/30A	12/30/2019	17:26	RS
TM3366-010	12/30	12/30A	12/30/2019	17:30	RS
TM3426-001	12/30	12/30A	12/30/2019	17:34	RS
TM3326-001L	5/20/19	5/20A	5/20/2019	17:39	RS
TM3326-001A	12/30	12/30A	12/30/2019	17:43	RS
TM3326-001S	12/30	12/30A	12/30/2019	17:47	RS
TM3326-001P	12/30	12/30A	12/30/2019	17:51	RS
TM3326-001B	5/20/19	5/20A	5/20/2019	17:56	RS
PBWML24ICW1	12/30	12/30A	12/30/2019	18:00	RS
CCV	12/30	12/30A	12/30/2019	18:04	RS
CCB	12/30	12/30A	12/30/2019	18:09	RS
LCSWML26ICW1	12/30	12/30A	12/30/2019	18:13	RS
LCSWML24ICW1	12/30	12/30A	12/30/2019	18:17	RS
TM3326-001	12/30	12/30A	12/30/2019	18:21	RS
LCSWML24ICW1	12/30	12/30A	12/30/2019	18:26	RS
LCSWML27ICW1	12/30	12/30A	12/30/2019	18:31	RS
TM3326-001	12/30	12/30A	12/30/2019	18:35	RS
TM3326-004	12/30	12/30A	12/30/2019	18:39	RS
TM3326-004	12/30	12/30A	12/30/2019	18:44	RS
PBWML220ICW2	12/30	12/30A	12/30/2019	18:48	RS
LCSWML24ICW1	12/30	12/30A	12/30/2019	18:52	RS
CCV	12/30	12/30A	12/30/2019	18:56	RS
CCB	12/30	12/30A	12/30/2019	19:01	RS
TM3326-001	12/30	12/30A	12/30/2019	19:05	RS
LCSWML24ICW1	12/30	12/30A	12/30/2019	19:09	RS
LCSWML24ICW1	12/30	12/30A	12/30/2019	19:14	RS
LCSWML24ICW1	12/30	12/30A	12/30/2019	19:18	RS
PBWML24ICW1	12/30	12/30A	12/30/2019	19:23	RS
LCSWML24ICW1	12/30	12/30A	12/30/2019	19:27	RS

SAMPLE NAME	1	2	3	4	5	6	7	8	9	TIME	ANALYST
IDLN	1	1	1	A	12	19				19:32	RS
IDL7	1	1	1	A	12	19				19:36	RS
IDL8	1	1	1	A	12	19				19:40	RS
CCV	1	1	1	A	12	19				19:45	RS
CCB	1	1	1	A	12	19				19:49	RS
PQL	1	1	1	A	12	19				19:53	RS
ICSA	1	1	1	A	12	19				19:58	RS
ICSA	1	1	1	A	12	19				20:03	RS
CCV	1	1	1	A	12	19				20:08	RS
CCV	1	1	1	A	12	19				20:13	RS

Intensity Report

Author:

Published: 12/31/2019 9:40:45AM

Notes:

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Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 12:45:45PM

Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.0001100	Cts/S	0.00002500	23.06	13.84
Al3961_R		-0.0004800	Cts/S	0.0003960	82.45	-6.243
As1891_A		-0.0003530	Cts/S	0.00002200	6.147	-2.866
B_2089_A		0.0004420	Cts/S	0.0001270	28.65	3.589
Ba4554_R		0.004429	Cts/S	0.0005340	12.06	57.55
Be3130_R		-0.0006970	Cts/S	0.00008800	12.63	-9.053
Ca3158_R		-0.002675	Cts/S	0.0002370	8.864	-34.74
Cd2265_A		-0.0002310	Cts/S	0.00007500	32.63	-1.875
Co2286_A		0.0002610	Cts/S	0.00003800	14.43	2.120
Cr2677_A		0.00001900	Cts/S	0.0000	0.3685	2.454
Cu3273_A		-0.0002270	Cts/S	0.00001900	8.191	-28.67
Fe2599_R		0.0002940	Cts/S	0.0002990	101.8	3.827
K_7664_R		-0.007803	Cts/S	0.001135	14.55	-101.3
Li6707_R		-0.002621	Cts/S	0.0002240	8.533	-34.05
Mg2025_A		-0.0005820	Cts/S	0.0002010	34.58	-4.730
Mn2576_R		0.0003320	Cts/S	0.00003200	9.728	4.309
Mo2020_A		0.0001080	Cts/S	0.00002600	24.54	0.8773
Na5895_R		0.001372	Cts/S	0.001984	144.6	17.76
Ni2316_A		-0.00004700	Cts/S	0.00009000	192.7	-0.3788
Pb2203_A		-0.00005900	Cts/S	0.00004200	70.09	-0.4812
Sb2068_A		0.000006000	Cts/S	0.00005000	851.6	-0.04763
Se1960_A		0.0002750	Cts/S	0.00006600	24.16	2.237
Si2516_R		0.002740	Cts/S	0.0001420	5.184	35.60
Sn1899_A		0.0002450	Cts/S	0.00003900	15.85	1.993
Sr4215_R		-0.002642	Cts/S	0.00002900	1.103	-34.32
Ti3349_A		-0.0002460	Cts/S	0.000001000	0.5563	-31.09
Tl1908_A		-0.0002700	Cts/S	0.00001100	3.991	-2.194
V_2924_A		-0.00004000	Cts/S	0.00004300	105.2	-5.099
Zn2062_A		0.00006200	Cts/S	0.000009000	14.66	0.5024
Y_3600_R		12,990	Cts/S	54.155	0.41690	12,990
Y_2243_A		8,126.8	Cts/S	0.16490	0.0020290	8,126.8
Y_3600_A		126,430	Cts/S	712.63	0.56365	126,430

Std 1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 12:50:08PM

Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1222	Cts/S	0.0002060	0.1684	14,830
Al3961_R		1.514	Cts/S	0.009740	0.6434	19,550
As1891_A		0.04482	Cts/S	0.00001400	0.03077	348.6
B_2089_A		0.1666	Cts/S	0.0002030	0.1219	1,296
Ba4554_R		3.722	Cts/S	0.03311	0.8894	48,070
Be3130_R		5.357	Cts/S	0.001929	0.03602	69,180
Ca3158_R		1.786	Cts/S	0.006021	0.3371	23,070
Cd2265_A		1.500	Cts/S	0.002255	0.1503	11,670
Co2286_A		0.3906	Cts/S	0.001150	0.2944	3,038
Cr2677_A		0.09223	Cts/S	0.0003100	0.3356	11,190
Cu3273_A		0.09427	Cts/S	0.0001170	0.1242	11,440
Fe2599_R		2.888	Cts/S	0.01468	0.5083	37,300
K_7664_R		1.009	Cts/S	0.001922	0.1905	13,030
Li6707_R		0.7697	Cts/S	0.006756	0.8778	9,940

Std 1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 12:50:08PM

Method Revision: 1,230

Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Mg2025_A		0.9109	Cts/S	0.002000	0.2196	7,085
Mn2576_R		0.5133	Cts/S	0.001926	0.3752	6,628
Mo2020_A		0.3596	Cts/S	0.0001900	0.05288	2,797
Na5895_R		3.434	Cts/S	0.008051	0.2344	44,350
Ni2316_A		0.1981	Cts/S	0.0001860	0.09399	1,541
Pb2203_A		0.1119	Cts/S	0.00008600	0.07720	870.7
Sb2068_A		0.05727	Cts/S	0.0001520	0.2651	445.5
Se1960_A		0.03236	Cts/S	0.0001860	0.5745	251.7
Si2516_R		0.7616	Cts/S	0.003167	0.4158	9,835
Sn1899_A		0.06173	Cts/S	0.00008500	0.1372	480.2
Sr4215_R		4.960	Cts/S	0.02813	0.5671	64,050
Ti3349_A		0.1712	Cts/S	0.0001590	0.09266	20,770
Ti1908_A		0.05763	Cts/S	0.00005100	0.08885	448.2
V_2924_A		0.08710	Cts/S	0.0001120	0.1286	10,570
Zn2062_A		0.3746	Cts/S	0.00007100	0.01883	2,914
Y_3600_R		12,914	Cts/S	101.08	0.78271	12,914
Y_2243_A		7,778.2	Cts/S	4.6456	0.059725	7,778.2
Y_3600_A		121,330	Cts/S	197.84	0.16306	121,330

ICV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 12:54:15PM

Method Revision: 1,230

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		402.8	ug/L	0.8502	0.2111	6,150
Al3961_R		9,599	ug/L	26.89	0.2802	7,623
As1891_A		382.1	ug/L	4.829	1.264	135.6
B_2089_A		395.2	ug/L	3.724	0.9424	530.5
Ba4554_R		401.9	ug/L	1.842	0.4583	19,660
Be3130_R		408.7	ug/L	0.8638	0.2114	28,720
Ca3158_R		9,838	ug/L	41.86	0.4254	9,202
Cd2265_A		394.8	ug/L	4.026	1.020	4,750
Co2286_A		401.5	ug/L	5.031	1.253	1,259
Cr2677_A		402.6	ug/L	0.9769	0.2427	4,633
Cu3273_A		396.3	ug/L	0.5900	0.1489	4,644
Fe2599_R		9,809	ug/L	9.145	0.09324	14,870
K_7664_R		13,390	ug/L	3.496	0.02612	7,039
Li6707_R		392.2	ug/L	3.132	0.7985	3,940
Mg2025_A	W	9,455	ug/L	112.2	1.186	2,762
Mn2576_R		403.6	ug/L	0.9695	0.2402	2,721
Mo2020_A		397.7	ug/L	4.075	1.025	1,148
Na5895_R		9,748	ug/L	11.20	0.1149	17,580
Ni2316_A		396.6	ug/L	4.574	1.153	630.1
Pb2203_A		395.9	ug/L	4.323	1.092	355.2
Sb2068_A		390.6	ug/L	3.929	1.006	179.5
Se1960_A		394.5	ug/L	6.280	1.592	103.7
Si2516_R		9,992	ug/L	26.90	0.2692	3,937
Sn1899_A		389.5	ug/L	4.215	1.082	194.1
Sr4215_R		401.7	ug/L	0.0007770	0.0001930	26,120
Ti3349_A		398.7	ug/L	0.4896	0.1228	8,495
Ti1908_A		393.0	ug/L	3.863	0.9829	180.4
V_2924_A		396.8	ug/L	0.5087	0.1282	4,308
Zn2062_A		398.0	ug/L	4.934	1.240	1,197
Y_3600_R		13,120	Cts/S	46.152	0.35177	13,120
Y_2243_A		8,023.2	Cts/S	63.620	0.79295	8,023.2
Y_3600_A		124,740	Cts/S	434.86	0.34861	124,740

ICB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 12:58:25PM

Method Revision: 1,230

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.2887	ug/L	0.7641	264.7	9.190
Al3961_R		8.813	ug/L	0.8034	9.115	0.7147
As1891_A		-0.5127	ug/L	1.878	366.3	-2.989
B_2089_A		1.220	ug/L	0.4501	36.91	5.108
Ba4554_R		0.1555	ug/L	0.3079	198.1	65.30
Be3130_R		0.007881	ug/L	0.02376	301.5	-8.556
Ca3158_R		-0.2196	ug/L	10.01	4,558	-35.09
Cd2265_A		-0.01088	ug/L	0.01817	167.0	-1.962
Co2286_A		0.1128	ug/L	0.01174	10.41	2.425
Cr2677_A		0.02348	ug/L	0.3416	1,455	2.678
Cu3273_A		-0.07882	ug/L	0.1431	181.6	-29.08
Fe2599_R		0.4041	ug/L	0.7876	194.9	4.452
K_7664_R		7.770	ug/L	3.481	44.81	-97.72
Li6707_R		0.8118	ug/L	0.08562	10.55	-26.03
Mg2025_A		0.9166	ug/L	2.196	239.6	-4.354
Mn2576_R		-0.1347	ug/L	0.2071	153.7	3.431
Mo2020_A		0.7415	ug/L	0.1398	18.86	2.977
Na5895_R		-1.139	ug/L	1.266	111.1	15.85
Ni2316_A		0.06920	ug/L	0.4649	671.9	-0.2539
Pb2203_A		-1.063	ug/L	1.009	94.99	-1.421
Sb2068_A		0.4726	ug/L	0.6172	130.6	0.1694
Se1960_A		1.114	ug/L	0.8193	73.56	2.471
Si2516_R		5.399	ug/L	20.78	384.9	37.90
Sn1899_A		0.09424	ug/L	0.2852	302.6	1.995
Sr4215_R		0.1652	ug/L	0.05917	35.82	-23.77
Ti3349_A		0.3452	ug/L	0.02483	7.194	-23.18
Tl1908_A		-1.491	ug/L	0.1752	11.75	-2.830
V_2924_A		0.04963	ug/L	0.2480	499.7	-4.523
Zn2062_A		-0.05277	ug/L	0.05982	113.4	0.3340
Y_3600_R		13,053	Cts/S	101.23	0.77552	13,053
Y_2243_A		7,948.7	Cts/S	2.7766	0.034931	7,948.7
Y_3600_A		124,150	Cts/S	38.412	0.030941	124,150

PQL

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 1:02:49PM

Method Revision: 1,230

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		9.936	ug/L	0.4127	4.154	161.7
Al3961_R		313.0	ug/L	8.077	2.581	237.4
As1891_A		7.612	ug/L	0.9293	12.21	-0.06248
B_2089_A		52.42	ug/L	0.7240	1.381	71.47
Ba4554_R		5.381	ug/L	0.1131	2.101	314.1
Be3130_R		5.335	ug/L	0.03205	0.6008	358.2
Ca3158_R		103.3	ug/L	2.301	2.229	60.61
Cd2265_A		5.167	ug/L	0.04912	0.9507	59.65
Co2286_A		10.67	ug/L	0.2502	2.345	35.15
Cr2677_A		10.58	ug/L	0.1265	1.197	121.3
Cu3273_A		26.07	ug/L	0.3211	1.231	272.9
Fe2599_R		105.6	ug/L	0.2734	0.2590	160.6
K_7664_R		1,052	ug/L	21.26	2.022	449.5
Li6707_R		107.7	ug/L	1.054	0.9782	1,036
Mg2025_A		98.16	ug/L	4.063	4.139	24.08
Mn2576_R		5.559	ug/L	0.4860	8.744	40.90
Mo2020_A		10.54	ug/L	0.2314	2.196	30.91
Na5895_R		1,024	ug/L	4.838	0.4727	1,825
Ni2316_A		10.44	ug/L	0.3303	3.165	16.05

PQL

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:02:49PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		5.577	ug/L	0.05090	0.9127	4.473
Sb2068_A		8.078	ug/L	0.9290	11.50	3.184
Se1960_A		8.898	ug/L	4.940	55.51	4.442
Si2516_R		226.2	ug/L	18.03	7.970	121.8
Sn1899_A		101.5	ug/L	2.163	2.132	51.44
Sr4215_R		10.78	ug/L	0.2986	2.769	653.9
Ti3349_A		16.13	ug/L	0.2785	1.727	307.0
Ti1908_A		15.86	ug/L	0.8691	5.479	5.145
V_2924_A		10.87	ug/L	0.1871	1.722	110.6
Zn2062_A		20.81	ug/L	0.3278	1.575	62.37
Y_3600_R		12,856	Cts/S	16.350	0.12718	12,856
Y_2243_A		7,935.9	Cts/S	107.18	1.3506	7,935.9
Y_3600_A		121,960	Cts/S	17.889	0.014669	121,960

ICSA

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:07:13PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		2.862	ug/L	1.505	52.60	-481.3
Al3961_R		478,400	ug/L	4,774	0.9979	367,900
As1891_A		-2.700	ug/L	2.441	90.43	-12.81
B_2089_A		-0.9567	ug/L	0.3310	34.60	1.912
Ba4554_R		0.3341	ug/L	0.02531	7.575	72.11
Be3130_R		-0.04354	ug/L	0.1004	230.5	-11.93
Ca3158_R		462,000	ug/L	7,948	1.720	420,300
Cd2265_A		0.4703	ug/L	0.4358	92.68	242.5
Co2286_A		-0.5410	ug/L	0.1179	21.80	2.523
Cr2677_A		-1.044	ug/L	0.1209	11.58	-9.810
Cu3273_A		-0.7772	ug/L	0.1936	24.91	-21.50
Fe2599_R		180,200	ug/L	1,879	1.043	264,700
K_7664_R		-20.84	ug/L	21.22	101.9	-110.0
Li6707_R		6.094	ug/L	0.6696	10.99	26.50
Mg2025_A		493,100	ug/L	3,280	0.6651	122,700
Mn2576_R		-0.4164	ug/L	0.2550	61.24	2.277
Mo2020_A		-2.226	ug/L	0.3651	16.40	-4.752
Na5895_R		17.67	ug/L	3.453	19.54	48.31
Ni2316_A		1.190	ug/L	0.4852	40.78	-10.51
Pb2203_A		0.7848	ug/L	0.05894	7.511	-33.28
Sb2068_A		0.7756	ug/L	1.102	142.1	2.220
Se1960_A		-2.964	ug/L	3.476	117.3	4.169
Si2516_R		8.483	ug/L	18.87	222.5	28.47
Sn1899_A		9.667	ug/L	0.06982	0.7222	5.767
Sr4215_R	W	4.439	ug/L	0.1808	4.072	246.4
Ti3349_A		0.5866	ug/L	0.4948	84.36	-16.35
Ti1908_A		0.8732	ug/L	0.02792	3.197	-1.113
V_2924_A		-1.398	ug/L	0.06058	4.333	4.336
Zn2062_A		1.301	ug/L	0.3774	29.01	3.782
Y_3600_R		12,714	Cts/S	49.265	0.38750	12,714
Y_2243_A		6,868.9	Cts/S	57.479	0.83680	6,868.9
Y_3600_A		112,020	Cts/S	444.21	0.39654	112,020

ICSAB

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:12:36PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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ICSAB

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:12:36PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		216.3	ug/L	1.004	0.4641	2,472
Al3961_R		476,400	ug/L	1,324	0.2778	367,200
As1891_A		104.8	ug/L	2.424	2.312	21.24
B_2089_A		504.1	ug/L	10.18	2.018	594.5
Ba4554_R		498.8	ug/L	2.614	0.5240	23,690
Be3130_R		494.9	ug/L	2.082	0.4206	33,780
Ca3158_R		459,500	ug/L	2,010	0.4375	419,000
Cd2265_A		954.3	ug/L	18.37	1.925	10,320
Co2286_A		479.5	ug/L	8.914	1.859	1,326
Cr2677_A		477.7	ug/L	2.430	0.5087	4,986
Cu3273_A		516.6	ug/L	0.8424	0.1631	5,512
Fe2599_R		181,300	ug/L	443.0	0.2444	266,800
K_7664_R		20,640	ug/L	162.8	0.7886	10,600
Li6707_R		521.8	ug/L	4.150	0.7953	5,102
Mg2025_A		474,000	ug/L	9,497	2.003	121,300
Mn2576_R		472.1	ug/L	3.374	0.7146	3,089
Mo2020_A		495.8	ug/L	9.794	1.975	1,259
Na5895_R		20,380	ug/L	98.12	0.4814	35,680
Ni2316_A		937.4	ug/L	17.57	1.875	1,296
Pb2203_A		51.21	ug/L	0.1112	0.2172	5.670
Sb2068_A		614.6	ug/L	10.02	1.630	250.7
Se1960_A		51.19	ug/L	2.047	3.999	16.58
Si2516_R	F	225.9	ug/L	4.763	2.108	114.0
Sn1899_A		487.3	ug/L	12.25	2.513	213.3
Sr4215_R		500.1	ug/L	2.675	0.5349	31,590
Ti3349_A		487.8	ug/L	1.707	0.3499	9,436
Tl1908_A		92.72	ug/L	1.677	1.808	36.80
V_2924_A		483.4	ug/L	1.039	0.2149	4,784
Zn2062_A		938.2	ug/L	18.37	1.958	2,483
Y_3600_R		12,743	Cts/S	31.609	0.24804	12,743
Y_2243_A		7,061.7	Cts/S	123.06	1.7426	7,061.7
Y_3600_A		113,170	Cts/S	290.19	0.25642	113,170

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:17:50PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		502.7	ug/L	2.840	0.5650	7,635
Al3961_R		12,070	ug/L	2.549	0.02111	9,678
As1891_A		511.8	ug/L	13.04	2.548	175.6
B_2089_A		508.8	ug/L	9.423	1.852	656.0
Ba4554_R		492.1	ug/L	0.9661	0.1963	24,280
Be3130_R		492.8	ug/L	0.9321	0.1891	34,940
Ca3158_R		12,130	ug/L	28.50	0.2350	11,450
Cd2265_A		513.3	ug/L	9.595	1.869	5,938
Co2286_A		517.0	ug/L	9.202	1.780	1,559
Cr2677_A		500.8	ug/L	2.079	0.4152	5,736
Cu3273_A		500.8	ug/L	0.9157	0.1829	5,848
Fe2599_R		12,180	ug/L	33.85	0.2779	18,630
K_7664_R		12,160	ug/L	18.93	0.1557	6,442
Li6707_R		482.1	ug/L	1.570	0.3258	4,894
Mg2025_A		12,510	ug/L	274.4	2.193	3,515
Mn2576_R		491.9	ug/L	0.08412	0.01710	3,345
Mo2020_A		514.3	ug/L	11.18	2.173	1,427
Na5895_R		12,070	ug/L	11.49	0.09517	21,960
Ni2316_A		518.9	ug/L	9.785	1.886	792.9

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:17:50PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		514.7	ug/L	9.693	1.883	444.3
Sb2068_A		501.5	ug/L	10.51	2.095	221.5
Se1960_A		509.8	ug/L	8.820	1.730	128.3
Si2516_R		12,550	ug/L	26.27	0.2094	4,980
Sn1899_A		508.4	ug/L	10.84	2.131	243.1
Sr4215_R		495.3	ug/L	0.5196	0.1049	32,500
Ti3349_A		498.2	ug/L	0.8074	0.1621	10,570
Ti1908_A		513.4	ug/L	10.63	2.071	227.3
V_2924_A		499.6	ug/L	0.6903	0.1382	5,399
Zn2062_A		514.1	ug/L	9.156	1.781	1,486
Y_3600_R		13,238	Cts/S	69.016	0.52134	13,238
Y_2243_A		7,715.9	Cts/S	119.75	1.5520	7,715.9
Y_3600_A		124,160	Cts/S	480.34	0.38688	124,160

CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:21:59PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.1605	ug/L	0.02844	17.72	11.28
Al3961_R		-6.124	ug/L	9.893	161.6	-11.15
As1891_A		0.5021	ug/L	0.6366	126.8	-2.621
B_2089_A		0.5155	ug/L	0.2466	47.84	4.196
Ba4554_R		-0.06542	ug/L	0.01336	20.43	55.04
Be3130_R		-0.04561	ug/L	0.005387	11.81	-12.39
Ca3158_R		6.984	ug/L	0.7079	10.14	-28.60
Cd2265_A		0.02088	ug/L	0.07222	345.8	-1.581
Co2286_A		0.007801	ug/L	0.01804	231.3	2.097
Cr2677_A		0.1060	ug/L	0.01691	15.95	3.667
Cu3273_A		-0.3600	ug/L	0.04589	12.75	-32.77
Fe2599_R		2.346	ug/L	0.2816	12.00	7.429
K_7664_R		14.16	ug/L	17.26	121.9	-95.02
Li6707_R		-0.2797	ug/L	1.608	574.7	-37.29
Mg2025_A		-1.572	ug/L	1.147	72.96	-5.073
Mn2576_R		0.3639	ug/L	0.3985	109.5	6.814
Mo2020_A		0.7515	ug/L	0.2025	26.94	3.004
Na5895_R		-1.047	ug/L	1.509	144.1	16.14
Ni2316_A		-0.3035	ug/L	0.2190	72.15	-0.8374
Pb2203_A		-0.9088	ug/L	0.5767	63.46	-1.282
Sb2068_A		3.398	ug/L	0.1884	5.546	1.510
Se1960_A		1.408	ug/L	2.103	149.4	2.545
Si2516_R		2.723	ug/L	6.930	254.5	37.09
Sn1899_A		0.02974	ug/L	0.3292	1,107	1.963
Sr4215_R		0.05858	ug/L	0.02911	49.70	-30.91
Ti3349_A		-0.07717	ug/L	0.09947	128.9	-32.55
Ti1908_A		-0.5544	ug/L	0.3963	71.49	-2.399
V_2924_A		-0.2795	ug/L	0.4915	175.9	-8.225
Zn2062_A		-0.09839	ug/L	0.1282	130.3	0.1978
Y_3600_R		13,148	Cts/S	11.067	0.084176	13,148
Y_2243_A		7,945.4	Cts/S	1.1083	0.013949	7,945.4
Y_3600_A		125,630	Cts/S	438.47	0.34902	125,630

LRS1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:26:24PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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LRS1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:26:24PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		2,078	ug/L	12.48	0.6005	30,550
Al3961_R		25.20	ug/L	11.42	45.30	159.1
As1891_A		20,320	ug/L	142.9	0.7035	7,070
B_2089_A		20,190	ug/L	145.5	0.7204	25,310
Ba4554_R		20,540	ug/L	372.2	1.812	975,800
Be3130_R		20,160	ug/L	486.6	2.414	1,380,000
Ca3158_R		26.25	ug/L	1.348	5.133	0.8011
Cd2265_A		19,670	ug/L	139.2	0.7078	225,300
Co2286_A		20,440	ug/L	156.6	0.7660	61,120
Cr2677_A		20,100	ug/L	43.08	0.2143	223,400
Cu3273_A		20,510	ug/L	33.90	0.1653	233,600
Fe2599_R		23.96	ug/L	2.847	11.88	39.12
K_7664_R		50.79	ug/L	40.13	79.02	-73.38
Li6707_R		20,070	ug/L	103.1	0.5139	198,100
Mg2025_A		1,577	ug/L	20.82	1.320	1,255
Mn2576_R		20,220	ug/L	100.2	0.4957	132,700
Mo2020_A		5,097	ug/L	29.50	0.5788	14,030
Na5895_R		42.79	ug/L	4.702	10.99	92.61
Ni2316_A		20,070	ug/L	154.0	0.7672	30,350
Pb2203_A		20,680	ug/L	156.7	0.7581	17,790
Sb2068_A		20,210	ug/L	144.8	0.7167	8,867
Se1960_A		20,730	ug/L	140.6	0.6784	5,094
Si2516_R		380.1	ug/L	105.1	27.64	272.1
Sn1899_A		20,040	ug/L	171.7	0.8567	9,440
Sr4215_R		20,320	ug/L	75.79	0.3730	1,289,000
Ti3349_A		20,170	ug/L	81.58	0.4044	416,600
Tl1908_A		20,200	ug/L	159.3	0.7889	8,958
V_2924_A		20,070	ug/L	36.73	0.1830	211,700
Zn2062_A		19,920	ug/L	149.1	0.7483	57,160
Y_3600_R		12,781	Cts/S	54.252	0.42449	12,781
Y_2243_A		7,661.0	Cts/S	32.905	0.42951	7,661.0
Y_3600_A		120,550	Cts/S	180.77	0.14996	120,550

LRS2

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:33:06PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		5.218	ug/L	0.1140	2.185	-608.9
Al3961_R		508,500	ug/L	2,745	0.5399	378,600
As1891_A		7.978	ug/L	1.039	13.02	-14.42
B_2089_A		20.05	ug/L	3.198	15.95	25.79
Ba4554_R		0.9389	ug/L	0.1919	20.44	97.45
Be3130_R		0.02144	ug/L	0.01703	79.42	-7.703
Ca3158_R		483,500	ug/L	34.18	0.007068	425,800
Cd2265_A		-1.525	ug/L	0.06311	4.138	305.1
Co2286_A		-0.5219	ug/L	0.2240	42.92	3.384
Cr2677_A		-1.661	ug/L	0.1118	6.736	-16.11
Cu3273_A		1.473	ug/L	0.5128	34.81	-4.358
Fe2599_R		240,000	ug/L	934.8	0.3896	341,200
K_7664_R		317,100	ug/L	459.4	0.1449	158,600
Li6707_R		6.582	ug/L	0.6553	9.956	30.32
Mg2025_A		205,700	ug/L	1,359	0.6608	51,830
Mn2576_R		19.60	ug/L	0.2023	1.032	57.26
Mo2020_A		0.9271	ug/L	0.2600	28.04	3.070
Na5895_R		206,400	ug/L	4,491	2.176	348,800
Ni2316_A		2.202	ug/L	0.1284	5.829	-13.18

LRS2

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:33:06PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		4.571	ug/L	1.727	37.79	-32.67
Sb2068_A		1.866	ug/L	0.8605	46.12	3.106
Se1960_A		1.878	ug/L	3.823	203.5	5.227
Si2516_R		51,030	ug/L	22.17	0.04345	18,700
Sn1899_A		11.14	ug/L	0.3336	2.995	6.468
Sr4215_R		2.525	ug/L	0.07089	2.807	121.7
Ti3349_A		9.734	ug/L	0.1014	1.042	154.9
Ti1908_A		0.4719	ug/L	0.2774	58.79	-1.609
V_2924_A		-2.117	ug/L	0.3398	16.05	4.434
Zn2062_A		2.869	ug/L	0.3289	11.46	7.911
Y_3600_R		12,308	Cts/S	74.932	0.60882	12,308
Y_2243_A		6,953.4	Cts/S	58.003	0.83417	6,953.4
Y_3600_A		109,020	Cts/S	459.52	0.42151	109,020

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:39:20PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		522.5	ug/L	2.936	0.5618	7,705
Al3961_R		12,900	ug/L	3.554	0.02754	9,944
As1891_A		506.2	ug/L	11.98	2.368	175.9
B_2089_A		509.6	ug/L	12.70	2.492	665.5
Ba4554_R	W	528.1	ug/L	1.845	0.3494	25,050
Be3130_R		526.8	ug/L	0.4554	0.08645	35,910
Ca3158_R		12,920	ug/L	2.069	0.01602	11,740
Cd2265_A		508.0	ug/L	12.40	2.441	5,956
Co2286_A		512.4	ug/L	13.48	2.630	1,565
Cr2677_A		520.3	ug/L	1.452	0.2791	5,787
Cu3273_A		521.7	ug/L	0.3075	0.05894	5,916
Fe2599_R		13,070	ug/L	40.81	0.3124	19,220
K_7664_R		12,950	ug/L	61.89	0.4780	6,602
Li6707_R		518.7	ug/L	0.3737	0.07205	5,066
Mg2025_A		12,380	ug/L	298.1	2.407	3,526
Mn2576_R		524.2	ug/L	2.815	0.5369	3,427
Mo2020_A		509.6	ug/L	12.67	2.486	1,433
Na5895_R		12,910	ug/L	18.33	0.1419	22,590
Ni2316_A		512.9	ug/L	14.03	2.736	794.0
Pb2203_A		510.0	ug/L	11.72	2.299	446.0
Sb2068_A		496.7	ug/L	8.076	1.626	222.4
Se1960_A		506.2	ug/L	11.02	2.176	129.1
Si2516_R		13,380	ug/L	160.0	1.195	5,105
Sn1899_A		502.4	ug/L	12.91	2.569	243.3
Sr4215_R	W	531.1	ug/L	0.4059	0.07643	33,510
Ti3349_A		518.3	ug/L	0.1205	0.02325	10,680
Ti1908_A		506.1	ug/L	11.10	2.194	226.9
V_2924_A		520.0	ug/L	1.630	0.3134	5,458
Zn2062_A		507.6	ug/L	12.69	2.499	1,486
Y_3600_R		12,729	Cts/S	6.5277	0.051283	12,729
Y_2243_A		7,817.8	Cts/S	142.89	1.8278	7,817.8
Y_3600_A		120,550	Cts/S	24.168	0.020047	120,550

CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:43:29PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 1:43:29PM

Method Revision: 1,230

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.1443	ug/L	0.3108	215.5	11.33
Al3961_R		6.148	ug/L	1.303	21.20	-1.392
As1891_A		1.026	ug/L	0.7352	71.68	-2.420
B_2089_A		5.048	ug/L	0.4527	8.969	10.01
Ba4554_R		0.1272	ug/L	0.02691	21.16	64.37
Be3130_R		-0.01451	ug/L	0.05990	412.8	-10.20
Ca3158_R		-1.351	ug/L	1.870	138.4	-36.39
Cd2265_A		0.06200	ug/L	0.05649	91.12	-1.086
Co2286_A		0.1552	ug/L	0.08249	53.14	2.544
Cr2677_A		0.4025	ug/L	0.07939	19.72	6.992
Cu3273_A		-0.3358	ug/L	0.05972	17.78	-31.98
Fe2599_R		2.226	ug/L	0.4612	20.72	7.236
K_7664_R		31.24	ug/L	26.63	85.23	-85.76
Li6707_R		0.5520	ug/L	0.5420	98.19	-28.81
Mg2025_A		1.785	ug/L	4.605	258.0	-4.080
Mn2576_R		0.4523	ug/L	0.2038	45.07	7.400
Mo2020_A		1.040	ug/L	0.2465	23.70	3.809
Na5895_R		10.36	ug/L	5.810	56.10	36.67
Ni2316_A		-0.02280	ug/L	0.1725	756.4	-0.3927
Pb2203_A		-0.3016	ug/L	0.4299	142.5	-0.7372
Sb2068_A		1.972	ug/L	1.190	60.31	0.8530
Se1960_A		1.655	ug/L	0.6229	37.64	2.595
Si2516_R		3.899	ug/L	8.999	230.8	37.50
Sn1899_A		0.02716	ug/L	0.6954	2,560	1.952
Sr4215_R		-0.01027	ug/L	0.1851	1,803	-35.37
Ti3349_A		0.6295	ug/L	0.009014	1.432	-17.06
Tl1908_A		-0.6085	ug/L	0.07284	11.97	-2.412
V_2924_A		-0.05245	ug/L	0.2181	415.9	-5.640
Zn2062_A		0.09532	ug/L	0.06423	67.38	0.7699
Y_3600_R		13,130	Cts/S	23.083	0.17580	13,130
Y_2243_A		7,905.7	Cts/S	7.9524	0.10059	7,905.7
Y_3600_A		123,670	Cts/S	315.50	0.25512	123,670

PBWML271CW2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 1:47:54PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.2125	ug/L	0.2656	125.0	10.44
Al3961_R		11.52	ug/L	1.740	15.11	2.886
As1891_A		-0.1083	ug/L	0.4774	440.7	-2.806
B_2089_A		3.379	ug/L	0.05500	1.627	7.788
Ba4554_R		0.3857	ug/L	0.06694	17.36	77.63
Be3130_R		-0.02507	ug/L	0.003688	14.71	-11.04
Ca3158_R		12.09	ug/L	5.589	46.22	-23.95
Cd2265_A		0.01182	ug/L	0.02567	217.2	-1.661
Co2286_A		0.02894	ug/L	0.07520	259.9	2.138
Cr2677_A		0.3157	ug/L	0.2931	92.84	6.089
Cu3273_A		0.3106	ug/L	0.08624	27.76	-24.77
Fe2599_R		6.730	ug/L	0.6788	10.09	14.18
K_7664_R		40.53	ug/L	32.30	79.69	-81.45
Li6707_R		-0.2924	ug/L	1.724	589.6	-37.74
Mg2025_A		1.796	ug/L	0.01454	0.8099	-4.052
Mn2576_R		0.6400	ug/L	0.09957	15.56	8.736
Mo2020_A		0.3684	ug/L	0.1543	41.89	1.886
Na5895_R		33.32	ug/L	2.313	6.942	78.76
Ni2316_A		0.1595	ug/L	0.5816	364.7	-0.1156

PBWML271CW2

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:47:54PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-1.131	ug/L	0.4481	39.64	-1.462
Sb2068_A		0.9304	ug/L	0.8742	93.96	0.3703
Se1960_A		1.658	ug/L	0.8870	53.48	2.576
Si2516_R		11.18	ug/L	0.9198	8.230	40.68
Sn1899_A		1.132	ug/L	0.03952	3.490	2.470
Sr4215_R		-0.1929	ug/L	0.1210	62.73	-47.63
Ti3349_A		0.4046	ug/L	0.2089	51.63	-22.15
Ti1908_A		-1.412	ug/L	0.1624	11.49	-2.758
V_2924_A		-0.3118	ug/L	0.06099	19.56	-8.538
Zn2062_A		0.9415	ug/L	0.001391	0.1477	3.253
Y_3600_R		13,241	Cts/S	72.972	0.55111	13,241
Y_2243_A		7,845.0	Cts/S	1.0518	0.013407	7,845.0
Y_3600_A		125,440	Cts/S	181.63	0.14480	125,440

LCSWML271CW2

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:52:17PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		52.79	ug/L	0.3949	0.7480	795.0
Al3961_R		2,027	ug/L	16.54	0.8157	1,594
As1891_A		100.5	ug/L	4.441	4.419	33.27
B_2089_A		498.7	ug/L	12.72	2.552	648.6
Ba4554_R		2,118	ug/L	10.48	0.4950	102,600
Be3130_R		52.37	ug/L	0.5039	0.9621	3,644
Ca3158_R		2,549	ug/L	19.49	0.7645	2,341
Cd2265_A		254.1	ug/L	6.806	2.678	3,007
Co2286_A		526.1	ug/L	14.81	2.816	1,627
Cr2677_A		212.9	ug/L	1.087	0.5105	2,399
Cu3273_A		266.1	ug/L	1.170	0.4399	3,040
Fe2599_R		1,059	ug/L	5.359	0.5060	1,597
K_7664_R		10,210	ug/L	89.61	0.8776	5,305
Li6707_R		507.8	ug/L	4.545	0.8950	5,072
Mg2025_A		4,873	ug/L	135.9	2.789	1,415
Mn2576_R		521.2	ug/L	3.528	0.6770	3,488
Mo2020_A		105.8	ug/L	3.226	3.049	301.7
Na5895_R		7,616	ug/L	41.27	0.5419	13,640
Ni2316_A		524.5	ug/L	14.63	2.790	818.6
Pb2203_A		102.9	ug/L	3.683	3.580	90.80
Sb2068_A		100.7	ug/L	2.334	2.317	43.67
Se1960_A		101.2	ug/L	3.453	3.414	27.92
Si2516_R		1,086	ug/L	9.685	0.8917	458.7
Sn1899_A		508.3	ug/L	11.67	2.296	249.3
Sr4215_R		521.3	ug/L	1.735	0.3327	33,650
Ti3349_A		520.5	ug/L	1.058	0.2033	10,850
Ti1908_A		95.80	ug/L	2.017	2.105	42.25
V_2924_A		522.0	ug/L	0.7497	0.1436	5,578
Zn2062_A		516.0	ug/L	13.33	2.583	1,531
Y_3600_R		13,022	Cts/S	62.206	0.47769	13,022
Y_2243_A		7,917.1	Cts/S	142.33	1.7977	7,917.1
Y_3600_A		122,030	Cts/S	254.19	0.20830	122,030

TM3476-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 1:56:30PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3476-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 1:56:30PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.2469	ug/L	0.3052	123.6	9.338
Al3961_R		123.9	ug/L	9.947	8.027	263.4
As1891_A		1.209	ug/L	0.6439	53.27	-2.292
B_2089_A	W	1,531	ug/L	9.474	0.6188	1,917
Ba4554_R		25.19	ug/L	0.1679	0.6665	1,278
Be3130_R		-0.03814	ug/L	0.02395	62.79	-11.77
Ca3158_R	W	257,900	ug/L	319.0	0.1237	240,400
Cd2265_A		7.461	ug/L	0.02285	0.3062	84.03
Co2286_A		4.889	ug/L	0.04318	0.8832	16.64
Cr2677_A		2.301	ug/L	0.2992	13.00	28.01
Cu3273_A		6.384	ug/L	0.5092	7.976	45.35
Fe2599_R		60.34	ug/L	1.155	1.915	94.64
K_7664_R		2,178	ug/L	3.138	0.1441	1,052
Li6707_R		4.597	ug/L	2.225	48.40	12.25
Mg2025_A		2,690	ug/L	19.69	0.7320	747.7
Mn2576_R		130.7	ug/L	0.4224	0.3231	878.6
Mo2020_A		-0.1688	ug/L	0.2406	142.5	0.3554
Na5895_R	F	403,300	ug/L	5,275	1.308	721,400
Ni2316_A		2.192	ug/L	0.5210	23.76	2.954
Pb2203_A	W	1,311	ug/L	4.323	0.3298	1,130
Sb2068_A		1.809	ug/L	1.606	88.78	0.8962
Se1960_A		1.485	ug/L	2.483	167.2	2.498
Si2516_R		741.0	ug/L	0.2714	0.03663	322.8
Sn1899_A		0.8764	ug/L	0.8755	99.90	2.298
Sr4215_R		305.4	ug/L	0.006721	0.002201	19,700
Ti3349_A		1.252	ug/L	0.1482	11.84	-3.795
Tl1908_A		-0.9531	ug/L	0.5386	56.51	-2.549
V_2924_A		0.3685	ug/L	0.08713	23.65	-1.491
Zn2062_A	W	8,914	ug/L	13.62	0.1528	25,670
Y_3600_R		13,025	Cts/S	167.78	1.2881	13,025
Y_2243_A		7,681.6	Cts/S	8.4938	0.11057	7,681.6
Y_3600_A		120,400	Cts/S	442.06	0.36717	120,400

TM3476-002

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 2:01:47PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.5245	ug/L	0.1440	27.46	5.332
Al3961_R		1.755	ug/L	9.096	518.4	157.6
As1891_A		0.6269	ug/L	1.449	231.1	-2.452
B_2089_A	W	1,401	ug/L	2.182	0.1558	1,727
Ba4554_R		22.38	ug/L	0.03687	0.1648	1,147
Be3130_R		-0.01468	ug/L	0.08873	604.2	-10.16
Ca3158_R	W	242,300	ug/L	1,538	0.6347	227,000
Cd2265_A		4.144	ug/L	0.03571	0.8619	45.15
Co2286_A		0.8733	ug/L	0.2769	31.71	4.546
Cr2677_A		1.316	ug/L	0.1216	9.244	17.04
Cu3273_A		2.615	ug/L	0.3028	11.58	2.462
Fe2599_R		28.58	ug/L	1.471	5.148	47.07
K_7664_R		1,482	ug/L	16.02	1.081	686.9
Li6707_R		5.001	ug/L	0.05246	1.049	16.25
Mg2025_A		3,413	ug/L	6.451	0.1890	931.2
Mn2576_R		109.7	ug/L	0.5093	0.4643	742.1
Mo2020_A		0.1431	ug/L	0.4213	294.4	1.197
Na5895_R	F	334,900	ug/L	2,721	0.8127	602,000
Ni2316_A		1.484	ug/L	0.3226	21.75	1.856

TM3476-002

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:01:47PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		184.8	ug/L	0.8647	0.4679	156.5
Sb2068_A		0.4193	ug/L	1.068	254.7	0.1607
Se1960_A		2.776	ug/L	0.1436	5.174	2.768
Si2516_R		961.4	ug/L	1.565	0.1628	410.3
Sn1899_A		0.6502	ug/L	1.297	199.5	2.158
Sr4215_R		287.3	ug/L	1.480	0.5151	18,630
Ti3349_A		0.3581	ug/L	0.5496	153.5	-22.20
Ti1908_A		-1.181	ug/L	0.01689	1.430	-2.605
V_2924_A		0.3552	ug/L	0.1187	33.40	-1.553
Zn2062_A	W	1,399	ug/L	6.315	0.4513	3,967
Y_3600_R		13,092	Cts/S	6.7633	0.051661	13,092
Y_2243_A		7,561.4	Cts/S	33.553	0.44374	7,561.4
Y_3600_A		120,350	Cts/S	177.45	0.14744	120,350

TM3476-003

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:07:03PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.6516	ug/L	0.4811	73.83	3.296
Al3961_R		188.7	ug/L	9.532	5.053	306.2
As1891_A		1.210	ug/L	1.083	89.49	-2.239
B_2089_A	W	1,418	ug/L	32.20	2.271	1,739
Ba4554_R		44.34	ug/L	0.3017	0.6805	2,198
Be3130_R		-0.0003040	ug/L	0.04975	16,340	-9.111
Ca3158_R	W	247,200	ug/L	766.6	0.3101	229,700
Cd2265_A		4.190	ug/L	0.1408	3.360	45.48
Co2286_A		3.898	ug/L	0.1969	5.051	13.40
Cr2677_A		2.316	ug/L	0.3079	13.29	27.76
Cu3273_A		3.458	ug/L	0.4012	11.60	11.85
Fe2599_R		55.43	ug/L	0.5345	0.9644	86.94
K_7664_R		2,078	ug/L	5.057	0.2434	995.5
Li6707_R		6.663	ug/L	0.6378	9.573	32.78
Mg2025_A		2,956	ug/L	75.48	2.553	802.6
Mn2576_R		194.2	ug/L	0.04000	0.02060	1,299
Mo2020_A		0.2454	ug/L	0.1654	67.41	1.470
Na5895_R	F	409,600	ug/L	235.9	0.05760	730,200
Ni2316_A		3.288	ug/L	0.1642	4.995	4.525
Pb2203_A		893.0	ug/L	20.44	2.289	754.2
Sb2068_A		0.5474	ug/L	0.8797	160.7	0.2452
Se1960_A		3.764	ug/L	2.444	64.94	3.010
Si2516_R		908.2	ug/L	11.48	1.264	386.3
Sn1899_A		0.6042	ug/L	0.7668	126.9	2.128
Sr4215_R		293.8	ug/L	0.9830	0.3346	18,890
Ti3349_A		1.202	ug/L	0.05779	4.808	-4.735
Ti1908_A		-1.324	ug/L	1.512	114.2	-2.682
V_2924_A		0.3398	ug/L	0.3169	93.26	-2.013
Zn2062_A	W	3,023	ug/L	73.45	2.430	8,527
Y_3600_R		12,982	Cts/S	12.476	0.096100	12,982
Y_2243_A		7,524.9	Cts/S	138.05	1.8346	7,524.9
Y_3600_A		118,420	Cts/S	265.44	0.22415	118,420

TM3476-004

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:12:19PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3476-004

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 2:12:19PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.4292	ug/L	0.5740	133.8	6.595
Al3961_R		37.56	ug/L	14.34	38.17	186.0
As1891_A		2.095	ug/L	1.306	62.32	-1.982
B_2089_A	W	1,775	ug/L	1.823	0.1027	2,216
Ba4554_R		28.72	ug/L	0.05274	0.1836	1,476
Be3130_R		0.007134	ug/L	0.07289	1,022	-8.790
Ca3158_R	W	238,800	ug/L	4,986	2.088	226,700
Cd2265_A		1.317	ug/L	0.01032	0.7833	13.46
Co2286_A		1.477	ug/L	0.02238	1.516	6.415
Cr2677_A		1.930	ug/L	0.05212	2.700	23.97
Cu3273_A		3.733	ug/L	0.3664	9.816	15.24
Fe2599_R		87.05	ug/L	1.580	1.815	137.3
K_7664_R		2,494	ug/L	37.93	1.521	1,242
Li6707_R		5.237	ug/L	1.123	21.44	18.94
Mg2025_A		3,338	ug/L	5.525	0.1655	923.4
Mn2576_R		109.4	ug/L	2.620	2.395	750.1
Mo2020_A		-0.01198	ug/L	0.04911	409.9	0.7881
Na5895_R	F	326,600	ug/L	6,803	2.083	595,200
Ni2316_A		2.159	ug/L	0.05018	2.325	2.896
Pb2203_A		209.0	ug/L	0.8672	0.4150	179.4
Sb2068_A		0.6083	ug/L	0.3193	52.50	0.2552
Se1960_A		0.7174	ug/L	3.018	420.7	2.301
Si2516_R		886.8	ug/L	15.37	1.733	386.3
Sn1899_A		1.034	ug/L	0.01015	0.9815	2.367
Sr4215_R		274.4	ug/L	5.421	1.976	18,030
Ti3349_A		0.7562	ug/L	0.04134	5.467	-14.07
Tl1908_A		-1.758	ug/L	0.7009	39.86	-2.896
V_2924_A		0.3333	ug/L	0.01487	4.463	-1.790
Zn2062_A	W	2,018	ug/L	5.600	0.2774	5,801
Y_3600_R		13,270	Cts/S	129.94	0.97925	13,270
Y_2243_A		7,664.6	Cts/S	18.578	0.24239	7,664.6
Y_3600_A		120,930	Cts/S	316.74	0.26193	120,930

