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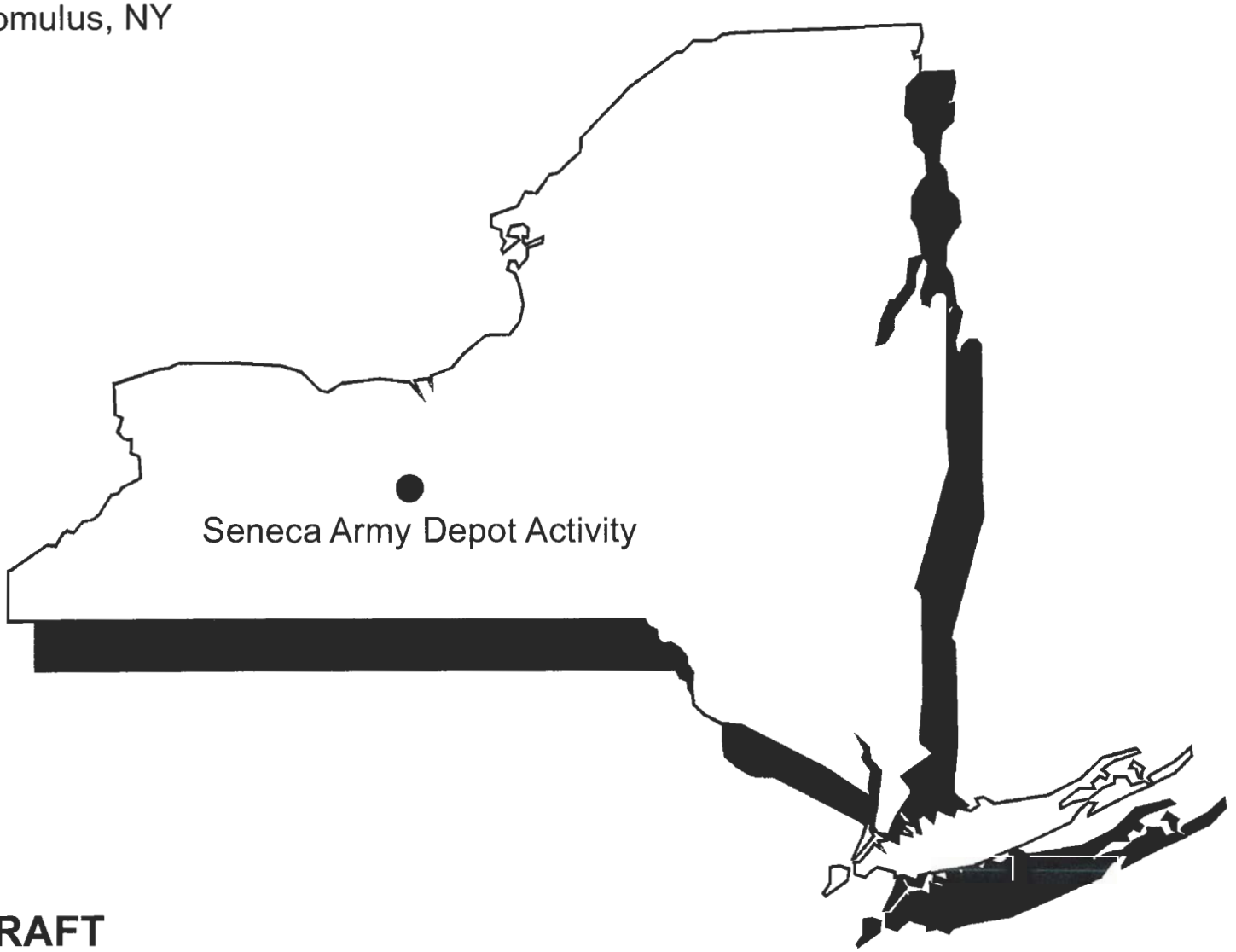
Seneca Army Depot Activity
Romulus, NY



DRAFT
ANNUAL REPORT AND YEAR 8 REVIEW
ASH LANDFILL OPERABLE UNIT
SENECA ARMY DEPOT ACTIVITY

Contract No. W912DY-08-D-0003
Task Order No. 0015
EPA Site ID# NY0213820830
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PARSONS
AUGUST 2015

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ANNUAL REPORT AND YEAR 8 REVIEW

FOR THE

ASH LANDFILL OPERABLE UNIT
SENECA ARMY DEPOT ACTIVITY, ROMULUS, NEW YORK

Prepared for:

U.S. ARMY CORPS OF ENGINEERS, ENGINEERING AND SUPPORT CENTER
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Contract Number W912DY-08-D-0003
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August 2015

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1.0 INTRODUCTION

This Annual Report is for the Ash Landfill Operable Unit (OU), located at the Seneca Army Depot Activity (SEDA or the Depot) in Romulus, New York (**Figure 1**). This report provides a review of the eighth year of long-term groundwater monitoring (LTM) of the full-scale biowall system installed in 2006 and provides recommendations for future long-term monitoring at the site. This report is based on an annual review of the effectiveness of the remedy implemented in 2006 and includes the following:

- A comparison of the groundwater data to the LTM objectives (**Section 1.1**);
- An evaluation of the need to recharge (i.e., add substrate) the biowalls as outlined in the Remedial Design Report (RDR) (Parsons, 2006c) (**Section 3.5**); and
- An assessment of the remedy's compliance with the United States Environmental Protection Agency's (USEPA) "Guidance for Evaluation of Federal Agency Demonstrations (Section 12(h)(s))."

A remedial action (RA) was completed in October and November 2006 in accordance with the Record of Decision (ROD) for the Ash Landfill OU (Parsons, 2004), the Remedial Design Work Plan (Parsons, 2006b), and the RDR (Parsons, 2006c). The RA involved the following:

- Installation of three dual biowall systems, A1/A2, B1/B2, and C1/C2, to address volatile organic compounds (VOCs) in groundwater that exceed New York State Department of Environmental Conservation's (NYSDEC) Class GA groundwater standards;
- Construction and establishment of a 12-inch vegetative cover over the Ash Landfill and the Non-Combustible Fill Landfill (NCFL) to prevent ecological receptors from coming into direct contact with the underlying soils that are contaminated with metals and polycyclic aromatic hydrocarbons (PAHs);
- Excavation and disposal of Debris Piles A, B, and C; and
- Re-grading of the Incinerator Cooling Water Pond to promote positive drainage.

As part of the RA at the Ash Landfill OU, post-closure operations include LTM. Groundwater monitoring is required as part of the remedial design, which was formulated to comply with the ROD. The first four rounds of groundwater sampling were performed in the first year of LTM and were completed in January 2007, March 2007, June 2007, and November 2007.

The analytical and geochemical results were presented in four letter reports. The results of the Year 1 LTM were reported and evaluated in the "Annual Report and One-Year Review for the Ash Landfill Operable Unit, Seneca Army Depot Activity" (Parsons, 2008a). As part of the Year 1 report, the Army recommended that the frequency of LTM events at the Ash Landfill OU be reduced from quarterly to semi-annually; this recommendation was approved by the USEPA and NYSDEC.

Exhibit 1.1 presents the sampling dates and annual report titles since the initiation of LTM at the Ash Landfill OU. A separate semiannual letter report was generated for each sampling round except for Round 16. The results of Round 18 are provided within this Annual Report.

Exhibit 1.1 – Annual Report List

Round Number	Sample Date	Report Title
Quarter 1	January 2007	**FINAL Annual Report and One-Year Review** For The Ash Landfill Operable Unit Seneca Army Depot Activity – (Parsons, 2008a)
Quarter 2	March 2007	
Quarter 3	June 2007	
Quarter 4	November 2007	
Round 5	June 2008	**FINAL Annual Report and Year Two Review** For The Ash Landfill Operable Unit Seneca Army Depot Activity – (Parsons, 2009)
Round 6	December 2008	
Round 7	June 2009	**FINAL Annual Report and Year Three Review** For The Ash Landfill Operable Unit Seneca Army Depot Activity – (Parsons, 2010)
Round 8	December 2009	
Round 9	June 2010	**FINAL Annual Report and Year 4 Review** Ash Landfill Operable Unit Seneca Army Depot Activity – (Parsons, 2011)
Round 10	December 2010	
Round 11	July 2011	**DRAFT Annual Report and Year 5 Review** Ash Landfill Operable Unit Seneca Army Depot Activity – (Parsons, 2012)
Round 12	December 2011	
Round 13	June 2012	**FINAL Annual Report and Year 6 Review** Ash Landfill Operable Unit Seneca Army Depot Activity – (Parsons, 2014a)
Round 14	December 2012	
Round 15	July 2013	**DRAFT Annual Report and Year 7 Review** Ash Landfill Operable Unit Seneca Army Depot Activity – (Parsons, 2014b)
Round 16	December 2013	
Round 17	June 2014	**DRAFT Annual Report and Year 8 Review** Ash Landfill Operable Unit Seneca Army Depot Activity
Round 18	December 2014	

This Annual Report reviews the results of the eighth year of the LTM program as part of the ongoing evaluation of the remedy and provides conclusions and recommendations about the effectiveness of the remedial action, including the groundwater remedy and the vegetative landfill covers.

1.1 Long-Term Groundwater Monitoring Objectives

Three types of long-term groundwater monitoring are being performed: 1) plume performance monitoring, 2) biowall process monitoring, and 3) off-site compliance monitoring. On-site performance monitoring is being conducted to measure groundwater contaminant concentrations and to evaluate the effectiveness of the biowall remedy for the Ash Landfill OU. The objectives of performance and compliance monitoring are as follows:

- Confirm that there are no exceedances of groundwater standards for contaminants of concern (COCs) at the off-site compliance monitoring well MW-56;
- Document the effectiveness of the biowalls to remediate and attenuate the chlorinated ethene plume; and
- Confirm that groundwater concentrations throughout the plume are decreasing to eventually meet NYSDEC Class GA groundwater standards.

Biowall process monitoring is being conducted at two locations to determine if, and when, any biowall maintenance activities should be performed. The first location is within Biowalls B1/B2 (MWT-27 and MWT-28) in the segment that runs along the pilot-scale biowalls that were installed in July 2005 (**Figure 2**). The second location is within Biowall C2 (MWT-23), the furthest downgradient biowall. The objectives of biowall process monitoring for operations and maintenance (O&M) activities are as follows:

- Monitor the long-term performance and sustainability of the biowalls;
- Monitor substrate depletion and geochemical conditions under which the effectiveness of the biowalls may decline; and
- Determine if, and when, the biowalls need maintenance (i.e., need to be recharge with additional organic substrate).

2.0 SITE BACKGROUND

2.1 Site Description

SEDA is a 10,587-acre former military facility located in Seneca County near Romulus, New York, that was owned by the United States Government and operated by the Department of the Army from 1941 until 2000. In 2000, the Army assumed a caretaker role at the SEDA, and since this time more than 8,500 acres of the property were transferred to other parties. SEDA is located between Seneca Lake and Cayuga Lake 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 location of the Ash Landfill OU, also referred to as the Ash Landfill, is composed of five historic solid waste management units (SWMUs). The five SWMUs that comprise the Ash Landfill OU are the Incinerator Cooling Water Pond (SEAD-3), the Ash Landfill (SEAD-6), the NCFL (SEAD-8), the former Debris Piles (SEAD-14), and the former Abandoned Solid Waste Incinerator Building (SEAD-15) (**Figure 3**).

Prior to the Army's purchase of land for construction of the SEDA, the area of the Ash Landfill OU was used for farming. From 1941 (the date SEDA was constructed) to 1974, uncontaminated trash was burned in a series of burn pits located near the former abandoned incinerator building (Building 2207). According to the U.S. Army Environmental Hygiene Agency (USAEHA) Interim Final Report, Groundwater Contamination Survey No. 38-26-0868-88 (July 1987), the ash from the refuse burning pits was buried in the Ash Landfill (SEAD-6) from date of inception until the late 1950s or early 1960s.

The incinerator was built in 1974. Between 1974 and 1979, materials intended for disposal were transported to the incinerator. Each week the Depot generated approximately 18 tons of refuse, the majority of which was incinerated. The source for the refuse was domestic waste from Depot activities and family housing. Large items that could not be burned were disposed at the NCFL (SEAD-8). The NCFL encompasses approximately three acres located southeast of the former incinerator building, immediately south of a SEDA railroad line. The NCFL was used as a disposal site for non-combustible materials, including construction debris, from 1969 until 1977.

Ash and other residue from the former incinerator were temporarily disposed in an unlined cooling pond immediately north of the incinerator building. The cooling pond consisted of an unlined depression approximately 50 feet in diameter and approximately 6 to 8 feet deep. When the pond filled, the fly ash and residues were removed, transported, and buried in the adjacent ash landfill east of the cooling pond. The refuse was dumped in piles and occasionally spread and compacted. No daily or final cover was applied during operation. According to an undated aerial photograph of the incinerator during operation, the active area of the Ash Landfill extended at least 500 feet north of the incinerator building, near a bend in a dirt road. A fire destroyed the incinerator on May 8, 1979, and the landfill was subsequently closed. Post-closure the landfill was apparently covered with native soil of various thicknesses, but was not closed with an engineered cover or cap. Other areas at the site were used as a grease pit and for burning debris.

2.2 Site Geology/Hydrogeology

The site is underlain by a broad north-to-south trending series of rock terraces covered by a mantle of glacial till. As part of the Appalachian Plateau, the region is underlain by a tectonically undisturbed sequence of Paleozoic rocks consisting of shale, sandstone, conglomerate, limestone and dolostone. At the Ash Landfill site, these rocks (the Ludlowville Formation) are characterized by gray, calcareous shale and mudstone and thin limestone with numerous zones of abundant invertebrate fossils. Locally, the shale is soft, gray, and fissile. The shale, which has a thin weathered zone at the top, is overlain by 2 to 3 feet of Pleistocene-age[1] till deposits. The till matrix varies locally, but generally consists of unsorted silt, clay, sand, and gravel (Brett et al., 1995).

The thickness of the till at the Ash Landfill OU generally ranges from 4 to 15 feet. At the location of the biowalls, the thickness of the till and weathered shale is approximately 10 to 15 feet. Groundwater is present in both the shallow till/weathered shale layer and in the deeper competent shale layer. In both water-bearing units, the predominant direction of groundwater flow is to the west, toward Seneca Lake. Based on the historical data, the wells at the Ash Landfill site exhibit rhythmic and seasonal fluctuations in the water table and the saturated thickness. Historic data at the Ash Landfill OU indicate that the saturated interval is thin (generally between 1 and 3 feet thick) in the month of September and is thickest (generally between 6 and 8.5 feet thick) between December and March (Parsons Engineering Science Inc., 1994).

The average linear velocity of the groundwater in the till/weathered shale layer was calculated during the Remedial Investigation (RI) in 1994 using the following parameters: 1) average hydraulic conductivity of 4.5×10^{-4} centimeters per second (cm/sec) (1.28 feet per day [ft/day]), 2) estimated effective porosity of 15% to 20%, and 3) groundwater gradient of 1.95×10^{-2} feet per foot (ft/ft) (Parsons Engineering Science, Inc., 1994). The average linear velocity was calculated as 0.166 ft/day or 60.7 feet per year (ft/yr) at 15% effective porosity and 0.125 ft/day or 45.5 ft/yr at 20% effective porosity. The actual velocity of on-site groundwater may be locally influenced by zones of higher-than-average permeability; these zones are possibly associated with variations in the porosity of the till/weathered shale.

2.3 Soil and Groundwater Impacts

The nature and extent of the COCs at the Ash Landfill OU were evaluated through a comprehensive RI program. It was determined that surface water and sediment were not media of concern and did not require remediation. A groundwater contaminant plume that emanated from the northern end of the Ash Landfill was delineated during the RI. The primary COCs in groundwater at the Ash Landfill are VOCs; the primary COCs in soil at the Ash Landfill are chlorinated and aromatic compounds, semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), and, to a lesser degree, metals. Release of the COCs is believed to have occurred during the former activities at the Ash Landfill OU (described in Section 2.1).

[1] The Pleistocene Age occurred 11,700 to 2.588 million years before present.

2.3.1 Soil

VOCs, specifically trichloroethene (TCE), were detected in the soil in the "Bend in the Road" area near well MW-44A and the northwest corner of the Ash Landfill (**Figure 2**). Located northwest of the Ash Landfill, this area is believed to be the source of the groundwater plume. Between 1994 and 1995, the Army conducted a Non-Time Critical Removal Action (NTCRA), also known as an Interim Removal Measure (IRM), to address VOC and PAH contamination in soil near the "Bend in the Road." The excavation limits of the NTCRA are shown on **Figure 3**. The NTCRA successfully reduced the risk associated with potential exposure to contaminated soil, and prevented continued leaching of VOCs to groundwater. Since the NTCRA, concentrations of VOCs in groundwater near the original source area have decreased by two orders of magnitude. Further remediation for VOCs in the soil at the "Bend in the Road" was not required.

The other COCs detected in the soil were PAHs and metals. PAHs were detected at concentrations above NYSDEC's Technical and Administrative Guidance Memorandum (TAGM #4046) values in the NCFL and the Debris Piles present around the former Ash Landfill. In general, the highest PAH concentrations were detected in the NCFL and small Debris Pile surface soils. The metals that were detected at elevated concentrations above the TAGM values in soils were copper, lead, mercury, and zinc. These elevated concentrations were found in the Ash Landfill, the NCFL, and the Debris Piles, with the highest concentrations of metals detected at the surface of the Debris Piles. These piles were small, localized, surface features that were visibly discernible and did not extend into the subsurface. The former debris piles were excavated and disposed offsite during the RA in 2006.

2.3.2 Groundwater

The primary potential impact to human health and the environment is a groundwater contaminant plume containing dissolved chlorinated solvents, primarily TCE, isomers of dichloroethene (DCE), and vinyl chloride (VC). The plume originates in the "Bend in the Road" area near the northwestern edge of the Ash Landfill and is approximately 1,100 feet long by 625 feet wide. The nearest exposure points for groundwater are three farmhouse wells located approximately 1,250 feet from the leading edge of the plume near the farmhouse. The location of the farmhouse relative to the plume at the Ash Landfill is shown on **Figure 4**. Two of the farmhouse wells draw water from the till/weathered shale aquifer and the remaining well draws water from the bedrock aquifer. As discussed in Section 4.4 of the RI (Parsons, 1994), plume profiles were constructed for geologic cross sections at the Ash Landfill; based on these profiles it was determined that the plume is vertically restricted to the upper till/weathered shale aquifer and is not present in the deeper competent shale aquifer. As noted in Section 2.3.1, the source area of the plume was removed by the NTCRA.

2.4 Summary of the Remedial Action

2.4.1 Biowalls

Three biowall pairs were installed to address groundwater contamination on-site and were documented in the Construction Completion Report (Parsons, 2007). The biowalls were constructed by excavating a

linear trench to competent bedrock then backfilling the trench to the ground surface with a mixture of mulch and sand.

Biowalls A1/A2, B1/B2, and C1/C2 were constructed perpendicular to the chlorinated solvent plume at the locations prescribed in the RDR (**Figure 2**). The entire length of Biowalls A1/A2 and the northern portion of B1/B2 were combined into a single double-width trench (minimum of 6 feet in width) due to unstable soil conditions that caused trench widening. Approximately 2,840 linear feet (lf) of biowalls were constructed in the areas downgradient of the Ash Landfill at depths ranging from 7 feet below ground surface (bgs) to 18.5 feet bgs.

A 12-inch soil cover was placed over the entire length of the biowalls to impede surface water from preferentially flowing into the biowall trenches. Trench spoils were used as the cover material and were compacted with a backhoe. A site visit in December 2014 confirmed that the mulch backfill in the trenches has settled to a level approximately equal to the surrounding ground surface.

2.4.2 Incinerator Cooling Water Pond

As specified in the RDR, the Incinerator Cooling Water Pond (ICWP) was re-graded to meet the surrounding grade to prevent the accumulation of water in this inactive pond. Prior to re-grading, the vegetation on the berms surrounding the ICWP was removed with an excavator. The soil berm was then regraded with a dozer to match the surrounding grade. The ICWP was seeded with a standard meadow mix to promote vegetation and to prevent erosion.

2.4.3 Ash Landfill and NCFL Vegetative Cover

A soil cover comprised of mulch, biowall trench spoils that met the site cleanup criteria, and off-site topsoil was placed over the 2.2 acres of the Ash Landfill. The Ash Landfill was covered with 4,380 cubic yards (cy) of fill to achieve a minimum cover thickness of 12 inches. Biowall trench spoils that met the site cleanup criteria and off-site topsoil were placed over the 3.4 acre NCFL. The NCFL was covered with 6,015 cy of fill to achieve a minimum cover thickness of 12 inches. The purpose of the covers is to prevent terrestrial wildlife from directly contacting or incidentally ingesting metal-impacted soils.

2.4.4 Debris Pile Removal

During the RA, approximately 200 cy of debris was removed from Debris Piles B and C. Approximately 1,000 cy of debris was removed from within and beyond the staked limits of Debris Pile A (**Figure 3**). The total volume of debris removed was approximately 1,200 cy (1,548 tons).

2.5 Description of Technology Used in Biowalls

Reductive dechlorination is the most important process for natural biodegradation of highly chlorinated solvents (USEPA, 1998) (**Figure 5**). Complete dechlorination of TCE and other chlorinated solvents is the goal of anaerobic biodegradation via mulch biowall technology.

Biodegradation causes measurable changes in groundwater geochemistry that can be used to evaluate the effectiveness of substrate addition in stimulating biodegradation. For anaerobic reductive dechlorination to be an effective process, generally groundwater must be sulfate-reducing or methanogenic. Thus,

groundwater in which anaerobic reductive dechlorination is occurring should have the following geochemical signature:

- Depleted concentrations of dissolved oxygen (DO), nitrate, and sulfate;
- Elevated concentrations of manganese, ferrous iron, methane, carbon dioxide, chloride, and alkalinity; and
- Reduced oxidation reduction potential (ORP).

Treatment of chlorinated ethenes in groundwater using a biowall relies on the flow of groundwater under a natural hydraulic gradient through the biowall to promote contact with slowly-soluble organic matter. As the groundwater flows through the organic matter in the biowall, an anaerobic treatment zone is established in the biowall. The treatment zone may also be established downgradient of the biowall as soluble organic matter migrates with groundwater and stimulates microbial processes.

Solid-phase organic substrates used to stimulate anaerobic biodegradation of chlorinated ethenes include plant mulch and compost. To enhance microbial activity, the mulch may be composted prior to emplacement to more readily degraded material, or mulch may be mixed with an outside source of compost. Mulch is primarily composed of cellulose and lignin, and contains "green" plant material that provides nitrogen and nutrients for microbial growth. These substrates are mixed with coarse sand and placed in a trench or excavation in a permeable reactive biowall configuration. Biodegradable vegetable oil may be added to the mulch mixture to increase the availability of soluble organic carbon.

Degradation of the organic substrate by microbial processes in the subsurface provides a number of breakdown products, including metabolic acids (e.g., butyric and acetic acids). The breakdown products and acids produced by degradation of mulch in a saturated subsurface environment provide secondary fermentable substrates for the generation of molecular hydrogen, which is the primary electron donor utilized in anaerobic reductive dechlorination of chlorinated ethenes. Thus, a mulch biowall has the potential to stimulate reductive dechlorination of chlorinated ethenes for many years. If necessary, mulch biowalls can be periodically recharged with liquid substrates (e.g., emulsified vegetable oils) to extend the life of the biowall. Vegetable oil is a substrate that is readily available to microorganisms as a carbon source that helps establish and continually develop the microbial population. Used in combination with mulch, vegetable oil has the potential to enhance and extend the duration of organic carbon release.

3.0 LONG-TERM MONITORING DATA ANALYSIS AND GROUNDWATER REMEDY EVALUATION

3.1 Sample Collection

Exhibit 3.1 below presents the sample collection dates for the eight years of LTM. The first year of sampling was quarterly, and at that time, the sampling rounds were identified as xQyyyy, where "x" is the round number, and "yyyy" is the 4 digit year. After the first year, the sample frequency was modified to semiannual. An "R" was used to replace the "Q" to denote the round. The round number has been used sequentially since the first quarterly round.

Exhibit 3.1 – LTM Sampling Dates

LTM Year	Round Name	Sampling Dates
Year 1	1Q2007	January 3, 2007 – January 4, 2007
	2Q2007	March 15, 2007 – March 17, 2007
	3Q2007	June 5, 2007 – June 7, 2007
	4Q2007	November 13, 2007 – November 15, 2007
Year 2	5R2008	June 24, 2008 – June 26, 2008
	6R2008	December 11, 2008 – December 15, 2008
Year 3	7R2009	June 1, 2009 – June 4, 2009
	8R2009	December 14, 2009 – December 18, 2009
Year 4	9R2010	June 28, 2010 – July 2, 2010
	10R2010	December 14, 2010 – December 19, 2010
Year 5	11R2011	July 18, 2011 – July 22, 2011
	12R2011	December 12, 20111 – December 15, 2011
Year 6	13R2012	June 18, 2012 – June 22, 2012
	14R2012	December 10, 2012 – December 14, 2012
Year 7	15R2013	July 8, 2013 – July 11, 2013
	16R2013	December 9, 2013 – December 14, 2013
Year 8	17R2014	June 17, 2014 – June 22, 2014
	18R2014	December 15, 2014 – December 19, 2014

Fourteen monitoring wells were sampled and classified into three groups (listed in **Table 1**): eleven on-site plume performance monitoring wells, one off-site compliance monitoring well, and five biowall process monitoring wells. The off-site performance monitoring well, MW-56, is monitored on a semi-annual basis, and was monitored in January 2007, June 2007, June 2008, December 2008, June 2009, December 2009, June 2010, December 2010, October 2011, December 2011, June 2012, December 2012, July 2013, December 2013, June 2014, and December 2014. The well locations are shown on **Figure 6**.

Three of the plume performance wells are also biowall process monitoring wells (MWT-23, MWT-27, and MWT-28). The five biowalls process monitoring wells are either within or immediately upgradient or downgradient of the biowalls and are used to assess if, and when, the biowalls may require additional substrate. The Annual Report – Year 1 recommended that groundwater samples collected from monitoring wells PT-17 and MWT-7 be analyzed for additional geochemical parameters that are included for the process monitoring wells to better monitor the progress of the treatment zone.

Samples were submitted to Test America Laboratories, Inc. in Buffalo, New York for Rounds 1 through 8 and to Test America Laboratories, Inc. in Savannah, Georgia for Rounds 9 through 18 to be analyzed for VOCs by USEPA SW846 Method 8260B. As indicated in **Table 1**, samples from the wells in the biowall process monitoring group (MWT-23, MWT-26, MWT-27, MWT-28, and MWT-29) and from two wells from the on-site plume performance group (PT-17 and MWT-7) were also submitted to Test America for analysis of the following:

- Sulfate by USEPA Method 300.1
- Total organic carbon (TOC) by USEPA SW846 Method 9060A

Samples from these wells were also submitted to Microseeps, Inc. located in Pittsburgh, Pennsylvania for analysis for methane, ethane, and ethene (MEE) by Method RSK 175.

During field sampling, the following geochemical parameters were recorded for the duration of low-flow sampling for each groundwater sample:

- pH, ORP, and conductivity were measured with a Horiba U-52 multi-parameter instrument;
- DO and temperature were measured with a YSI 85 meter; and
- Turbidity was measured with a Lamotte 2020, or similar, turbidity meter.

In addition, a HACH® DR/850 Colorimeter was used in the field to measure manganese and ferrous iron at PT-17, MWT-7, MWT-23, MWT-26, MWT-27, MWT-28, and MWT-29. Manganese and ferrous iron were measured by USEPA Method 8034 and USEPA Method 8146, respectively. A summary of the samples collected is presented in **Table 1**.

Groundwater samples were collected using low flow sampling techniques during each of the 2014 sampling rounds. Bladder pumps were used to purge the wells and collect the samples during these rounds. Sampling procedures, sample handling and custody, holding times, and collection of field parameters were conducted in accordance with the "Final Sampling and Analysis Plan for Seneca Army Depot Activity (SAP)" (Parsons, 2006a). Field forms for Rounds 17 and 18 are included in **Appendix A** on a CD.

3.2 Groundwater Elevations

Historic groundwater elevations and groundwater elevations from the eight years of LTM rounds are presented in **Figure 7** and **Table 2**. The groundwater elevations were higher during Round 18 than levels observed during Round 17 (**Figure 7**). Groundwater contours and groundwater flow direction based on Round 18 measurements taken on December 15, 2014 are provided in **Figure 8**.

3.3 Geochemical Data

Biodegradation causes measurable changes in groundwater geochemistry that can be used to evaluate the effectiveness of substrate addition in stimulating biodegradation. Groundwater conditions that are sulfate-reducing or methanogenic improve the overall effectiveness of anaerobic reductive dechlorination. As mentioned in Section 3.1, geochemical parameters measured in the field that also serve as water quality indicators (i.e., pH, ORP, DO, conductivity, and temperature) were recorded for all wells in the LTM program. Analysis for the additional geochemical parameters of TOC, sulfate, and MEE, and field tests for ferrous iron and manganese were completed at PT-17, MWT-7, MWT-23, MWT-26, MWT-27, MWT-28, and MWT-29. According to USEPA (1998) guidance on natural attenuation of chlorinated solvents, conditions are conducive for anaerobic reductive dechlorination to occur if the following geochemical signatures are identified:

- Depleted concentrations of DO and sulfate;
- Elevated concentrations of methane;
- Reduced ORP;
- Elevated concentrations of soluble organic substrate as defined by TOC in groundwater; and
- An increase in the concentrations of ferrous iron and manganese relative to background conditions.

Geochemical parameter results are shown in **Table 3,** organized with the most upgradient well listed first and the most downgradient well listed last. A comparison of the geochemical parameters for wells MWT-26 (upgradient of Biowall B1) to MWT-28 (in Biowall B2) for Year 8, summarized below, demonstrates the change in geochemistry across the B1/B2 Biowalls.

Dissolved Oxygen

DO is the most favored electron acceptor (i.e., yields the most energy) used by microbes during biodegradation of organic carbon, and its presence can inhibit the anaerobic degradation of chlorinated ethenes. In the wells sampled within Biowalls B1/B2 and Biowall C2, DO levels are depleted (less than 1.0 milligrams per liter [mg/L]) in both Year 8 events (**Table 3**). DO is depleted due to the biological activity encouraged by the biowall substrate. The depletion of DO enhances the potential for anaerobic degradation of chlorinated ethenes in groundwater.

Sulfate

Sulfate is used as an electron acceptor during sulfate reduction, competing with anaerobic reductive dechlorination for available substrate/electron donor. Sulfate levels lower than 20 mg/L are desired to prevent inhibition of reductive dechlorination of chlorinated ethenes (USEPA, 1998). In Year 8, Round 17 concentrations were less than 20 mg/L in Biowall B1 (MWT-27), Biowall B2 (MWT-28) and Biowall C2 (MWT-23). In Year 8, Round 18 sulfate concentrations were less than 20 mg/L in Biowall B2 (MWT-28) and Biowall C2 (MWT-23). At Biowall B1 (MWT-27), the sulfate level was above 20 mg/L with a concentration of 36.5 mg/L; note that this sulfate level was orders of magnitude lower than the concentration of sulfate detected upgradient of Biowalls B1/B2 at MWT-26 (250 – 1060 mg/L) (**Table 3**).

These conditions indicate that sulfate continues to be depleted and that sulfate should not inhibit anaerobic dechlorination within the biowalls.

Methane

The presence of methane in groundwater is indicative of strongly reducing methanogenic conditions. An increase in the concentrations of methane indicates that reducing conditions are optimal for anaerobic reductive dechlorination to occur. Methane was detected in the well upgradient of Biowall B1/B2 (MWT-26) at a concentration of 240 micrograms per liter (µg/L) in Round 17 and at a concentration of 60 µg/L in Round 18. Compared to these concentrations, at the process wells located within biowalls B1, B2, and C2, methane concentrations were orders of magnitude greater and ranged from 12,000 µg/L to 16,500 µg/L (**Table 3**). These data demonstrate that there is an increase in the level of methanogenic activity within the biowalls and in downgradient areas, compared to upgradient locations.

Oxidation-Reduction Potential

ORP indicates the level of electron activity in groundwater and the tendency of groundwater to accept or transfer electrons. Low ORP, considered to be less than -100 millivolts (mV), is conducive for anaerobic reductive dechlorination to occur; however, reductive pathways are still possible at ORP levels up to 50 mV (USEPA, 1998). During Rounds 17 and 18, ORP values upgradient of Biowall B1/B2 were higher than ORP values within the biowall wells. The ORP value upgradient of the biowalls at MWT-26 ranged from 61 mV to 154 mV in 2014, whereas the ORP levels within Biowalls B1/B2 ranged from -105 mV to -77 mV (**Table 3**). A similar trend occurs upgradient and within Biowall C2 (**Table 3**).

The ORP values are outside the benchmark value in some sampling events; however, there is strong evidence of methanogenesis occurring within the biowalls, indicating continued supportive conditions for reductive dechlorination to occur. Methanogenesis is a fermentation reaction, and does not influence ORP. If concentrations of sulfate and reducible iron are depleted within the biowalls, it is conceivable that the ORP measurements will increase, even though conditions remain reducing which is evident by methanogenesis acting as the predominate reaction. ORP values remain lower than the upgradient values indicating a change in conditions within the biowalls compared to the upgradient conditions. Since the ORP levels are still within the range where reduction is possible, it remains that the environment in the biowalls is still conducive to anaerobic reductive dechlorination. The ORP data alone may be inconclusive when compared to the benchmark and will result in relying on the other lines of evidence (e.g., other geochemical parameters and chemistry) in the analysis of the effective operation of the biowall system.

Total Organic Carbon

The presence of organic substrate is necessary to stimulate and sustain anaerobic degradation processes. In biowalls, organic carbon acts as an energy source for anaerobic bacteria and drives reductive dechlorination. Concentrations of TOC greater than 20 mg/L are sufficient to maintain sulfate reducing and methanogenic conditions (USEPA, 1998). TOC concentrations in Biowalls B1/B2 were greater than the TOC concentrations upgradient of the biowalls and are equivalent or better than the benchmark value

(**Table 3**). In Biowall C2, the TOC concentration has decreased below the threshold value of 20 mg/L, but remained equivalent to the concentration at upgradient wells MWT-26 and MWT-29.

A decrease in the concentration of TOC occurs as readily degraded organics (i.e., vegetable oil and cellulose) in the mulch mixture are consumed; however, TOC concentrations on-site remain sufficiently high enough to serve as an energy source for anaerobic bacteria in the biowalls. As discussed below, the change in TOC concentrations has little impact on the efficiency at which chlorinated organics are degraded within the biowalls and does not indicate that the biowalls need to be recharged at this time. Since the TOC concentrations are lower, a conclusion on the continuing effectiveness of the biowalls will be made relying on the other lines of evidence (e.g., other geochemical parameters and chemistry) in the analysis of the effective operation of the biowall system.

Ferrous Iron and Manganese

As described in USEPA (1998), Iron III (ferric iron) is an electron acceptor used by iron-reducing bacteria under anaerobic conditions; Iron II (ferrous iron) is the product. Iron III is relatively insoluble in groundwater relative to Iron II. Therefore, an increase in concentrations of Iron II in groundwater is a clear indication that anaerobic iron reduction is occurring. Similarly, USEPA (1998) states that manganese (IV) is an electron acceptor used by manganese-reducing bacteria under anaerobic environments; soluble manganese (II) is the product. Under anaerobic conditions like those at the Ash Landfill, the presence of manganese and ferrous iron in the biowalls at concentrations above those found at upgradient locations, or locations unaffected by the biowalls, demonstrates that manganese and iron reduction are occurring at the site. For example, Year 8 ferrous iron and soluble manganese concentrations continue to be higher within biowall wells MWT-27 and MWT-28 compared to the upgradient well MWT-26 (**Table 3**).

During the Round 17 and 18 sampling events, ferrous iron and manganese concentrations were collected from an upgradient well, MW-40, to delineate background concentrations. The average ferrous iron and manganese concentrations collected from these two events were 0.04 mg/L and 0.55 mg/L, respectively. The background values are lower than the ferrous iron and manganese values measured in the biowalls thus supporting the conclusion that conditions within the biowalls are anaerobic and conducive to the degradation of chlorinated ethenes.

Summary

Monitoring data for wells within the biowalls during the eighth year of LTM indicate the following:

- DO remains below 1.0 mg/L at Biowalls B1/B2 and Biowall C2;
- Concentrations of TOC remain elevated (4.7 mg/L to 39 mg/L) in the biowalls, and greater than or equivalent to the upgradient well;
- ORP values ranged from -105 mV to -56 mV;
- Sulfate concentrations are a magnitude lower within the biowalls than in upgradient wells;
- Methane concentrations ranged from 12,000 µg/L to 16,500 µg/L; and

- Ferrous iron and manganese concentrations are elevated (2.13 µg/L to >3.3 µg/L and 4.0 µg/L to >22 µg/L, respectively) in the biowalls in comparison to upgradient and background wells (0.00 µg/L to 0.04 µg/L and 0.0 µg/L to 1.2 µg/L, respectively).

The bulleted observations indicate that the environment within the biowalls is conducive to the degradation of chlorinated ethenes.

By using a lines-of-evidence approach to evaluate geochemical parameters together with the analytical data, it can be determined if conditions in the biowalls are sufficient to support anaerobic degradation processes. The geochemical parameters outlined above suggest that the substrate in the biowalls has not been depleted and biodegradation continues to occur within the biowalls. Additionally, the appropriate levels of DO, organic carbon, ORP, sulfate, and methane continue to be maintained to sustain an anaerobic environment. These conditions have persisted within the biowalls since their installation providing an effective means to support anaerobic degradation of chlorinated ethenes.

3.4 Chemical Data Analysis and Groundwater Remedy Evaluation

Table 4 summarizes the concentrations of chlorinated ethenes detected in groundwater during each round of LTM. **Table 4** is organized with the most upgradient well listed first and the most downgradient well listed last. A complete presentation of the groundwater data is provided in **Appendix B**. **Figure 6** shows the concentrations of TCE, cis-DCE and VC for each round of LTM. The discussion below focuses on data collected during Year 8 (Rounds 17 and 18) of the LTM program, and addresses how the remedial action objectives are being achieved.

Achievement of first performance monitoring objective:

- *Confirm that there are no exceedances of groundwater standards for contaminants of concern (COC) at the off-site trigger monitoring well MW-56.*

Concentrations of chlorinated ethenes at off-site well MW-56 remain low or non-detect (ND) with concentrations of TCE, cis-DCE, and VC below regulatory standards. The past year of LTM confirmed that there were no exceedances of COC groundwater standards at MW-56 (**Table 4**). VC and TCE were not detected in either of the last two rounds at MW-56. Estimated concentrations of cis-DCE were detected (0.98 J and 0.89 J µg/L) at MW-56, but were well below its Class GA groundwater standard (5 µg/L).

Achievement of second performance monitoring objective:

- *Document the effectiveness of the biowalls to remediate and attenuate the chlorinated ethene plume.*

TCE remains above the Class GA groundwater standard (5 µg/L) at PT-18A (upgradient of biowalls) (**Figure 6**). Since LTM began in 2007, TCE concentrations at PT-18A have fluctuated and ranged from below the detection limit to 3,800 µg/L (**Table 4**). Concentrations of TCE at well MWT-25 (upgradient of Biowall A1/A2) have decreased from 50 µg/L in the first quarter to below the Class GA groundwater standard at a concentration of 2.5 µg/L in Round 18.

Concentrations of TCE and cis-DCE within the biowalls at MWT-27 (in Biowall B1), MWT-28 (in Biowall B2), and MWT-23 (in Biowall C2) remain below Class GA standards, which is an expected performance measure (**Figure 6**). TCE was reported below Class GA standards in the biowalls in all rounds and cis-DCE has been below Class GA standards in every round since Quarter 2. In Rounds 17 and 18, concentrations of VC within the biowall wells (MWT-27, MWT-28, and MWT-23) were below the Class GA standards. However, in the previous two rounds (R15 and R16), the VC concentrations (2.9 µg/L and 2.5 µg/L) within the C2 biowall at well MWT-23 were above the Class GA standard (2 µg/L). The 2014 data for MWT-23 supports the absence of a trend of increasing VC concentrations with concentrations in R17 and R18 that are non-detect and below the Class GA Standard. Continued sampling will further confirm the trend for VC at MWT-23 in subsequent monitoring events.

The reduction in concentrations of TCE and cis-DCE within the biowall wells versus upgradient concentrations suggests that complete mineralization of chlorinated ethenes is occurring. Therefore, the biowalls are operating as expected with no observed loss of performance.

Evidence of ethene (a final product of reductive dechlorination) production within the biowalls suggests that multiple anaerobic degradation processes may be occurring (**Table 3**). For example, ethene is not produced by anaerobic oxidation of cis-DCE or VC or by abiotic transformation of chlorinated ethenes by reduced iron sulfides. The concentrations of ethene may be low within the biowalls since ethene can be further reduced under highly anaerobic conditions or can off-gas with carbon dioxide or methane since it is volatile.

The overall trend in the concentrations of TCE, cis-DCE, and VC at well MWT-26 (between Biowalls A1/A2 and Biowalls B1/B2) is decreasing over time (**Appendix C-2**). Since the eleventh round, some seasonal variation is evident in the concentrations measured at well MWT-26 with cis-DCE and VC exhibiting higher concentrations in the summer sampling events and lower concentrations in the winter (**Figure 6**). Since the ninth round, TCE concentrations in well MWT-26 have been below its Class GA standard with a limited range in concentration between 0.83 µg/L and 4.2 µg/L (**Table 4**). During the same time period, cis-DCE has ranged in concentration between 1.1 µg/L and 12 µg/L with an average concentration (5.9 µg/L) approximately equal to its Class GA standard. Similarly, VC has a limited range in concentration of between 0.47 J µg/L and 7.6 µg/L with an average concentration (2.3 µg/L) approximately equal to its Class GA standard. The area downgradient of MWT-26 is bounded by Biowalls B1/B2 in which the concentrations of TCE, cis-DCE, and VC are non-detect or below their respective Class GA standards. The Army will continue to monitor well MWT-26 to see if a trend in decreasing concentrations persists.

Cis-DCE and VC concentrations at MWT-24 (downgradient of Biowall C2) show an overall decline over time (**Appendix C-9**). Cis-DCE concentrations have declined by an order of magnitude since Quarter 1 and have been in continuous decline since round 13 (**Table 4**). VC concentrations have declined from a maximum in Quarter 2 to below, or approximately equal to, the Class GA standard in the last two rounds (**Figure 6**). TCE concentrations have been at or below the Class GA groundwater standard (5 µg/L) at MWT-24 in all rounds, with the exceptions of 6.0 µg/L in Round 6 and 5.6 µg/L in Round 11, which were

likely due to precipitation fluctuations (i.e., the effects of desorption during a period with frequent precipitation and subsequent high water levels).

Within the biowalls, the concentrations of TCE, cis-DCE, and VC in groundwater are reduced to concentrations near or below detection limits. Downgradient of the C1/C2 biowall, the concentrations of TCE and its daughter compounds rebounds with distance. **Figures 9A** through **9R** depict these trends for Rounds 1 through 18. These increases may be due to residual TCE in the unsaturated zone, in the form of an absorbed or vapor phase, that is desorbing or diffusing out of low permeability soils when elevated groundwater levels are introduced into soils that are typically unsaturated. These localized conditions and the effect of desorption on the groundwater concentrations observed during periods of high groundwater level may drive the actual time required to reach compliance. The fluctuations in COC concentrations are not an indicator of weakened biowall effectiveness. The results discussed above indicate that the biowalls are effectively treating the passing groundwater and creating a measurable improvement in downgradient water quality.

Anaerobic degradation of TCE may also occur in areas of the aquifer formation that are downgradient of the biowalls. The zone of influence for reductive dechlorination processes downgradient of the biowalls is likely supported through the presence of soluble organic carbon entrained within groundwater transiting through the biowalls. In these downgradient areas, the concentrations of cis-DCE and VC are higher than they are within the biowalls. This suggests that sequential biotic reductive dechlorination of chlorinated organics is the primary degradation process in the downgradient reaction zones, with the presence of low concentrations of TCE being due to desorption from the aquifer matrix or from back diffusion of contaminated groundwater from low permeability soils. Elevated concentrations of ethene, such as 6.6 µg/L and 45 µg/L observed at MWT-29 in Rounds 15 and 17 respectively, as compared to the upgradient concentrations of 0.54 µg/L and 0.15 J µg/L at MWT-26, also indicates that downgradient biotic reductive dechlorination is occurring (**Table 3**).

Achievement of third performance monitoring objective:

- *Confirm that groundwater concentrations throughout the plume are decreasing to eventually meet GA standards.*

Concentrations of TCE, cis-DCE, and VC decreased over the eighteen sampling events at the wells within and downgradient of the biowalls. Time plots for monitoring wells MWT-25, MWT-26, MWT-27, MWT-28, MWT-29, MWT-22, PT-22, MWT-23, MWT-24, and PT-24 are presented in **Figures 10A** through **10J**, respectively. These plots show an overall decreasing trend for the COCs. **Figures 10E**, **10F**, and **10G** show that the concentrations at MWT-29, MWT-22, and PT-22, respectively, which are located downgradient of Biowalls B1/B2, show an overall decrease compared to previous years. Note the exception during Year 7 of LTM where COC concentrations are elevated during a period of unseasonably high summer groundwater elevation (**Figure 7**). According to the National Climatic Data Center and the National Oceanic and Atmospheric Administration (NOAA), recordings from a weather station in Aurora, NY, approximately eleven miles east of the Ash Landfill, showed that June precipitation totals preceding the Year 7 summer sampling event were greater than that of any other June during the duration of LTM. A total precipitation of 6.38 inches was observed, which was more than one inch greater than the second

highest observed value of any other subsequent month leading up to a summer groundwater sampling event (NOAA, 2014). This confirms that the higher concentrations that were observed during the winter monitoring events and the most recent summer event were likely due to limiting factors such as desorption and back diffusion from low permeability soils, as well as the effect of desorption on the groundwater concentrations observed when groundwater levels were elevated. These factors may drive the actual time required to reach compliance, but do not indicate weakened biowall effectiveness. Elevated water levels were also observed during the winter sampling event in Year 8 (**Figure 7**).

An exponential regression, which models first-order decay typical in biological processes, was calculated for each monitoring well. The regression serves as a means of estimating the time required for the concentrations of chlorinated organics to meet their respective GA groundwater standards under the assumption that the historical trend of the data will continue throughout the predicted lifetime of the source. The software SourceDK was used as a screening model for estimating the groundwater remediation timeframe and the uncertainties associated with the estimated timeframe (SourceDK, 2011). Using the Tier 1 Extrapolation tool, which compares records of concentration versus time, the log concentration versus time is plotted and then extrapolated to estimate how long it will take to achieve a cleanup goal. The cleanup goals selected are the NYS Class GA groundwater standards (5 µg/L for TCE and cis-DCE and 2 µg/L for VC). The software also provides the 95% confidence level in the estimation of the time to achieve the cleanup goal. The regression plots continue to indicate that there are no trends for some COC concentrations at PT-17 and MWT-22.

Table 5 summarizes the predicted remedial timeframes and their 95% upper and lower confidence limits. Remediation time estimates were calculated by solving the regression equations for when each COC would achieve its respective Class GA standard. If the regression curve displayed an increasing trend, the determination of an expected remedial timeframe could not be calculated. With the exception of the wells with increasing concentration trends, all wells are expected to reach Class GA groundwater standards for 1) TCE by 2040; 2) cis-DCE by 2071; and 3) VC by 2023 (the MWT-22 VC trendline was excluded due to extremely poor fit). Due to variations in data, some of the regression curves show stronger correlations (as indicated by the R^2 values shown on the **Appendix C** figures) than others. The COCs for which MWT-22, PT-22, PT-17 and MWT-7 are not expected to comply with Class GA groundwater standards by 2074 tend to exhibit very poor correlation (e.g., $R^2 < 0.1$). Additional data at these well locations will need to be collected to establish COC trends.

Time plots of the concentration of TCE, cis-DCE, and VC for wells PT-18A, PT-17, and MWT-7 are provided in **Figures 11A**, **11B**, and **11C**, respectively; these plots include historic data prior to the installation of the biowalls. TCE, cis-DCE, and VC concentrations exhibit an overall decreasing trend at well PT-18A (**Figure 11A**). Since PT-18A is located in the Ash Landfill source area upgradient of all biowalls, decreasing trends at this location reflect natural attenuation processes. TCE concentrations at well PT-17 are stable since biowall installation (**Figure 11B**). There is no trend for cis-DCE or VC at PT-17 and MWT-7 (**Figures 11B** and **11C**). At MWT-7, there is a decreasing trend for TCE (**Figure 11C**).

PT-17 and MWT-7 are located 150 ft and 310 ft from Biowalls C1/C2, respectively. As such, it is possible that treatment zones have not been established this far downgradient of the biowalls.

Nevertheless, an increasing trend for cis-DCE paired with a decreasing trend for TCE may indicate that reductive dechlorination is occurring at these locations. To date, concentrations at these wells are within historic levels and the Army will continue to evaluate any impacts of the biowalls on this portion of the plume.

Other Compounds

Tetrachloroethene (PCE) was detected once in Round 17 in well MWT-23 at an estimated concentration of 0.21 J µg/L and once in Round 18 (27 µg/L) above its Class GA standard (5 µg/L). PCE is not a historic site COC and is not assumed to be related to past site uses. Future rounds of groundwater sampling will continue to monitor this analyte. Other non-chlorinated organics were detected in the groundwater at the Ash Landfill OU and the data are presented in **Appendix B**. In Round 17, chloroform was detected once in one well (PT-18A) at a concentration (8.5 µg/L) slightly above its respective Class GA standard (7 µg/L). During Round 18, three non-chlorinated organics were detected. Benzene was detected in one well with an estimated concentration below its respective Class GA standard. Chloroform was detected in two wells (MWT-7 and PT-18A) and exceeded its Class GA standard in well PT-18A (15 µg/L vs. 7 µg/L). Toluene, was detected at a concentration slightly above its respective Class GA standards (5 µg/L). Toluene was detected at MWT-7 at a concentration of 7.1 J µg/L. None of these detected compounds are historical COCs, and their detections are not believed to be associated with historic site operations.

3.5 Biowall Recharge Evaluation

The RDR calls for a recharge evaluation at the end of each year of monitoring. The evaluations completed at the end of Years 1 through 7 concluded that recharge was not required and that a recharge evaluation would be performed again at the end of Year 8.

Recharge Evaluation Process

A recharge evaluation, defined on **Figure 12** (also shown on Figure 7-3 of the RDR) and described below, is the determination of the need to recharge a biowall segment. The evaluation consists of the following:

- Determining the need to recharge a biowall segment requires a review of chemical concentrations and geochemical parameters by an experienced professional. A specific, absolute set of conditions or parameter values are not appropriate to determine the need to recharge. Rather, a lines-of-evidence approach will be used to correlate a decrease in the efficiency of the system to degrade chloroethenes with geochemical evidence that indicates the cause is due to substrate depletion. No single criteria should be used to determine the efficacy of the biowall, thus influencing the decision of whether recharge is required.
- The following parameters will be evaluated annually using at least two consecutive rounds of sampling data in order to determine if recharge of the biowalls is necessary:
  - COC concentrations in the biowalls (e.g., MWT-27, MWT-28, and MWT-23). Detected COC concentrations that have increased above Class GA standards in consecutive rounds indicate

that recharge may need to be considered. Concentrations within the biowalls, not at downgradient locations, will be used to make this evaluation so that the effectiveness of the wall itself is being measured without the interference of effects such as desorption and mixing.

- Geochemical parameters, specifically ORP, TOC, and DO, in the biowalls (e.g., at MWT-27, MWT-28, and MWT-23). Benchmark values will be used initially to evaluate anaerobic conditions in the groundwater. The benchmarks are:
  - ORP < -100 mV
  - TOC > 20 mg/L
  - DO < 1.0 mg/L

Parameters described in the bullets above are guidelines and will be considered in evaluating if, and when, a depletion of bioavailable organic substrate results in a rebound in geochemical redox conditions under which effective anaerobic degradation of chlorinated ethenes does not occur.