TM3476-005

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 2:17:36PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.4175	ug/L	0.3204	76.75	6.752
Al3961_R		83.95	ug/L	3.629	4.323	258.4
As1891_A		-0.006524	ug/L	0.6402	9,813	-2.686
B_2089_A	W	5,353	ug/L	10.67	0.1993	6,616
Ba4554_R		42.78	ug/L	1.365	3.190	2,144
Be3130_R		-0.01280	ug/L	0.04611	360.3	-10.09
Ca3158_R	W	294,800	ug/L	9,460	3.209	276,700
Cd2265_A		1.767	ug/L	0.02099	1.188	18.41
Co2286_A		2.917	ug/L	0.05795	1.987	10.61
Cr2677_A		2.477	ug/L	0.1444	5.832	29.75
Cu3273_A		4.899	ug/L	0.3519	7.184	28.26
Fe2599_R		74.62	ug/L	2.975	3.986	116.9
K_7664_R		2,357	ug/L	94.83	4.024	1,155
Li6707_R		6.286	ug/L	1.129	17.95	29.45
Mg2025_A		4,426	ug/L	12.42	0.2806	1,214
Mn2576_R		167.7	ug/L	6.740	4.020	1,134
Mo2020_A		0.3549	ug/L	0.05957	16.79	1.779
Na5895_R	F	411,000	ug/L	5,898	1.435	740,600
Ni2316_A		2.435	ug/L	0.07947	3.264	3.287

TM3476-005

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:17:36PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A	W	1,518	ug/L	7.125	0.4694	1,294
Sb2068_A		0.9370	ug/L	1.395	148.9	0.3972
Se1960_A		2.976	ug/L	0.1983	6.662	2.836
Si2516_R		1,027	ug/L	48.67	4.741	436.5
Sn1899_A		1.299	ug/L	0.1239	9.531	2.469
Sr4215_R		322.5	ug/L	10.88	3.374	20,950
Ti3349_A		0.6579	ug/L	0.2986	45.38	-15.95
Ti1908_A		-2.917	ug/L	0.1753	6.009	-3.401
V_2924_A		0.5386	ug/L	0.03279	6.088	0.1371
Zn2062_A	W	2,067	ug/L	8.547	0.4135	5,885
Y_3600_R		13,123	Cts/S	313.70	2.3904	13,123
Y_2243_A		7,593.1	Cts/S	5.1591	0.067944	7,593.1
Y_3600_A		119,500	Cts/S	1,695.5	1.4189	119,500

TM2888-034

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:22:52PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.2620	ug/L	0.01040	3.969	9.210
Al3961_R		179.7	ug/L	1.364	0.7593	140.6
As1891_A		-1.014	ug/L	0.9016	88.95	-3.082
B_2089_A		13.87	ug/L	1.881	13.56	20.84
Ba4554_R		108.6	ug/L	1.015	0.9347	5,440
Be3130_R		0.07983	ug/L	0.02901	36.34	-3.693
Ca3158_R		3,331	ug/L	25.89	0.7774	3,141
Cd2265_A		0.09510	ug/L	0.02459	25.86	-0.6279
Co2286_A		3.453	ug/L	0.02524	0.7309	12.44
Cr2677_A		0.4167	ug/L	0.08793	21.10	7.060
Cu3273_A		6.831	ug/L	0.04797	0.7022	50.69
Fe2599_R		37.65	ug/L	0.08759	0.2327	61.87
K_7664_R		1,287	ug/L	2.556	0.1986	593.4
Li6707_R		3.828	ug/L	0.1886	4.926	4.476
Mg2025_A		2,544	ug/L	81.28	3.195	708.3
Mn2576_R		69.68	ug/L	0.08162	0.1171	481.4
Mo2020_A		-0.1768	ug/L	0.03134	17.73	0.3405
Na5895_R	F	389,400	ug/L	2,364	0.6072	712,500
Ni2316_A		3.975	ug/L	0.2836	7.136	5.687
Pb2203_A		200.1	ug/L	6.561	3.279	173.3
Sb2068_A		0.5907	ug/L	0.9374	158.7	0.2156
Se1960_A		1.634	ug/L	0.4802	29.38	2.543
Si2516_R		302.8	ug/L	5.888	1.944	156.5
Sn1899_A		1.695	ug/L	0.2020	11.92	2.702
Sr4215_R		16.90	ug/L	0.2886	1.708	1,082
Ti3349_A		2.252	ug/L	0.3194	14.18	16.90
Ti1908_A		-0.1192	ug/L	0.8842	741.7	-2.163
V_2924_A		0.03182	ug/L	0.4135	1,300	-4.794
Zn2062_A		24.50	ug/L	0.5499	2.244	71.51
Y_3600_R		13,326	Cts/S	74.836	0.56158	13,326
Y_2243_A		7,734.2	Cts/S	174.49	2.2561	7,734.2
Y_3600_A		120,970	Cts/S	179.43	0.14833	120,970

PBWML271CW3

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:27:36PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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PBWML271CW3

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:27:36PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.06038	ug/L	0.2633	436.0	12.75
Al3961_R		3.281	ug/L	9.863	300.6	-3.729
As1891_A		0.08152	ug/L	0.3276	401.9	-2.794
B_2089_A		4.199	ug/L	0.3657	8.710	8.999
Ba4554_R		-0.1274	ug/L	0.2449	192.2	52.71
Be3130_R		0.009578	ug/L	0.006744	70.41	-8.605
Ca3158_R		7.516	ug/L	1.654	22.00	-28.50
Cd2265_A		-0.01929	ug/L	0.01488	77.12	-2.070
Co2286_A		-0.005239	ug/L	0.08630	1,647	2.072
Cr2677_A		0.1746	ug/L	0.04998	28.62	4.435
Cu3273_A		-0.08516	ug/L	0.3290	386.4	-29.34
Fe2599_R		4.673	ug/L	0.6283	13.45	11.12
K_7664_R		64.27	ug/L	19.91	30.98	-69.16
Li6707_R		2.328	ug/L	0.7292	31.32	-10.99
Mg2025_A		1.906	ug/L	2.360	123.8	-4.105
Mn2576_R		0.08036	ug/L	0.2432	302.7	4.966
Mo2020_A		-0.09290	ug/L	0.1012	108.9	0.5962
Na5895_R		113.7	ug/L	7.464	6.563	226.5
Ni2316_A		-0.02722	ug/L	0.04636	170.3	-0.4172
Pb2203_A		-0.8350	ug/L	1.243	148.8	-1.223
Sb2068_A		0.3494	ug/L	0.8253	236.2	0.1142
Se1960_A		0.7942	ug/L	0.2901	36.53	2.407
Si2516_R		-14.33	ug/L	4.168	29.08	30.85
Sn1899_A		-0.007115	ug/L	0.04735	665.6	1.959
Sr4215_R		-0.1196	ug/L	0.005262	4.398	-43.14
Ti3349_A		0.01583	ug/L	0.3450	2,180	-30.37
Tl1908_A		-0.1790	ug/L	1.107	618.5	-2.244
V_2924_A		0.1095	ug/L	0.2603	237.7	-3.845
Zn2062_A		0.5627	ug/L	0.03886	6.906	2.183
Y_3600_R		13,332	Cts/S	72.374	0.54285	13,332
Y_2243_A		8,003.7	Cts/S	24.567	0.30695	8,003.7
Y_3600_A		124,900	Cts/S	415.72	0.33285	124,900

LCSWML271CW3

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:32:02PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		52.07	ug/L	0.3487	0.6696	797.1
Al3961_R		2,026	ug/L	8.512	0.4202	1,610
As1891_A		102.3	ug/L	3.829	3.745	33.44
B_2089_A		519.4	ug/L	14.68	2.827	666.1
Ba4554_R		2,103	ug/L	18.44	0.8768	102,900
Be3130_R		52.37	ug/L	0.1998	0.3815	3,682
Ca3158_R		2,543	ug/L	22.89	0.9002	2,360
Cd2265_A		264.2	ug/L	6.472	2.450	3,084
Co2286_A		542.5	ug/L	14.01	2.582	1,655
Cr2677_A		212.3	ug/L	1.326	0.6245	2,431
Cu3273_A		268.8	ug/L	3.714	1.382	3,122
Fe2599_R		1,032	ug/L	6.281	0.6084	1,573
K_7664_R		10,190	ug/L	64.31	0.6310	5,351
Li6707_R		508.2	ug/L	6.775	1.333	5,130
Mg2025_A		5,087	ug/L	140.8	2.767	1,456
Mn2576_R		525.3	ug/L	1.792	0.3411	3,552
Mo2020_A		109.5	ug/L	2.735	2.498	308.0
Na5895_R		7,682	ug/L	34.47	0.4488	13,900
Ni2316_A		541.6	ug/L	12.95	2.391	833.7

LCSWML27ICW3

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:32:02PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		105.2	ug/L	2.012	1.913	91.56
Sb2068_A		104.2	ug/L	1.713	1.644	44.53
Se1960_A		105.9	ug/L	2.682	2.532	28.73
Si2516_R		1,082	ug/L	11.62	1.073	462.0
Sn1899_A		528.2	ug/L	13.51	2.559	255.4
Sr4215_R		518.6	ug/L	4.116	0.7938	33,830
Ti3349_A		522.9	ug/L	5.678	1.086	11,080
Ti1908_A		101.2	ug/L	2.145	2.120	44.13
V_2924_A		526.0	ug/L	4.003	0.7611	5,713
Zn2062_A		534.5	ug/L	13.51	2.527	1,564
Y_3600_R		13,159	Cts/S	23.865	0.18136	13,159
Y_2243_A		7,808.5	Cts/S	160.45	2.0548	7,808.5
Y_3600_A		124,040	Cts/S	671.29	0.54120	124,040

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:36:16PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		505.5	ug/L	1.384	0.2738	7,679
Al3961_R		12,380	ug/L	0.01894	0.0001530	9,997
As1891_A		503.6	ug/L	0.3592	0.07133	176.5
B_2089_A		504.3	ug/L	1.459	0.2893	664.1
Ba4554_R		501.4	ug/L	0.1131	0.02256	24,930
Be3130_R		503.1	ug/L	0.5869	0.1167	35,950
Ca3158_R		12,330	ug/L	16.70	0.1354	11,740
Cd2265_A		504.6	ug/L	1.194	0.2366	5,965
Co2286_A		508.0	ug/L	0.6910	0.1360	1,565
Cr2677_A		502.2	ug/L	0.07112	0.01416	5,752
Cu3273_A		505.0	ug/L	0.1702	0.03370	5,898
Fe2599_R		12,390	ug/L	1.215	0.009809	19,090
K_7664_R		12,400	ug/L	5.432	0.04381	6,623
Li6707_R		493.1	ug/L	0.2411	0.04890	5,045
Mg2025_A		12,430	ug/L	23.45	0.1886	3,568
Mn2576_R		505.1	ug/L	1.043	0.2065	3,461
Mo2020_A		505.9	ug/L	1.550	0.3064	1,434
Na5895_R		12,390	ug/L	6.271	0.05059	22,720
Ni2316_A		510.8	ug/L	1.275	0.2496	797.4
Pb2203_A		504.1	ug/L	1.449	0.2875	444.5
Sb2068_A		494.9	ug/L	2.976	0.6012	223.4
Se1960_A		503.3	ug/L	4.256	0.8456	129.4
Si2516_R		12,690	ug/L	113.3	0.8926	5,076
Sn1899_A		499.3	ug/L	0.9909	0.1985	243.9
Sr4215_R		506.2	ug/L	0.8152	0.1610	33,480
Ti3349_A		499.2	ug/L	1.233	0.2469	10,590
Ti1908_A		503.9	ug/L	0.09024	0.01791	227.8
V_2924_A		501.8	ug/L	0.1151	0.02293	5,424
Zn2062_A		501.9	ug/L	0.7232	0.1441	1,482
Y_3600_R		13,341	Cts/S	90.657	0.67953	13,341
Y_2243_A		7,881.9	Cts/S	9.2700	0.11761	7,881.9
Y_3600_A		124,170	Cts/S	203.56	0.16395	124,170

CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:40:25PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:40:25PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.3779	ug/L	0.3835	101.5	8.081
Al3961_R		7.153	ug/L	0.7591	10.61	-0.6199
As1891_A		-0.2406	ug/L	0.2230	92.70	-2.951
B_2089_A		1.533	ug/L	0.5195	33.89	5.625
Ba4554_R		0.01408	ug/L	0.02150	152.7	60.52
Be3130_R		0.02454	ug/L	0.002833	11.54	-7.659
Ca3158_R		3.892	ug/L	6.273	161.2	-32.35
Cd2265_A		0.07916	ug/L	0.02706	34.19	-0.9058
Co2286_A		0.08842	ug/L	0.2148	243.0	2.399
Cr2677_A		0.3815	ug/L	0.03779	9.908	7.014
Cu3273_A		-0.3049	ug/L	0.2061	67.61	-32.85
Fe2599_R		3.453	ug/L	0.3339	9.669	9.358
K_7664_R		43.31	ug/L	10.01	23.10	-81.60
Li6707_R		1.954	ug/L	0.4121	21.08	-15.02
Mg2025_A		1.211	ug/L	1.402	115.8	-4.360
Mn2576_R		-0.3319	ug/L	0.2400	72.31	2.180
Mo2020_A		0.6181	ug/L	0.1813	29.34	2.679
Na5895_R		44.08	ug/L	5.107	11.59	100.2
Ni2316_A		0.05583	ug/L	0.07845	140.5	-0.2824
Pb2203_A		0.007246	ug/L	0.1104	1,524	-0.4751
Sb2068_A		1.861	ug/L	1.094	58.80	0.8231
Se1960_A		0.7702	ug/L	2.057	267.1	2.434
Si2516_R		9.142	ug/L	14.18	155.1	40.69
Sn1899_A		0.1760	ug/L	0.3259	185.2	2.078
Sr4215_R		0.04633	ug/L	0.1029	222.1	-32.58
Ti3349_A		0.4226	ug/L	0.2399	56.77	-22.30
Tl1908_A		-0.7935	ug/L	0.4602	58.00	-2.562
V_2924_A		-0.004534	ug/L	0.3008	6,633	-5.287
Zn2062_A		0.1150	ug/L	0.01331	11.58	0.8502
Y_3600_R		13,504	Cts/S	50.172	0.37155	13,504
Y_2243_A		8,114.5	Cts/S	6.9133	0.085197	8,114.5
Y_3600_A		128,490	Cts/S	507.26	0.39480	128,490

PBT1604A

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:44:51PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.3399	ug/L	0.2447	72.00	8.395
Al3961_R		12.10	ug/L	16.27	134.5	3.311
As1891_A		0.3550	ug/L	1.071	301.8	-2.633
B_2089_A		6.632	ug/L	0.1791	2.701	11.89
Ba4554_R		33.42	ug/L	0.4842	1.449	1,720
Be3130_R		-0.06283	ug/L	0.01156	18.40	-13.82
Ca3158_R		11.22	ug/L	0.01139	0.1015	-25.02
Cd2265_A		0.05387	ug/L	0.03131	58.12	-1.167
Co2286_A		0.05644	ug/L	0.3048	540.1	2.212
Cr2677_A		0.5195	ug/L	0.1297	24.97	8.364
Cu3273_A		0.1580	ug/L	0.04578	28.97	-26.34
Fe2599_R		5.798	ug/L	1.290	22.25	12.89
K_7664_R		134.0	ug/L	42.30	31.56	-31.54
Li6707_R		2.388	ug/L	0.9313	39.00	-10.34
Mg2025_A		2.750	ug/L	2.784	101.2	-3.763
Mn2576_R		0.1997	ug/L	0.2378	119.1	5.793
Mo2020_A		-0.1106	ug/L	0.01065	9.623	0.5330
Na5895_R	F	404,300	ug/L	4,621	1.143	742,000
Ni2316_A		1.029	ug/L	0.2655	25.80	1.218

PBT1604A

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:44:51PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-0.6178	ug/L	0.7901	127.9	-1.005
Sb2068_A		0.1891	ug/L	0.02825	14.94	0.04021
Se1960_A		-0.9385	ug/L	0.05527	5.889	1.917
Si2516_R		4.235	ug/L	7.492	176.9	38.31
Sn1899_A		0.08902	ug/L	0.2828	317.7	1.961
Sr4215_R		0.6685	ug/L	0.04712	7.049	9.037
Ti3349_A		0.1718	ug/L	0.3340	194.4	-26.89
Ti1908_A		-1.081	ug/L	1.659	153.5	-2.600
V_2924_A		0.08658	ug/L	0.02159	24.93	-4.090
Zn2062_A		13.60	ug/L	0.002029	0.01492	40.35
Y_3600_R		13,364	Cts/S	108.29	0.81028	13,364
Y_2243_A		7,818.9	Cts/S	29.802	0.38116	7,818.9
Y_3600_A		124,330	Cts/S	820.19	0.65970	124,330

TM3409-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:49:38PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.2474	ug/L	0.09692	39.17	17.53
Al3961_R		18.09	ug/L	4.323	23.89	11.64
As1891_A		1.734	ug/L	0.01012	0.5834	-2.182
B_2089_A		2.510	ug/L	0.01661	0.6618	6.769
Ba4554_R		15.80	ug/L	0.4996	3.161	847.9
Be3130_R		0.02509	ug/L	0.04805	191.5	-7.617
Ca3158_R		4,865	ug/L	146.2	3.005	4,636
Cd2265_A		0.03806	ug/L	0.07887	207.2	-1.380
Co2286_A		0.2350	ug/L	0.07528	32.03	2.807
Cr2677_A		0.4740	ug/L	0.02486	5.245	7.906
Cu3273_A		38.02	ug/L	0.4784	1.258	421.4
Fe2599_R		0.4781	ug/L	0.2908	60.83	4.696
K_7664_R		1,249	ug/L	41.01	3.284	576.7
Li6707_R		-0.3322	ug/L	2.781	837.3	-39.09
Mg2025_A		624.7	ug/L	4.854	0.7769	175.7
Mn2576_R		1.673	ug/L	0.1790	10.70	16.09
Mo2020_A		-0.09027	ug/L	0.002764	3.061	0.6013
Na5895_R	W	25,480	ug/L	802.3	3.149	46,960
Ni2316_A		-0.01658	ug/L	0.01385	83.58	-0.3982
Pb2203_A		1.650	ug/L	0.3876	23.49	1.013
Sb2068_A		-0.8638	ug/L	0.4764	55.15	-0.4444
Se1960_A		0.2470	ug/L	1.290	522.1	2.254
Si2516_R		3,204	ug/L	64.78	2.022	1,316
Sn1899_A		0.3268	ug/L	0.7853	240.3	2.112
Sr4215_R		43.85	ug/L	1.328	3.028	2,884
Ti3349_A		0.02908	ug/L	0.2004	689.3	-30.21
Ti1908_A		1.878	ug/L	0.1881	10.01	-1.285
V_2924_A		-0.1102	ug/L	0.009131	8.287	-6.290
Zn2062_A		4.286	ug/L	0.07893	1.841	13.29
Y_3600_R		13,425	Cts/S	429.63	3.2002	13,425
Y_2243_A		7,965.6	Cts/S	63.205	0.79348	7,965.6
Y_3600_A		125,170	Cts/S	3,239.5	2.5882	125,170

TM3461-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:54:01PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3461-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 2:54:01PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.2970	ug/L	0.08351	28.12	9.161
Al3961_R		11.80	ug/L	1.305	11.06	7.101
As1891_A		2.634	ug/L	0.1786	6.781	-1.868
B_2089_A		157.1	ug/L	0.3976	0.2532	208.2
Ba4554_R		11.70	ug/L	0.09690	0.8282	648.6
Be3130_R		0.01545	ug/L	0.003196	20.69	-8.315
Ca3158_R		5,688	ug/L	26.17	0.4600	5,472
Cd2265_A		0.03067	ug/L	0.04224	137.7	-1.461
Co2286_A		0.4641	ug/L	0.1868	40.25	3.540
Cr2677_A		0.3373	ug/L	0.1945	57.65	6.394
Cu3273_A		190.1	ug/L	0.2730	0.1436	2,237
Fe2599_R		13.97	ug/L	0.6847	4.901	25.82
K_7664_R		4,450	ug/L	1.602	0.03601	2,343
Li6707_R		-0.02059	ug/L	0.4843	2,352	-35.66
Mg2025_A		1,320	ug/L	7.329	0.5553	378.4
Mn2576_R		28.59	ug/L	0.3847	1.346	203.3
Mo2020_A		-0.2084	ug/L	0.04225	20.28	0.2630
Na5895_R		6,311	ug/L	22.14	0.3509	11,750
Ni2316_A		1.383	ug/L	0.8184	59.18	1.805
Pb2203_A		6.401	ug/L	0.04545	0.7100	5.327
Sb2068_A		0.04367	ug/L	0.3989	913.3	-0.02270
Se1960_A		-0.04651	ug/L	0.4137	889.5	2.196
Si2516_R		3,923	ug/L	37.60	0.9586	1,616
Sn1899_A		-0.5713	ug/L	0.08105	14.19	1.683
Sr4215_R		33.11	ug/L	0.1075	0.3248	2,188
Ti3349_A		0.02278	ug/L	0.001716	7.534	-30.50
Tl1908_A		0.7342	ug/L	0.6004	81.78	-1.826
V_2924_A		0.02556	ug/L	0.07234	283.0	-4.919
Zn2062_A		49.47	ug/L	0.1714	0.3466	149.1
Y_3600_R		13,532	Cts/S	139.56	1.0313	13,532
Y_2243_A		8,010.1	Cts/S	11.967	0.14940	8,010.1
Y_3600_A		126,030	Cts/S	41.103	0.032614	126,030

PBSML23ICS1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 2:58:23PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.5072	ug/L	0.1195	23.56	5.653
Al3961_R		16.25	ug/L	2.869	17.66	6.726
As1891_A		-1.834	ug/L	0.1967	10.72	-3.325
B_2089_A		2.725	ug/L	0.07942	2.915	6.751
Ba4554_R		0.5165	ug/L	0.2097	40.60	84.72
Be3130_R		-0.0001100	ug/L	0.05862	53,170	-9.340
Ca3158_R		31.02	ug/L	4.828	15.57	-6.070
Cd2265_A		-0.03839	ug/L	0.02081	54.21	-2.155
Co2286_A		-0.1185	ug/L	0.05014	42.33	1.638
Cr2677_A		1.507	ug/L	0.04355	2.889	19.31
Cu3273_A		-0.2325	ug/L	0.1798	77.35	-30.34
Fe2599_R		28.59	ug/L	0.3762	1.316	48.01
K_7664_R		71.91	ug/L	35.62	49.54	-65.15
Li6707_R		1.605	ug/L	0.7034	43.84	-18.46
Mg2025_A		8.806	ug/L	0.6055	6.877	-2.008
Mn2576_R		0.8255	ug/L	0.3099	37.54	10.07
Mo2020_A		0.1949	ug/L	0.1717	88.12	1.355
Na5895_R		68.13	ug/L	2.952	4.332	143.2
Ni2316_A		0.3396	ug/L	0.2000	58.89	0.1534

PBSML23ICS1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 2:58:23PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.1501	ug/L	0.7521	501.2	-0.3213
Sb2068_A		0.05094	ug/L	0.1079	211.7	-0.1653
Se1960_A		2.032	ug/L	0.1178	5.796	2.594
Si2516_R		-4.045	ug/L	10.89	269.2	34.97
Sn1899_A		31.83	ug/L	0.08490	0.2668	16.78
Sr4215_R		0.01439	ug/L	0.1997	1,388	-34.28
Ti3349_A		0.3787	ug/L	0.2186	57.73	-22.08
Ti1908_A		-2.141	ug/L	0.2775	12.96	-3.002
V_2924_A		-0.3596	ug/L	0.3344	93.01	-8.816
Zn2062_A		1.190	ug/L	0.03899	3.276	3.868
Y_3600_R		13,346	Cts/S	52.420	0.39277	13,346
Y_2243_A		7,622.1	Cts/S	71.151	0.93348	7,622.1
Y_3600_A		121,880	Cts/S	893.31	0.73294	121,880

LCSOML23ICS1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:02:48PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		56.03	ug/L	0.5199	0.9279	878.1
Al3961_R		2,169	ug/L	13.11	0.6044	1,775
As1891_A		97.38	ug/L	2.062	2.117	31.93
B_2089_A		488.0	ug/L	8.338	1.708	630.5
Ba4554_R		2,261	ug/L	0.5073	0.02244	114,000
Be3130_R		56.32	ug/L	0.4475	0.7944	4,084
Ca3158_R		2,462	ug/L	7.529	0.3058	2,353
Cd2265_A		253.1	ug/L	4.353	1.720	2,975
Co2286_A		579.0	ug/L	9.238	1.596	1,778
Cr2677_A		224.3	ug/L	0.5056	0.2254	2,630
Cu3273_A		284.4	ug/L	0.3066	0.1078	3,385
Fe2599_R		1,122	ug/L	7.918	0.7060	1,761
K_7664_R		9,854	ug/L	40.62	0.4122	5,327
Li6707_R		490.5	ug/L	1.873	0.3819	5,101
Mg2025_A		4,868	ug/L	81.84	1.681	1,406
Mn2576_R		563.3	ug/L	2.003	0.3556	3,924
Mo2020_A		105.0	ug/L	1.815	1.729	297.3
Na5895_R		7,386	ug/L	19.16	0.2594	13,770
Ni2316_A		578.1	ug/L	8.606	1.489	896.1
Pb2203_A		101.9	ug/L	1.637	1.606	89.33
Sb2068_A		100.2	ug/L	1.306	1.303	43.00
Se1960_A		100.0	ug/L	2.931	2.930	27.45
Si2516_R		1,007	ug/L	10.25	1.018	445.6
Sn1899_A		539.3	ug/L	10.27	1.903	262.6
Sr4215_R		502.5	ug/L	0.2613	0.05200	33,770
Ti3349_A		495.7	ug/L	0.1645	0.03320	10,750
Ti1908_A		95.49	ug/L	1.512	1.583	41.90
V_2924_A		554.5	ug/L	0.1273	0.02296	6,168
Zn2062_A		564.6	ug/L	10.25	1.816	1,664
Y_3600_R		13,558	Cts/S	63.775	0.47037	13,558
Y_2243_A		7,861.3	Cts/S	102.94	1.3095	7,861.3
Y_3600_A		127,020	Cts/S	621.04	0.48895	127,020

LC2OML23ICS1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:07:01PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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LC20ML23ICS1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:07:01PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		54.71	ug/L	0.09137	0.1670	861.9
Al3961_R		2,105	ug/L	18.80	0.8929	1,722
As1891_A		96.13	ug/L	0.9283	0.9657	31.53
B_2089_A		485.5	ug/L	5.420	1.116	628.0
Ba4554_R		2,184	ug/L	11.04	0.5058	110,000
Be3130_R		54.88	ug/L	0.6037	1.100	3,976
Ca3158_R		2,446	ug/L	35.42	1.448	2,335
Cd2265_A		250.0	ug/L	3.632	1.453	2,941
Co2286_A		558.2	ug/L	8.338	1.494	1,716
Cr2677_A		214.8	ug/L	0.7183	0.3343	2,531
Cu3273_A		284.8	ug/L	0.6119	0.2148	3,406
Fe2599_R		1,109	ug/L	12.87	1.161	1,740
K_7664_R		9,693	ug/L	33.07	0.3411	5,234
Li6707_R		488.9	ug/L	0.07239	0.01481	5,079
Mg2025_A		4,778	ug/L	71.21	1.490	1,381
Mn2576_R		556.0	ug/L	6.113	1.099	3,870
Mo2020_A		103.3	ug/L	1.621	1.569	292.9
Na5895_R		7,293	ug/L	23.44	0.3215	13,590
Ni2316_A		558.7	ug/L	7.794	1.395	866.9
Pb2203_A		98.81	ug/L	0.6810	0.6892	86.68
Sb2068_A		99.81	ug/L	1.480	1.483	42.88
Se1960_A		97.62	ug/L	0.4692	0.4807	26.87
Si2516_R		1,008	ug/L	2.771	0.2748	445.6
Sn1899_A		532.0	ug/L	6.496	1.221	259.3
Sr4215_R		497.4	ug/L	2.600	0.5226	33,410
Ti3349_A		482.8	ug/L	1.694	0.3508	10,520
Tl1908_A		94.60	ug/L	1.730	1.829	41.51
V_2924_A		533.2	ug/L	2.299	0.4312	5,959
Zn2062_A		546.8	ug/L	7.534	1.378	1,613
Y_3600_R		13,547	Cts/S	24.817	0.18318	13,547
Y_2243_A		7,869.7	Cts/S	104.97	1.3339	7,869.7
Y_3600_A		127,620	Cts/S	260.25	0.20392	127,620

TM2881-007

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:11:14PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		3.771	ug/L	0.7039	18.67	-170.6
Al3961_R	W	56,070	ug/L	92.25	0.1645	46,230
As1891_A		20.45	ug/L	0.1301	0.6364	-0.4947
B_2089_A		10.10	ug/L	0.6177	6.114	16.41
Ba4554_R		156.9	ug/L	0.4242	0.2703	8,018
Be3130_R		1.723	ug/L	0.01209	0.7017	-60.64
Ca3158_R		4,689	ug/L	8.095	0.1726	4,541
Cd2265_A		-0.5357	ug/L	0.02647	4.942	85.03
Co2286_A		25.50	ug/L	0.4036	1.583	100.8
Cr2677_A		68.80	ug/L	0.07966	0.1158	794.7
Cu3273_A		314.4	ug/L	0.4083	0.1299	3,647
Fe2599_R	W	59,150	ug/L	330.4	0.5587	93,210
K_7664_R		6,172	ug/L	18.12	0.2937	3,317
Li6707_R		44.00	ug/L	0.8556	1.944	427.8
Mg2025_A		13,970	ug/L	51.71	0.3701	3,972
Mn2576_R		935.2	ug/L	3.932	0.4204	6,534
Mo2020_A		1.279	ug/L	0.1822	14.24	4.373
Na5895_R		425.7	ug/L	0.4485	0.1054	816.1
Ni2316_A		56.73	ug/L	0.2172	0.3828	82.99

TM2881-007

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:11:14PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A	W	4,277	ug/L	23.93	0.5596	3,767
Sb2068_A		12.50	ug/L	0.3116	2.493	6.058
Se1960_A		2.265	ug/L	1.699	75.00	3.016
Si2516_R		1,800	ug/L	11.21	0.6232	779.9
Sn1899_A		44.01	ug/L	0.5600	1.272	23.17
Sr4215_R		29.75	ug/L	0.2035	0.6840	1,978
Ti3349_A	W	3,656	ug/L	6.517	0.1783	78,120
Ti1908_A		-2.226	ug/L	0.7795	35.01	-5.351
V_2924_A		113.2	ug/L	0.2747	0.2427	1,266
Zn2062_A		194.7	ug/L	1.110	0.5700	573.6
Y_3600_R		13,642	Cts/S	100.27	0.73499	13,642
Y_2243_A		7,852.0	Cts/S	15.136	0.19276	7,852.0
Y_3600_A		124,810	Cts/S	214.39	0.17178	124,810

TM2881-011

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:15:30PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		5.133	ug/L	0.06950	1.354	-240.8
Al3961_R	W	62,810	ug/L	605.1	0.9633	50,810
As1891_A		20.36	ug/L	0.5968	2.931	-2.652
B_2089_A		12.89	ug/L	0.3804	2.952	19.85
Ba4554_R		265.1	ug/L	1.494	0.5637	13,250
Be3130_R		1.954	ug/L	0.03162	1.618	-107.0
Ca3158_R		10,870	ug/L	93.90	0.8640	10,380
Cd2265_A		-0.8030	ug/L	0.02995	3.729	116.9
Co2286_A		51.10	ug/L	0.2143	0.4193	185.8
Cr2677_A		100.7	ug/L	0.03193	0.03171	1,155
Cu3273_A		308.6	ug/L	0.4649	0.1506	3,542
Fe2599_R	W	81,900	ug/L	663.7	0.8103	126,600
K_7664_R		12,900	ug/L	85.64	0.6637	6,918
Li6707_R		64.44	ug/L	0.9248	1.435	631.0
Mg2025_A		22,460	ug/L	156.1	0.6952	6,349
Mn2576_R	W	1,352	ug/L	12.55	0.9278	9,272
Mo2020_A		1.217	ug/L	0.07193	5.909	4.131
Na5895_R		782.6	ug/L	2.899	0.3704	1,457
Ni2316_A		121.3	ug/L	1.148	0.9470	180.1
Pb2203_A	W	1,941	ug/L	13.60	0.7003	1,697
Sb2068_A		3.822	ug/L	0.2208	5.776	2.393
Se1960_A		3.242	ug/L	2.329	71.82	3.218
Si2516_R		2,481	ug/L	4.720	0.1902	1,041
Sn1899_A		30.85	ug/L	1.271	4.121	16.72
Sr4215_R		51.19	ug/L	0.1999	0.3906	3,365
Ti3349_A	W	5,022	ug/L	8.786	0.1750	106,700
Ti1908_A		-6.284	ug/L	1.150	18.30	-8.041
V_2924_A		173.0	ug/L	0.4385	0.2535	1,920
Zn2062_A		206.4	ug/L	1.335	0.6469	604.1
Y_3600_R		13,385	Cts/S	47.908	0.35794	13,385
Y_2243_A		7,805.0	Cts/S	58.113	0.74457	7,805.0
Y_3600_A		124,040	Cts/S	111.89	0.090205	124,040

TM2998-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:19:46PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM2998-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:19:46PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		10.45	ug/L	4.298	41.12	-415.9
Al3961_R	W	206,700	ug/L	11,590	5.605	84,120
As1891_A		93.87	ug/L	1.989	2.119	0.6372
B_2089_A		109.6	ug/L	0.5892	0.5378	75.00
Ba4554_R		896.1	ug/L	51.61	5.759	22,490
Be3130_R		7.811	ug/L	0.5144	6.585	248.4
Ca3158_R		35,480	ug/L	2,002	5.644	17,050
Cd2265_A		-3.590	ug/L	1.507	41.97	210.2
Co2286_A		181.0	ug/L	3.352	1.852	290.2
Cr2677_A		240.8	ug/L	0.05220	0.02168	1,407
Cu3273_A		133.4	ug/L	0.4361	0.3269	746.6
Fe2599_R	W	301,300	ug/L	17,220	5.717	234,300
K_7664_R		23,190	ug/L	1,302	5.613	6,244
Li6707_R		1,001	ug/L	60.27	6.021	5,169
Mg2025_A		42,590	ug/L	681.4	1.600	6,177
Mn2576_R	W	7,835	ug/L	466.5	5.954	27,030
Mo2020_A		6.889	ug/L	0.2450	3.556	10.50
Na5895_R		1,071	ug/L	73.60	6.871	1,008
Ni2316_A		224.6	ug/L	4.085	1.819	165.3
Pb2203_A		306.1	ug/L	7.038	2.299	129.3
Sb2068_A		1.930	ug/L	1.380	71.50	1.835
Se1960_A		10.05	ug/L	0.1220	1.214	4.068
Si2516_R		3,207	ug/L	181.1	5.646	673.4
Sn1899_A		36.72	ug/L	2.352	6.405	11.01
Sr4215_R		327.4	ug/L	19.64	5.998	10,900
Ti3349_A		1,311	ug/L	7.159	0.5461	14,150
Tl1908_A		-14.09	ug/L	2.446	17.36	-8.168
V_2924_A		350.9	ug/L	2.227	0.6348	1,948
Zn2062_A		879.4	ug/L	15.95	1.813	1,320
Y_3600_R		13,480	Cts/S	582.24	4.3193	13,480
Y_2243_A		8,007.0	Cts/S	111.41	1.3914	8,007.0
Y_3600_A		126,300	Cts/S	17.112	0.013549	126,300

TM2998-002

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:24:03PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		3.752	ug/L	2.317	61.75	-104.9
Al3961_R		94,960	ug/L	658.4	0.6933	15,500
As1891_A		104.9	ug/L	0.6257	0.5963	0.9285
B_2089_A		210.6	ug/L	1.256	0.5965	54.33
Ba4554_R		519.3	ug/L	2.070	0.3986	5,197
Be3130_R		4.547	ug/L	0.7130	15.68	51.09
Ca3158_R	W	1,691,000	ug/L	28,340	1.676	322,000
Cd2265_A		-0.6709	ug/L	0.7467	111.3	55.26
Co2286_A		103.9	ug/L	2.145	2.065	63.27
Cr2677_A		148.0	ug/L	2.559	1.728	327.4
Cu3273_A		432.6	ug/L	7.833	1.811	936.3
Fe2599_R	W	203,500	ug/L	1,235	0.6071	62,560
K_7664_R		26,270	ug/L	175.5	0.6680	2,739
Li6707_R		306.0	ug/L	4.586	1.499	594.0
Mg2025_A	W	576,500	ug/L	4,946	0.8580	31,020
Mn2576_R	W	10,700	ug/L	58.43	0.5462	14,630
Mo2020_A		32.25	ug/L	0.6699	2.077	17.89
Na5895_R		6,565	ug/L	2.934	0.04468	2,417
Ni2316_A		264.5	ug/L	2.403	0.9085	74.25

TM2998-002

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:24:03PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		97.60	ug/L	2.661	2.727	14.57
Sb2068_A		-7.302	ug/L	1.330	18.21	-0.3457
Se1960_A		24.15	ug/L	4.315	17.87	3.395
Si2516_R		3,596	ug/L	113.7	3.162	319.4
Sn1899_A		32.73	ug/L	3.620	11.06	4.811
Sr4215_R		1,694	ug/L	12.30	0.7262	22,340
Ti3349_A		658.7	ug/L	15.32	2.326	2,644
Ti1908_A		-14.08	ug/L	1.562	11.09	-4.402
V_2924_A		201.1	ug/L	7.795	3.877	410.9
Zn2062_A		464.5	ug/L	2.842	0.6118	259.0
Y_3600_R		13,305	Cts/S	61.858	0.46491	13,305
Y_2243_A		7,425.9	Cts/S	39.573	0.53290	7,425.9
Y_3600_A		118,480	Cts/S	1,980.0	1.6711	118,480

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:28:25PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		504.4	ug/L	0.6113	0.1212	7,734
Al3961_R		12,290	ug/L	8.619	0.07012	9,995
As1891_A		497.9	ug/L	4.239	0.8514	176.4
B_2089_A		497.1	ug/L	7.014	1.411	662.0
Ba4554_R		501.1	ug/L	2.748	0.5485	25,080
Be3130_R		500.2	ug/L	1.992	0.3983	35,980
Ca3158_R		12,250	ug/L	11.60	0.09470	11,740
Cd2265_A		496.8	ug/L	6.599	1.328	5,937
Co2286_A		501.0	ug/L	5.680	1.134	1,560
Cr2677_A		499.9	ug/L	1.301	0.2604	5,780
Cu3273_A		504.5	ug/L	0.2244	0.04449	5,947
Fe2599_R		12,370	ug/L	57.58	0.4656	19,190
K_7664_R		12,320	ug/L	43.71	0.3548	6,624
Li6707_R		493.1	ug/L	1.036	0.2100	5,080
Mg2025_A		12,300	ug/L	124.6	1.013	3,570
Mn2576_R		499.4	ug/L	1.204	0.2411	3,445
Mo2020_A		499.7	ug/L	5.239	1.048	1,432
Na5895_R		12,300	ug/L	9.817	0.07980	22,710
Ni2316_A		502.5	ug/L	5.198	1.034	793.2
Pb2203_A		499.1	ug/L	8.135	1.630	445.0
Sb2068_A		489.3	ug/L	2.779	0.5680	223.3
Se1960_A		498.1	ug/L	5.193	1.043	129.5
Si2516_R		12,580	ug/L	33.36	0.2652	5,066
Sn1899_A		492.0	ug/L	6.809	1.384	243.0
Sr4215_R		504.0	ug/L	0.3794	0.07528	33,560
Ti3349_A		497.9	ug/L	3.193	0.6412	10,670
Ti1908_A		501.9	ug/L	5.926	1.181	229.4
V_2924_A		498.8	ug/L	1.191	0.2388	5,443
Zn2062_A		493.8	ug/L	7.503	1.519	1,474
Y_3600_R		13,431	Cts/S	114.75	0.85438	13,431
Y_2243_A		7,969.4	Cts/S	73.963	0.92809	7,969.4
Y_3600_A		125,340	Cts/S	686.71	0.54790	125,340

CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:32:35PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 3:32:35PM

Method Revision: 1,230

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.3973	ug/L	0.1771	44.58	7.607
Al3961_R		7.047	ug/L	5.062	71.83	-0.6988
As1891_A		0.5209	ug/L	1.084	208.2	-2.581
B_2089_A		0.7779	ug/L	0.2308	29.67	4.478
Ba4554_R		-0.1503	ug/L	0.002243	1.493	51.98
Be3130_R		-0.007394	ug/L	0.06871	929.3	-9.911
Ca3158_R		4.523	ug/L	0.7553	16.70	-31.58
Cd2265_A		0.04113	ug/L	0.09678	235.3	-1.318
Co2286_A		0.04804	ug/L	0.2186	455.1	2.195
Cr2677_A		0.3709	ug/L	0.08790	23.70	6.721
Cu3273_A		-0.4796	ug/L	0.06115	12.75	-34.14
Fe2599_R		3.249	ug/L	1.091	33.59	8.989
K_7664_R		-9.119	ug/L	17.45	191.4	-109.8
Li6707_R		0.8922	ug/L	1.702	190.8	-25.95
Mg2025_A		1.017	ug/L	0.5397	53.08	-4.273
Mn2576_R		0.2592	ug/L	0.1652	63.75	6.240
Mo2020_A		0.6551	ug/L	0.2545	38.84	2.693
Na5895_R		10.20	ug/L	3.408	33.42	37.23
Ni2316_A		-0.2391	ug/L	0.1843	77.08	-0.7279
Pb2203_A		-0.6839	ug/L	0.6879	100.6	-1.067
Sb2068_A		1.395	ug/L	0.5123	36.73	0.5866
Se1960_A		0.8599	ug/L	1.386	161.1	2.375
Si2516_R		3.786	ug/L	8.753	231.2	38.31
Sn1899_A		0.003083	ug/L	0.4674	15,160	1.925
Sr4215_R		0.2071	ug/L	0.04349	21.00	-21.68
Ti3349_A		0.5355	ug/L	0.5299	98.95	-19.36
Tl1908_A		-0.02780	ug/L	0.04341	156.2	-2.131
V_2924_A		0.1551	ug/L	0.2790	179.9	-3.422
Zn2062_A		0.01255	ug/L	0.05694	453.7	0.5215
Y_3600_R		13,430	Cts/S	11.619	0.086512	13,430
Y_2243_A		7,848.5	Cts/S	49.300	0.62815	7,848.5
Y_3600_A		125,430	Cts/S	662.21	0.52795	125,430

TM2998-003

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 3:37:00PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		6.799	ug/L	1.216	17.89	-289.9
Al3961_R	W	115,900	ug/L	2.270	0.001958	46,830
As1891_A		55.52	ug/L	1.078	1.942	-2.306
B_2089_A		162.8	ug/L	0.01493	0.009170	103.2
Ba4554_R		757.1	ug/L	0.2211	0.02920	18,790
Be3130_R		5.320	ug/L	0.07761	1.459	129.7
Ca3158_R	W	661,400	ug/L	5,737	0.8674	314,900
Cd2265_A		-1.104	ug/L	0.1292	11.70	146.3
Co2286_A		72.02	ug/L	0.5783	0.8030	115.2
Cr2677_A		169.3	ug/L	0.1242	0.07335	958.8
Cu3273_A		216.1	ug/L	1.948	0.9012	1,200
Fe2599_R	W	210,500	ug/L	445.7	0.2117	161,900
K_7664_R		34,290	ug/L	117.9	0.3439	9,176
Li6707_R		214.4	ug/L	2.721	1.269	1,067
Mg2025_A	W	255,700	ug/L	1,913	0.7480	34,910
Mn2576_R	W	6,238	ug/L	10.12	0.1622	21,310
Mo2020_A		0.3707	ug/L	0.2933	79.13	1.113
Na5895_R		2,233	ug/L	25.50	1.142	2,059
Ni2316_A		180.1	ug/L	1.900	1.055	125.8

TM2998-003

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:37:00PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		92.28	ug/L	1.678	1.818	34.55
Sb2068_A		2.868	ug/L	2.740	95.56	1.474
Se1960_A		8.412	ug/L	1.158	13.76	3.390
Si2516_R		2,651	ug/L	38.71	1.460	560.2
Sn1899_A		34.00	ug/L	1.855	5.458	9.724
Sr4215_R		1,036	ug/L	1.495	0.1444	34,170
Ti3349_A	W	2,315	ug/L	11.00	0.4750	24,200
Ti1908_A		-9.354	ug/L	2.009	21.48	-6.449
V_2924_A		238.0	ug/L	1.786	0.7505	1,281
Zn2062_A		406.3	ug/L	3.765	0.9266	574.3
Y_3600_R		13,310	Cts/S	76.281	0.57311	13,310
Y_2243_A		7,537.0	Cts/S	38.960	0.51691	7,537.0
Y_3600_A		122,230	Cts/S	527.81	0.43183	122,230

TM2998-003L

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:41:23PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-2.645	ug/L	0.02668	1.008	-53.16
Al3961_R		98,240	ug/L	598.7	0.6094	8,045
As1891_A		44.74	ug/L	6.817	15.24	-2.860
B_2089_A		135.2	ug/L	1.216	0.8992	20.90
Ba4554_R		641.9	ug/L	0.04778	0.007443	3,280
Be3130_R		4.157	ug/L	0.2062	4.959	11.84
Ca3158_R	W	574,500	ug/L	3,608	0.6280	55,440
Cd2265_A		-2.928	ug/L	0.1961	6.699	22.92
Co2286_A		60.98	ug/L	0.2313	0.3794	22.21
Cr2677_A		149.7	ug/L	1.090	0.7282	174.4
Cu3273_A		176.6	ug/L	6.928	3.922	175.6
Fe2599_R		183,300	ug/L	289.5	0.1579	28,580
K_7664_R		28,740	ug/L	9.990	0.03476	1,472
Li6707_R		185.9	ug/L	1.370	0.7372	158.4
Mg2025_A		206,400	ug/L	1,700	0.8236	5,912
Mn2576_R		5,522	ug/L	9.761	0.1768	3,827
Mo2020_A		-0.8678	ug/L	0.6107	70.37	0.5702
Na5895_R		2,004	ug/L	10.04	0.5011	389.9
Ni2316_A		151.6	ug/L	0.2942	0.1940	21.89
Pb2203_A		61.96	ug/L	8.444	13.63	4.318
Sb2068_A		-0.08344	ug/L	0.7572	907.5	0.1181
Se1960_A		2.938	ug/L	1.970	67.06	2.305
Si2516_R		2,058	ug/L	76.53	3.718	119.4
Sn1899_A		20.62	ug/L	1.776	8.613	2.943
Sr4215_R		885.6	ug/L	3.610	0.4076	5,894
Ti3349_A		1,988	ug/L	15.72	0.7908	4,202
Ti1908_A		-19.04	ug/L	12.09	63.46	-3.443
V_2924_A		206.0	ug/L	7.621	3.700	221.4
Zn2062_A		350.6	ug/L	4.203	1.199	104.4
Y_3600_R		13,494	Cts/S	206.36	1.5292	13,494
Y_2243_A		7,911.2	Cts/S	64.130	0.81062	7,911.2
Y_3600_A		124,350	Cts/S	947.19	0.76172	124,350

TM2998-003A

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:45:45PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM2998-003A

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:45:45PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		1,082	ug/L	12.82	1.185	7,814
Al3961_R	W	132,000	ug/L	337.3	0.2555	54,310
As1891_A		1,099	ug/L	23.73	2.159	178.5
B_2089_A		1,232	ug/L	24.55	1.992	782.3
Ba4554_R		1,763	ug/L	7.488	0.4249	44,470
Be3130_R		1,060	ug/L	1.949	0.1839	38,430
Ca3158_R	W	638,900	ug/L	3,802	0.5952	309,800
Cd2265_A		1,021	ug/L	21.61	2.116	5,982
Co2286_A		1,097	ug/L	22.25	2.028	1,642
Cr2677_A		1,170	ug/L	16.24	1.388	6,630
Cu3273_A		1,285	ug/L	15.83	1.232	7,414
Fe2599_R	W	212,900	ug/L	439.0	0.2062	166,700
K_7664_R	W	54,810	ug/L	44.09	0.08044	15,000
Li6707_R		1,276	ug/L	10.41	0.8157	6,643
Mg2025_A	W	255,700	ug/L	5,112	1.999	35,360
Mn2576_R	W	7,048	ug/L	18.31	0.2598	24,510
Mo2020_A		1,073	ug/L	23.87	2.225	1,472
Na5895_R		14,770	ug/L	20.81	0.1409	13,770
Ni2316_A		1,191	ug/L	25.94	2.179	892.3
Pb2203_A		1,115	ug/L	20.36	1.826	472.1
Sb2068_A		1,068	ug/L	25.85	2.420	234.1
Se1960_A		1,075	ug/L	22.90	2.131	133.9
Si2516_R		3,080	ug/L	17.27	0.5607	660.1
Sn1899_A		1,063	ug/L	24.67	2.321	251.1
Sr4215_R	W	2,022	ug/L	5.894	0.2916	67,950
Ti3349_A	W	3,265	ug/L	39.80	1.219	34,340
Tl1908_A		1,020	ug/L	14.44	1.416	221.0
V_2924_A		1,261	ug/L	16.65	1.320	6,763
Zn2062_A		1,387	ug/L	29.76	2.145	1,983
Y_3600_R		13,554	Cts/S	92.876	0.68521	13,554
Y_2243_A		7,629.6	Cts/S	106.46	1.3954	7,629.6
Y_3600_A		122,870	Cts/S	1,215.7	0.98940	122,870

TM2998-003S

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:50:01PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		59.63	ug/L	0.8881	1.489	122.1
Al3961_R	W	125,100	ug/L	959.6	0.7671	51,640
As1891_A		146.6	ug/L	0.2126	0.1450	14.08
B_2089_A		648.9	ug/L	2.731	0.4208	410.3
Ba4554_R	W	2,824	ug/L	12.08	0.4278	71,480
Be3130_R		57.95	ug/L	0.07565	0.1305	2,056
Ca3158_R	W	622,700	ug/L	4,148	0.6662	303,100
Cd2265_A		231.5	ug/L	1.757	0.7591	1,478
Co2286_A		591.5	ug/L	2.994	0.5062	895.7
Cr2677_A		376.0	ug/L	0.8030	0.2136	2,155
Cu3273_A		424.5	ug/L	1.227	0.2892	2,440
Fe2599_R	W	201,000	ug/L	673.7	0.3351	158,000
K_7664_R		47,340	ug/L	254.9	0.5384	12,990
Li6707_R		701.8	ug/L	7.071	1.008	3,651
Mg2025_A	W	249,200	ug/L	1,188	0.4766	34,700
Mn2576_R	W	6,695	ug/L	13.30	0.1986	23,370
Mo2020_A		93.83	ug/L	0.5307	0.5656	130.1
Na5895_R		9,464	ug/L	64.05	0.6768	8,858
Ni2316_A		686.6	ug/L	1.885	0.2745	512.5

TM2998-003S

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:50:01PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		179.9	ug/L	2.385	1.325	72.64
Sb2068_A		30.75	ug/L	4.108	13.36	6.670
Se1960_A		101.7	ug/L	6.522	6.410	15.05
Si2516_R		3,365	ug/L	29.25	0.8693	718.0
Sn1899_A		494.8	ug/L	5.219	1.055	118.8
Sr4215_R		1,445	ug/L	4.649	0.3218	48,730
Ti3349_A	W	2,613	ug/L	13.90	0.5318	27,720
Ti1908_A		82.94	ug/L	1.750	2.110	14.30
V_2924_A		755.7	ug/L	2.558	0.3385	4,113
Zn2062_A		897.9	ug/L	5.977	0.6657	1,293
Y_3600_R		13,604	Cts/S	21.165	0.15558	13,604
Y_2243_A		7,683.7	Cts/S	30.479	0.39667	7,683.7
Y_3600_A		124,020	Cts/S	30.223	0.024369	124,020

TM2998-003P

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:54:21PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		59.35	ug/L	1.103	1.858	125.6
Al3961_R	W	116,400	ug/L	473.0	0.4062	46,940
As1891_A		140.7	ug/L	2.507	1.782	13.04
B_2089_A		640.7	ug/L	4.482	0.6995	399.2
Ba4554_R	W	2,770	ug/L	0.5197	0.01876	68,400
Be3130_R		58.52	ug/L	0.2903	0.4961	2,027
Ca3158_R	W	686,000	ug/L	4,485	0.6537	325,800
Cd2265_A		231.2	ug/L	1.703	0.7365	1,451
Co2286_A		584.0	ug/L	4.143	0.7095	871.2
Cr2677_A		367.9	ug/L	3.968	1.079	2,059
Cu3273_A		438.1	ug/L	1.049	0.2395	2,461
Fe2599_R	W	196,000	ug/L	227.4	0.1160	150,200
K_7664_R		45,310	ug/L	200.4	0.4423	12,120
Li6707_R		702.7	ug/L	3.535	0.5031	3,567
Mg2025_A	W	270,600	ug/L	2,060	0.7613	37,120
Mn2576_R	W	6,783	ug/L	41.87	0.6173	23,110
Mo2020_A		92.11	ug/L	0.6822	0.7406	125.9
Na5895_R		9,622	ug/L	28.52	0.2965	8,787
Ni2316_A		676.2	ug/L	5.944	0.8791	497.4
Pb2203_A		174.0	ug/L	1.856	1.067	69.38
Sb2068_A		23.57	ug/L	0.9854	4.181	4.980
Se1960_A		95.74	ug/L	1.170	1.222	14.08
Si2516_R		2,866	ug/L	14.98	0.5226	602.1
Sn1899_A		490.0	ug/L	0.1722	0.03515	115.9
Sr4215_R		1,501	ug/L	3.286	0.2189	49,390
Ti3349_A	W	2,573	ug/L	23.59	0.9170	26,660
Ti1908_A		81.07	ug/L	0.05914	0.07295	13.66
V_2924_A		749.7	ug/L	6.999	0.9336	3,984
Zn2062_A		863.5	ug/L	5.682	0.6580	1,225
Y_3600_R		13,274	Cts/S	15.653	0.11793	13,274
Y_2243_A		7,570.3	Cts/S	17.534	0.23162	7,570.3
Y_3600_A		121,120	Cts/S	826.83	0.68264	121,120

TM2998-004

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 3:58:41PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM2998-004

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 3:58:41PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		2.043	ug/L	1.153	56.44	-64.62
Al3961_R		62,180	ug/L	166.1	0.2672	9,790
As1891_A		46.43	ug/L	0.03225	0.06946	-1.740
B_2089_A		119.9	ug/L	2.954	2.463	32.82
Ba4554_R		2,354	ug/L	24.10	1.024	22,520
Be3130_R		4.140	ug/L	0.1174	2.835	41.49
Ca3158_R	W	1,129,000	ug/L	1,535	0.1359	207,500
Cd2265_A		-1.551	ug/L	0.5861	37.80	32.38
Co2286_A		80.69	ug/L	1.599	1.981	50.61
Cr2677_A		101.9	ug/L	2.140	2.100	229.3
Cu3273_A		252.2	ug/L	1.529	0.6062	542.9
Fe2599_R	W	128,600	ug/L	335.5	0.2608	38,150
K_7664_R		17,480	ug/L	1.113	0.006369	1,725
Li6707_R		183.9	ug/L	2.297	1.249	330.9
Mg2025_A	W	175,600	ug/L	1,888	1.075	9,597
Mn2576_R		3,711	ug/L	8.456	0.2279	4,893
Mo2020_A		10.37	ug/L	1.652	15.94	6.389
Na5895_R		1,233	ug/L	28.56	2.317	452.1
Ni2316_A		177.0	ug/L	0.7176	0.4054	50.45
Pb2203_A		63.77	ug/L	2.490	3.905	9.508
Sb2068_A		-3.739	ug/L	4.882	130.6	-0.1682
Se1960_A		12.30	ug/L	3.170	25.76	2.726
Si2516_R		3,402	ug/L	29.42	0.8648	294.2
Sn1899_A		31.03	ug/L	4.115	13.26	4.728
Sr4215_R		1,293	ug/L	3.952	0.3057	16,430
Ti3349_A		825.7	ug/L	6.051	0.7328	3,379
Tl1908_A		2.142	ug/L	1.705	79.61	-2.366
V_2924_A		136.2	ug/L	0.1225	0.08992	284.7
Zn2062_A		290.7	ug/L	4.687	1.612	164.9
Y_3600_R		12,836	Cts/S	15.341	0.11951	12,836
Y_2243_A		7,544.0	Cts/S	34.728	0.46034	7,544.0
Y_3600_A		120,500	Cts/S	1,473.7	1.2230	120,500

TM2998-005

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 4:03:00PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		5.082	ug/L	1.031	20.28	-528.1
Al3961_R	W	144,700	ug/L	266.8	0.1844	121,900
As1891_A		76.32	ug/L	0.1237	0.1621	8.837
B_2089_A		104.5	ug/L	0.1665	0.1594	139.3
Ba4554_R		640.2	ug/L	0.7601	0.1187	33,230
Be3130_R		5.300	ug/L	0.03530	0.6661	331.2
Ca3158_R	W	60,070	ug/L	70.20	0.1169	59,870
Cd2265_A		-0.9187	ug/L	0.3540	38.53	267.6
Co2286_A		78.97	ug/L	0.2038	0.2581	257.5
Cr2677_A		197.0	ug/L	2.747	1.394	2,295
Cu3273_A		204.5	ug/L	3.051	1.492	2,382
Fe2599_R	W	181,100	ug/L	2,976	1.643	291,600
K_7664_R		20,450	ug/L	11.10	0.05429	11,480
Li6707_R		600.8	ug/L	2.663	0.4432	6,430
Mg2025_A	W	44,790	ug/L	126.2	0.2817	12,950
Mn2576_R	W	2,335	ug/L	2.024	0.08669	16,650
Mo2020_A		3.804	ug/L	0.06737	1.771	11.57
Na5895_R		805.3	ug/L	4.904	0.6090	1,560
Ni2316_A		188.6	ug/L	0.1993	0.1057	282.4

TM2998-005

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:03:00PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		817.8	ug/L	1.251	0.1530	721.4
Sb2068_A		1.900	ug/L	0.8604	45.27	2.573
Se1960_A		9.413	ug/L	0.7519	7.988	5.163
Si2516_R		2,899	ug/L	4.643	0.1601	1,235
Sn1899_A		48.65	ug/L	0.1569	0.3225	25.82
Sr4215_R		228.4	ug/L	0.1060	0.04640	15,760
Ti3349_A	W	1,331	ug/L	11.13	0.8365	28,730
Ti1908_A		-4.353	ug/L	0.1023	2.350	-6.517
V_2924_A		261.2	ug/L	3.206	1.227	2,910
Zn2062_A	W	1,155	ug/L	4.118	0.3565	3,456
Y_3600_R		13,937	Cts/S	46.827	0.33599	13,937
Y_2243_A		7,979.5	Cts/S	13.673	0.17135	7,979.5
Y_3600_A		126,170	Cts/S	718.15	0.56918	126,170

TM2998-006

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:08:08PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		9.160	ug/L	0.1153	1.259	-104.4
Al3961_R		32,210	ug/L	2.797	0.008684	5,440
As1891_A		67.40	ug/L	4.838	7.178	-2.131
B_2089_A		271.8	ug/L	3.277	1.206	73.20
Ba4554_R		852.5	ug/L	0.4455	0.05226	8,784
Be3130_R		1.550	ug/L	0.09786	6.312	8.863
Ca3158_R	W	626,700	ug/L	743.3	0.1186	123,400
Cd2265_A		20.98	ug/L	0.6658	3.174	112.7
Co2286_A		39.01	ug/L	1.568	4.021	26.98
Cr2677_A		360.5	ug/L	1.960	0.5437	844.0
Cu3273_A		4,422	ug/L	15.05	0.3404	10,540
Fe2599_R	W	217,300	ug/L	163.2	0.07511	69,080
K_7664_R		12,420	ug/L	39.47	0.3178	1,283
Li6707_R		74.73	ug/L	0.9063	1.213	122.8
Mg2025_A		66,630	ug/L	1,241	1.863	3,761
Mn2576_R		2,273	ug/L	5.354	0.2355	3,208
Mo2020_A		148.6	ug/L	2.833	1.907	84.10
Na5895_R		1,551	ug/L	10.77	0.6947	604.9
Ni2316_A		187.5	ug/L	5.188	2.767	54.31
Pb2203_A	W	5,356	ug/L	83.93	1.567	937.3
Sb2068_A		28.12	ug/L	3.799	13.51	2.519
Se1960_A		20.31	ug/L	11.71	57.68	3.013
Si2516_R		5,998	ug/L	79.99	1.334	526.8
Sn1899_A		472.5	ug/L	5.025	1.064	47.21
Sr4215_R		1,455	ug/L	3.507	0.2411	19,830
Ti3349_A		614.6	ug/L	3.816	0.6208	2,634
Ti1908_A		-1.828	ug/L	1.715	93.81	-2.783
V_2924_A		180.5	ug/L	0.7811	0.4328	397.3
Zn2062_A	W	5,051	ug/L	46.22	0.9151	2,953
Y_3600_R		13,761	Cts/S	125.26	0.91029	13,761
Y_2243_A		7,796.2	Cts/S	82.387	1.0568	7,796.2
Y_3600_A		126,550	Cts/S	65.713	0.051926	126,550

TM3329-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:12:25PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3329-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 4:12:25PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		10.28	ug/L	0.4586	4.461	38.41
Al3961_R		20,770	ug/L	5.514	0.02655	17,100
As1891_A		21.82	ug/L	0.3603	1.651	1.437
B_2089_A		54.52	ug/L	0.4079	0.7481	75.69
Ba4554_R		868.2	ug/L	4.008	0.4617	43,970
Be3130_R		13.84	ug/L	0.001379	0.009959	989.8
Ca3158_R	W	50,290	ug/L	6.750	0.01342	48,920
Cd2265_A		4.083	ug/L	0.1276	3.126	109.8
Co2286_A		4.554	ug/L	0.02450	0.5379	18.18
Cr2677_A		68.20	ug/L	0.4173	0.6119	806.0
Cu3273_A	W	1,074	ug/L	5.628	0.5241	12,940
Fe2599_R	W	39,790	ug/L	147.2	0.3699	62,540
K_7664_R		9,372	ug/L	30.34	0.3237	5,078
Li6707_R		7.452	ug/L	1.186	15.92	42.66
Mg2025_A	W	25,430	ug/L	48.23	0.1897	7,444
Mn2576_R		223.8	ug/L	0.7964	0.3559	1,561
Mo2020_A		14.77	ug/L	0.1315	0.8906	43.78
Na5895_R		4,913	ug/L	0.1094	0.002227	9,197
Ni2316_A		32.74	ug/L	0.3848	1.175	48.87
Pb2203_A		149.9	ug/L	1.333	0.8892	134.3
Sb2068_A		3.496	ug/L	0.5723	16.37	1.459
Se1960_A		17.28	ug/L	0.2598	1.504	6.681
Si2516_R		2,704	ug/L	17.57	0.6496	1,130
Sn1899_A		127.6	ug/L	0.6649	0.5212	65.39
Sr4215_R		123.5	ug/L	0.02002	0.01621	8,302
Ti3349_A		208.4	ug/L	1.227	0.5888	4,530
Tl1908_A		-1.339	ug/L	0.01952	1.457	-3.183
V_2924_A		16.48	ug/L	0.2246	1.363	183.2
Zn2062_A		825.3	ug/L	3.932	0.4764	2,502
Y_3600_R		13,604	Cts/S	64.655	0.47527	13,604
Y_2243_A		8,083.8	Cts/S	34.628	0.42836	8,083.8
Y_3600_A		127,800	Cts/S	310.29	0.24280	127,800

PBWML231CW1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 4:16:44PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3437	ug/L	0.2014	58.60	18.72
Al3961_R		3.558	ug/L	8.319	233.8	-3.430
As1891_A		0.5315	ug/L	0.6417	120.7	-2.576
B_2089_A		-0.4624	ug/L	0.1209	26.14	2.882
Ba4554_R		0.1229	ug/L	0.1572	127.9	63.52
Be3130_R		-0.002676	ug/L	0.01265	472.9	-9.264
Ca3158_R		9.087	ug/L	1.821	20.04	-26.32
Cd2265_A		0.007097	ug/L	0.1135	1,599	-1.720
Co2286_A		0.3543	ug/L	0.09381	26.48	3.129
Cr2677_A		-0.06960	ug/L	0.07836	112.6	1.603
Cu3273_A		-0.2103	ug/L	0.1516	72.06	-30.46
Fe2599_R		3.986	ug/L	0.9681	24.29	9.806
K_7664_R		-13.81	ug/L	10.28	74.46	-108.7
Li6707_R		-0.3092	ug/L	1.039	336.1	-37.17
Mg2025_A		7.883	ug/L	0.3403	4.316	-2.307
Mn2576_R		0.004049	ug/L	0.2476	6,116	4.337
Mo2020_A		0.3533	ug/L	0.2133	60.38	1.842
Na5895_R		9.976	ug/L	5.268	52.81	35.63
Ni2316_A		0.09029	ug/L	0.01407	15.58	-0.2224

PBWML23ICW1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:16:44PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-0.7860	ug/L	0.07751	9.861	-1.157
Sb2068_A		0.2212	ug/L	0.8548	386.4	0.05541
Se1960_A		1.184	ug/L	0.5788	48.90	2.455
Si2516_R		-6.653	ug/L	12.63	189.8	33.05
Sn1899_A		-0.3081	ug/L	0.6288	204.1	1.774
Sr4215_R		-0.06786	ug/L	0.05005	73.76	-38.72
Ti3349_A		0.1449	ug/L	0.3086	213.0	-27.29
Ti1908_A		0.5467	ug/L	0.6071	111.0	-1.868
V_2924_A		-0.1669	ug/L	0.1245	74.58	-6.820
Zn2062_A		1.380	ug/L	0.1040	7.540	4.540
Y_3600_R		13,000	Cts/S	19.622	0.15094	13,000
Y_2243_A		7,840.0	Cts/S	2.7977	0.035685	7,840.0
Y_3600_A		123,450	Cts/S	124.94	0.10121	123,450

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:21:08PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		489.4	ug/L	0.5520	0.1128	7,558
Al3961_R		12,080	ug/L	36.27	0.3004	9,778
As1891_A		504.5	ug/L	4.792	0.9497	175.5
B_2089_A		503.3	ug/L	4.004	0.7957	657.8
Ba4554_R		490.4	ug/L	1.335	0.2722	24,450
Be3130_R		495.9	ug/L	0.8809	0.1776	35,530
Ca3158_R		12,100	ug/L	47.77	0.3947	11,550
Cd2265_A		508.8	ug/L	5.088	1.000	5,968
Co2286_A		507.3	ug/L	5.439	1.072	1,551
Cr2677_A		486.8	ug/L	1.868	0.3836	5,670
Cu3273_A		489.2	ug/L	1.091	0.2231	5,808
Fe2599_R		12,170	ug/L	66.60	0.5474	18,800
K_7664_R		12,170	ug/L	15.28	0.1255	6,516
Li6707_R		486.1	ug/L	0.4014	0.08258	4,987
Mg2025_A		12,230	ug/L	155.6	1.272	3,485
Mn2576_R		498.4	ug/L	1.813	0.3638	3,424
Mo2020_A		505.2	ug/L	6.503	1.287	1,421
Na5895_R		12,150	ug/L	16.58	0.1365	22,330
Ni2316_A		511.6	ug/L	6.773	1.324	792.6
Pb2203_A		508.6	ug/L	5.148	1.012	445.2
Sb2068_A		498.9	ug/L	7.289	1.461	223.4
Se1960_A		503.7	ug/L	6.839	1.358	128.6
Si2516_R		12,540	ug/L	66.98	0.5342	5,027
Sn1899_A		504.6	ug/L	4.697	0.9308	244.6
Sr4215_R		495.7	ug/L	0.7816	0.1577	32,870
Ti3349_A		482.7	ug/L	0.2533	0.05248	10,420
Ti1908_A		511.2	ug/L	5.110	0.9995	229.4
V_2924_A		491.9	ug/L	1.255	0.2551	5,405
Zn2062_A		508.7	ug/L	5.360	1.054	1,491
Y_3600_R		13,375	Cts/S	81.209	0.60715	13,375
Y_2243_A		7,822.7	Cts/S	76.345	0.97595	7,822.7
Y_3600_A		126,250	Cts/S	373.87	0.29613	126,250

CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:25:16PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:25:16PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.4618	ug/L	0.5026	108.9	6.436
Al3961_R		10.86	ug/L	4.056	37.34	2.285
As1891_A		-0.05558	ug/L	1.500	2,699	-2.798
B_2089_A		0.4977	ug/L	0.5002	100.5	4.137
Ba4554_R		-0.002581	ug/L	0.2975	11,530	56.49
Be3130_R		-0.05793	ug/L	0.04546	78.48	-12.90
Ca3158_R		5.391	ug/L	10.85	201.3	-29.26
Cd2265_A		0.05866	ug/L	0.06872	117.1	-1.122
Co2286_A		0.08688	ug/L	0.2034	234.2	2.324
Cr2677_A		-0.1194	ug/L	0.3947	330.5	1.056
Cu3273_A		-0.1586	ug/L	0.9782	616.7	-29.64
Fe2599_R		1.660	ug/L	0.4334	26.11	6.208
K_7664_R		4.459	ug/L	39.68	889.7	-97.41
Li6707_R		1.385	ug/L	0.5529	39.94	-19.83
Mg2025_A		2.444	ug/L	1.223	50.06	-3.880
Mn2576_R		0.07059	ug/L	0.2081	294.8	4.701
Mo2020_A		0.7224	ug/L	0.01701	2.355	2.896
Na5895_R		19.19	ug/L	7.099	36.99	51.20
Ni2316_A		-0.1471	ug/L	0.07211	49.02	-0.5876
Pb2203_A		-0.7463	ug/L	1.134	152.0	-1.128
Sb2068_A		1.942	ug/L	0.6637	34.18	0.8350
Se1960_A		1.693	ug/L	0.5431	32.08	2.595
Si2516_R		5.154	ug/L	2.771	53.77	36.98
Sn1899_A		0.09313	ug/L	0.08002	85.92	1.977
Sr4215_R		0.05770	ug/L	0.1060	183.7	-30.10
Ti3349_A		0.3146	ug/L	0.1102	35.02	-23.59
Tl1908_A		0.2314	ug/L	0.6758	292.1	-2.021
V_2924_A		-0.1668	ug/L	0.4578	274.4	-6.833
Zn2062_A		0.1534	ug/L	0.03713	24.21	0.9402
Y_3600_R		12,779	Cts/S	14.466	0.11320	12,779
Y_2243_A		7,876.9	Cts/S	12.068	0.15321	7,876.9
Y_3600_A		122,830	Cts/S	1,366.7	1.1127	122,830

LCSWML23ICW1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:29:41PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A	F	61.52	ug/L	0.1244	0.2022	933.5
Al3961_R	F	2,310	ug/L	9.720	0.4207	1,821
As1891_A		108.1	ug/L	1.860	1.721	35.61
B_2089_A		532.1	ug/L	1.430	0.2687	683.7
Ba4554_R	F	2,371	ug/L	17.35	0.7316	115,100
Be3130_R	F	59.52	ug/L	0.07496	0.1259	4,156
Ca3158_R		2,646	ug/L	22.77	0.8607	2,437
Cd2265_A		272.4	ug/L	0.9575	0.3515	3,187
Co2286_A	F	602.2	ug/L	2.987	0.4960	1,841
Cr2677_A	F	236.2	ug/L	2.122	0.8983	2,683
Cu3273_A	F	289.9	ug/L	1.895	0.6537	3,343
Fe2599_R		1,115	ug/L	2.074	0.1860	1,685
K_7664_R		10,570	ug/L	67.55	0.6390	5,510
Li6707_R		518.8	ug/L	4.567	0.8803	5,196
Mg2025_A		5,228	ug/L	26.79	0.5124	1,502
Mn2576_R	F	596.5	ug/L	0.1762	0.02953	4,001
Mo2020_A		103.0	ug/L	1.972	1.915	290.4
Na5895_R		7,904	ug/L	68.79	0.8703	14,190
Ni2316_A	F	603.6	ug/L	2.394	0.3966	931.3

LCSWML23ICW1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:29:41PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		108.1	ug/L	0.2148	0.1986	94.36
Sb2068_A		108.2	ug/L	0.1695	0.1567	46.47
Se1960_A		109.2	ug/L	1.364	1.249	29.63
Si2516_R		1,098	ug/L	29.06	2.645	464.6
Sn1899_A		526.0	ug/L	1.081	0.2055	255.0
Sr4215_R		534.6	ug/L	2.381	0.4454	34,600
Ti3349_A		525.0	ug/L	2.466	0.4696	11,040
Ti1908_A		104.9	ug/L	1.219	1.162	45.99
V_2924_A	F	583.3	ug/L	2.973	0.5096	6,287
Zn2062_A	F	607.4	ug/L	3.240	0.5335	1,782
Y_3600_R		13,054	Cts/S	142.83	1.0941	13,054
Y_2243_A		7,824.4	Cts/S	13.032	0.16656	7,824.4
Y_3600_A		123,060	Cts/S	101.16	0.082200	123,060

TM3326-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:33:55PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.2340	ug/L	0.5657	241.7	-2.206
Al3961_R		22.62	ug/L	4.428	19.58	43.33
As1891_A		31.74	ug/L	0.9047	2.850	7.957
B_2089_A		232.5	ug/L	0.01145	0.004923	300.2
Ba4554_R		11.67	ug/L	0.05469	0.4686	635.5
Be3130_R		-0.01921	ug/L	0.009074	47.24	-10.57
Ca3158_R	W	45,900	ug/L	87.64	0.1909	43,610
Cd2265_A		-0.007212	ug/L	0.003175	44.03	7.008
Co2286_A		3.943	ug/L	0.2640	6.695	14.17
Cr2677_A		38.93	ug/L	0.6515	1.673	456.2
Cu3273_A		41.85	ug/L	0.2440	0.5829	467.2
Fe2599_R		5,915	ug/L	33.80	0.5714	9,084
K_7664_R		15,090	ug/L	103.0	0.6826	8,052
Li6707_R		3.235	ug/L	0.8078	24.97	-1.640
Mg2025_A		8,425	ug/L	10.50	0.1246	2,388
Mn2576_R	W	3,383	ug/L	1.420	0.04197	23,080
Mo2020_A		9.962	ug/L	0.08345	0.8377	28.72
Na5895_R	W	79,420	ug/L	197.3	0.2485	144,900
Ni2316_A		44.91	ug/L	0.2135	0.4753	68.64
Pb2203_A		3.753	ug/L	1.237	32.96	2.870
Sb2068_A		5.117	ug/L	0.4720	9.223	2.379
Se1960_A		-0.02036	ug/L	1.399	6,871	2.568
Si2516_R		7,846	ug/L	37.67	0.4802	3,137
Sn1899_A		1.695	ug/L	0.4025	23.75	2.739
Sr4215_R		219.7	ug/L	0.3306	0.1505	14,450
Ti3349_A		0.05975	ug/L	0.1237	207.0	-29.32
Ti1908_A		-3.196	ug/L	0.6144	19.23	-5.186
V_2924_A		1.273	ug/L	0.4265	33.49	-4.823
Zn2062_A		17.67	ug/L	0.05448	0.3083	52.28
Y_3600_R		13,288	Cts/S	22.158	0.16675	13,288
Y_2243_A		7,836.3	Cts/S	49.674	0.63390	7,836.3
Y_3600_A		125,520	Cts/S	1,018.6	0.81156	125,520

PBWML23ICW2

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:38:15PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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PBWML23ICW2

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:38:15PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.2410	ug/L	0.1147	47.59	9.894
Al3961_R		6.423	ug/L	1.136	17.68	-1.150
As1891_A		-0.6847	ug/L	1.045	152.7	-3.129
B_2089_A		0.5636	ug/L	0.5327	94.53	4.355
Ba4554_R		0.1641	ug/L	0.1350	82.29	64.12
Be3130_R		0.01688	ug/L	0.07089	419.8	-7.759
Ca3158_R		6.604	ug/L	2.995	45.35	-28.02
Cd2265_A		-0.01113	ug/L	0.03165	284.4	-1.997
Co2286_A		0.07365	ug/L	0.01076	14.61	2.368
Cr2677_A		0.5108	ug/L	0.07689	15.05	8.300
Cu3273_A		-0.1857	ug/L	0.1388	74.74	-30.48
Fe2599_R		13.95	ug/L	3.363	24.11	24.24
K_7664_R		-2.527	ug/L	4.844	191.7	-100.6
Li6707_R		1.464	ug/L	0.8708	59.50	-18.98
Mg2025_A		4.031	ug/L	1.815	45.03	-3.557
Mn2576_R	F	14.77	ug/L	0.1508	1.021	100.7
Mo2020_A		0.4072	ug/L	0.06688	16.42	2.072
Na5895_R		31.57	ug/L	3.507	11.11	72.61
Ni2316_A		4.195	ug/L	5.973	142.4	6.479
Pb2203_A		-0.1418	ug/L	0.3614	254.9	-0.6100
Sb2068_A		-0.2271	ug/L	0.1092	48.08	-0.1597
Se1960_A		0.7917	ug/L	1.789	226.0	2.460
Si2516_R		2.271	ug/L	5.907	260.1	35.72
Sn1899_A		1.154	ug/L	0.1826	15.83	2.579
Sr4215_R		-0.09033	ug/L	0.008963	9.923	-39.31
Ti3349_A		0.4931	ug/L	0.1237	25.08	-20.10
Tl1908_A		-0.2995	ug/L	0.1353	45.18	-2.352
V_2924_A		-0.2439	ug/L	0.08378	34.35	-7.830
Zn2062_A		3.646	ug/L	3.193	87.56	11.77
Y_3600_R		12,721	Cts/S	38.651	0.30383	12,721
Y_2243_A		8,160.3	Cts/S	190.48	2.3342	8,160.3
Y_3600_A		124,830	Cts/S	4,612.8	3.6953	124,830

LCSWML23ICW2

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:42:41PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A	F	61.78	ug/L	0.7942	1.286	990.4
Al3961_R		2,299	ug/L	32.40	1.409	2,035
As1891_A		107.9	ug/L	0.7257	0.6723	36.61
B_2089_A		539.1	ug/L	0.01145	0.002123	713.8
Ba4554_R	F	2,446	ug/L	31.79	1.299	133,300
Be3130_R	F	60.29	ug/L	0.4390	0.7282	4,726
Ca3158_R		2,633	ug/L	25.85	0.9820	2,722
Cd2265_A		274.4	ug/L	1.412	0.5145	3,307
Co2286_A	F	604.2	ug/L	0.0005610	0.00009300	1,903
Cr2677_A		236.1	ug/L	3.328	1.410	2,835
Cu3273_A	F	302.6	ug/L	2.423	0.8008	3,690
Fe2599_R		1,172	ug/L	11.82	1.009	1,988
K_7664_R		10,710	ug/L	130.6	1.219	6,268
Li6707_R		540.9	ug/L	3.136	0.5797	6,084
Mg2025_A		5,149	ug/L	19.36	0.3759	1,525
Mn2576_R		597.6	ug/L	1.780	0.2979	4,500
Mo2020_A		113.8	ug/L	0.1697	0.1491	330.5
Na5895_R		8,066	ug/L	70.26	0.8711	16,250
Ni2316_A	F	607.0	ug/L	2.943	0.4849	964.9

LCSWML23ICW2

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:42:41PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		106.9	ug/L	0.1229	0.1150	96.08
Sb2068_A		110.2	ug/L	1.189	1.078	48.75
Se1960_A		108.8	ug/L	1.388	1.275	30.43
Si2516_R		1,121	ug/L	5.616	0.5011	531.5
Sn1899_A		540.7	ug/L	3.330	0.6160	270.0
Sr4215_R		556.5	ug/L	4.899	0.8803	40,430
Ti3349_A		543.5	ug/L	5.144	0.9463	12,080
Ti1908_A		104.8	ug/L	0.7893	0.7530	47.34
V_2924_A		598.5	ug/L	4.375	0.7309	6,819
Zn2062_A		584.8	ug/L	2.171	0.3713	1,767
Y_3600_R		14,656	Cts/S	198.08	1.3516	14,656
Y_2243_A		8,060.7	Cts/S	38.549	0.47823	8,060.7
Y_3600_A		130,090	Cts/S	1,156.5	0.88895	130,090

TM3363-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:46:55PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.3982	ug/L	0.07776	19.53	7.762
Al3961_R		89.11	ug/L	4.373	4.908	78.20
As1891_A		1.016	ug/L	0.4850	47.75	-2.479
B_2089_A		21.85	ug/L	0.1812	0.8291	32.30
Ba4554_R		3.961	ug/L	0.02921	0.7373	289.3
Be3130_R		0.05479	ug/L	0.01878	34.27	-6.300
Ca3158_R		5,273	ug/L	28.23	0.5354	5,659
Cd2265_A		-0.009190	ug/L	0.05689	619.0	-1.859
Co2286_A		-0.04327	ug/L	0.04329	100.1	1.991
Cr2677_A		3.685	ug/L	0.2683	7.280	47.88
Cu3273_A		14.40	ug/L	0.2608	1.811	151.2
Fe2599_R		74.37	ug/L	0.1120	0.1506	134.2
K_7664_R	W	64,530	ug/L	679.7	1.053	39,510
Li6707_R		4.471	ug/L	0.2201	4.923	12.55
Mg2025_A		637.5	ug/L	11.97	1.878	181.7
Mn2576_R		17.86	ug/L	0.4485	2.511	143.6
Mo2020_A		1.469	ug/L	0.08407	5.721	5.132
Na5895_R	F	224,100	ug/L	31.94	0.01425	464,800
Ni2316_A		1.259	ug/L	0.09696	7.698	1.636
Pb2203_A		-0.1092	ug/L	0.1135	103.9	-0.5815
Sb2068_A		-0.05437	ug/L	0.2447	450.1	-0.06803
Se1960_A		1.466	ug/L	2.552	174.1	2.599
Si2516_R		6,862	ug/L	17.17	0.2502	3,124
Sn1899_A		0.8572	ug/L	0.1712	19.98	2.404
Sr4215_R		25.59	ug/L	0.2072	0.8098	1,878
Ti3349_A		3.708	ug/L	0.01235	0.3329	51.88
Ti1908_A		1.033	ug/L	0.1882	18.22	-1.706
V_2924_A		0.1702	ug/L	0.04996	29.35	-3.639
Zn2062_A		27.25	ug/L	0.6303	2.313	82.92
Y_3600_R		15,103	Cts/S	181.22	1.1999	15,103
Y_2243_A		8,069.9	Cts/S	106.27	1.3169	8,069.9
Y_3600_A		133,220	Cts/S	314.89	0.23637	133,220

TM3403-001

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:51:41PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3403-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 4:51:41PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.3193	ug/L	0.1150	36.01	9.194
Al3961_R		39.24	ug/L	11.00	28.04	80.57
As1891_A		0.04122	ug/L	0.8448	2,049	-2.882
B_2089_A		32.19	ug/L	0.3989	1.239	46.49
Ba4554_R		43.36	ug/L	0.1783	0.4112	2,480
Be3130_R		-0.02115	ug/L	0.07807	369.1	-12.11
Ca3158_R	W	68,100	ug/L	198.1	0.2909	72,940
Cd2265_A		-0.02561	ug/L	0.03468	135.4	-2.049
Co2286_A		-0.2080	ug/L	0.04777	22.96	1.474
Cr2677_A		0.7971	ug/L	0.1515	19.00	12.64
Cu3273_A		3.280	ug/L	0.1223	3.729	11.30
Fe2599_R		100.2	ug/L	2.265	2.260	177.8
K_7664_R		1,357	ug/L	9.452	0.6965	709.5
Li6707_R		6.711	ug/L	1.022	15.23	38.36
Mg2025_A		2,607	ug/L	4.722	0.1811	768.6
Mn2576_R		21.20	ug/L	0.7546	3.559	168.5
Mo2020_A		-0.04158	ug/L	0.02064	49.64	0.7599
Na5895_R		9,202	ug/L	58.53	0.6360	18,940
Ni2316_A		4.404	ug/L	0.4642	10.54	6.715
Pb2203_A		1.202	ug/L	1.437	119.6	0.6220
Sb2068_A		-0.1179	ug/L	0.3897	330.6	-0.1002
Se1960_A		-0.6965	ug/L	0.01109	1.592	2.073
Si2516_R		5,669	ug/L	8.599	0.1517	2,566
Sn1899_A		-0.4797	ug/L	0.4026	83.92	1.766
Sr4215_R		261.0	ug/L	0.3672	0.1407	19,350
Ti3349_A		-0.1999	ug/L	0.2096	104.8	-38.05
Tl1908_A		-0.2927	ug/L	0.4400	150.3	-2.359
V_2924_A		0.1762	ug/L	0.1637	92.88	-3.489
Zn2062_A		12.45	ug/L	0.1079	0.8668	38.72
Y_3600_R		14,974	Cts/S	14.862	0.099253	14,974
Y_2243_A		8,186.1	Cts/S	44.984	0.54951	8,186.1
Y_3600_A		135,810	Cts/S	118.57	0.087307	135,810

TM3403-002

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 4:56:04PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.08762	ug/L	0.09283	105.9	-26.73
Al3961_R		89.61	ug/L	1.650	1.841	124.1
As1891_A		3.038	ug/L	0.3758	12.37	-2.844
B_2089_A		36.88	ug/L	0.8124	2.203	50.84
Ba4554_R		57.99	ug/L	0.06870	0.1185	3,169
Be3130_R		0.06262	ug/L	0.09524	152.1	-5.151
Ca3158_R	W	71,890	ug/L	22.76	0.03166	74,060
Cd2265_A		-0.1803	ug/L	0.06934	38.45	13.74
Co2286_A		0.1381	ug/L	0.04307	31.19	2.645
Cr2677_A		0.9861	ug/L	0.1850	18.76	14.25
Cu3273_A		1.670	ug/L	0.7109	42.56	-10.96
Fe2599_R		11,600	ug/L	3.890	0.03354	19,300
K_7664_R		1,415	ug/L	31.24	2.208	716.4
Li6707_R		5.897	ug/L	0.2556	4.333	27.85
Mg2025_A		2,674	ug/L	83.89	3.137	760.1
Mn2576_R		117.4	ug/L	1.047	0.8922	870.4
Mo2020_A		-0.1255	ug/L	0.06250	49.80	0.4868
Na5895_R		9,442	ug/L	7.118	0.07539	18,700
Ni2316_A		1.003	ug/L	0.1245	12.40	0.3222

TM3403-002

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 4:56:04PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.8722	ug/L	0.6574	75.37	0.3616
Sb2068_A		0.2135	ug/L	0.1603	75.08	0.1376
Se1960_A		0.06635	ug/L	0.1262	190.2	2.134
Si2516_R		6,397	ug/L	29.34	0.4587	2,780
Sn1899_A		0.05955	ug/L	0.5083	853.5	1.962
Sr4215_R		269.0	ug/L	0.1259	0.04681	19,190
Ti3349_A		-0.3378	ug/L	0.2773	82.08	-39.15
Ti1908_A		-0.3577	ug/L	0.04352	12.17	-2.439
V_2924_A		0.9826	ug/L	0.01787	1.819	7.088
Zn2062_A		36.07	ug/L	0.9785	2.713	107.2
Y_3600_R		14,404	Cts/S	40.904	0.28397	14,404
Y_2243_A		7,894.6	Cts/S	194.90	2.4687	7,894.6
Y_3600_A		128,920	Cts/S	555.31	0.43075	128,920

TM3403-003

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 5:00:25PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.3025	ug/L	0.2784	92.03	9.043
Al3961_R		78.51	ug/L	10.60	13.51	121.0
As1891_A		0.9754	ug/L	0.2846	29.18	-2.447
B_2089_A		43.38	ug/L	1.615	3.724	59.37
Ba4554_R		26.87	ug/L	0.2918	1.086	1,493
Be3130_R		0.01122	ug/L	0.03439	306.6	-9.102
Ca3158_R	W	81,760	ug/L	548.9	0.6714	83,710
Cd2265_A		-0.01390	ug/L	0.03748	269.7	-1.915
Co2286_A		-0.02953	ug/L	0.03796	128.5	1.978
Cr2677_A		0.6436	ug/L	0.08633	13.41	10.09
Cu3273_A		2.927	ug/L	0.4108	14.04	6.410
Fe2599_R		55.83	ug/L	1.006	1.801	96.53
K_7664_R		1,220	ug/L	19.39	1.589	598.3
Li6707_R		4.073	ug/L	1.053	25.86	7.532
Mg2025_A		3,551	ug/L	104.4	2.941	1,014
Mn2576_R		19.93	ug/L	0.02773	0.1391	151.9
Mo2020_A		0.2012	ug/L	0.1684	83.71	1.432
Na5895_R		6,069	ug/L	41.08	0.6768	11,950
Ni2316_A		3.391	ug/L	0.4177	12.32	4.913
Pb2203_A		0.7021	ug/L	1.363	194.2	0.1365
Sb2068_A		-1.092	ug/L	0.5839	53.48	-0.5496
Se1960_A		1.521	ug/L	0.7964	52.34	2.566
Si2516_R		4,571	ug/L	22.15	0.4847	1,985
Sn1899_A		0.6037	ug/L	0.1134	18.79	2.235
Sr4215_R		296.5	ug/L	1.938	0.6538	21,020
Ti3349_A		-0.1237	ug/L	0.05123	41.42	-34.14
Ti1908_A		0.09564	ug/L	0.1185	123.9	-2.103
V_2924_A		0.2814	ug/L	0.04690	16.67	-2.112
Zn2062_A		7.708	ug/L	0.1498	1.944	23.36
Y_3600_R		14,314	Cts/S	44.434	0.31043	14,314
Y_2243_A		7,918.0	Cts/S	176.79	2.2328	7,918.0
Y_3600_A		127,850	Cts/S	1,411.5	1.1040	127,850

TM3403-004

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 5:04:48PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3403-004

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 5:04:48PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.2875	ug/L	0.06895	23.98	6.647
Al3961_R		67.17	ug/L	4.695	6.990	109.8
As1891_A		0.6593	ug/L	1.366	207.1	-2.539
B_2089_A		67.16	ug/L	1.330	1.980	86.64
Ba4554_R		26.97	ug/L	0.3123	1.158	1,465
Be3130_R		-0.001569	ug/L	0.04523	2,883	-9.838
Ca3158_R	W	83,230	ug/L	16.07	0.01930	83,310
Cd2265_A		-0.08338	ug/L	0.01030	12.35	-1.500
Co2286_A		0.5007	ug/L	0.03894	7.777	3.484
Cr2677_A		0.8050	ug/L	0.1578	19.60	11.89
Cu3273_A		1.812	ug/L	0.3392	18.72	-7.135
Fe2599_R		821.6	ug/L	8.745	1.064	1,332
K_7664_R		1,462	ug/L	6.400	0.4378	722.7
Li6707_R		4.126	ug/L	0.06989	1.694	7.913
Mg2025_A		3,757	ug/L	53.64	1.428	1,033
Mn2576_R		39.63	ug/L	0.5271	1.330	289.8
Mo2020_A		1.272	ug/L	0.02968	2.333	4.304
Na5895_R		6,665	ug/L	1.363	0.02044	12,830
Ni2316_A		0.8146	ug/L	0.1889	23.19	0.8229
Pb2203_A		0.9773	ug/L	0.3185	32.59	0.3816
Sb2068_A		-0.5088	ug/L	0.4233	83.20	-0.2640
Se1960_A		0.9111	ug/L	1.828	200.6	2.318
Si2516_R		4,941	ug/L	14.92	0.3020	2,095
Sn1899_A		0.4550	ug/L	0.07446	16.37	2.082
Sr4215_R		296.5	ug/L	2.065	0.6967	20,550
Ti3349_A		-0.4052	ug/L	0.01976	4.876	-39.88
Tl1908_A		-1.645	ug/L	1.817	110.5	-2.808
V_2924_A		0.3918	ug/L	0.01181	3.015	-0.9082
Zn2062_A		9.833	ug/L	0.1378	1.401	28.55
Y_3600_R		13,993	Cts/S	44.996	0.32155	13,993
Y_2243_A		7,618.6	Cts/S	80.641	1.0585	7,618.6
Y_3600_A		126,530	Cts/S	1,375.9	1.0874	126,530

LCSWML24ICW1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 5:09:11PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A	F	59.73	ug/L	0.9547	1.598	955.6
Al3961_R	F	2,359	ug/L	31.83	1.350	2,031
As1891_A		106.8	ug/L	1.533	1.435	35.73
B_2089_A		534.8	ug/L	0.2300	0.04300	698.8
Ba4554_R	F	2,480	ug/L	7.691	0.3102	131,500
Be3130_R	F	60.94	ug/L	0.3548	0.5822	4,649
Ca3158_R		2,615	ug/L	9.628	0.3683	2,630
Cd2265_A		274.2	ug/L	0.4807	0.1753	3,262
Co2286_A	F	620.8	ug/L	0.1086	0.01749	1,929
Cr2677_A	F	237.4	ug/L	0.7835	0.3300	2,845
Cu3273_A	F	303.7	ug/L	2.076	0.6836	3,695
Fe2599_R	F	1,187	ug/L	8.614	0.7254	1,960
K_7664_R		10,670	ug/L	31.57	0.2960	6,073
Li6707_R		530.0	ug/L	1.237	0.2334	5,799
Mg2025_A		5,164	ug/L	0.5811	0.01125	1,509
Mn2576_R	F	604.5	ug/L	2.333	0.3860	4,429
Mo2020_A	F	113.1	ug/L	0.2999	0.2653	323.9
Na5895_R		7,993	ug/L	30.02	0.3756	15,670
Ni2316_A	F	621.3	ug/L	1.442	0.2321	974.5

LCSWML24ICW1

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 5:09:11PM

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		107.9	ug/L	0.1681	0.1558	95.70
Sb2068_A		110.6	ug/L	0.7522	0.6804	48.27
Se1960_A		110.5	ug/L	0.6118	0.5539	30.44
Si2516_R		1,112	ug/L	6.916	0.6221	513.2
Sn1899_A		536.3	ug/L	0.4293	0.08006	264.2
Sr4215_R		547.3	ug/L	1.665	0.3043	38,690
Ti3349_A		530.7	ug/L	0.4393	0.08277	11,770
Ti1908_A		104.1	ug/L	0.07569	0.07269	46.42
V_2924_A	F	599.5	ug/L	0.8876	0.1480	6,816
Zn2062_A	F	600.0	ug/L	2.083	0.3471	1,789
Y_3600_R		14,260	Cts/S	1.2918	0.0090590	14,260
Y_2243_A		7,954.5	Cts/S	5.7474	0.072254	7,954.5
Y_3600_A		129,800	Cts/S	24.866	0.019156	129,800

CCV

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 5:13:24PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A	W	547.2	ug/L	3.701	0.6763	8,331
Al3961_R	W	13,580	ug/L	11.99	0.08832	11,360
As1891_A	W	550.3	ug/L	13.26	2.409	191.7
B_2089_A	W	550.6	ug/L	13.94	2.532	719.4
Ba4554_R	F	561.9	ug/L	1.989	0.3540	28,920
Be3130_R	F	558.6	ug/L	0.7709	0.1380	41,320
Ca3158_R	W	13,400	ug/L	20.74	0.1547	13,210
Cd2265_A	W	549.0	ug/L	14.11	2.569	6,441
Co2286_A	W	550.7	ug/L	15.33	2.784	1,683
Cr2677_A	W	542.9	ug/L	2.777	0.5114	6,234
Cu3273_A	F	554.9	ug/L	3.444	0.6205	6,500
Fe2599_R	W	13,630	ug/L	2.107	0.01546	21,760
K_7664_R	W	13,600	ug/L	42.64	0.3136	7,529
Li6707_R	W	551.6	ug/L	1.838	0.3332	5,847
Mg2025_A	W	13,240	ug/L	377.2	2.849	3,772
Mn2576_R	F	553.5	ug/L	0.2289	0.04135	3,926
Mo2020_A	F	554.4	ug/L	13.17	2.375	1,560
Na5895_R	W	13,640	ug/L	22.30	0.1635	25,890
Ni2316_A	F	555.2	ug/L	14.20	2.558	860.2
Pb2203_A	W	545.1	ug/L	14.84	2.723	477.1
Sb2068_A	W	545.8	ug/L	12.69	2.326	244.5
Se1960_A	F	552.6	ug/L	9.996	1.809	140.8
Si2516_R	W	13,840	ug/L	62.49	0.4514	5,728
Sn1899_A	W	539.2	ug/L	13.47	2.498	261.2
Sr4215_R	F	565.8	ug/L	0.9492	0.1678	38,740
Ti3349_A	W	546.7	ug/L	2.676	0.4894	11,640
Ti1908_A	W	545.6	ug/L	13.89	2.545	245.0
V_2924_A	F	553.3	ug/L	1.909	0.3450	5,997
Zn2062_A	W	538.1	ug/L	13.40	2.490	1,577
Y_3600_R		13,812	Cts/S	59.407	0.43010	13,812
Y_2243_A		7,823.6	Cts/S	139.10	1.7780	7,823.6
Y_3600_A		124,480	Cts/S	302.76	0.24323	124,480

CCB

Method Name: FAST-2016_NO_AU

Method Revision: 1,230

Analyst Name: RS

Acquire Date: 12/30/2019 5:17:33PM

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 5:17:33PM

Method Revision: 1,230

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1465	ug/L	0.07657	52.28	16.74
Al3961_R		8.949	ug/L	5.901	65.94	0.9003
As1891_A		1.013	ug/L	0.5678	56.04	-2.503
B_2089_A		0.4361	ug/L	0.1666	38.21	4.199
Ba4554_R		0.1183	ug/L	0.04916	41.57	70.05
Be3130_R		0.07906	ug/L	0.02233	28.25	-3.963
Ca3158_R		0.9239	ug/L	3.277	354.7	-37.53
Cd2265_A		0.06082	ug/L	0.03364	55.31	-1.137
Co2286_A		-0.06610	ug/L	0.08679	131.3	1.919
Cr2677_A		0.2727	ug/L	0.1309	48.00	5.855
Cu3273_A		-0.2494	ug/L	0.3200	128.3	-32.90
Fe2599_R		3.040	ug/L	2.531	83.24	9.283
K_7664_R		62.33	ug/L	27.41	43.98	-75.80
Li6707_R		0.6523	ug/L	1.777	272.3	-30.46
Mg2025_A		1.375	ug/L	1.349	98.05	-4.338
Mn2576_R		-0.2362	ug/L	0.07906	33.47	3.026
Mo2020_A		0.6582	ug/L	0.4165	63.27	2.804
Na5895_R		5.202	ug/L	3.280	63.05	30.01
Ni2316_A		-0.09897	ug/L	0.08693	87.84	-0.5329
Pb2203_A		-0.5032	ug/L	0.2817	55.97	-0.9441
Sb2068_A		1.985	ug/L	0.09959	5.016	0.8894
Se1960_A		1.123	ug/L	4.624	411.9	2.532
Si2516_R		3.083	ug/L	27.23	883.2	40.75
Sn1899_A		-0.5464	ug/L	0.2363	43.24	1.727
Sr4215_R		0.1220	ug/L	0.002569	2.106	-29.30
Ti3349_A		0.4883	ug/L	0.04202	8.607	-21.31
Tl1908_A		0.4448	ug/L	0.02992	6.727	-1.992
V_2924_A		-0.03684	ug/L	0.05769	156.6	-5.786
Zn2062_A		0.1858	ug/L	0.01464	7.879	1.072
Y_3600_R		14,387	Cts/S	3.1950	0.022208	14,387
Y_2243_A		8,157.4	Cts/S	91.485	1.1215	8,157.4
Y_3600_A		131,380	Cts/S	272.81	0.20765	131,380

PBSML26ICS1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 12/30/2019 5:21:58PM

Method Revision: 1,230

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.2834	ug/L	0.1684	59.40	9.771
Al3961_R		13.96	ug/L	7.264	52.03	5.288
As1891_A		0.3740	ug/L	0.2878	76.95	-2.764
B_2089_A		0.9691	ug/L	0.1374	14.18	4.934
Ba4554_R		0.1938	ug/L	0.09670	49.89	74.70
Be3130_R		-0.02868	ug/L	0.003105	10.83	-12.40
Ca3158_R		23.92	ug/L	1.942	8.120	-13.98
Cd2265_A		0.03712	ug/L	0.002869	7.731	-1.395
Co2286_A		0.1977	ug/L	0.1084	54.82	2.786
Cr2677_A		1.364	ug/L	0.07218	5.291	19.22
Cu3273_A		-0.1504	ug/L	0.2133	141.7	-31.91
Fe2599_R		28.79	ug/L	0.3767	1.308	52.52
K_7664_R		71.36	ug/L	45.54	63.81	-71.03
Li6707_R		1.849	ug/L	0.2943	15.92	-17.32
Mg2025_A		12.97	ug/L	0.1672	1.289	-0.9099
Mn2576_R		0.4940	ug/L	0.1849	37.43	8.480
Mo2020_A		0.2276	ug/L	0.01488	6.535	1.561
Na5895_R		28.41	ug/L	0.1391	0.4896	76.49
Ni2316_A		0.6445	ug/L	0.3431	53.24	0.6600

KATAHDIN ANALYTICAL SERVICES, LLC METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: I (Thermo iCAP 6500)

ANALYST: RS

ANALYSIS DATE: 01/03/2020

METHOD: ICP

FILE NAME: INA03A

200.7

6010

DOD

The pHs of all samples that were tested by direct analysis in this analytical run were checked just prior to analysis and confirmed to be <2. The time of preservation of these samples was checked in the "Measured Turbidity and Preservation of Incoming Samples" logbook to verify that they had been preserved at least 16 hours prior to analysis. These verifications were performed by RS (initials) on 12/30/19 (date).