Recharge Evaluation for Year 8

The recharge evaluation for Year 8 indicates that recharging the biowalls is not necessary at this time.

Section 3.2 presents the geochemical data for Year 8. The values of geochemical parameters measured in Year 7 support the interpretation that reductive dechlorination is occurring in Biowalls A1/A2, B1/B2, and C1/C2. **Exhibits 3.5A**, **3.5B**, and **3.5C** below show that the geochemical parameters for the wells within the biowalls meet or are close to the benchmark values and that groundwater conditions remain highly reducing.

Exhibit 3.5A – Geochemical Parameters at MWT-27

Parameter	Benchmark Value	MWT-27 (Biowall B1)																	
		Q1	Q2	Q3	Q4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18
ORP (mV)	< -100	-158	-145	-141	-166	-133	-126	-128	-102	-121	-111	-109	-71	-82	-120	-33	-66	-77	-105
TOC (mg/L)	> 20	2,050	1,350	755	167	89	54	82	50	61	32	42	35	28	35	41	37	39	38
DO (mg/L)	< 1.0	0.25	0.08	0	0.06	0.18	0.13	0.06	0.15	0.05	0.05	0.01	0.08	0.03	0.03	0.04	0.22	0.52	0.08

Exhibit 3.5B – Geochemical Parameters at MWT-28

Parameter	Benchmark Value	MWT-28 (Biowall B2)																	
		Q1	Q2	Q3	Q4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18
ORP (mV)	< -100	-150	-113	-131	-151	-91	-95	-135	-148	-104	-100	-135	-126	-76	-73	-41	-49	-87	-88
TOC (mg/L)	> 20	1,775	171	309	92	49	28	28	26	21	12	17	12	18	25	25	24	19	18
DO (mg/L)	< 1.0	0.16	0.09	0	0.08	0.15	0.10	0.18	0.29	0.06	0.07	0.28	0.02	0.06	0.07	0.04	0.21	0.71	0.02

Table 3.5C – Geochemical Parameters at MWT-23

Parameter	Benchmark Value	MWT-23 (Biowall C2)																	
		Q1	Q2	Q3	Q4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18
ORP (mV)	< -100	-122	-109	-87	-144	-129	-104	-117	-90	-115	-103	-136	-104	-71	-91	-102	-16	-56	-77
TOC (mg/L)	> 20	260	210	303	151	29	20	16	18	11	5.9	1.5	6.3	4.8	11	4.1	5.5	4.7	5.6
DO (mg/L)	< 1.0	0.26	0.35	0	0.12	0.15	0.2	0.07	0.63	0.04	0.29	0.85	0.08	0.08	0.11	0.18	0.24	0.18	0.07

Section 3.3 presents the analytical data for Year 8. As shown in **Exhibit 3.5D** below, concentrations of TCE and cis-DCE in the biowalls remain below their respective Class GA Standards and have not exceeded their screening criteria since the second round of sampling (e.g., 11 µg/L, cis-DCE in MWT-23). VC is typically non-detect in Biowall B1 and B2; however, it has exceeded the Class GA Standard in Biowalls B1 and C2. A trend in the exceedances is not evident and the results are interspersed with non-detects or detections below the GA Standard. The ability of the biowalls to sustain a high degree of reductive dechlorination is well established.

Exhibit 3.5D – Biowall Analytical Data

	MWT-27 (Biowall B1)			MWT-28 (Biowall B2)			MWT-23 (Biowall C2)		
	TCE (µg/L)	Cis-DCE (µg/L)	VC (µg/L)	TCE (µg/L)	Cis-DCE (µg/L)	VC (µg/L)	TCE (µg/L)	Cis-DCE (µg/L)	VC (µg/L)
Q1	ND	ND	ND	ND	ND	ND	ND	60	23
Q2	ND	ND	ND	ND	ND	ND	ND	11	4.8
Q3	ND	ND	ND	ND	ND	ND	ND	3.1	ND
Q4	ND	ND	ND	ND	ND	ND	ND	3.6 J	3.65
R5	ND	ND	ND	ND	ND	ND	ND	ND	ND
R6	ND	ND	ND	ND	ND	ND	0.4	2.4	2.8
R7	ND	ND	ND	ND	ND	ND	ND	0.42 J	ND
R8	ND	ND	3.1 J	ND	ND	ND	ND	0.47 J	ND
R9	ND	0.18 J	ND	ND	ND	ND	ND	0.41 J	ND
R10	0.51 J	1.1	2.1	ND	0.51 J	0.64 J	0.29 J	4.6	5.3
R11	ND	0.21 J	ND	ND	ND	ND	ND	0.57 J	0.33 J
R12	ND	1.4	3.0	ND	0.28 J	0.56 J	0.18 J	2.0	1.8
R13	ND	0.42 J	0.61 J	ND	ND	ND	ND	0.55 J	0.33 J
R14	ND	ND	ND	ND	ND	0.31 J	ND	1.9	1.65
R15	ND	ND	ND	ND	ND	ND	ND	3.3	2.9
R16	ND	0.48 J	0.84 J	ND	0.37 J	ND	ND	2.6	2.5
R17	ND	0.83 J	1.0	ND	ND	ND	ND	0.45 J	0.37 J
R18	ND	0.70 J	1.2	ND	0.19 J	ND	0.19 J	2.7	ND

Notes:
1. ND = Not detected at the reporting limit
2. NYSDEC Class GA Groundwater Standards: TCE = 5 µg/L; cis-DCE = 5 µg/L; VC = 2 µg/L

TCE, and its daughter product cis-DCE, are either not detected or below the GA Standard in the biowalls. VC, which requires anaerobic conditions to fully degrade, has decreased within the biowalls, varying in concentrations between ND and just above the GA Standard.

Overall, the multiple lines-of-evidence approach that evaluates geochemical parameters together with the chemical analytical data indicates that conditions in the biowalls are sufficiently anaerobic to support reductive chlorination of chlorinated ethenes. Substrate in the biowalls has not been significantly depleted and biodegradation continues to occur. Although TOC levels are below the benchmark value at MWT-23 and MWT-28, they remain high enough to support reductive chlorination. Low DO concentrations and negative ORPs indicate reducing conditions are being maintained with the current levels of TOC. Reductions in sulfate and the production of methane further indicate that highly anaerobic conditions are being sustained. There is no singular value that can be specified for any one parameter, in this case TOC, where crossing that value would indicate the need to recharge. Both an increasing trend in VOC concentrations and consistent negative trends in multiple geochemical parameters would need to be observed to consider that recharge is required.

Some geochemical parameters were below benchmark values in the last couple of monitoring rounds. Additionally, some low variations in VOC concentrations were measured. However, recharge should be considered when conditions are such that consistent trends develop that show the geochemical parameters continue to weaken and that concentrations of TCE and cis-DCE are increasing above the GA standard over multiple events.

Based on the review of the analytical and geochemical data, the biowalls do not need to be recharged at this time, and the biowall system continues to meet the long-term monitoring objectives established in the RDR (Parsons, 2006).

3.6 Soil Remedy Evaluation

Part of the remedial action was installing a 12-inch vegetative cover over the Ash Landfill and the NCFL. The covers were inspected and field observations from Year 8 note that the landfills are vegetated with grass and clover. At the NCFL, visual observations noted a small burrow and the presence of deer trails; however, the erosion and the trails cut less than 6 inches into the cover. Therefore, underlying soil has not been exposed to the environment and corrective action is not required. The Army will continue to monitor the integrity of the covers and ensure that the vegetative covers have not been breached and that the underlying soil is not exposed.

3.7 Land Use Controls (LUCs)

The remedy for the Ash Landfill OU requires the implementation and maintenance of land use controls (LUCs). The LUC requirements are detailed in the "Land Use Control Remedial Design for SEAD-27, 66, and 64A, *Addendum 3*" (2008b). The selected LUCs for the Ash Landfill OU are as follows:

- Prevent access to or use of the groundwater until cleanup levels are met;
- Maintain the integrity of any current or future remedial or monitoring system, such as monitoring wells and permeable reactive barriers;

- Prohibit excavation of the soil or construction of inhabitable structures (temporary or permanent) above the area of the existing groundwater plume; and
- Maintain the vegetative soil layer over the ash fill areas and the NCFL to limit ecological contact.

As part of the LTM program, the Army inspected the site to determine that the LUCs are being maintained. While performing the groundwater sampling, it was confirmed that no prohibited facilities have been constructed and no access to or use of groundwater was evident other than that needed for monitoring. As discussed in **Section 3.6**, the vegetative covers are limiting ecological contact with the underlying soil.

During Rounds 17 and 18, groundwater monitoring wells were inspected by field personnel. The integrity of all wells at the Ash Landfill is intact and each well is viable for groundwater elevation readings and groundwater sampling, where appropriate. Monitoring wells not required as part of the LTM were decommissioned between September 2010 and January 2011 (Parsons, 2013).

3.8 Operating Properly and Successfully

The implemented design has met the requirements for "operating properly and successfully" (OPS) as outlined in Section 12(h)(s) of the USEPA "Guidance for Evaluation of Federal Agency Demonstrations" (USEPA, 1996). Parsons submitted a letter on behalf of the Army to USEPA, dated June 6, 2008, declaring that the Army had determined that the remedy met the OPS requirements. The Army submitted a letter under separate cover on February 26, 2009 further certifying that the "information, data and analysis provided in Parsons' June 6, 2008 letter was true and accurate." On March 11, 2009, the USEPA transmitted a letter to the Army approving the Army's OPS demonstration. The data for Year 8 of the LTM program are consistent with the data for Years 1 through 7 and demonstrate that the remedy is OPS, as described below.

The remedial action is operating "properly."

The USEPA guidance describes that "a remedial action is operating 'properly' if it is operating as designed." The Construction Completion Report (CCR) (Parsons, 2007) details that the vegetative covers were installed as designed, meeting or exceeding the 12-inch of soil cover requirement. **Section 3.6** describes that the covers are intact and effectively prevent ecological contact with the underlying soil; therefore, the vegetative covers are operating properly.

The CCR also details the construction of the biowalls. Deviation from the intended design resulted in wider-than-intended biowalls that required the emplacement of additional mulch; since this is an enhancement of the design, it is fair to say that the biowalls were constructed as designed. The geochemical data presented and discussed in **Section 3.3** indicate that conditions that are favorable to anaerobic reductive dechlorination have been established within and near the biowalls, which was the expectation of the design of the biowall system.

The remedial action is operating "successfully."

A remedial action may receive the USEPA's designation of "operating successfully" (1) if "a system will achieve the cleanup levels or performance goals delineated in the decision document" and (2) if "the

remedy is protective of human health and the environment." The data presented in **Section 3.4** demonstrate that concentrations of VOCs are decreasing and will eventually meet the Class GA groundwater standards. The time plots presented in **Figures 10A** through **10J** show a decreasing trend for the COCs at the Ash Landfill OU; **Table 5** summarizes the trends in concentrations of COCs over time, demonstrating that the concentrations in groundwater will eventually meet the groundwater standards.

Recent inspection of the vegetative covers at the Ash Landfill and the NCFL continue to indicate that the covers are preventing ecological receptors from contacting the underlying soil; therefore, there is no risk to the environment. The LUCs have been maintained and no one is accessing the groundwater; therefore, there is no risk to human health. Based on a review of the site data, an inspection of the condition of the vegetative covers, and a confirmation that the LUCs are being maintained, the Army believes that the remedial action is operating successfully.

Based on an assessment of the design and construction of the remedial action, and an evaluation of the geochemical and analytical data from the eight years of groundwater monitoring, the Army believes that the remedial action at the Ash Landfill meets the requirements to be designated as "operating properly and successfully."

4.0 LONG-TERM MONITORING CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

Based on the results of the long-term monitoring at the Ash Landfill since the installation of the full-scale biowalls, the Army has made the following conclusions:

- TCE within the biowalls remains below or close to detection limits;
- TCE, cis-DCE, and VC are present in the groundwater at the site at concentrations above respective Class GA groundwater standards;
- Chemical results indicate that the concentrations of chlorinated ethenes are decreasing as they pass through the biowall systems;
- Geochemical parameters indicate that groundwater redox conditions are conducive for reductive dechlorination to occur within the biowalls;
- Concentrations of chlorinated ethenes at off-site well MW-56 are below Class GA groundwater standards;
- Continued monitoring is required to determine trends in concentrations of COCs at MWT-22, PT-22, PT-17, and MWT-7;
- Recharge of the biowalls is not necessary at this time;
- The remedial action continues to meets the requirements of the USEPA's "operating properly and successfully" designation; and
- The Army will continue to monitor the performance of the biowall system, including semi-annual periodic evaluations of the potential need to recharge the biowalls.

4.2 Recommendations

Based on the first eight years of long-term monitoring at the Ash Landfill OU, the Army recommends continuing the semi-annual frequency of monitoring based on the process shown in **Figure 12** (which is also Figure 7-3 of the RDR). The recommendations for LTM during year eight of monitoring are as follows:

- Biowall process monitoring wells (MWT-26, MWT-27, MWT-28, MWT-29, and MWT-23) will be monitored on a semi-annual basis. Each year a recharge evaluation will be completed. As stated in the RDR (Parsons, 2006b), if a recharge is conducted, MWT-26, MWT-27, and MWT-29 would be excluded from the LTM program, as detailed in **Figure 12**. MWT-28 and MWT-23 will continue to be monitored as part of the performance monitoring wells to supplement data that will be used to determine whether additional biowall recharge is required. The recharge evaluation(s) conducted each year after the first biowall recharge would review the chemical and geochemical data at MWT-28 and MWT-23, and determine if the contaminant increase is a result of poor biowall performance or due to other issues such as seasonal variations in groundwater levels, unusual precipitation events, or desorption and back diffusion;

- Performance monitoring wells (PT-17, PT-18A, PT-22, PT-24, MWT-7, MWT-22, MWT-24, and MWT-25) will continue to be monitored on a semi-annual basis in a manner consistent with the Year 3 LTM program. In the eight years of LTM events at the Ash Landfill OU, the concentrations of COCs in the wells downgradient of the source area (near PT-18A) have decreased;
- The off-site performance monitoring well (MW-56) will continue to be monitored on a semi-annual basis;
- The vegetative covers at the Ash Landfill and the NCFL will be inspected annually to ensure that they remain intact and protective of ecological receptors; and
- The frequency of monitoring and the need to recharge the biowalls will be reviewed in the annual report submitted after the completion of the eighth year of LTM, based on the process outlined in **Figure 12**.

5.0 REFERENCES

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TABLES

Table 1
Groundwater Sample Collection
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

	Monitoring Well Group			Laboratory Analysis				Field Test	
Monitoring Wells	On-Site Plume Performance Monitoring	Biowall Process Monitoring	Off-Site Performance Monitoring	VOC 8260B	TOC 9060A	MEE RSK-175	Sulfate EPA 300.1	Ferrous Iron (mg/L)	Manganese (mg/L)
PT-18A	X			X					
MWT-25	X			X					
MWT-26		X		X	X	X	X	X	X
MWT-27		X		X	X	X	X	X	X
MWT-28	X	X		X	X	X	X	X	X
MWT-29	X	X		X	X	X	X	X	X
MWT-22	X			X					
PT-22	X			X					
MWT-23	X	X		X	X	X	X	X	X
MWT-24	X			X					
PT-17	X			X	X	X	X	X	X
MWT-7	X			X	X	X	X	X	X
PT-24	X			X					
MW-56			X	X					

Notes:
1. All samples were analyzed for field parameters including pH, ORP, dissolved oxygen, conductivity, temperature and turbidity.
2. All samples were collected in Round 17 between June 19, 2014 and June 22, 2014 and in Round 18 between December 16, 2014 and December 19, 2014.

Table 2
Groundwater Elevation Data
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Monitoring Well	Top of Riser Elevation (ft)	Well Depth (rel. TOC) (ft)	LTM R17 - June 2014				LTM R18 - December 2014				Historical Data		
			Date Measured	Saturated Thickness (ft)	Depth to Groundwater (ft)	Water Level Elevation (ft)	Date Measured	Saturated Thickness (ft)	Depth to Groundwater (ft)	Water Level Elevation (ft)	Groundwater Elevation (ft)		
											Maximum	Minimum	Range
PT-18A	659.05	12.85	6/17/2014	4.41	8.44	650.61	12/15/2014	4.10	8.75	650.30	653.25	649.65	3.60
MWT-25	654.51	13.25	6/17/2014	5.70	7.55	646.96	12/15/2014	9.17	4.08	650.43	650.65	645.93	4.72
MWT-26	652.19	13.22	6/17/2014	5.89	7.33	644.86	12/15/2014	9.95	3.27	648.92	648.92	644.58	4.34
MWT-27	652.99	12.90	6/17/2014	4.78	8.12	644.87	12/15/2014	6.70	6.20	646.79	648.60	644.27	4.33
MWT-28	652.69	12.85	6/17/2014	4.73	8.12	644.57	12/15/2014	5.99	6.86	645.83	648.31	644.20	4.11
MWT-29	651.82	13.10	6/17/2014	4.79	8.31	643.51	12/15/2014	8.08	5.02	646.80	647.83	643.18	4.65
MWT-22	650.66	14.90	6/17/2014	7.05	7.85	642.81	12/15/2014	9.06	5.84	644.82	648.13	642.29	5.84
PT-22	648.61	11.81	6/17/2014	2.68	9.13	639.48	12/15/2014	4.23	7.58	641.03	644.30	637.47	6.83
MWT-23	646.77	13.70	6/17/2014	4.22	9.48	637.29	12/15/2014	5.31	8.39	638.38	640.61	636.40	4.21
MWT-24	641.56	13.00	6/17/2014	5.02	7.98	633.58	12/15/2014	5.63	7.37	634.19	635.84	632.11	3.73
PT-17	640.14	11.65	6/17/2014	5.91	5.74	634.40	12/15/2014	8.20	3.45	636.69	637.50	632.74	4.76
MWT-7	638.34	13.64	6/17/2014	7.49	6.15	632.19	12/15/2014	7.77	5.87	632.47	633.58	626.58	7.00
PT-24	636.40	11.88	6/17/2014	6.64	5.24	631.16	12/15/2014	7.00	4.88	631.52	632.76	627.80	4.96
MW-56	630.51	6.88	6/17/2014	2.76	4.12	626.39	12/15/2014	3.46	3.42	627.09	627.58	624.39	3.19

Table 3
Groundwater Geochemical Data
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Well ID	Location Description	Sample ID	Sample Round	pH	Turbidity (NTU)	Specific Conductance (mS/cm)	DO (mg/L)	ORP (mV)	TOC (mg/L)	Sulfate (mg/L)	Ethane (ug/L)	Ethene (ug/L)	Methane (ug/L)	Manganese (ug/L)	Ferrous Iron (ug/L)
PT-18A	Upgradient of walls	ALBW20059	1Q2007	6.63	141	1.69	1.33	93							
		ALBW20074	2Q2007	6.44	110	2.87	0.76	-177							
		ALBW20088	3Q2007	6.71	5	1.66	0	-23							
		ALBW20103	4Q2007	6.41	0.0	1.25	0.04	-5							
		ALBW20117	5R2008	6.36	1.9	1.75	0.22	-10						8.2	> 3.3
		ALBW20132	6R2008	6.58	0.56	2.04	1.76	83							
		ALBW20147	7R2009	6.77	0.45	2.01	0.12	66							
		ALBW20162	8R2009	6.71	0.00	2.04	0.62	154							
		ALBW02177	9R2010	6.7	1.00	2.05	0.1	62						1.5	0.15
		ALBW20192	10R2010	6.66	1.50	1.25	0.16	84							
		ALBW20207	11R2011	6.62	3.30	1.27	0.19	-17							
		ALBW20222	12R2011	6.62	0.40	1.75	0.09	59.9							
		ALBW20237	13R2012	6.80	4.25	1.06	0.12	78							
		ALBW20252	14R2012	6.84	1.83	1.33	4.22	74							
		ALBW20265	15R2013	6.83	2.49	1.46	0.13	199							
		ALBW20280	16R2013	6.76	0.92	1.11	1.18	201							
		ALBW20296	17R2014	6.95	0.77	1.20	0.15	76							
		ALBW20312	18R2014	7.07	0.93	1.23	2.99	107							
MWT-25	Upgradient of Biowall A	ALBW20064	1Q2007	8	9.6	0.29	2.83	63							
		ALBW20079	2Q2007	7.27	14	2.20	2.8	52							
		ALBW20093	3Q2007	7.36	6.2	2.43	4.14	100							
		ALBW20108	4Q2007	6.9	0	1.20	0.21	65							
		ALBW20123	5R2008	6.91	0.52	1.47	0.15	-41						1.4	0.75
		ALBW20138	6R2008	6.69	1.32	1.36	2.91	90							
		ALBW20153	7R2009	7.03	1.6	1.46	0.1	-31							
		ALBW20168	8R2009	7.21	0	0.79	3.35	98							
		ALBW20183	9R2010	7.06	0.7	1.48	0.2	-116							
		ALBW20198	10R2010	7.11	2.59	1.23	0.48	-94							
		ALBW20213	11R2011	6.72	13	1.13	0.03	13							
		ALBW20228	12R2011	7	5.2	1.50	1.5	-54.9							
		ALBW20243	13R2012	7.13	1.71	0.93	0.01	18							
		ALBW20258	14R2012	7.5	3.08	0.88	6.63	32							
		ALBW20271	15R2013	6.93	1.74	1.11	0.08	-5							
		ALBW20286	16R2013	7.49	2.44	1.00	2.77	185							
		ALBW20302	17R2014	7.36	0.92	1.46	0.09	-19							
		ALBW20318	18R2014	7.57	1.71	1.22	4.7	87							
MWT-26	**Upgradient of Biowalls B1/B2**	ALBW20066	1Q2007	6.89	10	2.01	1.84	-3	3.9 J	958	ND	ND	ND		
		ALBW20081	2Q2007	7.26	9	1.90	0.48	-135	15.2	738	0.4	7.8	210	2.1	> 3.3
		ALBW20095	3Q2007	6.89	2.2	1.94	0.21	-170	10.3	473	1	13	390	3.1	> 3.3
		ALBW20111	4Q2007	7.08	50	1.90	0.89	-40	6.1	1060	0.16	0.4	44	0.0	1.09
		ALBW20126	5R2008	7.05	0.67	1.88	0.31	-71	5.6	600	0.82	2.9	210	1.3	0.81
		ALBW20141	6R2008	7.01	28.7	1.58	3.54	60	4.4	541	0.046	0.028	10	0.6	0.22
		ALBW20156	7R2009	6.95	2.7	1.75	0.34	-11	6.9	570	3.2	2.7	1,100	0.5	0.71
		ALBW20171	8R2009	7.01	10	2.45	4.66	71	5.6	912	2.2	1.8	610	0.7	0.18
		ALBW20186	9R2010	6.99	1.4	2.04	0.14	-81	4.6	680	2.2	0.71	740	1.7	2.67
		ALBW20202	10R2010	6.77	0.6	1.71	0.5	109	5.5	690	3.7	3.3	1600	0	0.13
		ALBW20216	11R2011	6.64	2.4	1.67	0.07	-31	6.3	510	4.5	1	960	6.3	0.89
		ALBW20232	12R2011	7.05	2.2	1.87	0.54	12.1	4.5	860	0.23	ND	39	0.5	0
		ALBW20246	13R2012	7.26	8.72	1.02	0.48	2	4.4	640	1	0.5	230	0.6	0.09
		ALBW20262	14R2012	7.37	1.5	0.91	5.47	103	4.5	430	0.096	0.069	9.4	0	0.01
		ALBW20274	15R2013	6.91	1.24	0.83	0.13	24	4.1	250	0.69	0.54	130	1.0	0.02
		ALBW20289	16R2013	7.42	3.89	1.40	2.88	140	5.4	610	0.52	0.2	61	0.3	0.00
		ALBW20306	17R2014	6.80	17.5	1.72	0.36	61	4.7	680	0.92	0.15 J	240	1.2	0.04
		ALBW20321	18R2014	7.31	1.47	1.16	5.5	154	4.4	460	0.62	0.24	60	0	0
MWT-27	**In Biowall B1**	ALBW20067	1Q2007	6.34	120	5.31	0.25	-158	2,050 J	ND	ND	ND			
		ALBW20082	2Q2007	6.65	87	4.37	0.08	-145	1350	ND	0.15	2.7	15,000	> 22	> 3.3
		ALBW20096	3Q2007	6.59	154	3.35	0	-141	755	1.9 J	0.081	0.33	13,500	> 22	> 3.3
		ALBW20112	4Q2007	6.43	58	5.76	0.06	-166	167	31.7	ND	0.014 J	13,000	> 22	2.19
		ALBW20127	5R2008	6.49	40	3.07	0.18	-133	88.9	ND	2.3	0.049	13,000	> 22	3.23
		ALBW20142	6R2008	5.95	24.5	2.59	0.13	-126	53.5	24	1.6	0.13	15,000	> 22	3.05
		ALBW20157	7R2009	6.68	38	2.99	0.06	-128	81.7	0.93 J	5.1	0.15	14,000	22	1.88
		ALBW20172/73	8R2009	6.32	5.1	2.38	0.15	-102	50.0	14.0	4.35	1.2	15,500	9	1.26
		ALBW20187	9R2010	6.52	1.4	2.55	0.05	-121	61	0.95 J	3.8	0.12	13,000	> 22	2.54
		ALBW20203	10R2010	6.42	8.91	2.22	0.05	-111	32	25.0	3	0.88	18,000	48	3.30
		ALBW20217/18	11R2011	6.3	3.2	1.75	0.01	-109	42	0.69 J	6.2	0.077	14,000	>22	>3.3
		ALBW20233	12R2011	5.55	16	1.98	0.08	-71	35	19.0	2	1.6	16,000	>22	1.23
		ALBW20247	13R2012	6.68	15.3	1.81	0.03	-82	28	1.4	8.4	0.68	14,000	22	1.80
		ALBW20263	14R2012	6.62	15.6	2.26	0.03	-120	35	2.5	0.88	0.051	13,000	47.5	2.17
		ALBW20275/76	15R2013	6.59	9.33	2.14	0.04	-33	41	4.1	2.15	ND	12,500	>47.5	2.63
		ALBW20290	16R2013	6.43	15.0	1.85	0.22	-66	37 J	5.2	1.4	0.16 J	20,000	19.2	2.75
		ALBW20307	17R2014	6.53	18.5	2.09	0.52	-77	39	6.6	5.3	0.79	16,000	>22	>3.3
		ALBW20322/23	18R2014	6.79	8.29	1.77	0.08	-105	38	36.5	2.2	0.335	12,000	>22	>3.3
MWT-28	**In Biowall B2**	ALBW20068	1Q2007	7.5	163	0.61	0.16	-150	1,775 J	1.7	ND	ND	12,500 J		
		ALBW20083	2Q2007	6.6	21	2.30	0.09	-113	171	ND	0.67	0.48	19,000	7.5	> 3.3
		ALBW20098	3Q2007	6.56	100	2.74	0	-131	309	ND	0.01 J	0.057	11,000	> 22	> 3.3
		ALBW20113	4Q2007	6.48	10	1.72	0.08	-151	92	ND	0.014 J	ND	11,000	> 22	2.15
		ALBW20128	5R2008	6.31	14	2.16	0.15	-91	49.2	ND	0.65	0.044	12,000	> 22	> 3.3
		ALBW20144	6R2008	5.76	17	1.58	0.10	-95	27.9	48.3	2	0.12	19,000	5.3	1.98
		ALBW20158/59	7R2009	6.49	8.5	1.73	0.18	-135	28.2	ND	1.8	0.064	13,000	20.8	2.87
		ALBW20174	8R2009	6.4	10.8	1.88	0.29	-148	25.5	3.16	1.6	0.12	15,000	6.5	2.15
		ALBW20188/89	9R2010	6.36	5.5	1.62	0.06	-104	21	ND	1.55	0.059	13,500	18.6	0.57
		ALBW20204	10R2010	6.28	4.5	0.80	0.07	-100	12	4.8	1.4	0.17	12,000	5.8	2.58
		ALBW20219	11R2011	6.14	3.93	1.44	0.28	-135	17	0.63 J	0.9	0.0085 J	8,800	8.9	>3.3
		ALBW20234	12R2011	5.76	6.2	0.77	0.02	-125.9	12	19	1.6	ND	12,000	1.1	0.48
		ALBW20248/49	13R2012	6.46	7.41	1.16	0.06	-76	18	0.58	3.1	0.069	14,000	16.4	1.65
		ALBW20264	14R2012	6.27	16.3	1.38	0.07	-73	25	1.1	0.38	0.074	11,000	36	2.79
		ALBW20277	15R2013	6.27	6.33	1.33	0.04	-41	25	1.1 J	1.6	ND	14,000	>47.5	>3.3
		ALBW20291/92	16R2013	6.37	7.01	1.42	0.21	-49	24 J	2.5 U	1.45	0.24 J	19,500	4.3	2.74
		ALBW20308	17R2014	6.28	11.5	1.22	0.71	-87	19	1.3 U	2.8	0.0068 J	15,000	17.5	>3.3
		ALBW20324	18R2014	6.55	6.84	1.44	0.02	-88	18	11	0.35	0.049 J	12,000	7.4	2.13

Table 3
Groundwater Geochemical Data
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Well ID	Location Description	Sample ID	Sample Round	pH	Turbidity (NTU)	Specific Conductance (mS/cm)	DO (mg/L)	ORP (mV)	TOC (mg/L)	Sulfate (mg/L)	Ethane (ug/L)	Ethene (ug/L)	Methane (ug/L)	Manganese (ug/L)	Ferrous Iron (ug/L)
MWT-29	Downgradient of Biowall B2	ALBW20070	1Q2007	6.49	7.2	2.10	0.33	-76	25.1 J	113	ND	ND	ND		
		ALBW20084/5	2Q2007	6.8	1.7	2.21	0.39	-53	36.7	173	25	150	8,100	7.5	> 3.3
		ALBW20099	3Q2007	6.64	1.8	1.68	0.11	-79	15.7	151	13	160	2,800	8.1	2.84
		ALBW20114	4Q2007	7.04	12.2	1.88	0.21	-101	20.5	289	19	200	2,600	8.6	> 3.3
		ALBW20129/30	5R2008	6.44	2.7	1.85	0.17	-115	14.1	174	14.5	140	3,100	0.0	> 3.3
		ALBW20145	6R2008	6.57	3.69	1.58	1.32	67	13.6	312	14	19	2,700	3.3	0.20
		ALBW20160	7R2009	6.8	1.9	1.80	0.15	-105	11.8	300	10	47	3,000	6.8	2.97
		ALBW20175	8R2009	6.87	0	2.05	0.58	-75	8.2	644	6.7	12	1,500	6.3	0.96
		ALBW20190	9R2010	6.77	2	1.74	0.06	-86	10	170	18	88	5,400	9.1	2.54
		ALBW20205	10R2010	6.71	1.07	1.31	0.56	22	7.4	300	5.1	7.9	3,100	6.4	2.60
		ALBW20220	11R2011	6.55	2.8	1.37	0.05	-90	7.7	170	8.3	47	3,100	12.1	0.03
		ALBW20235	12R2011	6.26	1.9	0.90	0.29	-30.2	4.9	210	1.7	7.3	760	1	0.04
		ALBW20250	13R2012	6.78	1.05	1.05	0.07	-29	8.2	95	10	38	5,200	19.6	2.88
		ALBW20265	14R2012	6.96	1.58	0.61	4.99	312	4.8	130	0.58	0.8	180	1.2	0.00
		ALBW20278	15R2013	6.65	1.72	0.96	0.07	25	5.8	84	2.9	6.6	2,500	0.09	0.93
		ALBW20293	16R2013	6.91	4.46	0.84	3.43	54	6.2	130	1.5	3.8	1,700	2.0	0.05
		ALBW20309	17R2014	6.59	0.96	1.60	0.13	-28	5.7	97	9.1	45	6,100	7.9	>3.3
		ALBW20325	18R2014	7.15	1.67	0.71	7.55	81	4.7	120	0.34	0.87	160	0.7	0.11
MWT-22	Downgradient of Biowall B2	ALBW20071	1Q2007	7.7	4.5	0.13	0.09	-80							
		ALBW20075	2Q2007	6.72	41	2.16	0.3	-65							
		ALBW20100	3Q2007	6.45	2.7	2.03	0.05	-107							
		ALBW20115	4Q2007	6.53	7.5	1.81	0.18	-132							
		ALBW20121	5R2008	6.38	14	2.21	0.3	-34						18.2	> 3.3
		ALBW20136	6R2008	6.44	8.17	1.86	0.57	-19							
		ALBW20151	7R2009	6.59	13	2.14	0.31	-91							
		ALBW20166	8R2009	6.5	15	0.90	0.34	-65							
		ALBW20181	9R2010	6.52	16.8	2.20	0.22	-63							
		ALBW20196	10R2010	6.39	6.8	1.34	0.07	-58							
		ALBW20211	11R2011	6.2	3.6	1.27	0.16	-71							
		ALBW20226	12R2011	5.65	7.7	1.81	0.05	10							
		ALBW20241	13R2012	6.41	8.78	1.37	0.17	-27							
		ALBW20256	14R2012	6.54	12	1.53	0.11	-55							
		ALBW20269	15R2013	6.48	4.63	1.32	0.47	-11							
		ALBW20281	16R2013	6.47	20.4	1.55	0.15	-21							
		ALBW20300	17R2014	6.58	8.99	1.35	0.32	-33							
		ALBW20316	18R2014	7.33	10.7	1.36	0.17	-46							
PT-22	Between Biowalls B and C	ALBW20060	1Q2007	7.70	4.5	0.13	0.09	-80							
		ALBW20086	2Q2007	6.78	7	1.18	0.78	-54							
		ALBW20089	3Q2007	6.67	0	1.44	0.09	-97							
		ALBW20104	4Q2007	6.73	5.1	1.26	0.17	-166							
		ALBW20118	5R2008	6.69	7.4	1.38	0.29	-119						0.3	1.38
		ALBW20133	6R2008	6.79	1.96	1.20	0.69	-37							
		ALBW20148	7R2009	6.76	11	1.53		-123							
		ALBW20163	8R2009	6.74	6.3	1.45	1.0	-73							
		ALBW20178	9R2010	6.87	3.6	1.39	0.4	-75							
		ALBW20193	10R2010	6.75	0.8	1.14	0.18	15							
		ALBW20208	11R2011	6.65	2	0.88	0.39	-62							
		ALBW20223	12R2011	5.95	0.38	1.57	0.27	205.8							
		ALBW20238	13R2012	6.74	8.4	0.90	2.50	12							
		ALBW20253	14R2012	6.98	1.44	0.73	5.36	201							
		ALBW20266	15R2013	6.77	0.82	0.93	0.08	82							
		ALBW20284	16R2013	6.62	0.38	0.94	1.54	203							
		ALBW20297	17R2014	6.74	2.42	1.05	1.48	61							
		ALBW20313	18R2014	7.07	2.83	0.921	6.66	134							
MWT-23	In Biowall C2	ALBW20065	1Q2007	7.2	5	0.20	0.26	-122	260 J	ND	ND	ND	12,000		
		ALBW20080	2Q2007	6.51	30	1.80	0.35	-109	210	ND	45	5.9	23,000	5.4	2.73
		ALBW20094	3Q2007	6.3	69.3	1.82	0	-87	303	ND	4.1	0.28	18,000	> 22	2.99
		ALBW20109	4Q2007	6.32	21	2.21	0.12	-144	151	2.8	0.58	0.35	16,000	> 22	2.32
		ALBW20125	5R2008	6.27	29	1.54	0.15	-129	28.4	ND	0.53	0.048	18,000	> 22	> 3.3
		ALBW20140	6R2008	6.44	32	1.86	0.20	-104	20.1	6.3	4.6	1.2	19,000	> 22	2.75
		ALBW20155	7R2009	7.72	16	1.50	0.07	-117	15.6	ND	1.6	0.16	21,000	22	2.08
		ALBW20170	8R2009	6.78	10	2.10	0.63	-90	17.4	ND	1	0.058	18,000	7	3.3
		ALBW20185	9R2010	6.38	9	1.57	0.04	-115	11	ND	2.4	0.038	18,000	>22	1.71
		ALBW20200/201	10R2010	6.41	2.8	1.07	0.29	-103	5.9	16	16	2.85	16,000	13	> 3.3
		ALBW20215	11R2011	6.21	5.97	1.20	0.85	-136	6.2	1.5	2.3	0.1	15,000	8	>3.3
		ALBW20230/231	12R2011	5.64	6.7	1.00	0.08	-104.1	6.3	14	8.9	1.2	16,000	12.6	1.17
		ALBW20245	13R2012	6.52	6.14	0.92	0.08	-71	4.8	1.5	5	0.26	18,000	31.1	3.3
		ALBW20260	14R2012	6.33	8.56	1.07	0.11	-91	11	13	2.5	0.63	15,500	46.1	2.18
		ALBW20273	15R2013	6.60	6.81	0.93	0.18	-102	4.1	15	7.0	2.6	14,000	8.7	>3.3
		ALBW20288	16R2013	6.59	5.23	1.05	0.24	-16	5.5	10	7.0	1.7	15,000	15.3	>3.3
		ALBW20304/05	17R2014	6.40	3.17	1.25	0.18	-56	4.7	1.4 J	11 J	0.13 J	16,500	4.0	>3.3
		ALBW20320	18R2014	6.69	7.93	1.21	0.07	-77	5.6	98	5.4	2.2	13,000	4.8	3.21
MWT-24	Downgradient of Biowalls C1/C2	ALBW20063	1Q2007	7.02	10	0.76	0.27	-160							
		ALBW20078	2Q2007	6.91	59	1.08	0.32	-146							
		ALBW20092	3Q2007	6.8	5.4	1.48	0.03	-115							
		ALBW20107	4Q2007	6.81	134	1.32	0.41	-114							
		ALBW20122	5R2008	6.65	45	1.21	0.35	-43						9.1	1.54
		ALBW20137	6R2008	6.40	10	1.31	0.09	40							
		ALBW20152	7R2009	6.81	6.7	1.34	0.11	-20							
		ALBW20164	8R2009	6.61	23	0.56	1.31	59							
		ALBW20182	9R2010	6.63	6.8	1.45	0.06	-21							
		ALBW20197	10R2010	6.78	8.9	0.92	0.14	10							
		ALBW20212	11R2011	6.67	75	0.74	0.39	27							
		ALBW20227	12R2011	6.56	8.67	0.63	0.10	46.2							
		ALBW20242	13R2012	7.22	10.2	0.75	0.11	3							
		ALBW20257	14R2012	6.69	9.47	0.69	0.55	181							
		ALBW20270	15R2013	6.78	4.44	0.77	0.05	42							
		ALBW20285	16R2013	6.97	19.7	0.80	0.12	38							
		ALBW20301	17R2014	7.07	8.88	1.21	0.11	15							
		ALBW20317	18R2014	7.57	9.16	0.826	1.03	95							

Table 3
Groundwater Geochemical Data
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Well ID	Location Description	Sample ID	Sample Round	pH	Turbidity (NTU)	Specific Conductance (mS/cm)	DO (mg/L)	ORP (mV)	TOC (mg/L)	Sulfate (mg/L)	Ethane (ug/L)	Ethene (ug/L)	Methane (ug/L)	Manganese (ug/L)	Ferrous Iron (ug/L)
PT-17[1]	Downgradient of biowalls	ALBW20058	1Q2007	8	3.8	92.00	0.23	-111							
		ALBW20073	2Q2007	7.1	14	0.73	0.76	-151							
		ALBW20087	3Q2007	6.99	0.4	0.73	0.9	-157							
		ALBW20102	4Q2007	7.12	8.7	2.00	NS	-24							
		ALBW20116	5R2008		70		0.24		6	15.2	98	66	5700		
		ALBW20131	6R2008	6.68	0.85	0.80	0.30	26	2.6	45.8	6.9	6.6	380	2.8	0.43
		ALBW20146	7R2009	7.19	0.2	1.00	0.30	-20	4.9	28	50	56	8300	7.5	0.53
		ALBW20161	8R2009	6.75	4	0.35	0.58	-52	2.4	46.2	9.9	5	1,500	2.1	0.07
		ALBW20176	9R2010	6.73	0.9	0.82	0.11	-13	2.4	36	16	20	4,300	5.8	0.29
		ALBW20191	10R2010	6.72	0.45	0.62	0.21	42	1.5	31	4.8	3.5	900	4.0	0.06
		ALBW20206	11R2011	6.57	4	0.57	0.85	-22	3.4	24	1.8	3.8	780	>22	0.64
		ALBW20221	12R2011	6.73	3.03	0.69	2.63	91	1.6	27	1.7	2.4	810	0.6	0.01
		ALBW20236	13R2012	7.09	2.8	0.69	0.17	28	2.8	25	10	12	8,200	4.6	0
		ALBW20251	14R2012	6.74	0.51	0.57	3.44	52	1.7	35	2.2	2.4	810	2.2	0.08
		ALBW20264	15R2013	6.94	1.36	0.68	0.24	74	1.2	27	1.1	0.69	780	3.4	0.0
		ALBW20279	16R2013	6.83	0.64	0.66	0.75	62	2.0	31	1.5	1.4	960	2.6	0.10
		ALBW20295	17R2014	6.18	0.55	0.91	0.07	35	2.9	20	4.5	6.5	5,700	4.5	0.14
		ALBW20311	18R2014	6.87	0.94	0.687	0.48	28	1.7	29	2.5	2.0	1,600	6.5	0.08
MWT-7	Immediately upgradient of ZVI wall	ALBW20062	1Q2007	6.8	19.6	0.58	0.01	62							
		ALBW20077	2Q2007	6.95	8	0.76	0.76	52							
		ALBW20091	3Q2007	6.91	4	0.59	0.19	22							
		ABLW20106	4Q2007	6.88	0	0.90	0.16	14							
		ALBW20120	5R2008	6.85	15	0.97	0.43	37	2.3	29.1	6.7	2	400	0.2	0.09
		ALBW20135	6R2008	6.85	7.37	0.86	0.28	66	29.1	3	11	0.27	670	0.8	0.16
		ALBW20150	7R2009	7.61	2.6	0.79	0.05	16	3.1	27	7.8	0.76	1100	0	0.05
		ALBW20165	8R2009	7.12	0.9	0.56	0.46	32	4.5	29.3	17	0.52	2,900	0.01	0.14
		ALBW20180	9R2010	6.85	1.35	1.04	0.02	-21	1.5	29	9	0.55	1,700	0.2	0.19
		ALBW20195	10R2010	6.85	3.3	0.76	0.06	35	1.3	31	4.5	0.2	400	1.1	0.18
		ALBW20210	11R2011	6.7	0.85	0.78	0.08	-85	2	39	4.9	0.21	1,600	0.4	0.45
		ALBW20225	12R2011	6.56	3.9	0.62	0.17	197	1.7	26	0.84	ND	79	0.2	0.05
		ALBW20240	13R2012	6.86	3.67	0.64	0.24	-35	1.6	28	3.1	0.33	1,600	0.1	0
		ALBW20255	14R2012	6.85	1.74	0.60	2.84	34	1.6	29	0.64	0.067	96	0	0.1
		ALBW20268	15R2013	6.82	1.88	0.66	0.34	68	0.89 J	31	0.5	ND	160	0.0	0.0
		ALBW20283	16R2013	6.95	3.63	0.83	0.32	66	2.0	26	1.2	0.18 J	1,000	0.8	0.27
		ALBW20299	17R2014	6.26	3.16	0.95	0.55	63	1.4	23	1.2	0.19 J	510	0.6	0.0
		ALBW20315	18R2014	7	2.35	0.954	0.61	81	2.0	23	1.1	0.095 J	1300	0.7	0
PT-24	downgradient of ZVI wall	ALBW20061	1Q2007	8.1	10	70.00	0.37	-59							
		ALBW20076	2Q2007	7.58	0	0.46	2.2	-59							
		ALBW20090	3Q2007	7.22	1.3	0.56	0.13	-80							
		ALBW20105	4Q2007	7.35	9.7	2.38	0.19	-46							
		ALBW20119	5R2008	6.99	4.3	0.90	0.16	-104						0.5	0.55
		ALBW20134	6R2008	6.84	5.8	0.66	0.11	-10							
		ALBW20149	7R2009	7.14	4.1	0.68	0.05	-101							
		ALBW20164	8R2009	7.32	1	0.41	0.34	-192						1.9	0.2
		ALBW20179	9R2010	7.07	8.3	0.78	0.19	-37							
		ALBW20194	10R2010	7.05	6.14	0.57	0.09	-29							
		ALBW20208	11R2011	6.69	1.6	0.53	0.82	-16							
		ALBW20224	12R2011	6.79	0.48	0.39	0.13	26.2							
		ALBW20239	13R2012	7.47	8.9	0.55	0.14	-55							
		ALBW20254	14R2012	6.95	1.23	0.43	1.19	77							
		ALBW20267	15R2013	7.20	1.68	0.48	0.06	10							
		ALBW20282	16R2013	6.97	2.12	0.54	0.19	19							
		ALBW20298	17R2014	6.93	1.12	0.94	0.05	18							
		ALBW20314	18R2014	7.84	8.65	0.008	0.15	83							
MW-56[1,2]	Off-site well	ALBW20072	1Q2007	6.85	3.30	0.46	0.37	-102							
		ALBW20101	3Q2007	6.90	0.00	0.60	NS	-65							
		ALBW20124	5R2008	6.73	2.00	0.76	0.18	-132						0.4	1.18
		ALBW20139	6R2008	6.85	6.00	0.55	0.81	-125							
		ALBW20154	7R2009	7.01	0.10	0.62	0.23	-186							
		ALBW20169	8R2009	6.59	7.30	0.31	1.86	-149							
		ALBW20184	9R2010	6.85	3.19	0.40	0.16	-131							
		ALBW20199	10R2010	6.88	1.26	0.66	0.32	-105							
		ALBW20214	11R2011	6.89	4.80	0.66	0.21	-105							
		ALBW20229	12R2011	7.15	5.50	0.42	0.45	-74.2							
		ALBW20244	13R2012	7.00	1.20	0.52	0.23	-283							
		ALBW20259	14R2012	6.95	3.16	0.50	0.93	-69							
		ALBW20272	15R2013	7.00	1.65	0.51	0.42	-192							
		ALBW20287	16R2013	6.86	1.49	0.53	0.38	-77							
		ALBW20303	17R2014	7.00	1.33	0.70	0.44	-99							
		ALBW20319	18R2014	7.11	3.03	0.687	0.52	-119							

Notes:
> = The concentration exceeded the range of the Hach DR/850 Colorimeter field kit.
J = the reported value is an estimated concentration.
ND = Non-detect.
NS = Not sampled; water level was below the indicator probe.

1Q2007 - First round of LTM (January 2007)
2Q2007 - Second round of LTM (March 2007)
3Q2007 - Third round of LTM (June 2007)
4Q2007 - Fourth round of LTM (November 2007)
5R2008 - Fifth Round of LTM (June 2008)
6R2008 - Sixth Round of LTM (December 2008)
7R2009 - Seventh Round of LTM (June 2009)
8R2009 - Eighth Round of LTM (December 2009)
9R2010 - Ninth Round of LTM (June 2010)
10R2010 - Tenth Round of LTM (December 2010)
11R2011 - Eleventh Round of LTM (July 2011)
12R2011 - Twelfth Round of LTM (December 2011)
13R2012 - Thirteenth Round of LTM (June 2012)
14R2012 - Fourteenth Round of LTM (December 2012)
15R2013 - Fifteenth Round of LTM (July 2013)
16R2013 - Sixteenth Round of LTM (December 2013)
17R2014 - Seventeenth Round of LTM (June 2014)
18R2014 - Eighteenth Round of LTM (December 2014)

Empty cells indicate that the specified analysis was not completed for that well. The bolded wells are the five wells included in the biowall process monitoring group.
Analysis of TOC, sulfate, methane, ethane, and ethene were completed for the biowall process wells only.
1. During the 5R2008 event the water level in PT-17 was extremely low and water quality readings were not collected.
2. During the 11R2011 event, data was collected at MW-56 in October 2011.