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
Cal. Bik/ICB/CCB	MW19052	01/03/2020	01/03/2021	0 ug/L
Standard 1	MW19012	12/10/2019	01/31/2020	Varies by Element
ICV	MW19010	12/06/2019	02/04/2020	Varies by Element
PQL	MW19053	01/03/2020	01/31/2020	Varies by Element
LRS1	MW19026	12/18/2019	01/31/2020	Varies by Element
LRS2	MW19022	12/17/2019	03/17/2020	Varies by Element
ICSA	MW19045	12/30/2019	03/30/2020	Varies by Element
ICSAB	MW19043	12/30/2019	02/04/2020	Varies by Element
CCV	MW19046	12/30/2019	03/31/2020	Varies by Element
Internal Standard	MW19051	12/31/2019	03/31/2020	5.0 mg/L Yttrium

Additional Comments and Notes:

ICSAB failure for Si due to error in prepping standard

REVIEWED

mc 1/9/2020
KATAHDIN ANALYTICAL
METALS SECTION

Dilutions: Some samples were diluted based on history or due to interfering element concentrations.

Dilution preparations are as follows:

5x diln.: 1.6mL of sample (pipet M23) + 6.4mL of MW19013 (pipet M23)

Post Spike: 0.04mL of MS2125, MS2151 (pipet M16), 0.08mL of MS2111 (pipet M16), 0.004mL of

MS2109(pipet M17) to 8.0mL of sample (pipet M23) (Unless otherwise specified)

INSTRUMENT RUNLOG

Instrument: ICAP 6500

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Blank	1.000	INA03A	1/3/2020	14:58	RS
Std 1	1.000	INA03A	1/3/2020	15:03	RS
ICV	1.000	INA03A	1/3/2020	15:07	RS
ICB	1.000	INA03A	1/3/2020	15:11	RS
PQL	1.000	INA03A	1/3/2020	15:15	RS
ICSA	1.000	INA03A	1/3/2020	15:20	RS
ICSAB	1.000	INA03A	1/3/2020	15:25	RS
CCV	1.000	INA03A	1/3/2020	15:30	RS
CCB	1.000	INA03A	1/3/2020	15:35	RS
LRS1	1.000	INA03A	1/3/2020	15:39	RS
LRS2	1.000	INA03A	1/3/2020	15:46	RS
CCV	1.000	INA03A	1/3/2020	15:51	RS
CCB	1.000	INA03A	1/3/2020	15:55	RS
TM2536-001 UND	1.000	INA03A	1/3/2020	16:00	RS
TM2536-001	1.000	INA03A	1/3/2020	16:04	RS
TM3090-002	5.000	INA03A	1/3/2020	16:09	RS
TM3590-001	1.000	INA03A	1/3/2020	16:13	RS
TM3590-001L	5.000	INA03A	1/3/2020	16:18	RS
TM3590-001A	1.000	INA03A	1/3/2020	16:22	RS
TM3590-001S	1.000	INA03A	1/3/2020	16:27	RS
TM3590-001P	1.000	INA03A	1/3/2020	16:32	RS
TM3424-001	1.000	INA03A	1/3/2020	16:38	RS
TM3461-001	1.000	INA03A	1/3/2020	16:42	RS
CCV	1.000	INA03A	1/3/2020	16:46	RS
CCB	1.000	INA03A	1/3/2020	16:51	RS
PBWML30ICW1	1.000	INA03A	1/3/2020	16:55	RS
LCSWML30ICW1	1.000	INA03A	1/3/2020	16:59	RS
TM3533-001	1.000	INA03A	1/3/2020	17:04	RS
TM3533-002	1.000	INA03A	1/3/2020	17:08	RS
PBWML30ICW2	1.000	INA03A	1/3/2020	17:12	RS
LCSWML30ICW2	1.000	INA03A	1/3/2020	17:17	RS
TM3152-001R	1.000	INA03A	1/3/2020	17:21	RS
TM3439-001	1.000	INA03A	1/3/2020	17:26	RS
TM3550-001	1.000	INA03A	1/3/2020	17:31	RS
PBWNA02ICW1	1.000	INA03A	1/3/2020	17:35	RS
CCV	1.000	INA03A	1/3/2020	17:40	RS
CCB	1.000	INA03A	1/3/2020	17:44	RS
LCSWNA02ICW1	1.000	INA03A	1/3/2020	17:48	RS
TM3291-001R	1.000	INA03A	1/3/2020	17:53	RS
TM3291-003R	1.000	INA03A	1/3/2020	17:57	RS
TM3326-001R	1.000	INA03A	1/3/2020	18:01	RS
TM3330-004R	1.000	INA03A	1/3/2020	18:06	RS
TM3362-001R	1.000	INA03A	1/3/2020	18:10	RS
TM3362-002R	1.000	INA03A	1/3/2020	18:14	RS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
TM3391-004R	1.000	INA03A	1/3/2020	18:19	RS
TM3392-004R	1.000	INA03A	1/3/2020	18:23	RS
TM3410-001R	1.000	INA03A	1/3/2020	18:27	RS
CCV	1.000	INA03A	1/3/2020	18:32	RS
CCB	1.000	INA03A	1/3/2020	18:36	RS
PBWNA02ICW2	1.000	INA03A	1/3/2020	18:41	RS
LCSWNA02ICW2	1.000	INA03A	1/3/2020	18:45	RS
TM3232-001R	1.000	INA03A	1/3/2020	18:49	RS
TM3232-002R	1.000	INA03A	1/3/2020	18:54	RS
TM3232-003R	1.000	INA03A	1/3/2020	18:58	RS
TM3232-004R	1.000	INA03A	1/3/2020	19:03	RS
TM3232-004RL	5.000	INA03A	1/3/2020	19:07	RS
TM3232-004RA	1.000	INA03A	1/3/2020	19:11	RS
TM3232-004RS	1.000	INA03A	1/3/2020	19:16	RS
TM3232-004RP	1.000	INA03A	1/3/2020	19:20	RS
CCV	1.000	INA03A	1/3/2020	19:24	RS
CCB	1.000	INA03A	1/3/2020	19:28	RS
TM3232-005R	1.000	INA03A	1/3/2020	19:33	RS
TM3232-006R	1.000	INA03A	1/3/2020	19:37	RS
TM3232-007R	1.000	INA03A	1/3/2020	19:41	RS
TM3232-008R	1.000	INA03A	1/3/2020	19:46	RS
TM3232-009R	1.000	INA03A	1/3/2020	19:50	RS
TM3363-001R	1.000	INA03A	1/3/2020	19:54	RS
TM3232-010R	1.000	INA03A	1/3/2020	19:59	RS
TM3232-011R	1.000	INA03A	1/3/2020	20:04	RS
TM3232-012R	1.000	INA03A	1/3/2020	20:08	RS
TM3278-004R	1.000	INA03A	1/3/2020	20:12	RS
CCV	1.000	INA03A	1/3/2020	20:17	RS
CCB	1.000	INA03A	1/3/2020	20:21	RS
TM3279-004R	1.000	INA03A	1/3/2020	20:25	RS
TM3629-001	1.000	INA03A	1/3/2020	20:30	RS
TM3629-002	1.000	INA03A	1/3/2020	20:34	RS
TM3629-002L	5.000	INA03A	1/3/2020	20:39	RS
TM3629-002A	1.000	INA03A	1/3/2020	20:43	RS
TM3629-002S	1.000	INA03A	1/3/2020	20:47	RS
TM3629-002P	1.000	INA03A	1/3/2020	20:51	RS
TM3629-003	1.000	INA03A	1/3/2020	20:56	RS
PBWNA03ICW1	1.000	INA03A	1/3/2020	21:00	RS
LCSWNA03ICW1	1.000	INA03A	1/3/2020	21:04	RS
CCV	1.000	INA03A	1/3/2020	21:09	RS
CCB	1.000	INA03A	1/3/2020	21:13	RS
PBT1605A	1.000	INA03A	1/3/2020	21:17	RS
TM3231-004R	1.000	INA03A	1/3/2020	21:22	RS
TM3231-004RL	5.000	INA03A	1/3/2020	21:26	RS
TM3231-004RA	1.000	INA03A	1/3/2020	21:30	RS
TM3231-004RS	1.000	INA03A	1/3/2020	21:35	RS
TM3231-004RP	1.000	INA03A	1/3/2020	21:39	RS

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
CCV	1.000	INA03A	1/3/2020	21:43	RS
CCB	1.000	INA03A	1/3/2020	21:47	RS
PQL	1.000	INA03A	1/3/2020	21:52	RS
ICSA	1.000	INA03A	1/3/2020	21:56	RS
ICSAB	1.000	INA03A	1/3/2020	22:01	RS
CCV	1.000	INA03A	1/3/2020	22:07	RS
CCB	1.000	INA03A	1/3/2020	22:11	RS

Intensity Report

Author:

Published: 1/6/2020 8:50:04AM

Notes:

Blank

Method Name: FAST-2016_NO_AU

Method Revision: 1,232

Analyst Name: RS

Acquire Date: 1/3/2020 2:58:39PM

Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.0002010	Cts/S	0.000003000	1.424	-26.75
Al3961_R		-0.0002020	Cts/S	0.0005610	277.7	-2.881
As1891_A		-0.0003460	Cts/S	0.00003200	9.389	-2.522
B_2089_A		0.0004250	Cts/S	0.00001900	4.452	3.096
Ba4554_R		0.004777	Cts/S	0.0001140	2.382	67.46
Be3130_R		-0.001185	Cts/S	0.0002790	23.59	-16.75
Ca3158_R		-0.002395	Cts/S	0.0001510	6.284	-33.83
Cd2265_A		-0.0003550	Cts/S	0.00002700	7.513	-2.588
Co2286_A		0.0004890	Cts/S	0.0001200	24.59	3.569
Cr2677_A		0.00001300	Cts/S	0.000009000	64.70	1.782
Cu3273_A		-0.00003500	Cts/S	0.00006200	173.7	-4.696
Fe2599_R		0.0002210	Cts/S	0.0001350	60.88	3.113
K_7664_R		-0.006753	Cts/S	0.001752	25.95	-95.44
Li6707_R		-0.001581	Cts/S	0.0007940	50.20	-22.28
Mg2025_A		-0.0006890	Cts/S	0.00001400	2.098	-5.021
Mn2576_R		0.0004260	Cts/S	0.00005600	13.10	6.014
Mo2020_A		0.00006600	Cts/S	0.00002600	39.53	0.4803
Na5895_R		0.001704	Cts/S	0.00003000	1.784	24.06
Ni2316_A		-0.0001700	Cts/S	0.00006700	39.53	-1.235
Pb2203_A		-0.0002570	Cts/S	0.00008500	33.15	-1.876
Sb2068_A		0.000008000	Cts/S	0.00004600	586.9	-0.05665
Se1960_A		0.0003290	Cts/S	0.00005200	15.81	2.400
Si2516_R		0.002327	Cts/S	0.0001340	5.745	32.85
Sn1899_A		0.0002340	Cts/S	0.00002700	11.67	1.707
Sr4215_R		-0.002133	Cts/S	0.0003730	17.49	-30.13
Ti3349_A		-0.0002420	Cts/S	0.00006600	27.20	-32.18
Tl1908_A		-0.0003840	Cts/S	0.00001800	4.713	-2.797
V_2924_A		-0.00005400	Cts/S	0.00001300	23.93	-7.199
Zn2062_A		0.0001420	Cts/S	0.00003400	23.69	1.034
Y_3600_R		14,120	Cts/S	101.30	0.71741	14,120
Y_2243_A		7,292.5	Cts/S	21.822	0.29923	7,292.5
Y_3600_A		132,790	Cts/S	183.43	0.13813	132,790

Std 1

Method Name: FAST-2016_NO_AU

Method Revision: 1,232

Analyst Name: RS

Acquire Date: 1/3/2020 3:03:03PM

Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1033	Cts/S	0.00005500	0.05318	13,280
Al3961_R		1.232	Cts/S	0.0009380	0.07610	17,320
As1891_A		0.04263	Cts/S	0.0001780	0.4177	299.2
B_2089_A		0.1843	Cts/S	0.0001280	0.06921	1,293
Ba4554_R		3.253	Cts/S	0.01145	0.3521	45,720
Be3130_R		5.121	Cts/S	0.003395	0.06629	71,960
Ca3158_R		1.359	Cts/S	0.001224	0.09007	19,090
Cd2265_A		1.671	Cts/S	0.006072	0.3633	11,730
Co2286_A		0.4090	Cts/S	0.0008640	0.2113	2,871
Cr2677_A		0.08103	Cts/S	0.00009200	0.1137	10,420
Cu3273_A		0.08919	Cts/S	0.0002660	0.2983	11,470
Fe2599_R		2.500	Cts/S	0.01125	0.4500	35,130
K_7664_R		0.7486	Cts/S	0.004433	0.5921	10,520
Li6707_R		0.7355	Cts/S	0.0003600	0.04897	10,340

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Std 1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:03:03PM

Method Revision: 1,232

Sample Type: Standard

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Mg2025_A		0.9685	Cts/S	0.0006660	0.06879	6,798
Mn2576_R		0.5268	Cts/S	0.0004560	0.08657	7,403
Mo2020_A		0.3667	Cts/S	0.0005120	0.1398	2,574
Na5895_R		3.202	Cts/S	0.005371	0.1678	44,990
Ni2316_A		0.2132	Cts/S	0.0007290	0.3419	1,497
Pb2203_A		0.1218	Cts/S	0.0003830	0.3144	855.1
Sb2068_A		0.06624	Cts/S	0.00003400	0.05203	464.9
Se1960_A		0.03093	Cts/S	0.0001680	0.5447	217.1
Si2516_R		0.7432	Cts/S	0.002036	0.2739	10,440
Sn1899_A		0.06962	Cts/S	0.0003130	0.4492	488.7
Sr4215_R		4.506	Cts/S	0.01504	0.3337	63,330
Ti3349_A		0.1550	Cts/S	0.0002310	0.1492	19,920
Tl1908_A		0.06838	Cts/S	0.0001780	0.2599	480.0
V_2924_A		0.08597	Cts/S	0.0003480	0.4047	11,050
Zn2062_A		0.4143	Cts/S	0.001615	0.3898	2,908
Y_3600_R		14,053	Cts/S	73.899	0.52585	14,053
Y_2243_A		7,018.9	Cts/S	7.5157	0.10708	7,018.9
Y_3600_A		128,580	Cts/S	428.92	0.33359	128,580

ICV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:07:11PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		412.3	ug/L	1.582	0.3838	5,488
Al3961_R		9,946	ug/L	55.18	0.5547	6,769
As1891_A		391.4	ug/L	5.471	1.398	116.5
B_2089_A		406.6	ug/L	4.195	1.032	531.8
Ba4554_R		409.9	ug/L	1.569	0.3828	18,450
Be3130_R		417.8	ug/L	1.754	0.4199	29,530
Ca3158_R		10,170	ug/L	1.772	0.01743	7,610
Cd2265_A		406.2	ug/L	4.191	1.032	4,800
Co2286_A		411.3	ug/L	4.681	1.138	1,192
Cr2677_A		410.5	ug/L	0.7395	0.1802	4,299
Cu3273_A		404.4	ug/L	0.9140	0.2260	4,659
Fe2599_R		10,010	ug/L	62.28	0.6222	13,820
K_7664_R		13,620	ug/L	0.7324	0.005379	5,587
Li6707_R		402.0	ug/L	4.349	1.082	4,070
Mg2025_A		9,699	ug/L	84.23	0.8685	2,656
Mn2576_R		414.0	ug/L	2.775	0.6703	3,015
Mo2020_A		410.4	ug/L	3.198	0.7793	1,064
Na5895_R		9,979	ug/L	35.46	0.3553	17,660
Ni2316_A		408.9	ug/L	3.655	0.8939	616.0
Pb2203_A		405.8	ug/L	4.868	1.200	348.6
Sb2068_A		404.1	ug/L	5.100	1.262	189.3
Se1960_A		404.4	ug/L	6.589	1.630	89.85
Si2516_R		10,290	ug/L	21.85	0.2124	4,159
Sn1899_A		402.1	ug/L	3.589	0.8926	199.0
Sr4215_R		409.5	ug/L	1.345	0.3286	25,460
Ti3349_A		408.9	ug/L	0.5778	0.1413	8,169
Tl1908_A		406.0	ug/L	3.574	0.8804	194.8
V_2924_A		404.4	ug/L	1.178	0.2914	4,488
Zn2062_A		408.6	ug/L	4.456	1.091	1,198
Y_3600_R		13,807	Cts/S	66.701	0.48308	13,807
Y_2243_A		7,073.1	Cts/S	44.520	0.62943	7,073.1
Y_3600_A		129,220	Cts/S	12.732	0.0098530	129,220

ICB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:11:22PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.5792	ug/L	0.6471	111.7	-18.88
Al3961_R		7.428	ug/L	0.6157	8.288	2.360
As1891_A		1.297	ug/L	1.861	143.5	-2.094
B_2089_A		1.156	ug/L	0.2891	25.02	4.615
Ba4554_R		-0.1808	ug/L	0.2455	135.8	59.40
Be3130_R		0.05508	ug/L	0.01425	25.87	-12.81
Ca3158_R		7.578	ug/L	2.439	32.18	-28.10
Cd2265_A		0.01292	ug/L	0.02808	217.4	-2.405
Co2286_A		-0.03328	ug/L	0.04478	134.6	3.442
Cr2677_A		-0.02368	ug/L	0.04736	200.0	1.525
Cu3273_A		0.0008120	ug/L	0.2640	32,510	-4.673
Fe2599_R		4.111	ug/L	0.7582	18.44	8.958
K_7664_R		-1.147	ug/L	16.76	1,462	-96.21
Li6707_R		2.695	ug/L	0.04314	1.601	5.746
Mg2025_A		0.2226	ug/L	2.242	1,007	-4.913
Mn2576_R		-0.4330	ug/L	0.09381	21.66	2.806
Mo2020_A		1.511	ug/L	0.3685	24.39	4.480
Na5895_R		-0.4300	ug/L	3.427	796.8	23.37
Ni2316_A		0.05658	ug/L	0.1952	345.0	-1.122
Pb2203_A		0.6296	ug/L	0.6502	103.3	-1.305
Sb2068_A		0.5564	ug/L	0.8138	146.3	0.2089
Se1960_A		-0.2274	ug/L	0.5709	251.0	2.331
Si2516_R		11.37	ug/L	19.54	171.9	37.66
Sn1899_A		0.5968	ug/L	0.2070	34.68	1.992
Sr4215_R		0.09464	ug/L	0.01267	13.38	-24.18
Ti3349_A		0.3802	ug/L	0.3236	85.12	-24.30
Tl1908_A		0.6716	ug/L	0.6402	95.33	-2.441
V_2924_A		0.2190	ug/L	0.1848	84.36	-4.799
Zn2062_A		-0.1180	ug/L	0.06494	55.02	0.6713
Y_3600_R		14,175	Cts/S	14.478	0.10213	14,175
Y_2243_A		7,231.1	Cts/S	30.635	0.42366	7,231.1
Y_3600_A		133,030	Cts/S	2,576.5	1.9367	133,030

PQL

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:15:46PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		10.22	ug/L	0.1607	1.573	113.6
Al3961_R		307.1	ug/L	0.1214	0.03953	212.8
As1891_A		8.866	ug/L	1.536	17.32	0.2687
B_2089_A		47.57	ug/L	1.086	2.283	65.19
Ba4554_R		5.084	ug/L	0.09264	1.822	303.5
Be3130_R		5.010	ug/L	0.007408	0.1479	348.6
Ca3158_R		105.1	ug/L	3.270	3.111	47.42
Cd2265_A		4.938	ug/L	0.02962	0.6000	57.02
Co2286_A		9.847	ug/L	0.03185	0.3235	32.61
Cr2677_A		10.38	ug/L	0.1282	1.235	113.0
Cu3273_A		23.88	ug/L	0.1807	0.7567	277.1
Fe2599_R		98.92	ug/L	2.296	2.321	144.1
K_7664_R		957.7	ug/L	21.01	2.194	316.2
Li6707_R		99.41	ug/L	2.246	2.259	1,022
Mg2025_A		90.25	ug/L	1.787	1.980	20.57
Mn2576_R		5.110	ug/L	0.2085	4.081	44.38
Mo2020_A		10.46	ug/L	0.05710	0.5459	28.17
Na5895_R		966.4	ug/L	2.415	0.2498	1,787
Ni2316_A		10.15	ug/L	0.1656	1.632	14.44

PQL

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:15:46PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		4.955	ug/L	0.4741	9.568	2.492
Sb2068_A		9.119	ug/L	0.8231	9.026	3.866
Se1960_A		10.04	ug/L	3.507	34.93	4.593
Si2516_R		188.5	ug/L	18.46	9.794	111.2
Sn1899_A		97.15	ug/L	1.847	1.901	50.37
Sr4215_R		9.982	ug/L	0.05727	0.5737	611.0
Ti3349_A		14.55	ug/L	0.1548	1.064	266.4
Ti1908_A		14.44	ug/L	0.6671	4.621	4.399
V_2924_A		10.04	ug/L	0.02266	0.2258	107.0
Zn2062_A		20.06	ug/L	0.3475	1.733	61.04
Y_3600_R		14,253	Cts/S	25.224	0.17698	14,253
Y_2243_A		7,222.2	Cts/S	86.306	1.1950	7,222.2
Y_3600_A		132,190	Cts/S	975.69	0.73807	132,190

ICSA

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:20:10PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-1.713	ug/L	0.07113	4.152	-620.5
Al3961_R		476,300	ug/L	5,491	1.153	321,500
As1891_A		-1.405	ug/L	0.8519	60.65	-10.16
B_2089_A		-0.4032	ug/L	0.2026	50.24	2.231
Ba4554_R		0.2129	ug/L	0.1194	56.11	75.00
Be3130_R		-0.02110	ug/L	0.04419	209.4	-17.88
Ca3158_R		456,200	ug/L	1,310	0.2871	340,500
Cd2265_A		-2.070	ug/L	0.3482	16.82	196.5
Co2286_A		-0.03504	ug/L	0.4572	1,305	5.271
Cr2677_A		-0.8873	ug/L	0.3278	36.94	-8.194
Cu3273_A		-4.386	ug/L	1.412	32.18	-39.18
Fe2599_R		179,700	ug/L	1,611	0.8963	246,400
K_7664_R		35.38	ug/L	20.33	57.45	-77.95
Li6707_R		6.408	ug/L	1.338	20.88	43.12
Mg2025_A		465,200	ug/L	3,207	0.6894	117,100
Mn2576_R		0.6985	ug/L	0.1968	28.17	6.000
Mo2020_A		-2.744	ug/L	0.1693	6.170	-6.146
Na5895_R		21.67	ug/L	8.806	40.64	61.43
Ni2316_A		1.625	ug/L	0.3417	21.02	-10.92
Pb2203_A		0.8156	ug/L	3.649	447.3	-35.59
Sb2068_A		0.6446	ug/L	1.357	210.5	2.374
Se1960_A		-2.901	ug/L	0.4932	17.00	4.223
Si2516_R		5.416	ug/L	4.960	91.57	24.03
Sn1899_A		9.092	ug/L	1.454	15.99	5.651
Sr4215_R	W	4.305	ug/L	0.01287	0.2990	236.9
Ti3349_A		1.866	ug/L	0.2380	12.75	5.628
Ti1908_A		2.176	ug/L	2.026	93.13	-1.092
V_2924_A		-1.245	ug/L	0.1203	9.663	4.463
Zn2062_A		0.8385	ug/L	0.02176	2.595	3.201
Y_3600_R		13,711	Cts/S	57.892	0.42222	13,711
Y_2243_A		6,535.0	Cts/S	35.265	0.53963	6,535.0
Y_3600_A		120,550	Cts/S	1,132.7	0.93963	120,550

ICSA B

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:25:36PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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ICSAB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:25:36PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		215.8	ug/L	5.020	2.327	2,057
Al3961_R		479,900	ug/L	15,570	3.244	324,900
As1891_A		101.7	ug/L	0.2042	0.2008	18.31
B_2089_A		512.4	ug/L	1.175	0.2293	600.0
Ba4554_R		501.7	ug/L	32.45	6.469	22,470
Be3130_R		492.9	ug/L	31.54	6.398	34,680
Ca3158_R		456,400	ug/L	19,850	4.350	341,600
Cd2265_A		963.2	ug/L	6.577	0.6829	10,400
Co2286_A		483.4	ug/L	2.756	0.5702	1,258
Cr2677_A		489.0	ug/L	5.395	1.103	4,678
Cu3273_A		527.1	ug/L	4.621	0.8766	5,562
Fe2599_R		181,700	ug/L	12,000	6.602	249,700
K_7664_R		20,510	ug/L	1,224	5.970	8,423
Li6707_R		521.7	ug/L	35.41	6.788	5,263
Mg2025_A		486,400	ug/L	3,688	0.7582	118,800
Mn2576_R		466.8	ug/L	29.56	6.333	3,383
Mo2020_A		507.1	ug/L	0.7324	0.1444	1,179
Na5895_R		20,400	ug/L	1,341	6.573	35,910
Ni2316_A		953.6	ug/L	3.327	0.3489	1,275
Pb2203_A		49.35	ug/L	2.342	4.746	2,635
Sb2068_A		632.3	ug/L	4.574	0.7235	267.8
Se1960_A		52.33	ug/L	5.045	9.640	14.87
Si2516_R	F	225.5	ug/L	4.254	1.887	115.2
Sn1899_A		493.8	ug/L	3.331	0.6745	218.8
Sr4215_R		501.0	ug/L	33.33	6.652	31,010
Ti3349_A		497.2	ug/L	1.163	0.2340	9,082
Tl1908_A		94.68	ug/L	0.3412	0.3603	39.71
V_2924_A		490.3	ug/L	3.598	0.7337	4,995
Zn2062_A		945.3	ug/L	4.307	0.4556	2,485
Y_3600_R		13,761	Cts/S	540.31	3.9264	13,761
Y_2243_A		6,341.3	Cts/S	17.698	0.27909	6,341.3
Y_3600_A		118,070	Cts/S	916.23	0.77602	118,070

CCV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:30:54PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		495.4	ug/L	6.072	1.226	6,730
Al3961_R		12,090	ug/L	13.44	0.1112	8,450
As1891_A		477.8	ug/L	3.132	0.6555	145.4
B_2089_A		486.6	ug/L	3.563	0.7323	648.1
Ba4554_R		496.9	ug/L	1.869	0.3762	22,960
Be3130_R		493.2	ug/L	1.223	0.2480	35,810
Ca3158_R		12,090	ug/L	47.60	0.3936	9,304
Cd2265_A		488.7	ug/L	2.581	0.5281	5,885
Co2286_A		486.5	ug/L	1.107	0.2276	1,436
Cr2677_A		494.1	ug/L	6.342	1.284	5,278
Cu3273_A		491.7	ug/L	3.735	0.7596	5,778
Fe2599_R		12,340	ug/L	30.80	0.2496	17,500
K_7664_R		11,980	ug/L	4.641	0.03872	5,039
Li6707_R		483.8	ug/L	4.479	0.9259	5,035
Mg2025_A	W	11,770	ug/L	69.67	0.5921	3,283
Mn2576_R		489.2	ug/L	0.6932	0.1417	3,657
Mo2020_A		495.4	ug/L	3.969	0.8012	1,309
Na5895_R		12,170	ug/L	3.321	0.02730	22,110
Ni2316_A		495.2	ug/L	2.652	0.5355	760.3

CCV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:30:54PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		491.2	ug/L	2.452	0.4992	430.3
Sb2068_A		484.3	ug/L	1.402	0.2895	231.2
Se1960_A		477.4	ug/L	6.387	1.338	107.7
Si2516_R		12,550	ug/L	17.40	0.1387	5,204
Sn1899_A		482.6	ug/L	2.949	0.6110	243.0
Sr4215_R		498.9	ug/L	1.550	0.3107	31,870
Ti3349_A		487.8	ug/L	5.356	1.098	9,948
Ti1908_A		483.5	ug/L	0.5322	0.1101	236.9
V_2924_A		488.2	ug/L	5.709	1.169	5,528
Zn2062_A		488.7	ug/L	2.008	0.4109	1,460
Y_3600_R		14,181	Cts/S	138.39	0.97589	14,181
Y_2243_A		7,206.9	Cts/S	20.691	0.28710	7,206.9
Y_3600_A		131,820	Cts/S	1,498.1	1.1365	131,820

CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:35:03PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.2292	ug/L	0.2993	130.6	-22.83
Al3961_R		-0.3244	ug/L	20.05	6,179	-2.947
As1891_A		0.2686	ug/L	0.1660	61.81	-2.416
B_2089_A		1.420	ug/L	0.1983	13.96	4.955
Ba4554_R		-0.1976	ug/L	0.1002	50.73	57.07
Be3130_R		0.01910	ug/L	0.02082	109.0	-15.00
Ca3158_R		5.144	ug/L	6.896	134.1	-29.18
Cd2265_A		0.008493	ug/L	0.02990	352.0	-2.458
Co2286_A		-0.2339	ug/L	0.07147	30.55	2.849
Cr2677_A		-0.1833	ug/L	0.4042	220.6	-0.1864
Cu3273_A		0.6157	ug/L	0.1431	23.24	2.509
Fe2599_R		4.188	ug/L	2.432	58.08	8.823
K_7664_R		-12.13	ug/L	32.19	265.5	-98.23
Li6707_R		1.375	ug/L	1.008	73.35	-7.853
Mg2025_A		0.8025	ug/L	0.9685	120.7	-4.758
Mn2576_R		-0.2719	ug/L	0.1903	69.98	3.902
Mo2020_A		1.364	ug/L	0.1788	13.11	4.093
Na5895_R		2.451	ug/L	3.736	152.4	27.84
Ni2316_A		0.3002	ug/L	0.08678	28.91	-0.7500
Pb2203_A		-0.04755	ug/L	0.6154	1,294	-1.906
Sb2068_A		1.794	ug/L	0.8232	45.90	0.8033
Se1960_A		0.7404	ug/L	0.7191	97.12	2.542
Si2516_R		-4.265	ug/L	8.915	209.0	30.40
Sn1899_A		1.030	ug/L	0.6048	58.70	2.210
Sr4215_R		-0.06357	ug/L	0.1083	170.3	-33.38
Ti3349_A		0.1810	ug/L	0.02012	11.12	-27.49
Ti1908_A		-0.1222	ug/L	0.8709	712.9	-2.835
V_2924_A		0.1704	ug/L	0.004790	2.810	-5.143
Zn2062_A		-0.1076	ug/L	0.05176	48.10	0.7038
Y_3600_R		13,802	Cts/S	49.533	0.35888	13,802
Y_2243_A		7,228.0	Cts/S	65.285	0.90323	7,228.0
Y_3600_A		128,440	Cts/S	216.96	0.16893	128,440

LRS1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:39:28PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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LRS1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:39:28PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		2,025	ug/L	6.470	0.3194	27,020
Al3961_R		-33.86	ug/L	15.92	47.00	100.9
As1891_A		19,270	ug/L	89.10	0.4623	5,853
B_2089_A		19,680	ug/L	4.493	0.02283	25,040
Ba4554_R		20,240	ug/L	111.2	0.5492	909,200
Be3130_R		19,930	ug/L	271.2	1.361	1,411,000
Ca3158_R		16.41	ug/L	8.013	48.83	-12.24
Cd2265_A		19,140	ug/L	42.30	0.2210	224,300
Co2286_A		19,570	ug/L	84.86	0.4335	56,220
Cr2677_A		19,800	ug/L	60.47	0.3054	207,200
Cu3273_A		20,070	ug/L	62.51	0.3114	231,400
Fe2599_R		28.12	ug/L	3.096	11.01	41.91
K_7664_R		4.665	ug/L	6.867	147.2	-91.41
Li6707_R		19,640	ug/L	463.6	2.360	200,100
Mg2025_A		-2,118	ug/L	2.083	0.09837	189.8
Mn2576_R		19,730	ug/L	489.9	2.483	143,700
Mo2020_A		5,034	ug/L	13.08	0.2599	12,970
Na5895_R		23.28	ug/L	1.808	7.767	64.79
Ni2316_A		19,610	ug/L	5.339	0.02722	29,300
Pb2203_A		20,190	ug/L	29.33	0.1453	17,370
Sb2068_A		19,590	ug/L	25.80	0.1317	9,122
Se1960_A		19,710	ug/L	101.3	0.5142	4,241
Si2516_R		363.5	ug/L	96.07	26.43	271.8
Sn1899_A		19,460	ug/L	56.43	0.2899	9,497
Sr4215_R		19,810	ug/L	380.1	1.919	1,235,000
Ti3349_A		19,340	ug/L	224.7	1.162	387,600
Tl1908_A		19,530	ug/L	92.56	0.4739	9,443
V_2924_A		19,480	ug/L	20.22	0.1038	217,400
Zn2062_A		19,390	ug/L	80.20	0.4136	56,460
Y_3600_R		13,828	Cts/S	199.35	1.4416	13,828
Y_2243_A		7,030.5	Cts/S	6.7355	0.095804	7,030.5
Y_3600_A		129,190	Cts/S	395.63	0.30623	129,190

LRS2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:46:11PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		1.757	ug/L	0.5304	30.19	-729.4
Al3961_R		489,200	ug/L	431.0	0.08810	322,300
As1891_A		9.485	ug/L	2.054	21.65	-10.87
B_2089_A		26.07	ug/L	2.471	9.480	32.86
Ba4554_R		0.6638	ug/L	0.1117	16.82	92.79
Be3130_R		0.06540	ug/L	0.04025	61.55	-11.95
Ca3158_R		462,100	ug/L	7,525	1.629	336,600
Cd2265_A		-2.824	ug/L	0.5738	20.32	251.8
Co2286_A		-1.067	ug/L	0.1219	11.42	3.174
Cr2677_A		-1.615	ug/L	0.2778	17.20	-15.10
Cu3273_A		-3.933	ug/L	0.8594	21.85	-40.71
Fe2599_R		235,200	ug/L	2,366	1.006	314,700
K_7664_R		304,200	ug/L	43.46	0.01429	122,900
Li6707_R		7.434	ug/L	1.506	20.26	52.11
Mg2025_A		199,900	ug/L	357.1	0.1786	49,370
Mn2576_R		18.97	ug/L	0.1370	0.7225	62.99
Mo2020_A		1.978	ug/L	0.9800	49.55	5.073
Na5895_R		201,900	ug/L	2,823	1.398	345,800
Ni2316_A		2.391	ug/L	0.1469	6.143	-13.28

LRS2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:46:11PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.6930	ug/L	2.689	388.0	-35.73
Sb2068_A		0.9052	ug/L	0.8277	91.43	2.823
Se1960_A		10.01	ug/L	2.193	21.90	6.505
Si2516_R		50,050	ug/L	15.88	0.03173	19,470
Sn1899_A		12.00	ug/L	0.9450	7.873	6.841
Sr4215_R		2.613	ug/L	0.1638	6.270	129.1
Ti3349_A		10.98	ug/L	0.01636	0.1490	170.3
Ti1908_A		4.264	ug/L	0.6392	14.99	-0.5344
V_2924_A		-1.218	ug/L	0.2750	22.59	11.44
Zn2062_A		2.698	ug/L	0.2951	10.94	8.086
Y_3600_R		13,381	Cts/S	101.77	0.76059	13,381
Y_2243_A		6,410.9	Cts/S	14.389	0.22445	6,410.9
Y_3600_A		116,550	Cts/S	6.3812	0.0054750	116,550

CCV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:51:48PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		499.0	ug/L	1.502	0.3011	6,714
Al3961_R		12,350	ug/L	24.07	0.1949	8,545
As1891_A		475.6	ug/L	0.4661	0.09800	145.5
B_2089_A		492.7	ug/L	3.374	0.6848	659.2
Ba4554_R		508.8	ug/L	3.422	0.6725	23,270
Be3130_R		506.4	ug/L	1.542	0.3046	36,400
Ca3158_R		12,340	ug/L	22.85	0.1851	9,401
Cd2265_A		483.4	ug/L	2.562	0.5300	5,853
Co2286_A		482.7	ug/L	2.617	0.5421	1,432
Cr2677_A		501.4	ug/L	0.9576	0.1910	5,306
Cu3273_A		500.1	ug/L	0.9860	0.1972	5,822
Fe2599_R		12,640	ug/L	93.39	0.7387	17,750
K_7664_R		12,360	ug/L	1.065	0.008615	5,148
Li6707_R		497.4	ug/L	4.561	0.9170	5,125
Mg2025_A	W	11,700	ug/L	36.33	0.3105	3,282
Mn2576_R		502.8	ug/L	1.558	0.3099	3,721
Mo2020_A		490.7	ug/L	1.426	0.2906	1,304
Na5895_R		12,450	ug/L	52.40	0.4209	22,390
Ni2316_A		490.5	ug/L	3.881	0.7912	757.0
Pb2203_A		483.8	ug/L	2.565	0.5301	426.0
Sb2068_A		480.5	ug/L	0.9335	0.1943	230.6
Se1960_A		476.2	ug/L	0.1666	0.03499	108.0
Si2516_R		12,960	ug/L	76.07	0.5868	5,320
Sn1899_A		477.1	ug/L	2.368	0.4963	241.5
Sr4215_R		511.0	ug/L	2.676	0.5238	32,310
Ti3349_A		496.2	ug/L	3.472	0.6996	10,020
Ti1908_A		481.2	ug/L	1.744	0.3624	236.9
V_2924_A		496.8	ug/L	0.7484	0.1507	5,573
Zn2062_A		482.8	ug/L	3.040	0.6296	1,449
Y_3600_R		14,039	Cts/S	23.659	0.16853	14,039
Y_2243_A		7,244.6	Cts/S	19.845	0.27392	7,244.6
Y_3600_A		130,570	Cts/S	83.994	0.064327	130,570

CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:55:57PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 3:55:57PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3153	ug/L	0.08179	25.94	-21.91
Al3961_R		9.627	ug/L	6.276	65.19	3.855
As1891_A		1.839	ug/L	1.516	82.44	-1.924
B_2089_A		7.217	ug/L	0.6229	8.631	12.51
Ba4554_R		-0.2238	ug/L	0.1010	45.15	56.50
Be3130_R		0.05524	ug/L	0.001226	2.220	-12.61
Ca3158_R		5.486	ug/L	1.347	24.55	-29.23
Cd2265_A		0.05055	ug/L	0.001218	2.410	-1.951
Co2286_A		-0.2109	ug/L	0.1696	80.43	2.917
Cr2677_A		0.2601	ug/L	0.06601	25.37	4.482
Cu3273_A		-0.1321	ug/L	0.8578	649.6	-6.111
Fe2599_R		2.946	ug/L	0.2673	9.073	7.187
K_7664_R		58.85	ug/L	14.77	25.09	-69.40
Li6707_R		0.6522	ug/L	0.3556	54.53	-15.33
Mg2025_A		2.919	ug/L	2.698	92.43	-4.166
Mn2576_R		-0.3837	ug/L	0.2083	54.28	3.118
Mo2020_A		1.949	ug/L	0.2488	12.76	5.643
Na5895_R		2.511	ug/L	1.190	47.40	28.25
Ni2316_A		-0.03459	ug/L	0.1200	347.0	-1.258
Pb2203_A		0.3098	ug/L	0.07853	25.35	-1.589
Sb2068_A		0.1471	ug/L	0.02873	19.54	0.01238
Se1960_A		1.209	ug/L	0.05834	4.827	2.647
Si2516_R		8.033	ug/L	13.62	169.5	35.69
Sn1899_A		0.4179	ug/L	0.3742	89.54	1.902
Sr4215_R		0.1589	ug/L	0.1226	77.18	-19.78
Ti3349_A		0.6241	ug/L	0.3305	52.96	-18.85
Tl1908_A		1.289	ug/L	1.078	83.68	-2.134
V_2924_A		0.04077	ug/L	0.3516	862.4	-6.716
Zn2062_A		-0.2229	ug/L	0.002795	1.254	0.3562
Y_3600_R		13,945	Cts/S	98.272	0.70471	13,945
Y_2243_A		7,228.2	Cts/S	25.431	0.35184	7,228.2
Y_3600_A		129,880	Cts/S	616.75	0.47488	129,880

TM2536-001 UND

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:00:22PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.2909	ug/L	0.1965	67.56	-41.45
Al3961_R		93.34	ug/L	9.590	10.27	75.55
As1891_A		4.579	ug/L	0.2246	4.905	-1.540
B_2089_A		21.85	ug/L	0.1815	0.8309	32.86
Ba4554_R		12.13	ug/L	0.2238	1.844	643.1
Be3130_R		-0.01235	ug/L	0.005413	43.84	-18.34
Ca3158_R		18,530	ug/L	359.2	1.939	14,640
Cd2265_A		0.09862	ug/L	0.01849	18.74	5.857
Co2286_A		-0.04408	ug/L	0.1711	388.2	3.597
Cr2677_A		0.8588	ug/L	0.05990	6.975	11.12
Cu3273_A		18.53	ug/L	0.5402	2.915	216.1
Fe2599_R		5,194	ug/L	29.51	0.5682	7,559
K_7664_R		6,119	ug/L	161.9	2.646	2,592
Li6707_R		1.987	ug/L	1.714	86.27	-1.666
Mg2025_A		2,490	ug/L	30.40	1.221	707.8
Mn2576_R		28.31	ug/L	0.3649	1.289	222.4
Mo2020_A		16.79	ug/L	0.1269	0.7561	46.23
Na5895_R	W	35,620	ug/L	609.4	1.711	66,360
Ni2316_A		3.374	ug/L	0.07534	2.233	3.848

TM2536-001 UND

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:00:22PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		1.820	ug/L	0.2797	15.37	-0.2498
Sb2068_A		-0.5236	ug/L	0.4360	83.27	-0.2820
Se1960_A		42.01	ug/L	8.033	19.12	11.97
Si2516_R		5,616	ug/L	23.33	0.4155	2,406
Sn1899_A		0.6127	ug/L	0.2379	38.83	2.055
Sr4215_R		58.98	ug/L	0.8506	1.442	3,838
Ti3349_A		3.860	ug/L	0.2059	5.334	48.03
Tl1908_A		1.958	ug/L	0.3528	18.02	-1.913
V_2924_A		0.3851	ug/L	0.3370	87.51	-3.242
Zn2062_A		127.9	ug/L	0.2472	0.1933	395.1
Y_3600_R		14,551	Cts/S	44.171	0.30356	14,551
Y_2243_A		7,430.9	Cts/S	53.756	0.72341	7,430.9
Y_3600_A		134,070	Cts/S	1,101.0	0.82125	134,070

TM2536-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:04:42PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.2296	ug/L	0.1692	73.72	-42.56
Al3961_R		155.8	ug/L	8.042	5.162	122.0
As1891_A		5.142	ug/L	0.4068	7.911	-1.362
B_2089_A		22.20	ug/L	0.1602	0.7218	34.14
Ba4554_R		13.97	ug/L	0.3863	2.765	734.7
Be3130_R		0.01338	ug/L	0.003508	26.22	-16.43
Ca3158_R		18,450	ug/L	298.5	1.618	14,680
Cd2265_A		0.09684	ug/L	0.008133	8.399	6.010
Co2286_A		-0.06014	ug/L	0.1548	257.3	3.508
Cr2677_A		1.342	ug/L	0.1642	12.24	16.26
Cu3273_A		105.3	ug/L	0.2208	0.2098	1,246
Fe2599_R		5,355	ug/L	181.3	3.386	7,842
K_7664_R		6,150	ug/L	75.02	1.220	2,622
Li6707_R		1.578	ug/L	0.4760	30.16	-6.170
Mg2025_A		2,570	ug/L	2.226	0.08661	725.4
Mn2576_R		28.94	ug/L	0.2938	1.015	228.7
Mo2020_A		54.32	ug/L	1.351	2.486	147.3
Na5895_R	W	36,030	ug/L	668.9	1.857	67,550
Ni2316_A		3.972	ug/L	0.2514	6.331	5.151
Pb2203_A		1.952	ug/L	0.8598	44.05	-0.1441
Sb2068_A		0.08978	ug/L	0.4618	514.3	0.01329
Se1960_A		0.3981	ug/L	0.4535	113.9	2.493
Si2516_R		5,618	ug/L	172.5	3.071	2,423
Sn1899_A		1.007	ug/L	0.2375	23.58	2.241
Sr4215_R		59.94	ug/L	1.347	2.248	3,926
Ti3349_A		1.512	ug/L	0.4361	28.83	-0.2590
Tl1908_A		2.587	ug/L	1.184	45.75	-1.575
V_2924_A		0.02844	ug/L	0.2726	958.4	-9.755
Zn2062_A		149.6	ug/L	0.6866	0.4589	458.4
Y_3600_R		14,648	Cts/S	284.24	1.9405	14,648
Y_2243_A		7,373.0	Cts/S	7.1034	0.096343	7,373.0
Y_3600_A		133,140	Cts/S	394.74	0.29648	133,140

TM3090-002

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:09:02PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3090-002

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:09:02PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		2.525	ug/L	2.446	96.87	-22.06
Al3961_R		11,600	ug/L	60.38	0.5203	1,707
As1891_A		14.04	ug/L	8.317	59.25	-1.624
B_2089_A		4,717	ug/L	69.85	1.481	1,209
Ba4554_R		160.1	ug/L	1.778	1.110	1,575
Be3130_R		0.2606	ug/L	0.4219	161.9	-13.16
Ca3158_R	W	421,600	ug/L	1,012	0.2401	66,450
Cd2265_A		19.81	ug/L	0.5807	2.931	45.25
Co2286_A		17.07	ug/L	1.336	7.830	13.31
Cr2677_A		2.945	ug/L	0.3223	10.95	7.940
Cu3273_A		50.99	ug/L	2.680	5.256	113.8
Fe2599_R		4,074	ug/L	13.37	0.3282	1,183
K_7664_R		66,320	ug/L	116.4	0.1755	5,706
Li6707_R		73.15	ug/L	8.222	11.24	133.3
Mg2025_A	F	-1,808	ug/L	16.82	0.9302	-102.4
Mn2576_R		3.353	ug/L	3.933	117.3	10.67
Mo2020_A		1,018	ug/L	15.90	1.561	528.3
Na5895_R	W	638,400	ug/L	1,186	0.1857	236,700
Ni2316_A		44.97	ug/L	0.2802	0.6230	14.36
Pb2203_A		-23.61	ug/L	4.824	20.44	-6.251
Sb2068_A		33.21	ug/L	3.752	11.30	3.030
Se1960_A		48.51	ug/L	0.2297	0.4735	4.440
Si2516_R		2,071	ug/L	40.11	1.937	208.3
Sn1899_A		3.499	ug/L	0.8264	23.62	1.998
Sr4215_R		879.4	ug/L	3.150	0.3582	11,450
Ti3349_A		-2.027	ug/L	0.3965	19.56	-36.85
Tl1908_A		0.9695	ug/L	2.965	305.8	-2.606
V_2924_A		12.36	ug/L	1.067	8.635	8.071
Zn2062_A		10.18	ug/L	0.3050	2.997	6.966
Y_3600_R		14,481	Cts/S	35.749	0.24687	14,481
Y_2243_A		7,070.5	Cts/S	80.462	1.1380	7,070.5
Y_3600_A		129,850	Cts/S	2,546.4	1.9611	129,850

TM3590-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:13:21PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		3.470	ug/L	0.2263	6.521	-720.5
Al3961_R	W	107,300	ug/L	367.1	0.3421	75,770
As1891_A		233.2	ug/L	0.3591	0.1540	55.18
B_2089_A		7.806	ug/L	0.6365	8.154	13.29
Ba4554_R		272.0	ug/L	0.9756	0.3587	12,750
Be3130_R		7.791	ug/L	0.01010	0.1297	236.3
Ca3158_R		10,230	ug/L	53.53	0.5234	7,959
Cd2265_A		-3.037	ug/L	0.3292	10.84	227.5
Co2286_A		59.68	ug/L	0.09586	0.1606	214.2
Cr2677_A		178.0	ug/L	0.08588	0.04825	1,877
Cu3273_A		146.7	ug/L	0.2412	0.1644	1,622
Fe2599_R	W	193,200	ug/L	3,683	1.907	277,200
K_7664_R		15,280	ug/L	21.67	0.1418	6,532
Li6707_R		276.8	ug/L	2.690	0.9717	2,906
Mg2025_A	W	33,100	ug/L	45.28	0.1368	9,113
Mn2576_R	W	1,860	ug/L	2.707	0.1456	14,010
Mo2020_A		7.887	ug/L	0.3125	3.962	20.97
Na5895_R		939.2	ug/L	1.280	0.1363	1,750
Ni2316_A		139.4	ug/L	0.3924	0.2816	196.0

TM3590-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:13:21PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		84.76	ug/L	0.9363	1.105	64.41
Sb2068_A		1.365	ug/L	0.2716	19.90	2.448
Se1960_A		9.011	ug/L	1.398	15.52	4.380
Si2516_R		3,733	ug/L	17.15	0.4595	1,607
Sn1899_A		34.52	ug/L	0.2713	0.7859	18.79
Sr4215_R		67.99	ug/L	0.3491	0.5134	4,369
Ti3349_A	W	6,598	ug/L	24.15	0.3660	133,000
Ti1908_A		-0.2056	ug/L	1.124	546.9	-7.949
V_2924_A		244.1	ug/L	0.7527	0.3084	2,810
Zn2062_A		450.8	ug/L	1.394	0.3092	1,336
Y_3600_R		14,354	Cts/S	53.804	0.37483	14,354
Y_2243_A		7,145.8	Cts/S	16.717	0.23394	7,145.8
Y_3600_A		130,020	Cts/S	506.89	0.38985	130,020

TM3590-001L

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:18:33PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		6.028	ug/L	2.157	35.78	-165.7
Al3961_R		107,100	ug/L	1,874	1.749	15,190
As1891_A		239.2	ug/L	8.653	3.617	9.257
B_2089_A		12.26	ug/L	1.817	14.82	6.225
Ba4554_R		274.4	ug/L	5.085	1.853	2,637
Be3130_R		7.693	ug/L	0.02065	0.2684	31.72
Ca3158_R		10,230	ug/L	155.5	1.520	1,571
Cd2265_A		-4.068	ug/L	0.04807	1.182	43.59
Co2286_A		61.38	ug/L	1.888	3.076	46.63
Cr2677_A		184.9	ug/L	1.932	1.045	392.8
Cu3273_A		146.5	ug/L	0.1599	0.1091	321.0
Fe2599_R	W	203,000	ug/L	4,077	2.008	58,490
K_7664_R		15,280	ug/L	19.69	0.1289	1,233
Li6707_R		277.1	ug/L	4.394	1.585	566.0
Mg2025_A		32,750	ug/L	642.5	1.962	1,795
Mn2576_R		1,864	ug/L	32.51	1.744	2,824
Mo2020_A		9.467	ug/L	0.5164	5.455	5.386
Na5895_R		970.7	ug/L	14.84	1.529	382.6
Ni2316_A		145.2	ug/L	2.606	1.795	39.77
Pb2203_A		86.51	ug/L	1.407	1.626	11.70
Sb2068_A		3.627	ug/L	1.967	54.23	0.6773
Se1960_A		17.21	ug/L	10.21	59.36	3.103
Si2516_R		3,682	ug/L	40.40	1.097	345.2
Sn1899_A		34.99	ug/L	2.941	8.405	5.131
Sr4215_R		67.56	ug/L	1.235	1.828	846.9
Ti3349_A	W	6,665	ug/L	16.05	0.2407	26,950
Ti1908_A		-4.917	ug/L	5.674	115.4	-4.255
V_2924_A		250.4	ug/L	5.066	2.023	573.1
Zn2062_A		469.0	ug/L	7.754	1.653	278.2
Y_3600_R		14,410	Cts/S	231.41	1.6060	14,410
Y_2243_A		7,131.6	Cts/S	100.49	1.4091	7,131.6
Y_3600_A		130,500	Cts/S	881.95	0.67582	130,500

TM3590-001A

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:22:52PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3590-001A

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:22:52PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		541.5	ug/L	5.817	1.074	6,468
Al3961_R	W	117,100	ug/L	337.1	0.2880	81,660
As1891_A		720.9	ug/L	6.322	0.8769	208.1
B_2089_A		522.2	ug/L	5.866	1.123	699.1
Ba4554_R		825.2	ug/L	1.541	0.1868	38,070
Be3130_R		563.4	ug/L	2.376	0.4218	40,580
Ca3158_R		16,380	ug/L	54.24	0.3311	12,610
Cd2265_A		508.3	ug/L	2.878	0.5661	6,414
Co2286_A		571.6	ug/L	3.933	0.6881	1,732
Cr2677_A		723.0	ug/L	3.719	0.5144	7,534
Cu3273_A		704.2	ug/L	8.902	1.264	8,003
Fe2599_R	W	200,400	ug/L	2,018	1.007	284,000
K_7664_R	W	26,220	ug/L	130.8	0.4989	11,140
Li6707_R		811.8	ug/L	1.405	0.1730	8,460
Mg2025_A	W	37,770	ug/L	306.1	0.8105	10,560
Mn2576_R	W	2,361	ug/L	10.73	0.4544	17,570
Mo2020_A		544.4	ug/L	4.893	0.8989	1,446
Na5895_R		7,366	ug/L	23.35	0.3169	13,390
Ni2316_A		651.5	ug/L	4.115	0.6315	990.9
Pb2203_A		593.8	ug/L	3.804	0.6407	515.6
Sb2068_A		508.3	ug/L	3.773	0.7423	245.7
Se1960_A		512.0	ug/L	0.7939	0.1551	115.9
Si2516_R		3,947	ug/L	0.3059	0.007751	1,678
Sn1899_A		542.6	ug/L	3.072	0.5662	274.4
Sr4215_R		618.1	ug/L	2.758	0.4463	39,470
Ti3349_A	W	7,084	ug/L	70.23	0.9914	141,300
Tl1908_A		501.4	ug/L	3.389	0.6759	241.9
V_2924_A		778.0	ug/L	6.507	0.8364	8,684
Zn2062_A		940.8	ug/L	5.308	0.5642	2,824
Y_3600_R		14,176	Cts/S	66.624	0.46997	14,176
Y_2243_A		7,243.4	Cts/S	27.053	0.37349	7,243.4
Y_3600_A		128,600	Cts/S	326.72	0.25406	128,600

TM3590-001S

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:27:53PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		53.49	ug/L	0.7343	1.373	-62.07
Al3961_R	W	112,400	ug/L	347.5	0.3092	78,500
As1891_A		343.6	ug/L	2.679	0.7797	87.97
B_2089_A		454.4	ug/L	1.001	0.2204	584.4
Ba4554_R	W	2,338	ug/L	22.07	0.9439	107,900
Be3130_R		57.52	ug/L	0.4470	0.7771	3,868
Ca3158_R		13,910	ug/L	45.89	0.3300	10,720
Cd2265_A		227.6	ug/L	0.2201	0.09672	2,951
Co2286_A		518.5	ug/L	1.757	0.3389	1,536
Cr2677_A		336.5	ug/L	0.04289	0.01275	3,483
Cu3273_A		402.8	ug/L	0.3815	0.09471	4,514
Fe2599_R	W	198,800	ug/L	3,875	1.949	282,200
K_7664_R	W	26,400	ug/L	4.363	0.01653	11,230
Li6707_R		744.6	ug/L	1.670	0.2243	7,770
Mg2025_A	W	35,380	ug/L	108.6	0.3070	9,659
Mn2576_R	W	2,419	ug/L	8.596	0.3554	18,040
Mo2020_A		106.6	ug/L	0.2614	0.2451	276.7
Na5895_R		8,233	ug/L	56.57	0.6871	14,980
Ni2316_A		582.9	ug/L	1.206	0.2069	860.2

TM3590-001S

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:27:53PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		176.2	ug/L	1.342	0.7618	142.5
Sb2068_A		33.93	ug/L	1.340	3.949	15.69
Se1960_A		96.57	ug/L	1.210	1.253	23.35
Si2516_R		3,750	ug/L	49.71	1.326	1,597
Sn1899_A		488.3	ug/L	2.383	0.4881	241.3
Sr4215_R		579.6	ug/L	3.783	0.6528	37,060
Ti3349_A	W	6,681	ug/L	27.33	0.4091	132,300
Ti1908_A		85.65	ug/L	1.697	1.982	34.43
V_2924_A		690.8	ug/L	0.04502	0.006518	7,693
Zn2062_A		866.9	ug/L	0.9026	0.1041	2,542
Y_3600_R		14,198	Cts/S	69.309	0.48817	14,198
Y_2243_A		7,073.5	Cts/S	5.5661	0.078690	7,073.5
Y_3600_A		127,690	Cts/S	118.07	0.092463	127,690

TM3590-001P

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:32:59PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		54.35	ug/L	0.6394	1.176	-172.4
Al3961_R	W	116,100	ug/L	825.0	0.7105	81,120
As1891_A		313.2	ug/L	4.675	1.493	76.28
B_2089_A		447.9	ug/L	5.136	1.147	578.8
Ba4554_R	W	2,376	ug/L	2.238	0.09416	109,700
Be3130_R		55.27	ug/L	0.06024	0.1090	3,706
Ca3158_R		22,560	ug/L	12.17	0.05395	17,410
Cd2265_A		221.7	ug/L	1.989	0.8972	2,943
Co2286_A		543.2	ug/L	7.825	1.441	1,616
Cr2677_A		389.6	ug/L	1.435	0.3682	4,124
Cu3273_A		429.4	ug/L	3.072	0.7153	4,919
Fe2599_R	W	233,600	ug/L	6,761	2.895	331,500
K_7664_R	W	28,690	ug/L	209.6	0.7305	12,210
Li6707_R		821.3	ug/L	6.272	0.7637	8,573
Mg2025_A	W	61,260	ug/L	838.5	1.369	16,790
Mn2576_R	W	3,179	ug/L	23.11	0.7268	23,720
Mo2020_A		99.31	ug/L	1.072	1.080	258.9
Na5895_R		9,750	ug/L	44.61	0.4576	17,740
Ni2316_A		706.6	ug/L	7.639	1.081	1,048
Pb2203_A		157.4	ug/L	1.024	0.6507	126.7
Sb2068_A		34.62	ug/L	0.6603	1.907	16.49
Se1960_A		94.88	ug/L	0.7005	0.7382	23.03
Si2516_R		3,774	ug/L	17.44	0.4621	1,605
Sn1899_A		477.2	ug/L	3.741	0.7840	237.0
Sr4215_R		663.7	ug/L	3.050	0.4595	42,450
Ti3349_A	W	6,715	ug/L	75.63	1.126	135,900
Ti1908_A		84.01	ug/L	1.100	1.309	33.19
V_2924_A		750.0	ug/L	4.252	0.5670	8,536
Zn2062_A		902.8	ug/L	10.54	1.168	2,660
Y_3600_R		14,198	Cts/S	262.16	1.8464	14,198
Y_2243_A		7,108.0	Cts/S	49.328	0.69398	7,108.0
Y_3600_A		130,550	Cts/S	303.74	0.23266	130,550

TM3424-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:38:07PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3424-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:38:07PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3314	ug/L	0.3131	94.48	-22.67
Al3961_R		153.5	ug/L	0.5054	0.3294	107.1
As1891_A		2.948	ug/L	0.07166	2.431	-1.644
B_2089_A		3.042	ug/L	0.1306	4.294	7.306
Ba4554_R		8.386	ug/L	0.03381	0.4032	461.2
Be3130_R		0.3319	ug/L	0.02949	8.883	7.182
Ca3158_R		2,153	ug/L	24.17	1.122	1,654
Cd2265_A		0.1828	ug/L	0.06696	36.63	-0.2894
Co2286_A		0.2613	ug/L	0.1258	48.15	4.506
Cr2677_A		0.4892	ug/L	0.1557	31.82	7.163
Cu3273_A		31.21	ug/L	0.4798	1.537	369.3
Fe2599_R		57.30	ug/L	0.3933	0.6863	85.72
K_7664_R		412.0	ug/L	24.85	6.030	82.07
Li6707_R		-0.7413	ug/L	0.9225	124.4	-30.64
Mg2025_A		865.8	ug/L	8.513	0.9832	245.5
Mn2576_R		46.78	ug/L	0.7583	1.621	361.2
Mo2020_A		0.09186	ug/L	0.1012	110.2	0.7466
Na5895_R		4,093	ug/L	37.97	0.9278	7,572
Ni2316_A		2.008	ug/L	0.3718	18.52	1.922
Pb2203_A		2.415	ug/L	0.1436	5.947	0.2822
Sb2068_A		-0.2372	ug/L	0.2052	86.52	-0.1773
Se1960_A		-3.480	ug/L	0.7867	22.61	1.680
Si2516_R		4,189	ug/L	25.99	0.6206	1,786
Sn1899_A		0.3156	ug/L	1.442	456.9	1.926
Sr4215_R		24.36	ug/L	0.3209	1.317	1,552
Ti3349_A		4.891	ug/L	0.2535	5.184	69.31
Tl1908_A		2.394	ug/L	0.9409	39.30	-1.674
V_2924_A		0.1049	ug/L	0.2482	236.7	-6.225
Zn2062_A		13.54	ug/L	0.06487	0.4792	43.23
Y_3600_R		14,406	Cts/S	14.707	0.10208	14,406
Y_2243_A		7,514.3	Cts/S	57.120	0.76015	7,514.3
Y_3600_A		134,260	Cts/S	451.01	0.33592	134,260

TM3461-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:42:31PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4359	ug/L	0.2475	56.77	-21.08
Al3961_R		21.86	ug/L	4.837	22.12	15.98
As1891_A		3.111	ug/L	0.3697	11.88	-1.573
B_2089_A		147.7	ug/L	1.657	1.122	200.9
Ba4554_R		11.33	ug/L	0.05994	0.5290	601.9
Be3130_R		-0.01180	ug/L	0.02959	250.8	-18.04
Ca3158_R		5,591	ug/L	114.0	2.039	4,370
Cd2265_A		0.09518	ug/L	0.02580	27.10	-1.441
Co2286_A		0.01850	ug/L	0.02349	127.0	3.696
Cr2677_A		0.1149	ug/L	0.003291	2.865	3.087
Cu3273_A		182.3	ug/L	2.304	1.264	2,186
Fe2599_R		15.06	ug/L	0.3180	2.111	24.99
K_7664_R		4,361	ug/L	120.6	2.764	1,809
Li6707_R		-0.8928	ug/L	0.2309	25.86	-32.44
Mg2025_A		1,233	ug/L	13.64	1.106	348.2
Mn2576_R		27.98	ug/L	1.013	3.620	219.7
Mo2020_A		-0.01936	ug/L	0.07688	397.1	0.4362
Na5895_R		6,228	ug/L	129.6	2.081	11,560
Ni2316_A		1.820	ug/L	0.07394	4.062	1.610

TM3461-001

Method Name: FAST-2016_NO_AU
 Analyst Name: RS
 Acquire Date: 1/3/2020 4:42:31PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		7.046	ug/L	0.2982	4.233	4.541
Sb2068_A		0.1271	ug/L	0.6419	505.2	0.006021
Se1960_A		-1.374	ug/L	1.023	74.43	2.139
Si2516_R		3,929	ug/L	83.66	2.129	1,685
Sn1899_A		-0.2588	ug/L	0.4681	180.9	1.608
Sr4215_R		33.14	ug/L	0.6475	1.954	2,131
Ti3349_A		0.05916	ug/L	0.06427	108.6	-31.39
Ti1908_A		2.644	ug/L	1.432	54.16	-1.507
V_2924_A		0.2179	ug/L	0.05955	27.32	-4.867
Zn2062_A		46.65	ug/L	0.2072	0.4441	144.9
Y_3600_R		14,474	Cts/S	313.49	2.1658	14,474
Y_2243_A		7,438.0	Cts/S	35.091	0.47177	7,438.0
Y_3600_A		134,650	Cts/S	1,112.7	0.82634	134,650

CCV

Method Name: FAST-2016_NO_AU
 Analyst Name: RS
 Acquire Date: 1/3/2020 4:46:54PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		507.7	ug/L	8.372	1.649	6,666
Al3961_R		12,430	ug/L	98.90	0.7956	8,533
As1891_A		485.7	ug/L	1.959	0.4033	146.0
B_2089_A		493.1	ug/L	0.7534	0.1528	647.9
Ba4554_R		520.8	ug/L	5.786	1.111	23,630
Be3130_R		512.7	ug/L	4.771	0.9306	36,550
Ca3158_R		12,360	ug/L	76.29	0.6170	9,342
Cd2265_A		492.5	ug/L	0.6952	0.1411	5,853
Co2286_A		491.1	ug/L	0.02112	0.004301	1,431
Cu2677_A		512.8	ug/L	6.993	1.364	5,294
Cu3273_A		514.6	ug/L	8.119	1.578	5,845
Fe2599_R		12,770	ug/L	166.9	1.307	17,780
K_7664_R		12,440	ug/L	63.04	0.5069	5,139
Li6707_R		503.6	ug/L	6.019	1.195	5,147
Mg2025_A		11,970	ug/L	14.94	0.1248	3,297
Mn2576_R		502.2	ug/L	4.740	0.9438	3,687
Mo2020_A		499.3	ug/L	2.622	0.5251	1,302
Na5895_R		12,520	ug/L	118.2	0.9443	22,340
Ni2316_A		501.4	ug/L	0.7504	0.1497	759.7
Pb2203_A		493.3	ug/L	0.9112	0.1847	426.4
Sb2068_A		491.2	ug/L	1.202	0.2446	231.4
Se1960_A		484.6	ug/L	3.655	0.7543	107.8
Si2516_R		12,830	ug/L	164.8	1.284	5,224
Sn1899_A		486.6	ug/L	2.205	0.4531	241.8
Sr4215_R		519.3	ug/L	4.743	0.9134	32,570
Ti3349_A		502.5	ug/L	9.425	1.876	9,904
Ti1908_A		489.2	ug/L	2.136	0.4368	236.5
V_2924_A		506.6	ug/L	8.083	1.595	5,545
Zn2062_A		489.0	ug/L	1.267	0.2591	1,441
Y_3600_R		13,928	Cts/S	262.66	1.8859	13,928
Y_2243_A		7,111.9	Cts/S	1.1265	0.015840	7,111.9
Y_3600_A		127,390	Cts/S	1,035.1	0.81258	127,390

CCB

Method Name: FAST-2016_NO_AU
 Analyst Name: RS
 Acquire Date: 1/3/2020 4:51:03PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:51:03PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.07979	ug/L	0.1725	216.2	-27.16
Al3961_R		7.139	ug/L	0.6750	9.455	2.119
As1891_A		1.034	ug/L	0.3779	36.55	-2.152
B_2089_A		1.109	ug/L	0.4538	40.92	4.495
Ba4554_R		0.06702	ug/L	0.2645	394.7	69.67
Be3130_R		0.06096	ug/L	0.02858	46.87	-12.21
Ca3158_R		8.507	ug/L	0.2004	2.356	-26.95
Cd2265_A		0.03013	ug/L	0.05912	196.2	-2.169
Co2286_A		-0.08774	ug/L	0.08648	98.55	3.243
Cr2677_A		0.3124	ug/L	0.1410	45.15	5.008
Cu3273_A		0.6069	ug/L	0.8002	131.8	2.410
Fe2599_R		5.067	ug/L	2.928	57.79	10.14
K_7664_R		27.37	ug/L	33.54	122.5	-82.69
Li6707_R		1.324	ug/L	1.770	133.7	-8.468
Mg2025_A		-3.140	ug/L	0.2285	7.277	-5.782
Mn2576_R		-0.2540	ug/L	0.3631	143.0	4.080
Mo2020_A		1.291	ug/L	0.3744	29.01	3.853
Na5895_R		5.366	ug/L	11.25	209.7	33.33
Ni2316_A		0.01449	ug/L	0.2014	1,390	-1.176
Pb2203_A		-0.3988	ug/L	0.4784	119.9	-2.189
Sb2068_A		1.067	ug/L	0.9219	86.43	0.4492
Se1960_A		1.858	ug/L	0.7390	39.77	2.758
Si2516_R		-1.112	ug/L	2.260	203.2	32.01
Sn1899_A		0.7555	ug/L	0.2487	32.92	2.047
Sr4215_R		0.1257	ug/L	0.1146	91.20	-21.86
Ti3349_A		0.6346	ug/L	0.09733	15.34	-18.59
Tl1908_A		0.8184	ug/L	1.068	130.5	-2.340
V_2924_A		0.06034	ug/L	0.2125	352.2	-6.417
Zn2062_A		-0.09873	ug/L	0.03467	35.11	0.7197
Y_3600_R		13,952	Cts/S	38.114	0.27319	13,952
Y_2243_A		7,144.7	Cts/S	10.756	0.15055	7,144.7
Y_3600_A		129,350	Cts/S	394.83	0.30523	129,350

PBWML30ICW1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:55:29PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1355	ug/L	0.04484	33.09	-24.79
Al3961_R		11.47	ug/L	15.71	136.9	5.138
As1891_A		0.7189	ug/L	2.155	299.7	-2.258
B_2089_A		0.7602	ug/L	0.0006760	0.08887	4.061
Ba4554_R		-0.2999	ug/L	0.07801	26.01	55.25
Be3130_R		-0.001710	ug/L	0.02022	1,182	-17.31
Ca3158_R		13.72	ug/L	1.882	13.72	-23.94
Cd2265_A		-0.02103	ug/L	0.02002	95.16	-2.790
Co2286_A		-0.1949	ug/L	0.4616	236.9	2.940
Cr2677_A		-0.07330	ug/L	0.2261	308.4	1.002
Cu3273_A		0.8735	ug/L	0.5701	65.27	5.591
Fe2599_R		4.760	ug/L	2.811	59.04	10.17
K_7664_R		60.60	ug/L	15.29	25.24	-71.53
Li6707_R		1.331	ug/L	1.150	86.36	-8.532
Mg2025_A		4.338	ug/L	0.1692	3.901	-3.742
Mn2576_R		-0.1919	ug/L	0.09214	48.02	4.707
Mo2020_A		1.231	ug/L	0.1177	9.566	3.709
Na5895_R		4.850	ug/L	0.3112	6.416	33.74
Ni2316_A		-0.005386	ug/L	0.1214	2,253	-1.212

PBWML30ICW1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:55:29PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-0.2585	ug/L	0.1146	44.35	-2.075
Sb2068_A		2.022	ug/L	1.123	55.53	0.9049
Se1960_A		-1.084	ug/L	1.617	149.2	2.124
Si2516_R		-4.364	ug/L	2.500	57.28	31.92
Sn1899_A		1.200	ug/L	0.5849	48.76	2.277
Sr4215_R		0.1461	ug/L	0.2547	174.3	-21.63
Ti3349_A		0.2742	ug/L	0.1381	50.34	-26.37
Tl1908_A		-0.1421	ug/L	0.3115	219.3	-2.822
V_2924_A		0.1286	ug/L	0.3632	282.5	-5.745
Zn2062_A		2.248	ug/L	0.08347	3.714	7.702
Y_3600_R		14,514	Cts/S	413.97	2.8522	14,514
Y_2243_A		7,173.8	Cts/S	5.4749	0.076318	7,173.8
Y_3600_A		132,190	Cts/S	1,389.0	1.0507	132,190

LCSWML30ICW1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 4:59:55PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		52.19	ug/L	0.1225	0.2348	675.3
Al3961_R		2,055	ug/L	26.17	1.274	1,443
As1891_A		98.73	ug/L	0.1372	0.1390	28.12
B_2089_A		499.4	ug/L	0.4969	0.09949	652.0
Ba4554_R		2,195	ug/L	11.40	0.5196	101,700
Be3130_R		53.79	ug/L	0.07697	0.1431	3,911
Ca3158_R		2,538	ug/L	19.43	0.7654	1,937
Cd2265_A		255.2	ug/L	0.4850	0.1901	3,055
Co2286_A		523.0	ug/L	0.4253	0.08132	1,539
Cr2677_A		213.5	ug/L	0.3957	0.1853	2,264
Cu3273_A		267.6	ug/L	0.3649	0.1364	3,118
Fe2599_R		1,068	ug/L	6.433	0.6025	1,525
K_7664_R		10,240	ug/L	2.924	0.02856	4,314
Li6707_R		518.0	ug/L	0.01461	0.002820	5,422
Mg2025_A		4,797	ug/L	11.95	0.2491	1,344
Mn2576_R		528.4	ug/L	0.6936	0.1312	3,975
Mo2020_A		106.8	ug/L	0.3512	0.3287	281.8
Na5895_R		7,761	ug/L	52.86	0.6811	14,190
Ni2316_A		529.2	ug/L	2.054	0.3882	806.6
Pb2203_A		102.2	ug/L	0.5754	0.5629	87.89
Sb2068_A		100.5	ug/L	0.9871	0.9820	45.75
Se1960_A		100.2	ug/L	0.6369	0.6355	24.45
Si2516_R		1,087	ug/L	8.868	0.8159	485.7
Sn1899_A		507.9	ug/L	2.644	0.5206	254.9
Sr4215_R		533.4	ug/L	1.140	0.2138	34,260
Ti3349_A		519.2	ug/L	1.176	0.2265	10,500
Tl1908_A		96.47	ug/L	0.1375	0.1426	45.42
V_2924_A		522.3	ug/L	1.368	0.2619	5,903
Zn2062_A		517.1	ug/L	0.7360	0.1423	1,541
Y_3600_R		14,260	Cts/S	55.713	0.39070	14,260
Y_2243_A		7,185.9	Cts/S	11.086	0.15427	7,185.9
Y_3600_A		130,780	Cts/S	88.679	0.067807	130,780

TM3533-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:04:10PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3533-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:04:10PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1728	ug/L	0.1063	61.54	-24.38
Al3961_R		29.50	ug/L	4.916	16.67	29.53
As1891_A		1.293	ug/L	0.6682	51.66	-2.064
B_2089_A		5.842	ug/L	0.8173	13.99	10.53
Ba4554_R		4.041	ug/L	0.04574	1.132	250.3
Be3130_R		0.07106	ug/L	0.006265	8.817	-11.45
Ca3158_R		20,620	ug/L	214.1	1.038	15,660
Cd2265_A		-0.01879	ug/L	0.01215	64.63	-2.590
Co2286_A		-0.5604	ug/L	0.1073	19.15	1.850
Cr2677_A		2.601	ug/L	0.3794	14.59	29.36
Cu3273_A		1.592	ug/L	0.1610	10.11	13.95
Fe2599_R		111.9	ug/L	0.2948	0.2635	159.5
K_7664_R		1,731	ug/L	0.6081	0.03512	636.7
Li6707_R		15.39	ug/L	1.167	7.583	136.5
Mg2025_A		6,494	ug/L	33.33	0.5132	1,769
Mn2576_R		49.24	ug/L	0.5702	1.158	369.8
Mo2020_A		2.610	ug/L	0.1680	6.435	7.247
Na5895_R		22,480	ug/L	86.27	0.3837	40,250
Ni2316_A		2.340	ug/L	0.1487	6.357	2.336
Pb2203_A		-0.009413	ug/L	1.503	15.970	-1.838
Sb2068_A		0.8335	ug/L	0.3188	38.24	0.3406
Se1960_A		2.186	ug/L	2.380	108.9	2.812
Si2516_R		10,320	ug/L	5.784	0.05603	4,222
Sn1899_A		0.7135	ug/L	0.2841	39.81	2.010
Sr4215_R		146.7	ug/L	0.6135	0.4183	9,211
Ti3349_A		0.1246	ug/L	0.1174	94.17	-29.12
Tl1908_A		-0.2994	ug/L	0.6195	206.9	-2.891
V_2924_A		0.6966	ug/L	0.01004	1.442	0.3871
Zn2062_A		5.804	ug/L	0.09474	1.632	18.05
Y_3600_R		13,976	Cts/S	67.395	0.48221	13,976
Y_2243_A		7,088.9	Cts/S	11.462	0.16169	7,088.9
Y_3600_A		130,800	Cts/S	58.887	0.045021	130,800

TM3533-002

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:08:32PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.05805	ug/L	0.05449	93.86	-25.08
Al3961_R		19.61	ug/L	13.30	67.85	22.55
As1891_A		0.9455	ug/L	0.02628	2.779	-2.139
B_2089_A		8.289	ug/L	0.5580	6.732	13.42
Ba4554_R		5.822	ug/L	0.02715	0.4663	332.8
Be3130_R		0.01359	ug/L	0.004708	34.64	-15.65
Ca3158_R		20,300	ug/L	552.7	2.723	15,490
Cd2265_A		-0.006036	ug/L	0.01990	329.6	-2.535
Co2286_A		1.031	ug/L	0.2455	23.81	6.391
Cr2677_A		30.54	ug/L	0.4299	1.407	315.5
Cu3273_A		1.122	ug/L	0.6129	54.63	8.157
Fe2599_R		88.83	ug/L	1.781	2.005	127.9
K_7664_R		1,869	ug/L	84.26	4.507	698.5
Li6707_R		8.187	ug/L	0.7764	9.483	62.52
Mg2025_A		6,056	ug/L	21.48	0.3547	1,628
Mn2576_R		12.66	ug/L	0.6494	5.129	101.0
Mo2020_A		0.1978	ug/L	0.06053	30.61	0.9696
Na5895_R	W	38,550	ug/L	968.9	2.514	69,330
Ni2316_A		75.01	ug/L	0.2325	0.3100	110.2

TM3533-002

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:08:32PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-0.3514	ug/L	0.1824	51.91	-2.101
Sb2068_A		0.7861	ug/L	0.6978	88.76	0.3589
Se1960_A		-0.04391	ug/L	2.001	4,556	2.297
Si2516_R		9,045	ug/L	198.9	2.199	3,722
Sn1899_A		1.227	ug/L	0.001050	0.08552	2.234
Sr4215_R		177.2	ug/L	4.497	2.538	11,190
Ti3349_A		0.02218	ug/L	0.01836	82.79	-30.19
Ti1908_A		0.06106	ug/L	1.464	2,397	-2.658
V_2924_A		0.3383	ug/L	0.2200	65.04	-4.107
Zn2062_A		0.6455	ug/L	0.1669	25.85	2.774
Y_3600_R		14,049	Cts/S	165.73	1.1796	14,049
Y_2243_A		6,998.1	Cts/S	30.007	0.42878	6,998.1
Y_3600_A		126,810	Cts/S	1,503.7	1.1858	126,810

PBWML30ICW2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:12:53PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4122	ug/L	0.3057	74.17	-21.23
Al3961_R		9.080	ug/L	7.192	79.21	3.489
As1891_A		1.576	ug/L	2.794	177.3	-2.044
B_2089_A		-0.1932	ug/L	0.03352	17.35	2.871
Ba4554_R		-0.1534	ug/L	0.4207	274.3	61.55
Be3130_R		0.06499	ug/L	0.001620	2.493	-12.22
Ca3158_R		11.05	ug/L	1.887	17.08	-25.76
Cd2265_A		0.1063	ug/L	0.06139	57.73	-1.304
Co2286_A		-0.1203	ug/L	0.01819	15.12	3.238
Cr2677_A		0.3187	ug/L	0.2627	82.42	5.265
Cu3273_A		-0.4684	ug/L	0.8144	173.8	-10.38
Fe2599_R		1.245	ug/L	0.7720	61.99	4.952
K_7664_R		13.82	ug/L	30.54	221.0	-90.85
Li6707_R		-0.5917	ug/L	0.5599	94.62	-28.99
Mg2025_A		6.680	ug/L	1.119	16.75	-3.176
Mn2576_R		-0.3706	ug/L	0.1810	48.85	3.307
Mo2020_A		0.1317	ug/L	0.1509	114.6	0.8392
Na5895_R		-3.837	ug/L	3.977	103.7	17.46
Ni2316_A		0.4193	ug/L	0.2598	61.97	-0.5919
Pb2203_A		0.7339	ug/L	0.4040	55.05	-1.234
Sb2068_A		0.6384	ug/L	0.1145	17.94	0.2546
Se1960_A		-3.822	ug/L	0.5562	14.55	1.562
Si2516_R		-11.63	ug/L	14.45	124.2	28.51
Sn1899_A		0.2791	ug/L	0.04395	15.75	1.865
Sr4215_R		0.1204	ug/L	0.03005	24.95	-22.81
Ti3349_A		0.02324	ug/L	0.1665	716.6	-31.90
Ti1908_A		2.222	ug/L	0.2739	12.32	-1.700
V_2924_A		0.2705	ug/L	0.1816	67.12	-4.144
Zn2062_A		0.6529	ug/L	0.06275	9.610	3.033
Y_3600_R		14,355	Cts/S	183.62	1.2792	14,355
Y_2243_A		7,356.1	Cts/S	22.930	0.31171	7,356.1
Y_3600_A		133,760	Cts/S	1,521.1	1.1372	133,760

LCSWML30ICW2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:17:18PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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LCSWML30ICW2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:17:18PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		53.41	ug/L	0.7508	1.406	695.1
Al3961_R		2,059	ug/L	7.337	0.3563	1,444
As1891_A		102.5	ug/L	0.4094	0.3993	29.60
B_2089_A		512.5	ug/L	2.647	0.5165	675.3
Ba4554_R		2,181	ug/L	4.337	0.1988	101,000
Be3130_R		53.31	ug/L	0.3195	0.5994	3,872
Ca3158_R		2,558	ug/L	9.049	0.3538	1,949
Cd2265_A		259.0	ug/L	1.571	0.6063	3,133
Co2286_A		520.3	ug/L	3.396	0.6526	1,546
Cr2677_A		212.4	ug/L	0.1282	0.06037	2,261
Cu3273_A		260.2	ug/L	1.034	0.3976	3,043
Fe2599_R		1,007	ug/L	14.44	1.434	1,437
K_7664_R		10,230	ug/L	28.36	0.2773	4,305
Li6707_R		516.2	ug/L	2.351	0.4555	5,396
Mg2025_A		4,914	ug/L	8.324	0.1694	1,390
Mn2576_R		524.2	ug/L	2.306	0.4399	3,938
Mo2020_A		99.14	ug/L	1.529	1.542	264.1
Na5895_R		7,771	ug/L	27.28	0.3511	14,190
Ni2316_A		530.1	ug/L	1.935	0.3650	816.1
Pb2203_A		103.0	ug/L	0.5117	0.4968	89.47
Sb2068_A		102.3	ug/L	0.03315	0.03239	47.14
Se1960_A		101.2	ug/L	0.5601	0.5534	24.92
Si2516_R		1,085	ug/L	4.222	0.3892	484.1
Sn1899_A		498.3	ug/L	2.780	0.5578	252.7
Sr4215_R		535.1	ug/L	1.181	0.2207	34,320
Ti3349_A		509.8	ug/L	2.360	0.4629	10,350
Tl1908_A		100.4	ug/L	1.176	1.172	47.82
V_2924_A		515.5	ug/L	2.748	0.5331	5,850
Zn2062_A		525.8	ug/L	4.597	0.8743	1,582
Y_3600_R		14,241	Cts/S	51.951	0.36480	14,241
Y_2243_A		7,258.2	Cts/S	17.485	0.24090	7,258.2
Y_3600_A		131,320	Cts/S	608.34	0.46324	131,320

TM3152-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:21:31PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.03897	ug/L	0.3086	792.0	-26.39
Al3961_R		10,650	ug/L	66.94	0.6284	7,303
As1891_A		4.790	ug/L	0.3206	6.694	-0.8623
B_2089_A	W	6,815	ug/L	18.82	0.2762	8,493
Ba4554_R		42.07	ug/L	0.2889	0.6866	1,969
Be3130_R		-0.02297	ug/L	0.04888	212.8	-18.17
Ca3158_R		15,110	ug/L	62.54	0.4138	11,420
Cd2265_A		0.06013	ug/L	0.07936	132.0	-1.061
Co2286_A		-0.05804	ug/L	0.1601	275.8	3.233
Cr2677_A		19.21	ug/L	0.01070	0.05572	195.6
Cu3273_A		22.70	ug/L	0.3154	1.390	248.9
Fe2599_R		550.2	ug/L	1.535	0.2789	769.1
K_7664_R		6,562	ug/L	4.101	0.06250	2,667
Li6707_R		72.89	ug/L	1.618	2.219	726.0
Mg2025_A		360.1	ug/L	2.585	0.7179	91.37
Mn2576_R		6.123	ug/L	0.09676	1.580	49.30
Mo2020_A		28.24	ug/L	0.09665	0.3422	72.13
Na5895_R	F	1,517,000	ug/L	15,380	1.014	2,703,000
Ni2316_A		14.07	ug/L	0.2048	1.456	19.74

TM3152-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:21:31PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		1.621	ug/L	0.1935	11.94	-1.260
Sb2068_A		0.8613	ug/L	0.5193	60.30	0.3914
Se1960_A		-1.338	ug/L	0.7939	59.34	2.077
Si2516_R		83.86	ug/L	1.233	1.470	66.35
Sn1899_A		2.853	ug/L	1.037	36.36	2.990
Sr4215_R		924.6	ug/L	5.616	0.6074	58,010
Ti3349_A		0.9383	ug/L	0.5207	55.49	-11.56
Ti1908_A		4.605	ug/L	0.8137	17.67	-0.4312
V_2924_A		0.9320	ug/L	0.4746	50.92	1.080
Zn2062_A		13.90	ug/L	0.1440	1.036	40.81
Y_3600_R		13,924	Cts/S	235.04	1.6880	13,924
Y_2243_A		6,921.4	Cts/S	4.7265	0.068288	6,921.4
Y_3600_A		124,590	Cts/S	1,906.7	1.5304	124,590

TM3439-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:26:51PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3183	ug/L	0.2802	88.01	-22.48
Al3961_R		32.28	ug/L	1.395	4.320	30.61
As1891_A		1.994	ug/L	0.9724	48.76	-1.882
B_2089_A		21.74	ug/L	2.027	9.326	31.43
Ba4554_R		7.833	ug/L	0.3757	4.796	434.1
Be3130_R		0.02967	ug/L	0.01779	59.98	-14.86
Ca3158_R		17,830	ug/L	464.5	2.606	13,910
Cd2265_A		0.03869	ug/L	0.02060	53.25	-2.085
Co2286_A		-0.2928	ug/L	0.01354	4.625	2.681
Cr2677_A		0.1956	ug/L	0.09918	50.71	3.905
Cu3273_A		17.27	ug/L	0.5422	3.140	200.4
Fe2599_R		12.13	ug/L	0.8556	7.052	20.60
K_7664_R		3,250	ug/L	110.1	3.389	1,313
Li6707_R		2.781	ug/L	0.8600	30.92	6.770
Mg2025_A		3,413	ug/L	31.99	0.9372	947.2
Mn2576_R		0.09523	ug/L	0.4622	485.4	7.609
Mo2020_A		0.5635	ug/L	0.1217	21.60	1.974
Na5895_R		19,540	ug/L	349.6	1.789	35,960
Ni2316_A		0.3357	ug/L	0.4184	124.6	-0.7085
Pb2203_A		0.08973	ug/L	0.2981	332.2	-1.783
Sb2068_A		-0.09338	ug/L	0.3117	333.7	-0.1076
Se1960_A		-1.846	ug/L	0.3923	21.25	1.975
Si2516_R		9,931	ug/L	203.8	2.052	4,176
Sn1899_A		1.318	ug/L	0.3153	23.93	2.358
Sr4215_R		88.50	ug/L	1.490	1.684	5,700
Ti3349_A		0.6283	ug/L	0.5396	85.88	-19.18
Ti1908_A		3.423	ug/L	0.02114	0.6176	-1.077
V_2924_A		0.2169	ug/L	0.4624	213.2	-4.708
Zn2062_A		7.653	ug/L	0.2230	2.914	24.00
Y_3600_R		14,365	Cts/S	111.49	0.77611	14,365
Y_2243_A		7,241.7	Cts/S	41.047	0.56682	7,241.7
Y_3600_A		133,120	Cts/S	2,162.1	1.6242	133,120

TM3550-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:31:12PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3550-001

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:31:12PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6426	ug/L	0.3408	53.03	-19.97
Al3961_R		127.5	ug/L	21.68	17.00	96.14
As1891_A		3.742	ug/L	0.4787	12.79	-1.376
B_2089_A		48.75	ug/L	0.4067	0.8342	66.86
Ba4554_R		19.13	ug/L	0.1955	1.022	978.1
Be3130_R		-0.004871	ug/L	0.05279	1,084	-17.70
Ca3158_R		11,310	ug/L	149.1	1.318	8,966
Cd2265_A		0.2233	ug/L	0.02589	11.59	0.9259
Co2286_A		0.1333	ug/L	0.1900	142.5	3.938
Cr2677_A		1.706	ug/L	0.1441	8.447	20.17
Cu3273_A		121.7	ug/L	1.118	0.9187	1,439
Fe2599_R		595.1	ug/L	12.31	2.069	872.8
K_7664_R		24,990	ug/L	259.9	1.040	10,940
Li6707_R		2.363	ug/L	2.428	102.8	2.260
Mg2025_A		3,758	ug/L	16.35	0.4350	1,040
Mn2576_R		32.27	ug/L	1.222	3.788	255.3
Mo2020_A		17.44	ug/L	0.3769	2.161	46.60
Na5895_R	W	118,100	ug/L	784.5	0.6640	221,000
Ni2316_A		7.300	ug/L	0.2654	3.636	10.09
Pb2203_A		2.325	ug/L	0.05344	2.298	0.2020
Sb2068_A		0.8870	ug/L	0.05911	6.664	0.3650
Se1960_A		-1.624	ug/L	3.590	221.0	2.019
Si2516_R		4,230	ug/L	66.74	1.578	1,829
Sn1899_A		2.520	ug/L	0.6205	24.62	2.950
Sr4215_R		59.06	ug/L	0.4529	0.7668	3,861
Ti3349_A		1.201	ug/L	0.003566	0.2970	-7.200
Tl1908_A		2.550	ug/L	0.07163	2.809	-1.520
V_2924_A		0.6742	ug/L	0.3479	51.60	-0.6304
Zn2062_A		328.0	ug/L	0.8227	0.2508	981.9
Y_3600_R		14,616	Cts/S	99.979	0.68403	14,616
Y_2243_A		7,214.2	Cts/S	10.981	0.15221	7,214.2
Y_3600_A		132,880	Cts/S	926.03	0.69687	132,880

PBWNA021CW1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:35:47PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.2045	ug/L	0.4519	221.0	-29.03
Al3961_R		2.073	ug/L	1.358	65.52	-1.430
As1891_A		1.556	ug/L	0.6725	43.23	-2.053
B_2089_A		2.342	ug/L	0.1024	4.373	6.237
Ba4554_R		0.8878	ug/L	0.5118	57.65	110.1
Be3130_R		0.01921	ug/L	0.03457	179.9	-15.62
Ca3158_R		9.932	ug/L	5.023	50.58	-26.67
Cd2265_A		0.03556	ug/L	0.01771	49.79	-2.175
Co2286_A		-0.02148	ug/L	0.003413	15.89	3.539
Cr2677_A		0.08981	ug/L	0.02392	26.63	2.699
Cu3273_A		0.2916	ug/L	0.3710	127.3	-1.197
Fe2599_R		1.826	ug/L	0.2671	14.63	5.807
K_7664_R		21.42	ug/L	5.196	24.26	-87.84
Li6707_R		-0.7320	ug/L	1.214	165.8	-30.56
Mg2025_A		6.717	ug/L	2.077	30.91	-3.168
Mn2576_R		0.4255	ug/L	0.005214	1.225	9.356
Mo2020_A		0.2566	ug/L	0.08157	31.78	1.179
Na5895_R		43.24	ug/L	1.260	2.914	104.1
Ni2316_A		0.4897	ug/L	0.01339	2.734	-0.4804

PBWNA02ICW1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:35:47PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-0.08154	ug/L	0.1467	180.0	-1.970
Sb2068_A		-0.3580	ug/L	0.1288	35.97	-0.2374
Se1960_A		-0.6271	ug/L	0.5196	82.86	2.283
Si2516_R		-16.61	ug/L	4.904	29.52	26.54
Sn1899_A		0.8236	ug/L	0.2574	31.25	2.144
Sr4215_R		0.07380	ug/L	0.07903	107.1	-25.92
Ti3349_A		0.06285	ug/L	0.2333	371.1	-30.35
Ti1908_A		1.942	ug/L	0.2701	13.91	-1.843
V_2924_A		0.1589	ug/L	0.02681	16.87	-5.294
Zn2062_A		0.1896	ug/L	0.02499	13.18	1.622
Y_3600_R		14,388	Cts/S	101.91	0.70832	14,388
Y_2243_A		7,364.6	Cts/S	76.806	1.0429	7,364.6
Y_3600_A		130,430	Cts/S	1,599.0	1.2259	130,430