Table 4
Chlorinated Organics in Groundwater
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	Sample Identification		Round	Sample Date	PCE (ug/L)	TCE (ug/L)	1,1-DCE (ug/L)	cis-DCE (ug/L)	trans-DCE (ug/L)	VC (ug/L)	1,1-DCA (ug/L)	1,2-DCA (ug/L)
			Class GA Standard (ug/L)		5	5	5	5	5	2	5	0.6
Upgradient	PT-18A	Upgradient of walls	1	3-Jan-07	1 U	2000	0.64 J	220	1.6	2.4	1 U	1 U
			2	17-Mar-07	1 U	1000	0.73 J	170	1.4	2.9	1 U	1 U
			3	5-Jun-07	1 U	1100	1.4	430	3.3	3.3	1 U	1 U
			4	15-Nov-07	1 U	2700	2.1	720	3.4	8.2	1 U	1 U
			5	24-Jun-08	1 U	220	1 U	200	0.9 J	1.4	1 U	1 U
			6	12-Dec-08	0.36 U	1400	1.3	510	2.4	4.6	0.75 U	0.21 U
			7	4-Jun-09	0.36 U	810 J	0.8 J	260	1.8	2.6	0.75 U	0.21 U
			8	17-Dec-09	1.5 U	2100	1.5 U	630	3.5 J	7.1	2 J	0.86 U
			9	1-Jul-10	0.15 U	120	0.11 U	28	0.2 U	0.18 U	0.25 U	0.1 U
			10	19-Dec-10	0.15 U	6.3	0.11 U	0.54 J	0.2 U	0.18 U	0.25 U	0.1 U
			11	22-Jul-11	1 U	0.13 U	1.5	15	0.2 U	120	62	0.1 U
			12	15-Dec-11	0.15 U	7.3	0.11 U	0.53 J	0.2 U	0.18 U	0.25 U	0.1 U
			13	21-Jun-12	0.15 U	3800	2.6	820	4.7	10	0.25 U	0.1 UJ
			14	12-Dec-12	0.15 U	8	0.11 U	0.8 J	0.2 U	0.18 U	0.25 U	0.1 U
			15	11-Jul-13	0.15 U	47	0.11 U	8.1	0.2 U	0.18 U	0.25 U	0.1 U
			16	13-Dec-13	0.15 U	9.4	0.11 U	1.4	0.2 U	0.18 U	0.25 U	0.1 U
			17	21-Jun-14	0.15 U	1200	0.77 J	240	1.2	2.2	0.25 U	0.1 U
			18	19-Dec-14	27	1300	2.2 U	420	5 J	3.6 U	5 U	2 U
	MWT-25	Upgradient of Biowall A	1	3-Jan-07	1 U	56	1 U	41	0.56 J	1.6	1 U	1 U
			2	17-Mar-07	1 U	55	1 U	84	1.2	9.6	1 U	1 U
			3	6-Jun-07	1 U	28	1 U	36	0.5 J	2.1	1 U	1 U
			4	15-Nov-07	1 U	26	1 U	17	1 U	0.64 J	1 U	1 U
			5	24-Jun-08	1 U	19	1 U	17	1 U	1 U	1 U	1 U
			6	15-Dec-08	0.36 U	3.2	0.29 U	0.63 J	0.13 U	0.24 U	0.75 U	0.21 U
			7	3-Jun-09	0.36 U	12	0.29 U	10	0.13 U	0.24 U	0.75 U	0.21 U
			8	17-Dec-09	0.36 U	4.2	0.38 U	3.3	0.42 U	0.24 U	0.29 U	0.21 U
			9	30-Jun-10	0.15 U	7.7	0.11 U	13	0.49 J	0.18 U	0.25 U	0.1 U
			10	19-Dec-10	0.15 U	1.9	0.11 U	0.97 J	0.2 U	0.18 U	0.25 U	0.1 U
			11	20-Jul-11	0.15 U	4.4	0.11 U	14	0.45 J	0.72 J	0.25 U	0.1 U
			12	15-Dec-11	0.15 U	1.6	0.11 U	0.30 J	0.20 U	0.18 U	0.25 U	0.1 U
			13	21-Jun-12	0.15 U	6.1	0.11 U	6.80	0.20 U	0.18 U	0.25 U	0.1 UJ
			14	12-Dec-12	0.15 U	1.3	0.11 U	0.39 J	0.20 U	0.18 U	0.25 U	0.1 U
			15	11-Jul-13	0.15 U	8.3	0.11 U	5.8	0.2 U	0.18 U	0.25 U	0.1 U
			16	13-Dec-13	0.15 U	4.6	0.11 U	3.3	0.2 U	0.47 J	0.25 U	0.1 U
			17	21-Jun-14	0.15 U	24	0.11 U	21	0.42 J	2.6	0.25 U	0.1 U
			18	19-Dec-14	0.15 U	2.5	0.11 U	1.7	0.2 U	0.18 U	0.25 U	0.1 U
	MWT-26	**Upgradient of Biowalls B1/B2**	1	3-Jan-07	1 U	10	1 U	19	0.6 J	2	1 U	1 U
			2	17-Mar-07	1 U	11	1 U	17	1	6.1	1 U	1 U
			3	5-Jun-07	1 U	3.2	1 U	11	0.7 J	4.4	1 U	1 U
			4	15-Nov-07	1 U	2.8	1 U	2.8	1 U	1 U	1 U	1 U
			5	24-Jun-08	1 U	1.7	1 U	3.3	1 U	1 U	1 U	1 U
			6	15-Dec-08	0.36 U	1.9	0.29 U	1	0.13 U	0.24 U	0.75 U	0.21 U
			7	3-Jun-09	0.36 U	3.6	0.29 U	6	0.13 U	3.5	0.75 U	0.21 U
			8	17-Dec-09	0.36 U	5.8	0.38 U	8.1	0.42 U	4.2	0.29 U	0.21 U
			9	29-Jun-10	0.15 U	1.7	0.11 U	5.5	0.37 J	0.18 U	0.25 U	0.1 U
			10	19-Dec-10	0.15 U	4.2	0.11 U	12	0.67 J	7.6	0.25 U	0.1 U
			11	20-Jul-11	0.15 U	1.6	0.11 U	9.8	0.81 J	4.4	0.25 U	0.1 U
			12	15-Dec-11	0.15 U	1.2	0.11 U	1.1	0.2 U	0.47 J	0.25 U	0.1 U
			13	20-Jun-12	0.15 U	1.6	0.11 U	4.4	0.24 J	1.1	0.25 U	0.1 UJ
			14	14-Dec-12	0.15 U	2.1	0.11 U	3.1	0.2 U	0.56 J	0.25 U	0.1 U
			15	11-Jul-13	0.15 U	2.1	0.11 U	5.8	0.2 U	1.6	0.25 U	0.1 U
			16	14-Dec-13	0.15 U	1.3	0.11 U	2.8	0.2 U	1	0.25 U	0.1 U
			17	19-Jun-14	0.15 U	0.83 J	0.11 U	4.5	0.4 J	1.1	0.25 U	0.1 U
			18	17-Dec-14	0.15 U	2.1	0.11 U	9.7	0.2 U	3.3	0.25 U	0.1 U
	MWT-27	**In Biowall B1**	1	3-Jan-07	20 U	20 UJ	20 UJ	49 J	20 UJ	20 UJ	20 UJ	20 UJ
			2	16-Mar-07	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
			3	5-Jun-07	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
			4	15-Nov-07	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
			5	24-Jun-08	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
			6	15-Dec-08	3.6 U	1.8 U	2.9 U	1.6 U	1.3 U	2.4 U	7.5 U	2.1 U
			7	3-Jun-09	3.6 U	1.8 U	2.9 U	1.6 U	1.3 U	2.4 U	7.5 U	2.1 U
			8	16-Dec-09	1.8 U	2.3 U	1.9 U	1.9 U	2.1 U	3.1 J	1.5 U	1.1 U
			9	29-Jun-10	0.15 U	0.13 U	0.11 U	0.18 J	0.2 U	0.18 U	0.25 U	0.1 U
			10	20-Dec-10	0.15 U	0.51 J	0.11 U	1.1	0.2 U	2.1	0.25 U	0.1 U
			11	20-Jul-11	0.15 U	0.13 U	0.11 U	0.21 J	0.28 J	0.18 U	0.25 U	0.1 U
			12	14-Dec-11	0.15 UJ	0.13 U	0.11 U	1.4	0.2 U	3.0	0.25 U	0.1 U
			13	20-Jun-12	0.15 U	0.13 U	0.11 U	0.42 J	0.2 U	0.61 J	0.25 U	0.1 UJ
			14	13-Dec-12	0.15 U	0.13 U	0.11 U	0.15 U	0.2 U	0.18 U	0.25 U	0.1 U
			15	11-Jul-13	0.15 U	0.13 U	0.11 U	0.15 U	0.2 U	0.18 U	0.25 U	0.1 U
			16	12-Dec-13	0.15 U	0.13 U	0.11 U	0.48 J	0.2 U	0.84 J	0.25 U	0.1 U
			17	19-Jun-14	0.15 U	0.13 U	0.11 U	0.83 J	0.27 J	1	0.25 U	0.1 U
Downgradient			18	17-Dec-14	0.15 U	0.13 U	0.11 U	0.70 J	0.2 U	1.2	0.25 U	0.1 U

Table 4
Chlorinated Organics in Groundwater
Ash Landfill Annual Report, Year 8
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Sample Identification		Round	Sample Date	PCE (ug/L)	TCE (ug/L)	1,1-DCE (ug/L)	cis-DCE (ug/L)	trans-DCE (ug/L)	VC (ug/L)	1,1-DCA (ug/L)	1,2-DCA (ug/L)
		Class GA Standard (ug/L)		5	5	5	5	5	2	5	0.6
MWT-28	In Biowall B2	1	3-Jan-07	20 U	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
		2	16-Mar-07	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
		3	5-Jun-07	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
		4	15-Nov-07	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
		5	25-Jun-08	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
		6	15-Dec-08	3.6 U	1.8 U	2.9 U	1.6 U	1.3 U	2.4 U	7.5 U	2.1 U
		7	3-Jun-09	0.36 U	0.18 U	0.29 U	0.16 U	0.13 U	0.24 U	0.75 U	0.21 U
		8	18-Dec-09	1.8 U	2.3 U	1.9 U	1.9 U	2.1 U	1.2 U	1.5 U	1.1 U
		9	29-Jun-10	0.15 U	0.13 U	0.11 U	0.15 U	0.2 U	0.18 U	0.25 U	0.1 U
		10	18-Dec-10	0.15 U	0.13 U	0.11 U	0.51 J	0.2 U	0.64 J	0.25 U	0.1 U
		11	19-Jul-11	0.15 U	0.13 U	0.11 U	0.15 U	0.2 U	0.18 U	0.25 U	0.1 U
		12	14-Dec-11	0.15 UJ	0.13 U	0.11 U	0.28 J	0.2 U	0.56 J	0.25 U	0.1 U
		13	20-Jun-12	0.15 U	0.13 U	0.11 U	0.15 U	0.2 U	0.18 U	0.25 U	0.1 UJ
		14	14-Dec-12	0.15 U	0.13 U	0.11 U	0.15 U	0.2 U	0.31 J	0.25 U	0.1 U
		15	11-Jul-13	0.15 U	0.13 U	0.11 U	0.15 U	0.2 U	0.18 U	0.25 U	0.1 U
		16	14-Dec-13	0.15 U	0.13 U	0.11 U	0.37 J	0.2 U	0.18 U	0.25 U	0.1 U
		17	19-Jun-14	0.15 U	0.13 U	0.11 U	0.15 U	0.2 U	0.18 U	0.25 U	0.1 U
		18	17-Dec-14	0.15 U	0.13 U	0.11 U	0.19 J	0.2 U	0.18 U	0.25 U	0.1 U
MWT-29	Downgradient of Biowall B2	1	3-Jan-07	2 U	22	2 U	280	6.5	140	2 U	2 U
		2	16-Mar-07	4 U	19	4.5 U	220	7.75	165	4.5 U	5 U
		3	5-Jun-07	2 U	7.6	2 U	100	2.1	81	2 U	2 U
		4	14-Nov-07	1 U	4.4	1 U	96	0.83 J	74	1 U	1 U
		5	25-Jun-08	1 U	3.3	1 U	84	0.65 J	74	1 U	1 U
		6	15-Dec-08	0.36 U	6.6	0.29 U	91	0.6 J	80	0.75 U	0.21 U
		7	3-Jun-09	0.36 U	4.5	0.29 U	61	0.67 J	43	0.75 U	0.21 U
		8	16-Dec-09	0.36 U	3.5	0.38 U	37	0.65 J	29	0.29 U	0.21 U
		9	30-Jun-10	0.15 U	1.3	0.26 J	78	1.1	69	0.25 U	0.1 U
		10	19-Dec-10	0.15 U	2.1	0.4 J	38	0.77 J	27	0.25 U	0.1 U
		11	20-Jul-11	0.15 U	0.79 J	0.11 U	33	1.6	43	0.25 U	0.1 U
		12	14-Dec-11	0.15 UJ	2.4	0.11 U	8.5	0.26 J	5.9	0.25 U	0.1 U
		13	20-Jun-12	0.15 U	0.69 J	0.11 U	36	0.59 J	49	0.25 U	0.1 UJ
		14	14-Dec-12	0.15 U	3.3	0.11 U	25	0.44 J	11	0.25 U	0.1 U
		15	10-Jul-13	0.15 U	3.7	0.11 U	80	1.1	32	0.25 U	0.1 U
		16	12-Dec-13	0.15 U	2.1	0.11 U	28	0.42 J	20	0.25 U	0.1 U
		17	19-Jun-14	0.15 U	0.71 J	0.13 J	49	1.1	130	0.25 U	0.1 U
		18	17-Dec-14	0.15 U	2.5	0.11 U	18	0.2 U	7.5	0.25 U	0.1 U
MWT-22	Downgradient of Biowall B2	1	3-Jan-07	2 U	5.2	2 U	150	2.7	98	2 U	2 U
		2	17-Mar-07	4 U	3.8 J	4 U	90	4 U	64	4 U	4 U
		3	6-Jun-07	1 U	6.5	1 U	120	3.2	81	1 U	1 U
		4	14-Nov-07	1 U	2.6	1 U	99	0.85 J	180	1 U	1 U
		5	25-Jun-08	5 U	3 J	5 U	68	5 U	42	5 U	5 U
		6	15-Dec-08	1.8 U	5.9	1.4 U	160	0.65 U	140	3.8 U	1 U
		7	3-Jun-09	0.36 U	2.2	0.29 U	66	0.77 J	89	0.75 U	0.21 U
		8	16-Dec-09	1.8 U	2.3 U	1.9 U	57	2.1 U	52	1.5 U	1.1 U
		9	1-Jul-10	0.15 U	0.6 J	0.12 J	41	1.3	57	0.25 U	0.1 U
		10	17-Dec-10	0.15 U	1.8	0.66 J	130	2.8	98	0.25 U	0.25 J
		11	20-Jul-11	0.15 U	0.32 J	0.11 U	23	2.0	59	0.25 U	0.1 U
		12	14-Dec-11	0.15 UJ	2.3	0.38 J	140	3.9	83	0.25 U	0.29 J
		13	21-Jun-12	0.15 U	0.48 J	0.11 U	57	5.0	90	0.25 U	0.1 UJ
		14	12-Dec-12	0.15 U	0.73 J	0.11 U	86	3.8	100	0.25 U	0.22 J
		15	10-Jul-13	0.15 U	2	0.27 J	150	6.2	84	0.25 U	0.28 J
		16	12-Dec-13	0.15 U	0.88 J	0.14 J	100	7.1	120	0.25 U	0.25 J
		17	21-Jun-14	0.15 U	0.19 J	0.11 U	19	2.8	65	0.25 U	0.11 J
		18	18-Dec-14	0.15 U	0.21 J	0.11 U	32	3.6	84	0.25 U	0.1 U
PT-22	Between Biowalls B and C	1	3-Jan-07	1 U	11	1 U	57	0.86 J	22	1 U	3.3
		2	15-Mar-07	1 U	16	1 U	41	0.51 J	13	1 U	2.4
		3	5-Jun-07	1 U	8.5	1 U	61	0.72 J	32	1 U	5.6
		4	14-Nov-07	1 U	9.7	1 U	30	0.67 J	11	1 U	5
		5	26-Jun-08	1 U	4.1	1 U	26	0.57 J	13	1 U	3.9
		6	15-Dec-08	0.36 U	35	0.29 U	52	0.41 J	1.3	0.75 U	2.8
		7	2-Jun-09	0.36 U	6.9	0.29 U	41	0.81 J	11	0.75 U	4
		8	16-Dec-09	0.36 U	8.7	0.38 U	29	0.42 U	9.5	0.29 U	3
		9	30-Jun-10	0.15 U	4.6	0.11 U	43	0.75 J	11	0.25 U	3.2
		10	17-Dec-10	0.15 U	29	0.11 U	42	0.48 J	2.1	0.25 U	1.9
		11	22-Jul-11	0.15 U	31	0.11 U	42	0.2 U	0.18 U	0.25 U	0.1 U
		12	14-Dec-11	0.15 UJ	34	0.11 U	32	0.37 J	0.68 J	0.25 U	1.9
		13	21-Jun-12	0.15 U	7.9	0.11 U	31	0.84 J	4	0.25 U	2.1
		14	13-Dec-12	0.15 U	28	0.11 U	26	0.2 U	0.46 J	0.25 U	1.6
		15	9-Jul-13	0.15 U	38	0.11 U	49	0.45 J	1.6	0.25 U	2.3
		16	12-Dec-13	0.15 U	29	0.11 U	37	0.28 J	0.68 J	0.25 U	2
		17	21-Jun-14	0.15 U	23	0.11 U	52	1.3	2.9	0.25 U	3.1
		18	18-Dec-14	0.15 U	23	0.11 U	23	0.2 U	0.18 U	0.25 U	1.2

Upgradient ↑ Downgradient ↓

Table 4
Chlorinated Organics in Groundwater
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Seneca Army Depot Activity

	Sample Identification		Round	Sample Date	PCE (ug/L)	TCE (ug/L)	1,1-DCE (ug/L)	cis-DCE (ug/L)	trans-DCE (ug/L)	VC (ug/L)	1,1-DCA (ug/L)	1,2-DCA (ug/L)
			Class GA Standard (ug/L)		5	5	5	5	5	2	5	0.6
Upgradient	MWT-23	In Biowall C2	1	3-Jan-07	4 U	4 U	4 U	60	4 U	23	4 U	2.3 J
			2	16-Mar-07	4 U	4 U	4 U	11	4 U	4.8	4 U	4 U
			3	6-Jun-07	2 U	2 U	2 U	3.1	2 U	2 U	2 U	1.6 J
			4	16-Nov-07	7 U	7 U	2.6 U	3.6 J	7 U	3.7 J	7 U	7 U
			5	25-Jun-08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.6 J
			6	12-Dec-08	0.36 U	0.41 J	0.29 U	2.4	0.13 U	2.8	0.75 U	0.6 J
			7	2-Jun-09	0.36 U	0.18 U	0.29 U	0.42 U	0.13 U	0.24 U	0.75 U	0.64 J
			8	15-Dec-09	0.36 U	0.46 U	0.38 U	0.47 J	0.42 U	0.24 U	0.29 U	0.21 U
			9	29-Jun-10	0.15 U	0.13 U	0.11 U	0.41 J	0.2 U	0.18 U	0.25 U	0.66 J
			10	19-Dec-10	0.15 U	0.29 J	0.11 U	4.6	0.49 J	5.3	0.52 J	1.6
			11	19-Jul-11	0.15 U	0.13 U	0.11 U	0.57 J	0.22 J	0.33 J	0.25 U	1
			12	14-Dec-11	0.15 UJ	0.16 J	0.11 U	2.0	0.35 J	1.8	0.33 J	1.3
			13	20-Jun-12	0.15 U	0.13 U	0.11 U	0.55 J	0.42 J	0.33 J	0.25 U	0.65 J
			14	13-Dec-12	0.15 U	0.13 U	0.11 U	1.9	0.29 J	1.65	0.25 U	0.72 J
			15	10-Jul-13	0.15 U	0.13 U	0.11 U	3.3	1.4	2.9	0.5 J	1.2
			16	14-Dec-13	0.15 U	0.13 U	0.11 U	2.6	0.52 J	2.5	0.25 U	0.81 J
			17	20-Jun-14	0.14 J	0.13 U	0.11 U	0.45 J	0.47 J	0.37 J	0.43 J	0.66 J
			18	18-Dec-14	0.15 U	0.19 J	0.11 U	2.7	0.39 J	0.18 U	0.43 J	0.1 J
	MWT-24	Downgradient of Biowalls C1/C2	1	3-Jan-07	1 U	0.94 J	1 U	210	2.1	19	0.81 J	1 U
			2	15-Mar-07	1 U	1 U	1 U	68	0.88 J	45	0.83 J	1 U
			3	5-Jun-07	2 U	2 U	2 U	19	2 U	22	1.1 J	2 U
			4	13-Nov-07	1 U	1.6	1 U	6.7	1 U	3.8	1 U	1 U
			5	26-Jun-08	5 U	5 U	5 U	31	5 U	5 U	5 U	5 U
			6	12-Dec-08	0.36 U	6	0.29 U	52	0.13 U	3.6	0.75 U	0.21 U
			7	2-Jun-09	0.36 U	4.8	0.29 U	38	0.13 U	7.3	0.75 U	0.21 U
			8	15-Dec-09	0.36 U	4.7	0.7 J	32	0.42 U	4	0.29 U	0.21 U
			9	1-Jul-10	0.15 U	5	0.11 U	31	0.41 J	7.5	0.79 J	0.1 U
			10	17-Dec-10	0.15 U	3.3	0.11 U	23	1	4.3	0.58 J	0.1 U
			11	21-Jul-11	0.15 U	5.6	0.11 U	39	1.6	17	0.25 U	3.3
			12	13-Dec-11	0.15 U	3.1	0.11 U	16	0.39 J	2.3	0.44 J	0.1 U
			13	19-Jun-12	0.15 U	2.7	0.11 U	28	1.5	5.3	0.8 J	0.1 UJ
			14	12-Dec-12	0.15 U	4.1	0.11 U	25	0.2 U	0.31 J	0.57 J	0.1 U
			15	9-Jul-13	0.15 U	3.7	0.11 U	24	1.2	2.1	0.7 J	0.1 U
			16	11-Dec-13	0.15 U	1.9	0.11 U	21	1.5	2.4	0.67 J	0.1 U
			17	21-Jun-14	0.15 U	1.5	0.11 U	21	1.6	3.6	0.25 U	0.1 U
			18	18-Dec-14	0.15 U	1.9	0.11 U	11	0.2 U	0.18 U	0.38 J	0.1 U
	PT-17	Downgradient of biowalls	1	2-Jan-07	1 U	6	1 U	62	1 U	21	1 U	1 U
			2	15-Mar-07	2 U	11	2 U	26	2 U	21	2 U	2 U
			3	5-Jun-07	1 U	3.4	1 U	43	0.77 J	9.9	1 U	1 U
			4	13-Nov-07	1 U	15	1 U	27	0.54 J	22	1 U	1 U
			5	26-Jun-08	1 U	8.5	1 U	21	1 U	23	1 U	1 U
			6	11-Dec-08	0.36 U	9.2	0.29 U	24	0.46 J	10	0.75 U	0.21 U
			7	2-Jun-09	0.36 U	8	0.29 U	56	1.1	55	0.75 U	0.21 U
			8	15-Dec-09	0.36 U	7.8	0.38 U	65	1.8	20	0.29 U	0.21 U
			9	1-Jul-10	0.15 U	3	0.24 J	81	3.2	53	0.25 U	0.1 U
			10	18-Dec-10	0.15 U	8.1	0.42 J	39	2.2	16	0.25 U	0.1 U
			11	21-Jul-11	1 U	4.5	0.11 U	94	7.0	56	0.25 UJ	0.1 U
			12	13-Dec-11	0.15 U	11	0.11 U	25	1.8	12	0.25 U	0.1 U
			13	19-Jun-12	0.15 U	6.9	0.37 J	170	18.0	66	0.25 U	0.1 UJ
			14	13-Dec-12	0.15 U	12	0.18 J	68	8.3	21	0.25 U	0.1 U
			15	10-Jul-13	0.15 U	14	0.11 U	38	5.2	7.9	0.25 U	0.1 U
			16	13-Dec-13	0.15 U	8.4	0.16 J	64	11	17	0.25 U	0.1 U
			17	20-Jun-14	0.15 U	3.4	0.32 J	130	18	55	0.25 U	0.1 U
			18	16-Dec-14	0.15 U	7.4	0.31 J	120	22	38	0.25 U	0.1 U
	MWT-7	Immediately upgradient of ZVI wall	1	4-Jan-07	1 U	490	1 U	35	1 U	0.51 J	1 U	1 U
			2	15-Mar-07	1 U	440	1 U	42	1 U	9.7	1 U	1 U
			3	5-Jun-07	1 U	410	1 U	61	1 U	18	1 U	1 U
			4	13-Nov-07	1 U	510	1 U	90	1 U	24	1 U	1 U
			5	25-Jun-08	1 U	440	1 U	90	1 U	12	1 U	1 U
			6	15-Dec-08	0.36 U	410	0.29 U	79	0.13 U	13	0.75 U	0.21 U
			7	2-Jun-09	0.36 U	330	0.29 U	68	0.13 U	9.3	0.75 U	0.21 U
			8	15-Dec-09	0.36 U	350	0.38 U	140	0.55 J	21	0.48 J	0.21 U
			9	1-Jul-10	0.15 U	330	0.78 J	170	0.91 J	15	0.25 U	0.1 U
			10	18-Dec-10	0.15 U	310	0.98 J	120	0.75 J	15	0.25 U	0.1 U
			11	22-Jul-11	0.15 U	0.52 J	0.11 U	12	0.34 J	2.6	0.94 J	0.1 U
			12	13-Dec-11	0.15 U	2.3	0.11 U	56	0.24 J	4.3	1.2	0.1 U
			13	19-Jun-12	0.15 U	280	0.59 J	140	0.64 J	11	0.25 U	0.1 UJ
			14	13-Dec-12	0.15 U	280	0.5 J	100	0.33 J	5.9	0.25 U	0.1 U
			15	10-Jul-13	0.15 U	300	0.5 J	110	0.46 J	2.6	0.25 U	0.1 U
			16	13-Dec-13	0.3 U	370	0.22 U	140	0.4 U	9.6	0.5 U	0.2 U
			17	20-Jun-14	0.15 U	190	0.69 J	110	0.73 J	9.6	0.25 U	0.1 U
Downgradient			18	16-Dec-14	0.75 U	260	1.8 J	150	1.8 J	16	1.3 U	0.5 U

Table 4
Chlorinated Organics in Groundwater
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

	Sample Identification		Round	Sample Date	PCE (ug/L)	TCE (ug/L)	1,1-DCE (ug/L)	cis-DCE (ug/L)	trans-DCE (ug/L)	VC (ug/L)	1,1-DCA (ug/L)	1,2-DCA (ug/L)
			Class GA Standard (ug/L)		5	5	5	5	5	2	5	0.6
Upgradient	PT-24	Downgradient of ZVI wall	1	2-Jan-07	1 U	4	1 U	54	0.86 J	0.6 J	0.68 J	1 U
			2	15-Mar-07	1 U	2.8	1 U	38	0.81 J	1 U	1 U	1 U
			3	5-Jun-07	1 U	3.1	1 U	60	1.6	2.6	0.75 J	1 U
			4	13-Nov-07	1 U	3.8	1 U	39	1 U	1 U	0.56 J	1 U
			5	26-Jun-08	1 U	2.4	1 U	48	1.1	1.9	0.69 J	1 U
			6	12-Dec-08	0.36 U	2.2	0.29 U	34	0.36 J	0.26 J	0.75 U	0.21 U
			7	2-Jun-09	0.36 U	1.7	0.29 U	32	0.83 J	2	0.75 U	0.21 U
			8	15-Dec-09	0.36 U	1.7	0.38 U	28	0.61 J	1.6	0.29 U	0.21 U
			9	30-Jun-10	0.15 U	0.39 J	0.11 U	33	1.1	3.8	0.54 J	0.1 U
			10	17-Dec-10	0.15 U	0.53 J	0.11 U	30	1.4	7.7	0.54 J	0.1 U
			11	21-Jul-11	0.15 U	0.38 J	0.11 U	37	1.4	7.9	0.78 J	0.1 U
			12	13-Dec-11	0.15 U	0.82 J	0.11 U	21	0.63 J	2.9	0.48 J	0.1 U
			13	19-Jun-12	0.15 U	0.87 J	0.11 U	30	0.84 J	2.8	0.57 J	0.1 UJ
			14	12-Dec-12	0.15 U	1.1	0.11 U	18	0.38 J	0.18 U	0.32 J	0.1 U
			15	9-Jul-13	0.15 U	1.6	0.11 U	24	0.8 J	0.83 J	0.51 J	0.1 U
			16	11-Dec-13	0.15 U	1.3	0.11 U	23	0.86 J	1.8	0.52 J	0.1 U
			17	20-Jun-14	0.15 U	1.3	0.11 U	23	1	1.7	0.25 U	0.1 U
			18	19-Dec-14	0.15 U	0.85 J	0.11 U	13	0.53 J	0.18 U	0.29 J	0.1 U
	MW-56	Off-site well	1	4-Jan-07	1 U	1 U	1 U	1.2	1 U	1 U	1 U	1 U
			3	6-Jun-07	1 U	1 U	1 U	1.7	1 U	1 U	1 U	1 U
			5	26-Jun-08	1 U	1 U	1 U	1.3	1 U	1 U	1 U	1 U
			6	11-Dec-08	0.36 U	0.33 J	0.29 U	0.4 J	0.13 U	0.24 U	0.75 U	0.21 U
			7	4-Jun-09	0.36 U	0.18 U	0.29 U	1	0.13 U	0.24 U	0.75 U	0.21 U
			8	18-Dec-09	0.36 U	0.46 U	0.38 U	0.56 J	0.42 U	0.24 U	0.29 U	0.21 U
			9	1-Jul-10	0.15 U	0.13 U	0.11 U	0.61 J	0.2 U	0.18 U	0.25 U	0.1 U
			10	19-Dec-10	0.15 U	0.13 U	0.11 U	0.86 J	0.2 U	0.18 U	0.25 U	0.1 U
			11	4-Oct-11	0.15 U	0.13 U	0.11 U	2.3	0.2 U	0.18 U	0.25 U	0.1 U
			12	12-Dec-11	0.15 U	0.13 U	0.11 U	0.95 J	0.2 U	0.18 U	0.25 U	0.1 U
			13	18-Jun-12	0.15 U	0.13 U	0.11 U	2.2	0.2 U	0.18 U	0.25 U	0.1 UJ
			14	14-Dec-12	0.15 U	0.13 U	0.11 U	0.85 J	0.2 U	0.18 U	0.25 U	0.1 U
			15	9-Jul-13	0.15 U	0.13 U	0.11 U	2.2	0.2 U	0.18 U	0.25 U	0.1 U
			16	11-Dec-13	0.15 U	0.13 U	0.11 U	1.7	0.2 U	0.18 U	0.25 U	0.1 U
			17	22-Jun-14	0.15 U	0.13 U	0.11 U	0.98 J	0.2 U	0.18 U	0.25 U	0.1 U
Downgradient			18	19-Dec-14	0.15 U	0.13 U	0.11 U	0.89 J	0.2 U	0.18 U	0.25 U	0.1 U

Notes:

1. Sample duplicate pairs were collected at MWT-28 in Jan-07, June-09, June-10, June-12, and Dec-13; MWT-29 in Mar-07 and Jun-08; MWT-27 in Jun-07, Dec-08, Dec-09, July-11, July-13, Dec-14; and MWT-23 in Nov-07, Dec-10, Dec-11, Dec-12, June-14. If an analyte was detected in the sample but not detected in the duplicate (or vice versa) the non-detect value was taken at half the detection limit averaged with the detect value.
2. Wells in bold are the biowall process monitoring wells.
3. Grey shading indicates that the concentration was detected above its Class GA groundwater standard. The Class GA Groundwater standard for TCE and cis-DCE is 5 ug/L; for VC the Class GA standard is 2 ug/L.

U = compound was not detected; detection limit shown.
J = the reported value is an estimated concentration.
UJ = the compound was not detected; the associated reporting limit is approximate.

Table 5
Groundwater Trends
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

		TCE Cleanup Objective: 5 ug/L		cis-DCE Cleanup Objective: 5 ug/L		VC Cleanup Objective: 2 ug/L	
		Predicted Date		Predicted Date		Predicted Date	
		95% Confidence		95% Confidence		95% Confidence	
		Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
Upgradient	PT-18A	2019		2017		Achieved** R9 (June 2010)	
		2009	N/A	2008	Decreasing		
	MWT-25	2012		Achieved R12 (Dec 2011)		Achieved Q4 (Nov 2007)	
		2008	2036				
	MWT-26	Achieved* Q3 (June 2007)		2011		Achieved* R12 (Dec 2011)	
				2007	Decreasing		
Biowall B1	MWT-27	Achieved Q1 (Jan 2007)		Achieved Q2 (March 2007)		Achieved** Q1 (Jan 2007)	
Biowall B2	MWT-28	Achieved Q1 (Jan 2007)		Achieved Q1 (Jan 2007)		Achieved Q1 (Jan 2007)	
	MWT-29	Achieved R7 (June 2009)		2020		2023	
				2014	2037	2015	2067
	MWT-22	Achieved R7 (June 2009)		2037		N/A	
				2018	Decreasing	2052	Decreasing
	PT-22	N/A		2071		Achieved** R11 (July 2011)	
		-	-	2028	Decreasing		
Biowall C2	MWT-23	Achieved Q1 (Jan 2007)		Achieved Q3 (June 2007)		Achieved** Q3 (June 2007)	
	MWT-24	Achieved R7* (June 2009)		2024		2012	
				2013	Decreasing	2009	2026
	PT-17	2013		N/A		N/A	
		2006	2028	-	-	-	-
	MWT-7	2040		N/A		N/A	
		2015	Decreasing	-	-	-	-
	PT-24	Achieved Q1 (Jan 2007)		2024		Achieved R14 (Dec 2012)	
				2019	2034		
Downgradient	MW-56	Achieved Q1 (Jan 2007)		Achieved Q1 (Jan 2007)		Achieved Q1 (Jan 2007)	

Notes:

1. The estimated remediation timeframes are calcuated from an empirical data trend extrapolation model. The model predicts remediation timeframe by determining the trend in measured concentration vs. time data from wells within the plume and then extrapolates this trend to determine how long it will take to reach the selected cleanup objective. The dates are estimates that indicate that the groundwater concentrations will eventually reach NYS GA Standards and are not intended to represent a definitive timeframe in which the NYS GA Standards will be achieved. The table will be updated annually to reflect the influence of new data.

2. Achieved: The NYS GA Standard was achieved in the noted Round (R) or Quarter (Q) and concentrations are consistently below the GA Standard.

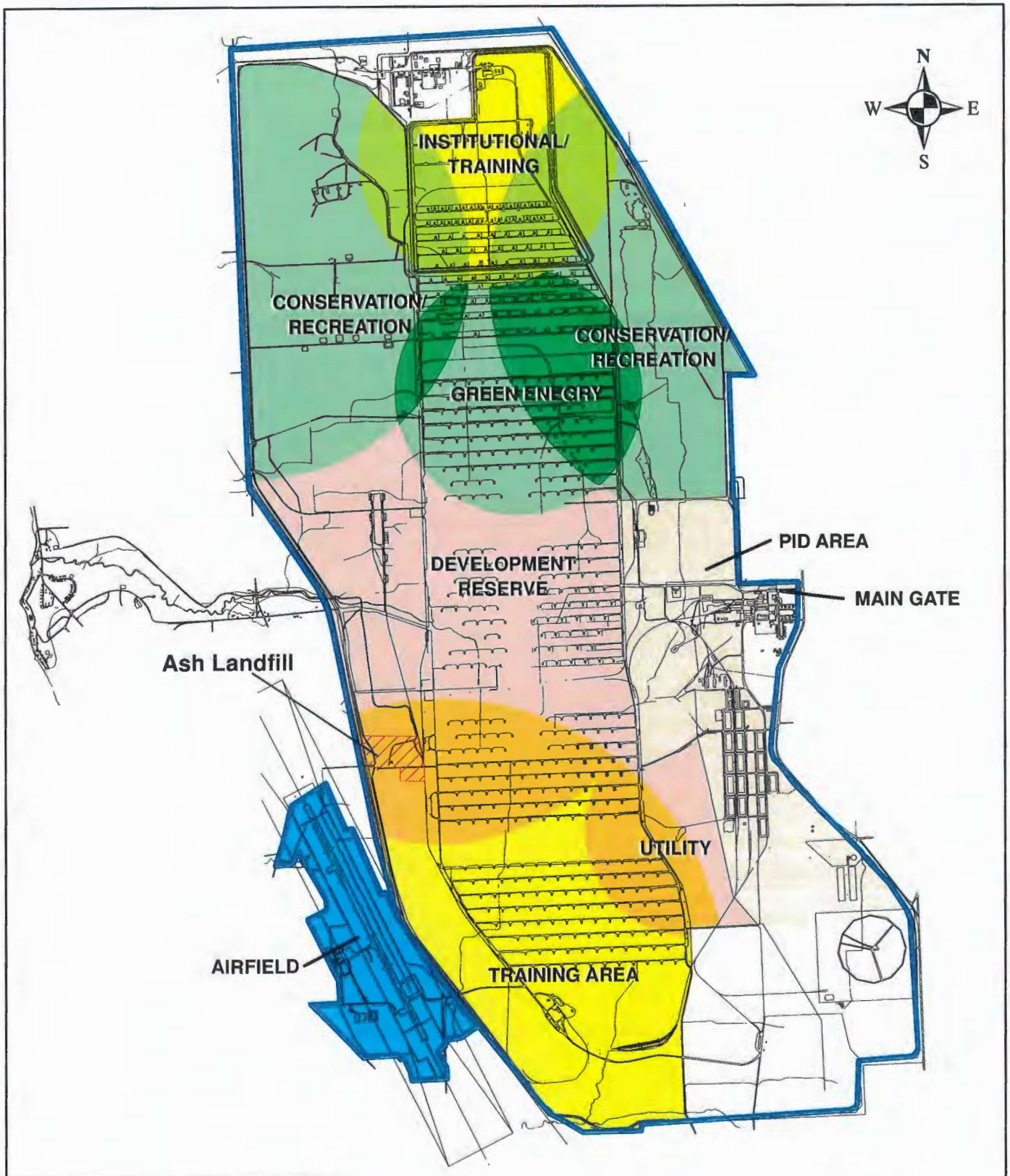
3. Achieved*: The concentrations are consistently below the NYS GA Standard since the noted Round (R) or Quarter (Q) with the exception of one limited exceedance sometime after the noted time.

4. Achieved**: The concentrations are consistently below the NYS GA Standard since the noted Round (R) or Quarter (Q) with the exception of limited seasonal exceedances sometime after the noted time.

5. N/A: An estimated timeframe could not be calcuated because the concentration trend is increasing or no trend exists.

6. Decreasing indicates that the overall trend is decreasing with time or the result of a bad fit (R^2 value). An upper confidence limit could not be calculated because the decay rate calcuated for the upper limit is negative (increasing concentration).

FIGURES



PARSONS

SENECA ARMY DEPOT ACTIVITY

ASH LANDFILL ANNUAL REPORT

FIGURE 1

ASH LANDFILL LOCATION AT SEDA

APRIL 2015

Seneca Army Depot Boundary

Ash Landfill (SEADs 3, 6, 8, 14 & 15)
Operational Unit Boundary

Path: P:\PIT\Projects\Huntsville Cont W912DY-08-D-0003\TO#15 - LTM and LUC\Ash Landfill LTM\Yr 7 Annual Report\Figures\FIGURE 1.mxd

LEGEND:

- PAVED ROAD
- DIRT ROAD
- GROUND CONTOUR AND ELEVATION
- TREE
- WETLAND & DESIGNATION
- BRUSH
- CHAIN LINK FENCE
- UTILITY POLE
- APPROXIMATE LOCATION OF FIRE HYDRANT
- FUEL OR UNDERGROUND STORAGE TANK
- SURVEY MONUMENT
- MONITORING WELL AND DESIGNATION
- RAILROAD TRACKS
- WATER MAIN
- POST CONSTRUCTION AS BUILT GROUND ELEVATION CONTOUR
- PILOT STUDY BIOWALL (2005)
- SINGLE BIOWALL (2006)
- DOUBLE-WIDE BIOWALL (2006)
- ZERO VALENT IRON WALL (1996)
- LIMITS OF LANDFILL
- SEDA PROPERTY BOUNDARY
- OU BOUNDARY

100 0 100 200
(feet)

PARSONS

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT
ASH LANDFILL
ASH LANDFILL ANNUAL REPORT

DEPT. ENVIRONMENTAL ENGINEERING | Dwg. No.

FIGURE 2
ASH LANDFILL
SITE PLAN

SCALE | DATE April 2015 | REV –

FILE: P:\PIT\PROJECTS\HUNTSVILLE CONT W912DY-08-D-0003\TO#15 - LTM AND LUC\ASH LANDFILL LTM\YR 7 ANNUAL REPORT\FIGURES\FIGURE 2.DWG, DATE: 04/07/2014 11:17:43AM, p0018397

LEGEND:

- PAVED ROAD
- DIRT ROAD
- GROUND CONTOUR AND ELEVATION
- TREE
- WETLAND & DESIGNATION
- BRUSH
- CHAIN LINK FENCE
- UTILITY POLE
- APPROXIMATE LOCATION OF FIRE HYDRANT
- FUEL OR UNDERGROUND STORAGE TANK
- SURVEY MONUMENT (SEAD-1 EL.630.90')
- MONITORING WELL AND DESIGNATION (PT-22)
- RAILROAD TRACKS
- WATER MAIN
- APPROXIMATE EXTENT OF IRM SOIL TREATMENT AND EXCAVATION
- APPROXIMATE AREA REQUIRING LAND USE CONTROLS
- SEDA PROPERTY BOUNDARY
- OU BOUNDARY

NOTE:
FIGURE SHOWS PRE-CONSTRUCTION CONDITIONS

PARSONS

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT
ASH LANDFILL
ASH LANDFILL ANNUAL REPORT

DEPT.	Dwg. No.
ENVIRONMENTAL ENGINEERING	

FIGURE 3
ASH LANDFILL
HISTORIC SITE MAP

SCALE	DATE	REV
	MARCH 2015	

FILE: P:\PIT\PROJECTS\...VILLE CONT W912DY-08-D-0003\TO#15 - LTM AND LUC\ASH LANDFILL LTM\YR 8 ANNUAL REPORT\DRAFT\FIGURES\FIGURE 3.DWG, 03/18/2015 04:37:40PM

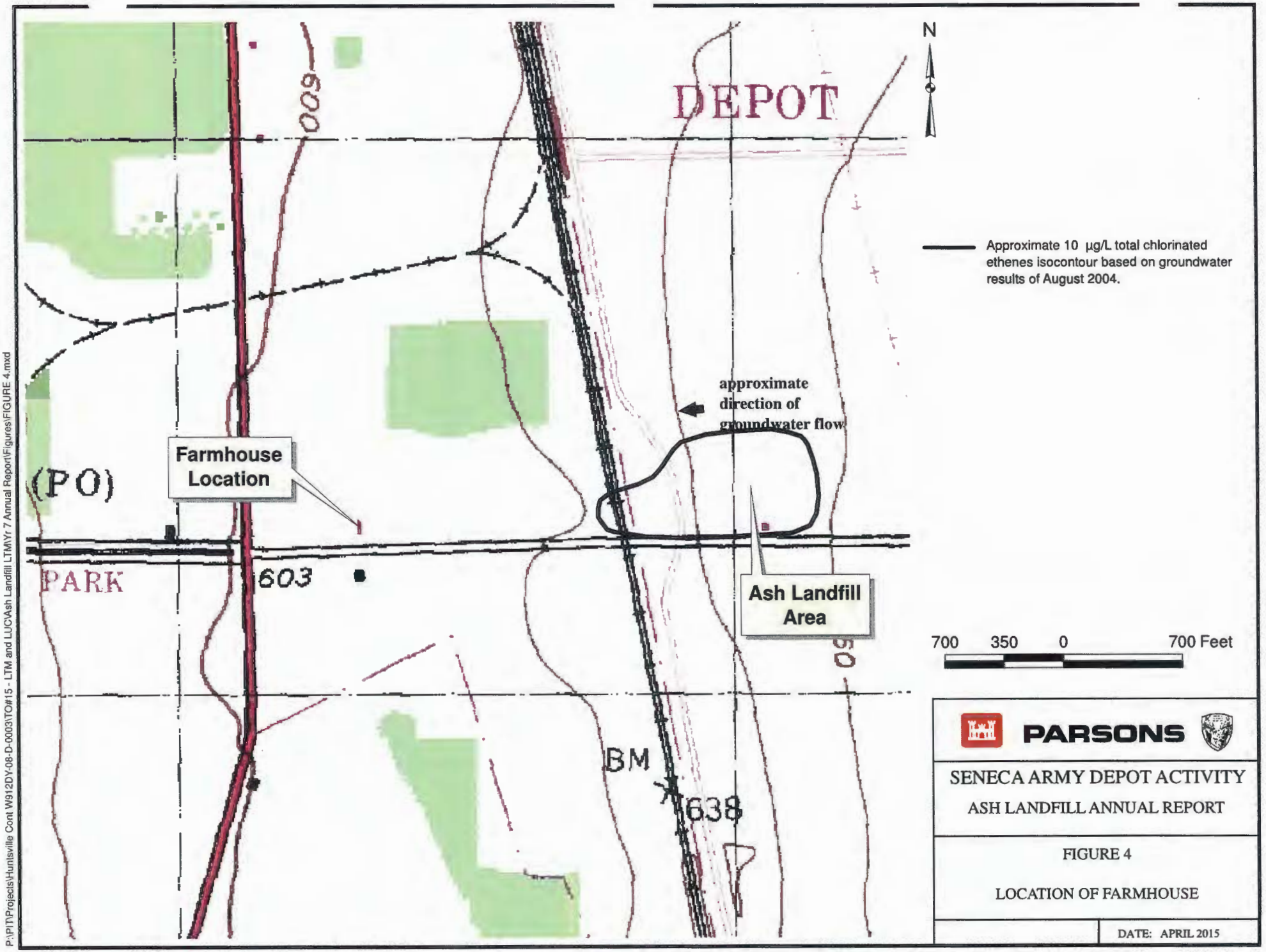
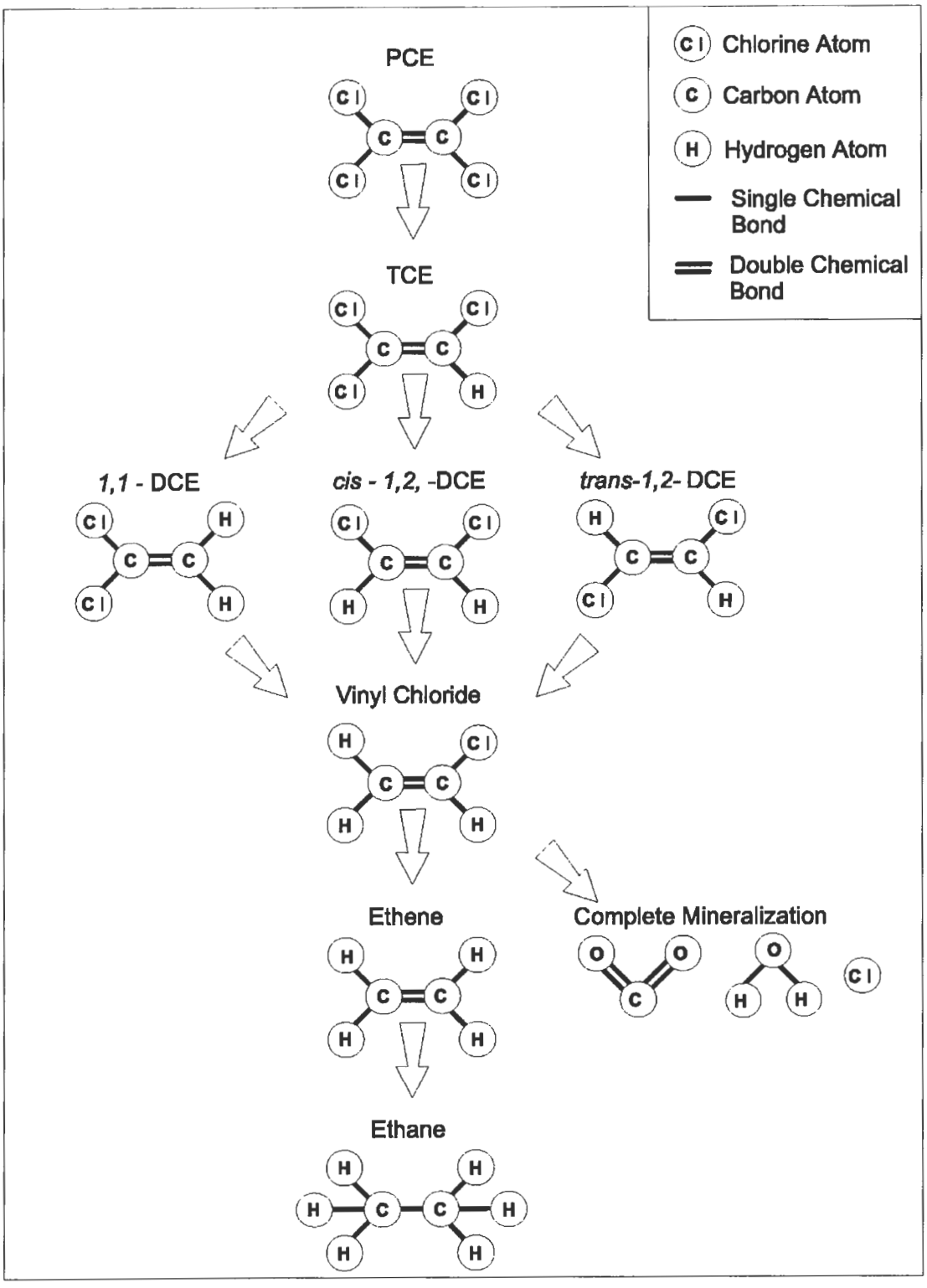
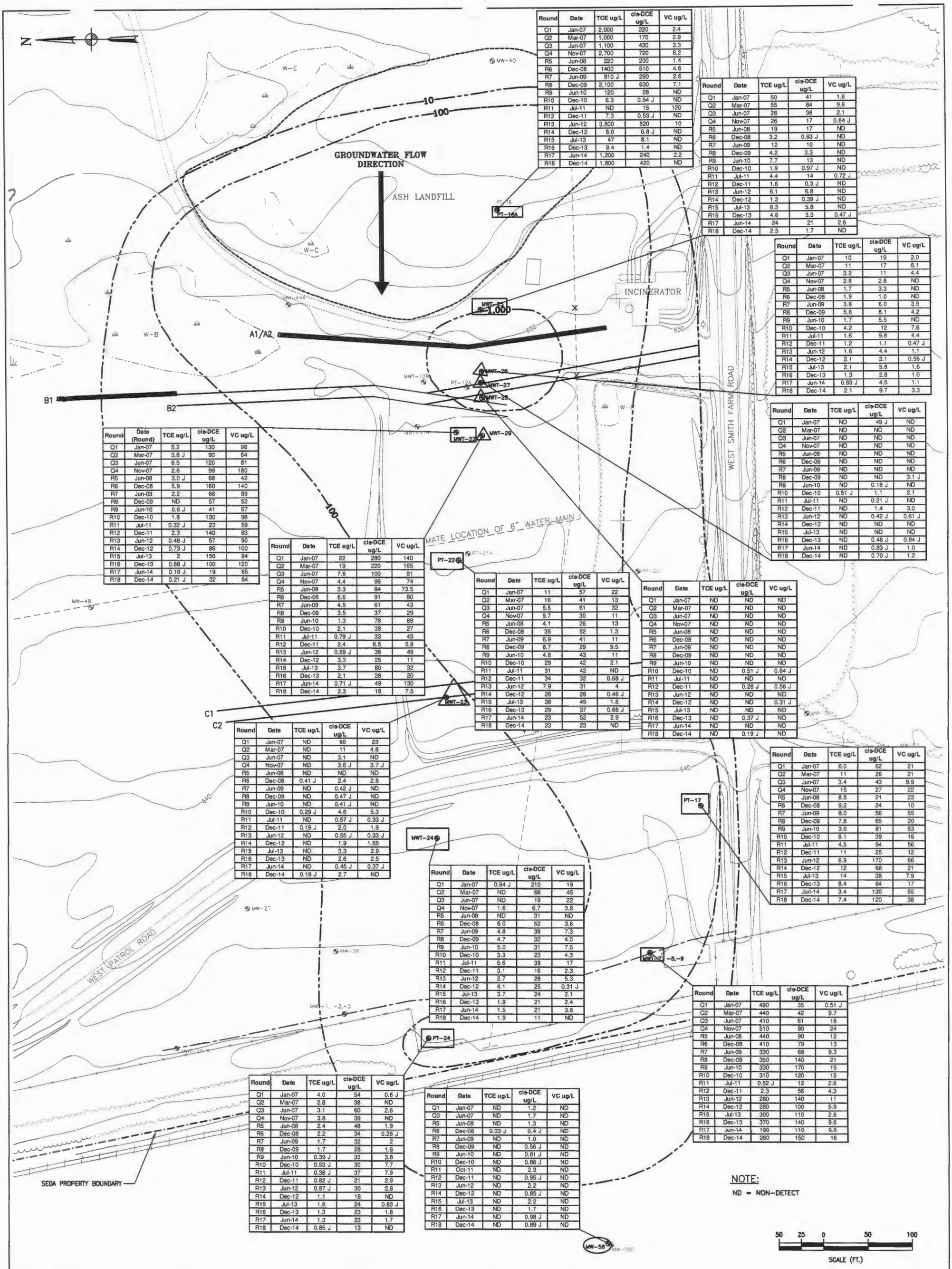

DEPOT
N
Approximate 10 µg/L total chlorinated ethenes isocontour based on groundwater results of August 2004.
approximate direction of groundwater flow
Farmhouse Location
Ash Landfill Area
(PO)
PARK
603
609
BM
638
700 350 0 700 Feet
PARSONS
SENECA ARMY DEPOT ACTIVITY
ASH LANDFILL ANNUAL REPORT
FIGURE 4
LOCATION OF FARMHOUSE
DATE: APRIL 2015
P:\PIT\Projects\Huntsville Cont W912DY-08-D-0003\TO#15 - LTM and LUC\Ash Landfill LTM\Yr 7 Annual Report\Figures\FIGURE 4.mxd

Figure 5
Reductive Dechlorination of Chlorinated Ethenes
Ash Landfill Annual Report
Seneca Army Depot Activity



(USEPA, 1998)



Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	2,000	220	2.4
Q2	Mar-07	1,000	170	2.9
Q3	Jun-07	1,100	430	3.3
Q4	Nov-07	2,700	720	8.2
R5	Jun-08	220	200	1.4
R6	Dec-08	1400	510	4.6
R7	Jun-09	810 J	260	2.6
R8	Dec-09	2,100	630	7.1
R9	Jun-10	120	28	ND
R10	Dec-10	6.3	0.54 J	ND
R11	Jul-11	ND	15	120
R12	Dec-11	7.3	0.53 J	ND
R13	Jun-12	3,800	820	10
R14	Dec-12	8.0	0.8 J	ND
R15	Jul-13	47	8.1	ND
R16	Dec-13	9.4	1.4	ND
R17	Jun-14	1,200	240	2.2
R18	Dec-14	1,800	420	ND

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	50	41	1.6
Q2	Mar-07	55	84	9.6
Q3	Jun-07	28	36	2.1
Q4	Nov-07	26	17	0.64 J
R5	Jun-08	19	17	ND
R6	Dec-08	3.2	0.63 J	ND
R7	Jun-09	12	10	ND
R8	Dec-09	4.2	3.3	ND
R9	Jun-10	7.7	13	ND
R10	Dec-10	1.9	0.97 J	ND
R11	Jul-11	4.4	14	0.72 J
R12	Dec-11	1.6	0.3 J	ND
R13	Jun-12	6.1	6.8	ND
R14	Dec-12	1.3	0.39 J	ND
R15	Jul-13	8.3	5.8	ND
R16	Dec-13	4.6	3.3	0.47 J
R17	Jun-14	24	21	2.6
R18	Dec-14	2.5	1.7	ND