CCV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:40:12PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		501.9	ug/L	2.252	0.4487	6,647
Al3961_R		12,200	ug/L	43.80	0.3589	8,472
As1891_A		474.3	ug/L	0.1002	0.02112	143.9
B_2089_A		487.0	ug/L	0.5042	0.1035	646.4
Ba4554_R		516.5	ug/L	6.054	1.172	23,700
Be3130_R		503.7	ug/L	2.770	0.5501	36,310
Ca3158_R		12,110	ug/L	15.76	0.1301	9,249
Cd2265_A		484.7	ug/L	0.3992	0.08235	5,818
Co2286_A		481.9	ug/L	0.1276	0.02647	1,418
Cr2677_A		505.2	ug/L	0.8160	0.1615	5,261
Cu3273_A		504.1	ug/L	0.6164	0.1223	5,776
Fe2599_R		12,620	ug/L	92.20	0.7303	17,780
K_7664_R		12,240	ug/L	45.52	0.3719	5,113
Li6707_R		499.3	ug/L	2.177	0.4361	5,160
Mg2025_A	W	11,760	ug/L	9.271	0.07884	3,270
Mn2576_R		492.8	ug/L	2.142	0.4346	3,659
Mo2020_A		495.1	ug/L	2.057	0.4154	1,304
Na5895_R		12,460	ug/L	33.70	0.2705	22,480
Ni2316_A		494.7	ug/L	1.450	0.2931	757.1
Pb2203_A		488.7	ug/L	2.108	0.4313	426.7
Sb2068_A		483.1	ug/L	0.3584	0.07420	229.9
Se1960_A	W	471.5	ug/L	1.248	0.2647	106.0
Si2516_R		12,640	ug/L	63.97	0.5061	5,204
Sn1899_A		479.5	ug/L	1.187	0.2476	240.7
Sr4215_R		514.0	ug/L	3.681	0.7162	32,600
Ti3349_A		488.5	ug/L	0.02070	0.004237	9,713
Ti1908_A		479.9	ug/L	0.2643	0.05507	234.3
V_2924_A		496.0	ug/L	1.678	0.3383	5,476
Zn2062_A		482.4	ug/L	0.04293	0.008899	1,436
Y_3600_R		14,083	Cts/S	62.679	0.44507	14,083
Y_2243_A		7,183.3	Cts/S	12.160	0.16928	7,183.3
Y_3600_A		128,500	Cts/S	110.22	0.085771	128,500

CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:44:21PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:44:21PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.5352	ug/L	0.1711	31.96	-19.12
Al3961_R		7.172	ug/L	8.408	117.2	2.139
As1891_A		-0.1144	ug/L	2.756	2,409	-2.544
B_2089_A		2.160	ug/L	0.3052	14.13	5.935
Ba4554_R		-0.07679	ug/L	0.01154	15.03	63.36
Be3130_R		0.02178	ug/L	0.009872	45.33	-15.05
Ca3158_R		8.999	ug/L	0.3733	4.148	-26.66
Cd2265_A		-0.03582	ug/L	0.07014	195.8	-3.004
Co2286_A		-0.3827	ug/L	0.009257	2.419	2.420
Cr2677_A		0.1966	ug/L	0.009554	4.858	3.847
Cu3273_A		-0.3842	ug/L	0.5517	143.6	-9.122
Fe2599_R		4.733	ug/L	0.4840	10.22	9.714
K_7664_R		37.94	ug/L	7.753	20.44	-78.45
Li6707_R		2.047	ug/L	0.7482	36.55	-1.017
Mg2025_A		0.7156	ug/L	1.064	148.7	-4.808
Mn2576_R		-0.1366	ug/L	0.6051	443.0	4.951
Mo2020_A		1.125	ug/L	0.2990	26.58	3.474
Na5895_R		24.56	ug/L	0.5308	2.161	67.83
Ni2316_A		0.2492	ug/L	0.3476	139.5	-0.8362
Pb2203_A		-0.8368	ug/L	0.6646	79.43	-2.615
Sb2068_A		0.5384	ug/L	0.9494	176.3	0.2004
Se1960_A		-0.7107	ug/L	0.4496	63.25	2.231
Si2516_R		-3.823	ug/L	12.96	339.1	31.00
Sn1899_A		0.4667	ug/L	0.08597	18.42	1.934
Sr4215_R		0.09364	ug/L	0.05515	58.89	-23.93
Ti3349_A		0.4583	ug/L	0.09436	20.59	-22.41
Tl1908_A		0.6171	ug/L	0.6653	107.8	-2.476
V_2924_A		-0.1194	ug/L	0.08547	71.58	-8.536
Zn2062_A		-0.2085	ug/L	0.1673	80.26	0.4001
Y_3600_R		13,993	Cts/S	18.696	0.13361	13,993
Y_2243_A		7,257.4	Cts/S	36.320	0.50045	7,257.4
Y_3600_A		131,030	Cts/S	662.06	0.50525	131,030

LCSWNA02ICW1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:48:46PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		52.57	ug/L	0.9059	1.723	693.2
Al3961_R		1,987	ug/L	5.618	0.2827	1,418
As1891_A		99.04	ug/L	2.546	2.571	28.99
B_2089_A		497.3	ug/L	3.777	0.7594	666.6
Ba4554_R		2,120	ug/L	15.02	0.7088	99,910
Be3130_R		51.93	ug/L	0.1662	0.3201	3,840
Ca3158_R		2,471	ug/L	4.336	0.1754	1,916
Cd2265_A		250.0	ug/L	3.408	1.363	3,074
Co2286_A		508.0	ug/L	4.056	0.7984	1,535
Cr2677_A		210.1	ug/L	3.280	1.561	2,268
Cu3273_A		255.3	ug/L	5.208	2.040	3,027
Fe2599_R		979.6	ug/L	1.911	0.1951	1,423
K_7664_R		9,822	ug/L	61.16	0.6227	4,205
Li6707_R		492.2	ug/L	1.957	0.3977	5,238
Mg2025_A		4,711	ug/L	27.73	0.5886	1,355
Mn2576_R		514.1	ug/L	1.897	0.3690	3,932
Mo2020_A		97.41	ug/L	0.8476	0.8701	263.9
Na5895_R		7,498	ug/L	39.66	0.5289	13,940
Ni2316_A		519.8	ug/L	5.354	1.030	813.7

LCSWNA02ICW1

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:48:46PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		100.0	ug/L	0.4610	0.4609	88.30
Sb2068_A		97.93	ug/L	0.4432	0.4526	45.87
Se1960_A		97.68	ug/L	0.07430	0.07607	24.54
Si2516_R		1,040	ug/L	6.898	0.6630	474.2
Sn1899_A		479.2	ug/L	3.611	0.7535	247.2
Sr4215_R		514.7	ug/L	3.292	0.6396	33,620
Ti3349_A		492.2	ug/L	8.047	1.635	10,130
Ti1908_A		96.54	ug/L	0.2795	0.2895	46.67
V_2924_A		506.5	ug/L	8.215	1.622	5,825
Zn2062_A		516.6	ug/L	6.959	1.347	1,581
Y_3600_R		14,500	Cts/S	23.595	0.16273	14,500
Y_2243_A		7,380.8	Cts/S	31.997	0.43352	7,380.8
Y_3600_A		133,110	Cts/S	2,039.5	1.5322	133,110

TM3291-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:53:00PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3270	ug/L	0.2815	86.07	-37.22
Al3961_R		56.34	ug/L	4.219	7.488	40.76
As1891_A		1.321	ug/L	0.1506	11.40	-2.495
B_2089_A		32.90	ug/L	0.6124	1.861	47.21
Ba4554_R		63.62	ug/L	0.1929	0.3032	3,101
Be3130_R		0.1025	ug/L	0.02481	24.19	-9.706
Ca3158_R		4,877	ug/L	2.722	0.05582	3,859
Cd2265_A		0.04405	ug/L	0.007264	16.49	3.671
Co2286_A		0.1610	ug/L	0.09173	56.99	4.194
Cr2677_A		3.549	ug/L	0.2706	7.625	40.39
Cu3273_A		188.7	ug/L	0.4265	0.2260	2,254
Fe2599_R		4,144	ug/L	57.13	1.379	6,080
K_7664_R		2,903	ug/L	45.51	1.567	1,187
Li6707_R		0.3945	ug/L	0.6608	167.5	-18.92
Mg2025_A		864.3	ug/L	2.930	0.3390	242.4
Mn2576_R		52.36	ug/L	0.5876	1.122	409.8
Mo2020_A		3.371	ug/L	0.3472	10.30	9.661
Na5895_R		23,660	ug/L	51.93	0.2195	44,440
Ni2316_A		27.50	ug/L	0.05433	0.1976	41.77
Pb2203_A		10.29	ug/L	0.6351	6.173	7.496
Sb2068_A		2.628	ug/L	0.6974	26.53	1.272
Se1960_A		-0.9656	ug/L	2.333	241.6	2.209
Si2516_R		1,765	ug/L	1.694	0.09598	785.7
Sn1899_A		3.299	ug/L	0.6165	18.69	3.437
Sr4215_R		35.86	ug/L	0.09257	0.2581	2,340
Ti3349_A		1.401	ug/L	0.1164	8.309	-3.294
Ti1908_A		1.875	ug/L	0.1329	7.090	-1.946
V_2924_A		0.7570	ug/L	0.2258	29.83	1.610
Zn2062_A		832.9	ug/L	0.3697	0.04439	2,564
Y_3600_R		14,666	Cts/S	28.598	0.19500	14,666
Y_2243_A		7,423.2	Cts/S	10.908	0.14694	7,423.2
Y_3600_A		134,160	Cts/S	269.84	0.20114	134,160

TM3291-003R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:57:24PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3291-003R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 5:57:24PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4689	ug/L	0.2016	43.00	-25.64
Al3961_R		34.09	ug/L	16.85	49.43	23.74
As1891_A		2.047	ug/L	0.2082	10.17	-2.032
B_2089_A		30.53	ug/L	0.4073	1.334	44.13
Ba4554_R		30.39	ug/L	0.2194	0.7218	1,539
Be3130_R		0.04987	ug/L	0.02963	59.42	-13.81
Ca3158_R		2,772	ug/L	9.097	0.3282	2,209
Cd2265_A		0.4586	ug/L	0.02109	4.599	4.942
Co2286_A		0.02110	ug/L	0.07243	343.3	3.732
Cr2677_A		2.232	ug/L	0.01288	0.5768	26.41
Cu3273_A		99.30	ug/L	0.4778	0.4812	1,200
Fe2599_R		1,359	ug/L	2.474	0.1821	2,023
K_7664_R		2,374	ug/L	21.82	0.9189	966.3
Li6707_R		1.053	ug/L	0.2481	23.55	-11.97
Mg2025_A		554.3	ug/L	1.097	0.1979	154.1
Mn2576_R		27.00	ug/L	0.3069	1.137	217.6
Mo2020_A		1.851	ug/L	0.1022	5.520	5.543
Na5895_R		21,310	ug/L	99.35	0.4663	40,580
Ni2316_A		11.10	ug/L	0.02415	0.2175	16.19
Pb2203_A		1.308	ug/L	0.1969	15.05	-0.6988
Sb2068_A		3.993	ug/L	0.7342	18.39	1.941
Se1960_A		-0.5201	ug/L	0.3845	73.94	2.329
Si2516_R		1,690	ug/L	0.5943	0.03517	764.2
Sn1899_A		1.183	ug/L	0.3297	27.88	2.354
Sr4215_R		20.81	ug/L	0.3064	1.473	1,363
Ti3349_A		0.4958	ug/L	0.02247	4.532	-22.44
Tl1908_A		2.024	ug/L	0.02030	1.003	-1.843
V_2924_A		0.6141	ug/L	0.1892	30.81	-0.2269
Zn2062_A		629.4	ug/L	2.099	0.3335	1,944
Y_3600_R		14,871	Cts/S	95.750	0.64385	14,871
Y_2243_A		7,445.9	Cts/S	0.52712	0.0070790	7,445.9
Y_3600_A		135,890	Cts/S	212.34	0.15626	135,890

TM3326-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:01:46PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3801	ug/L	0.2840	74.70	-41.95
Al3961_R		54.58	ug/L	3.186	5.837	61.90
As1891_A		31.84	ug/L	1.606	5.046	6.965
B_2089_A		226.8	ug/L	0.5217	0.2300	299.6
Ba4554_R		12.06	ug/L	0.4390	3.641	619.6
Be3130_R		0.01555	ug/L	0.05439	349.8	-15.49
Ca3158_R	W	45,300	ug/L	109.3	0.2414	34,750
Cd2265_A		0.04664	ug/L	0.02845	61.01	6.337
Co2286_A		3.421	ug/L	0.2701	7.894	13.76
Cr2677_A		35.30	ug/L	0.6769	1.918	373.8
Cu3273_A		44.49	ug/L	0.2763	0.6211	507.2
Fe2599_R		6,148	ug/L	147.4	2.398	8,670
K_7664_R		14,930	ug/L	42.52	0.2848	6,267
Li6707_R		2.588	ug/L	2.388	92.26	4.788
Mg2025_A		8,270	ug/L	22.27	0.2693	2,308
Mn2576_R	W	3,325	ug/L	11.21	0.3372	24,700
Mo2020_A		9.083	ug/L	0.3114	3.429	24.47
Na5895_R	W	81,370	ug/L	601.0	0.7385	146,900
Ni2316_A		45.15	ug/L	0.3816	0.8451	67.94

TM3326-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:01:46PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		4.065	ug/L	0.1734	4.266	1.772
Sb2068_A		4.434	ug/L	0.2498	5.633	2.209
Se1960_A		-0.6497	ug/L	0.1316	20.25	2.607
Si2516_R		7,918	ug/L	71.04	0.8972	3,275
Sn1899_A		0.2309	ug/L	0.1453	62.94	1.816
Sr4215_R		229.0	ug/L	2.442	1.066	14,530
Ti3349_A		-0.2462	ug/L	0.1802	73.21	-35.97
Ti1908_A		-1.994	ug/L	0.4818	24.16	-5.538
V_2924_A		1.165	ug/L	0.1388	11.91	-7.555
Zn2062_A		16.75	ug/L	0.06419	0.3832	51.32
Y_3600_R		14,103	Cts/S	210.82	1.4948	14,103
Y_2243_A		7,258.7	Cts/S	10.081	0.13888	7,258.7
Y_3600_A		129,100	Cts/S	278.63	0.21582	129,100

TM3330-004R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:06:08PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		1.096	ug/L	0.1946	17.75	-12.26
Al3961_R		51.52	ug/L	7.061	13.70	46.63
As1891_A		4.484	ug/L	0.5242	11.69	-1.147
B_2089_A		12.54	ug/L	0.004969	0.03962	19.82
Ba4554_R		31.41	ug/L	0.1206	0.3839	1,515
Be3130_R		0.02793	ug/L	0.02046	73.28	-14.86
Ca3158_R		22,930	ug/L	47.45	0.2070	17,670
Cd2265_A		0.04206	ug/L	0.06334	150.6	-1.703
Co2286_A		3.783	ug/L	0.09416	2.489	15.03
Cr2677_A		0.4994	ug/L	0.1049	21.00	6.962
Cu3273_A		30.03	ug/L	0.08560	0.2850	340.8
Fe2599_R		287.7	ug/L	0.6645	0.2309	411.1
K_7664_R		3,020	ug/L	15.63	0.5174	1,198
Li6707_R		-0.2228	ug/L	1.078	484.0	-24.76
Mg2025_A		4,556	ug/L	9.078	0.1993	1,292
Mn2576_R		22.80	ug/L	0.3812	1.672	177.3
Mo2020_A		0.2085	ug/L	0.1708	81.89	1.051
Na5895_R	W	57,760	ug/L	155.6	0.2695	104,900
Ni2316_A		1.557	ug/L	0.4711	30.25	1.168
Pb2203_A		1.948	ug/L	0.4612	23.67	-0.1363
Sb2068_A		-0.6973	ug/L	0.3819	54.77	-0.4041
Se1960_A		-2.175	ug/L	2.445	112.4	1.942
Si2516_R		3,154	ug/L	7.034	0.2230	1,332
Sn1899_A		1.156	ug/L	0.03058	2.646	2.322
Sr4215_R		119.9	ug/L	0.1073	0.08944	7,638
Ti3349_A		2.177	ug/L	1.617	74.27	12.21
Ti1908_A		2.365	ug/L	1.405	59.42	-1.640
V_2924_A		0.5257	ug/L	0.01555	2.959	-1.173
Zn2062_A		22.04	ug/L	0.07669	0.3479	68.56
Y_3600_R		14,181	Cts/S	36.081	0.25444	14,181
Y_2243_A		7,387.5	Cts/S	16.136	0.21843	7,387.5
Y_3600_A		128,840	Cts/S	668.96	0.51923	128,840

TM3362-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:10:30PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3362-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:10:30PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.07525	ug/L	0.3806	505.8	-32.11
Al3961_R		23.13	ug/L	7.456	32.23	35.98
As1891_A		14.14	ug/L	0.005185	0.03667	1.804
B_2089_A		3.522	ug/L	0.2138	6.070	7.712
Ba4554_R		10.54	ug/L	0.7182	6.817	551.9
Be3130_R		0.05865	ug/L	0.0006890	1.174	-12.50
Ca3158_R	W	38,270	ug/L	2,083	5.442	29,450
Cd2265_A		-0.04047	ug/L	0.01983	48.98	-1.011
Co2286_A		0.02108	ug/L	0.07932	376.3	3.647
Cr2677_A		0.3451	ug/L	0.1932	55.99	6.245
Cu3273_A		1.361	ug/L	0.1942	14.27	10.83
Fe2599_R		1,514	ug/L	80.86	5.340	2,145
K_7664_R		1,130	ug/L	75.46	6.679	387.3
Li6707_R		2.465	ug/L	0.2239	9.082	3.293
Mg2025_A		7,118	ug/L	2.787	0.03916	1,991
Mn2576_R	W	1,073	ug/L	61.65	5.745	8,005
Mo2020_A		0.2654	ug/L	0.05156	19.43	1.129
Na5895_R		2,670	ug/L	132.5	4.963	4,861
Ni2316_A		10.22	ug/L	0.3340	3.266	14.45
Pb2203_A		1.195	ug/L	1.398	117.0	-0.8025
Sb2068_A		0.02890	ug/L	0.6055	2,095	-0.03476
Se1960_A		-3.288	ug/L	1.593	48.44	1.784
Si2516_R		7,983	ug/L	429.7	5.383	3,314
Sn1899_A		0.2229	ug/L	0.5555	249.2	1.816
Sr4215_R		197.4	ug/L	10.85	5.497	12,560
Ti3349_A		-0.2897	ug/L	0.003265	1.127	-36.95
Tl1908_A		0.9057	ug/L	0.3094	34.16	-2.907
V_2924_A		0.4605	ug/L	0.01659	3.602	-5.790
Zn2062_A		6.141	ug/L	0.1445	2.353	19.56
Y_3600_R		14,171	Cts/S	656.82	4.6350	14,171
Y_2243_A		7,278.9	Cts/S	5.9243	0.081390	7,278.9
Y_3600_A		128,680	Cts/S	503.76	0.39149	128,680

TM3362-002R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:14:52PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6211	ug/L	0.4882	78.60	-23.96
Al3961_R		28.96	ug/L	4.520	15.61	41.18
As1891_A		15.76	ug/L	0.5933	3.766	2.271
B_2089_A		3.017	ug/L	0.1912	6.339	7.015
Ba4554_R		10.16	ug/L	0.1369	1.347	529.8
Be3130_R		0.05648	ug/L	0.02558	45.30	-12.53
Ca3158_R	W	41,120	ug/L	91.19	0.2218	31,350
Cd2265_A		0.03393	ug/L	0.02184	64.38	0.3639
Co2286_A		0.3730	ug/L	0.2902	77.80	4.665
Cr2677_A		0.2408	ug/L	0.4540	188.6	5.401
Cu3273_A		3.698	ug/L	0.6559	17.73	37.73
Fe2599_R		1,850	ug/L	28.97	1.566	2,596
K_7664_R		1,373	ug/L	17.88	1.302	486.9
Li6707_R		2.096	ug/L	0.3148	15.02	-0.5031
Mg2025_A		7,662	ug/L	25.60	0.3341	2,131
Mn2576_R	W	1,348	ug/L	1.619	0.1201	9,959
Mo2020_A		0.5138	ug/L	0.02243	4.366	1.767
Na5895_R		6,638	ug/L	48.28	0.7274	11,930
Ni2316_A		0.6440	ug/L	0.1928	29.94	-0.3691

TM3362-002R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:14:52PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.3903	ug/L	0.1271	32.57	-1.510
Sb2068_A		0.1189	ug/L	0.001663	1.399	0.01602
Se1960_A		-1.269	ug/L	0.7480	58.95	2.251
Si2516_R		7,713	ug/L	32.09	0.4161	3,172
Sn1899_A		-0.01765	ug/L	0.4629	2,622	1.684
Sr4215_R		209.3	ug/L	1.369	0.6544	13,190
Ti3349_A		-0.2850	ug/L	0.2838	99.57	-36.95
Ti1908_A		1.497	ug/L	0.2902	19.39	-2.740
V_2924_A		0.2274	ug/L	0.2012	88.48	-9.440
Zn2062_A		22.62	ug/L	0.1516	0.6704	68.87
Y_3600_R		14,019	Cts/S	1.1467	0.0081800	14,019
Y_2243_A		7,235.6	Cts/S	27.539	0.38061	7,235.6
Y_3600_A		129,010	Cts/S	122.16	0.094685	129,010

TM3391-004R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:19:13PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3944	ug/L	0.4969	126.0	-21.06
Al3961_R		33.06	ug/L	1.395	4.218	32.90
As1891_A		3.397	ug/L	1.443	42.48	-1.454
B_2089_A		12.45	ug/L	0.3714	2.984	19.36
Ba4554_R		16.32	ug/L	0.04458	0.2732	815.0
Be3130_R		0.1110	ug/L	0.06248	56.30	-8.678
Ca3158_R		21,770	ug/L	111.7	0.5129	16,680
Cd2265_A		0.06982	ug/L	0.009365	13.41	-1.592
Co2286_A		3.090	ug/L	0.4000	12.95	12.71
Cr2677_A		0.2210	ug/L	0.08378	37.90	4.061
Cu3273_A		10.23	ug/L	0.1349	1.319	113.3
Fe2599_R		102.5	ug/L	1.011	0.9869	147.6
K_7664_R		3,033	ug/L	18.77	0.6190	1,197
Li6707_R		1.524	ug/L	0.4557	29.89	-6.462
Mg2025_A		4,626	ug/L	33.55	0.7253	1,290
Mn2576_R		15.99	ug/L	0.1854	1.159	125.8
Mo2020_A		0.3264	ug/L	0.09561	29.29	1.347
Na5895_R	W	58,330	ug/L	259.3	0.4445	105,300
Ni2316_A		0.7663	ug/L	0.1480	19.31	-0.05454
Pb2203_A		0.6629	ug/L	0.8138	122.8	-1.280
Sb2068_A		-0.3654	ug/L	0.2171	59.43	-0.2363
Se1960_A		-1.550	ug/L	0.1718	11.09	2.049
Si2516_R		3,217	ug/L	50.73	1.577	1,350
Sn1899_A		0.7411	ug/L	0.07553	10.19	2.074
Sr4215_R		118.8	ug/L	0.5884	0.4952	7,525
Ti3349_A		0.2800	ug/L	0.1828	65.28	-25.68
Ti1908_A		2.586	ug/L	0.04850	1.875	-1.500
V_2924_A		0.3966	ug/L	0.1476	37.22	-2.632
Zn2062_A		12.28	ug/L	0.1529	1.245	38.00
Y_3600_R		14,103	Cts/S	69.274	0.49120	14,103
Y_2243_A		7,264.3	Cts/S	16.468	0.22670	7,264.3
Y_3600_A		129,170	Cts/S	374.82	0.29019	129,170

TM3392-004R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:23:36PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3392-004R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:23:36PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		1.422	ug/L	0.5715	40.20	-7.057
Al3961_R		32.07	ug/L	6.501	20.27	31.63
As1891_A		2.660	ug/L	1.727	64.93	-1.683
B_2089_A		15.68	ug/L	0.4673	2.979	23.59
Ba4554_R		13.12	ug/L	0.3498	2.666	667.7
Be3130_R		-0.008135	ug/L	0.03500	430.3	-17.34
Ca3158_R		20,830	ug/L	116.7	0.5601	15,950
Cd2265_A		0.2216	ug/L	0.01519	6.856	0.1763
Co2286_A		0.9436	ug/L	0.1002	10.62	6.358
Cr2677_A		0.2952	ug/L	0.3854	130.5	4.825
Cu3273_A		75.94	ug/L	2.117	2.787	875.4
Fe2599_R		53.77	ug/L	0.7353	1.368	78.85
K_7664_R		3,338	ug/L	105.5	3.161	1,326
Li6707_R		3.370	ug/L	0.9825	29.15	12.69
Mg2025_A		4,769	ug/L	25.73	0.5396	1,330
Mn2576_R		11.96	ug/L	0.06636	0.5549	95.80
Mo2020_A		-0.01156	ug/L	0.1658	1,434	0.4486
Na5895_R	W	55,970	ug/L	168.3	0.3008	101,000
Ni2316_A		3.706	ug/L	0.1946	5.252	4.476
Pb2203_A		1.359	ug/L	0.4847	35.67	-0.6458
Sb2068_A		-0.03033	ug/L	0.1898	625.9	-0.07475
Se1960_A		-3.243	ug/L	0.5306	16.36	1.673
Si2516_R		3,046	ug/L	15.36	0.5043	1,279
Sn1899_A		0.6730	ug/L	1.089	161.8	2.038
Sr4215_R		115.3	ug/L	0.2844	0.2467	7,292
Ti3349_A		1.415	ug/L	0.03241	2.291	-2.971
Tl1908_A		2.449	ug/L	0.7252	29.62	-1.566
V_2924_A		0.5181	ug/L	0.4422	85.35	-1.285
Zn2062_A		37.94	ug/L	0.4332	1.142	115.3
Y_3600_R		14,090	Cts/S	108.22	0.76809	14,090
Y_2243_A		7,264.9	Cts/S	48.695	0.67028	7,264.9
Y_3600_A		129,830	Cts/S	2,111.8	1.6266	129,830

TM3410-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:27:59PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.2223	ug/L	0.8090	363.9	-23.40
Al3961_R		402.3	ug/L	2.533	0.6296	296.4
As1891_A		4.384	ug/L	1.946	44.40	-1.133
B_2089_A		422.1	ug/L	4.264	1.010	552.2
Ba4554_R		3.793	ug/L	0.4208	11.10	247.2
Be3130_R		0.008720	ug/L	0.02628	301.4	-16.49
Ca3158_R		20,170	ug/L	72.24	0.3582	15,850
Cd2265_A		2.215	ug/L	0.05572	2.516	24.17
Co2286_A		12.77	ug/L	0.2853	2.233	41.13
Cr2677_A		1.115	ug/L	0.1160	10.41	13.50
Cu3273_A		63.82	ug/L	0.1049	0.1643	732.4
Fe2599_R		92.62	ug/L	0.1968	0.2125	137.1
K_7664_R		12,750	ug/L	39.35	0.3086	5,475
Li6707_R		126.9	ug/L	0.7241	0.5707	1,330
Mg2025_A		3,196	ug/L	39.67	1.241	884.4
Mn2576_R		97.09	ug/L	0.02451	0.02525	746.4
Mo2020_A		35.25	ug/L	1.014	2.876	93.71
Na5895_R	F	339,000	ug/L	5,954	1.756	627,800
Ni2316_A		22.50	ug/L	0.4181	1.858	33.58

TM3410-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:27:59PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		29.75	ug/L	1.063	3.571	24.38
Sb2068_A		38.43	ug/L	1.081	2.814	18.42
Se1960_A		-0.9282	ug/L	0.1936	20.85	2.185
Si2516_R		6,646	ug/L	37.13	0.5587	2,825
Sn1899_A		1.362	ug/L	0.8443	62.01	2.373
Sr4215_R		152.8	ug/L	1.357	0.8878	9,935
Ti3349_A		0.6462	ug/L	0.3054	47.26	-17.91
Ti1908_A		2.227	ug/L	0.4058	18.22	-1.688
V_2924_A		0.6198	ug/L	0.01741	2.808	-2.660
Zn2062_A		878.4	ug/L	6.887	0.7840	2,629
Y_3600_R		14,465	Cts/S	109.67	0.75819	14,465
Y_2243_A		7,216.0	Cts/S	62.408	0.86487	7,216.0
Y_3600_A		129,350	Cts/S	332.91	0.25737	129,350

CCV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:32:39PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		510.1	ug/L	2.028	0.3976	6,696
Al3961_R		12,250	ug/L	18.61	0.1519	8,361
As1891_A		479.2	ug/L	4.100	0.8557	142.6
B_2089_A		493.9	ug/L	4.473	0.9057	642.9
Ba4554_R	W	529.0	ug/L	2.895	0.5472	23,860
Be3130_R		515.3	ug/L	1.871	0.3631	36,530
Ca3158_R		12,100	ug/L	20.91	0.1729	9,086
Cd2265_A		492.5	ug/L	2.899	0.5887	5,797
Co2286_A		489.4	ug/L	3.002	0.6135	1,412
Cr2677_A		513.3	ug/L	3.001	0.5846	5,298
Cu3273_A		516.2	ug/L	0.3227	0.06250	5,862
Fe2599_R		12,950	ug/L	83.50	0.6446	17,940
K_7664_R		12,370	ug/L	97.36	0.7871	5,081
Li6707_R		509.2	ug/L	1.963	0.3854	5,175
Mg2025_A		11,920	ug/L	85.77	0.7193	3,252
Mn2576_R		498.0	ug/L	0.8476	0.1702	3,635
Mo2020_A		502.8	ug/L	1.587	0.3157	1,299
Na5895_R		12,690	ug/L	41.00	0.3232	22,510
Ni2316_A		504.0	ug/L	2.870	0.5695	756.3
Pb2203_A		493.2	ug/L	2.772	0.5621	422.3
Sb2068_A		488.6	ug/L	3.651	0.7473	228.0
Se1960_A		475.3	ug/L	2.771	0.5829	104.8
Si2516_R		12,910	ug/L	16.61	0.1286	5,227
Sn1899_A		485.0	ug/L	3.438	0.7088	238.7
Sr4215_R		526.3	ug/L	3.896	0.7402	32,820
Ti3349_A		495.6	ug/L	1.264	0.2550	9,765
Ti1908_A		479.4	ug/L	3.815	0.7959	229.5
V_2924_A		504.8	ug/L	2.002	0.3966	5,524
Zn2062_A		488.0	ug/L	2.997	0.6142	1,425
Y_3600_R		13,846	Cts/S	29.862	0.21567	13,846
Y_2243_A		7,044.6	Cts/S	12.500	0.17744	7,044.6
Y_3600_A		127,370	Cts/S	534.68	0.41979	127,370

CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:36:49PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:36:49PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4104	ug/L	0.2725	66.40	-20.53
Al3961_R		-3.262	ug/L	1.559	47.80	-4.968
As1891_A		-0.5228	ug/L	0.8822	168.7	-2.726
B_2089_A		1.004	ug/L	0.05645	5.621	4.511
Ba4554_R		-0.1244	ug/L	0.1891	152.0	60.42
Be3130_R		0.04327	ug/L	0.05753	133.0	-13.31
Ca3158_R		8.665	ug/L	1.993	23.00	-26.56
Cd2265_A		-0.001654	ug/L	0.05665	3,424	-2.648
Co2286_A		-0.3217	ug/L	0.1238	38.49	2.638
Cr2677_A		0.1932	ug/L	0.2212	114.5	3.753
Cu3273_A		0.02978	ug/L	0.2018	677.6	-4.231
Fe2599_R		4.733	ug/L	3.636	76.83	9.578
K_7664_R		83.22	ug/L	20.49	24.62	-58.53
Li6707_R		0.8319	ug/L	0.4953	59.54	-13.38
Mg2025_A		-2.294	ug/L	0.7422	32.35	-5.748
Mn2576_R		-0.3486	ug/L	0.5908	169.4	3.341
Mo2020_A		1.420	ug/L	0.3113	21.93	4.311
Na5895_R		24.71	ug/L	7.960	32.22	67.24
Ni2316_A		0.2864	ug/L	0.5071	177.1	-0.8047
Pb2203_A		0.7345	ug/L	1.110	151.1	-1.259
Sb2068_A		2.406	ug/L	0.1663	6.911	1.122
Se1960_A		-0.5884	ug/L	0.001823	0.3099	2.298
Si2516_R		9.279	ug/L	1.157	12.47	35.86
Sn1899_A		0.5767	ug/L	0.1473	25.55	2.025
Sr4215_R		0.1246	ug/L	0.09733	78.13	-21.69
Ti3349_A		0.4165	ug/L	0.3271	78.53	-22.93
Tl1908_A		0.08562	ug/L	0.9582	1,119	-2.799
V_2924_A		0.4276	ug/L	0.04247	9.932	-2.305
Zn2062_A		-0.2510	ug/L	0.07455	29.70	0.2734
Y_3600_R		13,812	Cts/S	49.713	0.35993	13,812
Y_2243_A		7,383.5	Cts/S	312.68	4.2348	7,383.5
Y_3600_A		129,190	Cts/S	337.72	0.26141	129,190

PBWNA021CW2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:41:14PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.1359	ug/L	0.05361	39.45	-24.00
Al3961_R		8.400	ug/L	1.653	19.68	2.947
As1891_A		-0.4086	ug/L	1.900	465.0	-2.621
B_2089_A		1.109	ug/L	0.04530	4.084	4.506
Ba4554_R		0.01537	ug/L	0.04666	303.7	67.00
Be3130_R		0.02534	ug/L	0.1118	441.0	-14.64
Ca3158_R		6.473	ug/L	2.068	31.96	-28.35
Cd2265_A		-0.07558	ug/L	0.02753	36.42	-3.460
Co2286_A		-0.3307	ug/L	0.01935	5.852	2.555
Cr2677_A		0.4406	ug/L	0.07316	16.61	6.286
Cu3273_A		0.4322	ug/L	0.2765	63.98	0.4122
Fe2599_R		3.290	ug/L	1.947	59.18	7.641
K_7664_R		65.97	ug/L	27.07	41.03	-66.02
Li6707_R		0.2703	ug/L	1.345	497.6	-19.22
Mg2025_A		1.981	ug/L	1.405	70.91	-4.423
Mn2576_R		-0.2675	ug/L	0.1595	59.63	3.962
Mo2020_A		0.3367	ug/L	0.1805	53.60	1.362
Na5895_R		19.68	ug/L	0.4443	2.257	58.61
Ni2316_A		0.2814	ug/L	0.04613	16.39	-0.7880

PBWNA02ICW2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:41:14PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.2619	ug/L	0.9085	346.8	-1.628
Sb2068_A		1.422	ug/L	1.305	91.79	0.6207
Se1960_A		-1.092	ug/L	1.657	151.7	2.129
Si2516_R		4.555	ug/L	1.213	26.63	34.13
Sn1899_A		0.7045	ug/L	0.1945	27.60	2.038
Sr4215_R		0.1383	ug/L	0.1516	109.6	-20.98
Ti3349_A		0.4659	ug/L	0.05892	12.64	-21.76
Ti1908_A		0.7521	ug/L	0.3670	48.80	-2.391
V_2924_A		-0.05072	ug/L	0.2228	439.2	-7.527
Zn2062_A		0.8916	ug/L	0.2045	22.93	3.680
Y_3600_R		13,879	Cts/S	95.851	0.69064	13,879
Y_2243_A		7,203.6	Cts/S	73.836	1.0250	7,203.6
Y_3600_A		128,040	Cts/S	742.03	0.57954	128,040

LCSWNA02ICW2

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:45:38PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		52.17	ug/L	0.2239	0.4292	665.0
Al3961_R		2,062	ug/L	8.779	0.4258	1,395
As1891_A		96.79	ug/L	0.3150	0.3254	27.19
B_2089_A		491.1	ug/L	2.089	0.4253	633.6
Ba4554_R		2,255	ug/L	0.9224	0.04090	100,700
Be3130_R		54.88	ug/L	0.2887	0.5261	3,846
Ca3158_R		2,536	ug/L	9.996	0.3942	1,864
Cd2265_A		251.5	ug/L	1.593	0.6332	2,976
Co2286_A		520.0	ug/L	3.038	0.5842	1,512
Cr2677_A		216.1	ug/L	0.1711	0.07919	2,258
Cu3273_A		271.0	ug/L	0.1928	0.07115	3,111
Fe2599_R		1,098	ug/L	2.058	0.1875	1,511
K_7664_R		10,350	ug/L	33.06	0.3192	4,205
Li6707_R		517.5	ug/L	2.416	0.4668	5,219
Mg2025_A		4,709	ug/L	42.19	0.8960	1,304
Mn2576_R		533.4	ug/L	0.1186	0.02224	3,866
Mo2020_A		105.1	ug/L	0.4828	0.4594	273.9
Na5895_R		7,835	ug/L	9.225	0.1177	13,800
Ni2316_A		532.3	ug/L	3.599	0.6760	801.8
Pb2203_A		101.2	ug/L	1.080	1.067	86.00
Sb2068_A		98.81	ug/L	0.01521	0.01540	44.45
Se1960_A		94.35	ug/L	3.070	3.254	22.89
Si2516_R		1,089	ug/L	7.348	0.6749	468.6
Sn1899_A		498.8	ug/L	3.302	0.6620	247.4
Sr4215_R		538.4	ug/L	0.5625	0.1045	33,320
Ti3349_A		509.2	ug/L	0.9915	0.1947	10,150
Ti1908_A		93.14	ug/L	0.8614	0.9249	43.26
V_2924_A		526.8	ug/L	0.2829	0.05369	5,867
Zn2062_A		514.7	ug/L	3.361	0.6529	1,516
Y_3600_R		13,739	Cts/S	21.930	0.15962	13,739
Y_2243_A		7,100.8	Cts/S	40.960	0.57683	7,100.8
Y_3600_A		128,850	Cts/S	616.56	0.47850	128,850

TM3232-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:49:53PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3232-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:49:53PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.08130	ug/L	0.2467	303.4	-26.32
Al3961_R		183.4	ug/L	1.702	0.9281	154.2
As1891_A		0.7811	ug/L	2.553	326.9	-2.222
B_2089_A		3.602	ug/L	0.3603	10.00	7.544
Ba4554_R		35.50	ug/L	0.1163	0.3276	1,634
Be3130_R		0.02560	ug/L	0.04286	167.4	-14.34
Ca3158_R	W	60,380	ug/L	323.8	0.5363	44,680
Cd2265_A		0.03984	ug/L	0.08368	210.0	-1.355
Co2286_A		-0.1682	ug/L	0.08521	50.67	2.959
Cr2677_A		1.084	ug/L	0.06817	6.286	12.93
Cu3273_A		4.755	ug/L	0.007671	0.1613	49.52
Fe2599_R		501.7	ug/L	2.806	0.5593	685.3
K_7664_R		1,076	ug/L	62.45	5.802	350.5
Li6707_R		1.161	ug/L	1.872	161.3	-9.903
Mg2025_A		6,126	ug/L	56.17	0.9170	1,649
Mn2576_R		31.80	ug/L	0.3815	1.200	234.8
Mo2020_A		1.031	ug/L	0.06991	6.782	3.109
Na5895_R		966.7	ug/L	1.352	0.1398	1,706
Ni2316_A		1.465	ug/L	0.08346	5.696	0.9654
Pb2203_A		2.614	ug/L	0.7819	29.91	0.4293
Sb2068_A		2.447	ug/L	1.270	51.89	1.095
Se1960_A		0.5101	ug/L	1.184	232.1	2.418
Si2516_R		2,274	ug/L	7.173	0.3155	929.6
Sn1899_A		0.2896	ug/L	0.3587	123.9	1.780
Sr4215_R		269.7	ug/L	0.6963	0.2582	16,510
Ti3349_A		1.100	ug/L	0.3435	31.23	-9.148
Tl1908_A		0.6538	ug/L	0.5878	89.91	-2.394
V_2924_A		0.8767	ug/L	0.1892	21.59	2.629
Zn2062_A		3.435	ug/L	0.1071	3.117	10.97
Y_3600_R		13,601	Cts/S	50.590	0.37195	13,601
Y_2243_A		7,006.9	Cts/S	52.021	0.74242	7,006.9
Y_3600_A		127,450	Cts/S	974.46	0.76456	127,450

TM3232-002R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:54:17PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.01017	ug/L	0.1566	1,540	-27.29
Al3961_R		453.5	ug/L	12.89	2.842	353.3
As1891_A		0.2567	ug/L	0.4218	164.3	-2.329
B_2089_A		13.36	ug/L	0.6831	5.114	19.49
Ba4554_R		80.89	ug/L	0.1085	0.1341	3,636
Be3130_R		0.03803	ug/L	0.03600	94.65	-13.56
Ca3158_R	W	93,180	ug/L	852.4	0.9148	68,920
Cd2265_A		0.06981	ug/L	0.06333	90.72	-1.118
Co2286_A		0.1522	ug/L	0.1927	126.6	3.815
Cr2677_A		1.299	ug/L	0.1573	12.11	15.41
Cu3273_A		5.834	ug/L	0.5268	9.030	62.64
Fe2599_R		401.5	ug/L	1.423	0.3545	548.5
K_7664_R		1,600	ug/L	38.66	2.415	565.4
Li6707_R		5.892	ug/L	1.413	23.99	37.58
Mg2025_A		9,014	ug/L	25.29	0.2806	2,385
Mn2576_R		97.16	ug/L	1.093	1.125	703.0
Mo2020_A		1.128	ug/L	0.02874	2.549	3.293
Na5895_R		4,531	ug/L	31.61	0.6977	7,905
Ni2316_A		1.690	ug/L	0.1874	11.09	1.284

TM3232-002R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:54:17PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		7.328	ug/L	0.4242	5.788	4.368
Sb2068_A		1.403	ug/L	0.03758	2.678	0.5870
Se1960_A		1.907	ug/L	0.2646	13.88	2.679
Si2516_R		2,768	ug/L	0.9630	0.03478	1,124
Sn1899_A		1.896	ug/L	0.9352	49.33	2.516
Sr4215_R		425.8	ug/L	1.499	0.3521	26,060
Ti3349_A		3.326	ug/L	1.069	32.14	35.33
Ti1908_A		0.4281	ug/L	1.318	307.8	-2.486
V_2924_A		1.037	ug/L	0.4130	39.82	4.206
Zn2062_A		21.77	ug/L	0.06880	0.3160	63.07
Y_3600_R		13,591	Cts/S	78.267	0.57588	13,591
Y_2243_A		6,880.4	Cts/S	15.515	0.22550	6,880.4
Y_3600_A		129,150	Cts/S	51.989	0.040255	129,150

TM3232-003R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 6:58:41PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.2051	ug/L	0.4515	220.1	-23.72
Al3961_R		179.8	ug/L	15.10	8.394	169.6
As1891_A		0.7494	ug/L	1.484	198.1	-2.197
B_2089_A		11.95	ug/L	0.6919	5.788	17.92
Ba4554_R		87.82	ug/L	2.476	2.820	3,939
Be3130_R		0.03079	ug/L	0.03672	119.2	-13.98
Ca3158_R	W	92,140	ug/L	697.8	0.7573	68,100
Cd2265_A		0.03978	ug/L	0.06344	159.5	-1.641
Co2286_A		0.09280	ug/L	0.1003	108.1	3.667
Cr2677_A		0.8604	ug/L	0.4024	46.77	10.52
Cu3273_A		4.498	ug/L	0.1391	3.093	46.26
Fe2599_R		277.9	ug/L	7.742	2.786	380.3
K_7664_R		1,388	ug/L	18.69	1.346	477.9
Li6707_R		6.439	ug/L	1.832	28.45	43.12
Mg2025_A		22,380	ug/L	136.1	0.6083	5,982
Mn2576_R		20.75	ug/L	0.1632	0.7864	159.0
Mo2020_A		1.236	ug/L	0.07246	5.865	3.602
Na5895_R		2,886	ug/L	55.29	1.916	5,039
Ni2316_A		1.096	ug/L	0.2665	24.32	0.4308
Pb2203_A		31.76	ug/L	1.193	3.757	25.20
Sb2068_A		47.58	ug/L	0.1389	0.2920	21.98
Se1960_A		0.9075	ug/L	2.045	225.4	2.482
Si2516_R		3,441	ug/L	63.39	1.842	1,389
Sn1899_A		0.6036	ug/L	0.9547	158.2	1.916
Sr4215_R	W	2,174	ug/L	38.16	1.755	133,100
Ti3349_A		0.6852	ug/L	0.09594	14.00	-17.17
Ti1908_A		1.571	ug/L	0.6138	39.08	-1.926
V_2924_A		0.5194	ug/L	0.2032	39.13	-1.293
Zn2062_A		12.64	ug/L	0.04320	0.3418	37.37
Y_3600_R		13,582	Cts/S	186.93	1.3764	13,582
Y_2243_A		6,944.4	Cts/S	20.664	0.29757	6,944.4
Y_3600_A		126,420	Cts/S	582.24	0.46054	126,420

TM3232-004R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:03:05PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3232-004R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:03:05PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		-0.05240	ug/L	0.2063	393.8	-27.19
Al3961_R		166.3	ug/L	13.93	8.375	161.5
As1891_A		1.581	ug/L	0.3731	23.61	-1.923
B_2089_A		12.18	ug/L	0.2413	1.980	17.99
Ba4554_R		110.4	ug/L	0.1658	0.1502	4,928
Be3130_R		-0.03629	ug/L	0.03068	84.55	-18.60
Ca3158_R	W	94,290	ug/L	656.2	0.6959	69,570
Cd2265_A		0.02400	ug/L	0.02123	88.44	-1.817
Co2286_A		0.1284	ug/L	0.1972	153.6	3.723
Cr2677_A		0.9148	ug/L	0.1478	16.16	11.13
Cu3273_A		3.820	ug/L	0.4677	12.24	38.79
Fe2599_R		265.2	ug/L	2.693	1.016	362.5
K_7664_R		1,402	ug/L	60.33	4.304	482.8
Li6707_R		8.185	ug/L	0.2661	3.251	60.38
Mg2025_A		23,050	ug/L	17.08	0.07412	6,088
Mn2576_R		20.24	ug/L	0.09249	0.4571	155.2
Mo2020_A		1.283	ug/L	0.06812	5.311	3.678
Na5895_R		3,035	ug/L	2.582	0.08507	5,292
Ni2316_A		0.8417	ug/L	0.07896	9.380	0.05656
Pb2203_A		30.66	ug/L	0.5712	1.863	23.98
Sb2068_A		48.96	ug/L	0.3139	0.6412	22.34
Se1960_A		0.06114	ug/L	0.9596	1,570	2.274
Si2516_R		3,475	ug/L	0.1499	0.004315	1,400
Sn1899_A		1.801	ug/L	0.1112	6.176	2.464
Sr4215_R	W	2,202	ug/L	2.803	0.1273	134,600
Ti3349_A		0.8770	ug/L	0.2644	30.15	-13.52
Tl1908_A		-0.7093	ug/L	0.5381	75.86	-2.977
V_2924_A		0.6134	ug/L	0.01243	2.027	-0.2733
Zn2062_A		11.89	ug/L	0.04878	0.4102	34.79
Y_3600_R		13,560	Cts/S	38.254	0.28211	13,560
Y_2243_A		6,861.3	Cts/S	10.447	0.15226	6,861.3
Y_3600_A		127,120	Cts/S	1,505.7	1.1845	127,120

TM3232-004RL

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:07:28PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		1.748	ug/L	1.023	58.49	-21.48
Al3961_R		211.3	ug/L	77.45	36.65	36.51
As1891_A		5.289	ug/L	11.31	213.8	-2.142
B_2089_A		9.905	ug/L	2.075	20.95	5.572
Ba4554_R		104.9	ug/L	0.2305	0.2197	1,002
Be3130_R		-0.1414	ug/L	0.4477	316.6	-18.18
Ca3158_R		92,940	ug/L	721.5	0.7763	13,870
Cd2265_A		-0.2339	ug/L	0.06230	26.64	-3.014
Co2286_A		-0.6708	ug/L	1.186	176.9	3.092
Cr2677_A		0.6140	ug/L	0.5420	88.26	3.021
Cu3273_A		3.197	ug/L	3.154	98.67	2.787
Fe2599_R		255.5	ug/L	3.533	1.383	73.23
K_7664_R		1,570	ug/L	118.8	7.570	37.49
Li6707_R		6.671	ug/L	0.7878	11.81	-8.220
Mg2025_A		21,690	ug/L	69.97	0.3226	1,185
Mn2576_R		20.07	ug/L	1.758	8.759	35.82
Mo2020_A		1.506	ug/L	0.2564	17.02	1.256
Na5895_R		2,948	ug/L	71.82	2.436	1,060
Ni2316_A		-0.007687	ug/L	2.020	26,280	-1.211

TM3232-004RL

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:07:28PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		31.10	ug/L	5.775	18.57	3.586
Sb2068_A		50.22	ug/L	3.530	7.029	4.713
Se1960_A		-4.124	ug/L	8.239	199.8	2.165
Si2516_R		3,275	ug/L	37.87	1.156	293.3
Sn1899_A		0.8818	ug/L	0.9964	113.0	1.754
Sr4215_R		2,156	ug/L	0.1843	0.008549	26,670
Ti3349_A		-3.039	ug/L	0.2622	8.627	-43.47
Ti1908_A		1.116	ug/L	3.266	292.7	-2.625
V_2924_A		1.842	ug/L	0.4321	23.46	-2.916
Zn2062_A		11.25	ug/L	0.2889	2.569	7.651
Y_3600_R		13,739	Cts/S	171.50	1.2482	13,739
Y_2243_A		7,121.9	Cts/S	13.676	0.19202	7,121.9
Y_3600_A		129,180	Cts/S	493.54	0.38205	129,180

TM3232-004RA

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:11:51PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		511.2	ug/L	1.528	0.2989	6,639
Al3961_R		10,740	ug/L	69.16	0.6442	7,283
As1891_A		501.1	ug/L	0.8782	0.1753	146.3
B_2089_A		527.2	ug/L	0.5650	0.1072	670.4
Ba4554_R		652.2	ug/L	1.054	0.1616	29,020
Be3130_R		542.0	ug/L	0.2996	0.05528	37,920
Ca3158_R	W	96,730	ug/L	409.7	0.4236	71,940
Cd2265_A		510.6	ug/L	0.6292	0.1232	5,866
Co2286_A		511.7	ug/L	1.492	0.2915	1,442
Cr2677_A		525.0	ug/L	0.4153	0.07910	5,345
Cu3273_A		529.9	ug/L	0.9254	0.1746	5,936
Fe2599_R		6,520	ug/L	4.332	0.06645	8,911
K_7664_R		12,240	ug/L	68.81	0.5622	4,962
Li6707_R		540.3	ug/L	0.8999	0.1665	5,421
Mg2025_A	W	28,660	ug/L	95.47	0.3331	7,618
Mn2576_R		533.9	ug/L	0.6324	0.1185	3,851
Mo2020_A		534.5	ug/L	0.5121	0.09581	1,349
Na5895_R		9,217	ug/L	3.094	0.03357	16,150
Ni2316_A		516.1	ug/L	0.5457	0.1057	757.6
Pb2203_A		543.1	ug/L	0.7312	0.1346	454.9
Sb2068_A		556.3	ug/L	0.6126	0.1101	253.7
Se1960_A		497.9	ug/L	1.804	0.3624	107.2
Si2516_R		3,670	ug/L	4.828	0.1316	1,491
Sn1899_A		512.0	ug/L	1.137	0.2220	246.2
Sr4215_R	W	2,667	ug/L	1.417	0.05314	164,300
Ti3349_A		513.3	ug/L	0.02398	0.004671	9,978
Ti1908_A		499.2	ug/L	0.1675	0.03355	233.7
V_2924_A		518.8	ug/L	0.5159	0.09945	5,597
Zn2062_A		515.0	ug/L	0.7589	0.1474	1,469
Y_3600_R		13,667	Cts/S	158.11	1.1569	13,667
Y_2243_A		6,884.3	Cts/S	21.774	0.31628	6,884.3
Y_3600_A		125,620	Cts/S	290.32	0.23112	125,620

TM3232-004RS

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:16:01PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3232-004RS

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:16:01PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		50.55	ug/L	0.1358	0.2686	631.1
Al3961_R		2,239	ug/L	3.290	0.1470	1,566
As1891_A		96.69	ug/L	0.05257	0.05437	26.51
B_2089_A		502.8	ug/L	4.473	0.8897	633.2
Ba4554_R	W	2,255	ug/L	8.355	0.3706	100,600
Be3130_R		53.78	ug/L	0.1554	0.2889	3,764
Ca3158_R	W	95,920	ug/L	253.6	0.2644	71,630
Cd2265_A		244.6	ug/L	2.340	0.9564	2,826
Co2286_A		506.6	ug/L	4.218	0.8326	1,438
Cr2677_A		209.3	ug/L	1.301	0.6217	2,148
Cu3273_A		267.6	ug/L	2.247	0.8398	3,015
Fe2599_R		1,296	ug/L	3.723	0.2873	1,781
K_7664_R		11,550	ug/L	36.93	0.3198	4,694
Li6707_R		518.3	ug/L	1.503	0.2900	5,221
Mg2025_A	W	27,590	ug/L	245.2	0.8889	7,384
Mn2576_R		540.8	ug/L	0.002281	0.0004220	3,919
Mo2020_A		106.3	ug/L	1.012	0.9521	270.4
Na5895_R		10,600	ug/L	7.968	0.07520	18,640
Ni2316_A		511.3	ug/L	5.179	1.013	751.9
Pb2203_A		127.4	ug/L	1.554	1.220	106.1
Sb2068_A		148.0	ug/L	0.09188	0.06208	66.16
Se1960_A		96.73	ug/L	2.862	2.959	22.85
Si2516_R		4,538	ug/L	21.75	0.4793	1,843
Sn1899_A		492.8	ug/L	4.208	0.8538	238.7
Sr4215_R	W	2,681	ug/L	7.912	0.2951	165,900
Ti3349_A		498.8	ug/L	2.585	0.5183	9,757
Tl1908_A		90.91	ug/L	1.478	1.626	41.15
V_2924_A		517.2	ug/L	1.913	0.3699	5,654
Zn2062_A		512.4	ug/L	5.244	1.023	1,473
Y_3600_R		13,723	Cts/S	2.1946	0.015992	13,723
Y_2243_A		6,933.1	Cts/S	63.096	0.91008	6,933.1
Y_3600_A		126,520	Cts/S	892.17	0.70518	126,520

TM3232-004RP

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:20:14PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		52.45	ug/L	0.1908	0.3639	654.0
Al3961_R		2,267	ug/L	3.950	0.1742	1,574
As1891_A		101.5	ug/L	2.224	2.190	28.11
B_2089_A		524.0	ug/L	3.492	0.6665	663.3
Ba4554_R	W	2,340	ug/L	1.235	0.05277	103,400
Be3130_R		55.19	ug/L	0.1096	0.1985	3,827
Ca3158_R	W	102,500	ug/L	20.54	0.02003	75,840
Cd2265_A		256.0	ug/L	1.278	0.4994	2,974
Co2286_A		514.2	ug/L	2.279	0.4431	1,468
Cr2677_A		215.3	ug/L	0.1982	0.09209	2,203
Cu3273_A		276.3	ug/L	0.08696	0.03147	3,106
Fe2599_R		1,361	ug/L	3.564	0.2620	1,852
K_7664_R		12,050	ug/L	44.34	0.3681	4,857
Li6707_R		547.4	ug/L	0.9344	0.1707	5,464
Mg2025_A	W	29,380	ug/L	139.2	0.4738	7,905
Mn2576_R		551.2	ug/L	1.119	0.2031	3,958
Mo2020_A		109.5	ug/L	0.9544	0.8714	280.2
Na5895_R		11,340	ug/L	23.88	0.2106	19,750
Ni2316_A		520.9	ug/L	4.234	0.8127	770.3

TM3232-004RP

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:20:14PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		135.4	ug/L	0.3303	0.2438	113.6
Sb2068_A		154.7	ug/L	0.4592	0.2968	69.57
Se1960_A		101.2	ug/L	0.1920	0.1898	23.93
Si2516_R		4,876	ug/L	7.165	0.1469	1,959
Sn1899_A		512.1	ug/L	3.300	0.6444	249.3
Sr4215_R	W	2,898	ug/L	3.216	0.1110	177,600
Ti3349_A		525.1	ug/L	2.170	0.4132	10,250
Ti1908_A		96.69	ug/L	0.1621	0.1677	44.14
V_2924_A		529.5	ug/L	0.7109	0.1343	5,774
Zn2062_A		519.3	ug/L	4.278	0.8238	1,501
Y_3600_R		13,595	Cts/S	80.356	0.59106	13,595
Y_2243_A		6,970.9	Cts/S	25.331	0.36338	6,970.9
Y_3600_A		126,190	Cts/S	11.098	0.0087950	126,190

CCV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:24:27PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		498.9	ug/L	1.707	0.3422	6,659
Al3961_R		12,320	ug/L	48.08	0.3902	8,540
As1891_A		481.8	ug/L	1.729	0.3588	144.3
B_2089_A		493.9	ug/L	2.740	0.5549	647.2
Ba4554_R		513.7	ug/L	3.249	0.6324	23,530
Be3130_R		511.0	ug/L	1.556	0.3044	36,790
Ca3158_R		12,280	ug/L	66.10	0.5382	9,367
Cd2265_A		495.4	ug/L	3.446	0.6957	5,871
Co2286_A		495.4	ug/L	3.071	0.6199	1,439
Cr2677_A		508.3	ug/L	2.646	0.5205	5,336
Cu3273_A		506.5	ug/L	1.867	0.3687	5,849
Fe2599_R		12,670	ug/L	26.35	0.2080	17,810
K_7664_R		12,360	ug/L	17.70	0.1432	5,157
Li6707_R		498.1	ug/L	2.095	0.4206	5,140
Mg2025_A		11,980	ug/L	61.13	0.5104	3,289
Mn2576_R		499.3	ug/L	1.463	0.2930	3,701
Mo2020_A		501.2	ug/L	5.420	1.081	1,303
Na5895_R		12,410	ug/L	27.05	0.2180	22,360
Ni2316_A		506.5	ug/L	4.109	0.8112	765.3
Pb2203_A		498.4	ug/L	3.367	0.6757	429.7
Sb2068_A		489.4	ug/L	1.642	0.3354	229.9
Se1960_A		478.7	ug/L	0.2759	0.05764	106.2
Si2516_R		12,790	ug/L	94.12	0.7356	5,260
Sn1899_A		488.6	ug/L	3.393	0.6945	242.1
Sr4215_R		513.1	ug/L	1.927	0.3757	32,490
Ti3349_A		495.1	ug/L	1.164	0.2350	9,920
Ti1908_A		481.6	ug/L	2.111	0.4383	232.2
V_2924_A		503.2	ug/L	3.745	0.7443	5,600
Zn2062_A		493.3	ug/L	3.581	0.7258	1,450
Y_3600_R		14,061	Cts/S	32.642	0.23214	14,061
Y_2243_A		7,092.2	Cts/S	24.966	0.35201	7,092.2
Y_3600_A		129,520	Cts/S	973.96	0.75197	129,520

CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:28:37PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:28:37PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.7083	ug/L	0.09238	13.04	-16.31
Al3961_R		-1.473	ug/L	8.031	545.0	-3.691
As1891_A		-0.07797	ug/L	1.098	1,408	-2.474
B_2089_A		0.8963	ug/L	0.2076	23.16	4.176
Ba4554_R		0.2445	ug/L	0.009783	4.002	75.57
Be3130_R		0.05522	ug/L	0.04251	76.97	-12.23
Ca3158_R		11.28	ug/L	4.037	35.79	-24.16
Cd2265_A		-0.02175	ug/L	0.01976	90.87	-2.767
Co2286_A		-0.3093	ug/L	0.2382	77.00	2.568
Cr2677_A		0.1919	ug/L	0.1762	91.85	3.722
Cu3273_A		-0.2952	ug/L	0.02530	8.571	-7.891
Fe2599_R		1.539	ug/L	1.824	118.6	5.084
K_7664_R		87.75	ug/L	8.615	9.818	-55.64
Li6707_R		1.020	ug/L	2.438	238.9	-11.25
Mg2025_A		1.648	ug/L	1.401	85.05	-4.430
Mn2576_R		-0.1851	ug/L	0.1653	89.34	4.458
Mo2020_A		1.124	ug/L	0.3592	31.94	3.379
Na5895_R		1.784	ug/L	7.440	416.9	26.21
Ni2316_A		0.1357	ug/L	0.2446	180.2	-0.9867
Pb2203_A		0.1852	ug/L	0.09274	50.07	-1.663
Sb2068_A		1.060	ug/L	0.6515	61.47	0.4406
Se1960_A		2.025	ug/L	1.119	55.27	2.770
Si2516_R		7.652	ug/L	20.28	265.0	34.58
Sn1899_A		0.4423	ug/L	0.01273	2.878	1.874
Sr4215_R		0.08559	ug/L	0.1044	122.0	-23.69
Ti3349_A		0.4058	ug/L	0.1574	38.80	-22.93
Tl1908_A		0.4168	ug/L	0.5839	140.1	-2.515
V_2924_A		0.4538	ug/L	0.02348	5.175	-1.970
Zn2062_A		-0.1778	ug/L	0.1940	109.1	0.4850
Y_3600_R		13,564	Cts/S	5,5376	0.040825	13,564
Y_2243_A		7,078.7	Cts/S	89,223	1.2604	7,078.7
Y_3600_A		127,780	Cts/S	2,808.5	2.1979	127,780

TM3232-005R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:33:02PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3281	ug/L	0.2881	87.82	-23.44
Al3961_R		195.2	ug/L	6.684	3.424	181.3
As1891_A		1.977	ug/L	0.6950	35.15	-1.859
B_2089_A		5.203	ug/L	0.1888	3.629	9.485
Ba4554_R		64.66	ug/L	1.458	2.254	2,927
Be3130_R		0.07158	ug/L	0.03434	47.98	-11.21
Ca3158_R	W	93,650	ug/L	1,345	1.437	69,440
Cd2265_A		0.03105	ug/L	0.003129	10.08	-1.209
Co2286_A		-0.3162	ug/L	0.02421	7.655	2.518
Cr2677_A		1.022	ug/L	0.4314	42.23	12.24
Cu3273_A		2.278	ug/L	0.2838	12.46	21.11
Fe2599_R		683.1	ug/L	11.89	1.741	933.5
K_7664_R		1,983	ug/L	25.80	1.301	724.2
Li6707_R		1.044	ug/L	0.1086	10.41	-11.06
Mg2025_A		8,823	ug/L	28.77	0.3261	2,354
Mn2576_R		116.1	ug/L	1.523	1.312	840.5
Mo2020_A		1.527	ug/L	0.03687	2.414	4.337
Na5895_R		7,995	ug/L	111.5	1.395	13,970
Ni2316_A		0.5215	ug/L	0.6166	118.2	-0.4438

TM3232-005R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:33:02PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		-0.2553	ug/L	0.9960	390.1	-2.018
Sb2068_A		0.8213	ug/L	1.261	153.5	0.3292
Se1960_A		1.234	ug/L	0.06158	4.989	2.558
Si2516_R		4,832	ug/L	43.54	0.9011	1,944
Sn1899_A		0.4643	ug/L	0.02377	5.121	1.848
Sr4215_R		437.9	ug/L	7.910	1.806	26,870
Ti3349_A		1.878	ug/L	0.5390	28.70	6.226
Ti1908_A		0.5060	ug/L	1.218	240.7	-2.485
V_2924_A		0.4771	ug/L	0.06431	13.48	-2.080
Zn2062_A		2.337	ug/L	0.01319	0.5643	7.703
Y_3600_R		13,626	Cts/S	31.096	0.22822	13,626
Y_2243_A		6,939.3	Cts/S	36.595	0.52736	6,939.3
Y_3600_A		126,350	Cts/S	232.77	0.18422	126,350

TM3232-006R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:37:24PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3137	ug/L	0.1054	33.60	-22.01
Al3961_R		115.2	ug/L	22.37	19.42	150.2
As1891_A		0.7017	ug/L	0.06287	8.960	-2.197
B_2089_A		33.68	ug/L	0.002769	0.008221	44.96
Ba4554_R		83.26	ug/L	1.393	1.674	3,681
Be3130_R		-0.001412	ug/L	0.01456	1,031	-15.99
Ca3158_R	W	138,400	ug/L	766.1	0.5534	100,800
Cd2265_A		-0.06143	ug/L	0.02726	44.37	-2.961
Co2286_A		-0.06207	ug/L	0.02003	32.27	3.222
Cr2677_A		0.6634	ug/L	0.1383	20.84	8.675
Cu3273_A		3.590	ug/L	0.3433	9.562	36.24
Fe2599_R		158.5	ug/L	0.08363	0.05276	215.0
K_7664_R		1,278	ug/L	36.94	2.890	426.1
Li6707_R		7.725	ug/L	3.561	46.10	55.50
Mg2025_A		21,040	ug/L	9.355	0.04445	5,612
Mn2576_R		152.9	ug/L	0.2389	0.1563	1,087
Mo2020_A		0.4359	ug/L	0.01961	4.498	1.556
Na5895_R	W	65,480	ug/L	327.4	0.5000	112,100
Ni2316_A		1.231	ug/L	0.1423	11.56	0.6280
Pb2203_A		0.7450	ug/L	1.265	169.8	-1.158
Sb2068_A		1.283	ug/L	0.01829	1.425	0.5329
Se1960_A		1.183	ug/L	4.336	366.5	2.548
Si2516_R		4,188	ug/L	208.2	4.970	1,657
Sn1899_A		1.659	ug/L	0.3188	19.22	2.419
Sr4215_R		475.9	ug/L	2.096	0.4405	28,670
Ti3349_A		1.054	ug/L	0.8188	77.70	-10.01
Ti1908_A		0.9177	ug/L	0.4941	53.84	-2.298
V_2924_A		0.4569	ug/L	0.2963	64.85	-2.461
Zn2062_A		3.567	ug/L	0.05807	1.628	11.23
Y_3600_R		13,378	Cts/S	367.63	2.7480	13,378
Y_2243_A		6,928.4	Cts/S	14.325	0.20676	6,928.4
Y_3600_A		127,210	Cts/S	296.55	0.23312	127,210

TM3232-007R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:41:47PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3232-007R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:41:47PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3110	ug/L	0.3149	101.3	-22.60
Al3961_R		219.7	ug/L	0.7923	0.3607	216.2
As1891_A		1.416	ug/L	1.505	106.3	-1.993
B_2089_A		12.75	ug/L	0.2236	1.753	18.90
Ba4554_R		88.57	ug/L	1.584	1.789	4,070
Be3130_R		0.004932	ug/L	0.01511	306.4	-16.14
Ca3158_R	W	118,200	ug/L	716.8	0.6062	89,540
Cd2265_A		-0.03024	ug/L	0.01792	59.27	-2.536
Co2286_A		-0.1284	ug/L	0.1401	109.1	3.037
Cr2677_A		0.6949	ug/L	0.2240	32.23	9.016
Cu3273_A		2.289	ug/L	0.7207	31.49	21.83
Fe2599_R		213.2	ug/L	6.981	3.274	299.8
K_7664_R		1,042	ug/L	34.54	3.316	344.1
Li6707_R		3.906	ug/L	0.2066	5.289	18.06
Mg2025_A		18,290	ug/L	255.4	1.397	4,887
Mn2576_R		14.82	ug/L	0.4526	3.054	118.5
Mo2020_A		0.3205	ug/L	0.09965	31.09	1.271
Na5895_R	W	27,290	ug/L	231.1	0.8467	48,630
Ni2316_A		1.084	ug/L	0.1535	14.16	0.4072
Pb2203_A		-0.1595	ug/L	0.4218	264.5	-1.941
Sb2068_A		1.429	ug/L	0.6321	44.22	0.6017
Se1960_A		-0.9405	ug/L	0.3639	38.69	2.089
Si2516_R		4,188	ug/L	19.42	0.4638	1,725
Sn1899_A		1.522	ug/L	0.3627	23.84	2.358
Sr4215_R		430.7	ug/L	4.244	0.9855	26,990
Ti3349_A		0.6657	ug/L	0.1115	16.76	-17.96
Tl1908_A		0.5266	ug/L	0.1504	28.57	-2.421
V_2924_A		0.6576	ug/L	0.2410	36.65	0.2903
Zn2062_A		4.976	ug/L	0.3231	6.494	15.30
Y_3600_R		13,916	Cts/S	41.124	0.29551	13,916
Y_2243_A		6,943.8	Cts/S	72.094	1.0382	6,943.8
Y_3600_A		129,240	Cts/S	672.61	0.52045	129,240

TM3232-008R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:46:09PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.08164	ug/L	0.02191	26.84	-25.56
Al3961_R		310.6	ug/L	13.20	4.251	230.6
As1891_A		0.2171	ug/L	0.5593	257.6	-2.395
B_2089_A		2.540	ug/L	0.2376	9.354	6.241
Ba4554_R		22.21	ug/L	0.1376	0.6194	1,045
Be3130_R		-0.006392	ug/L	0.08100	1,267	-16.73
Ca3158_R	W	45,410	ug/L	125.8	0.2769	33,560
Cd2265_A		0.06354	ug/L	0.04171	65.64	-1.400
Co2286_A		-0.1532	ug/L	0.1891	123.4	3.046
Cr2677_A		1.026	ug/L	0.2953	28.79	12.31
Cu3273_A		8.108	ug/L	0.03290	0.4058	87.72
Fe2599_R		266.3	ug/L	1.068	0.4012	364.8
K_7664_R		579.5	ug/L	0.4678	0.08072	146.2
Li6707_R		-0.4733	ug/L	1.429	302.0	-26.14
Mg2025_A		5,583	ug/L	11.35	0.2033	1,515
Mn2576_R		4.111	ug/L	0.1696	4.125	36.32
Mo2020_A		0.3700	ug/L	0.1035	27.96	1.424
Na5895_R		1,566	ug/L	2.202	0.1406	2,747
Ni2316_A		0.6983	ug/L	0.06411	9.180	-0.1664

TM3232-008R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:46:09PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		3.671	ug/L	0.4227	11.51	1.334
Sb2068_A		3.728	ug/L	0.4368	11.72	1.701
Se1960_A		-0.9692	ug/L	0.9325	96.22	2.119
Si2516_R		2,816	ug/L	3.580	0.1271	1,143
Sn1899_A		1.014	ug/L	0.3966	39.11	2.151
Sr4215_R		214.5	ug/L	0.5828	0.2717	13,110
Ti3349_A		5.345	ug/L	0.8623	16.13	74.80
Tl1908_A		0.2231	ug/L	0.2255	101.1	-2.607
V_2924_A		0.8107	ug/L	0.03383	4.172	2.057
Zn2062_A		7.724	ug/L	0.03157	0.4087	23.63
Y_3600_R		13,587	Cts/S	146.46	1.0779	13,587
Y_2243_A		7,067.2	Cts/S	11.003	0.15569	7,067.2
Y_3600_A		127,500	Cts/S	13.512	0.010598	127,500

TM3232-009R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:50:33PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.2619	ug/L	0.1563	59.69	-22.92
Al3961_R		162.9	ug/L	11.59	7.119	177.1
As1891_A		-0.3116	ug/L	0.6936	222.6	-2.507
B_2089_A		20.10	ug/L	0.2648	1.317	28.07
Ba4554_R		85.62	ug/L	0.05529	0.06458	3,872
Be3130_R		0.0001730	ug/L	0.02785	16,050	-16.23
Ca3158_R	W	123,000	ug/L	833.1	0.6772	91,640
Cd2265_A		0.1362	ug/L	0.01790	13.15	-0.6286
Co2286_A		-0.08952	ug/L	0.008484	9.477	3.148
Cr2677_A		1.004	ug/L	0.1293	12.88	12.12
Cu3273_A		9.667	ug/L	0.3829	3.961	105.7
Fe2599_R		198.2	ug/L	1.898	0.9574	274.3
K_7664_R		1,548	ug/L	3.381	0.2184	547.8
Li6707_R		2.660	ug/L	0.2601	9.779	5.199
Mg2025_A		11,210	ug/L	40.87	0.3647	2,992
Mn2576_R		15.71	ug/L	0.5486	3.492	121.5
Mo2020_A		0.4907	ug/L	0.07907	16.11	1.705
Na5895_R		8,232	ug/L	34.58	0.4200	14,450
Ni2316_A		1.301	ug/L	0.1484	11.40	0.7298
Pb2203_A		2.173	ug/L	0.2267	10.43	0.04959
Sb2068_A		3.206	ug/L	1.587	49.50	1.429
Se1960_A		-0.2510	ug/L	0.06047	24.09	2.234
Si2516_R		2,800	ug/L	3.207	0.1145	1,145
Sn1899_A		0.9794	ug/L	0.1563	15.96	2.096
Sr4215_R	W	1,823	ug/L	6.100	0.3345	112,500
Ti3349_A		0.7252	ug/L	0.09190	12.67	-16.57
Tl1908_A		0.4571	ug/L	0.2920	63.88	-2.453
V_2924_A		0.2856	ug/L	0.2539	88.93	-3.852
Zn2062_A		36.97	ug/L	0.05407	0.1462	107.4
Y_3600_R		13,688	Cts/S	13.934	0.10180	13,688
Y_2243_A		6,940.3	Cts/S	15.078	0.21726	6,940.3
Y_3600_A		127,720	Cts/S	169.46	0.13268	127,720

TM3363-001R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:54:57PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3363-001RMethod Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:54:57PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.04906	ug/L	0.06115	124.6	-25.32
Al3961_R		91.17	ug/L	8.030	8.808	62.64
As1891_A		-0.3598	ug/L	1.815	504.4	-2.537
B_2089_A		19.90	ug/L	0.2060	1.035	28.11
Ba4554_R		4.123	ug/L	0.02533	0.6144	252.5
Be3130_R		0.1436	ug/L	0.1105	76.93	-6.321
Ca3158_R		5,388	ug/L	32.25	0.5985	4,043
Cd2265_A		-0.005299	ug/L	0.03679	694.2	-2.447
Co2286_A		-0.3985	ug/L	0.07068	17.74	2.297
Cr2677_A		4.409	ug/L	0.06182	1.402	47.27
Cu3273_A		164.3	ug/L	0.07847	0.04776	1,866
Fe2599_R		78.29	ug/L	0.04198	0.05362	111.8
K_7664_R	W	65,210	ug/L	264.2	0.4052	27,280
Li6707_R		1.806	ug/L	0.9017	49.93	-3.509
Mg2025_A		640.0	ug/L	0.1350	0.02109	168.0
Mn2576_R		17.41	ug/L	0.4433	2.546	133.4
Mo2020_A		1.119	ug/L	0.04725	4.221	3.338
Na5895_R	F	228,800	ug/L	47.08	0.02057	407,000
Ni2316_A		1.464	ug/L	0.3802	25.98	0.9933
Pb2203_A		6.609	ug/L	0.4346	6.576	3.895
Sb2068_A		0.5706	ug/L	0.5803	101.7	0.2207
Se1960_A		1.004	ug/L	2.168	215.9	2.524
Si2516_R		6,990	ug/L	6.666	0.09536	2,853
Sn1899_A		0.8532	ug/L	0.2143	25.12	2.056
Sr4215_R		26.05	ug/L	0.05546	0.2129	1,602
Ti3349_A		1.260	ug/L	0.2258	17.92	-5.960
Tl1908_A		0.1919	ug/L	0.5726	298.4	-2.598
V_2924_A		0.3826	ug/L	0.09708	25.37	-2.927
Zn2062_A		113.2	ug/L	0.4820	0.4258	329.9
Y_3600_R		13,895	Cts/S	111.21	0.80033	13,895
Y_2243_A		7,009.4	Cts/S	23.398	0.33381	7,009.4
Y_3600_A		127,510	Cts/S	245.92	0.19287	127,510

TM3232-010RMethod Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:59:41PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.3330	ug/L	0.3535	106.1	-21.60
Al3961_R		121.3	ug/L	13.98	11.53	121.7
As1891_A		0.008775	ug/L	0.8608	9,809	-2.392
B_2089_A		10.65	ug/L	0.2301	2.161	16.25
Ba4554_R		51.18	ug/L	0.9169	1.792	2,355
Be3130_R		-0.01739	ug/L	0.01753	100.8	-17.57
Ca3158_R	W	73,640	ug/L	227.2	0.3085	55,170
Cd2265_A		0.03950	ug/L	0.01227	31.06	-1.880
Co2286_A		-0.2627	ug/L	0.01770	6.736	2.645
Cr2677_A		0.7777	ug/L	0.1115	14.33	9.761
Cu3273_A		4.473	ug/L	0.1177	2.630	46.47
Fe2599_R		89.23	ug/L	1.000	1.121	125.9
K_7664_R		1,437	ug/L	0.6775	0.04715	504.8
Li6707_R		3.405	ug/L	2.071	60.81	12.76
Mg2025_A		7,073	ug/L	51.87	0.7333	1,878
Mn2576_R		1.233	ug/L	0.1244	10.09	16.34
Mo2020_A		2.692	ug/L	0.09278	3.446	7.274
Na5895_R		2,990	ug/L	16.38	0.5477	5,293
Ni2316_A		0.8686	ug/L	0.02398	2.760	0.1231

TM3232-010R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 7:59:41PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.8289	ug/L	0.3797	45.81	-1.088
Sb2068_A		1.773	ug/L	1.039	58.61	0.7605
Se1960_A		2.012	ug/L	2.876	142.9	2.701
Si2516_R		3,321	ug/L	3.675	0.1107	1,360
Sn1899_A		0.7697	ug/L	0.3445	44.75	1.987
Sr4215_R		395.1	ug/L	4.603	1.165	24,500
Ti3349_A		0.8409	ug/L	0.2504	29.78	-14.25
Ti1908_A		0.09806	ug/L	0.2042	208.2	-2.605
V_2924_A		0.2438	ug/L	0.07916	32.46	-4.398
Zn2062_A		35.28	ug/L	0.08863	0.2512	102.0
Y_3600_R		13,770	Cts/S	36.407	0.26439	13,770
Y_2243_A		6,909.1	Cts/S	28.649	0.41465	6,909.1
Y_3600_A		127,690	Cts/S	378.13	0.29613	127,690

TM3232-011R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 8:04:04PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.4268	ug/L	0.1889	44.25	-20.17
Al3961_R		122.3	ug/L	2.788	2.280	123.2
As1891_A		0.1848	ug/L	0.4884	264.2	-2.359
B_2089_A		7.747	ug/L	0.2004	2.587	12.68
Ba4554_R		31.35	ug/L	0.3058	0.9756	1,438
Be3130_R		-0.02986	ug/L	0.03766	126.1	-18.09
Ca3158_R	W	79,640	ug/L	0.8569	0.001076	58,450
Cd2265_A		-0.002232	ug/L	0.01838	823.6	-2.354
Co2286_A		0.3248	ug/L	0.06413	19.75	4.332
Cr2677_A		1.009	ug/L	0.1752	17.36	12.06
Cu3273_A		3.349	ug/L	0.4489	13.40	33.23
Fe2599_R		107.0	ug/L	2.359	2.206	147.2
K_7664_R		580.6	ug/L	19.98	3.441	145.5
Li6707_R		3.479	ug/L	0.09804	2.818	13.26
Mg2025_A		10,370	ug/L	213.2	2.057	2,775
Mn2576_R		65.63	ug/L	0.6617	1.008	474.1
Mo2020_A		0.5277	ug/L	0.2392	45.33	1.805
Na5895_R		4,083	ug/L	1.278	0.03131	7,072
Ni2316_A		1.055	ug/L	0.1019	9.657	0.3753
Pb2203_A		0.03846	ug/L	0.8689	2,259	-1.764
Sb2068_A		1.168	ug/L	0.3535	30.28	0.4894
Se1960_A		-1.437	ug/L	1.697	118.1	1.996
Si2516_R		3,720	ug/L	54.33	1.461	1,488
Sn1899_A		0.3802	ug/L	0.4446	116.9	1.812
Sr4215_R		386.1	ug/L	1.223	0.3166	23,450
Ti3349_A		0.9825	ug/L	0.2018	20.53	-11.35
Ti1908_A		0.4856	ug/L	1.388	285.8	-2.474
V_2924_A		0.4440	ug/L	0.5451	122.8	-2.293
Zn2062_A		2.947	ug/L	0.1069	3.627	9.490
Y_3600_R		13,488	Cts/S	185.00	1.3716	13,488
Y_2243_A		6,960.7	Cts/S	78.336	1.1254	6,960.7
Y_3600_A		126,170	Cts/S	878.04	0.69593	126,170

TM3232-012R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 8:08:29PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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TM3232-012R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 8:08:29PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.08144	ug/L	0.7272	892.9	-25.68
Al3961_R		276.7	ug/L	9.427	3.407	244.9
As1891_A		-0.5683	ug/L	1.179	207.5	-2.579
B_2089_A		11.95	ug/L	0.04867	0.4074	17.80
Ba4554_R		94.73	ug/L	0.3444	0.3636	4,273
Be3130_R		0.005874	ug/L	0.03148	535.8	-15.95
Ca3158_R	W	107,900	ug/L	463.2	0.4295	80,250
Cd2265_A		0.01993	ug/L	0.02210	110.9	-1.755
Co2286_A		-0.08294	ug/L	0.1260	151.9	3.166
Cr2677_A		0.9523	ug/L	0.04853	5.096	11.51
Cu3273_A		2.651	ug/L	0.1105	4.168	25.46
Fe2599_R		355.1	ug/L	1.561	0.4397	488.3
K_7664_R		1,287	ug/L	20.21	1.570	439.3
Li6707_R		5.356	ug/L	0.2034	3.797	32.37
Mg2025_A		15,530	ug/L	142.2	0.9158	4,125
Mn2576_R		29.26	ug/L	0.5394	1.844	219.8
Mo2020_A		1.044	ug/L	0.04065	3.894	3.095
Na5895_R		4,302	ug/L	28.05	0.6520	7,551
Ni2316_A		1.298	ug/L	0.1062	8.180	0.7153
Pb2203_A		0.7054	ug/L	0.5320	75.42	-1.203
Sb2068_A		1.285	ug/L	0.8784	68.35	0.5416
Se1960_A		-1.613	ug/L	0.1770	10.97	1.936
Si2516_R		4,807	ug/L	17.76	0.3695	1,940
Sn1899_A		0.4791	ug/L	0.2202	45.97	1.846
Sr4215_R		440.9	ug/L	3.073	0.6968	27,150
Ti3349_A		3.796	ug/L	0.6112	16.10	43.91
Tl1908_A		-0.7196	ug/L	0.07340	10.20	-3.006
V_2924_A		0.5901	ug/L	0.01826	3.095	-0.5143
Zn2062_A		5.033	ug/L	0.1636	3.250	15.38
Y_3600_R		13,672	Cts/S	147.98	1.0823	13,672
Y_2243_A		6,902.8	Cts/S	61.231	0.88705	6,902.8
Y_3600_A		126,790	Cts/S	578.22	0.45603	126,790

TM3278-004R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 8:12:50PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.8681	ug/L	0.5932	68.34	-15.03
Al3961_R		49.68	ug/L	14.55	29.28	44.55
As1891_A		1.986	ug/L	0.9178	46.22	-1.900
B_2089_A		11.58	ug/L	0.3251	2.806	18.28
Ba4554_R		14.15	ug/L	0.4943	3.493	723.2
Be3130_R		0.006860	ug/L	0.0005540	8.069	-16.35
Ca3158_R		21,360	ug/L	405.2	1.897	16,540
Cd2265_A		0.04820	ug/L	0.04887	101.4	-1.876
Co2286_A		3.469	ug/L	0.06620	1.908	13.87
Cr2677_A		0.2268	ug/L	0.07751	34.17	4.236
Cu3273_A		25.61	ug/L	0.3304	1.290	298.9
Fe2599_R		89.67	ug/L	4.917	5.483	130.9
K_7664_R		3,090	ug/L	24.23	0.7840	1,235
Li6707_R		1.971	ug/L	0.2129	10.80	-1.803
Mg2025_A		4,575	ug/L	23.64	0.5168	1,279
Mn2576_R		12.29	ug/L	0.002895	0.02356	99.34
Mo2020_A		0.02000	ug/L	0.1778	888.7	0.5312
Na5895_R	W	59,590	ug/L	1,294	2.172	108,700
Ni2316_A		1.152	ug/L	0.1650	14.32	0.5400

TM3278-004R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 8:12:50PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Pb2203_A		0.3415	ug/L	0.2335	68.38	-1.569
Sb2068_A		-0.7671	ug/L	0.8624	112.4	-0.4276
Se1960_A		-2.900	ug/L	0.1590	5.483	1.754
Si2516_R		2,913	ug/L	71.46	2.453	1,239
Sn1899_A		0.06740	ug/L	0.2511	372.6	1.739
Sr4215_R		112.4	ug/L	2.171	1.931	7,196
Ti3349_A		-0.2058	ug/L	0.2077	100.9	-36.40
Ti1908_A		2.096	ug/L	0.6497	31.00	-1.746
V_2924_A		0.6912	ug/L	0.4070	58.89	0.7219
Zn2062_A		19.94	ug/L	0.05509	0.2763	61.25
Y_3600_R		14,257	Cts/S	308.14	2.1613	14,257
Y_2243_A		7,285.0	Cts/S	43.260	0.59382	7,285.0
Y_3600_A		132,810	Cts/S	666.44	0.50179	132,810

CCV

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 8:17:13PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		483.7	ug/L	1.734	0.3586	6,420
Al3961_R		12,160	ug/L	163.9	1.348	8,346
As1891_A		486.0	ug/L	4.895	1.007	145.1
B_2089_A		487.1	ug/L	1.531	0.3142	636.1
Ba4554_R		510.7	ug/L	1.166	0.2284	23,160
Be3130_R		507.8	ug/L	3.334	0.6567	36,190
Ca3158_R		12,190	ug/L	139.3	1.143	9,207
Cd2265_A		492.5	ug/L	2.184	0.4435	5,816
Co2286_A		495.6	ug/L	1.453	0.2932	1,434
Cr2677_A		501.8	ug/L	2.361	0.4704	5,240
Cu3273_A		501.0	ug/L	0.2628	0.05246	5,755
Fe2599_R		12,560	ug/L	94.55	0.7529	17,480
K_7664_R		12,420	ug/L	48.01	0.3864	5,132
Li6707_R		497.8	ug/L	2.377	0.4775	5,087
Mg2025_A		11,930	ug/L	67.79	0.5681	3,265
Mn2576_R		491.6	ug/L	8.002	1.628	3,608
Mo2020_A		492.6	ug/L	0.9681	0.1965	1,277
Na5895_R		12,290	ug/L	53.70	0.4368	21,930
Ni2316_A		504.0	ug/L	1.689	0.3351	758.7
Pb2203_A		494.8	ug/L	4.287	0.8663	425.1
Sb2068_A		486.9	ug/L	0.4465	0.09169	227.9
Se1960_A		478.7	ug/L	2.420	0.5055	105.8
Si2516_R		12,610	ug/L	143.8	1.140	5,132
Sn1899_A		488.0	ug/L	1.141	0.2337	241.0
Sr4215_R		508.6	ug/L	1.835	0.3607	31,900
Ti3349_A		487.9	ug/L	2.156	0.4419	9,724
Ti1908_A		476.3	ug/L	0.7689	0.1614	228.8
V_2924_A		501.8	ug/L	3.073	0.6125	5,555
Zn2062_A		489.3	ug/L	1.982	0.4050	1,433
Y_3600_R		13,923	Cts/S	138.75	0.99654	13,923
Y_2243_A		7,067.2	Cts/S	19.916	0.28180	7,067.2
Y_3600_A		128,840	Cts/S	562.26	0.43640	128,840

CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 8:21:23PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
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CCB

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 8:21:23PM

Method Revision: 1,232

Sample Type: QC

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		0.6356	ug/L	0.02095	3.295	-17.45
Al3961_R		1.138	ug/L	4.028	354.0	-1.979
As1891_A		0.6213	ug/L	0.04550	7.323	-2.262
B_2089_A		0.2109	ug/L	0.2449	116.1	3.311
Ba4554_R		0.1467	ug/L	0.03722	25.38	72.31
Be3130_R		0.03879	ug/L	0.02681	69.11	-13.58
Ca3158_R		-0.7404	ug/L	2.312	312.3	-33.52
Cd2265_A		0.01742	ug/L	0.008940	51.32	-2.306
Co2286_A		-0.1545	ug/L	0.2421	156.7	3.027
Cr2677_A		0.3149	ug/L	0.2930	93.07	5.032
Cu3273_A		0.4904	ug/L	0.3767	76.82	1.063
Fe2599_R		2.650	ug/L	0.4041	15.25	6.687
K_7664_R		63.32	ug/L	25.60	40.44	-66.59
Li6707_R		-0.5051	ug/L	0.005101	1.010	-26.88
Mg2025_A		1.108	ug/L	0.8669	78.23	-4.580
Mn2576_R		-0.2147	ug/L	0.1119	52.11	4.307
Mo2020_A		1.111	ug/L	0.3950	35.56	3.351
Na5895_R		4.924	ug/L	1.250	25.39	32.13
Ni2316_A		0.1894	ug/L	0.4075	215.1	-0.9032
Pb2203_A		0.6648	ug/L	0.5803	87.29	-1.251
Sb2068_A		1.212	ug/L	0.1047	8.632	0.5162
Se1960_A		-0.5138	ug/L	1.367	266.1	2.222
Si2516_R		1.731	ug/L	11.80	681.7	32.71
Sn1899_A		0.4105	ug/L	0.07134	17.38	1.862
Sr4215_R		0.08732	ug/L	0.09960	114.1	-23.92
Ti3349_A		0.3567	ug/L	0.2054	57.57	-24.11
Tl1908_A		0.4177	ug/L	0.4161	99.62	-2.517
V_2924_A		0.2219	ug/L	0.03987	17.97	-4.586
Zn2062_A		-0.1257	ug/L	0.04700	37.38	0.6355
Y_3600_R		13,763	Cts/S	43.477	0.31590	13,763
Y_2243_A		7,090.9	Cts/S	54.911	0.77439	7,090.9
Y_3600_A		128,990	Cts/S	896.35	0.69492	128,990

TM3279-004R

Method Name: FAST-2016_NO_AU
Analyst Name: RS
Acquire Date: 1/3/2020 8:25:48PM

Method Revision: 1,232

Sample Type: Unknown

Elem	Flags	Avg	Units	Stddev	%RSD	Intensity Ratio
Ag3280_A		1.474	ug/L	0.2643	17.92	-6.571
Al3961_R		35.94	ug/L	7.595	21.13	34.91
As1891_A		2.032	ug/L	0.7555	37.17	-1.855
B_2089_A		17.58	ug/L	0.01066	0.06062	25.75
Ba4554_R		14.31	ug/L	0.2302	1.608	719.8
Be3130_R		-0.004277	ug/L	0.01794	419.5	-16.95
Ca3158_R		22,020	ug/L	56.88	0.2583	16,800
Cd2265_A		0.1176	ug/L	0.04781	40.66	-1.061
Co2286_A		0.3700	ug/L	0.09208	24.89	4.597
Cr2677_A		0.5999	ug/L	0.09368	15.62	8.254
Cu3273_A		58.34	ug/L	0.09278	0.1590	687.8
Fe2599_R		60.20	ug/L	0.7224	1.200	87.61
K_7664_R		3,289	ug/L	29.69	0.9025	1,300
Li6707_R		1.804	ug/L	0.7880	43.67	-3.560
Mg2025_A		5,076	ug/L	5.216	0.1028	1,397
Mn2576_R		10.62	ug/L	0.2267	2.134	85.65
Mo2020_A		0.4789	ug/L	0.05806	12.13	1.731
Na5895_R	W	57,060	ug/L	26.10	0.04574	102,600
Ni2316_A		3.368	ug/L	0.2785	8.270	3.909

Logbooks and Supporting Documents

Reagents and Consumables Information:

Method: 7470

HNO3: MSR 160

H2SO4: MSR 125

Digestion Vessels: 191919

KMNO4: MR 2543

K2S2O8: MR 2518

NH2OH-HCl: MR 2552

Standards/Spiking Information:

1ppm A: Mw 19008

Heat Source ID: 3

Pipet

1ppm B: Mw 18931

Start Time: 1:49 /Temp. 91.5 °C

M¹⁰⁰

LCSW = 125uL of 1ppm A to 25mL

End Time: 13:44 /Temp. 92.5 °C

↓

Spike(S/P) = 25uL of 1ppm A to 25mL

Thermometer ID/Pos: D: 276 / 4:5

M²¹

ICV = 600uL of 1ppm B to 100 mL

↓

S10.0 = 1000uL of 1ppm A to 100 mL

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle	pH <2
LCSWML19HW1	ML19HW1	<u>0.025</u>	L	<u>0.025</u>	L	AQ	HG	JK	12/19/2019	<u>NA</u>	<u>NA</u>
PBWML19HW1	ML19HW1		L		L	AQ	HG	JK	12/19/2019	<u>↓</u>	<u>↓</u>
TM2209-00+2	^{SK} ML19HW1		L		L	AQ	HG	JK	12/19/2019	<u>D</u>	<u>✓</u>
TM2675-001	ML19HW1		L		L	AQ	HG	JK	12/19/2019	<u>A</u>	
TM3232-001	ML19HW1		L		L	AQ	HG	JK	12/19/2019	<u>A</u>	
TM3232-002	ML19HW1		L		L	AQ	HG	JK	12/19/2019	<u>F</u>	
TM3232-003	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-004	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-004P	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-004S	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-005	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-006	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-007	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-008	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-009	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-010	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-011	ML19HW1		L		L	AQ	HG	JK	12/19/2019		
TM3232-012	ML19HW1		L		L	AQ	HG	JK	12/19/2019	<u>↓</u>	
TM3293-001	ML19HW1		L		L	AQ	HG	JK	12/19/2019	<u>C</u>	
TM3293-002	ML19HW1		L		L	AQ	HG	JK	12/19/2019	<u>↓</u>	<u>↓</u>

REVIEWED
JK 12/19/19
 KATAHDIN ANALYTICAL
 METALS SECTION

Katahdin Analytical Services, Inc.

Metals Preparation Benchsheet

Reagents and Consumables Information:

Method: 3010

HNO3: MSR 160

HCL: MSR 162

Digestion Vessels: 191919

1:1 HNO3: MR 2564

1:1 HCL: MR 2558

Pipet LCS/Spiking Information:

M11	CLPP-SPK-1 (ID/Vol):	<u>MS287</u>	<u>1</u>	<u>0.05</u>	mL
M21	CLPP-SPK-INT1 (ID/Vol):	<u>MW19020</u>	<u>1</u>	<u>0.5</u>	mL
↓	CLPP-SPK-INT2 (ID/Vol):	<u>MW19021</u>	<u>1</u>	<u>0.5</u>	mL
—	Spike (ID/Vol):	—	1	—	mL

Heat Source ID: D
 Start Time: 9:14 / Temp. 92 °C
 End Time: 15:39 / Temp. 95 °C
 Thermometer ID/Pos: ALC32 / 1 3.4

REVIEWED
 RS 12/24/19
 KATAHDIN ANALYTICAL
 METALS SECTION

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle	pH <2
LCSWML24ICW1	ML24ICW1	<u>0.05</u>	L	<u>0.05</u>	L	AQ	IC	JK	12/24/2019	<u>NA</u>	<u>NA</u>
PBT1602A	ML24ICW1	<u>0.01</u>	L		L	AQ	IC	JK	12/24/2019	↓	✓
PBT1603A	ML24ICW1	<u>0.01</u>	L		L	AQ	IC	JK	12/24/2019	↓	↓
PBWML24ICW1	ML24ICW1	<u>0.05</u>	L		L	AQ	IC	JK	12/24/2019	↓	<u>NA</u>
TM3232-001	ML24ICW1	<u>1</u>	L		L	AQ	IC	JK	12/24/2019	<u>A</u>	✓
TM3232-002	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-003	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-004	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-004P	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-004S	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-005	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-006	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-007	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-008	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-009	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-010	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-011	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3232-012	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3475-001	ML24ICW1	<u>0.01</u>	L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3475-002	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3475-003	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3475-004	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓
TM3475-005	ML24ICW1		L		L	AQ	IC	JK	12/24/2019	↓	↓

(Large handwritten scribble/oval)

RS 12/24/19

Katahdin Analytical Services, Inc.