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	10	19	2.0
Q2	Mar-07	11	17	6.1
Q3	Jun-07	3.2	11	4.4
Q4	Nov-07	2.8	2.8	ND
R5	Jun-08	1.7	3.3	ND
R6	Dec-08	1.9	1.0	ND
R7	Jun-09	3.6	6.0	3.5
R8	Dec-09	5.8	8.1	4.2
R9	Jun-10	1.7	5.5	ND
R10	Dec-10	4.2	12	7.6
R11	Jul-11	1.6	9.8	4.4
R12	Dec-11	1.2	1.1	0.47 J
R13	Jun-12	1.6	4.4	1.1
R14	Dec-12	2.1	3.1	0.56 J
R15	Jul-13	2.1	5.8	1.6
R16	Dec-13	1.3	2.8	1.0
R17	Jun-14	0.83 J	4.5	1.1
R18	Dec-14	2.1	9.7	3.3

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	ND	49 J	ND
Q2	Mar-07	ND	ND	ND
Q3	Jun-07	ND	ND	ND
Q4	Nov-07	ND	ND	ND
R5	Jun-08	ND	ND	ND
R6	Dec-08	ND	ND	ND
R7	Jun-09	ND	ND	ND
R8	Dec-09	ND	ND	3.1 J
R9	Jun-10	ND	0.18 J	ND
R10	Dec-10	0.51 J	1.1	2.1
R11	Jul-11	ND	0.21 J	ND
R12	Dec-11	ND	1.4	3.0
R13	Jun-12	ND	0.42 J	0.61 J
R14	Dec-12	ND	ND	ND
R15	Jul-13	ND	ND	ND
R16	Dec-13	ND	0.48 J	0.84 J
R17	Jun-14	ND	0.83 J	1.0
R18	Dec-14	ND	0.70 J	1.2

Round	Date (Round)	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	5.2	130	98
Q2	Mar-07	3.8 J	90	64
Q3	Jun-07	6.5	120	81
Q4	Nov-07	2.6	99	180
R5	Jun-08	3.0 J	68	42
R6	Dec-08	5.9	160	140
R7	Jun-09	2.2	66	89
R8	Dec-09	ND	57	52
R9	Jun-10	0.6 J	41	57
R10	Dec-10	1.8	130	98
R11	Jul-11	0.32 J	23	59
R12	Dec-11	2.3	140	83
R13	Jun-12	0.48 J	57	90
R14	Dec-12	0.73 J	86	100
R15	Jul-13	2	150	84
R16	Dec-13	0.88 J	100	120
R17	Jun-14	0.19 J	19	65
R18	Dec-14	0.21 J	32	84

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	22	280	140
Q2	Mar-07	19	220	165
Q3	Jun-07	7.6	100	81
Q4	Nov-07	4.4	96	74
R5	Jun-08	3.3	84	73.5
R6	Dec-08	6.6	91	80
R7	Jun-09	4.5	61	43
R8	Dec-09	3.5	37	29
R9	Jun-10	1.3	78	69
R10	Dec-10	2.1	38	27
R11	Jul-11	0.79 J	33	43
R12	Dec-11	2.4	8.5	5.9
R13	Jun-12	0.69 J	36	49
R14	Dec-12	3.3	25	11
R15	Jul-13	3.7	80	32
R16	Dec-13	2.1	28	20
R17	Jun-14	0.71 J	49	130
R18	Dec-14	2.3	18	7.5

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	11	57	22
Q2	Mar-07	16	41	13
Q3	Jun-07	8.5	61	32
Q4	Nov-07	9.7	30	11
R5	Jun-08	4.1	26	13
R6	Dec-08	35	52	1.3
R7	Jun-09	6.9	41	11
R8	Dec-09	8.7	29	9.5
R9	Jun-10	4.6	43	11
R10	Dec-10	29	42	2.1
R11	Jul-11	31	42	ND
R12	Dec-11	34	32	0.68 J
R13	Jun-12	7.9	31	4
R14	Dec-12	28	26	0.46 J
R15	Jul-13	38	49	1.6
R16	Dec-13	29	37	0.68 J
R17	Jun-14	23	52	2.9
R18	Dec-14	23	23	ND

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	ND	ND	ND
Q2	Mar-07	ND	ND	ND
Q3	Jun-07	ND	ND	ND
Q4	Nov-07	ND	ND	ND
R5	Jun-08	ND	ND	ND
R6	Dec-08	ND	ND	ND
R7	Jun-09	ND	ND	ND
R8	Dec-09	ND	ND	ND
R9	Jun-10	ND	ND	ND
R10	Dec-10	ND	0.51 J	0.64 J
R11	Jul-11	ND	ND	ND
R12	Dec-11	ND	0.28 J	0.56 J
R13	Jun-12	ND	ND	ND
R14	Dec-12	ND	ND	0.31 J
R15	Jul-13	ND	ND	ND
R16	Dec-13	ND	0.37 J	ND
R17	Jun-14	ND	ND	ND
R18	Dec-14	ND	0.19 J	ND

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	ND	60	23
Q2	Mar-07	ND	11	4.8
Q3	Jun-07	ND	3.1	ND
Q4	Nov-07	ND	3.6 J	3.7 J
R5	Jun-08	ND	ND	ND
R6	Dec-08	0.41 J	2.4	2.8
R7	Jun-09	ND	0.42 J	ND
R8	Dec-09	ND	0.47 J	ND
R9	Jun-10	ND	0.41 J	ND
R10	Dec-10	0.29 J	4.6	5.3
R11	Jul-11	ND	0.57 J	0.33 J
R12	Dec-11	0.19 J	2.0	1.9
R13	Jun-12	ND	0.55 J	0.33 J
R14	Dec-12	ND	1.9	1.65
R15	Jul-13	ND	3.3	2.9
R16	Dec-13	ND	2.6	2.5
R17	Jun-14	ND	0.45 J	0.37 J
R18	Dec-14	0.19 J	2.7	ND

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	6.0	62	21
Q2	Mar-07	11	26	21
Q3	Jun-07	3.4	43	9.9
Q4	Nov-07	15	27	22
R5	Jun-08	8.5	21	23
R6	Dec-08	9.2	24	10
R7	Jun-09	8.0	56	55
R8	Dec-09	7.8	65	20
R9	Jun-10	3.0	81	53
R10	Dec-10	8.1	39	16
R11	Jul-11	4.5	94	56
R12	Dec-11	11	25	12
R13	Jun-12	6.9	170	66
R14	Dec-12	12	68	21
R15	Jul-13	14	38	7.9
R16	Dec-13	8.4	64	17
R17	Jun-14	3.4	130	55
R18	Dec-14	7.4	120	38

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	0.94 J	210	19
Q2	Mar-07	ND	68	45
Q3	Jun-07	ND	19	22
Q4	Nov-07	1.6	6.7	3.8
R5	Jun-08	ND	31	ND
R6	Dec-08	6.0	52	3.6
R7	Jun-09	4.8	38	7.3
R8	Dec-09	4.7	32	4.0
R9	Jun-10	5.0	31	7.5
R10	Dec-10	3.3	23	4.3
R11	Jul-11	5.6	39	17
R12	Dec-11	3.1	16	2.3
R13	Jun-12	2.7	28	5.3
R14	Dec-12	4.1	25	0.31 J
R15	Jul-13	3.7	24	2.1
R16	Dec-13	1.9	21	2.4
R17	Jun-14	1.5	21	3.6
R18	Dec-14	1.9	11	ND

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	490	35	0.51 J
Q2	Mar-07	440	42	9.7
Q3	Jun-07	410	61	18
Q4	Nov-07	510	90	24
R5	Jun-08	440	90	12
R6	Dec-08	410	79	13
R7	Jun-09	330	68	9.3
R8	Dec-09	350	140	21
R9	Jun-10	330	170	15
R10	Dec-10	310	120	15
R11	Jul-11	0.52 J	12	2.6
R12	Dec-11	2.3	56	4.3
R13	Jun-12	280	140	11
R14	Dec-12	280	100	5.9
R15	Jul-13	300	110	2.6
R16	Dec-13	370	140	9.6
R17	Jun-14	190	110	9.6
R18	Dec-14	260	150	16

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	4.0	54	0.6 J
Q2	Mar-07	2.8	38	ND
Q3	Jun-07	3.1	60	2.6
Q4	Nov-07	3.8	39	ND
R5	Jun-08	2.4	48	1.9
R6	Dec-08	2.2	34	0.26 J
R7	Jun-09	1.7	32	2
R8	Dec-09	1.7	28	1.6
R9	Jun-10	0.39 J	33	3.8
R10	Dec-10	0.53 J	30	7.7
R11	Jul-11	0.38 J	37	7.9
R12	Dec-11	0.82 J	21	2.9
R13	Jun-12	0.87 J	30	2.8
R14	Dec-12	1.1	18	ND
R15	Jul-13	1.6	24	0.83 J
R16	Dec-13	1.3	23	1.8
R17	Jun-14	1.3	23	1.7
R18	Dec-14	0.85 J	13	ND

Round	Date	TCE ug/L	cis-DCE ug/L	VC ug/L
Q1	Jan-07	ND	1.2	ND
Q3	Jun-07	ND	1.7	ND
R5	Jun-08	ND	1.3	ND
R6	Dec-08	0.33 J	0.4 J	ND
R7	Jun-09	ND	1.0	ND
R8	Dec-09	ND	0.56 J	ND
R9	Jun-10	ND	0.61 J	ND
R10	Dec-10	ND	0.86 J	ND
R11	Oct-11	ND	2.3	ND
R12	Dec-11	ND	0.95 J	ND
R13	Jun-12	ND	2.2	ND
R14	Dec-12	ND	0.85 J	ND
R15	Jul-13	ND	2.2	ND
R16	Dec-13	ND	1.7	ND
R17	Jun-14	ND	0.98 J	ND
R18	Dec-14	ND	0.89 J	ND

NOTE:

ND = NON-DETECT

50 25 0 50 100

SCALE (FT.)

LEGEND:

- PAVED ROAD
- DIRT ROAD
- GROUND CONTOUR AND ELEVATION (650)
- TREE
- WETLAND & DESIGNATION (W-B)
- MONITORING WELL AND DESIGNATION (PT-22)
- RAILROAD TRACKS
- BRUSH
- CHAIN LINK FENCE
- UTILITY POLE
- APPROXIMATE LOCATION OF FIRE HYDRANT
- FUEL OR UNDERGROUND STORAGE TANK
- SURVEY MONUMENT (SEAD-1 EL.630.90')
- APPROXIMATE LOCATION OF WATER MAIN
- PILOT STUDY BIOWALL (2005)
- SINGLE BIOWALL (2006)
- DOUBLE-WIDE BIOWALL (2006)
- ZERO VALENT IRON WALL (1998)
- GROUNDWATER ISOCONTOUR (UG/L) BASED ON JANUARY 2000 DATA (10)
- OFF-SITE PERFORMANCE MONITORING WELL IN L.T.M. PROGRAM (MW-56)
- ON-SITE PLUME PERFORMANCE MONITORING WELL IN L.T.M. PROGRAM (PT 22)
- BIOWALL PROCESS MONITORING WELL IN L.T.M. PROGRAM (MWT-26)

PARSONS

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT

ASH LANDFILL

ASH LANDFILL ANNUAL REPORT

DEPT. ENVIRONMENTAL ENGINEERING | Dwg. No.

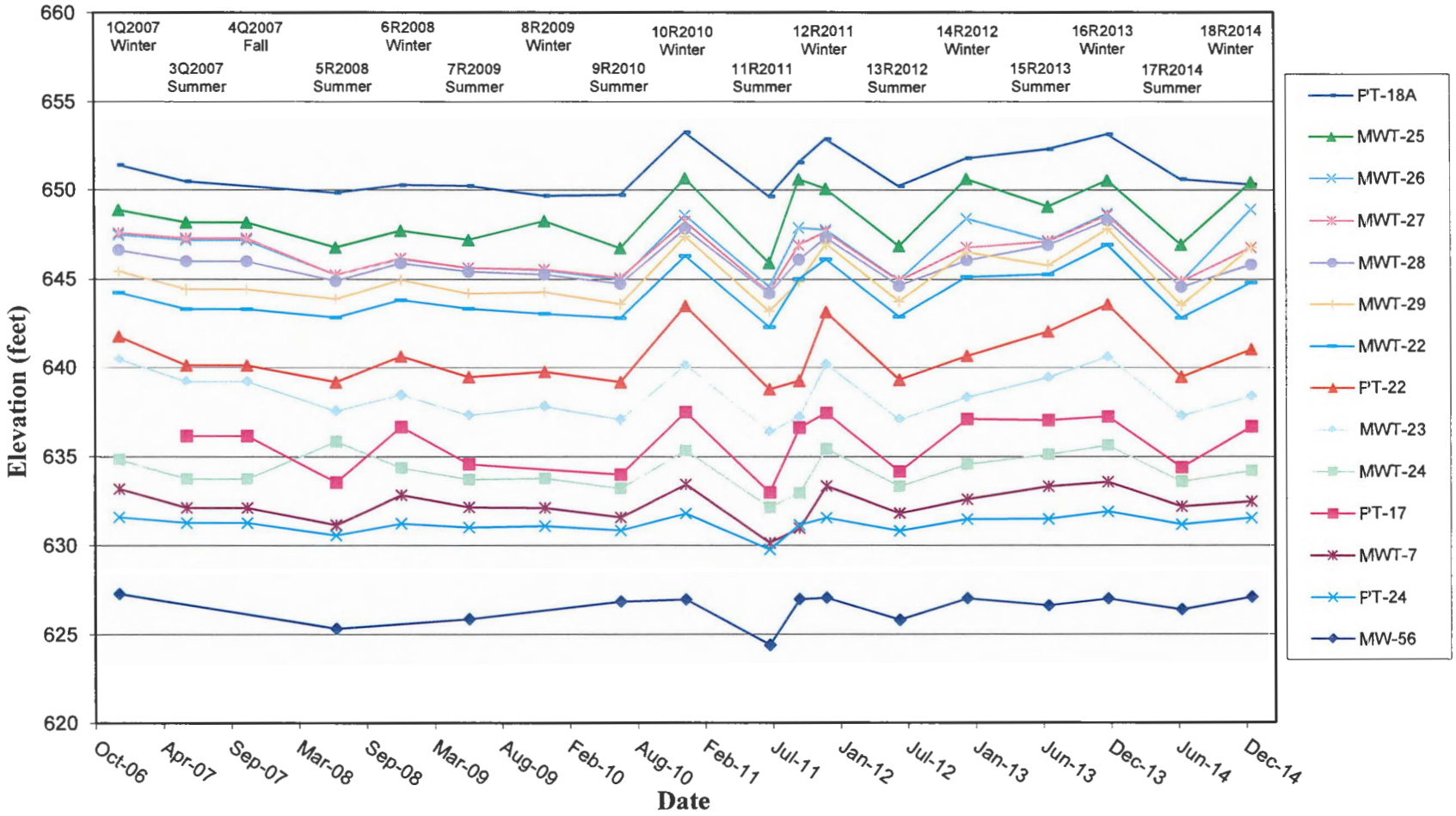
FIGURE 6

CHLORINATED ETHENES CONCENTRATIONS IN GROUNDWATER

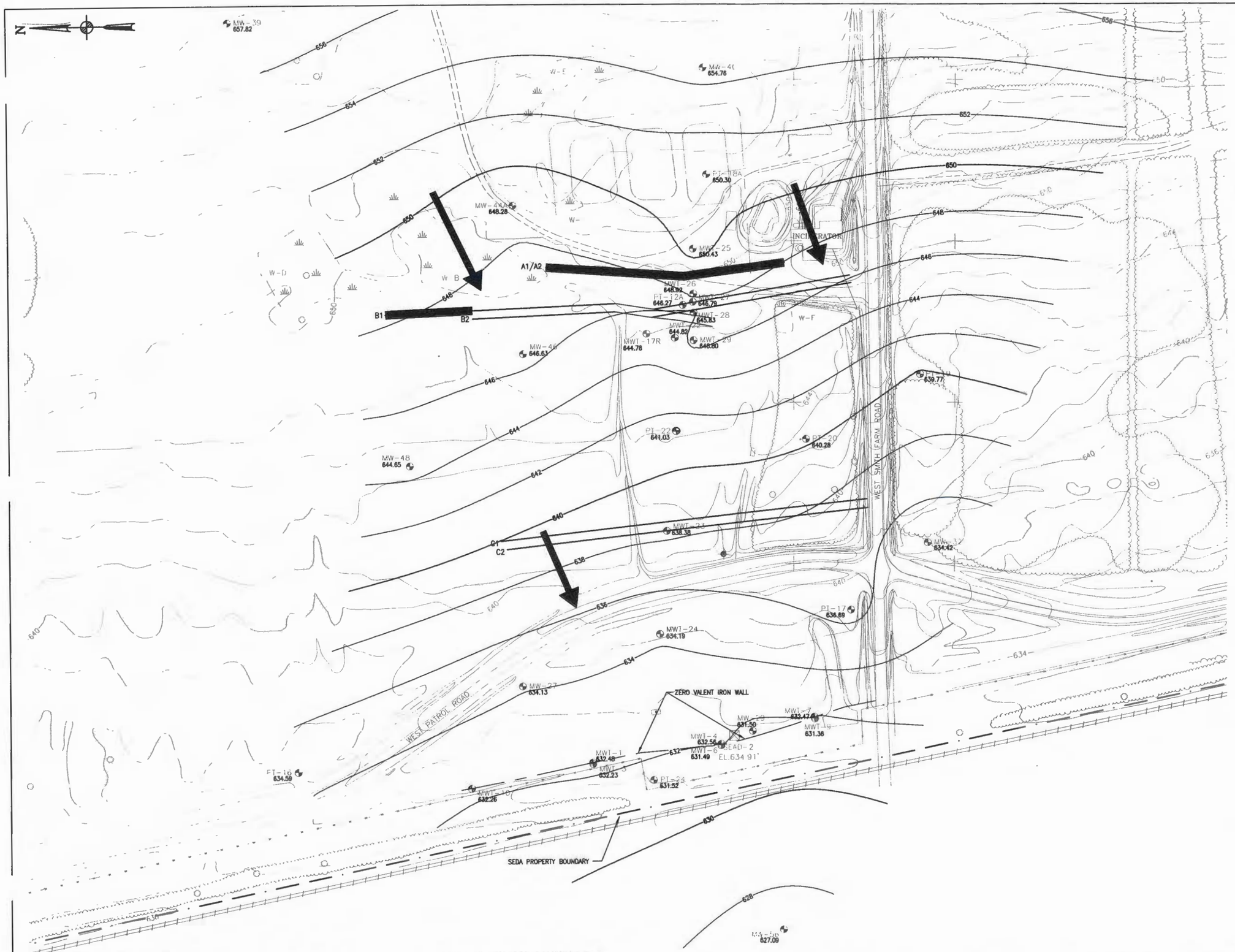
SCALE | DATE MARCH 2015 | REV –

FILE: P:\PIT\PROJECTS\HUNTSVILLE CONT W912DY-08-D-0003\TO#15 - LTM AND LUC\ASH LANDFILL LTM\YR 8 ANNUAL REPORT\DRAFT\FIGURES\FIGURE 6.DWG, DATE: 03/18/2015 04:45:37PM, p0018397

Figure 7
Groundwater Elevations
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



Notes: Groundwater levels were measured on: December 12-15, 2006; Jun 4, 2007; Nov 7, 2007; Jun 23, 2008; Dec 23, 2008; Jun 1, 2009; Dec 14, 2009; Jun 28, 2010; Dec 13, 2010; Dec 12, 2011; Jun 18, 2012; Dec 10, 2012; Jul 8, 2013; Dec 9,2013; Jun 17, 2014; and Dec 15, 2014.
In Round 11, Groundwater levels were collected on July 18, 2011, and again on Oct 3, 2011 when Parsons returned to sample MW-56. Groundwater elevations were not measured at well MW-56 during 3Q2007, 4Q2007, 6R2008, or 8R2009; at PT-17 during 1Q2007 or 8R2008; or at PT-18A during 4Q2007. Groundwater levels were not recorded during 2Q2007.



LEGEND:

- PAVED ROAD
- DIRT ROAD
- GROUND CONTOUR AND ELEVATION
- TREE
- WETLAND & DESIGNATION
- MONITORING WELL AND DESIGNATION
- RAILROAD TRACKS
- BRUSH
- CHAIN LINK FENCE
- UTILITY POLE
- APPROXIMATE LOCATION OF FIRE HYDRANT
- FUEL OR UNDERGROUND STORAGE TANK
- SURVEY MONUMENT (SEAD-1 EL.630.90')
- ABANDONED MONITORING WELL
- APPROXIMATE LOCATION OF WATER MAIN
- PILOT STUDY BIOWALL (2005)
- SINGLE BIOWALL (2006)
- DOUBLE-WIDE BIOWALL (2006)
- ZERO VALENT IRON WALL (1998)
- 640 GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION

70 0 70 140
(FEET)

PARSONS

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT
ASH LANDFILL
ANNUAL REPORT

DEPT. ENVIRONMENTAL ENGINEERING | Dwg. No.

FIGURE 8
ASH LANDFILL GROUNDWATER CONTOURS & GROUNDWATER FLOW DIRECTION DEC. 2014

SCALE | DATE MARCH 2015 | REV –

FILE: P:\PIT\PROJECTS\HUNTSVILLE CONT W912DY-08-D-0003\TO 15 - LTM AND LUC\ASH LANDFILL LTM\YR 8 ANNUAL REPORT\DRAFT\FIGURES\FIGURE 8.DWG, DATE: 03/19/2015 09:39:31AM, p0018397

Figure 9A
Concentrations of VOCs Along the Biowalls - Quarter 1, 2007
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

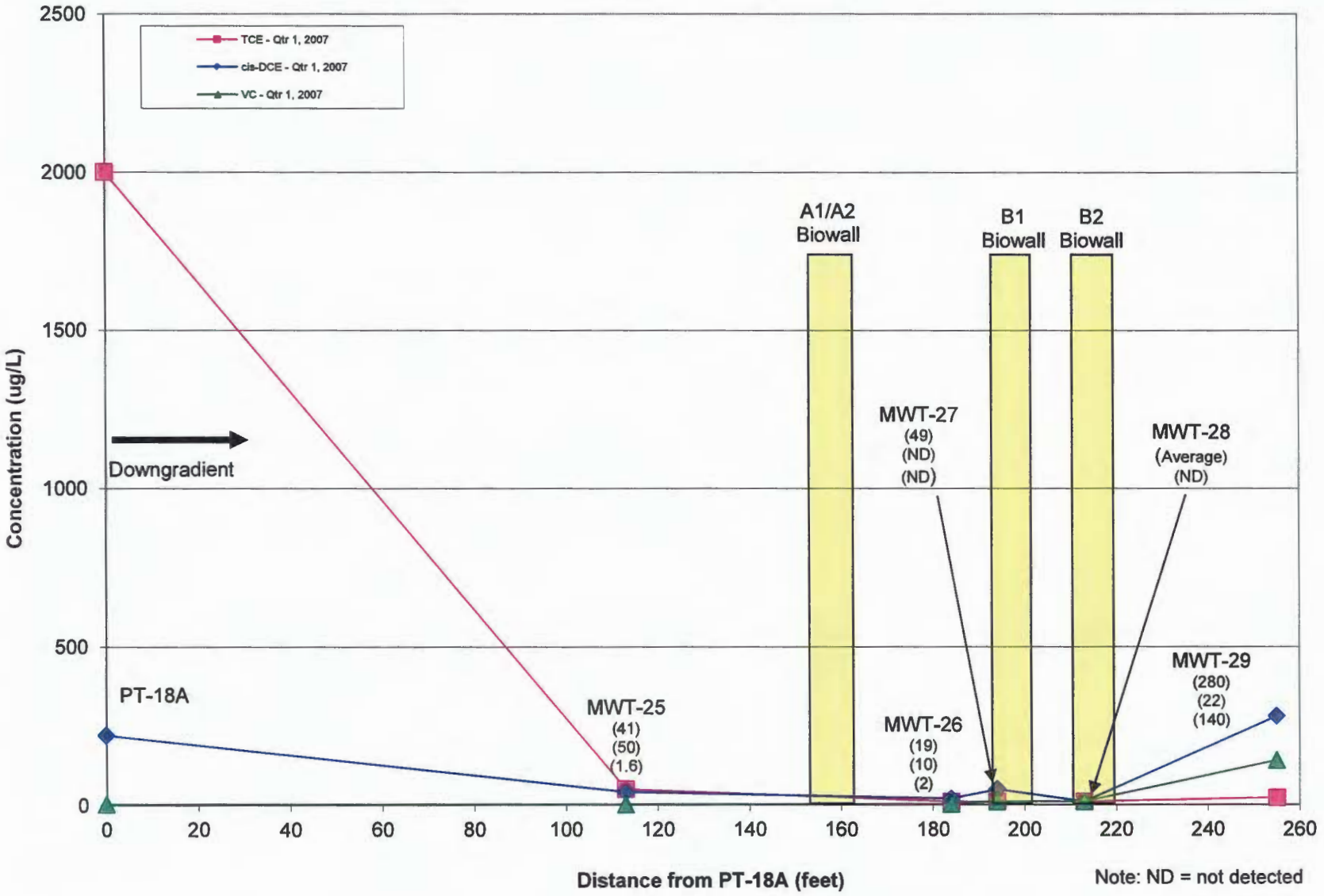


Figure 9B
Concentrations of VOCs Along the Biowalls - Quarter 2, 2007
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

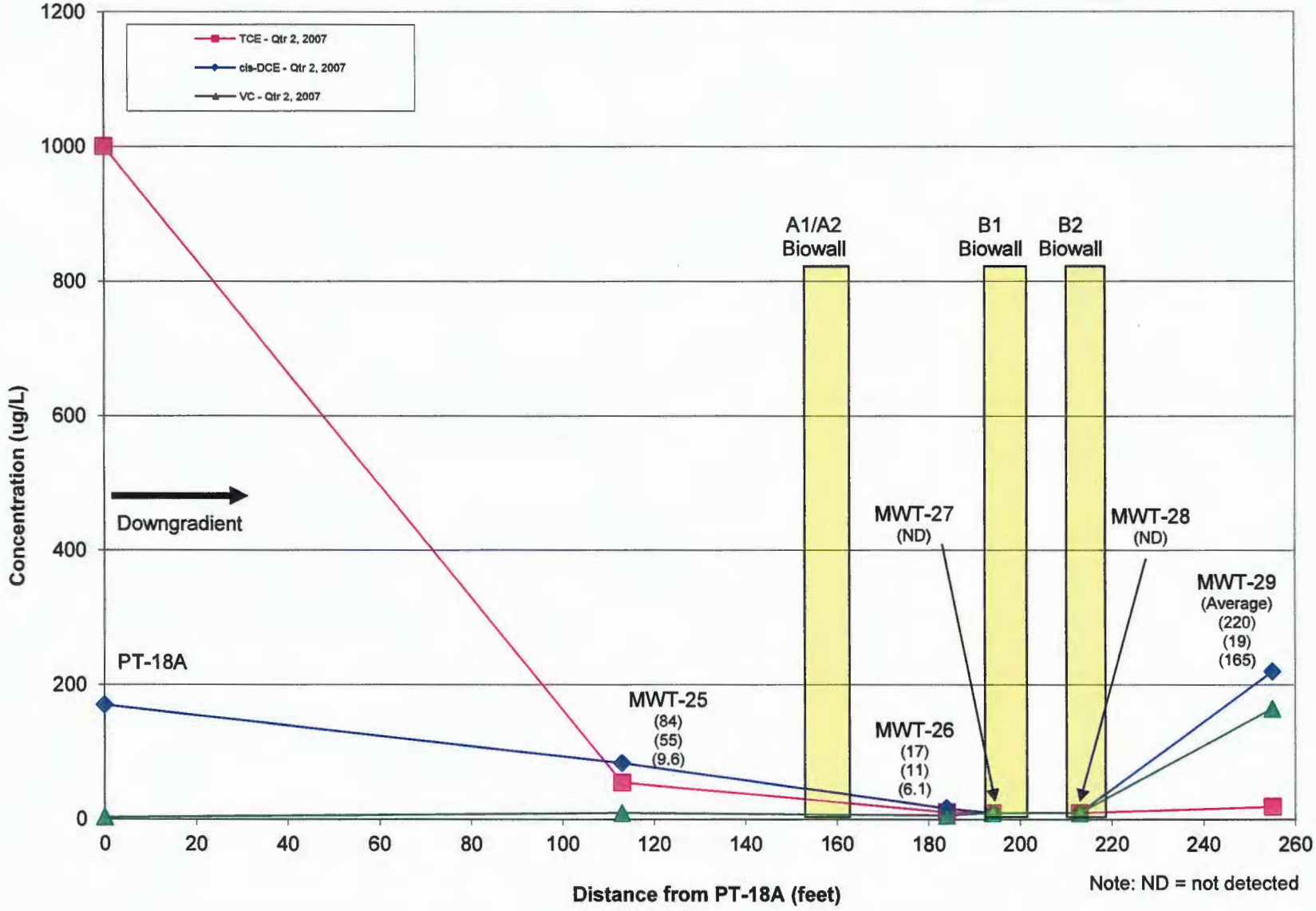


Figure 9C
Concentrations of VOCs Along the Biowalls - Quarter 3, 2007
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

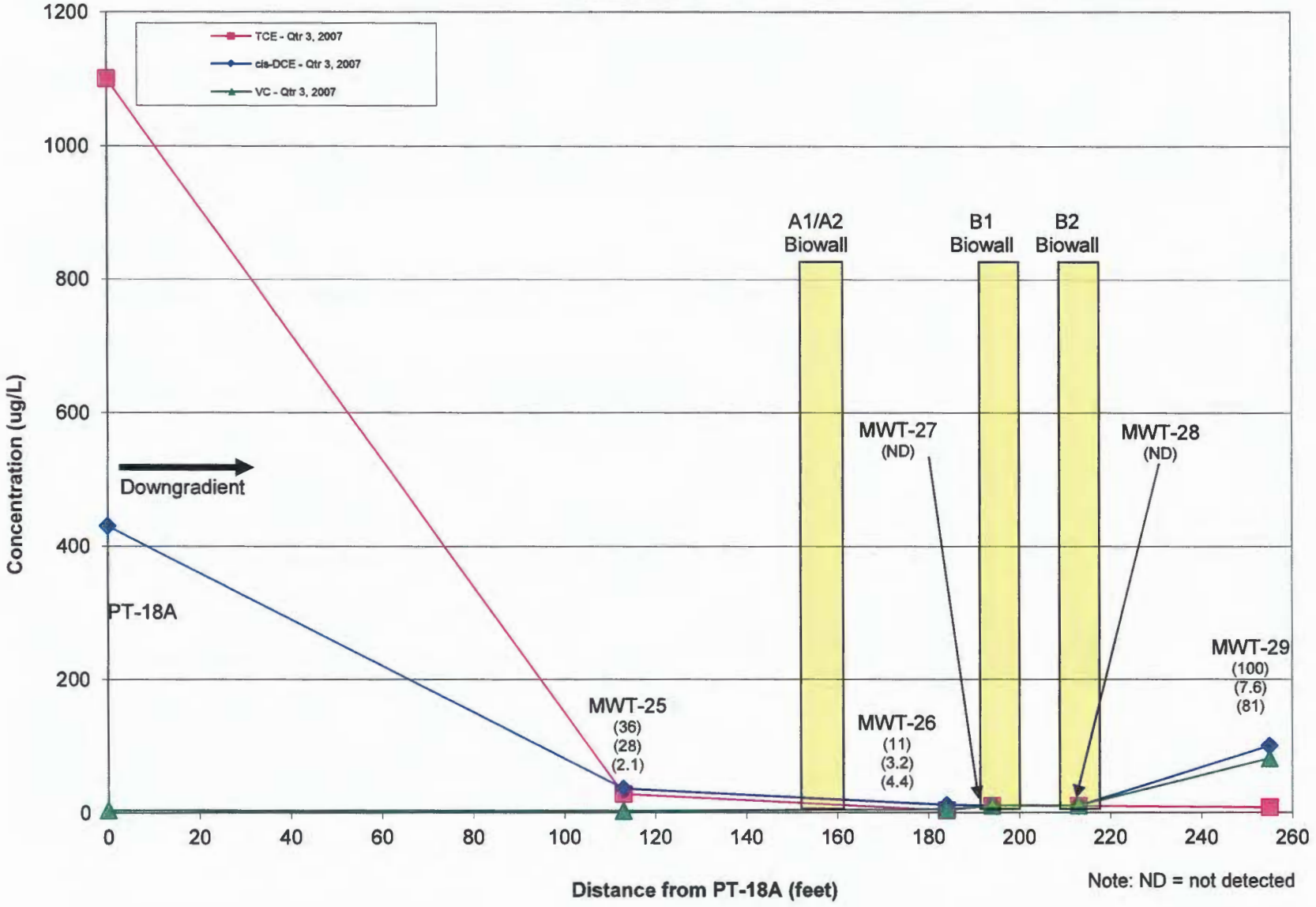


Figure 9D
Concentrations of VOCs Along the Biowalls - Quarter 4, 2007
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

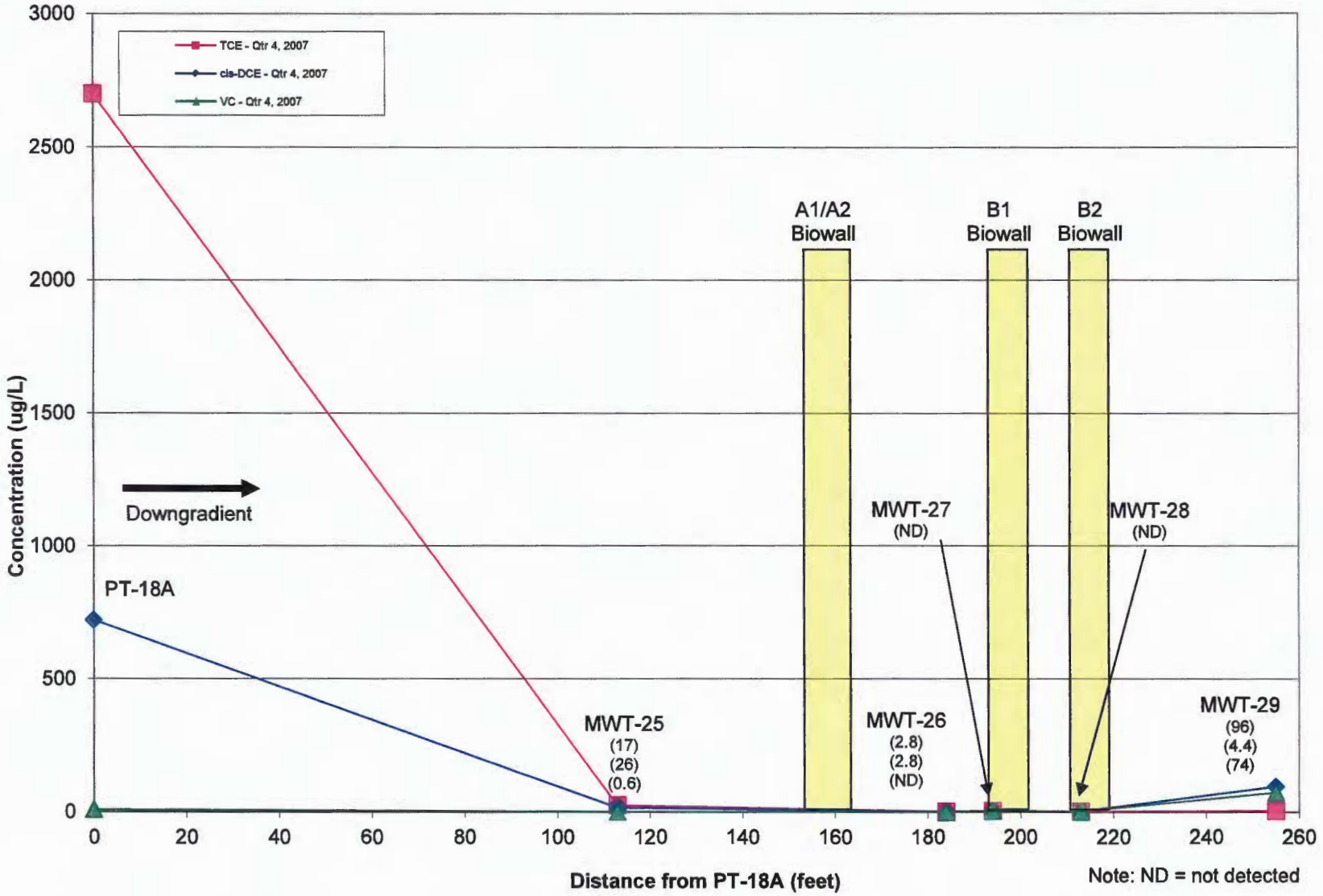


Figure 9E
Concentrations of VOCs Along the Biowalls - Round 5, 2008
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

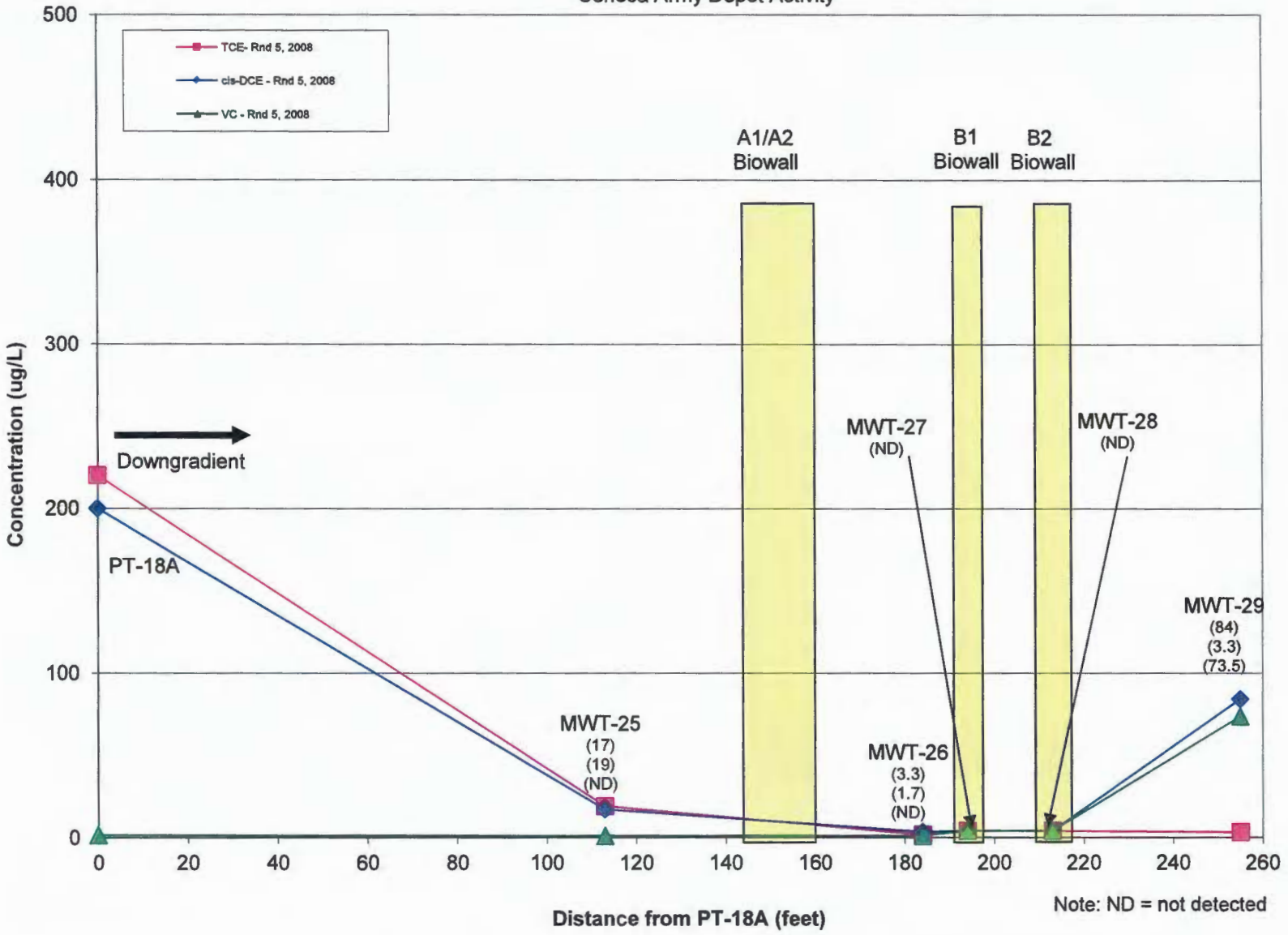


Figure 9F
Concentrations of VOCs Along the Biowalls - Round 6, 2008
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

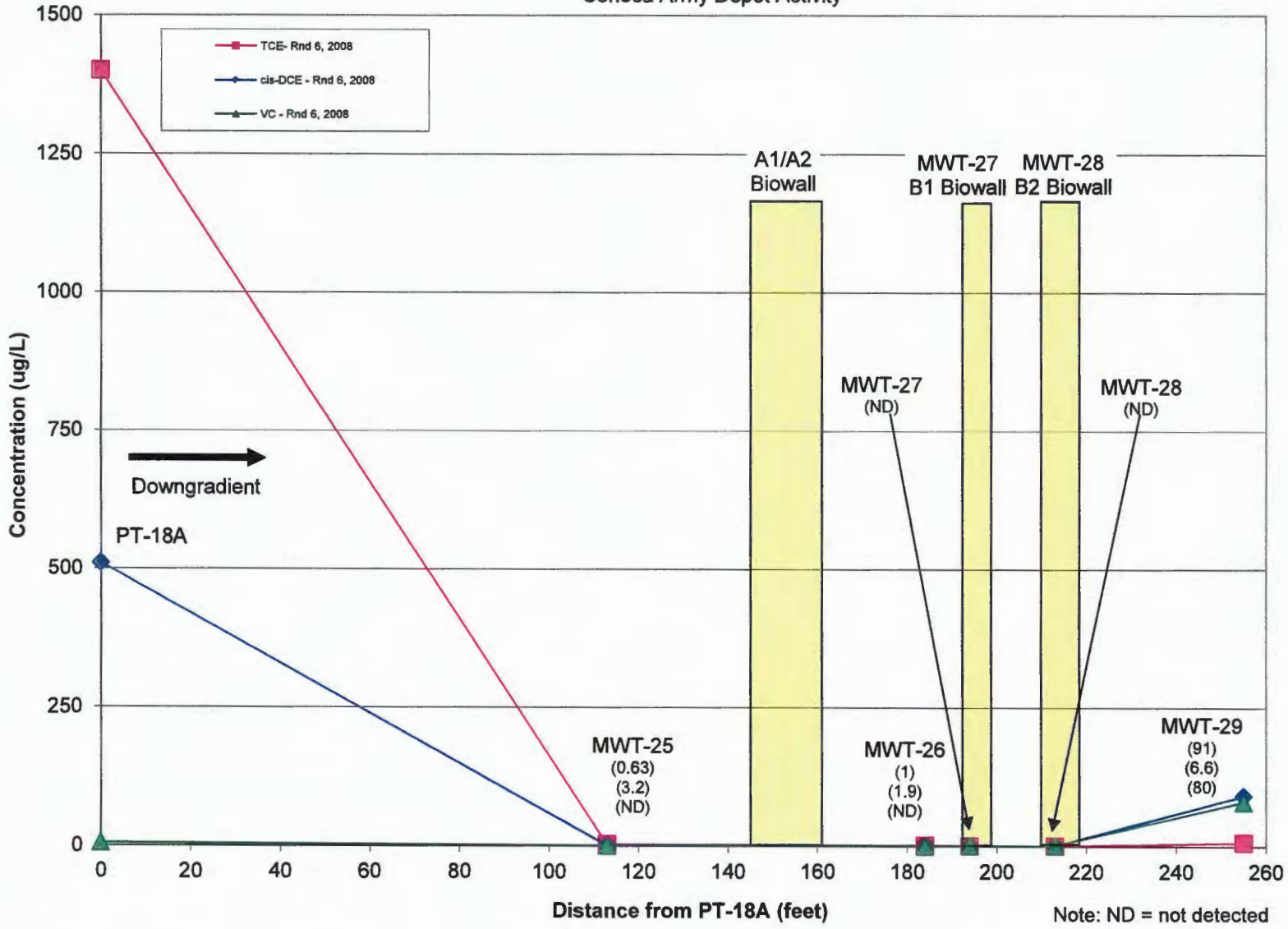


Figure 9G
Concentrations of VOCs Along the Biowalls - Round 7, 2009
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

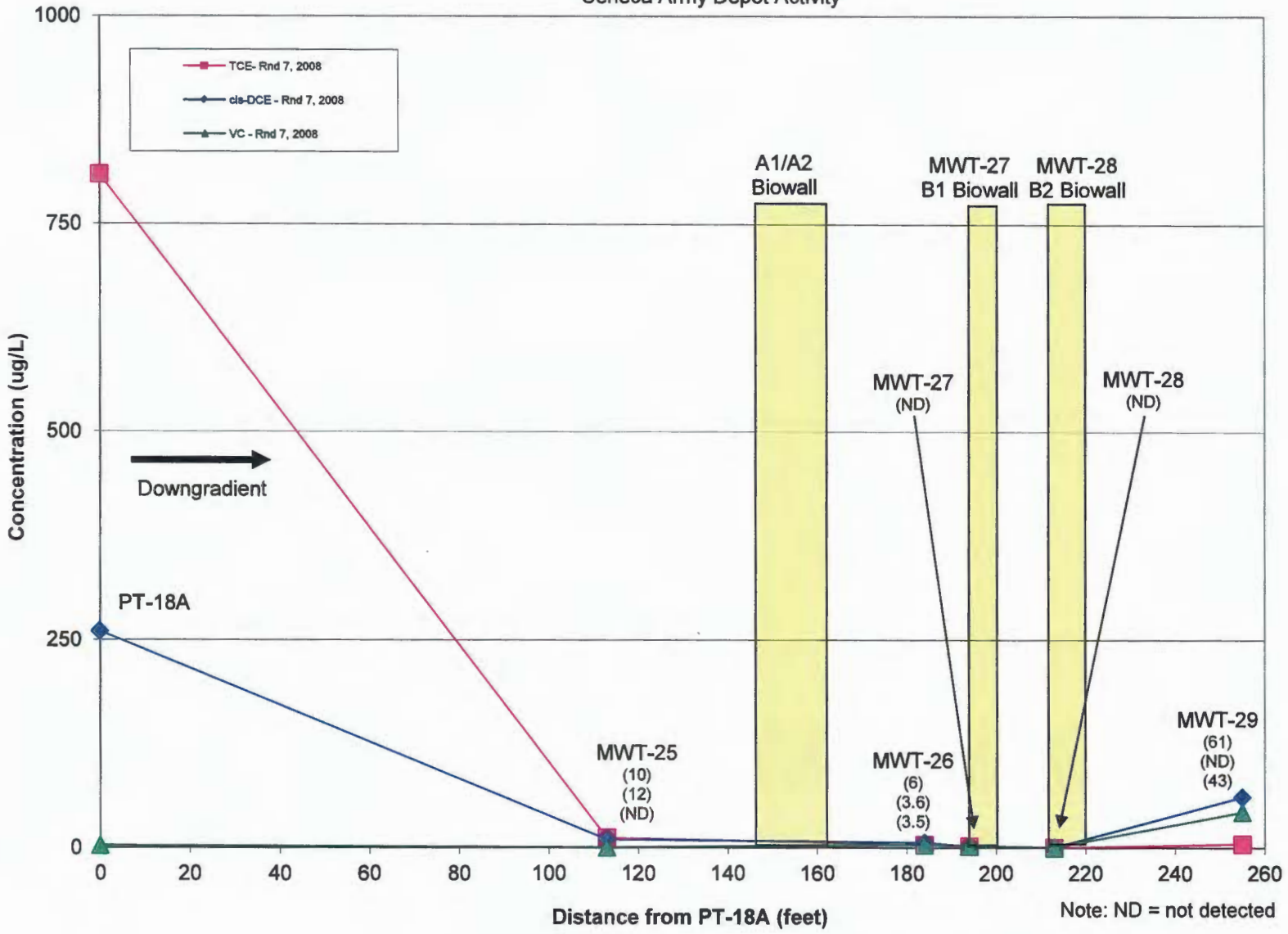


Figure 9H
Concentrations of VOCs Along the Biowalls - Round 8, 2009
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

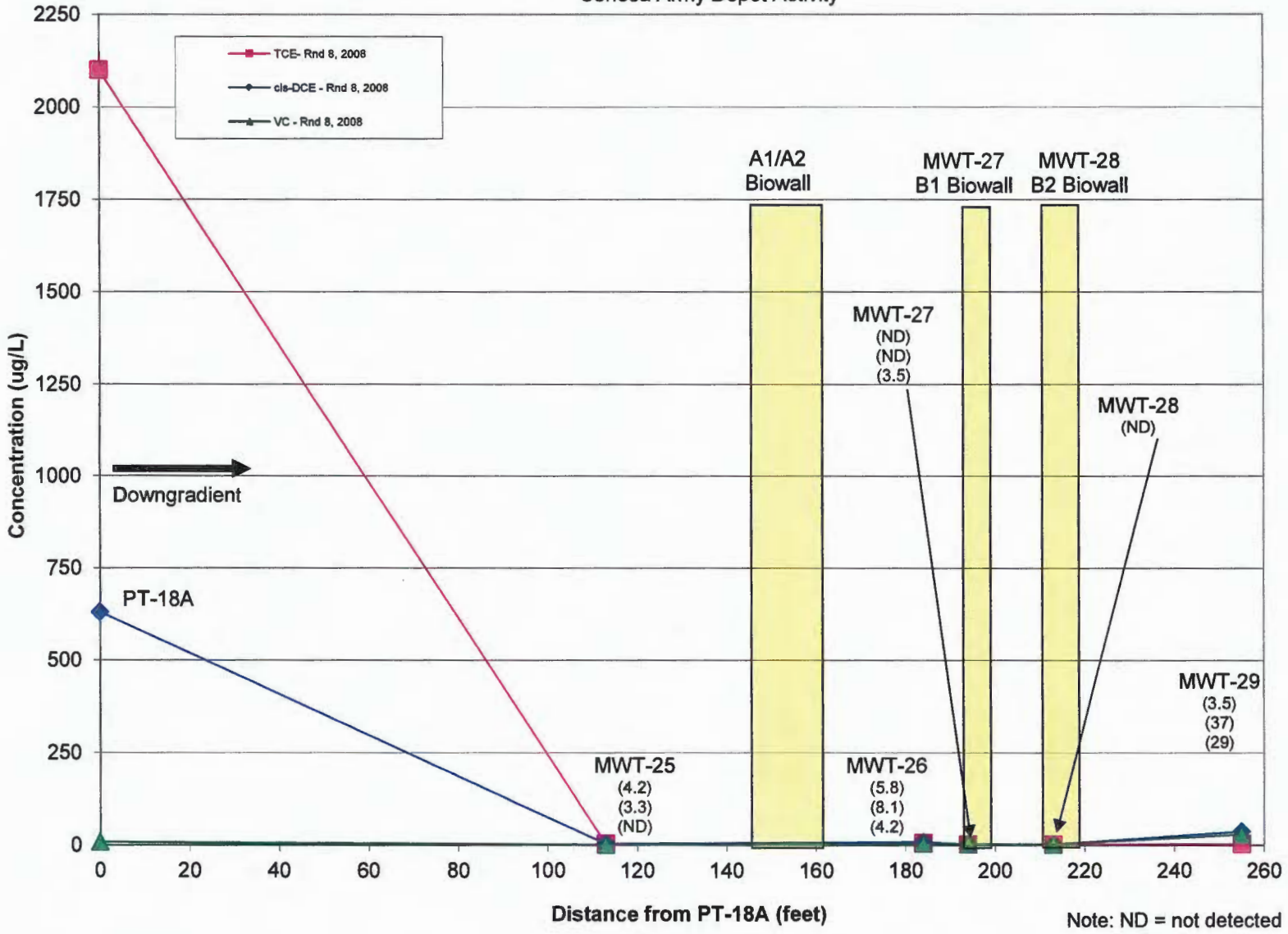


Figure 9I
Concentrations of VOCs Along the Biowalls - Round 9, 2010
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