Metals Preparation Benchsheet

Reagents and Consumables Information:

Method: 3010

HNO3: MSR160

HCL: MSR162

Digestion Vessels: 19115

1:1 HNO3: M122564

1:1 HCL: M122570

Pipet LCS/Spiking Information:

VM1 CLPP-SPK-1 (ID/Vol): MS2225 / .05 mL
M21 CLPP-SPK-INT1 (ID/Vol): MM19020 / .5 mL
J CLPP-SPK-INT2 (ID/Vol): NW10021 / .5 mL
- Spike (ID/Vol): - / - mL

Heat Source ID: D
 Start Time: 9:27 / Temp. 91 °C
 End Time: 7:01 / Temp. 90 °C
 Thermometer ID/Pos: AL300 / 4.2

RS
01/03/20

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle	pH <2
LCSWNA02ICW2	NA02ICW2	.05	L	.05	L	AQ	IC	MC	01/02/2020	-	-
PBWNA02ICW2	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	-	-
TM3232-0010R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↑	✓
TM3232-0011R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↑	
TM3232-0012R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↑	
TM3232-001R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↑	
TM3232-002R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↓	
TM3232-003R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↓	
TM3232-004R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	B	
TM3232-004RP	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↓	
TM3232-004RS	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↓	
TM3232-005R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	A	
TM3232-006R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↓	
TM3232-007R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↓	
TM3232-008R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↓	
TM3232-009R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↓	
TM3363-001R	NA02ICW2		L		L	AQ	IC	MC	01/02/2020	↓	↓

REVIEWED
 RS 01/03/2020
 KATAHDIN ANALYTICAL
 METALS SECTION

RS 01/03/2020

APPENDIX E

Data Validation

PROJECT NAME/NO. USACE - Seneca Army Depot SEAD-16/17 LTM Year 9
LAB: Katahdin Analytical Services
SDG: TM3232
FRACTION: Metals (SW846 6010C/7470A)
MEDIA: Groundwater
NUMBER OF SAMPLES: 12

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. pH < 2. Holding Time Hg < 28 days, all other metals < 180 days from collection.	Coolers were received at 1.4°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.	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%).	No
Blanks (prep blank, ICB, CCB)	No	Method blanks: 1 per 20 project samples.	All ICB, CCB, and laboratory preparation blanks associated with project samples did not contain contamination with the exception of the CCBs which contained sodium at concentrations of 32.68, 38.68, and 51.41 ug/L; and the preparation blank which contained aluminum, cadmium, potassium, silver, and nickel at concentrations of 15, 0.088, 46, 0.65, and 0.28 ug/L, respectively. Therefore, results less than validation action concentrations were considered not detected and qualified "U" for the affected samples.	Yes
CRDL Standard	Yes	CRDL results btw 70-130%	CRDL analyses for all remaining metals 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%.	All LCS recoveries were acceptable and within QC limits.	No
Duplicates	Yes	RPD < 20% or Absolute Diff < RL when samp/dup value < 5x RL	All laboratory duplicate results were acceptable and within QC limits.	No

PROJECT NAME/NO. USACE - Seneca Army Depot SEAD-16/17 LTM Year 9
LAB: Katahdin Analytical Services
SDG: TM3232
FRACTION: Metals (SW846 6010C/7470A)
MEDIA: Groundwater
NUMBER OF SAMPLES: 12

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%	Sample 16LM20061 was designated for MS/MSD analysis. All precision and accuracy results were acceptable.	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%	All isotopes of each analyte had a RSD < 5%.	No
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.	Serial dilution was conducted on sample 16LM20061 with all results considered compliant.	No
Total/Dissolved Comparison	N/A	%RPD less than 20%	Samples were collected for total analysis.	No
Field Duplicate Precision	Yes	%RPD less than 30%	Sample 16LM20062 was collected as the field duplicate sample of 16LM20061. Precision results were considered acceptable.	No

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;

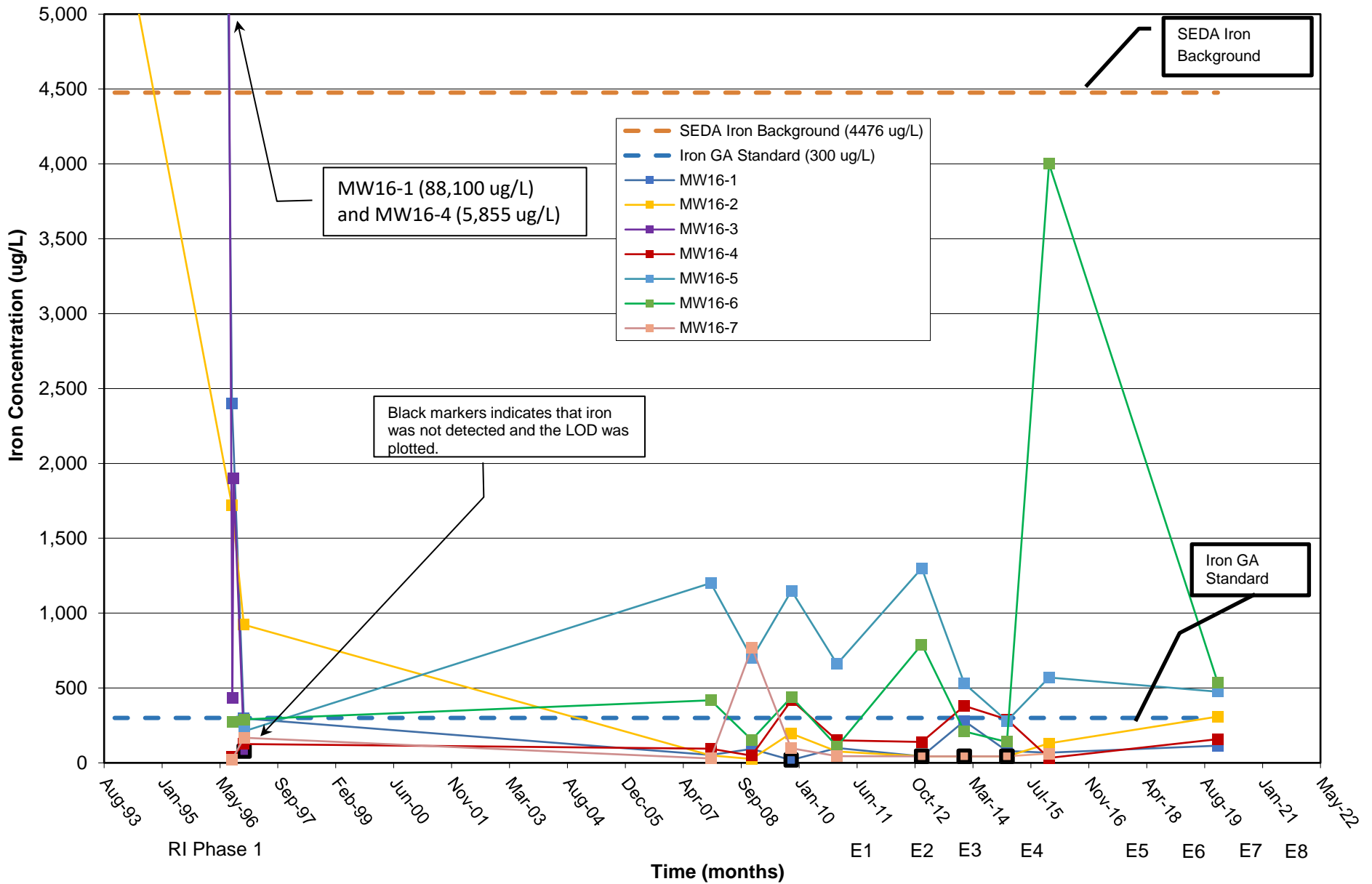
APPENDIX F

Historical Groundwater Trends

Appendix F-1 SEAD 16 Concentration of Iron Over Time

SEAD 16/17 Annual Report

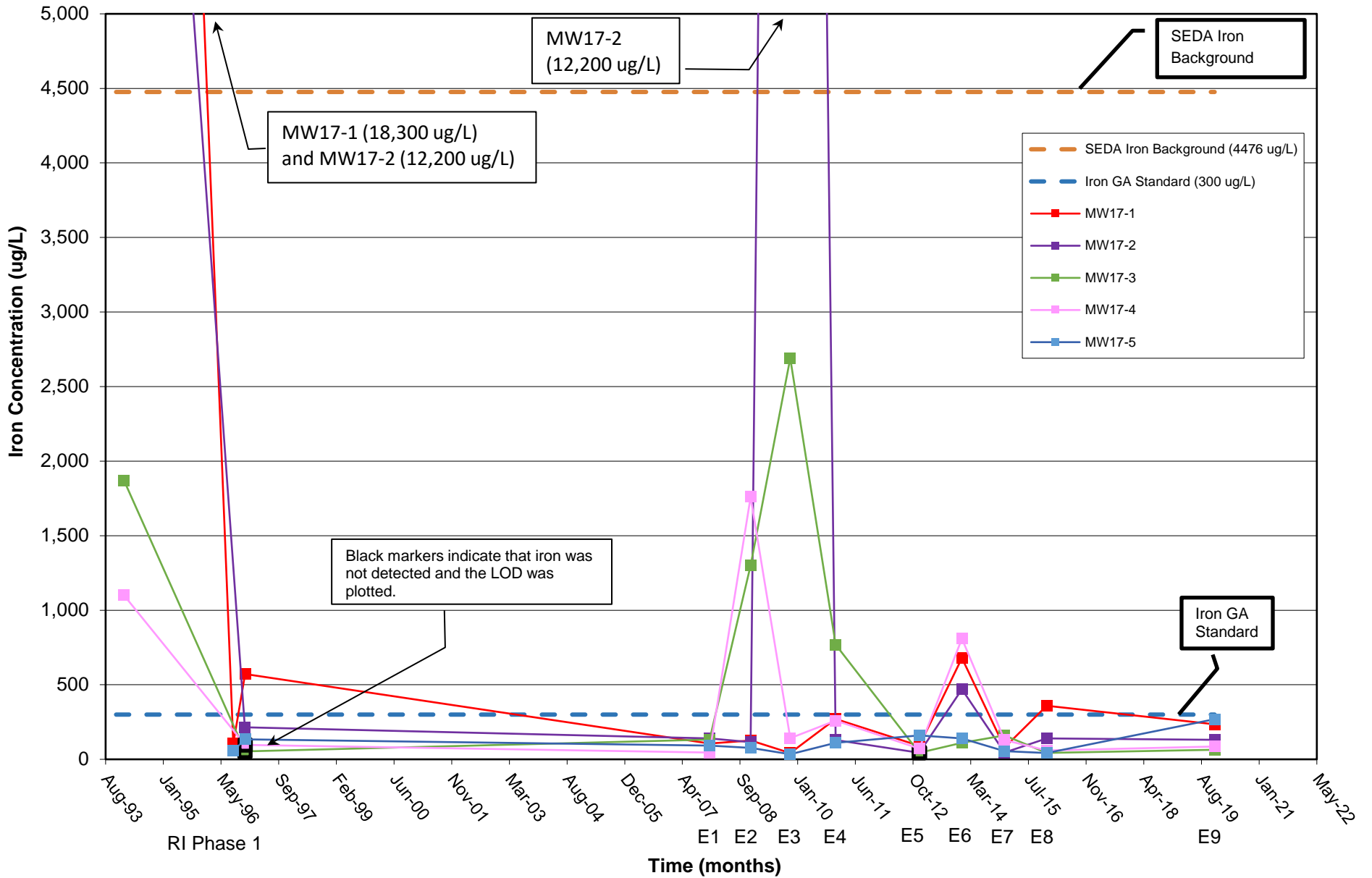
Seneca Army Depot Activity



Note:

Black markers - Iron was not detected (LOD plotted).

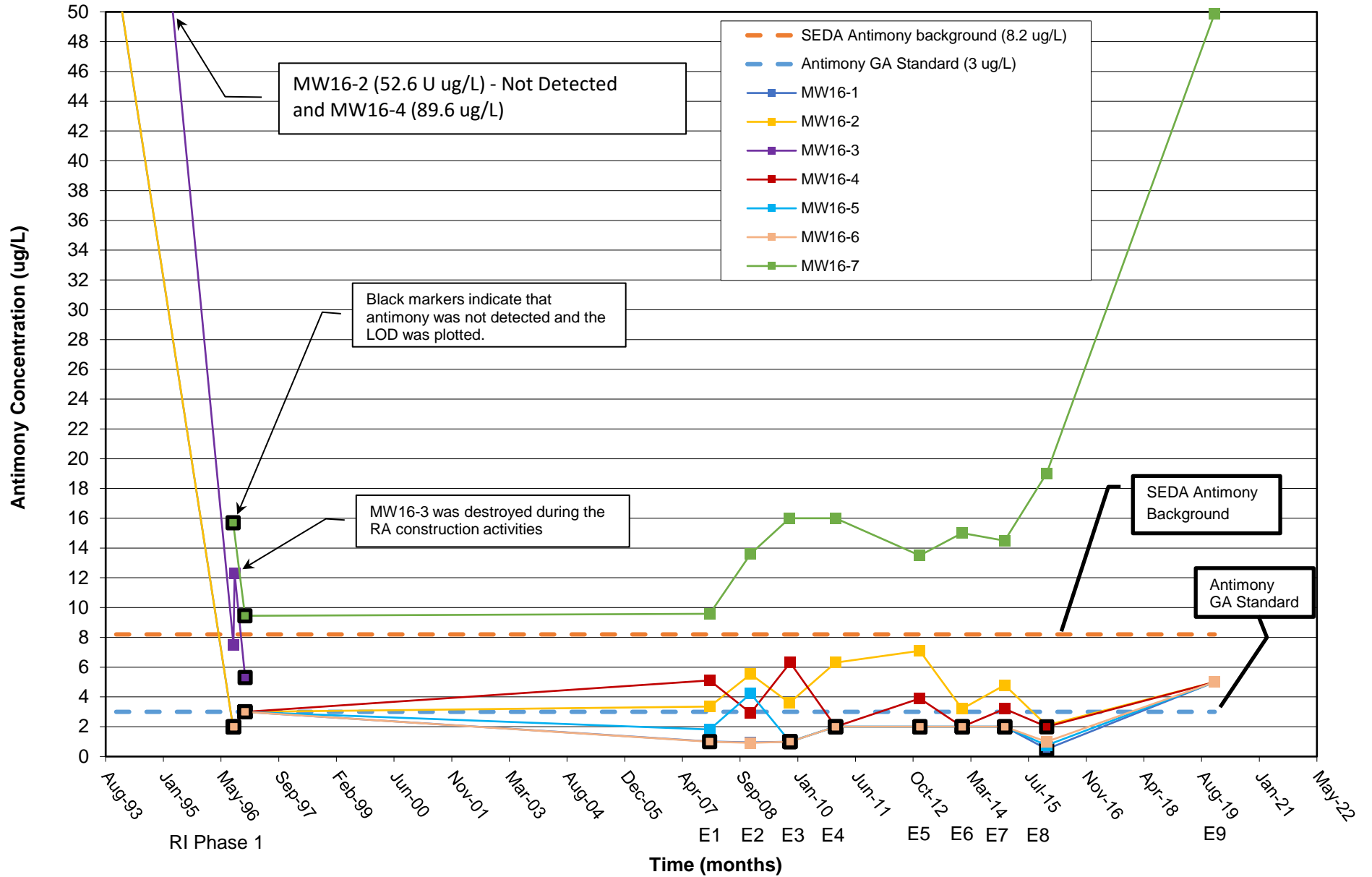
Appendix F-2 SEAD 17 Concentration of Iron Over Time
 SEAD 16/17 Annual Report
 Seneca Army Depot Activity



Note:
 Black markers - Iron was not detected (LOD plotted).

Appendix F-3 SEAD 16 Concentration of Antimony Over Time

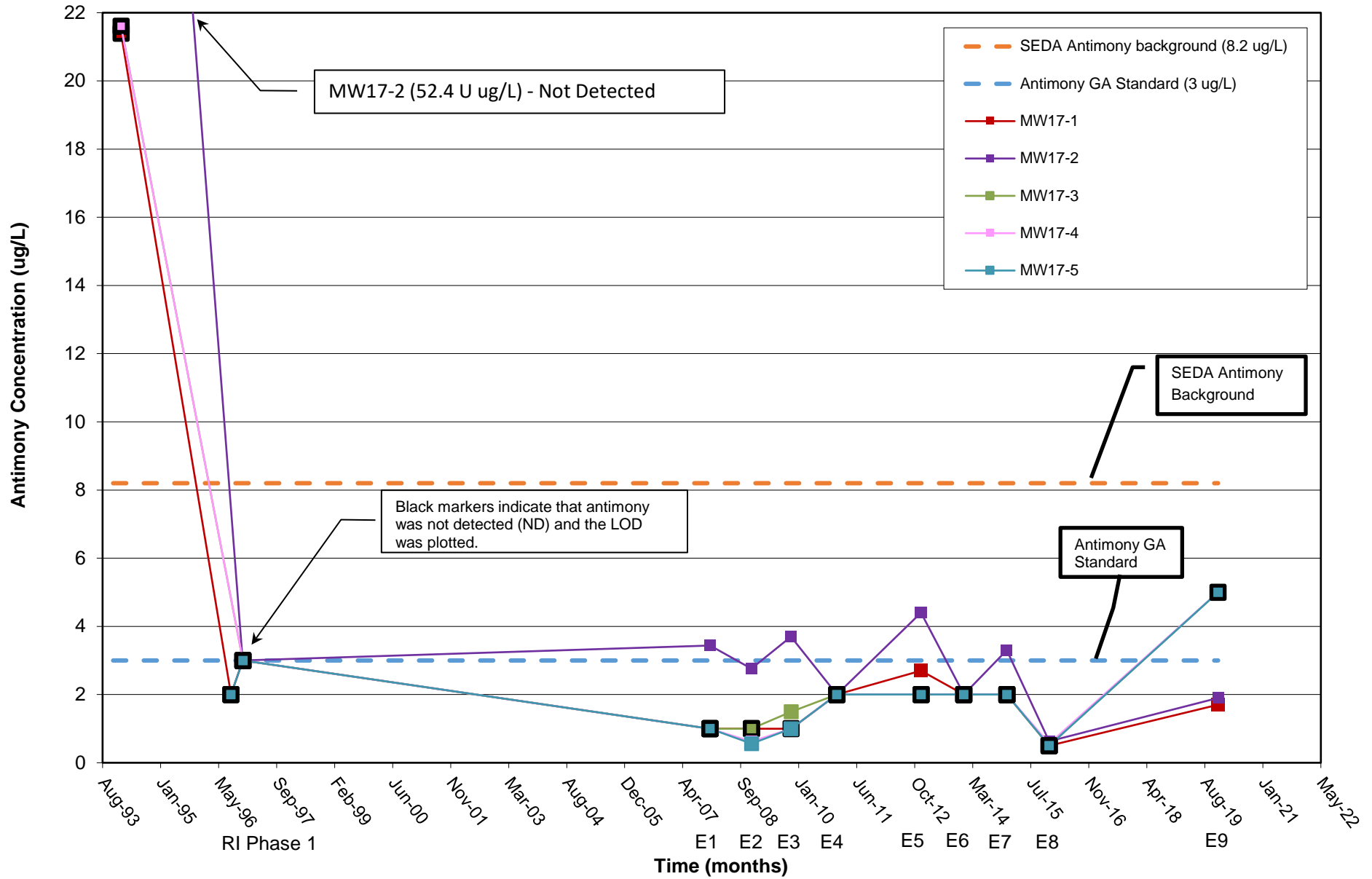
SEAD 16/17 Annual Report
Seneca Army Depot Activity



Note:
Black markers - Antimony was not detected (LOD plotted).

Appendix F-4 SEAD 17 Concentration of Antimony Over Time

SEAD 16/17 Annual Report
Seneca Army Depot Activity

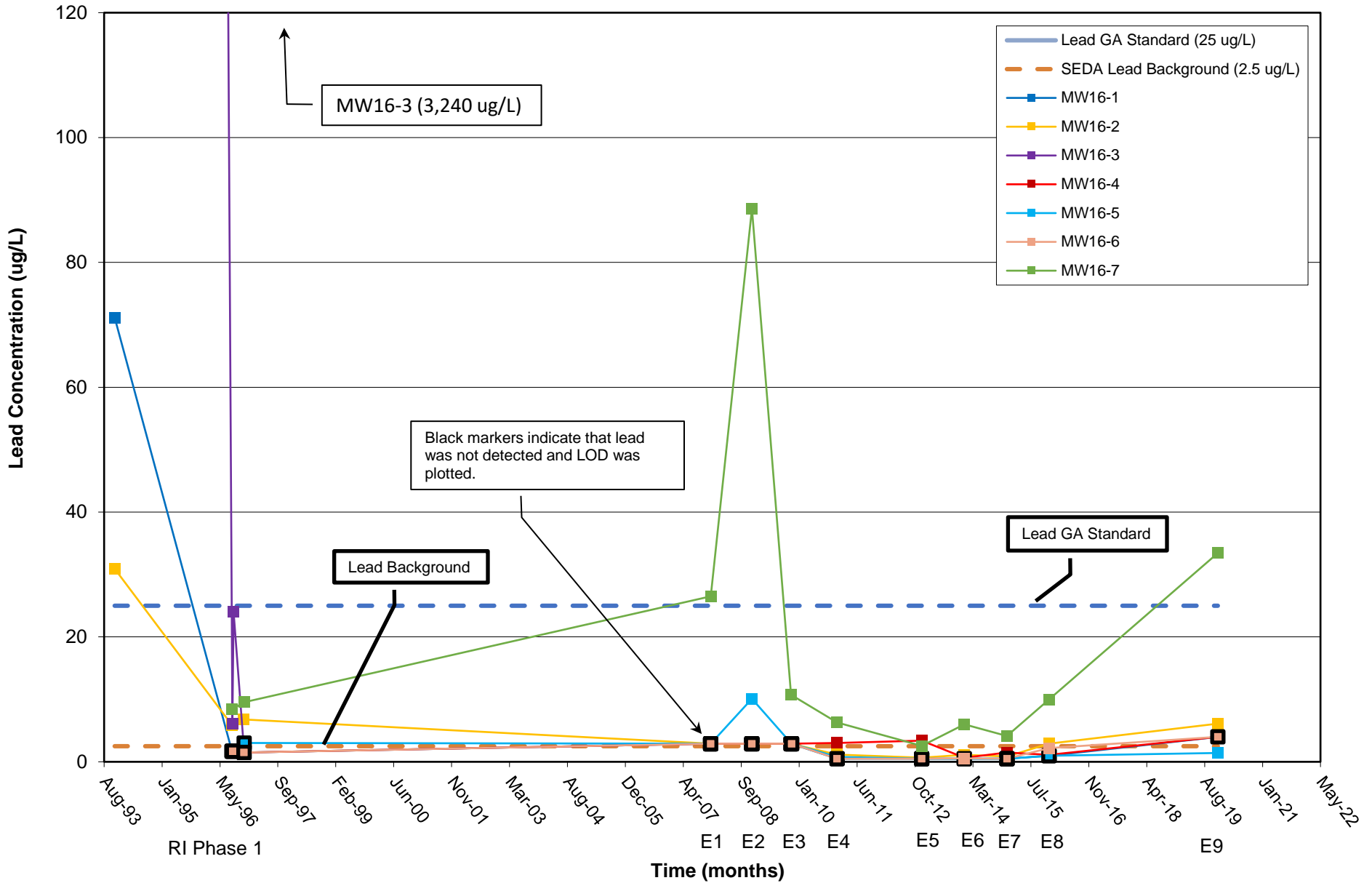


Note:

Black markers - Antimony was not detected (LOD plotted).

Appendix F-5 SEAD 16 Concentration of Lead Over Time

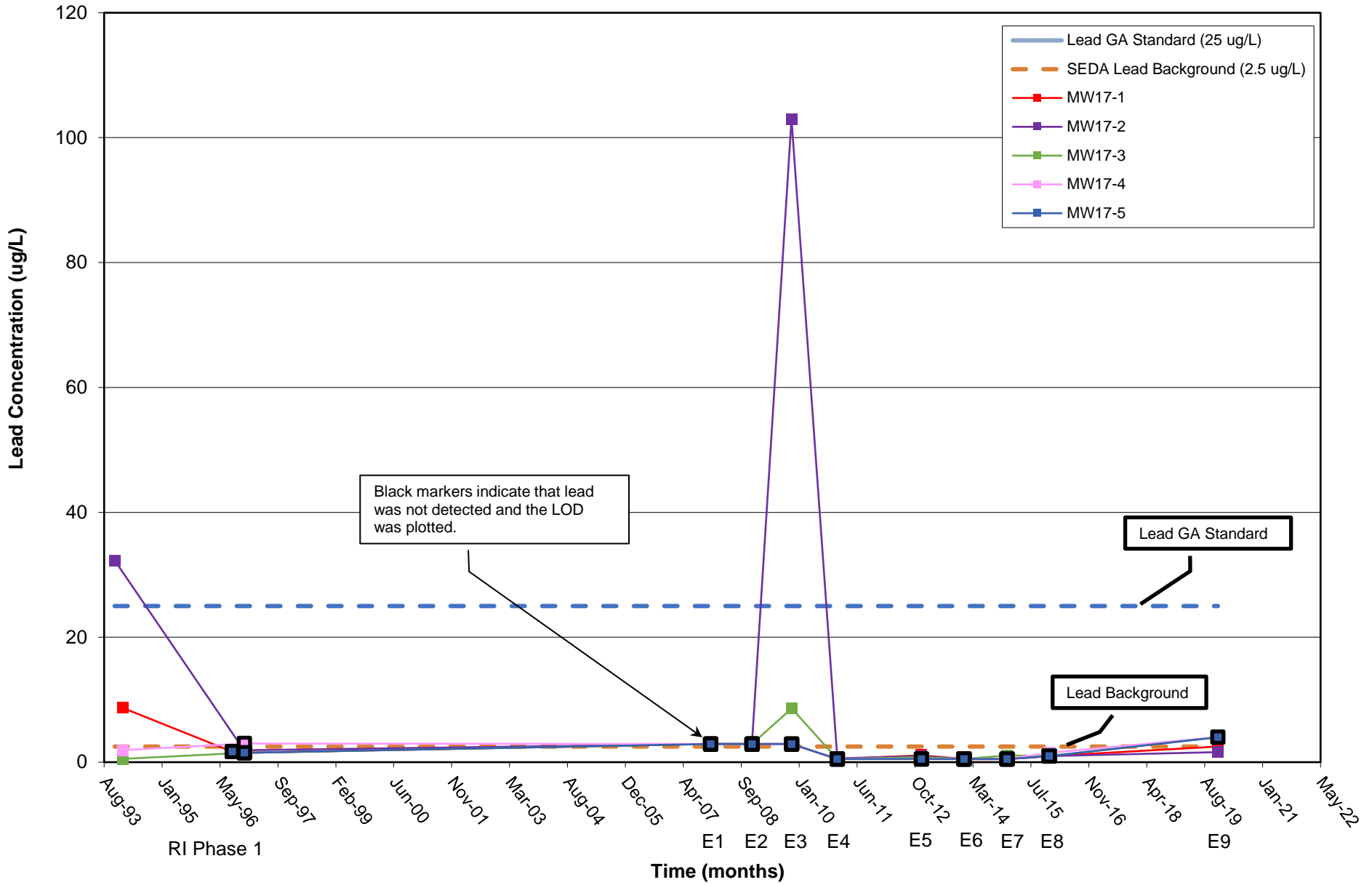
SEAD 16/17 Annual Report
Seneca Army Depot Activity



Note:
Black markers - Lead was not detected (LOD plotted).

Appendix F-6 SEAD 17 Concentration of Lead Over Time

SEAD 16/17 Annual Report
Seneca Army Depot Activity

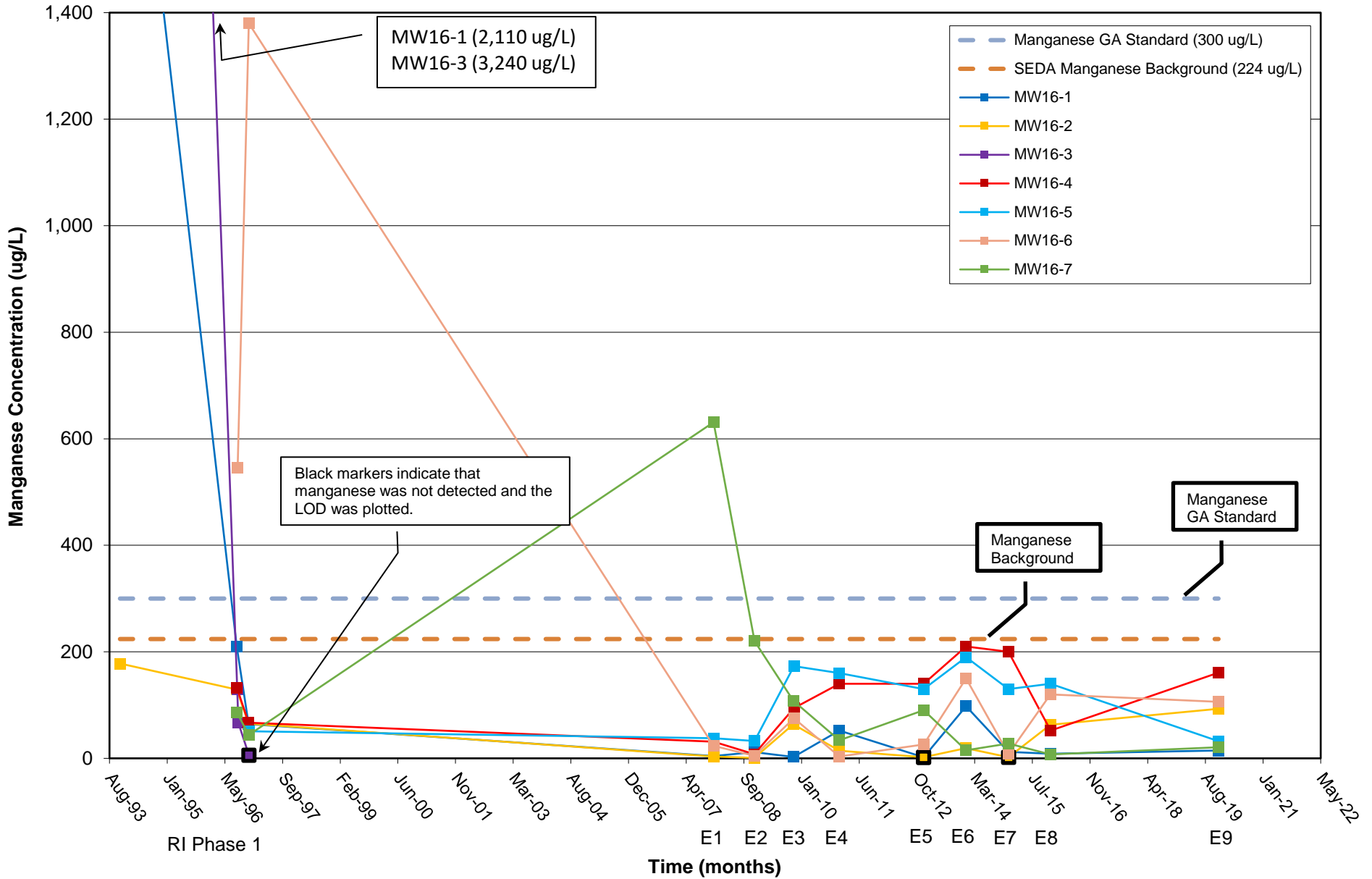


Note:

Black markers - Lead was not detected (LOD plotted).

Appendix F-7 SEAD 16 Concentration of Manganese Over Time

SEAD 16/17 Annual Report
Seneca Army Depot Activity

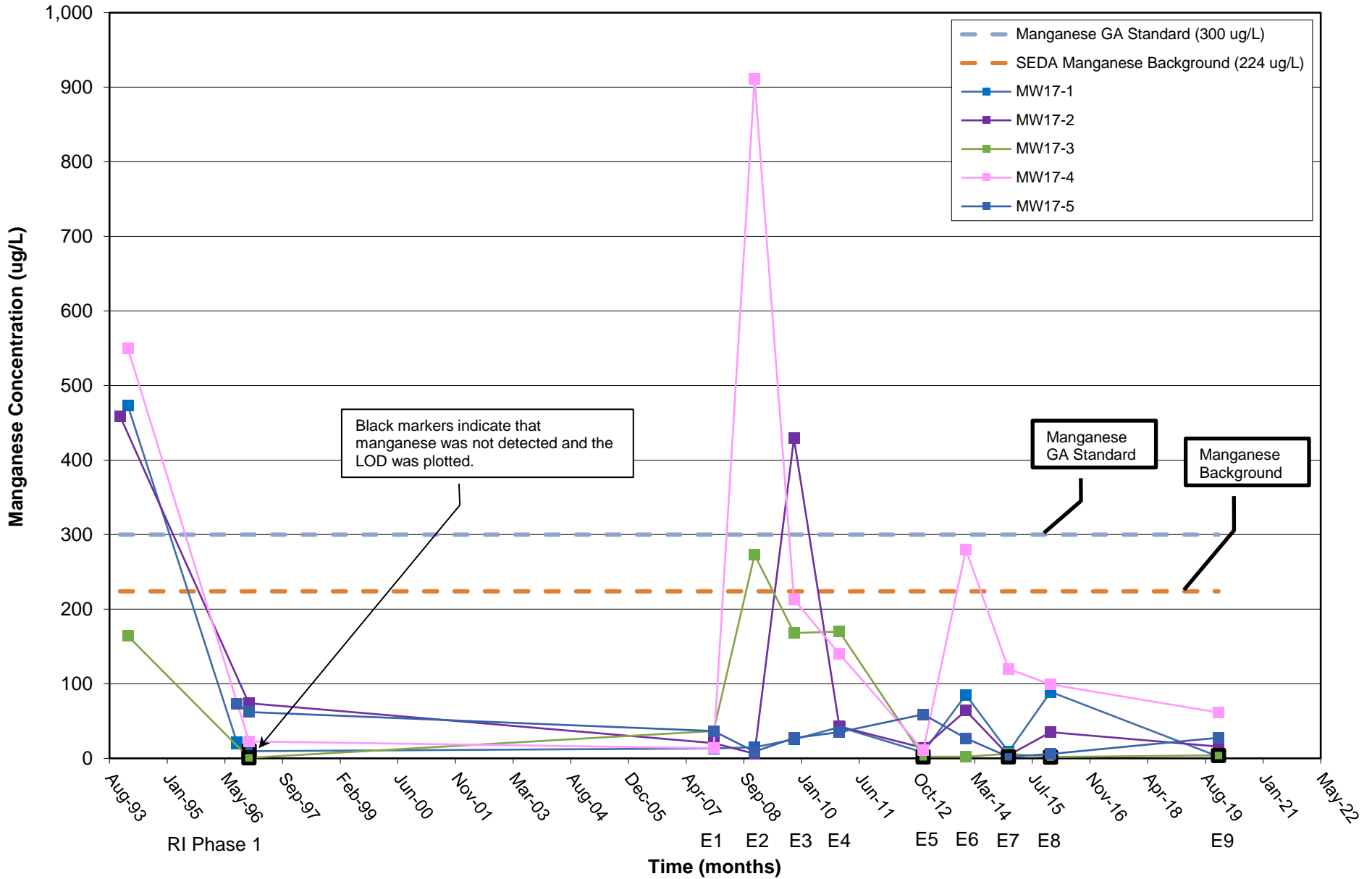


Note:
Black markers - Manganese was not detected (LOD plotted).

Appendix F-8 SEAD 17 Concentration of Manganese Over Time

SEAD 16/17 Annual Report

Seneca Army Depot Activity



Note:

Black markers - Manganese was not detected (LOD plotted).

APPENDIX G

Response to Comments



DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF, G-9
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

21 December 2020

Mr. Bob Morse
USEPA Region II
Superfund Federal Facilities Section
290 Broadway, 18th Floor
New York, NY 10007-1866

Ms. Melissa Sweet
New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7015


Mr. Mark Sergott
Bureau of Environmental Exposure Investigation
New York State Department of Health
Empire State Plaza Corning Tower, Room 1787
Albany, NY 12237

Dear Mr. Morse, Ms. Sweet, and Mr. Sergott:

The Army received the letter from USEPA dated 17 November 2020 and the NYSDEC comment letter dated 13 November 2020 with regards to the SEAD 16/17 Annual Groundwater Report. Response to both comment letters are provided in this transmittal.

If you have any questions about the attached document, please call me at 347-271-0226.

Sincerely,


Signed on behalf of
James T. Moore, PMP
Base Environmental Coordinator
Corps of Engineers, Project Manager

Cc: C. Heaton, CEHNC
B. Hodges, CEHNC
K. Cuzzolino, USACE-NY
C. Gallo, USEPA

Army's Response to Comments from the US Environmental Protection Agency

Subject: SEAD-16 and SEAD-17, the former Abandoned Deactivation Furnace and the former Active Deactivation Furnace, Draft Final 2019 Year 9 Annual Report

Seneca Army Depot

Romulus, New York

Comments Dated: 17 November 2020

Date of Comment Response: 21 December 2020

EPA COMMENTS

Comment 1 below is a condensed version of the letter sent by EPA dated 17 November 2020. The full letter is provided at the end of the comments for reference.

Comment 1: Based upon this review, SEAD 17 is close to being able to state that the GW RAO has been obtained. Given that the concentrations are below GA standards, and that there are no indications of increasing concentrations onsite, the gap that exists in the data is with respect to variability throughout the year. In order to demonstrate that site groundwater concentrations remain stable beneath the standard throughout variability which may occur due to seasonal affects, an additional year of quarterly groundwater sampling is recommended. If this is not feasible, a year of semiannual sampling events which return concentrations below groundwater standards may be sufficient to demonstrate stability at acceptable levels, which would allow for the regular every-five-years groundwater monitoring to be discontinued.

Army Response to Comment 1: The Army does not believe there are seasonal variations in the results as suggested by EPA. However, the Army agrees to two more rounds of groundwater sampling at SEAD 17. The sampling will be targeted for March and October of 2021. The sampling frequency for SEAD 16 would remain at 5 years. The next sampling event for SEAD 16 is anticipated to be in the spring of 2025.

With regards to water quality standards at both SEAD 16 and 17, the NY GA standard for iron is a secondary drinking water standard based on aesthetics and not based on health risk. The Class GA (fresh groundwaters) standard for iron (300 µg/L), as described in 6 CRR-NY 703.5, is referenced as type "Aesthetic (Water Source) [E(WS)]". The derivation of the aesthetic guidance value is described in 6 CRR-NY 702.14 as:

Protection of the best usage as a source of potable water supply shall include standards and guidance values to protect the aesthetic quality of the water, including but not limited to taste, odor, and discoloration, both as a source of potable water and for other human uses such as clothes washing and showering. Such values are referred to as Aesthetic (Water Source) values and shall be derived based on an evaluation of reported levels of the substance that affect the aesthetic quality of the water. Values derived shall not exceed the value of a Specific MCL that is based on aesthetic considerations."

Although the MCL provided by the NYS Department of Health (DOH) is equivalent to the NY GA standard (300 µg/L), the MCL is defined by DOH as “the maximum permissible level of a contaminant in water, which is delivered to any user of a *public water system*.” The shallow water bearing zone within SEDA is not expected to be a productive water supply (or potable based on insufficient well yield less than 1 gallon per minute) for drinking water. Additionally, iron is a common nutrient in groundwater and was not identified as a COC during the SEAD 16/17 risk assessment.

Similar to iron, the NYS Class GA standard (20,000 µg/L) for sodium, although listed in 6 CRR-NY 703.5 as a Health (Water Source) standard, is a secondary drinking water standard based on taste and not human health risk. The value is derived from 10 NYCRR Part 170, DOH Public Water Supplies, Water Supply Sources, which sets standards for raw water quality for water supply sources. Currently, the DOH does not have a designated MCL for sodium and cites that ‘Water containing more than 20,000 µg/L of sodium should not be used for drinking by people on severely restricted sodium diets.’ Additionally, sodium is not a COC related to former site-use and the water quality (sodium) at SEADs 16 and 17 may be negatively impacted by a state-owned DOT salt storage building located upgradient of both sites. Sodium was not identified as a COC during the SEAD 16/17 risk assessment.

There is no comparable EPA MCL for iron, and the EPA RSL for Tapwater is two orders of magnitude higher (14,000 µg/L) than the NY standard. As with iron, no EPA MCL or RSL exists for sodium. As such, based upon the current and reasonably anticipated future land use and potential beneficial groundwater use at either site, the Army does not believe that the NYS GA standards for iron or sodium are appropriate criteria to achieve the goals of the remedial action objectives outlined in the ROD.

- 1) Prevent ingestion of groundwater containing constituents in excess of federal and state drinking water standards or criteria, or which pose a threat to public health; and
- 2) Restore groundwater, soil, surface water, and sediments to levels that are protective of public health and the environment.

These RAOs, are based on ARARs and risk-based levels established in the risk assessment to protect human health and the environment. Neither iron or sodium, both essential nutrients, were identified as COCs during the risk assessment and a remedy-specific cleanup standard level was not derived for either metal. The Army's position is that action, including LTM, will be taken based on risk; and future groundwater monitoring actions will not be funded based on aesthetic standards. The Army does not have the authority to respond under CERCLA based on aesthetic standards. The Army only has the authority under CERCLA to respond to COCs that pose an unacceptable risk to human health or the environment.

Comment 2: At some point prior to the end of subsequent sampling, the inclusion of median concentration values within the SEAD background data set would be very helpful as well. There are high standard deviations indicating significant background variability across the site. Comparing median background values to the sitewide averages would allow for better interpretation of variability and potential outliers.

Army Response to Comment 2: Upon further review of the Annual Report text, the references to the background data set have been deleted. Mention of the background data were relics of older reports. The background data set is from the mid-1990s, and the quality of the data is poor. Previous discussions with EPA agreed that reliance on the older data should be limited

or removed. As such, reference to, and comparison against, the background dataset will be removed from the report (Sections 3.1.5.1, 3.1.5.2, removal of Appendix B).

END OF COMMENTS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2

290 BROADWAY

NEW YORK, NY 10007-1866

Mr. James Moore
CENAN-PP-E
Seneca Army Depot BRAC Project Manager
US Army Corps of Engineers, New York District
26 Federal Plaza
New York, NY 10278

Re: Seneca Army Depot (SEAD), Romulus, NY
Sites 16 / 17 – Annual Groundwater Report

Dear Mr. Moore,

The U.S. Environmental Protection Agency (EPA) has evaluated the Army's request to remove the groundwater use Land Use Control/Institutional Control (LUC/IC) at Seneca Army Depot SEAD 17, as found in the SEAD 16 / 17 draft final 2019 Year 9 Annual Report. Unfortunately, we cannot approve the Army's request to remove the groundwater LUC/IC at SEAD 17 at this time and groundwater monitoring at SEAD 17 will need to be continued as discussed below.

In order to discontinue monitoring at the site, it must be demonstrated that the remedial action objective to "Restore groundwater... to levels that are protective of public health and the environment" has been attained. In accordance with the 2014 Groundwater Remedy Completion Strategy, this can be done at SEAD 17 by confirming that all monitoring wells contain COCs at levels below NYS Class GA standards at present, and that these wells will remain below these standards for all COCs in the future.

Data Analysis

The most recent data indicate that there are no exceedances of groundwater standards at SEAD-17, and with the exception of an elevated level of iron in MW17-1 (360 µg/L, NYS GA standard: 300 µg/L), the same was true in the 2015 sampling round. Additionally, the 2014 sampling event recorded no exceedances at wells MW17-3, MW17-4, and MW17-5.

Since the RI, antimony has exceeded the NYS GA standard of 3 µg/L several times in well MW17-2, with the most recent exceedance occurring in 2014 (3.2 µg/L). Concentrations are stable since the beginning of post-remedial groundwater monitoring, and the maximum observed concentration of 4.4 µg/L (2012) is less than the sitewide background value of 8.2 µg/L.

Lead, which was not found above regulatory standards during pre-remedial sampling in 1996, has exceeded the NYS GA standard of 25 µg/L one time: in 2009, the sample from MW17-2 contained 102 µg/L lead. This detection is more than an order of magnitude above any other lead concentration detected in SEAD 17, including pre-remediation sampling, and filtered results from this year showed significant decreases in all metals concentrations. It is likely that suspended solids contributed to this one elevated lead detection. Since this time, there have been no lead exceedances.

During the RI, iron was found to be in exceedance of the NYS GA standard (300 µg/L) in well MW17-1. There have been two subsequent exceedances in this well, most recently in 2015 (360 µg/L). The maximum observed value of iron in this well was 860 µg/L in 2012. Elsewhere at SEAD-17, iron concentrations have been found above the NYS GA standard sporadically, but with the exception of the 2009 sample at MW17-2 mentioned above, no samples have exceeded the site background value (4476 µg/L).

Sodium was found above the NYS GA standard (20000 µg/L) in wells MW17-3 and MW17-4 during the RI. Since this time, these wells have not exceeded the standard. Isolated exceedances have occurred at other wells, most recently during the 2009 sampling event.

Thallium has not been detected since the initial groundwater sampling events in the 1996 RI.

Recommendation

Based upon this review, SEAD 17 is close to being able to state that the GW RAO has been obtained. Given that the concentrations are below GA standards, and that there are no indications of increasing concentrations onsite, the gap that exists in the data is with respect to variability throughout the year. In order to demonstrate that site groundwater concentrations remain stable beneath the standard throughout variability which may occur due to seasonal affects, an additional year of quarterly groundwater sampling is recommended. If this is not feasible, a year of semiannual sampling events which return concentrations below groundwater standards may be sufficient to demonstrate stability at acceptable levels, which would allow for the regular every-five-years groundwater monitoring to be discontinued.

At some point prior to the end of subsequent sampling, the inclusion of median concentration values within the SEAD background data set would be very helpful as well. There are high standard deviations indicating significant background variability across the site. Comparing median background values to the sitewide averages would allow for better interpretation of variability and potential outliers.

If you have any further questions about this decision, please do not hesitate to contact me at (212) 637-4278 or gallo.christopher@epa.gov

Sincerely,

Christopher T. Gallo

CC:
SEMD
SEMD-SPB
NYS DEC

Army's Response to Comments from the New York State Department of Environmental Conservation

Subject: SEAD-16 and SEAD-17, the former Abandoned Deactivation Furnace and the former Active Deactivation Furnace, Draft Final 2019 Year 9 Annual Report
Seneca Army Depot
Romulus, New York

Comments Dated: 13 November 2020

Date of Comment Response: 21 December 2020

NYSDEC COMMENTS

Comment 1: Regarding the report's recommendation of continued groundwater sampling at SEAD-16, the State agrees with this recommendation.

Army Response to Comment 1: Comment noted. The sampling schedule for SEAD-16 will remain at a 5-year interval. The next sampling event is anticipated to be in the spring of 2025.

Comment 2: Regarding the report's recommendations for SEAD-17, the State disagrees. The State recommends that at least one sampling event occur outside the season that has been historically been the time of sampling (Winter). This will provide valuable data on the impacts to contaminant concentrations based on seasonal groundwater flow. Additionally, the remedy for the site per the Record of Decision requires meeting GA requirements in groundwater. This is best demonstrated over three rounds of consecutive data. The data from December 2014 exhibited exceedances for Iron and Antimony, thus it did not meet the State criteria. The State agrees with the USEPA and recommends either a year of quarterly or semi-annual groundwater sampling to fulfill these recommendations.

Army Response to Comment 2: The Army agrees to conduct two more rounds of groundwater sampling at SEAD 17. The sampling will be targeted for April and October of 2021.

With regards to water quality standards at both SEAD 16 and 17, the NY GA standard for iron is a secondary drinking water standard based on aesthetics and not health risk. The Class GA (fresh groundwaters) standard for iron (300 µg/L), as described in 6 CRR-NY 703.5, is referenced as type "Aesthetic (Water Source) [E(W)]". The derivation of the aesthetic guidance value is described in 6 CRR-NY 702.14 as:

Protection of the best usage as a source of potable water supply shall include standards and guidance values to protect the aesthetic quality of the water, including but not limited to taste, odor, and discoloration, both as a source of potable water and for other human uses such as clothes washing and showering. Such values are referred to as Aesthetic (Water Source) values and shall be derived based on an evaluation of reported levels of the substance that affect the aesthetic quality of the water. Values derived shall not exceed the value of a Specific MCL that is based on aesthetic considerations."

Although the MCL provided by the NYS Department of Health (DOH) is equivalent to the NY GA standard (300 µg/L), the MCL is defined by DOH as "the maximum permissible level of a contaminant in water, which is delivered to any user of a public water system." The shallow

water bearing zone within SEDA is not expected to be a productive water supply (or potable) for drinking water. Additionally, iron is a common nutrient in groundwater and was not identified as a COC during the SEAD 16/17 risk assessment.

Similar to iron, the NYS Class GA standard (20,000 ug/L) for sodium, although listed in 6 CRR-NY 703.5 as a Health (Water Source) standard, is a secondary drinking water standard based on taste and not human health risk. The value is derived from 10 NYCRR Part 170, DOH Public Water Supplies, Water Supply Sources, which sets standards for raw water quality for water supply sources. Currently, the DOH does not have a designated MCL for sodium and cites that 'Water containing more that 20,000 ug/L of sodium should not be used for drinking by people on severely restricted sodium diets.' Additionally, sodium is not a COC related to former site-use and the water quality (sodium) at SEADs 16 and 17 may be negatively impacted by a state-owned DOT salt storage building located upgradient of both sites.

There is no comparable EPA MCL for iron and the EPA RSL for Tapwater is two orders of magnitude higher (14,000 ug/L) than the NY standard. As with iron, no EPA MCL or RSL exists for sodium. As such, based upon the current and reasonably anticipated future land use and potential beneficial groundwater use at either site, the Army does not believe that the NYS GA standards for iron or sodium are appropriate criteria to achieve the goals of the remedial action objectives outlined in the ROD.

- 1) Prevent ingestion of groundwater containing constituents in excess of federal and state drinking water standards or criteria, or which pose a threat to public health; and
- 2) Restore groundwater, soil, surface water, and sediments to levels that are protective of public health and the environment.

These RAOs, are based on ARARs and risk-based levels established in the risk assessment to protect human health and the environment. Neither iron or sodium, both essential nutrients, were identified as COCs during the risk assessment and a remedy-specific cleanup standard level was not derived for either metal.

Comment 3: In addition, the State holds an Environmental Easement on the PID area of which SEAD-16 and 17 are part of. What are the Army's intentions regarding the Environmental Easement?

Army Response to Comment 3: The Environmental Easement will remain the same until both properties are closed at which time the State, EPA and the Army may decide whether the Easement needs to be revised.

Comment 4: Based on local climate and hydrologic data, EPA requests that the next 2 rounds of groundwater sampling at SEAD 17 be conducted in the Spring (April if possible) and the Fall (October if possible)."

Army Response to Comment 4: The Army agrees to two more rounds of groundwater sampling at SEAD 17. The sampling will be targeted for April and October of 2021. The sampling frequency for SEAD 16 would remain at 5 years (2025).

END OF COMMENTS