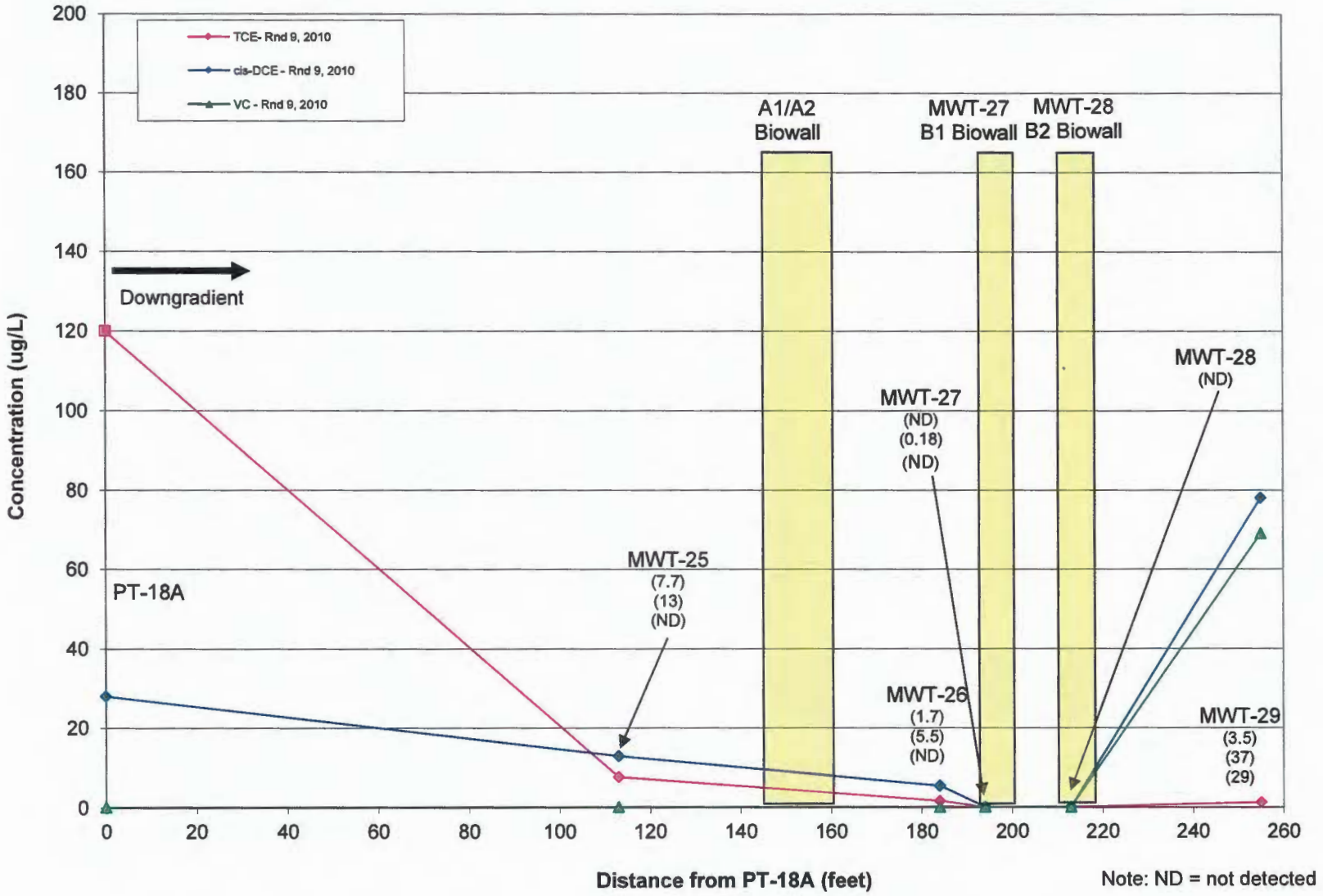


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Figure 9J
Concentrations of VOCs Along the Biowalls - Round 10, 2010
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

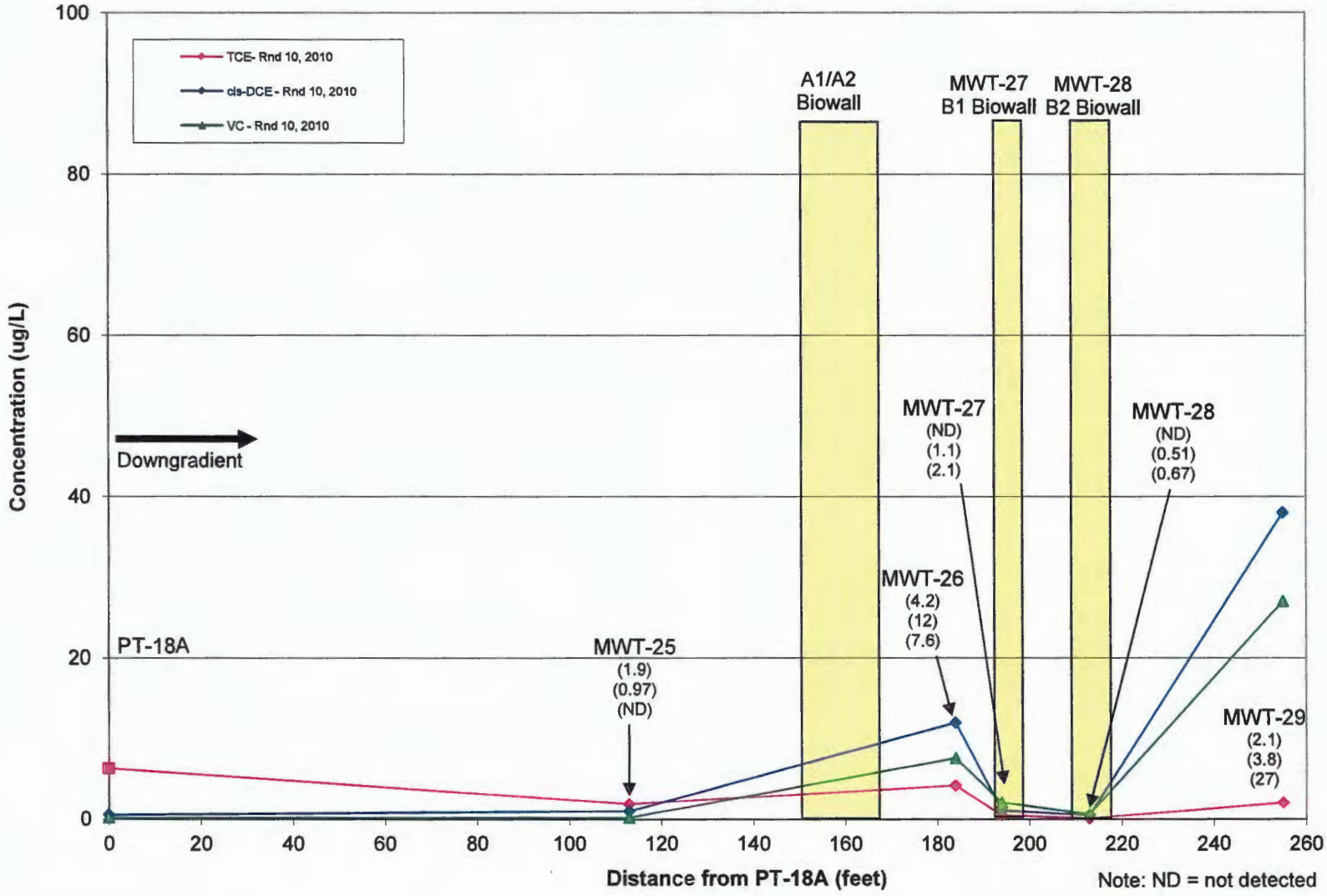

Figure 9K
Concentrations of VOCs Along the Biowalls - Round 11, 2011
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

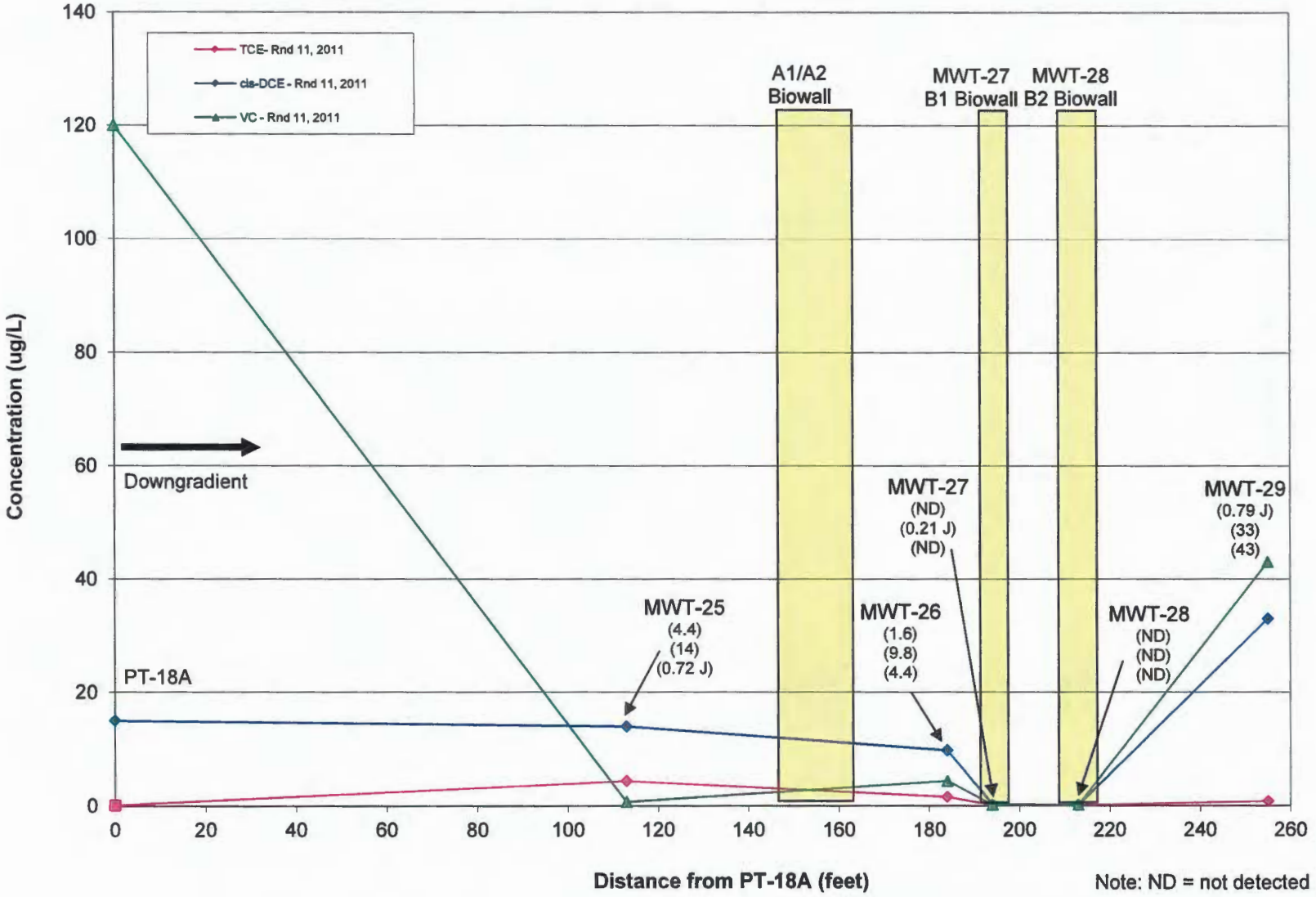

Figure 9L
Concentrations of VOCs Along the Biowalls - Round 12, 2011
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

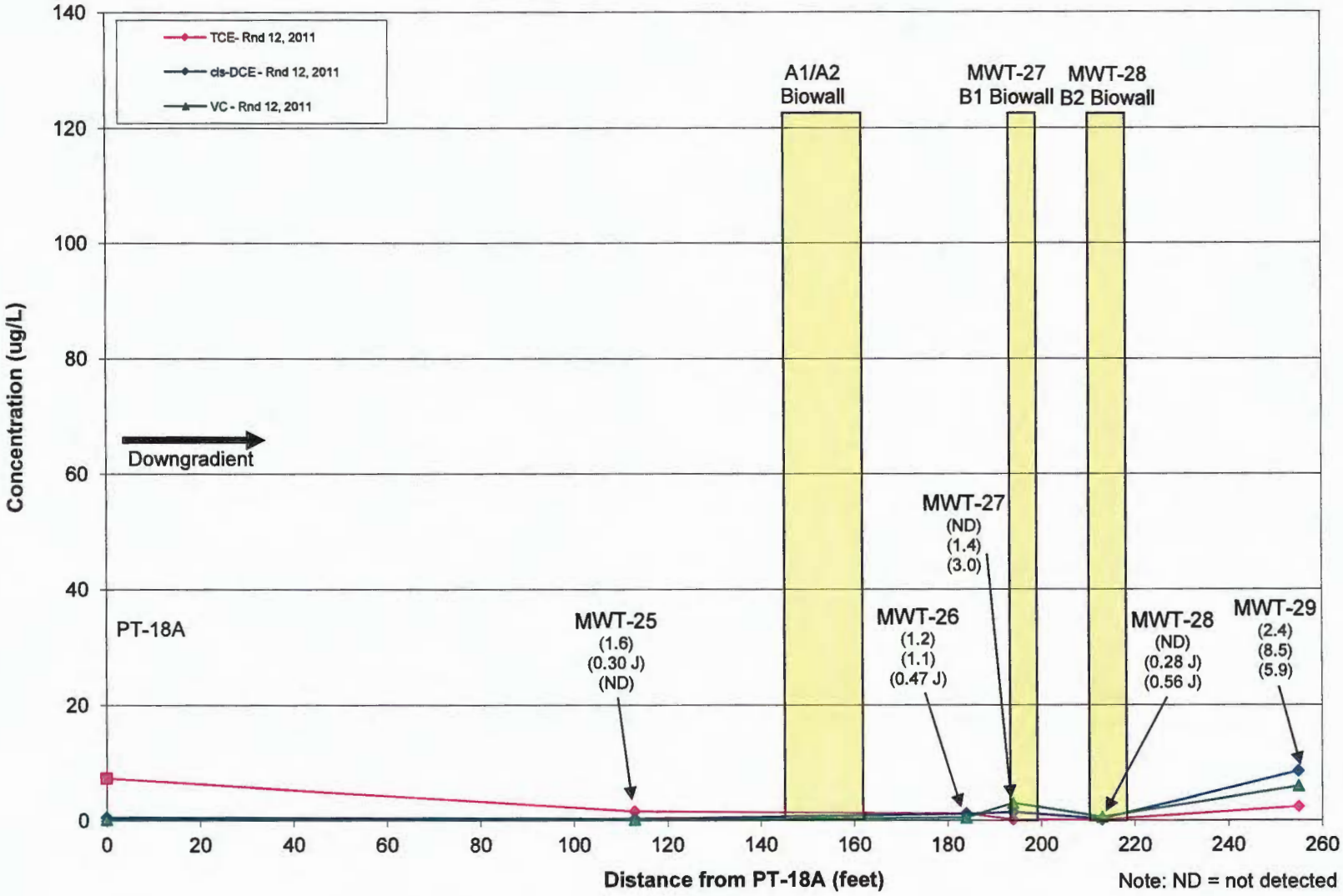

Figure 9M
Concentrations of VOCs Along the Biowalls - Round 13, 2012
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

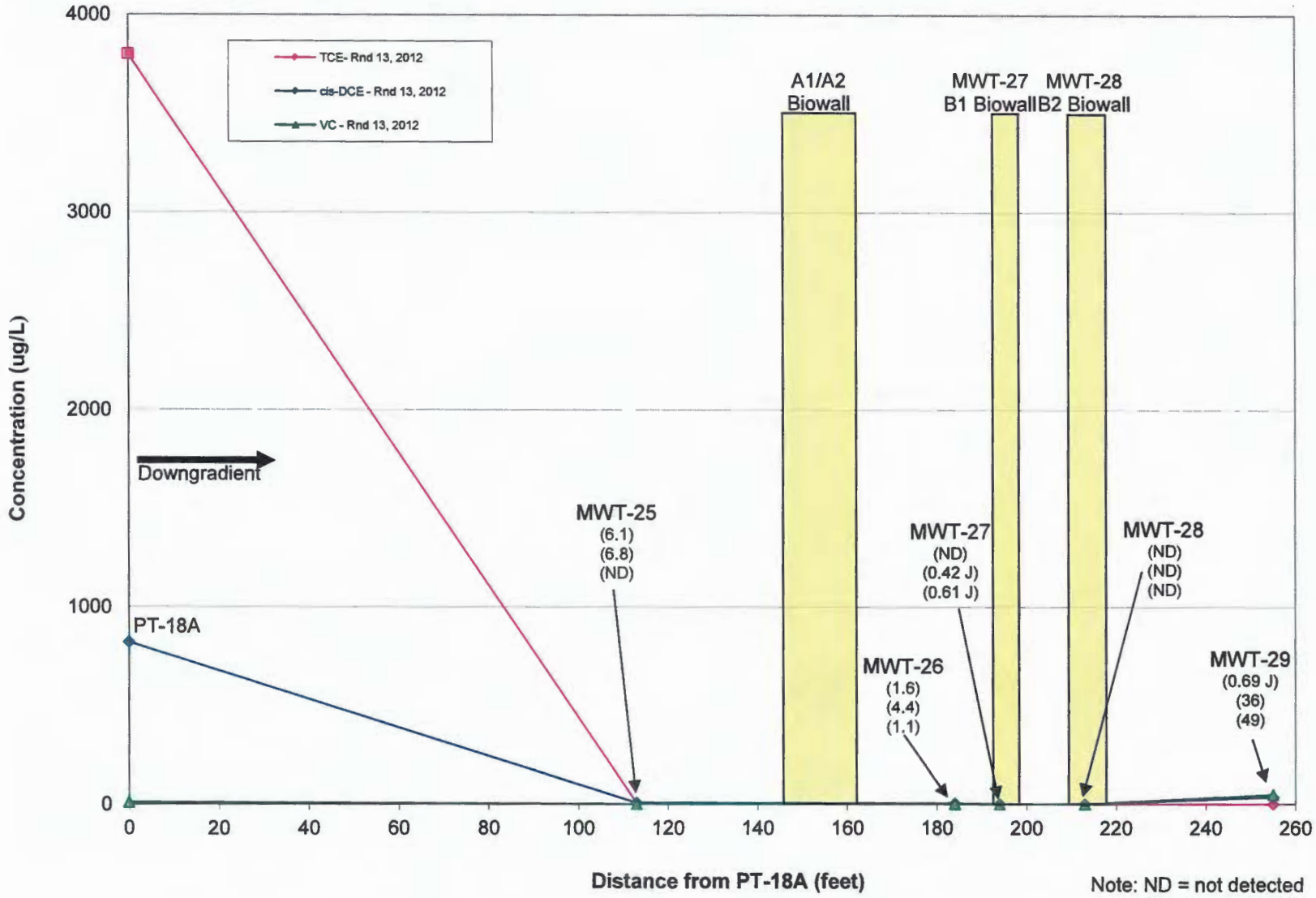

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Figure 9N
Concentrations of VOCs Along the Biowalls - Round 14, 2012
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

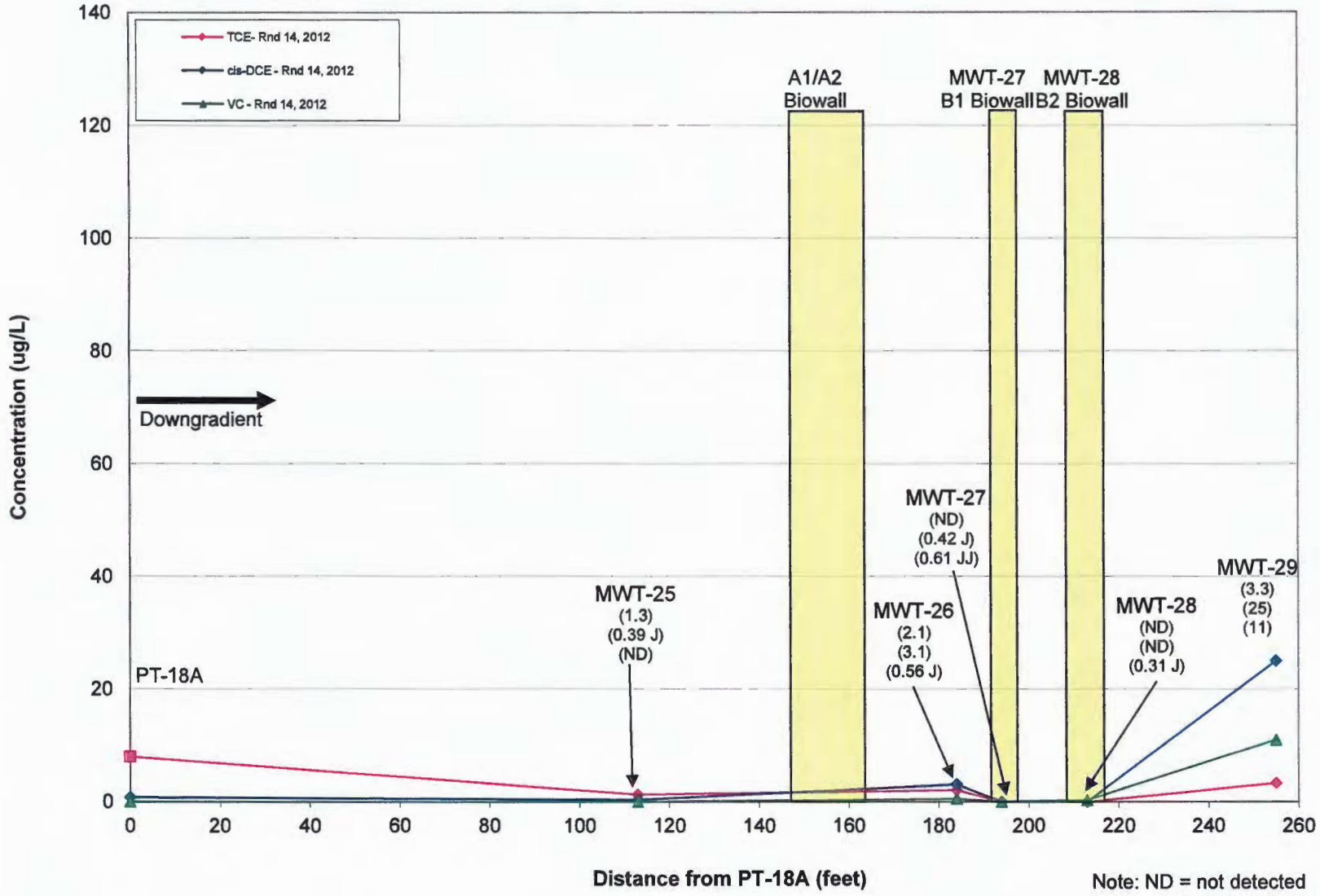


Figure 9O
Concentrations of VOCs Along the Biowalls - Round 15, 2013
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

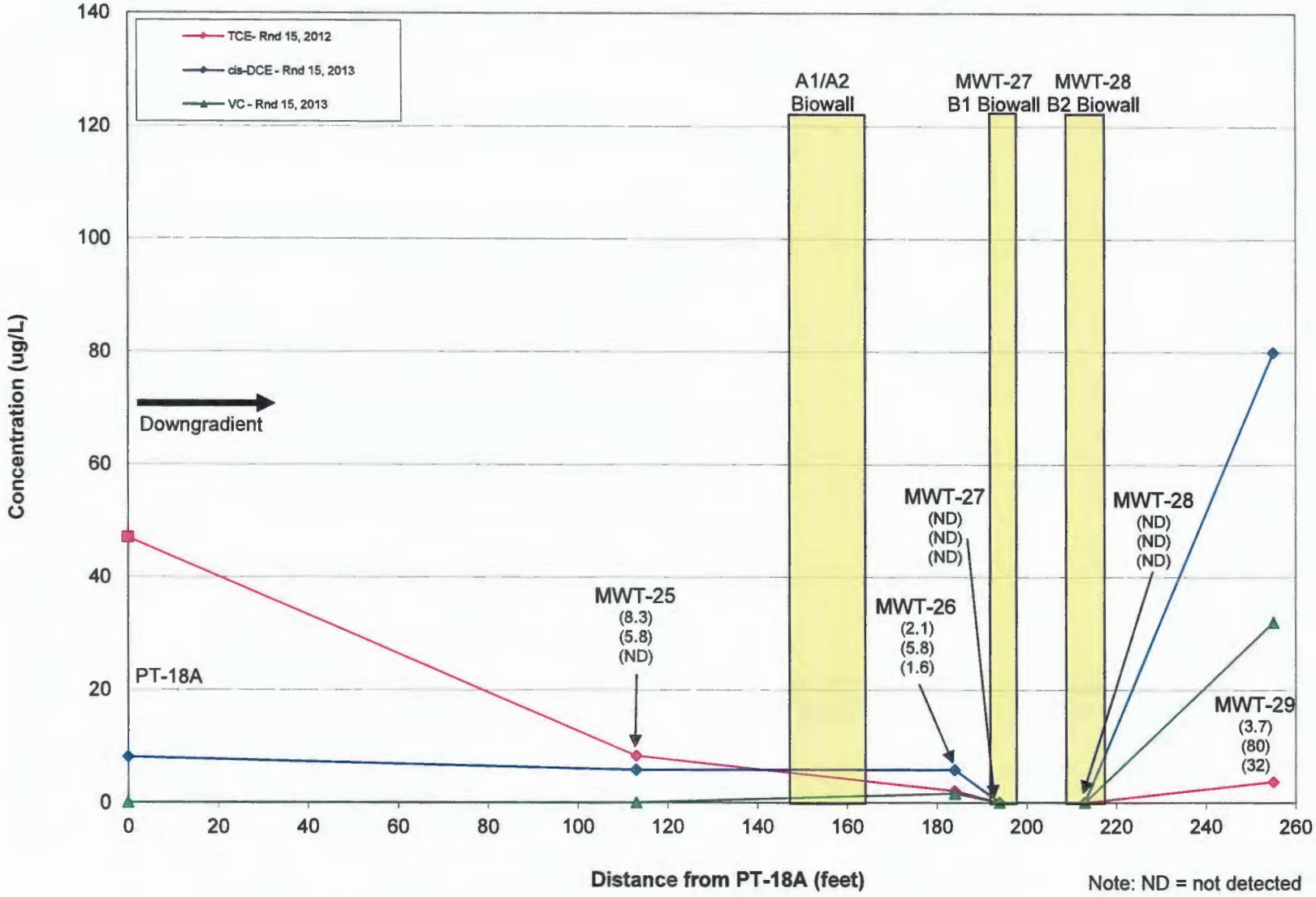


Figure 9P
Concentrations of VOCs Along the Biowalls - Round 16, 2013
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

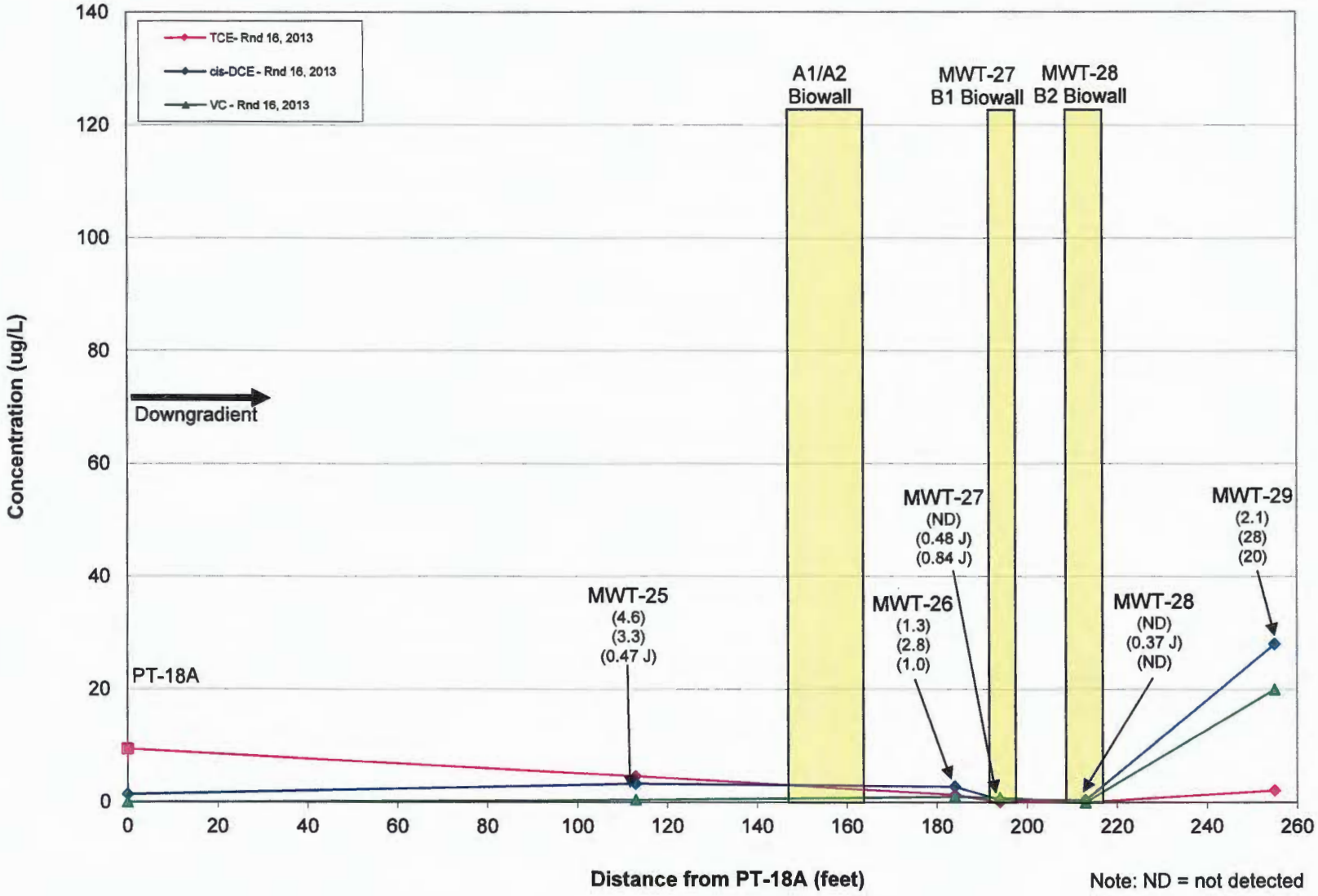


Figure 9Q
Concentrations of VOCs Along the Biowalls - Round 17, 2014
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

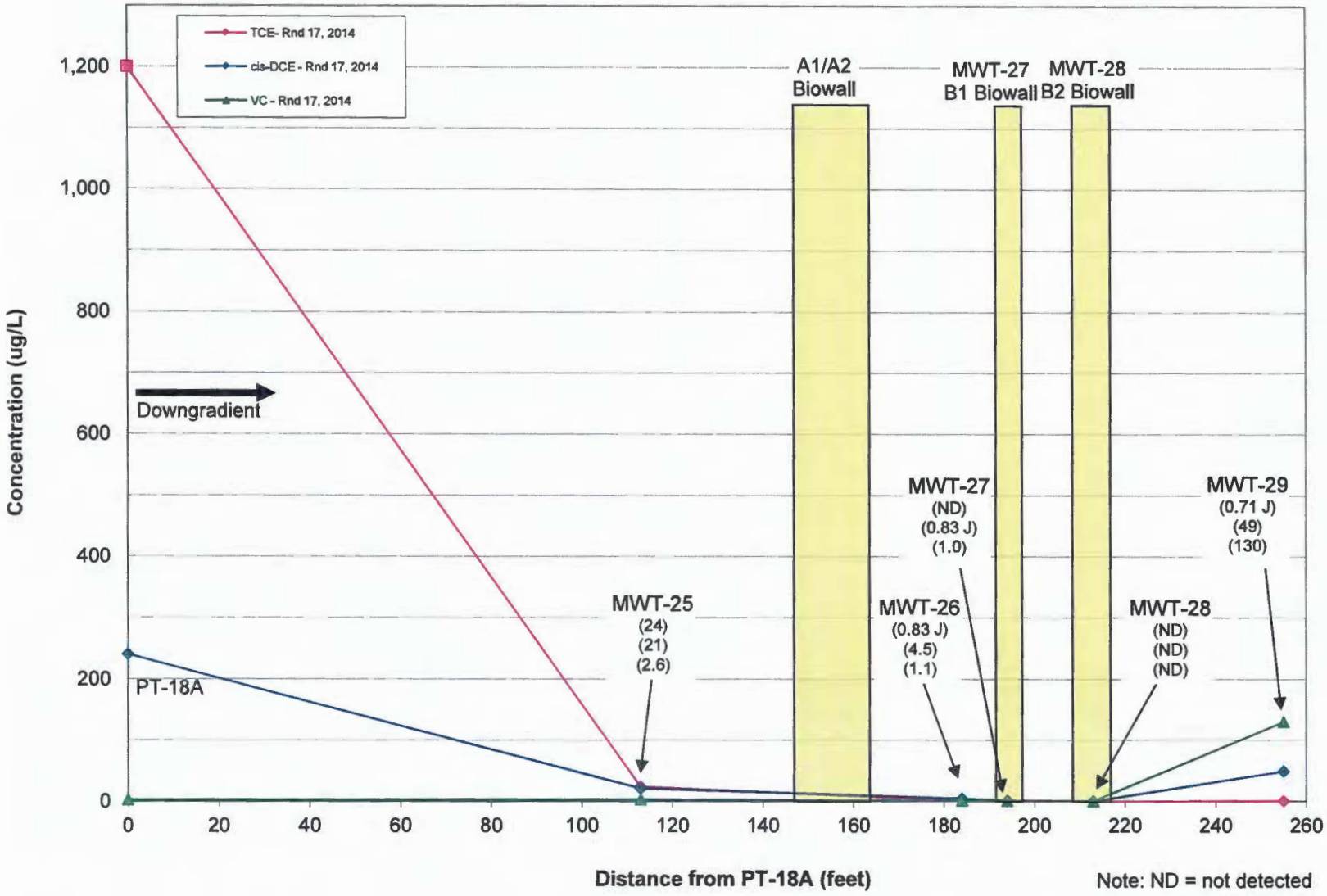


Figure 9R
Concentrations of VOCs Along the Biowalls - Round 18, 2014
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

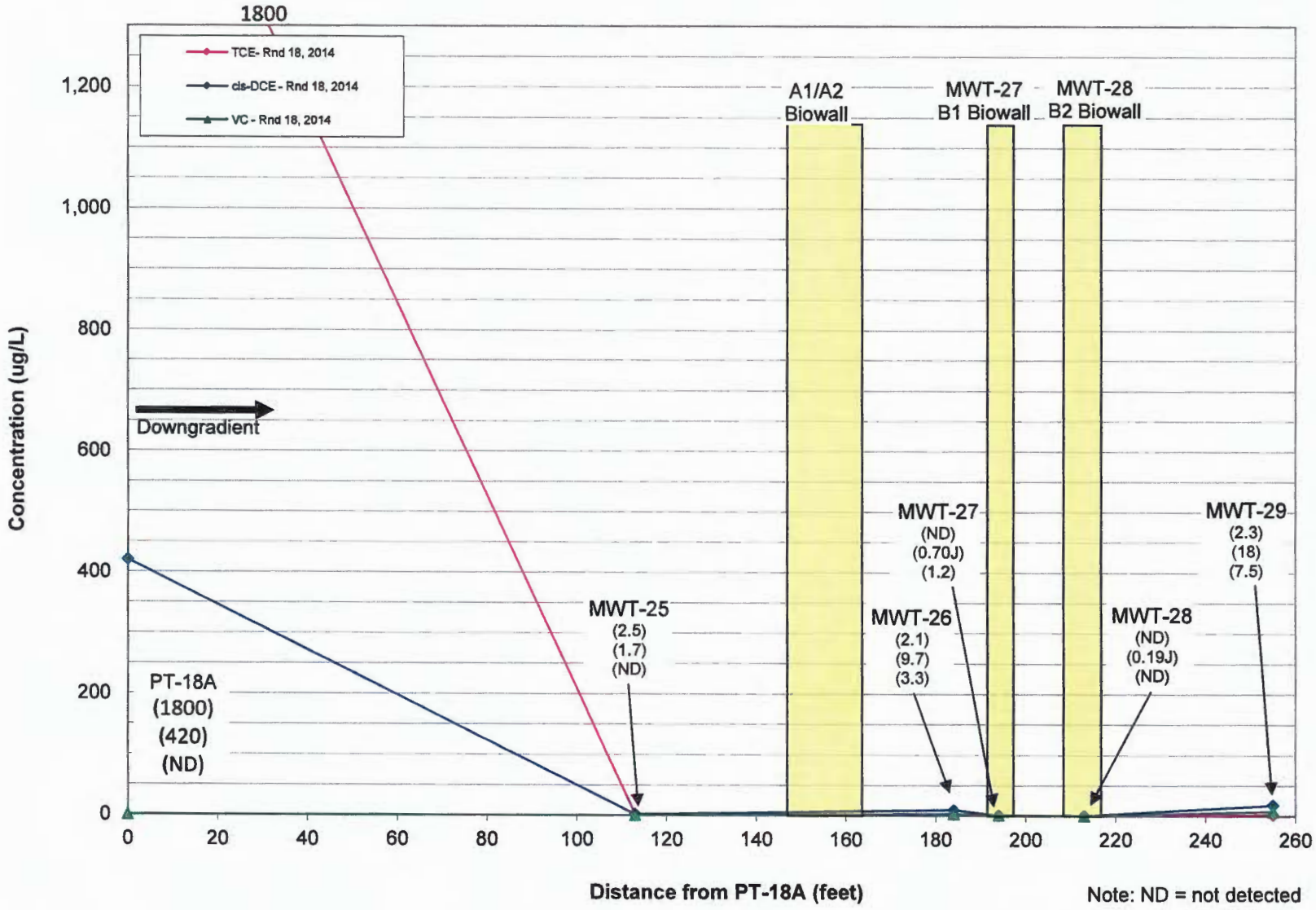
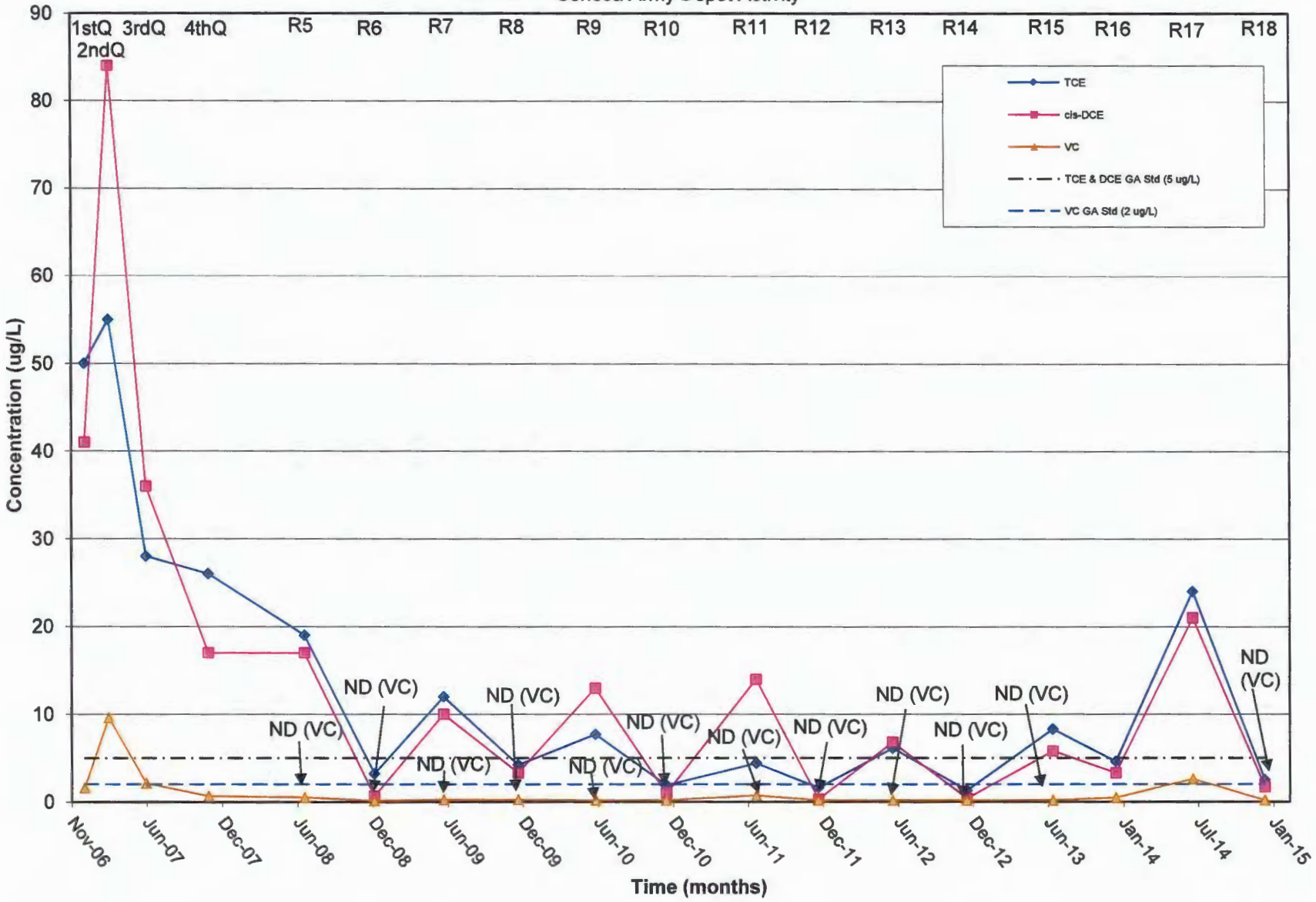
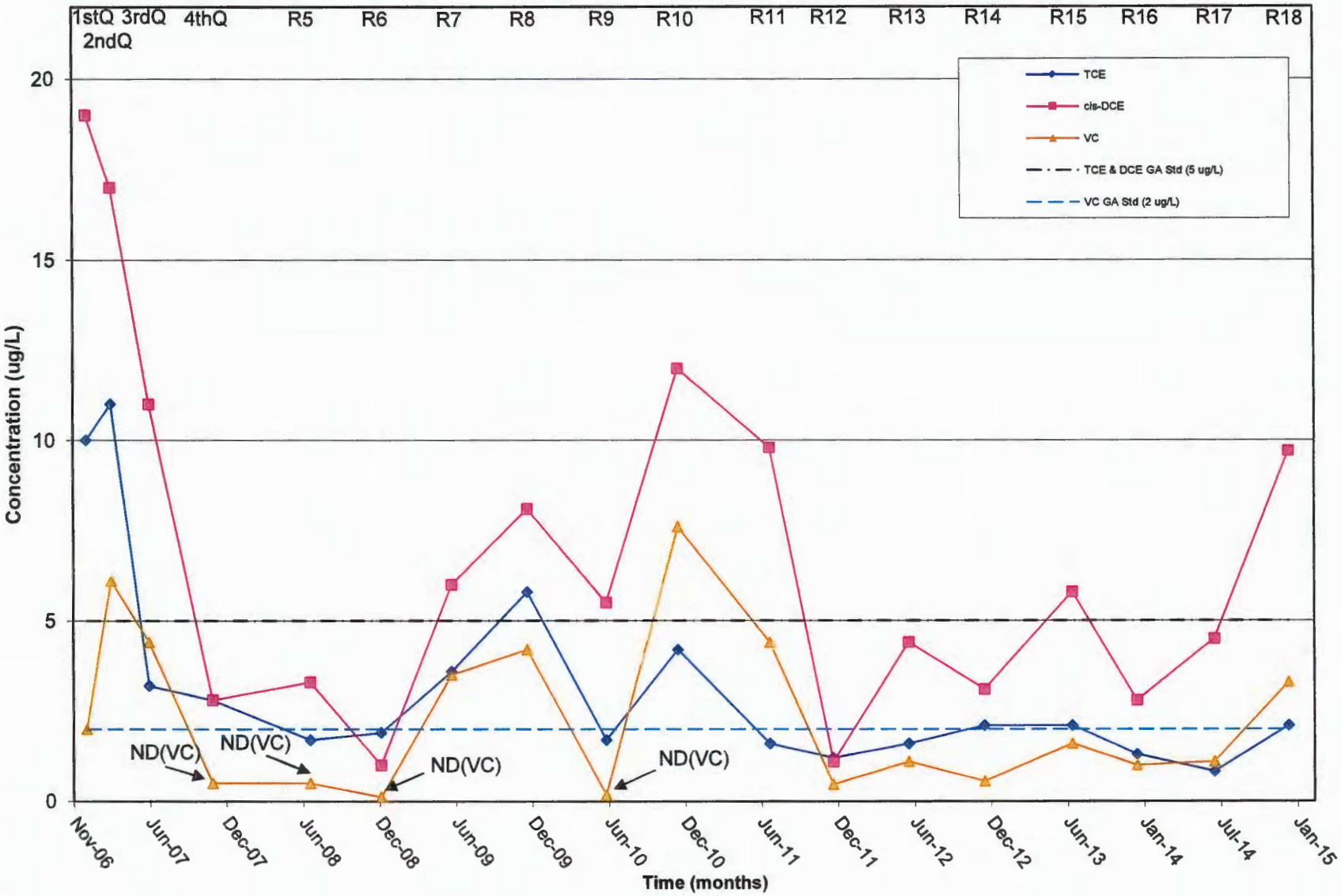


Figure 10A
Concentrations of Chlorinated Organics Over Time at MWT-25
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



Note:
ND = not detected.

Figure 10B
Concentrations of Chlorinated Organics Over Time at MWT-26
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



Note:
ND = not detected.

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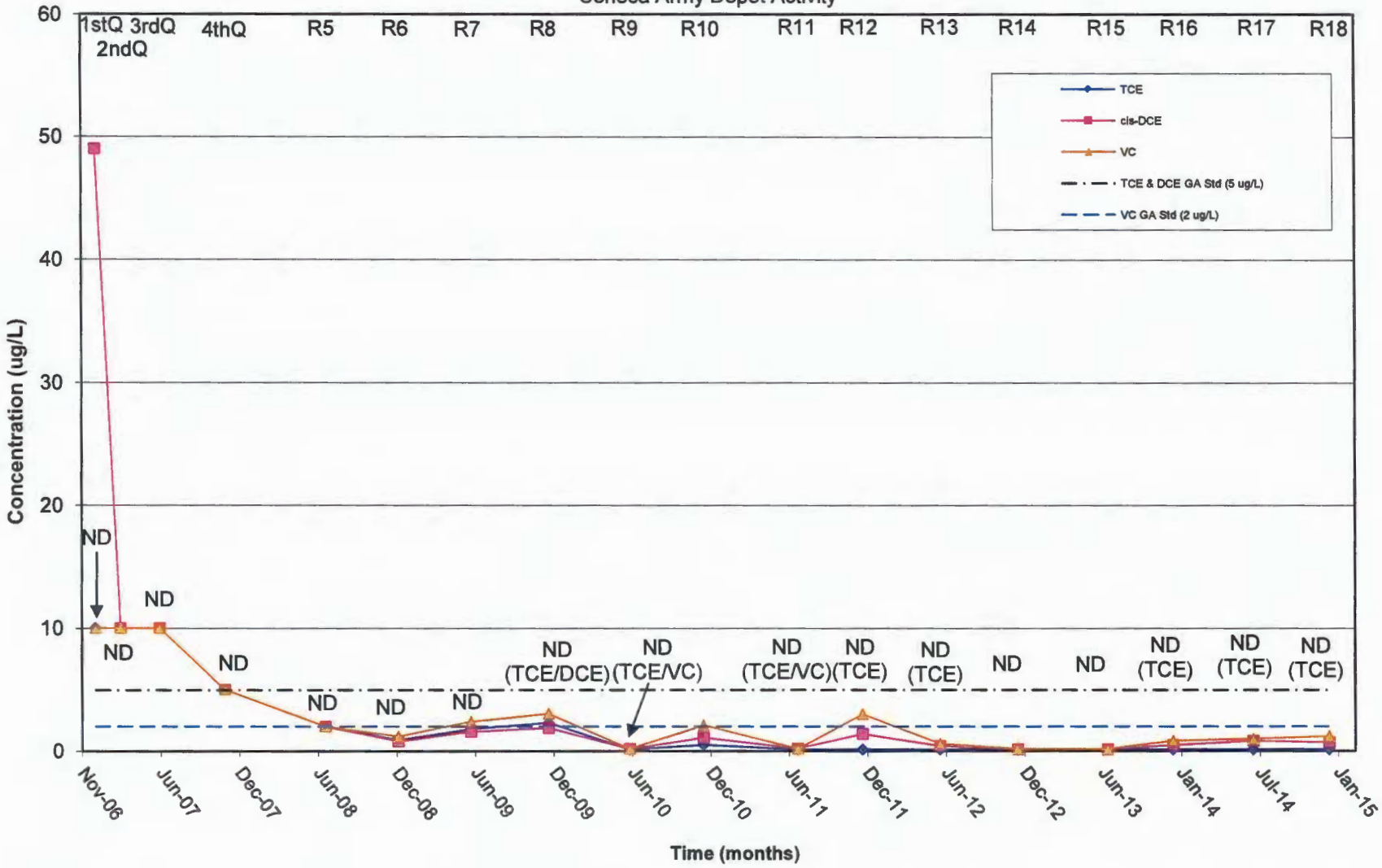
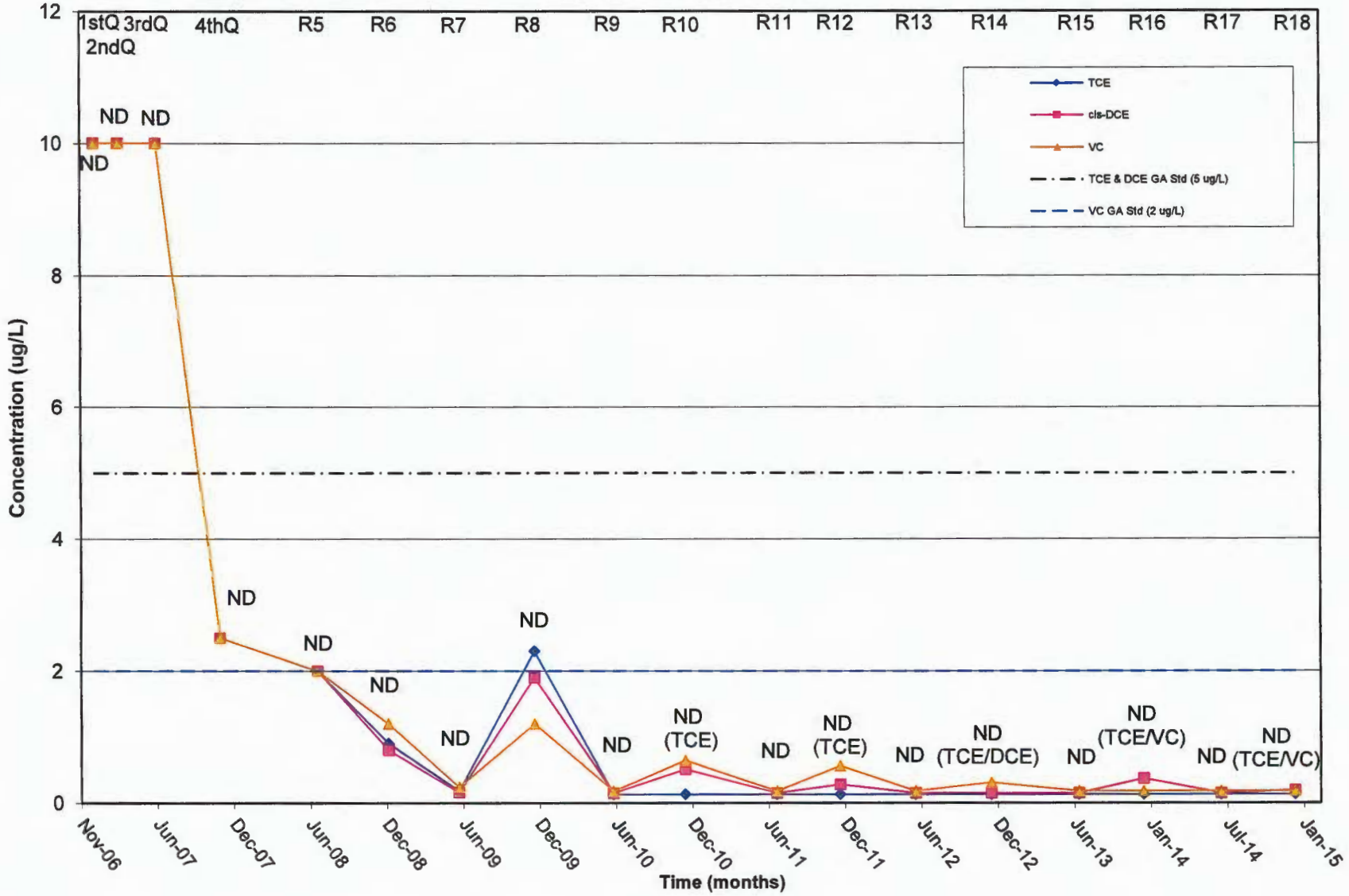
Figure 10C
Concentrations of Chlorinated Organics Over Time at MWT-27
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



Note:
Round 3, Round 6, Round 8, Round 11, Round 15, and Round 18 data is the average of the sample and its duplicate.
ND = not detected.

P:\PIT\Projects\Huntsville Cont W912DY-08-D-0003\TO#15 - LTM and LUC\Ash Landfill LTM\Yr 8 Annual Report\Draft\Figu

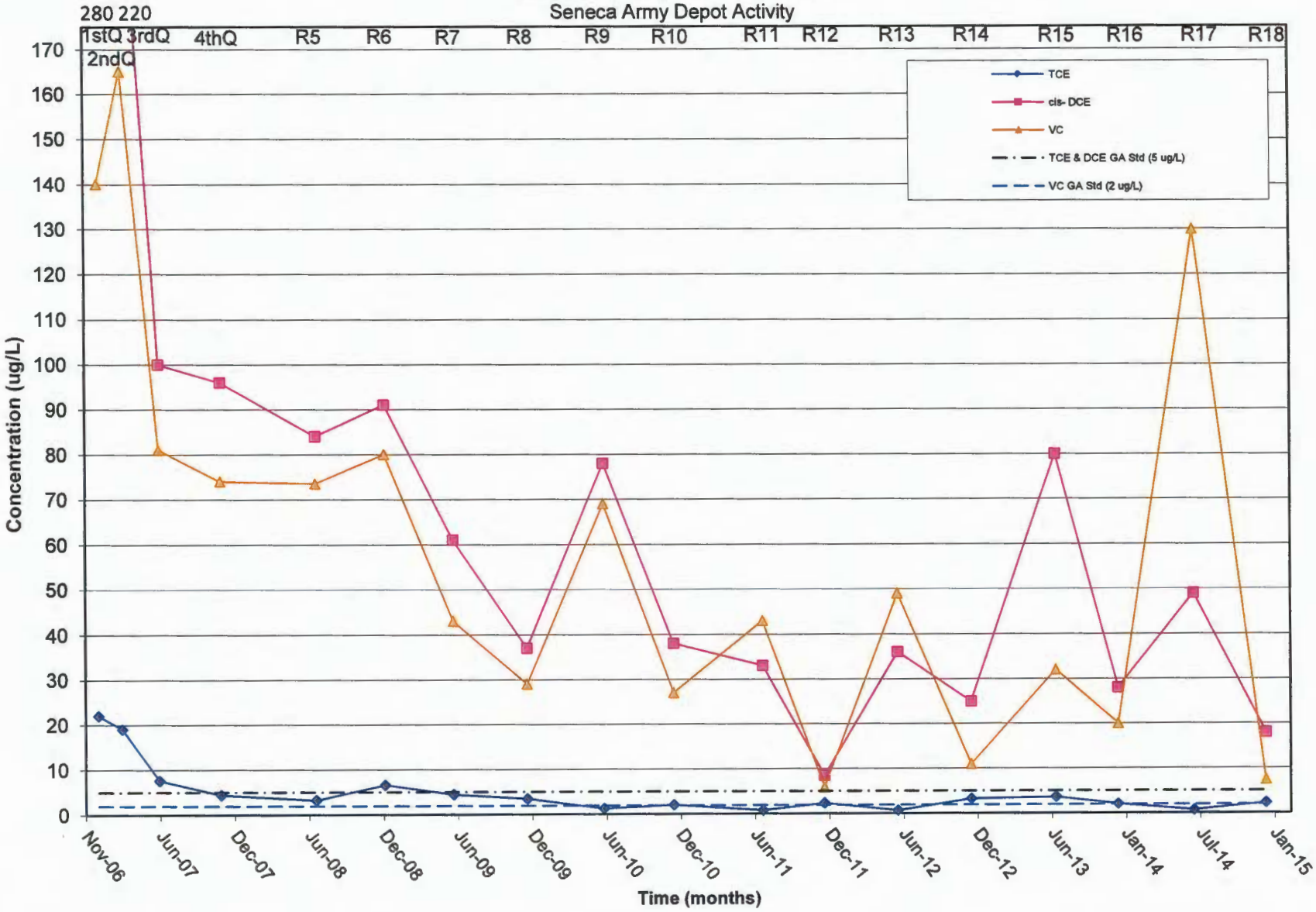
Figure 10D
Concentrations of Chlorinated Organics Over Time at MWT-28
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



Note:
Round 1, Round 7, Round 9, Round 13, and Round 16 data is the average of the sample and its duplicate.
ND = not detected.

P:\ rojects\Huntsville Cont W912DY-08-D-0003\TO#15 - LTM and LUC\Ash Landfill LTM Annual Report\Draft\Figures\Figure

Figure 10E
Concentrations of Chlorinated Organics Over Time at MWT-29
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



Note:
Round 2 and Round 5 data is the average of the sample and its duplicate.
cis-DCE concentrations in quater 1 and 2 were 280 and 220 ug/L, respectively.

P:\PIT\Projects\Huntsville Cont W912DY-08-D-0003\TO#15 - LTM and LUC\Ash Landfill LTM\Yr 8 Annu

Figure 10F
Concentrations of Chlorinated Organics Over Time at MWT-22
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

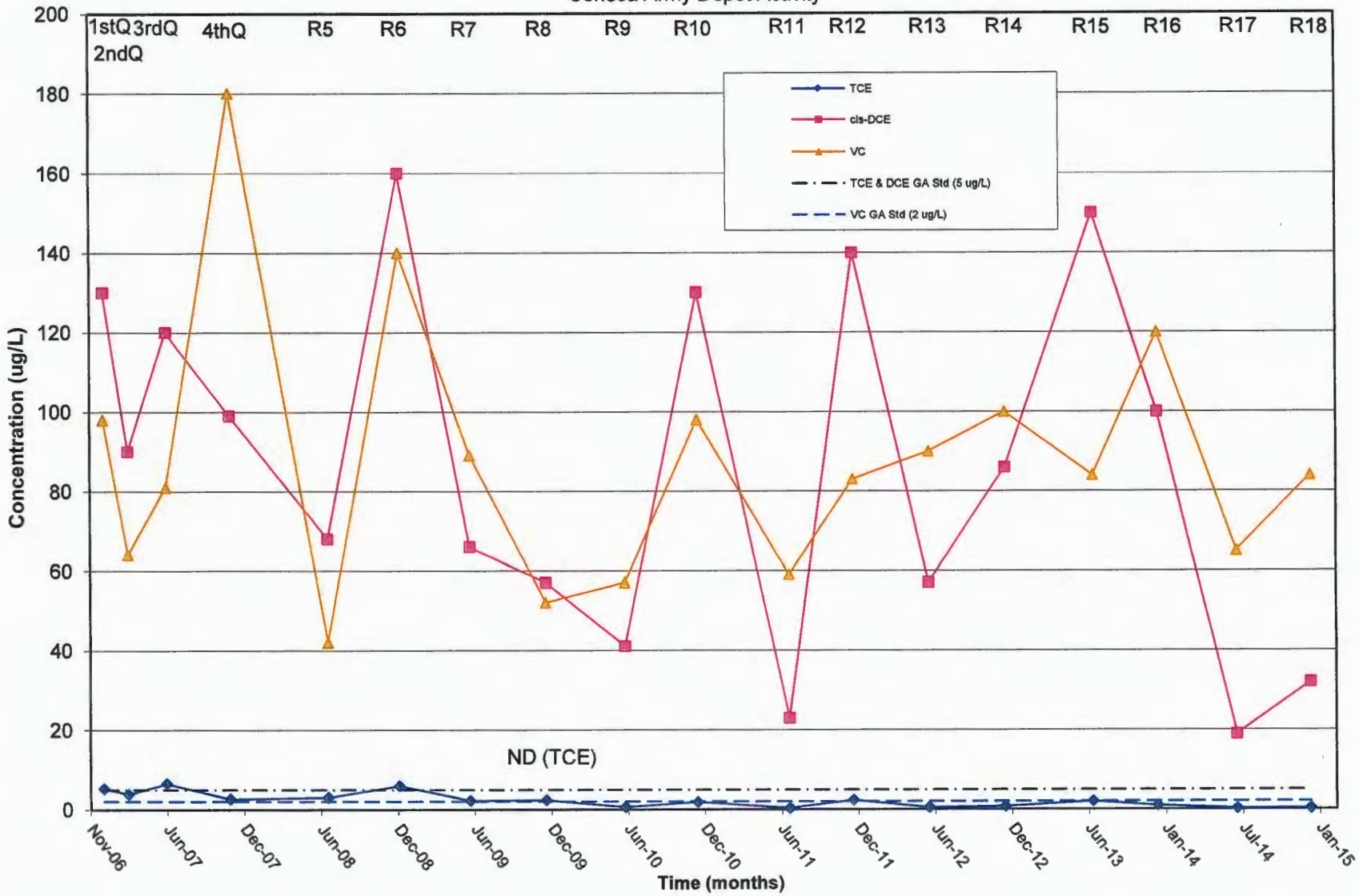
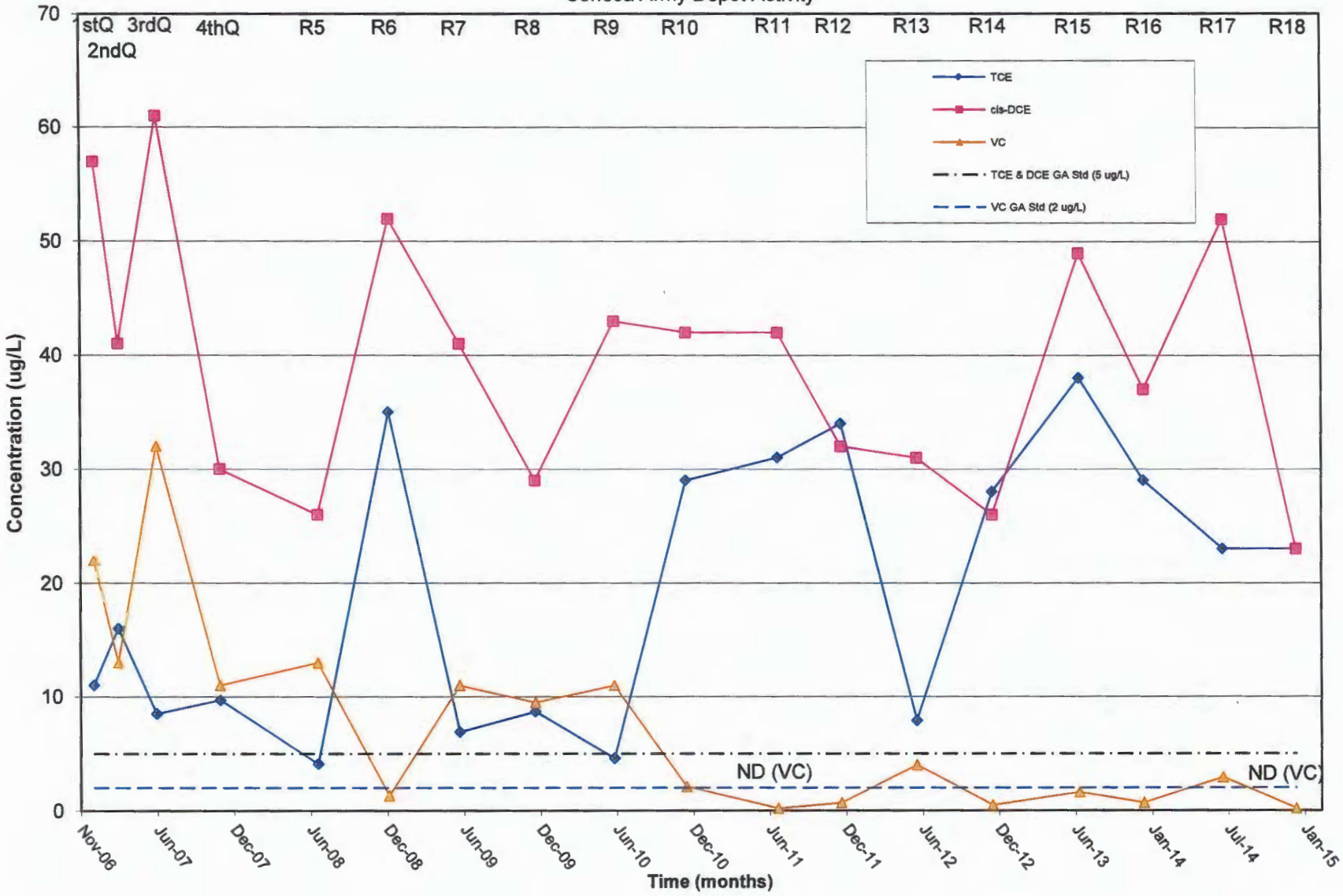


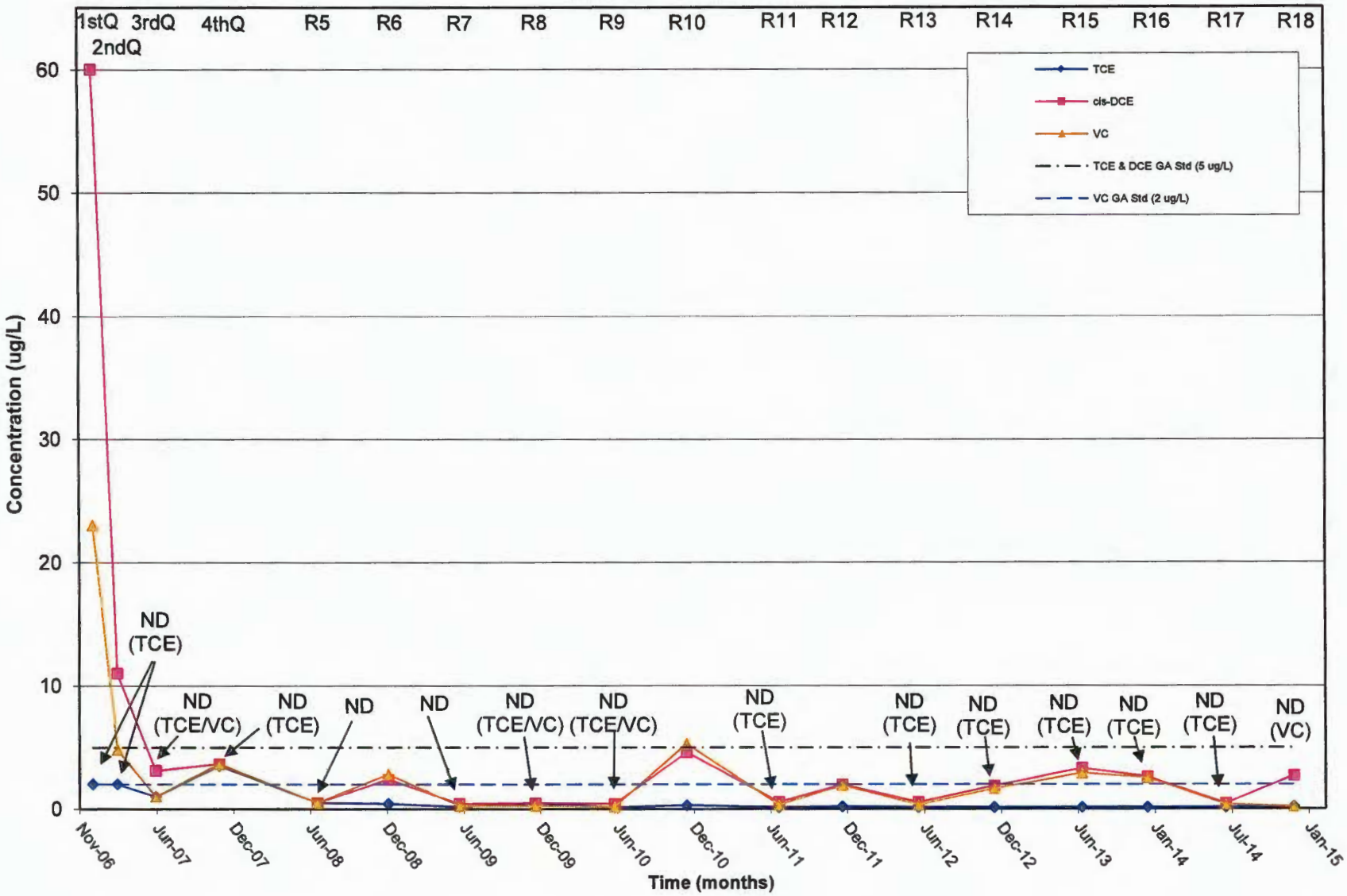
Figure 10G
Concentrations of Chlorinated Organics Over Time at PT-22
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



Note:
ND= not detected.

P:\PIT\Projects\Huntsville Cont W912DY-08-D-0003\TO#15 - LTM and LUC\Ash Landfill LTM\Yr 8 Annual Report\Draft\Figures\Figure 10 Well Conc vs Time.xls PT-22 1/22/2015

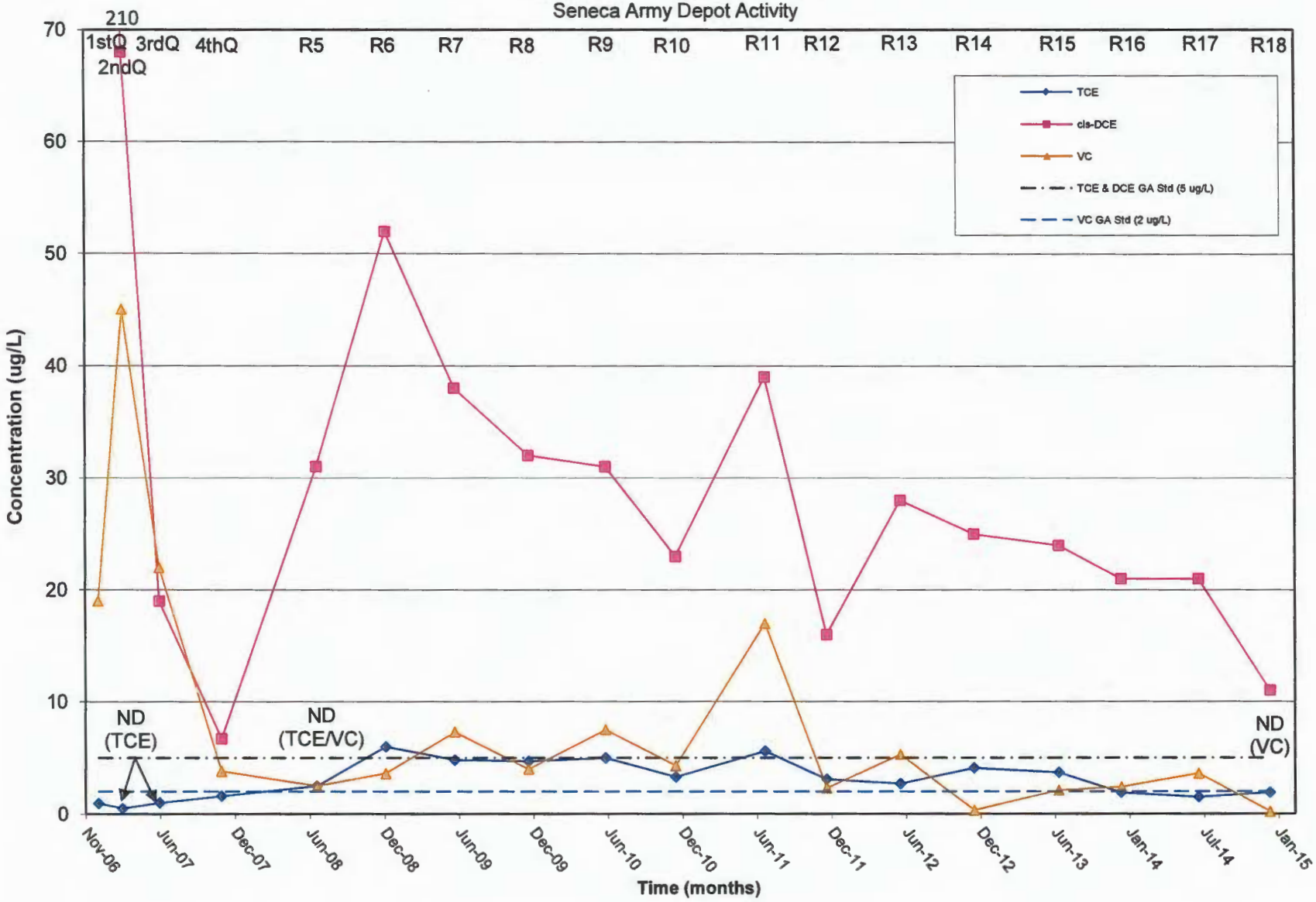
Figure 10H
Concentrations of Chlorinated Organics Over Time at MWT-23
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



Note:
Round 4, Round 10, Round 12, and Round 14 data is the average of the sample and its duplicate.
ND = not detected.

P:\ ojects\Huntsville Cont W912DY-08-D-0003\TO#15 - LTM and LUC\Ash Landfill LTM Annual Report\Draft\Figures\Figure 10 Well

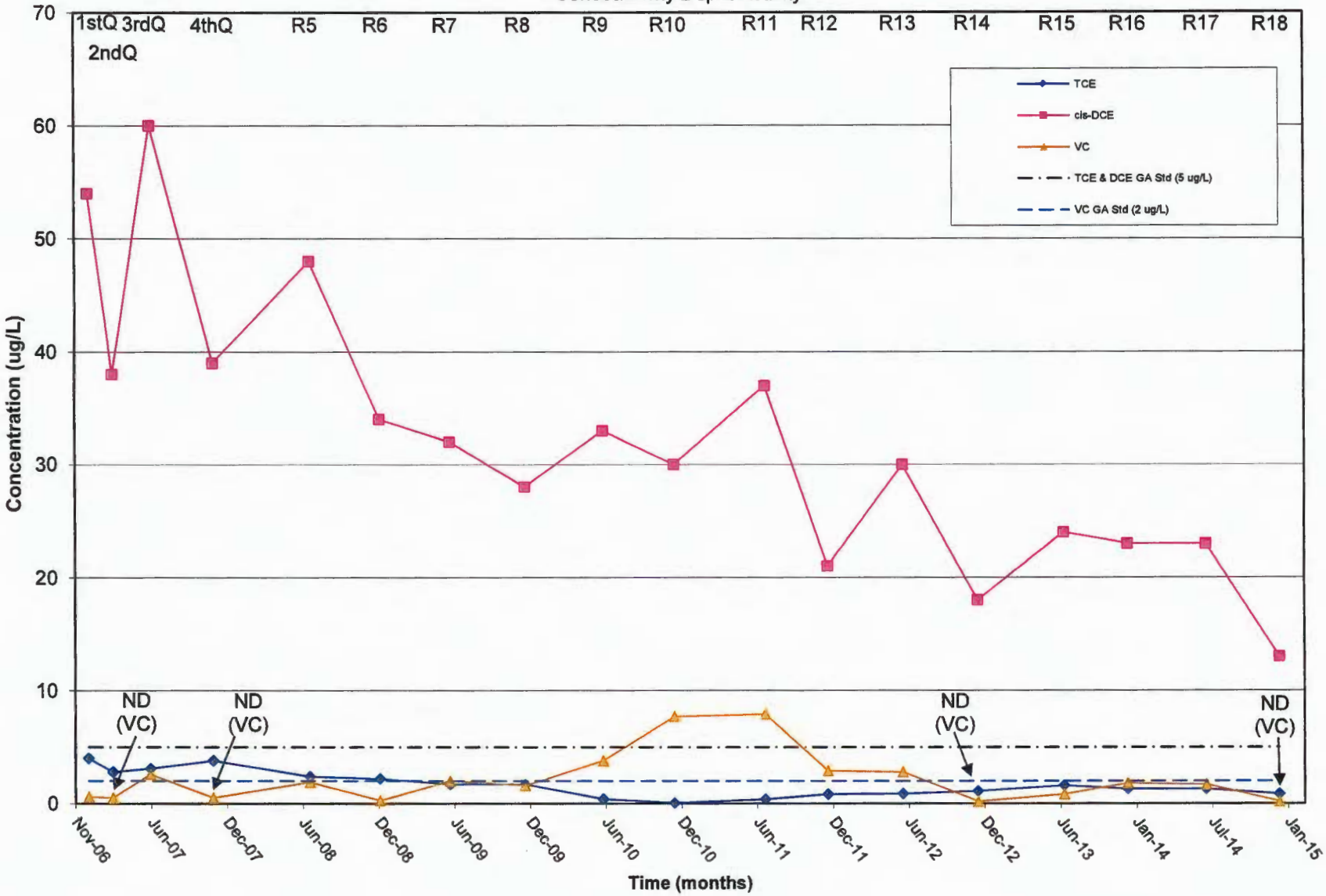
Figure 10I
Concentrations of Chlorinated Organics Over Time at MWT-24
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



Note:
cis-DCE concentration in quarter 1 was 210 ug/L.
ND = not detected.

P:\PIT\Projects\Huntsville Cont W912DY-08-D-0003\TO#15 - LTM and LUC\Ash Landfill LTM\Yr 8 Annual Report\Draft\Figures\Figure 10 Well Conc vs Time.xls MWT-24 1/22/2015

Figure 10J
Concentrations of Chlorinated Organics Over Time at PT-24
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



Note:
ND = not detected.

P:\ ojects\Huntsville Cont W912DY-08-D-0003\TO#15 - LTM and LUC\Ash Landfill LTM Annual Report\Draft\Figures\Figure 10 Well Conc vs Time.xls PT-24 015

Fig[illegible]11A
Historic Concentrations of Chlorinated Organics at PT-18A
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

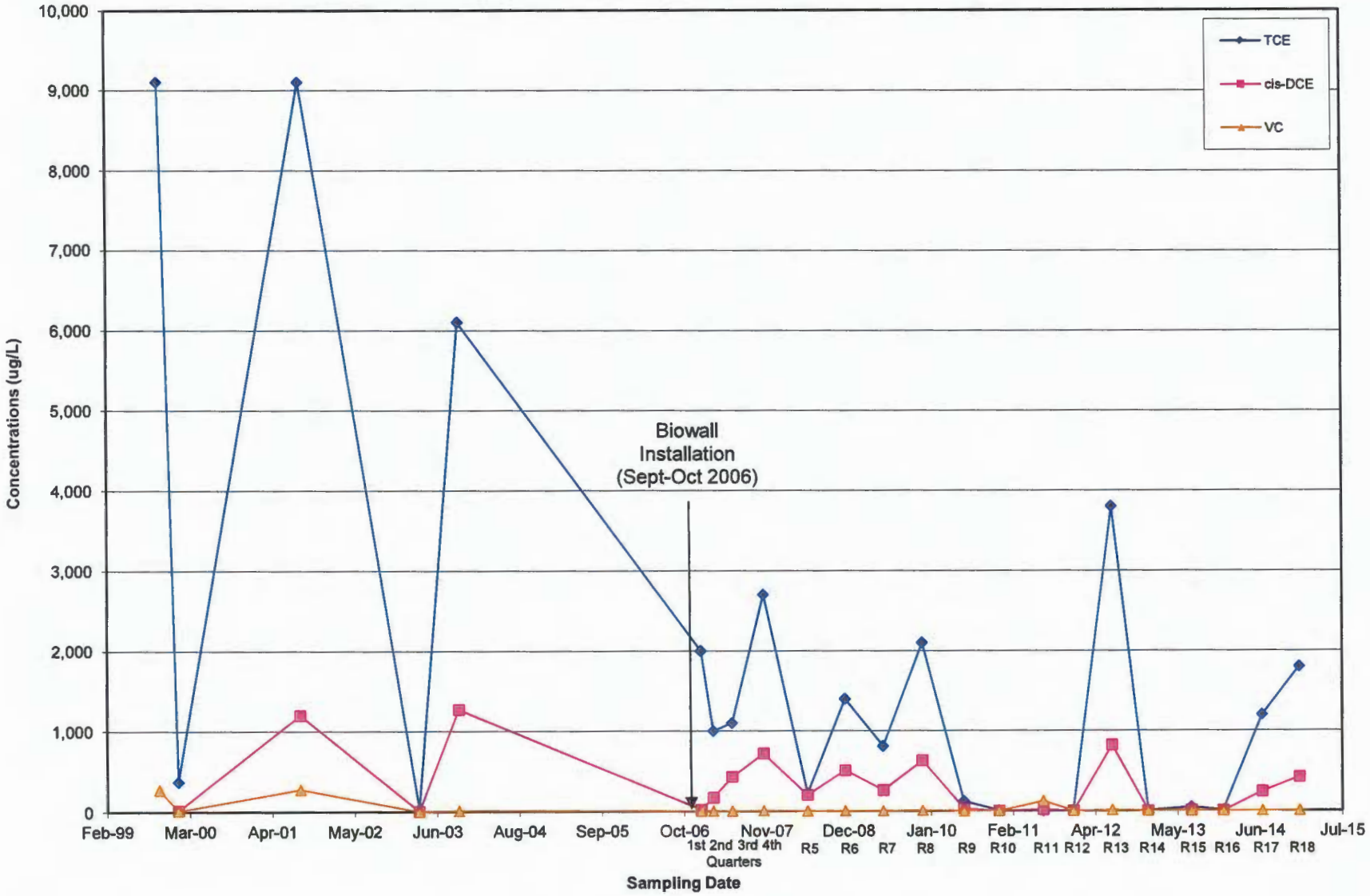


Figure 11B
Historic Concentrations of Chlorinated Organics at PT-17
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

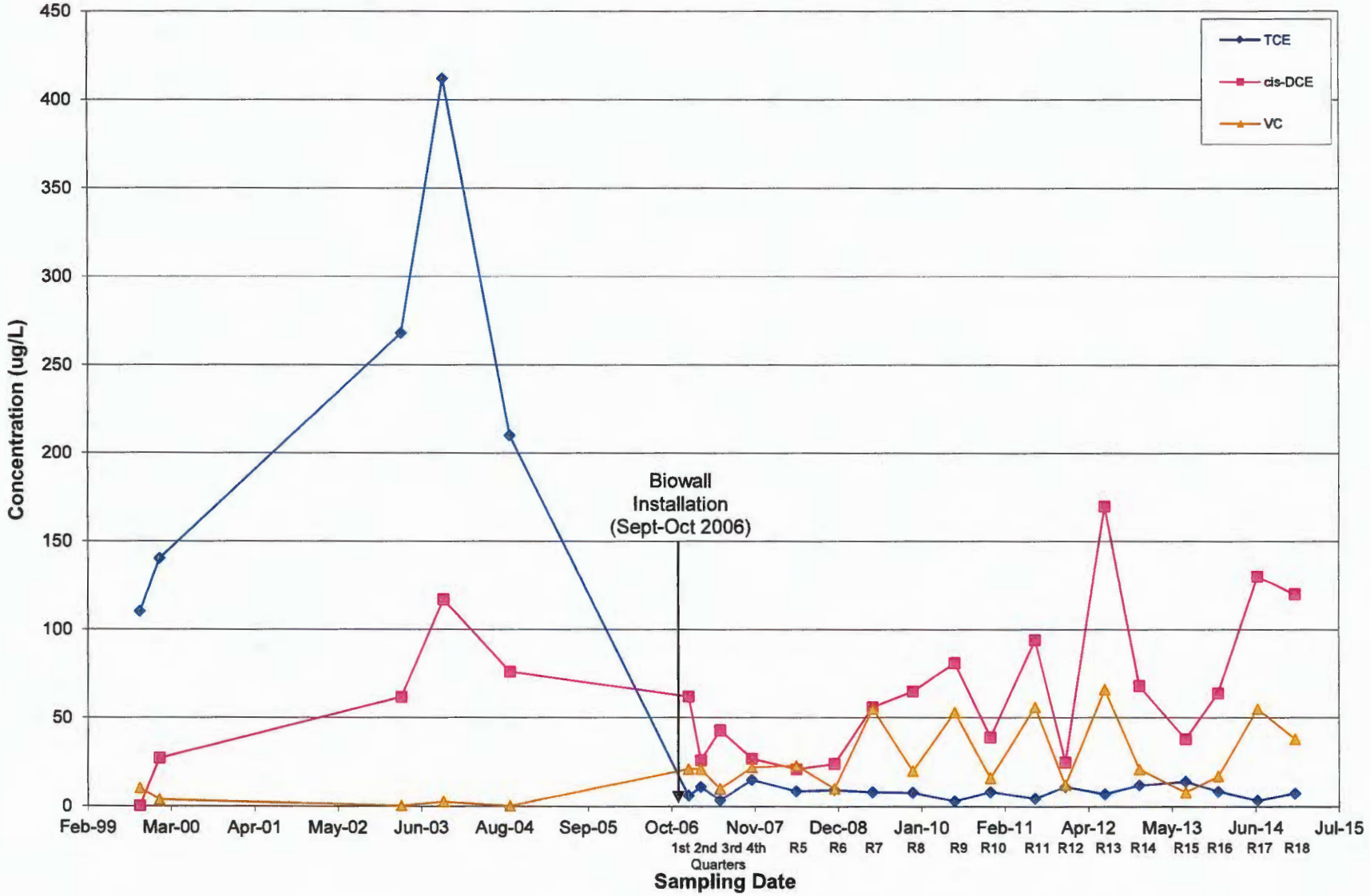
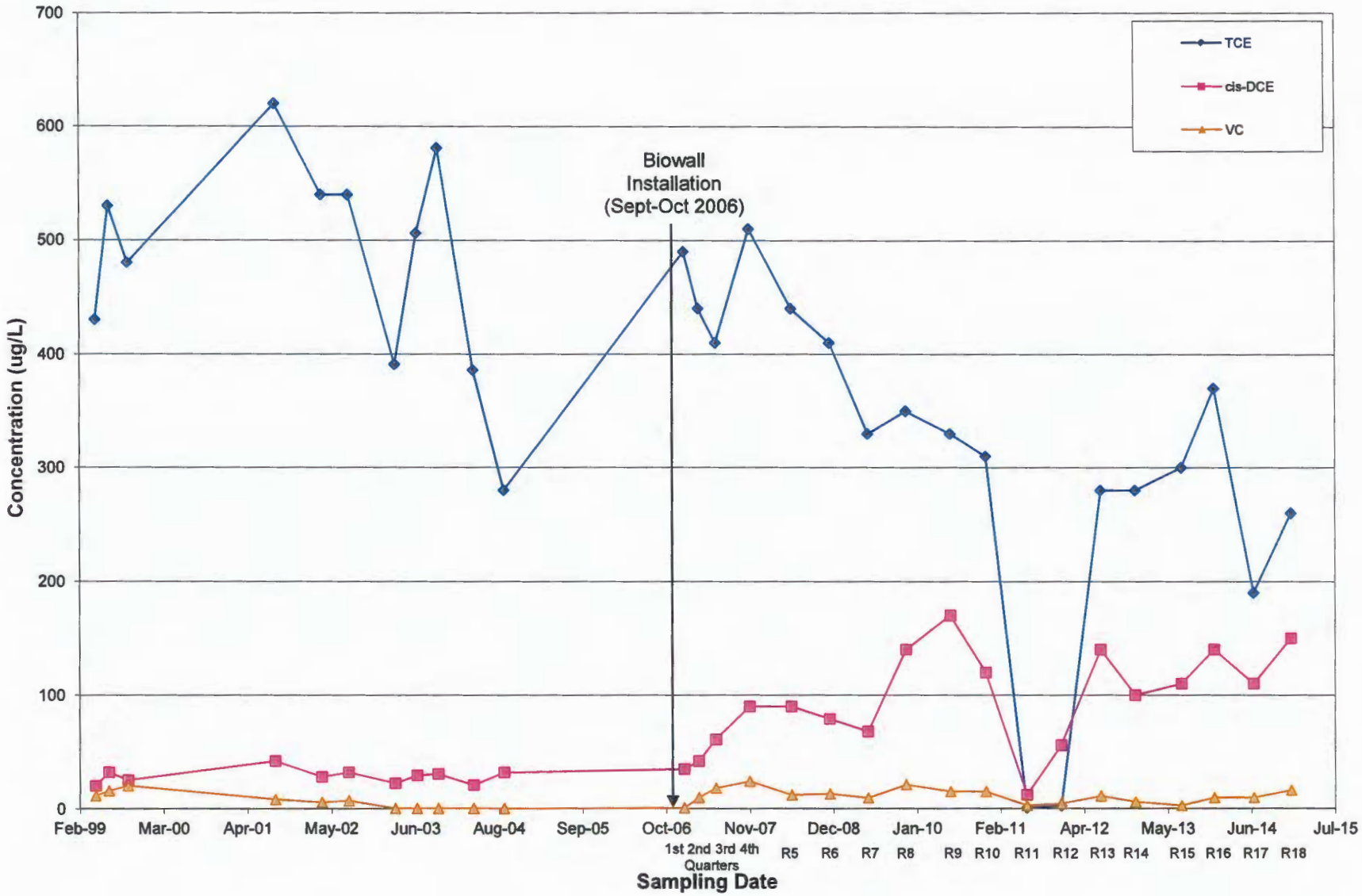
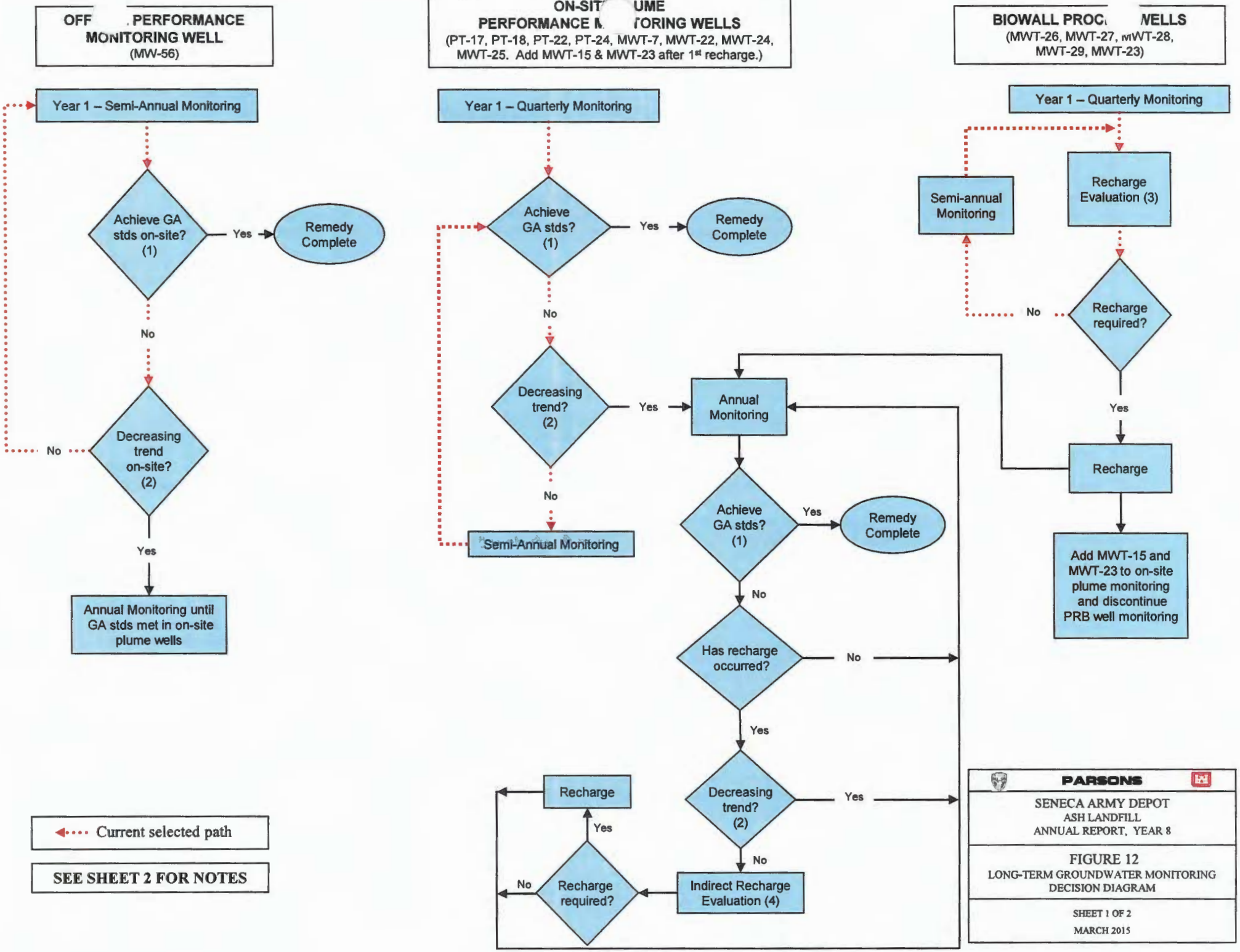


Figure 11C
Historic Concentrations of Chlorinated Organics at MWT-7
Ash Landfill Annual Report, Year 7
Seneca Army Depot Activity




OFF . PERFORMANCE MONITORING WELL
(MW-56)
ON-SIT UME PERFORMANCE M. TORING WELLS
(PT-17, PT-18, PT-22, PT-24, MWT-7, MWT-22, MWT-24, MWT-25. Add MWT-15 & MWT-23 after 1st recharge.)
BIOWALL PROC. WELLS
(MWT-26, MWT-27, MWT-28, MWT-29, MWT-23)
Year 1 – Semi-Annual Monitoring
Achieve GA stds on-site? (1)
Yes
Remedy Complete
No
Decreasing trend on-site? (2)
No
Yes
Annual Monitoring until GA stds met in on-site plume wells
Year 1 – Quarterly Monitoring
Achieve GA stds? (1)
Yes
Remedy Complete
No
Decreasing trend? (2)
Yes
No
Semi-Annual Monitoring
Annual Monitoring
Achieve GA stds? (1)
Yes
Remedy Complete
No
Has recharge occurred?
No
Yes
Decreasing trend? (2)
Yes
No
Indirect Recharge Evaluation (4)
Recharge required?
No
Yes
Recharge
Year 1 – Quarterly Monitoring
Semi-annual Monitoring
Recharge Evaluation (3)
No
Recharge required?
Yes
Recharge
Add MWT-15 and MWT-23 to on-site plume monitoring and discontinue PRB well monitoring
Current selected path
SEE SHEET 2 FOR NOTES
PARSONS
SENECA ARMY DEPOT
ASH LANDFILL
ANNUAL REPORT, YEAR 8
FIGURE 12
LONG-TERM GROUNDWATER MONITORING DECISION DIAGRAM
SHEET 1 OF 2
MARCH 2015

NOTES:

1. Achieving GA Stds: The condition of achieving GA standards applies to achieving groundwater standards for all COCs in all of the On-Site Plume Wells. If GA standards are achieved in the On-Site Plume Wells for two successive monitoring events, then the remedy is complete and no further monitoring is required at the site.

2. Decreasing Trend: After each year of sampling, the Army will review the results to determine if the chemical concentrations of the COCs are increasing, decreasing, or are unchanged. Graphical and statistical analyses will be used as the basis for this determination. For example, data points will be plotted and a best fit line (linear regression) will be graphed. The slope of the best fit line is representative of the trend in concentration; a negative slope indicates a decreasing trend in COC concentrations. A decreasing COC trend indicates that the potential for contaminants to migrate and negatively impact groundwater further downgradient is decreasing, and that the plume is being effectively managed by the remedy. Any evaluation of trends in contaminant concentrations will take into account that historic data at the Ash Landfill shows that there are seasonal fluctuations in contaminant concentrations. Semi-annual monitoring during wet and dry seasons is appropriate until it is established in which season maximum concentrations are observed. Annual monitoring would occur in the season of maximum concentrations.

3. Recharge Evaluation:

• Determining the need to recharge a biowall segment requires a review of chemical concentrations and geochemical parameters by an experienced professional. A specific, absolute set of conditions or parameter values are not appropriate to determine the need to recharge. Rather, a lines-of-evidence approach will be used that correlates a decrease in the efficiency of the system to degrade chloroethenes to geochemical evidence that indicates the cause is due to substrate depletion.

• The following parameters will be evaluated on an annual basis using at least two consecutive rounds of sampling data in order to determine if recharge of the biowalls is necessary:

a. COC concentrations in the wall. If COC concentrations have rebounded by greater than 50% for any single sampling event, this will indicate that recharge should be considered. Concentrations within the biowalls, not at downgradient locations, will be used to make this evaluation so that the effectiveness of the wall itself is being measured without the interference of effects such as desorption and mixing.

b. Geochemical parameters, specifically ORP, TOC, and DO, in the wall. Benchmark values will be used initially to evaluate anaerobic conditions in the groundwater. These benchmarks are:

- ORP < -100 Mv
- TOC > 20 mg/L
- DO < 1.0 mg/L

Parameters described in a and b above are intended to be used as guidelines and will be considered in the evaluation if, and when, a depletion of bioavailable organic substrate results in a rebound in geochemical redox conditions under which effective biodegradation does not occur.

4. **Indirect Recharge Evaluation**: Once the biowalls are recharged the first time, an indirect recharge evaluation will be conducted if an increasing trend in COC concentrations is observed in the plume performance monitoring wells. An increasing trend is a positive slope on the best-fit line, described in *Note 2* above. Two biowall monitoring wells, MWT-15 and MWT-23, will be added to the Plume Performance Monitoring program after the first recharge is completed. The evaluation will review the chemical and geochemical data and determine if the contaminant increase is a result of poor biowall performance or due to other issues, such as seasonal variations, recent precipitation events, desorption, etc. As stated in Note 2, a rebound in concentrations of COCs of 50% in MWT-15 and MWT-23 in two consecutive monitoring rounds is a major indication that recharge is needed. Once this COC rebound is observed, the geochemical parameter concentrations at MWT-15 and MWT-23 will be reviewed. In addition, conditions at the other plume performance wells will be reviewed and compared to the conditions observed at those wells at the time that the initial recharge was required. The Army will determine if similar conditions in the well provide further proof that carbon source recharge is needed again.

APPENDICES

Appendix A Field Forms for 17R2014 and 18R2014
Appendix B Complete Groundwater Data
Appendix C Regression Plots

APPENDIX A

FIELD FORMS FOR 17R2014 and 18R2014

GROUNDWATER ELEVATION REPORT

SENECA ARMY DEPOT ACTIVITY	PARSONS	DATE: 6/17/2014
PROJECT: Ash Landfill LTM - Round 17		PROJECT NO:
LOCATION: Seneca Army Depot, Romulus, NY		INSPECTOR: BBO / SD

MONITORING EQUIPMENT:

INSTRUMENT	DETECTOR	BGD	TIME	REMARKS

WATER LEVEL INDICATOR:

INSTRUMENT	CORRECTION FACTOR
Pine 14043	

COMMENTS:

checked 3 times

Monitoring Well	Well Depth (rel. TOC) (ft)	Depth to Water (rel. TOC) (ft)	Well Depth (rel. TOC) (ft)	Time at Check (military)	Well Condition (Fair / Bad) [circle]	Well Status / Comments (Lock?, Well #?, Surface Disturbance?, Riser marked?, Condition of: riser, concrete, protective casing, etc.)
PT-12A	13.38	7.49	12.63	1041	(F) / B	Lock tough to open, no well cap
PT-16	11.04	4.42	11.02	956	(F) / B	
PT-17	11.65	5.74	7.54	712	F / B	Ants in well cap, Plants growing in flush valve
PT-18A	12.85	8.44	12.79	1056	(F) / B	
PT-19	11.70	5.49	11.65	901	F / (B)	Lock rusty & Lid hinge rust
PT-20	11.80	7.89	11.78	1017	(F) / B	Ant nest on well cap, Bush around well
PT-22	11.81	9.13	11.92	1013	(F) / B	Pella Pox, lock rusted to Lid holes
PT-24	11.88	5.24	11.85	731	(F) / B	Non-Master Lock
MW-27	10.54	6.96	10.50	942	(F) / B	Bush/Tree growth around it
MW-29	10.54	5.99	10.50	921	(F) / B	PVC lifted, Asphalt to ~~stick~~ lid open
MW-32	10.37	8.44	10.37	907	(F) / B	Ants
MW-39	11.89	3.18	11.90	841	F / (B)	Ants, Lid handle rusted off
MW-40	14.71	6.10	14.68	853	(F) / B	Lock rusted, need oil
MW-44A	12.48	6.42	12.48	1053	F / B	Bush pushing on well Metal top
MW-46	11.45	7.03	11.44	1021	(F) / B	Lock rusty hard to unlock, miss well cap
MW-48	11.50	5.80	11.55	1026	(F) / B	
MW-56	6.88	4.12	6.50	1113	(F) / B	USGS Probe well
MW-60	~~8.50~~	3.72	10.00	827	F / (B)	PVC tub lifted unable to open, ~~can't~~ lock
MWT-1	10.13	4.98	10.10	935	(F) / B	
MWT-3	10.13	5.23	10.09	936	(F) / B	ants, Silt on tip of probe
MWT-~~46~~ 6	12.43	6.17	12.48	926	(F) / B	ant nest West of ZVI
MWT-~~64~~ 4	12.65	5.48	12.47	925	F / B	Lock rusty, need oil East of ZVI
MWT-7	13.64	6.15	13.65	915	(F) / B	
MWT-9	14.14	6.78	14.15	917	(F) / B	Bush growing over well
MWT-10	9.00	5.95	8.96	940	(F) / B	Lock & bottle rusty
MWT-17R	11.4	7.87	11.36	1031	(F) / B	Pilot Biowall, North end, no well cap
MWT-22	14.9	7.85	14.85	1032	F / B	Pilot Biowall, South end
MWT-23	13.7	9.48	13.76	1005	(F) / B	Small
MWT-24	13	7.98	12.95	948	(F) / B	Bee's, PVC lifted, barely opened (id
MWT-25	13.25	7.55	13.19	1048	(F) / B	PVC lifted, rem
MWT-26	13.22	7.33	13.17	1037	(F) / B	lock tough to open
MWT-27	12.9	8.12	12.73	1245	(F) / B	Lock tough to open, lid barely open
MWT-28	12.85	8.12	12.80	1034	(F) / B	
MWT-29	13.1	8.31	13.07	1033	(F) / B	

near road → Bush → btw nest 7 & 6

Cut well top 2.75 inch removed flapped

MW-60 feels like soft bottom
Stickup height 1.9' above ground surface

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT 26

PROJECT:	Ash Landfill LTM Groundwater Sampling - Round 17	DATE: 6/19/14
LOCATION:	ROMULUS, NY	INSPECTORS: Dillman
		PUMP #: 8135

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

SAMPLE ID #: ALBW20306

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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
	13.17 ft					

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
		7.36 ft			

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)
10:17	7.36	120		3217 unit YSI 85 ←	→	15594 Horiba ←		→	HKCH 2100 P 11638
10:25		102		IN %					
10:30	7.91	102		5.7	12.5	1.87	6.56	23	152
10:35	7.96	102		6.6	12.7	1.75	6.60	35	
10:40	8.12	110		5.0	12.8	1.59	6.71	80	40.8
10:45	8.27	102		4.4	12.8	1.55	6.75	122	18.6
10:50		102		3.9	12.8	1.52	6.76	176	13.4
10:55	8.44	102		3.2	12.8	1.49	6.79	78	8.64
11:00	8.56	101		2.7	12.7	1.47	6.83	56	7.61
11:05	8.69	100		2.3	12.7	1.47	6.80	49	5.81
11:10	8.86	101		2.0	12.7	1.47	6.82	37	4.49
11:15	8.96	101		1.9	12.6	1.49	6.79	35	3.08
11:20	9.12	102		1.9	12.6	1.51	6.83	39	2.82
11:25	9.19	101	2 gal	1.8	12.5	1.54	6.82	45	2.53
11:30	9.33	101		1.7	12.4	1.56	6.83	43	2.57
11:35	9.48	101		1.6	12.3	1.58	6.86	50	2.53
11:40	9.53	102		1.6	12.2	1.60	6.83	55	2.76
11:45	9.57	75		1.5	12.2	1.60	6.82	56	3.00
11:50	9.68	98		1.5	12.1	1.62	6.83	72	5.65
11:55	9.73	108	2.5 gal	1.4	12.1	1.62	6.81	65	4.18
12:00	9.91	110		1.5	12.1	1.62	6.83	71	3.22

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT26

PROJECT:	Ash Landfill LTM Groundwater Sampling - Round 17	DATE: 6/19/14
LOCATION:	ROMULUS, NY	INSPECTORS: D. Harris
		PUMP #: 8135
		SAMPLE ID #: ALBW20306

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2 (circled)	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
	13.17					

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
		7.36			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	YSI 85 DISSOLVED OXYGEN (mg/L)	YSI TEMP (C)	SPEC. COND (umhos) Horiba	Horiba pH	Horiba ORP (mV)	Hach TURBIDITY (NTU)
1205	10.08	110	3 gal	1.7	12.0	1.64	6.83	77	4.72
1210	10.17	108		1.7	12.0	1.64	6.82	81	5.44
1215	10.28	108	IN % →	1.5	11.9	1.65	6.81	83	6.01
1220	10.42	108	start mg/L			1.66	6.82	85	7.26
1225	10.56	108		0.26	11.9	1.68	6.81	84	15.4
1230	10.64	108	3.5 gal	0.21	11.7	1.69	6.78	68	17.7
1235	10.76	108		0.19	11.6	1.71	6.78	56	15.0
1240	10.83	108			11.7	1.72	6.78	62	17.8
1245	10.96	108	4 gal	0.36 ?	11.8	1.72	6.80	61	17.5
1250	collect sample								

Mn = 1.2 mg/L Hach Test

Fe^{2+} = 0.04 mg/L Hach Test

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW1-27

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/19/14
INSPECTORS: BBO
PUMP #: 9201
SAMPLE ID #: ALBW20307

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
1008	70	Sunny Scattered clouds		5-15	W-E	evidence of overnight rain	OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	12.73'					

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
		8.18			

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)
1033	8.00	Bladder Pump in Well							
1040		Pump Started							
1056	8.37			0.54	12.2	2.10	6.74	-75	400
1101	8.48	122		0.53	12.4	2.13	6.69	-69	308
1106	8.64	114		0.52	12.3	2.17	6.64	-66	217
1111	8.67			0.53	12.2	2.19	6.62	-67	176
1116	8.66	96/90		0.52	12.2	2.20	6.60	-67	133
1121	8.60	89		0.51	12.1	2.20	6.59	-67	104
1126	8.64	98	~1.0 gal	0.51	12.1	2.18	6.58	-67	80
1131	8.67			0.51	12.0	2.16	6.57	-68	66.5
1136	8.65	85	~1.3 gal	0.50	12.0	2.15	6.55	-69	43.7
1146	8.65	110	~1.75 gal	0.49	12.0	2.17	6.55	-71	39.8
1151	8.70			0.49	11.8	2.17	6.56	-71	33.4
1156	8.73	102	~2.0 gal	0.49	11.9	2.15	6.55	-71	27.2
1201	8.74	100		0.49	11.8	2.14	6.54	-72	23.8
1206	8.74			0.48	11.9	2.14	6.54	-73	19.3
1211	8.75	106	~2.3 gal	0.48	12.0	2.14	6.53	-73	18.2
1216			~2.75 gal	0.48	11.9	2.14	6.54	-75	11.7
1226									
1240	8.78		~3.25 gal	0.53	11.9	2.10	6.52	-75	27.1

YSI 85 0.07 mg/L 1221

1238 YSI 85 DO 0.06 mg/L 11.9°C

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-27

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/19/14
INSPECTORS: BBO
PUMP #: 9201
SAMPLE ID #: ALBW20307

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1245	73.	Sunny/ Scattered clouds		5-15	W→E	

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (umhos)	pH	ORP (mV)	TURBIDITY (NTU)
1246	8.76		~3.5 gal	0.52	11.9	2.09	6.53	-77	18.5
1256		Samples	Collect			Fe^{+}:	3.30	mg/L overlimit	
		filled	bottles			Mn:	22.0	mg/L overlimit	
		- 3x	VOC VOAs						
		- 2x	MEE VOAs	air bubble	pea	size in both vials			
		- 3x	TOC VOAs						
		- 1x	Plastic						
			~4 gals	total purge					

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-28

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/19/14
INSPECTORS: Dillman
PUMP #: 9500
SAMPLE ID #: ALBW 20308

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

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

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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
		8.15			

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)
				YSI 85 03217 →		HORIBA	15504 →		HACH 2100P 11638
1535	8.15	120	START	pump					
1540	8.69	110		0.51	11.7	1.05	6.30	-76	15.2
1545	8.74	112		1.70	11.7	1.00	6.43	-71	8.75
1550	8.73	102		1.61	11.6	1.00	6.41	-67	7.37
1555	8.79	112		1.52	11.5	1.01	6.46	-71	6.79
1600	8.82	110		1.45	11.5	1.03	6.45	-75	5.96
1605	8.83	114		1.34	11.5	1.05	6.40	-77	5.46
1610	8.83	112		1.29	11.4	1.08	6.32	-74	5.65
1615	8.85	118		1.21	11.4	1.10	6.41	-80	4.19
1620	8.86	118	2.0 gal	1.13	11.4	1.12	6.40	-80	4.13
1625	8.87	118		1.07	11.4	1.14	6.39	-82	3.98
1630	8.88	118		1.02	11.4	1.15	6.40	-83	4.06
1635	8.87	118		0.98	11.4	1.17	6.39	-84	5.46
1640	8.90	118		0.94	11.4	1.17	6.27	-82	4.83
1645	8.93	122		0.88	11.4	1.18	6.26	-86	3.83
1650	8.87	116		0.86	11.4	1.19	6.29	-86	4.32
1655	8.90	118	3.25 gal	0.82	11.4	1.21	6.27	-87	3.08
1700	8.92	120		0.78	11.4	1.21	6.25	-85	3.67
1705	8.93	112		0.73	11.5	1.23	6.30	-88	5.05
1710	8.93	114		0.71	11.5	1.22	6.31	-86	4.04
1715	8.92	118	4 gal	0.71	11.5	1.22	6.28	-87	3.12

Collect sample 1720

Fe^{+2} = +3.30 Limit Hach Test
Mn = 17.5 mg/L Hach Test

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-29

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/19/14
INSPECTORS: BBO
PUMP #: 13209
SAMPLE ID #: ALBCW20309

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
1529	76	sunny clear		10-15	V→E	dry	OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
1 well vol = 0.77 gal 3x well = 2.3 gal

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
	13.07'					

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
		8.36			

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)
1534	8.17	Pump	9 YSI in the	well	Replaced Air/Water lines.				
1552		Pump	Started						
1601	8.58	108		0.33	11.0	1.53	6.79	-23	8.93
1606	8.64			0.31	10.9	1.57	6.69	-25	4.34
1611	8.78	110		0.31	10.9	1.58	6.62	-24	2.61
1616	8.94	94		0.23	11.1	1.56	6.70	-30	2.65
1621	9.04	112		0.19	11.1	1.49	6.67	-28	2.14
1626	9.20	100	~0.8 gal	0.19	11.0	1.46	6.67	-27	1.65
1631	9.32	96	~1.0 gal	0.19	11.0	1.49	6.66	-27	1.75
1636	9.41	104		0.19	10.9	1.51	6.62	-26	0.84
1641	9.62		~	0.20	10.9	1.55	6.61	-27	1.07
1646	9.72	88	~1.5 gals	0.22	10.9	1.56	6.61	-27	0.88
1651	9.84		~1.9 gals	0.13	10.9	1.57	6.60	-26	1.27
1656	9.96	98	~2.0 gals	0.13	10.8	1.59	6.62	-28	0.93
1701	10.08	98		0.14	10.8	1.59	6.61	-28	0.87
1706	10.20	90	~2.25 gals	0.13	10.7	1.60	6.59	-28	0.96
			~2.6 gals	total purge					
1720		Samples	Collected				Hach	Test Kit	
		3x VOAs for VOC					Fe:	3.30 mg/L	over limit
		2x VOAs for MEE					Mn:	7.9 mg/L	
		3x VOAs Amber for	TOC						
		1x Plastic Sulfate							

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: PT-17

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/20/14
INSPECTORS: BBC
PUMP #: Peristaltic Pump
SAMPLE ID #: ALBW 20295

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
1324	~70	scattered clouds		5-15	NW→SE		OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
1x Well Vol = 0.28 gal 3x Wells: 0.82 gals

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	7.54'					

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
		5.85'			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS — Hach

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (°C)	SPEC. COND	pH	ORP (mV)	TURBIDITY (NTU)
1336	5.85	YSI in well							
1337		Peristaltic pump Started							
1348	5.89	100		0.15	11.0	0.965	6.23	6	13.9
1353	5.90			0.12	11.0	0.948	6.25	7	5.53
1358	5.90			0.10	11.0	0.940	6.25	11	3.18
1403	5.91			0.10	10.9	0.933	6.23	16	2.39
1408	5.91			0.08	10.9	0.928	6.23	20	4.66
1413	5.91	126	~1.0 gal	0.08	10.9	0.918	6.23	22	1.93
1418	5.91			0.08	10.9	0.916	6.23	26	2.37
1423	5.92			0.08	10.9	0.913	6.21	29	1.59
1428	5.12			0.07	10.9	0.912	6.20	31	1.12
1433	5.92		~2.0 gal	0.07	10.9	0.908	6.19	32	1.78
1438	5.92			0.07	10.8	0.908	6.19	34	1.28
1443	5.92			0.07	10.8	0.908	6.18	35	0.55
1456		Sample Collected			Hach Tests		Fe:	0.14 mg/L	
		3x VOAs for VOC					Mn:	4.5 mg/L	
		2x VOAs for MEE, 1 vial has			large size bubble				
		3x VOAs Amber for TOC							
		1x Plastic for Sulfate							
Total		Purge	~3.0 gals						

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: PT 24

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/20/14
INSPECTORS: D. Ilman
PUMP #: ~~13209~~ 8238
SAMPLE ID #: ALB 20298

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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
		5.29			

RADIATION SCREENING DATA	PUMP PRIOR TO SAMPLING (cps)	YSI 85 3217	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)
1410	5.29		Start Pump AT 1420			HORIBA U52		15504	HACH 2100P 11638
1425	5.32	140		0.36	10.8	0.919	7.28	-46	
1430	5.32	124		0.30	10.8	0.933	7.21	-51	3.17
1435	5.32	140		0.18	11.0	0.930	7.07	-51	13.1
1440	5.32	140		0.11	11.2	0.916	7.01	-40	5.38
1445	5.32	160		0.10	11.2	0.917	7.00	-28	3.19
1450	5.32	156		0.08	11.3	0.923	6.95	-34	2.64
1455	5.32	156		0.07	11.3	0.925	6.99	-8	2.98
1500	5.32	162		0.06	11.3	0.927	6.94	0	1.95
1505	5.32	162		0.06	11.3	0.926	6.95	3	2.52
1510	5.32	160	2 gal	0.06	11.3	0.929	6.93	6	2.14
1515	5.32	160		0.05	11.3	0.931	6.95	7	1.66
1520	5.32	160		0.06	11.3	0.930	6.95	10	0.99
1525	5.32	160		0.05	11.2	0.932	6.91	11	1.08
1530	5.32	160		0.05	11.3	0.933	6.90	15	0.81
1535	5.32	160		0.05	11.3	0.935	6.90	16	1.03
1540	5.32	160	3.5 gal	0.05	11.3	0.934	6.92	15	0.94
1545	5.32	160		0.05	11.3	0.936	6.93	21	0.98
1550	5.32	160		0.04	11.3	0.935	6.93	20	0.94
1555	5.32	160		0.04	11.3	0.934	6.93	19	0.93
1600	5.32	160	4.25 gal	0.05	11.3	0.935	6.93	18	1.12

COLLECT SAMPLE 1605 for VOC's

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-7

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/20/14
INSPECTORS: BBO
PUMP #: 16358/9201/8135
SAMPLE ID #: ALBG20299

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
920	62	sunny thin cloud		0-10	N→S		OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	13.65'					

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
		6.27'			

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)
939	6.19	Bladder pump & YSI in Well							
940		Pump Started							
952		No signs of water coming up in tubing. DO reading are 0.19, with no indication of air leaking into the well. Pulling pump up to inspect pump for issues. Bladder pump #16358 appears to have check valve issue. Plastic bladder was crushed and appeared to have a vacuum pressure on it. Pump taken out of service, replaced w/ #9201							
1002		Re-Started pump							
1008		DO 1.24 and climbing, appears there is air leak, will pull pump up and check air line.							
1012		Cut air line & re-attached, re-Started pump. Checked air line O-rings, ok							
1016		DO 1.49 and climbing, DO way above historical summer values. will pull pump & replace w/ fresh pump# 8135							
		Poured water on top of pump #9201 head and cycled compressor, bubbles immediate seeped out around the air line. Pump #8135, inspected O-ring and pump head prior to attaching water/air lines. No issues seen except small white particles on edge of O-rings (both lines). Wiped off o-ring and re-assembled pump #8135. Poured water on top of pump head and cycled compressor. 1st cycle had single air bubble emerge, 2nd cycle also single air bubble., 3rd & 4th cycles had no air bubbles							

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-7

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/20/14
INSPECTORS: BDO
PUMP #: 8135
SAMPLE ID #: ALDW20299

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

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

MONITORING

INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

1 Well Vol = 1.2 gal 3 x Wells: 3.6 gal

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
	13.65'					

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
		6.27'			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

Hach

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	YSI DISSOLVED OXYGEN (mg/L)	YSI TEMP (°C)	YSI SPEC. COND Hach umhos)	Horiba pH	Horiba ORP (mV)	TURBIDITY (NTU)
1030		Re-started pump.		~1.88					
1041				2.11					
1047				2.05	10.3				
1054				1.87	10.1				
1109	6.37			1.79	9.8	0.830	6.50	173	44.1
1115	6.38	102		1.08	9.7	0.854	6.40	141	35.9
1119	6.39	104		1.08	9.7	0.865	6.44	126	33.6
1124	6.41			0.80	9.6	0.884	6.38	113	29.1
1129	6.40	106	~0.9 gal	0.69	9.5	0.894	6.38	104	17.4
1134	6.40			0.71	9.5	0.904	6.31	102	11.9
1139	6.40	96	~1.1 gal	0.54	9.5	0.911	6.35	91	7.29
1144	6.40			0.55	9.4	0.917	6.34	85	7.42
1149	6.40	104	~1.75 gal	0.61	9.4	0.923	6.29	83	5.30
1154	6.39			0.57	9.4	0.927	6.36	73	4.57
1159	6.39	100	~2.0 gal	0.46	9.4	0.931	6.29	73	4.43
1204	6.39			0.52	9.4	0.934	6.35	68	3.63
1209	6.39	90	~2.3 gal	0.57	9.4	0.937	6.34	66	3.39
1214	6.38	90		0.52	9.4	0.939	6.36	62	2.84
1219	6.38	92	~2.75 gal	0.55	9.4	0.942	6.33	63	2.20
1224	6.39			0.55	9.4	0.944	6.33	62	2.41
1229	6.39		~2.9 gal	0.55	9.4	0.946	6.26	63	3.16

1237 Samples Collected Hach Test Fe: 0.0 mg/L checked twice Mn: 0.6 mg/L

~3.0 gal Total Purge 6x VOAs for VOC 3x VOAs Amber for TOC 1x Plastic for Sulfate 2x VOAs for MEE, one vial had tiny air bubble, smaller than pea

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-23

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/20/14
INSPECTORS: Dillman
PUMP #: 9500
SAMPLE ID #: ALBW 20304
ALBW 20305 DUP

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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
		9.55 Ft			

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)
9:45	9.55	138	Start Pump YSI 85 3217			HORIBA U52 1550	⟶		HACH 2100P 11638
9:55	9.78	135		0.29	10.2	1.34	6.11	-50	
10:00	9.77	122		0.29	10.1	1.33	6.11	-49	24.8
10:05	9.77	100		0.26	10.1	1.32	6.11	-47	22.7
10:10	9.80	85		0.20	9.9	1.30	6.27	-38	21.4
10:15	9.94	140		0.22	9.8	1.29	6.24	-34	20.3
1020	9.96	122		0.25	9.9	1.28	6.31	-37	15.2
1025	9.96	120		0.27	9.9	1.27	6.27	-37	11.1
1030	9.96	120	1.1 gal	0.21	9.8	1.26	6.36	-42	9.02
1035	9.96	120		0.19	9.7	1.26	6.25	-43	7.21
1040	9.96	120		0.20	9.7	1.26	6.29	-48	5.45
1045	9.96	120		0.21	9.7	1.26	6.28	-49	5.56
1050	9.96	120		0.21	9.7	1.26	6.35	-53	5.16
1100	9.96	120		0.19	9.7	1.26	6.36	-54	4.16
1105	9.96	120		0.18	9.7	1.25	6.44	-55	3.80
1110	9.96	120	2.4 gal	0.18	9.6	1.24	6.37	-56	3.35
1115	9.96	110		0.19	9.6	1.24	6.36	-54	3.16
1120	9.96	120		0.19	9.6	1.24	6.37	-56	3.26
1125	9.96	120	3 gal	0.18	9.6	1.25	6.40	-56	3.17
1130	Collect		Sample + MS, MSD, Dup			11:50 Dup			

Mn = 4.0 mg/L HACH Test.
Fe^{+2} = 3.30 + over limit HACH Test

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: PT-22

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: ~~6/20~~ 6/21/14
INSPECTORS: BBO
PUMP #: 13209
SAMPLE ID #: ALBW20297

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
1317	82	Sunny thin clouds		5-10	W-7E		OVM-580	PID

WELL VOLUME CALCULATION FACTORS

DIAMETER (INCHES):	0.25	1	2	3	4	6
GALLONS / FOOT:	0.0026	0.041	0.167	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)]
1 Well Vol = 0.44 gal 3x Well = 1.33 gal

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
	11.92'					

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
		9.21'			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used				YSI 550	YSI	Horiba	Horiba	Horiba	Hach
1328	9.67	Bladder pump & YSI in the well							
1329		Pump Started							
1340	9.58	100		0.37	10.7	0.985	6.82	22	5.49
1345	9.73			0.48	10.5	0.988	6.77	20	4.49
1350	9.81	90		0.41	10.4	1.01	6.74	27	3.40
1355	9.91	102	~0.5 gals	0.58	10.3	1.02	6.73	32	2.46
1400	10.02			0.46	10.3	1.02	6.72	41	1.60
1405	10.20	55	~1.0 gals	1.18	10.2	1.02	6.72	52	2.03
1410		96		1.32	10.2	1.04	6.73	55	3.17
1415	10.30			1.44	10.2	1.04	6.73	57	4.02
1420	10.41	106	~1.2 gals	1.48	10.1	1.04	6.73	60	3.10
1425 1430	10.65			DO Probe expired		1.04	6.73	63	2.05
1430	ND		~1.75 gals			1.05	6.74	61	2.42
			~2.0 gals	total purge					
1433		Samples Collected		3x VOAs for		VOC			

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-22

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/21/14
INSPECTORS: DDO
PUMP #: 18731
SAMPLE ID #: ALBW20300

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
1524		sunny		5-10	NW→SE		OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
1x Well = 1.13 gal 3x Well = 3.38 gals

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	14.85'					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		7.94'			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used				YSI 550	YSI	Horiba	Horiba	Horiba	Hach
1550	7.53	Bladder pump & YSI in well, replaced air/water lines							
1550		Pump Started							
1602	8.80			0.24	9.9	1.27	6.73	-36	650
1607	9.36	126		0.22	9.9	1.30	6.63	-33	573
1612	9.77	112/94/160		0.24	10.0	1.30	6.57	-31	421
1617	10.21			0.26	10.1	1.30	6.56	-31	246
1623	10.36	100	~0.5 gal	0.28	10.1	1.28	6.55	-32	138
1627	10.36			0.33	10.1	1.27	6.54	-34	82.5
1632	10.36			0.41	10.2	1.25	6.54	-36	56.6
1637	10.36	100	~1.0 gal	0.46	10.2	1.25	6.55	-37	42.2
1642	10.36			0.36	10.1	1.28	6.55	-38	27.9
1647	10.43		~1.3 gals	0.36	10.1	1.29	6.56	-38	20.9
1652	10.55	108		0.41	10.1	1.30	6.56	-37	18.1
1657	10.72			0.37	10.1	1.32	6.56	-37	14.4
1702	10.83	112	~2.0 gals	0.36	10.0	1.33	6.57	-36	11.8
1707	11.0	114		0.36	10.0	1.34	6.58	-35	10.6
1712	11.13			0.37	10.0	1.35	6.58	-34	9.95
1717	11.35			0.32	9.9	1.35	6.58	-33	8.99
1722		Sample Collected							
		3x VOAs for VOC							

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-24

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/24/14
INSPECTORS: D. Mann
PUMP #: 14968
SAMPLE ID #: ALBU 20301

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

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

MONITORING

INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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
		8.19 ft			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used				YSI 55 3217	—	Horiba U-52 15304	—	—	Hach 2100P 11638
1:38	8.18		START PUMP						
1:45	8.32	130		0.27	10.9	1.21	7.10	-1	
1:50	8.32	132		0.21	10.8	1.20	7.09	-15	0.91
1:55	8.32	130		0.23	11.0	1.20	7.09	-15	54.6
2:00	8.32	122		0.15	11.0	1.20	7.02	-12	29.3
2:05	8.32	122		0.13	11.0	1.21	7.10	-11	16.3
210	8.32	122		0.10	10.9	1.21	7.14	-14	10.6
215	8.32	122	1.25 gal	0.11	10.9	1.21	7.17	-13	10.1
220	8.32	122		0.11	10.9	1.21	7.10	-7	9.19
225	8.32	122		0.11	10.9	1.21	7.11	-9	7.98
230	8.32	122		0.12	11.0	1.21	7.10	-10	8.05
235	8.33	122		0.12	11.0	1.21	7.13	-4	7.98
240	8.33	138		0.11	11.0	1.21	7.13	-2	8.10
245	8.33	142		0.11	11.0	1.21	7.08	-1	8.60
250	8.33	140	2.75	0.10	11.0	1.21	7.09	-2	8.13
255	8.33	140		0.10	11.0	1.21	7.11	+6	8.42
300	8.33	140	3.00	0.11	11.0	1.21	7.09	6	8.88
305	8.33	140		0.10	11.0	1.21	7.07	8	8.12
310	8.33	140		0.11	11.0	1.21	7.06	10	7.27
315	8.33	140		0.09	11.0	1.21	6.97	13	7.77
320	8.33	140	4 gal	0.10	11.0	1.21	7.09	9	8.74

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-24

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/21/14
INSPECTORS: Dillman
PUMP #: 14968
SAMPLE ID #: ALBW20301

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

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

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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

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)
325	8.33	145		0.11	11.0	1.21	7.07	13	8.66
330	8.33	145		0.10	11.0	1.21	7.06	14	10.3
335	8.33	145	5 gal	0.11	11.0	1.21	7.07	15	8.88
340	Collect sample for VOC's								

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-25

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/21/14
INSPECTORS: Dillman
PUMP #: 9201
SAMPLE ID #: ALBG 20302

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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
	13.20					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		7.64			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used				0217		HORIBA U-52	1554		HACH 2100P 11638
Start Pump 9.55				YSI 85					
10:00	Tube leaking - Replace								
10:06	Restart Pump								
10:10	8.05	140		0.43	11.0	1.41	7.04	-1	
10:15	8.20	112		0.62	11.1	1.38	6.99	-21	
10:20	8.25	112		0.67	11.2	1.33	7.11	-22	
10:25	8.33	116		0.52	11.2	1.29	7.15	-12	7.45
10:30	8.60	100		0.37	11.2	1.28	7.21	-2	6.28
10:35	8.69	102		0.36	11.1	1.28	7.27	4	3.70
10:40	8.88	100		0.33	11.1	1.30	7.27	8	3.41
10:45	9.03	108	1.3 gal	0.31	11.1	1.31	7.36	12	2.78
10:50	9.23	108		0.31	11.0	1.33	7.22	15	2.18
10:55	9.34	108		0.27	11.0	1.34	7.24	16	2.51
11:00	9.53	100		0.19	10.9	1.35	7.26	15	2.05
11:05	9.65	100		0.17	10.9	1.35	7.29	12	2.08
11:10	9.76	90		0.14	10.8	1.35	7.33	9	2.03
11:15	9.91	94	2.00 gal	0.16	10.8	1.37	7.43	3	1.68
11:20	10.05	120		0.15	10.8	1.38	7.35	0	1.36
11:25	10.18	122		0.14	10.7	1.39	7.28	-5	1.28
11:30	10.30	106		0.10	10.6	1.41	7.36	-15	1.17
11:35	10.45	106		0.11	10.6	1.41	7.33	-15	1.34

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT 25

PROJECT: SEAD-25 LTM Groundwater Sampling - Round 11
LOCATION: ROMULUS, NY

DATE: 6/21/14
INSPECTORS: Dillman
PUMP #: 9201
SAMPLE ID #: ALBW 20302

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
HISTORIC DATA	13.20					

	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
DATA COLLECTED AT WELL SITE		7.64			

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)
11:40	10.50	100		0.11	10.6	1.41	7.37	-20	1.62
11:45	10.60	105		0.10	10.5	1.41	7.37	-20	1.37
11:50	10.73	106		0.11	10.5	1.39	7.39	-19	1.28
11:55	10.89	104		0.11	10.5	1.40	7.35	-20	1.25
12:00	10.98	104		0.08	10.4	1.41	7.37	-22	1.66
12:05	11.05	104	3.5 gal	0.07	10.4	1.43	7.37	-19	0.98
1210	11.14	104		0.08	10.4	1.46	7.37	-20	0.95
1215	11.22	104	"	0.08	10.3	1.45	7.37	-19	0.91
1220	11.31	102	3.9 gal	0.09	10.3	1.46	7.36	-19	0.92
1225		Collect	sample for VOCs						

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: PT-18A

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: ~~BBO~~ 6/21/14
INSPECTORS: BBO
PUMP #: 9500
SAMPLE ID #: ALBW 20296

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
1055	76	sunny		0-5	N->S		OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
1 Well Vol = 0.69 gal 3 x Well = 2.06 gals

	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC COND
HISTORIC DATA	12.79'					

	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
DATA COLLECTED AT WELL SITE		8.58'			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used				YSI 550	YSI	Horiba	Horiba	Horiba	Hach
1110	8.40	Bladder pump & YSI in the well							
1110		Pump Started							
1123	8.70	90		0.57	10.9	1.25	6.99	4	6.72
1128	8.78	94		0.62	10.8	1.26	6.96	-4	6.58
1133	8.92	102		0.71	10.8	1.26	6.93	-3	4.66
1138	9.12	102		0.73	10.9	1.26	6.96	1	4.34
1143	9.18			0.60	10.8	1.26	6.95	9	2.91
1148	9.27	102	~0.5 gals	0.42	10.8	1.25	6.94	20	2.00
1153	9.34			0.37	10.7	1.25	6.95	28	1.79
1158	9.36	94		0.26	10.7	1.25	6.94	35	1.39
1203	9.40		~1.0 gals	0.21	10.6	1.25	6.94	43	1.18
1208	9.49	98		0.19	10.6	1.24	6.94	50	1.05
1213	9.53			0.16	10.6	1.23	6.93	56	1.33
1218	9.58		~1.6 gals	0.15	10.5	1.22	6.94	61	1.38
1223	9.63	108		0.15	10.5	1.21	6.96	67	0.89
1228	9.69			0.14	10.5	1.20	6.95	69	0.85
1233			~2.1 gals	0.15	10.5	1.20	6.96	72	0.94
1238	9.75	110		0.15	10.5	1.20	6.94	75	0.87
1243	9.78			0.15	10.5	1.20	6.95	76	0.77
			~2.6 gals	total Purge					
1257	Samples Collected 3 VOAs for VOC								

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-56
PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17		DATE: 6/22/14
LOCATION: ROMULUS, NY		INSPECTORS: BBO/SD
		PUMP #: 8915
		SAMPLE ID #: ALBW20303

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
840	~60s	sunny		0-5	N-75		OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

1x Well = 0.29 gal 3x Well = 0.87 gal

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	6.50'					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		1.26' USGS probe in well	4.73' No USGS Probe		

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)
Equipment Used				YSI 85	YSI	Horiba	Horiba	Horiba	Hach
900	4.25	Bladder pump & YSI in Well							
900		Pump Started							
928	4.56	70		0.49	15.6	0.415	6.83	-42	16.7
933	4.58	100		0.48	15.6	0.459	6.83	-51	10.2
938	4.58	104		0.44	15.5	0.505	6.85	-60	5.69
943	4.58	100		0.43	15.5	0.533	6.86	-67	4.14
948	4.58			0.43	15.4	0.558	6.89	-73	3.54
953	4.58	88		0.41	15.4	0.579	6.85	-78	2.64
958	4.58			0.55	15.3	0.588	6.78	-82	2.21
1003	4.58	90	0.75	0.49	15.3	0.596	6.90	-86	2.00
1008	4.61	120		0.75	15.3	0.601	6.90	-89	2.09
1013	4.62	104		0.64	15.3	0.603	6.90	-89	2.38
1018	4.64	110	~1.25 gals	0.57	15.3	0.615	6.89	-90	3.13
1023	4.64			0.62	15.3	0.631	6.89	-90	2.18
1028	4.64			0.59	15.3	0.642	6.91	-91	1.54
1033	4.64	108		0.57	15.3	0.666	6.92	-93	2.27
1038	4.64		1.75 gals	0.57	15.2	0.676	6.91	-93	1.42
1043	4.64	92/92		0.50	15.2	0.695	6.97	-97	1.64
1048	4.72	88	~2.0 gal	0.44	15.1	0.696	7.00	-99	1.33
			~2.25 gals Total purge						

1055 Samples Collected 3x VOAs for VOC

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-40

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 17
LOCATION: ROMULUS, NY

DATE: 6/22/14
INSPECTORS: BBO/SD
PUMP #: Peristaltic Pump
SAMPLE ID #: ALBW20310

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
1154	72	Sunny		0-5	NW-SE		OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
1x Well Vol = 1.37 gal 3x Well = 4.1 gal

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
	14.68'					

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
		6.28'			

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)
Equipment	Used			YSI 85	YSI	Horiba	Horiba	Horiba	Hach
1158	6.17 6.28	YSI	in the well						
1204	6.18	Pump	Started						
1210	7.64	116		2.85	9.6	0.726	7.33	34	5.63
1215	7.93			2.92	9.7	0.710	7.32	39	4.41
1220	7.96			2.90	9.8	0.707	7.31	44	4.62
1225	7.87			2.96	9.9	0.704	7.32	47	3.70
1230				3.12	9.9	0.707	7.31	50	4.38
1235	7.98			3.31	10.6	0.713	7.32	53	3.52
1240				3.46	10.0	0.722	7.34	54	2.77
1245	7.96		~1.1 gals	3.46	10.0	0.715	7.36	54	3.11
1250				3.56	10.1	0.699	7.37	55	2.68
1255	7.97			3.62	10.1	0.717	7.37	57	2.34
1300				3.65	10.1	0.709	7.38	58	2.48
1305	7.98		~1.75 gals	3.75	10.1	0.703	7.38	59	2.05
1310				3.76	10.1	0.713	7.37	60	1.73
			~2.25 gals	Total purge					
1315		Collected Hach Samples				Fe+:	0.0	mg/L checked twice	
						Mn:	1.0	mg/L	

GROUNDWATER ELEVATION REPORT

SENECA ARMY DEPOT ACTIVITY	PARSONS	DATE: 12/15/2014
PROJECT: Ash Landfill LTM - Round 18		PROJECT NO:
LOCATION: Seneca Army Depot, Romulus, NY		INSPECTOR: T.Belanger/ S. Dillman

MONITORING EQUIPMENT:

INSTRUMENT	DETECTOR	BGD	TIME	REMARKS

WATER LEVEL INDICATOR:

INSTRUMENT	CORRECTION FACTOR
Pine 14043	—
HERON DIPPER-T	
A01584	

COMMENTS: OVERCAST, M.O 30s, NO WIND. 2-3" SNOW ON GROUND

Monitoring Well	Historic Well Depth (rel. TOC) (ft)	Depth to Water (rel. TOC) (ft)	Well Depth (rel. TOC) (ft)	depth of water	Time at Check (military)	Well Condition (Fair / Bad) [circle]	Well Status / Comments (Lock?, Well #?, Surface Disturbance?, Riser marked?, Condition of: riser, concrete, protective casing, etc.)
PT-12A	12.62	5.88	12.63 ~~12.63~~	12.63	1323	(F) / B	LOCK MISSING WELL CAP, MARKER
PT-16	11.00	2.92	11.01 ~~11.02~~	11.02	1315	(F) / B	OK.
PT-17	7.52	3.45	7.50 7.54	7.54	1220	F / (B)	MISSING ~~BOLTS~~ MANHOLE COVER, SLIGHT INCLINE
PT-18A	12.78	8.75	12.79 12.79	12.79	1406	(F) / B	OK
PT-19	11.63	5.49	11.63 11.65	11.65	1210	(F) / B	OK. LOCK STIFF
PT-20	11.63	7.00	11.76 11.78	11.78	1333	(F) / B	OK. SMALL SHRUB
PT-22	11.90	7.58	11.91 11.92	11.92	1320	(F) / B	OK
PT-24	11.86	4.89	11.85 11.85	11.85	1242	(F) / B	OK.
MW-27	10.48	5.19	10.49 10.50	10.50	1248	(F) / B	OK. LARGE BUSH
MW-29	10.37	5.21	10.47 10.50	10.50	1230	(F) / B	OK. ~~TOP~~ TOP HARD TO SWING, LOOSE STICK UP.
MW-32	10.37	7.26	10.36 10.37	10.37	1215	(F) / B	OK. NO ISSUES
MW-39	11.90	1.72	11.90 11.90	11.90	1257	(F) / B	OK. HINGE BROKEN ON CASING
MW-40	14.68	4.54	14.68 14.68	14.68	1305	(F) / B	OK.
MW-44A	12.41	5.57	12.41 12.48	12.48	1350	(F) / B	OK. BUSHES SURROUNDING WELL
MW-46	11.43	3.78	11.43 11.44	11.44	1550	(F) / B	LOCK SEIZED. WD-40 OPENED. NO WELL CAP
MW-48	11.38	3.67	11.55 11.55	11.55	1340	(F) / B	OK. SMALL BUSHES SURROUNDING WELL
MW-56	6.48	3.42	6.50 6.50	6.50	1630	(F) / B	OK. ~~BROKEN~~
MW-60	10.20	1.94	10.04 10.00 ~~12.04~~	10.00	1130	(F) / B	MOUSE HOUSE. LOCK OK. WELL CAP ON
MWT-1	10.09	4.76	10.09 10.10	10.10	1244	(F) / B	OK
MWT-3	10.08	5.08	10.08 10.09	10.09	1246	(F) / B	OK
MWT-4	12.45	5.12	12.46 12.47	12.47	1235	(F) / B	OK.
MWT-6	12.45	6.10	12.48 12.48	12.48	1240	(F) / B	OK
MWT-7	13.66	5.87	13.64 13.65	13.65	1225	(F) / B	OK.
MWT-9	13.98	6.72	14.14 14.15	14.15	1300	(F) / B	OK. BUSH. 1" DIA
MWT-10	8.97	3.81	9.00 8.96	8.96	1250	(F) / B	OK
MWT-17R	11.38	5.50	11.35 11.36	11.36	1410	(F) / B	OK. NO CASING STICKUP. JUST PVC. NO WELL CAP
MWT-22	14.83	5.94	14.84 14.85	14.85	1327	(F) / B	OK. NO CASING STICKUP.
MWT-23	13.65	8.39	13.76 13.76	13.76	1254	(F) / B	OK
MWT-24	12.91	7.37	12.94 12.95	12.95	1252	(F) / B	OK
MWT-25	13.16	4.08	13.17 13.19	13.19	1408	(F) / B	OK
MWT-26	13.13	3.27	13.16 13.17	13.17	1318	(F) / B	OK
MWT-27	12.70	6.20	12.72 12.73	12.73	1320	(F) / B	OK. PVC CASING STICKING UP HIGHER THAN OTHERS
MWT-28	12.79	6.86	12.79 12.80	12.80	1321	(F) / B	OK
MWT-29	12.99	5.02	13.07	13.07	1315	(F) / B	OK. LOCKED GOOD

13.07

4.08 5.19 3.81 3.92

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: PT-17

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/16/14
INSPECTORS: Dillman
PUMP #: 16362
SAMPLE ID #: ALBW20311

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

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

MONITORING INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		2.75			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1050		Start	Pump						
1100			120						
1105	2.75			~~2.5~~ 0.30	9.0	0.705	6.61	86	
1110				~~2.5~~ 0.30	9.0	0.702	6.63	82	
1115	2.78			~~2.5~~ 0.30	9.0	0.696	6.74	64	
1130	2.78	←	120	0.34	9.0	0.690	6.77	50	
1135	2.76			0.37	9.0	0.691	6.78	55	
1140	2.76	←	120	0.35	9.0	0.692	6.79	49	1.64
1145	2.76			0.35	9.0	0.692	6.80	47	1.72
1150	2.76	←	120 1.3 gal	0.42	9.0	0.693	6.79	46	
1155	2.76			0.43	9.0	0.693	6.80	35	
1205	2.76	120		0.44	9.0	0.693	6.82	19	1.10
1210	2.76			0.45	9.0	0.692	6.82	37	1.12
1215	2.76	120		0.43	9.0	0.690	6.84	26	1.10
1220	2.76		2.2 gal	0.48	9.0	0.689	6.85	26	0.79
1225	2.76	120		0.46	9.0	0.689	6.86	27	0.90
1230	2.76	120		0.49	9.1	0.687	6.86	28	1.08
1235	2.76			0.43	9.1	0.687	6.86	28	1.06
1240	2.76	120	3.0 gal	0.51	9.1	0.687	6.87	28	1.08
1245	2.76			0.48	9.0	0.687	6.86	29	0.82
1250	2.76	120	3.1 gal	0.48	9.0	0.687	6.87	28	0.94

Collect sample at 1255 for VOC, TOC, Sulfate, Field test for Fe, Mn
HACH Test Ferrous Iron = 0.08 mg/L Mn = 6.5 mg/L

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES		SAMPLE NUMBER	TIME	CHECKED BY/ DATE
					COUNT VOLUME	TYPE			
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

HoriBA 23066
HACH 12358
Hexon 18074
YSI 95 6122
HACH color 19031

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: PT-18A

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/19/14
INSPECTORS: TH BLANCK
PUMP #:
SAMPLE ID #: ALBW20312

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X (WELL DIAMETER FACTOR (GAL/FT)]
[(12.79 - 7.70) x .163] x 3 ≈ 2.5

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
	12.79					

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
		7.70	7.51		

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1105	7.51	START	BLANCK	YSI 85	YSI	HORIBA	HORIBA	HORIBA	HACH
1115	8.10	220	0	4.54	9.8	1.25	7.10	50	13.2
1125	8.37	105		4.30	9.7	1.22	7.07	63	9.60
1135	8.40	100	0.5	4.32	9.8	1.23	7.09	67	10.5
1145	8.69	105		4.56	9.9	1.23	7.08	82	3.77
1155	8.70	105		4.50	10.0	1.23	7.09	87	3.03
1205	8.91	45		4.43	10.1	1.22	7.09	95	2.55
1215	8.92	65	~2.00	4.28	10.1	1.22	7.10	97	2.42
1225	8.99	75		~~4.07~~ 3.83	10.2	1.22	7.10	101	2.04
1235	9.13	85	2.25	3.63	10.3	1.23	7.09	104	1.75
1245	9.20	85		3.11	10.3	1.22	7.09	105	1.32
1250	9.15	85	2.75	3.13	10.4	1.22	7.10	106	0.84
1255	9.16	85		3.14	10.4	1.23	7.09	107	0.88
1300	9.16	85		2.97	10.4	1.22	7.08	107	0.97
1305	9.22	85	3.00	2.96	10.4	1.23	7.07	107	0.75
1310	9.24	85		2.99	10.4	1.23	7.07	107	0.93
			~3.25						
1320			SAMPLE	ALBW20312		VOCs			

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES		SAMPLE NUMBER	TIME	CHECKED BY/ DATE
					COUNT VOLUME	TYPE			
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

HORIBA 19276/21389 HACH CACH 005650

YSI 003217

HACH TURB 15613

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: PT-22

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/18/14
INSPECTORS: T BELANGER
PUMP #: RB489 / 9974
SAMPLE ID #: ALBW20313

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	F TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
1130	32	OVERCAST	LOW	5-10	270	NO SNOW, WET	OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
((11.9 - 5.32) x .163) x 3 = 3.22

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
	11.9					

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
		5.32	5.20		1155

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

0 INIT 5.71

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1155 5.32	5.30	—	—	451 BS	YSI	AMREL	HORIBA	HORIBA	HACH
1205	5.47	100	0	6.04	8.3	1.00	7.10	42	5.11
1215	5.49	115		6.70	8.3	1.00	7.07	69	3.66
1225	5.61	130	~1.0	6.85	8.6	0.952	7.08	95	2.01
1235	5.50	120		6.88	8.7	0.949	7.08	105	1.53
1245	5.50	110		6.90	8.7	0.947	7.09	111	1.18
1255	5.50	110	~2.0	7.05	8.6	0.931	7.08	113	1.05
1305	PULLED PUMP TO CHECK CONNECTION.				CK.	REINSERT PUMP			
1320	5.40	100		7.25	8.2	0.932	7.09	104	31.3
1330	5.40	100	~3.0	7.30	8.2	0.931	7.10	113	23.2
1340	5.45	110		7.58	8.2	0.926	7.09	118	12.4
1350	5.49	120		7.72	8.3	0.917	7.07	124	7.72
1355			~4.0	SWITCH PUMPS, ~~SET~~ AIR IN WATER LINE					9974
				NEW AIR / H_2O LINES					
1420	5.41	130		6.51	8.5	0.923	7.09	120	97.1
1430	5.45	120		6.59	8.7	0.912	7.07	125	23.3
1440	5.46	120		6.72	8.7	0.913	7.10	125	15.1
1450	5.47	120	~5.0	6.56	8.8	0.921	7.07	130	7.28
1455	5.47	120		6.67	8.8	0.917	7.07	132	5.12
1500	5.47	120		6.68	8.8	0.919	7.07	133	5.02
1505	5.46	120		6.57	8.8	0.920	7.07	133	3.96
1510	5.45	120	~6.0 gal	6.66	8.8	0.921	7.07	134	2.83

1515 SAMPLE ALBW20313 VOCs

Fe: 0.05 mg/L
Mn: 0.0 mg/L

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES		SAMPLE NUMBER	TIME	CHECKED BY/ DATE
					COUNT VOLUME	TYPE			
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

HORIBA # 19276 / 21309 HACH COLOR 005650

YSI 05 003217

HACH TURB 15013

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: PT 24

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/19/2014
INSPECTORS: DJ Iman
PUMP #: 9500
SAMPLE ID #: ALBW00314

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1045	24	overcast	Low			

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
7.03 x .16 x 3.4 gal

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
	11.85					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		4.82			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used				YSI 85 G12 →		Horiba 23066	→	→	Hach 12358
11:00	4.80	Start pump							
11:12	4.85	190		3.98	9.0	0.004	7.91	202	
11:19	4.85	150		5.29	9.0	0.004	7.88	191	checked pump no leak
11:24	4.85	150		0.50	9.0	0.005	7.96	106	
11:29	4.85	160		0.46	9.0	0.005	7.89	58	531 black specks
11:34	4.85	160	1.6 gal	0.58	9.1	0.005	7.87	69	
11:39	4.85	160		0.44	9.0	0.006	7.85	81	68.3
11:46	4.85	160		0.27	9.1	0.002	7.84	82	
11:50	4.85	160	2.3 gal	0.23	9.2	0.007	7.84	85	43.0
11:56	4.85	160		0.17	9.2	0.005	7.83	84	16.9
1200	4.85	160		0.18	9.2	0.005	7.83	84	13.3
1205	4.85	160		0.16	9.2	0.010	7.83	83	9.49
1210	4.85	160	3 gal	0.16	9.2	0.005	7.83	84	13.7
1215	4.85	160	3.25 gal	0.16	9.2	0.006	7.84	83	9.36
1220	4.85	160	3.5 gal	0.15	9.2	0.005	7.84	83	8.65
1225	collect		Sample for VOCs						

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES COUNT: VOLUME	BOTTLES TYPE	SAMPLE NUMBER	TIME	CHECKED BY/ DATE
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

HYDRIBA 23066

YSI 95 6122

HACH TURB 12358

HACH COND 19031

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-7

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/16/14
INSPECTORS: T. BELANGER
PUMP #: 11729
SAMPLE ID #: ALBW 20315

8915

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	°F TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY MPH (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1015	40	CLEAR/CAST	LOW	15-20	180	WET, SOME SNOW
						PATCHES

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID
YSI 85 HORIBA U52	003217 19276

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)]
(13.64 - 5.47) × .163 = 1.33 × 3 = 4.00

.47

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
	13.64					

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
		5.47			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1030	5.47	BLADDER	START PUMP	YSI	YSI	HORIBA	HORIBA	HORIBA	HACH
1135	5.45	130	0.10	9.06	9.4	0.932	7.58	112	21.6
1140	5.49	110	0.25	5.66	9.9	0.948	7.26	125	50.5
1230	5.47	110	0.30	5.38	10.0	0.946	7.19	116	38.1
1235	5.47	110	0.80	3.65	9.9	0.946	7.16	121	20.8
1240	5.47	110	1.00	3.30	10.1	0.948	7.11	121	10.7
1250	5.44	100	1.5	2.02	10.3	0.946	7.09	116	6.79
1300	5.44	100	2.0	~~1.78~~ 1.30	10.2	0.946	7.07	106	6.53
1310	5.44	115	2.5	0.78	10.3	0.951	7.03	94	3.84
1315	5.44	115	2.5	0.67	10.2	0.951	7.02	90	3.34
1320	5.44	100	3.0	0.58	10.4	0.951	7.01	90	3.44
1325	5.44	100	3.1	0.72	10.4	0.952	7.01	85	3.41
1330	5.44	100	3.2	0.59	10.4	0.953	7.00	83	3.37
1335	5.42	105	3.2	0.60	10.4	0.954	7.00	81	2.34
1340	5.42	100	3.5	0.62	10.4	0.954	6.99	81	2.31
1345	5.42	100	~3.5	0.61	10.4	0.954	7.00	81	2.35
1350			COLLECT SAMPLE FOR		VOC, MEE, SUL/CHL, TOC				
			Fe^{2+} 0.00	mg/L					
			MW 0.7	mg/L					

ECONOMY MP HR

1415 AFTER SAMPLING DO = 0.39 mg/L @ 10.4C

Ash GW SAMPLING RECORD

	SAMPLING ORDER		PRESERVATIVES		BOTTLES COUNT. VOLUME	BOTTLES TYPE	SAMPLE NUMBER	TIME	CHECKED BY/ DATE
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA	ALBW20315	1350	
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA	↓		
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)				0.00 mg/L	field	FIELD	1415	
6	Mn+ (HACH)				0.7 mg/L	field	FIELD	1425	
7									

COMMENTS: (QA/QC?)

NO QA-QC

IDW INFORMATION:

HORIBA 19276/21389 HACH COLOR 005650

YSI 85 003217

HACH 2100P TURB 15613

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-22

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/18/2014
INSPECTORS: S. Dillman
PUMP #: 16362
SAMPLE ID #: ARBW20316

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
1300	32	overcast	Low	5-10	270	Ugh, no	OVM-580	PID
						snow		

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
	14.84					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		4.54			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1315		Start Pump							
1320	3.74								
1328	5.10	180		0.16	10.2	1.25	7.39	-34	
1333	5.98	138		0.20	9.8	1.33	7.29	-36	
1338	6.58	138		0.21	9.7	1.34	7.27	-36	
1343	6.75	120		0.22	9.6	1.36	7.33	-39	
1348	7.06	115		0.23	9.8	1.35	7.30	-37	27.6
1353	7.25	115	0.75 gal	0.22	9.9	1.35	7.32	-38	
1358	7.47	110		0.21	10.0	1.35	7.39	-39	25.3
1403	7.60	110		0.20	10.1	1.36	7.33	-41	
1408	7.80	98		0.19	10.1	1.36	7.33	-42	22.9
1413	8.01	120		0.19	10.2	1.36	7.32	-43	19.1
1418	8.15	120		0.18	10.2	1.36	7.32	-45	17.8
1423	8.46	114		0.18	10.2	1.36	7.32	-46	16.3
1428	8.64	112		0.17	10.3	1.36	7.33	-46	15.5
1433	8.80	112	2 gal	0.17	10.4	1.36	7.37	-46	13.2
1438	8.94	112		0.17	10.4	1.36	7.33	-46	12.8
1443	9.10	112	2.5 gal	0.17	10.4	1.36	7.33	-46	10.7
1450	collect	sample for	VOCs						

1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

Hach 23066

4185 6122

Hach NRB 12358

Hach conc 19031

IDW INFORMATION:

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-24

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/18/2014
INSPECTORS: DJ/Mac
PUMP #: 11284
SAMPLE ID #: ALBW20317

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

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

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC)	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	12.93					

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
		6.21			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
9:44	6.21	Start Pump		YSI 6122 →		Horiba U52 23066 →			HACH 012358
9:48	6.33	140						DO = 10 before pumping	
9:53	6.38	108		7.31	9.6	0.848	7.60	240	
9:58	6.41	148		6.73	9.5	0.836	7.58	238	
10:03	6.41	148		6.46	9.5	0.833	7.58	236	35.8
10:08	6.41	148		6.19	9.4	0.832	7.57	229	29.3
10:13	6.41	148		8.81	9.5	0.829	7.57	218	23.4
10:18	6.41	148		1.15	9.6	0.828	7.56	206	23.3
10:23	6.41	135		1.21	9.6	0.827	7.56	180	26.5
10:28	6.41	140		1.11	9.6	0.829	7.56	154	21.4
10:33	6.41	140	2 gal	1.21	9.5	0.826	7.56	137	18.1
10:38	6.41	140		1.10	9.5	0.826	7.56	128	16.4
10:43	6.41	140		1.15	9.5	0.827	7.55	116	14.0
10:48	6.41	140		1.10	9.5	0.826	7.55	112	13.7
10:53	6.41	140	2.5 gal	1.13	9.4	0.825	7.56	107	12.9
11:00	6.41	140		0.94	9.5	0.824	7.56	101	10.5
11:05	6.41	140		0.98	9.5	0.824	7.59	100	9.84
11:10	6.41	140		1.04	9.5	0.825	7.56	98	9.39
11:15	6.41	140		1.12	9.6	0.825	7.56	95	9.58
11:20	6.41	140		1.16	9.5	0.826	7.56	96	9.70
11:25	6.41	140		0.97	9.5	0.826	7.57	95	9.32

moved probe

1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

Hach 23066

YSI 6122

Hach T 12358

IDW INFORMATION:

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-24

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/18/2014
INSPECTORS: D. Ilman
PUMP #: 11284
SAMPLE ID #: ALBW20317

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

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

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
DATA COLLECTED AT WELL SITE		6.21			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1130	6.41	140	3.6	1.00	9.5	0.827	7.57	95	
1135	6.41	140		1.07	9.5	0.826	7.57	93	
1140	6.41	140	4 gal	1.03	9.4	0.826	7.57	95	9.16
Collect sample @ 11:45 for VOCs									

1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-25

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/19/14
INSPECTORS: TB + SD
PUMP #: 16362
SAMPLE ID #: ALBW20318

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
	24	O.C., ** FLURRIES	LAN	5-10	270	TRACE SNOW
						FROZEN

MONITORING	
INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		4.88	4.34		

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1:12	4.34	BLADDER PUMP		YSI 85	YSI	HORIBA	HORIBA	HORIBA	HACH
1:17	4.65	Start Pump							
1:22	5.32	250		7.76	9.0	1.14	7.68	96	
1:27	5.82	140		6.58	8.9	1.14	7.64	94	
1:32	6.01	110		6.52	8.8	1.17	7.66	95	4.78
1:37	6.54	110		6.27	8.9	1.18	7.65	96	3.88
1:42	6.67	130		6.23	9.0	1.18	7.66	96	3.68
1:47	7.00	118		6.18	8.9	1.19	7.66	97	3.51
1:52	7.14	118		6.18	8.9	1.19	7.65	99	3.24
1:57	7.30	115	1.8 gal	6.20	8.9	1.19	7.65	99	3.01
2:02	7.43	115		6.09	8.9	1.20	7.65	100	2.61
2:07	7.53	115		6.05	9.0	1.20	7.65	101	3.02
2:12	7.68	112	2 gal	6.00	9.0	1.21	7.65	102	2.70
2:17	7.82	114		5.96	9.0	1.21	7.65	103	2.20
2:22	7.91	112		5.88	9.0	1.21	7.63	104	1.88
2:27	8.01	114		5.90	9.0	1.22	7.65	105	1.66
2:32	8.21	114	2.6 gal	5.85	9.0	1.22	7.65	105	1.54
2:37	8.29	114		5.74	9.0	1.22	7.64	107	1.36
2:41	8.43	114	2.9 gal	5.74	9.0	1.23	7.65	106	1.28
2:46	8.50	114		5.57	9.0	1.23	7.65	108	1.27
2:51	8.61	114		5.52	9.0	1.24	7.65	108	1.22

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES COUNT: VOLUME	BOTTLES TYPE	SAMPLE NUMBER	TIME	CHECKED BY/ DATE
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

IDW INFORMATION:

ITURB3A 23066

YSI 85 6122

HACH TURB 12354

HACH COLOR 19031

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-25

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/19/2014
INSPECTORS: TB / SA
PUMP #: 16362
SAMPLE ID #: ALBW 20518

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
256	8.73	114	3.1 gal	5.36	9.2	1.24	7.65	108	1.16
301	8.85	114		5.10	9.2	1.24	7.65	109	1.10
3:06	8.83	114		4.62	9.2	1.24	7.65	109	
	Pump frozen. Switched to other pump. Resumed							3:20	
3:23	8.93	108		5.35	9.5	1.26	7.67	108	23.4
3.28	9.10	110		4.88	9.5	1.24	7.64	78	12.0
3:33	9.23	110		4.48	9.4	1.23	7.63	80	4.16
3:38	9.32	110		4.47	9.4	1.23	7.62	81	3.40
3.45	9.52	110	4.1 gal	4.33	9.5	1.22	7.59	84	2.58
350	9.63	110		4.49	9.5	1.22	7.57	86	2.46
355	9.75	110	4.25 gal	4.70	9.5	1.22	7.57	87	1.71
1600		Collect sample for VOCs							

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES COUNT VOLUME	BOTTLES TYPE	SAMPLE NUMBER	TIME	CHECKED BY/ DATE
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-56

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/19/14
INSPECTORS: TB + SD
PUMP #: 024852
SAMPLE ID #: ALBW00319

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	F TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
0800	25	OVERCAST, LT FLURRY	LOW	5-10	270	TRACE SNOW	OVM-580	PID
		TRACE SNOW ON GROUND				ON GRASS, FROZEN		

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
		3.72	3.35		0840

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used				YSI 85	YSI	HORIBA	HORIBA	HORIBA	HACH
0840	3.35	200	0	0.48	5.10	0.606	6.93	-84	14.5
0850	4.11	140		0.32	5.2	0.631	7.02	-109	12.8
0855	3.96	140	0.5	5.00 EXPOSED PROBE	5.2	0.644	7.06	-118	6.32
0900	3.96	145		0.30	5.2	0.649	7.09	-121	6.73
0905	4.00	145		0.27	5.2	0.649	7.08	-121	6.45
0910	4.04	155	1.0	0.32	5.1	0.651	7.09	-121	5.49
0915	4.07	155		0.45	5.1	0.667	7.10	-121	4.72
0920	4.08	155	1.5	0.52	5.1	0.680	7.10	-120	3.51
0925	4.09	150		0.51	5.1	0.685	7.11	-120	3.00
0930	4.09	155	~ 2.0	0.52	5.1	0.687	7.11	-119	3.03
0935		SAMPLE ALBW00319 VOCs							

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES COUNT VOLUME	BOTTLES TYPE	SAMPLE NUMBER	TIME	CHECKED BY/ DATE
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

IDW INFORMATION:

ITURBA 19276 / Z1389

YSI BS 003217

HACH TURB 15613

HACH COND 005650

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-23

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/18/14
INSPECTORS: T. BLANCO
PUMP #: 024852
SAMPLE ID #: ALBW20320

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX) F	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
0915	32	OVERCAST	LOW	10-15	270	NO SNOW	OVM-580	PID
						ICE PATCHES		

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
	173.53					

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
		6.63			0940

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
0940	6.51	BLADDER PUMP		YSI	YSI	HORIBA	HORIBA	HORIBA	HACH
1000	6.84	135	0	0.11	9.9	1.21	6.72	-72	17.7
1010	6.82	120		0.12	10.0	1.21	6.72	-74	13.9
1020	6.86	115	0.75	0.10	9.8	1.21	6.71	-75	12.2
1030	6.87	120		0.08	9.9	1.21	6.71	-76	12.8
1035	6.87	120	1.2	0.08	9.9	1.21	6.70	-76	11.0
1040	6.87	115		0.09	9.9	1.21	6.69	-76	9.15
1045	6.87	115		0.08	9.9	1.21	6.69	-77	8.88
1050	6.86	115	~2.1	0.07	9.9	1.21	6.69	-77	8.53
									7.93
1055		SAMPLE	ALBW20320	VOC, TOC, SULFATE, MEE					
			Fe^{2+} = 3.21	mg/L					
			MW = 4.8	mg/L					

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES		SAMPLE NUMBER	TIME	CHECKED BY/ DATE
					COUNT/ VOLUME	TYPE			
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

HACH TURB 15613

HACH TURB 19276

YSI 85 003217

IDW INFORMATION:

HACH TURB 19276/2389

YSI 85 003217

HACH COND 15613

HACH COND 005650

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-26

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/16/14
INSPECTORS: Dillman
PUMP #: 9974
SAMPLE ID #: ALBW - 20321

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		3.14			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
2:38	start pump								
	3.52	130						Do in, Pulled pump, OIC	
3:03	3.56	120		7.04	9.3	1.02	7.36	131	
3:08	3.64	120		7.08	9.3	0.983	7.39	120	
3:13	3.64	130		7.21	9.1	0.946	7.45	121	
3:18	3.65	125		7.32	9.1	0.918	7.48	125	261
3:23	3.66			7.33	9.0	0.866	7.51	131	173
3:28	3.74	125		7.40	8.7	0.836	7.54	136	126
3:33	3.92			7.37	8.8	0.816	7.55	~~73~~ 141	72.0
3:38	4.06	125		7.32	8.8	0.794	7.55	147	40.1
3:43	4.17			7.31	8.7	0.786	7.58	147	32.4
3:48	4.21	125		7.30	8.7	0.783	7.57	148	21.5
3:53	4.33			7.29	8.7	0.776	7.56	151	21.0
3:58	4.52	125		7.35	8.8	0.769	7.56	157	17.3
4:03	4.67	125		7.28	8.7	0.768	7.56	155	16.6
4:08	4.85			7.18	8.7	0.761	7.56	155	15.1
4:13	5.02	125		7.32	8.8	0.754	7.57	157	13.1
4:19	5.25			7.32	8.8	0.751	7.57	157	11.5
4:24	5.41	125	3 gal.	7.18	8.8	0.745	7.57	158	10.3
4:30	5.60			7.25	8.8	0.738	7.56	164	10.6
4:35	5.83			7.26	8.8	0.734	7.55	162	10.8

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES COUNT VOLUME	BOTTLES TYPE	SAMPLE NUMBER	TIME	CHECKED BY/ DATE
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

HORIBA 23066

YSi 6122

HACH TURB 12358

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-26

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/16/14
INSPECTORS: D. Tillman
PUMP #: 9974
SAMPLE ID #: ALBW-20321

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

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

MONITORING

INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
4:40	5.95			7.27	8.8	0.729	7.56	162	10.4
4:45	6.10	125		7.28	8.8	0.723	7.57	162	10.8
4:50	6.26			7.18	8.8	0.719	7.56	162	10.6
4:55	6.43	125	4 gal	7.09	8.8	0.718	7.55	162	10.1
5:00	6.70	120		6.99	8.8	0.716	7.56	163	8.49
5:05	6.91			6.76	8.9	0.718	7.57	163	8.31
5:15	7.23	125		7.15	8.9	0.728	7.59	164	7.76
5:20	7.32			6.66	8.9	0.740	7.56	165	7.43
5:25	7.43	125		6.59	9.0	0.744	7.58	165	6.61
5:30		END	PURGE FOR DAY						
	12/17/2014		Resumed Purge						
8:25	3.58	140		3.21 before pump		DO increased. checked pump for leaks. OK			
8:50	4.53	112		7.35	9.1	1.04	7.39	106	
8:55	4.65	112		7.34	9.1	1.06	7.41	109	
9:00	4.76	100		7.42	9.1	1.08	7.43	~~108~~	
9:05	5.08			7.45	9.2	1.10	7.49	110	51.0
9:10	5.15	112		7.44	9.2	1.11	7.51	~~111~~	39.7
9:15	5.44			7.31	9.2	1.12	7.53	~~113~~	32.1
9:20	5.54	112		7.34	9.3	1.13	7.54	~~113~~	27.5
9:25	5.68			7.39	9.2	1.13	7.55	~~113~~	21.4
9:40	6.26	112	2.25	7.22	9.2	1.11	7.58	141	13.1

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES COUNT	BOTTLES VOLUME	BOTTLES TYPE	SAMPLE NUMBER	TIME	CHECKED BY/ DATE
1	VOC 8260B		4 deg. C	HCL		3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL		2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL		3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C			1 x 250 mL	HDPE			
5	Fe+ (HACH)						field			
6	Mn+ (HACH)						field			
7										

COMMENTS: (QA/QC?)

HORIBA 23066
HACH 12358
HERON 18074
YSI 85 6122
HACH COLOR 19031

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-26

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/17/14
INSPECTORS: D. Illman
PUMP #: 9974
SAMPLE ID #: ALBW-20321

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

ONE WELL VOLUME (GAL) = [(POW - STABILIZED WATER LEVEL) X WELL DIAMETER FACTOR (GAL/FT)]
13 - 3.58 = 9 x .16 = 1.5 x 3 = 4.5

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

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

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL. (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
9:50	6.57	112		7.22	9.2	1.10	7.54	146	
9:55	6.79			7.26	9.2	1.10	7.55	143	8.86
10:00	7.03	112	2.9 gal	7.20	9.2	1.09	7.56	143	8.90
10:05	7.18	108		7.13	9.2	1.08	7.59	141	7.60
10:10	7.33	108		6.92	9.1	1.07	7.61	141	6.48
10:15	7.38	108		6.85	9.1	1.07	7.59	142	6.85
10:20	7.52	108		6.80	9.2	1.07	7.55	144	6.61
10:25	7.55	108	3.5 gal	6.74	9.2	1.07	7.55	144	6.13
10:30	7.60			6.70	9.2	1.07	7.55	143	5.71
10:35	7.70	108		6.66	9.2	1.08	7.56	144	6.32
10:40	7.78			6.51	9.3	1.09	7.54	144	5.75
10:45	7.84	108		6.42	9.4	1.09	7.56	144	4.80
10:50	7.88		4.2 gal	6.37	9.5	1.10	7.54	144	3.95
10:55	7.96	108		6.31	9.4	1.10	7.50	147	4.03
11:00	8.05	108		6.14	9.5	1.11	7.51	146	3.16
11:05	8.10	108		6.20	9.5	1.12	7.53	146	3.02
11:10	8.14	112		6.12	9.5	1.12	7.48	146	4.54
11:15	8.19	112	5 gal	6.03	9.5	1.12	7.47	148	4.03
11:20	8.20	112		6.06	9.5	1.13	7.47	149	2.55
11:25	8.30	112		5.98	9.6	1.14	7.44	152	4.13
11:30	8.35	112		5.80	9.5	1.14	7.43	150	3.64

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES		SAMPLE NUMBER	TIME	CHECKED BY/ DATE
					COUNT VOLUME	TYPE			
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-26

PROJECT:	Ash Landfill LTM Groundwater Sampling - Round 18	DATE:	12/17/14
LOCATION:	ROMULUS, NY	INSPECTORS:	Dillman
		PUMP #:	9974
		SAMPLE ID #:	ALBW-20321

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1135	8.48	112		5.76	9.5	1.15	7.42	150	2.89
1140	8.51			5.75	9.5	1.15	7.40	151	2.10
1145	8.53	112		5.67	9.5	1.15	7.36	154	2.48
1150	8.63	112		5.50	9.5	1.16	7.35	154	1.59
1155	8.72	112		5.48	9.5	1.16	7.31	154	1.71
1200		112	6 gal	5.51	9.6	1.16	7.31	154	1.47
				3.89 pump off for 10 minutes					
12:05	collect sample for VOCs, TOCs, sulfate, MNE, Field tests Fe, Mn								
	HACH TEST - Fe2 = 0.00 mg/L					MnO4 = 0.0 mg/L Limit			

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES		SAMPLE NUMBER	TIME	CHECKED BY/ DATE
					COUNT/ VOLUME	TYPE			
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-27

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/17/2014
INSPECTORS: D. Illman
PUMP #: 2455 Z
SAMPLE ID #: ALBW20322 + MS/MSD/ DUP

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

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

MONITORING INSTRUMENT	MONITORING DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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
		5.35 -			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1:23	Start Pump								
		170 reduced to 110							
1:30	5.42	110		0.09	10.0	1.62	6.69	-85	
1:40	5.42	110		0.09	10.1	1.62	6.71	-84	
1:45	5.42	110		0.09	10.1	1.63	6.68	-86	
1:50	5.42	110		0.10	10.1	1.64	6.70	-87	40.5
1:55	5.42	110		0.08	10.1	1.65	6.68	-91	27.7
2:03	5.42	110		0.08	10.2	1.66	6.70	-92	25.1
2:08	5.42	110		0.07	10.2	1.67	6.78	-92	23.4
2:15	5.42	110		0.07	10.2	1.69	6.69	-95	17.8
2:20	5.42	110		0.07	10.2	1.70	6.70	-96	15.8
2:25	5.42	110		0.07	10.2	1.71	6.69	-97	14.8
2:30	5.47	140		0.07	10.2	1.72	6.71	-98	14.0
2:35	5.50	140		0.07	10.3	1.73	6.86	-100	13.1
2:40	5.50	140		0.07	10.3	1.73	6.76	-101	12.3
2:45	5.50	140		0.08	10.1	1.73	6.73	-102	11.9
2:50	5.50	140		0.08	10.1	1.75	6.74	-103	11.6
2:55	5.50	140		0.07	10.1	1.76	6.75	-103	9.90
3:00	5.50	140		0.07	10.1	1.77	6.75	-104	9.83
3:05	5.50	140		0.07	10.1	1.78	6.76	-104	9.56
3:10	5.50	140		0.08	10.1	1.78	6.82	-104	

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES COUNT	BOTTLES VOLUME	BOTTLES TYPE	SAMPLE NUMBER	TIME	CHECKED BY/ DATE
1	VOC 8260B		4 deg. C	HCL		3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL		2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL		3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C			1 x 250 mL	HDPE			
5	Fe+ (HACH)						field			
6	Mn+ (HACH)						field			
7										

COMMENTS: (QA/QC?)

Horiba 23066

YSI 85 6122

Hach pH 12358

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-27

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/17/2014
INSPECTORS: D'Ilmura
PUMP #: 24552
SAMPLE ID #: MWSW 20322 + MS/MSD/Dup

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
3:15	5.50	140		0.07	10.2	1.78	6.80	-105	8.21
3:20	5.50	140	4.5	0.08	10.1	1.77	6.79	-105	8.29
Collect Sample at 3:25 for VOC, TOC, Sulfate, MNE, Field test Fe^{2} and manganese + MS/MSD & Dup									
							~~6~~	3:35	
		Fe^{2+}	3.30 mg/L						
		Mn	2.20 mg/L						

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES COUNT	BOTTLES VOLUME	BOTTLES TYPE	SAMPLE NUMBER	TIME	CHECKED BY/ DATE
1	VOC 8260B		4 deg. C	HCL	3	40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2	40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3	40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1	x 250 mL	HDPE			
5	Fe+ (HACH)						field			
6	Mn+ (HACH)						field			
7										

COMMENTS: (QA/QC?)

IDW INFORMATION:

1525
1535

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-28

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/17/14
INSPECTORS: T. BELANGER
PUMP #: 9500
SAMPLE ID #: ACBW20324

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
1310	37F	MOSTLY CLOUDY	LOW	270	5-10	NO SNOW WET	OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		5.58	5.40		1310

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1310	5.40	W/PUMP +	DOMESTIC/SPIGOT	YSI	YSI	HORIBA	HORIBA	HORIBA	HACH
1320	5.83	85	0	0.08	10.9	1.31	6.58	-73	26.8
1330	5.84	90	—	0.08	10.9	1.36	6.58	-75	25.7
1340	5.92	95	0.5	0.05	11.0	1.37	6.57	-76	23.8
1350	5.91	85	.75	0.04	10.9	1.40	6.56	-80	16.3
1400	5.91	80	1.0	0.04	10.9	1.43	6.56	-80	12.6
1410	5.95	85	~1.5	0.04	10.9	1.43	6.56	-82	10.1
1420	5.99	105	1.75	0.03	10.8	1.43	6.55	-84	10.2
1425	6.01	105	2.0	0.02	10.7	1.44	6.54	-85	8.17
1430	6.01	105		0.02	10.7	1.44	6.54	-86	7.41
1435	6.05	105	~2.75	0.02	10.7	1.44	6.55	-88	6.84
1440		SAMPLE							
		Fe^{II}	2.13 mg/L						
		Mn	7.4 mg/L						

IT, BEFORE MPING .52 @ 0.6° .33 1.0C

1440

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES COUNT VOLUME	BOTTLES TYPE	SAMPLE NUMBER	TIME	CHECKED BY/ DATE
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

HORIBA 19276

YSI 85 003217

HACH TURB 15613

IDW INFORMATION:

HORIBA SCREEN 19276 / BODY 21309

YSI 85 003217

HACH 2100P 15613

HACH COLOR 005650

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-289

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/16/14 + 12/17
INSPECTORS: T. BEAUGER
PUMP #:
SAMPLE ID #: ALBW20325

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX) °F	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1525	40	OVERCAST, RAIN STOPPED, LT WIND	LOW	5-10	135	GRASS, WET

MONITORING INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

(13.07 - 3.54) x .163 x 3 4.67 gal

HISTORIC DATA	DEPTH TO POINT OF WELL (TOC) FT	DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	WELL DEVELOPMENT TURBIDITY	WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC. COND
	13.07					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
	—	3.54			1525

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1525	~~3.54~~	BLADDER	PUMP	YSI	YSI	HORIBA	HORIBA	HORIBA	HACH
1540	4.29	120	0	7.91	7.0	0.986	7.03	77	33.9
1550	4.45	120	~0.5	7.90	7.2	0.746	7.36	94	10.6
1600	4.50	100	0.75	7.98	7.5	0.729	7.37	88	5.95
1610	5.20	95	~1.2	7.95	7.4	0.693	7.40	91	4.87
1620	5.20	95		7.81	7.4	0.694	7.39	87	4.14
1630	5.71	95	~2.0	7.93	7.4	0.683	7.40	87	3.14
1640	5.94	70	~2.5	7.90	7.5	0.668	7.41	86	2.93
1650	6.15	100		7.95	7.4	0.663	7.41	84	2.78
1700	6.28	110	3	8.09	7.3	0.661	7.4	82	2.22
1715			~3.5	7.82	7.7	0.652	7.37	82	
0825	3.64	WITH PUMP + DO PROBE	IN WELL		835	START PUMP. INIT		DO = 6.14 @	7.2 C
0855	4.28	200	0	8.71	7.4	0.692	7.22	183	1.67
0900	4.8	100		8.76	7.4	0.618	7.41	97	1.58
0910	4.90	110	0.5	8.32	7.4	0.597	7.46	91	1.73
0920	5.36	105	~1.0	8.32	7.3	0.587	7.50	87	1.13
0930	5.73	105		8.32	7.4	0.583	7.50	86	1.20
0940	6.12	100	~1.75	8.33	7.7	0.591	7.5	85	1.41
0950	6.23	100		8.27		0.582	7.48	84	1.28
1000	6.35	95	~2.3	8.02	7.8	0.583	7.46	84	1.14

(Margin notes: USE x OF 120 TO → 1715 ... PUMPING; 12/17/14 → 0825)

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES		SAMPLE NUMBER	TIME	CHECKED BY/ DATE
					COUNT/ VOLUME	TYPE			
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

IDW INFORMATION:

HORIBA 19276/21389
YSI 85 003217
HACH 2100P TURB 15613
HACH COLOR 005650

Ash GW SAMPLING RECORD

SAMPLING RECORD - GROUNDWATER

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MWT-29

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/17/14
INSPECTORS: TB
PUMP #:
SAMPLE ID #: R8489 ALBW20325

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX) F	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	WIND (FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS
1000	43	OVERCAST,	LOW	10-15	270	NO SNOW, WET

MONITORING INSTRUMENT	DETECTOR
OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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

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

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
1010	6.49	100	2.75	7.91	7.7	0.590	7.43	83	1.44
1020	6.63	110		7.75	8.0	0.594	7.41	84	1.53
1030	7.01	105	3.25	7.65	7.9	0.605	7.36	83	1.23
1040	7.14	100		7.54	8.0	0.613	7.33	83	1.18
1050	7.26	95	~4.0	7.53	8.0	0.624	7.32	84	
	PUT DO PROBE IN SCOTTS WELL TO SEE IF SAME RESULT								
1130	7.55	100	~5.0	—		0.683	7.20	83	1.79
1140	7.61	100	~5.2	7.61	7.8	0.697	7.17	82	1.30
1145	7.61	100		7.57	7.8	0.706	7.16	83	1.24
1150	7.62	100		7.58	7.9	0.711	7.15	82	1.38
1155	7.55	110	~5.5	7.55	7.9	0.712	7.15	81	1.67
1200	SAMPLE		ALBW20325						
				7.53 AFTER SAMPLING (PUMP STILL RUNNING)					
		Fe^{2+}	0.11 mg/L						
		Mn	0.7 mg/L						

1200

4 [illegible]

Ash GW SAMPLING RECORD

SAMPLING ORDER			PRESERVATIVES		BOTTLES		SAMPLE NUMBER	TIME	CHECKED BY/ DATE
					COUNT VOLUME	TYPE			
1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

IDW INFORMATION:

SENECA ARMY DEPOT ACTIVITY	PARSONS	WELL #: MW-40

PROJECT: Ash Landfill LTM Groundwater Sampling - Round 18
LOCATION: ROMULUS, NY

DATE: 12/18/2014
INSPECTORS: D. Illman
PUMP #: Peri
SAMPLE ID #: Field dup AcBW20326

WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES)

TIME (24 HR)	TEMP (APPRX)	WEATHER (APPRX)	REL. HUMIDITY (GEN)	WIND VELOCITY (APPRX)	(FROM) DIRECTION (0 - 360)	GROUND / SITE SURFACE CONDITIONS	MONITORING INSTRUMENT	MONITORING DETECTOR
							OVM-580	PID

WELL VOLUME CALCULATION FACTORS

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

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

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
	14.65					

DATA COLLECTED AT WELL SITE	PID READING (OPENING WELL)	DEPTH TO STATIC WATER LEVEL (TOC)	DEPTH TO STABILIZED WATER LEVEL (TOC)	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
		3.78			

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

MONITORING DATA COLLECTED DURING PURGING OPERATIONS

TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	DISSOLVED OXYGEN (mg/L)	TEMP (C)	SPEC. COND (mS/cm)	pH	ORP (mV)	TURBIDITY (NTU)
Equipment Used									
3:42		Start Pump							
3:55	5	Restart Pump							
4:02	5.38	~~3~~			8.71	0.559	8.10	-22	
4:04	6.33	360			8.47	0.558	8.09	-16	
4:09	6.78	330			8.21	0.558	8.06	~~-3~~ -9	
4:14	7.05	260			8.09	0.555	8.04	-2	
4:19	7.30	260	1.15 Gal		8.27	0.552	8.04	2	
4:24	7.45	260			8.36	0.552	8.04	2	
4:29	1.58	260	2.25 gal		8.41	0.552	8.04	3	
4:34	7.69	260			8.55	0.553	8.04	6	
4:39	7.79	260	3.10 gal		8.59	0.553	8.03	6	
4:44	1.85	260			8.58	0.553	8.03	7	
			Fe 0.05 mg/L						
			Mn = 0.1 mg/L						

1	VOC 8260B		4 deg. C	HCL	3/ 40 ml	VOA			
2	MEE (RSK-175)		4 deg. C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg. C	HCL	3/ 40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg. C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									

COMMENTS: (QA/QC?)

Hardness 23066

YSI 85 6122

HACH TDS 12358

HACH Cond 19031

IDW INFORMATION:

APPENDIX B

COMPLETE GROUNDWATER DATA

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								PT-18A	PT-18A	PT-18A	PT-18A	PT-18A	PT-18A	PT-18A
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20059	ALBW20074	ALBW20088	ALBW20103	ALBW20117	ALBW20132	ALBW20147
Sample Date								1/3/2007	3/17/2007	6/5/2007	11/15/2007	6/24/2008	12/12/2008	6/4/2009
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								1	2	3	4	5	6	7
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	1 U	1 U	1 U	1 U	1 U	0.26 UJ	0.26 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	1 U	1 U	1 UJ	1 U	1 UJ	0.31 U	0.31 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	1 U	1 U	1 U	1 U	1 U	0.23 U	0.23 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	1 U	1 U	1 U	1 U	1 U	0.75 U	0.75 U
1,1-Dichloroethane	UG/L	2.6	12%	5	0	33	268	0.64 J	0.73 J	1.4	2.1	1 U	1.3	0.8 J
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	1 U	1 U	1 U	1 U	1 U	0.17 U	0.17 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	1 U	1 U	1 U	1 U	0.2 U	0.2 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	1 U	1 U	1 U	1 U	1 U	0.21 U	0.21 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1 U	1 U	1 U	1 U	1 U	0.14 U	0.14 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	1 U	1 U	1 U	1 U	0.16 U	0.16 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	1 U	1 U	1 U	1 U	0.16 U	0.16 U
Acetone	UG/L	2600	17%			45	262	5 U	2 J	7	5 U	5 U	1.3 U	1.3 UJ
Benzene	UG/L	0.48	2%	1	0	5	268	1 U	1 U	1 U	1 U	1 U	0.16 U	0.16 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	1 U	1 U	1 U	1 U	1 U	0.38 U	0.39 U
Bromoform	UG/L	0	0%	80	0	0	268	1 U	1 U	1 U	1 U	1 U	0.26 U	0.26 U
Carbon disulfide	UG/L	0	0%			0	268	1 U	1 U	1 U	1 U	1 U	0.19 U	0.19 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 U	0.27 UJ	0.27 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 U	0.18 U	0.32 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	1 U	1 U	1 U	1 U	1 U	0.32 U	0.32 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 U	1 U	1 U	1 U	1 UJ	0.32 U	0.32 U
Chloroform	UG/L	71	8%	7	7	22	268	27	13 U	14	8.7	1 U	2.2	9
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	220	170	430	720	200	510	260
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1 U	1 U	1 U	1 U	1 U	0.36 U	0.36 U
Cyclohexane	UG/L	0.3	0%			1	268	1 U	1 U	1 U	1 U	1 U	0.22 U	0.53 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	1 U	1 U	1 U	1 U	1 U	0.28 UJ	0.29 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	1 U	1 U	1 U	1 U	1 U	0.18 U	0.18 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	1 U	1 U	1 U	1 U	1 U	0.19 U	0.19 U
Methyl Acetate	UG/L	6	1%			2	253	1 U	1 UJ	1 U	1 UJ	1 UJ	0.17 U	0.17 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	1 U	1 U	1 U	1 U	1 UJ	0.28 U	0.28 U
Methyl butyl ketone	UG/L	0	0%			0	268	5 U	5 U	5 U	5 UJ	5 UJ	1.2 U	1.2 U
Methyl chloride	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 UJ	0.34 U	0.35 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	1 U	1 U	1 U	1 U	1 U	0.22 U	0.5 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	5 U	5 U	5 U	5 U	5 UJ	1.3 U	1.3 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	5 U	5 U	5 U	5 U	5 UJ	0.91 U	0.91 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	1 U	1 U	1 U	1 U	1 U	0.16 U	0.16 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 UJ	1 U	1 U	1 U	1 U	0.44 UJ	0.44 U
Styrene	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 U	0.18 U	0.18 U

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID							PT-18A	PT-18A	PT-18A	PT-18A	PT-18A	PT-18A	PT-18A
Matrix							GW	GW	GW	GW	GW	GW	GW
Sample ID							ALBW20059	ALBW20074	ALBW20088	ALBW20103	ALBW20117	ALBW20132	ALBW20147
Sample Date							1/3/2007	3/17/2007	6/5/2007	11/15/2007	6/24/2008	12/12/2008	6/4/2009
QC Type							SA	SA	SA	SA	SA	SA	SA
Study ID							LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round							1	2	3	4	5	6	7
Filtered							Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	1 U	1 U	1 U	1 U	1 U	0.36 U	0.36 U
Toluene	UG/L	590	12%	5	18	32	268	1 U	1 U	1 U	1 U	1 U	0.51 U	0.51 U
Total Xylenes	UG/L	60	1%	5	1	2	268	3 U	3 U	3 U	3 U	3 U	0.93 U	0.66 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	1.6	1.4	3.3	3.4	0.9 J	2.4	1.8
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1 U	1 U	1 U	1 U	1 U	0.37 U	0.37 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	2,000	1,000	1,100	2,700	220	1,400	810 J
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	1 U	1 U	1 UJ	1 U	1 UJ	0.15 UJ	0.15 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	2.4	2.8	3.3	8.2	1.4	4.6	2.8
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136							
Ethene	UG/L	200	90%			122	136							
Methane	UG/L	23,000	98%			133	136							
Sulfate	MG/L	1,060	83%			113	136							
Total Organic Carbon	MG/L	2050	100%			136	136							

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								PT-18A	PT-18A	PT-18A	PT-18A	PT-18A	PT-18A	PT-18A
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20162	ALBW20177	ALBW20192	ALBW20207	ALBW20222	ALBW20237	ALBW20252
Sample Date								12/17/2009	7/1/2010	12/19/2010	7/22/2011	12/15/2011	6/21/2012	12/12/2012
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								8	9	10	11	12	13	14
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	1.1 U	0.5 U	0.5 U	15	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.85 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	1.2 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.92 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	1.5 U	0.25 U	0.25 U	62	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	2 J	0.11 U	0.11 U	1.5	0.11 U	2.6	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	1.6 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	1.8 U	0.44 U	0.44 U	0.44 UJ	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.66 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.81 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.86 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1.3 U	0.13 U	0.13 U	0.29 J	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1.4 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1.6 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	5.4 U	5 U	5 UJ	8.1 J	5 UJ	5 U	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	1.6 U	0.25 U	0.25 U	0.38 J	0.25 U	0.48 J	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	1.5 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	1 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	0.78 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	1.1 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	1.3 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	1.3 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1.3 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U
Chloroform	UG/L	71	8%	7	7	22	268	3.1 J	2.1	0.27 J	0.14 U	0.14 U	71	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	630	28	0.54 J	18	0.53 J	820	0.8 J
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1.4 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	2.1 U	0.25 U	0.25 U	0.25 U	0.25 U	0.3 J	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	1.1 U	0.25 U	0.25 U	0.25 U	0.25 U	0.3 J	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.74 U	0.11 U	0.11 U	9.2	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.77 U	0.1 U	0.1 U	0.1 J	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	2 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 UR	0.19 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	1.1 UJ	0.8 U	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	5 U	1 U	1 U	1 U	1 UJ	1 U	1 U
Methyl chloride	UG/L	0	0%	5	0	0	268	1.4 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 UJ	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	2 U	0.1 U	0.1 U	0.17 J	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	5.3 U	1 U	1 U	5.1 J	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	3.6 U	1 U	1 U	1.9 J	1 U	1 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.64 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1.8 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.74 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								PT-18A	PT-18A	PT-18A	PT-18A	PT-18A	PT-18A	PT-18A
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20162	ALBW20177	ALBW20192	ALBW20207	ALBW20222	ALBW20237	ALBW20252
Sample Date								12/17/2009	7/1/2010	12/19/2010	7/22/2011	12/15/2011	6/21/2012	12/12/2012
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								8	9	10	11	12	13	14
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	1.5 U	0.15 U	0.15 U	1 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	2 U	0.33 U	0.33 U	130	0.33 U	0.33 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	2.6 U	0.2 U	0.2 U	60	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	3.5 J	0.2 U	0.2 U	0.2 U	0.2 U	4.7	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1.5 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	2,100	120	6.3	0.13 U	7.3	3,900	5
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.61 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	7.1	0.18 U	0.18 U	120	0.18 U	10	0.18 U
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136							
Ethene	UG/L	200	90%			122	136							
Methane	UG/L	23,000	98%			133	136							
Sulfate	MG/L	1,060	83%			113	136							
Total Organic Carbon	MG/L	2050	100%			136	136							

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								PT-18A	PT-18A	PT-18A	PT-18A	MWT-25	MWT-25	MWT-25
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20265A	ALBW20280	ALBW20296	ALBW20312	ALBW20064	ALBW20079	ALBW20093
Sample Date								7/11/2013	12/13/2013	6/21/2014	12/19/2014	1/3/2007	3/17/2007	6/6/2007
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								15	16	17	18	1	2	3
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	0.5 U	0.5 U	10 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	0.18 U	0.18 U	3.6 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	10 U	1 U	1 U	1 UJ
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	0.13 U	0.13 U	2.6 U	1 U	1 U	1 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	0.25 U	0.25 U	5 U	1 U	1 U	1 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	0.11 U	0.77 J	2.2 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	5 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	0.44 U	0.44 U	8.8 U	1 U	1 U	1 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	0.25 U	0.25 U	5 U	1 U	1 U	1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	0.21 U	0.21 U	4.2 U	1 U	1 U	1 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U	0.1 U	0.1 U	2 U	1 U	1 U	1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	0.13 U	0.13 U	2.6 U	1 U	1 U	1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	0.25 U	0.25 U	5 U	1 U	1 U	1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	0.28 U	0.28 U	5.6 U	1 U	1 U	1 U
Acetone	UG/L	2600	17%			45	262	5 U	5 U	5 U	100 U	5 U	5 U	4.5 J
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	0.25 U	0.25 U	5 U	1 U	1 U	1 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	0.25 U	0.25 U	5 U	1 U	1 U	1 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	0.5 U	0.5 U	10 U	1 U	1 U	1 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	0.6 U	0.6 U	12 U	1 U	1 U	1 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	10 U	1 U	1 U	1 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	5 U	1 U	1 U	1 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	0.1 U	0.1 U	2 U	1 U	1 U	1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	2 U	2 U	2 U	40 U	1 U	1 U	1 U
Chloroform	UG/L	71	8%	7	7	22	268	0.62 J	0.14 U	8.5	15 J	1 U	1 U	1 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	8.1	1.4	240	420	41	84	36
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	0.11 U	0.11 U	2.2 U	1 U	1 U	1 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	0.25 U	0.25 U	5 U	1 U	1 U	1 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	0.25 UJ	0.25 U	5 U	1 U	1 U	1 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	0.11 U	0.11 U	2.2 U	1 U	1 U	1 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	0.1 U	0.1 U	2 U	1 U	1 U	1 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 U	0.19 U	0.19 U	3.8 U	1 U	1 UJ	1 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2 U	2 UJ	2 U	40 U	1 U	1 U	1 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	1 U	1 U	20 U	5 U	5 U	5 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 UJ	0.33 U	0.33 U	6.6 U	1 U	1 U	1 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	0.1 U	0.1 U	2 U	1 U	1 U	1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	1 U	1 U	20 U	5 U	5 U	5 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U	1 U	1 U	20 U	5 U	5 U	5 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	0.2 U	0.2 U	4 U	1 U	1 U	1 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	20 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	0.11 U	0.11 U	2.2 U	1 U	1 U	1 U

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Table B-1
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								PT-18A	PT-18A	PT-18A	PT-18A	MWT-25	MWT-25	MWT-25
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20265A	ALBW20280	ALBW20296	ALBW20312	ALBW20064	ALBW20079	ALBW20093
Sample Date								7/11/2013	12/13/2013	6/21/2014	12/19/2014	1/3/2007	3/17/2007	6/6/2007
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								15	16	17	18	1	2	3
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15 U	0.15 U	0.15 U	27	1 U	1 U	1 U
Toluene	UG/L	590	12%	5	18	32	268	0.33 U	0.33 U	0.33 U	5.6 U	1 U	1 U	4.6
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2 U	0.2 U	0.2 U	4 U	3 U	3 U	3 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.2 U	0.2 U	1.2	5 J	0.56 J	1.2	0.5 J
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21 U	0.21 UJ	0.21 U	4.2 U	1 U	1 U	1 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	47	9.4	1,200	1,000	80	66	28
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	5 U	1 U	1 U	1 UJ
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.18 U	0.18 U	2.2	3.6 U	1.6	9.6	2.1
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136							
Ethene	UG/L	200	90%			122	136							
Methane	UG/L	23,000	98%			133	136							
Sulfate	MG/L	1,060	83%			113	136							
Total Organic Carbon	MG/L	2050	100%			136	136							

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-25		MWT-25		MWT-25		MWT-25		MWT-25		MWT-25		MWT-25	
Matrix								GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20108		ALBW20123		ALBW20138		ALBW20153		ALBW20168		ALBW20183		ALBW20198	
Sample Date								11/15/2007		6/24/2008		12/15/2008		6/3/2009		12/17/2009		6/30/2010		12/19/2010	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								4		5		6		7		8		9		10	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Volatile Organic Compounds																					
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	1	U	1	U	0.26	U	0.26	U	0.26	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	1	U	1	U	0.21	U	0.21	U	0.21	U	0.18	U	0.18	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	1	U	1	UJ	0.31	U	0.31	U	0.31	U	0.5	UJ	0.5	U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	1	U	1	U	0.23	U	0.23	U	0.23	U	0.13	U	0.13	U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	1	U	1	U	0.75	U	0.75	U	0.38	U	0.25	U	0.25	U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	1	U	1	U	0.29	U	0.29	U	0.29	U	0.11	U	0.11	U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	1	U	1	U	0.41	U	0.41	U	0.41	U	0.25	U	0.25	U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	1	U	1	UJ	1	UJ	1	UJ	0.39	U	0.44	U	0.44	U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	1	U	1	U	0.17	U	0.17	U	0.17	U	0.25	U	0.25	U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1	U	1	U	0.2	U	0.2	U	0.2	U	0.21	U	0.21	U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	1	U	1	U	0.21	U	0.21	U	0.21	U	0.1	U	0.1	U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1	U	1	U	0.14	U	0.14	U	0.32	U	0.13	U	0.13	U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1	U	1	U	0.16	U	0.16	U	0.36	U	0.25	U	0.25	U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1	U	1	U	0.16	U	0.16	U	0.39	U	0.28	U	0.28	U
Acetone	UG/L	2600	17%			45	262	5	U	5	U	1.3	U	1.3	U	1.3	U	5	U	5	UJ
Benzene	UG/L	0.48	2%	1	0	5	268	1	U	1	U	0.16	U	0.16	U	0.41	U	0.25	U	0.25	U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	1	U	1	U	0.38	U	0.39	U	0.39	U	0.25	U	0.25	U
Bromoform	UG/L	0	0%	80	0	0	268	1	U	1	U	0.26	U	0.26	UJ	0.26	U	0.5	U	0.5	U
Carbon disulfide	UG/L	0	0%			0	268	1	U	1	U	0.19	U	0.19	UJ	0.19	U	0.6	U	0.6	U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	1	U	1	U	0.27	U	0.27	U	0.27	U	0.5	U	0.5	U
Chlorobenzene	UG/L	0	0%	5	0	0	268	1	U	1	U	0.18	U	0.32	U	0.32	U	0.25	U	0.25	U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	1	U	1	U	0.32	U	0.32	U	0.32	U	0.1	U	0.1	U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1	U	1	UJ	0.32	U	0.32	U	0.32	U	1	U	1	UJ
Chloroform	UG/L	71	8%	7	7	22	268	1	U	1	U	0.34	U	0.34	U	0.34	U	0.14	U	0.14	U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	17		17		0.63	J	10		3.3		13		0.97	J
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1	U	1	U	0.36	U	0.36	U	0.36	U	0.11	U	0.11	U
Cyclohexane	UG/L	0.3	0%			1	268	1	U	1	U	0.22	U	0.53	U	0.53	U	0.25	U	0.25	U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	1	U	1	U	0.28	U	0.29	U	0.29	U	0.25	U	0.25	U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	1	U	1	U	0.18	U	0.18	U	0.18	U	0.11	U	0.11	U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	1	U	1	U	0.19	U	0.19	U	0.19	U	0.1	U	0.1	U
Methyl Acetate	UG/L	6	1%			2	253	1	UJ	1	UJ	0.17	U	0.17	UJ	0.5	U	0.19	UJ	0.19	U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	1	U	1	UJ	0.28	U	0.28	U	0.28	UR	0.8	UJ	0.8	U
Methyl butyl ketone	UG/L	0	0%			0	268	5	UJ	5	UJ	1.2	U	1.2	U	1.2	U	1	UJ	1	U
Methyl chloride	UG/L	0	0%	5	0	0	268	1	U	1	UJ	0.34	U	0.35	U	0.35	U	0.33	U	0.33	U
Methyl cyclohexane	UG/L	0.17	0%			1	268	1	U	1	U	0.22	U	0.5	U	0.5	U	0.1	U	0.1	U
Methyl ethyl ketone	UG/L	4900	8%			22	268	5	U	5	UJ	1.3	U	1.3	U	1.3	U	1	U	1	U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	5	U	5	UJ	0.91	U	0.91	U	0.91	U	1	U	1	U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	1	U	1	U	0.16	U	0.16	U	0.16	U	0.2	U	0.2	U
Methylene chloride	UG/L	18	4%	5	7	12	268	1	U	1	U	0.44	UJ	0.44	U	0.44	U	1	U	1	U
Styrene	UG/L	0	0%	5	0	0	268	1	U	1	U	0.18	U	0.18	U	0.18	U	0.11	U	0.11	U

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Area							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID							MWT-25	MWT-25	MWT-25	MWT-25	MWT-25	MWT-25	MWT-25
Matrix							GW	GW	GW	GW	GW	GW	GW
Sample ID							ALBW20108	ALBW20123	ALBW20138	ALBW20153	ALBW20168	ALBW20183	ALBW20198
Sample Date							11/15/2007	6/24/2008	12/15/2008	6/3/2009	12/17/2009	6/30/2010	12/19/2010
QC Type							SA	SA	SA	SA	SA	SA	SA
Study ID							LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round							4	5	6	7	8	9	10
Filtered							Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	1 U	1 U	0.36 U	0.36 U	0.36 U	0.15 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	1 U	1 U	0.51 U	0.51 U	0.51 U	0.33 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	3 U	3 U	0.93 U	0.66 U	0.66 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	1 U	1 U	0.13 U	0.13 U	0.42 U	0.49 J	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1 U	1 U	0.37 U	0.37 U	0.37 U	0.21 U	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	26	19	3.2	12	4.2	7.7	1.9
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	1 U	1 UJ	0.15 U	0.15 U	0.15 UJ	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.64 J	1 U	0.24 U	0.24 U	0.24 U	0.18 U	0.18 U
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136							
Ethene	UG/L	200	90%			122	136							
Methane	UG/L	23,000	98%			133	136							
Sulfate	MG/L	1,060	83%			113	136							
Total Organic Carbon	MG/L	2050	100%			136	136							

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-25		MWT-25		MWT-25		MWT-25		MWT-25		MWT-25		MWT-25		MWT-25	
Matrix								GW		GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20213		ALBW20228		ALBW20243		ALBW20258		ALBW20271		ALBW20286		ALBW20302			
Sample Date								7/20/2011		12/15/2011		6/21/2012		12/12/2012		7/11/2013		12/13/2013		6/21/2014			
QC Type								SA		SA		SA		SA		SA		SA		SA			
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM			
Sample Round								11		12		13		14		15		16		17			
Filtered								Total		Total		Total		Total		Total		Total		Total			
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
Volatile Organic Compounds																							
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U		
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	UJ	0.25	U	0.25	U	0.25	U	0.25	U		
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U		
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U		
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1	U	0.1	U	0.1	UJ	0.1	U	0.1	U	0.1	U	0.1	U		
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U		
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U		
Acetone	UG/L	2600	17%			45	262	21	J	5	UJ	5	UJ	5	U	5	U	5	U	5	U		
Benzene	UG/L	0.48	2%	1	0	5	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Bromoform	UG/L	0	0%	80	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Carbon disulfide	UG/L	0	0%			0	268	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U		
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U		
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Chloroethane	UG/L	1.1	3%	5	0	7	268	1	UJ	1	UJ	1	UJ	1	U	2	U	2	U	2	U		
Chloroform	UG/L	71	8%	7	7	22	268	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U		
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	**14**		0.3	J	**6.8**		0.39	J	**5.8**		3.3		**21**			
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		
Cyclohexane	UG/L	0.3	0%			1	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25	U	0.25	UJ	0.25	U	0.25	U	0.25	U	0.25	UJ	0.25	U		
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Methyl Acetate	UG/L	6	1%			2	253	0.19	UJ	0.19	U	0.19	UR	0.19	UJ	0.19	U	0.19	U	0.19	U		
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8	UJ	0.8	UJ	0.8	UJ	0.8	UJ	2	U	2.1	J	2	U		
Methyl butyl ketone	UG/L	0	0%			0	268	1	UJ	1	UJ	1	UJ	1	U	1	U	1	U	1	U		
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33	U	0.33	U	0.33	U	0.33	U	0.33	UJ	0.33	U	0.33	U		
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Methyl ethyl ketone	UG/L	4900	8%			22	268	1	U	1	U	1	UJ	1	U	1	U	1	U	1	U		
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1	U	1	U	1	UJ	1	U	1	U	1	U	1	U		
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U		
Methylene chloride	UG/L	18	4%	5	7	12	268	1	U	1	U	1	UJ	1	U	1	U	1	U	1	U		
Styrene	UG/L	0	0%	5	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-25		MWT-25		MWT-25		MWT-25		MWT-25		MWT-25		MWT-25		MWT-25	
Matrix								GW		GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20213		ALBW20228		ALBW20243		ALBW20258		ALBW20271		ALBW20286		ALBW20302			
Sample Date								7/20/2011		12/15/2011		6/21/2012		12/12/2012		7/11/2013		12/13/2013		6/21/2014			
QC Type								SA		SA		SA		SA		SA		SA		SA			
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM			
Sample Round								11		12		13		14		15		16		17			
Filtered								Total		Total		Total		Total		Total		Total		Total			
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U		
Toluene	UG/L	590	12%	5	18	32	268	1	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U		
Total Xylenes	UG/L	60	1%	5	1	2	268	0.28	J	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U		
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.45	J	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.42	J		
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	U	0.21	U	0.21	UJ	0.21	U	0.21	U	0.21	UJ	0.21	U		
Trichloroethene	UG/L	3800	69%	5	86	185	268	4.4		1.6		6.1		1.3		8.3		4.6		24			
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.72	J	0.18	U	0.18	U	0.18	U	0.18	U	0.47	J	2.8			
Other																							
Iron	UG/L	296,000	100%			12	12																
Iron+Manganese	UG/L	352,900	100%			12	12																
Manganese	UG/L	56,900	100%			12	12																
Ethane	UG/L	98	95%			129	136																
Ethene	UG/L	200	90%			122	136																
Methane	UG/L	23,000	98%			133	136																
Sulfate	MG/L	1,060	83%			113	136																
Total Organic Carbon	MG/L	2050	100%			136	136																

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-25	MWT-26	MWT-26	MWT-26	MWT-26	MWT-26	MWT-26
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20318	ALBW20066	ALBW20081	ALBW20095	ALBW20111	ALBW20126	ALBW20141
Sample Date								12/19/2014	1/3/2007	3/17/2007	6/5/2007	11/15/2007	6/24/2008	12/15/2008
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								18	1	2	3	4	5	6
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	1 U	1 U	1 U	1 U	1 U	0.26 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	1 U	1 U	1 U	1 U	1 U	0.21 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	1 U	1 U	1 UJ	1 U	1 U	0.31 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	1 U	1 U	1 U	1 U	1 U	0.23 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	1 U	1 U	1 U	1 U	1 U	0.75 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	1 U	1 U	1 U	1 U	1 U	0.29 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	1 U	1 U	1 U	1 U	1 U	0.41 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	1 U	1 U	1 U	1 U	1 U	1 UJ
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	1 U	1 U	1 U	1 U	1 U	0.17 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	1 U	1 U	1 U	1 U	1 U	0.2 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U	1 U	1 U	1 U	1 U	1 U	0.21 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	1 U	1 U	1 U	1 U	1 U	0.14 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	1 U	1 U	1 U	1 U	1 U	0.16 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	1 U	1 U	1 U	1 U	1 U	0.16 U
Acetone	UG/L	2600	17%			45	262	5 U	5 U	17	5 U	5 U	5 U	1.3 U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	1 U	1 U	1 U	1 U	1 U	0.16 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	1 U	1 U	1 U	1 U	1 U	0.38 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	1 U	1 U	1 U	1 U	1 U	0.26 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	1 U	1 U	1 U	1 U	1 U	0.19 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	1 U	1 U	1 U	1 U	1 U	0.27 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	1 U	1 U	1 U	1 U	1 U	0.18 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	1 U	1 U	1 U	1 U	1 U	0.32 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	2 U	1 U	1 U	1 U	1 U	1 UJ	0.32 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	1 U	1 U	1 U	1 U	1 U	0.34 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	1.7	19	17	11	2.8	3.3	1
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	1 U	1 U	1 U	1 U	1 U	0.36 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	1 U	1 U	1 U	1 U	1 U	0.22 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	1 U	1 U	1 U	1 U	1 U	0.28 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	1 U	1 U	1 U	1 U	1 U	0.18 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	1 U	1 U	1 U	1 U	1 U	0.19 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 U	1 U	1 UJ	1 U	1 UJ	1 UJ	0.17 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2 U	1 U	1 U	1 U	1 U	1 UJ	0.28 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	5 U	5 U	5 U	5 UJ	5 UJ	1.2 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	1 U	1 U	1 U	1 U	1 U	0.34 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	1 U	1 U	1 U	1 U	1 U	0.22 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	5 U	15	5 U	5 U	5 U	1.3 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U	5 U	5 U	5 U	5 U	5 U	0.91 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	1 U	1 U	1 U	1 U	1 U	0.16 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	1 U	1 U	1 U	0.44 UJ
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	1 U	1 U	1 U	1 U	1 U	0.18 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	ASH LANDFILL / MWT-25 / GW / ALBW20318 / 12/19/2014 / SA / LTM / 18 / Total — Value Qual	ASH LANDFILL / MWT-26 / GW / ALBW20066 / 1/3/2007 / SA / LTM / 1 / Total — Value Qual	ASH LANDFILL / MWT-26 / GW / ALBW20081 / 3/17/2007 / SA / LTM / 2 / Total — Value Qual	ASH LANDFILL / MWT-26 / GW / ALBW20095 / 6/5/2007 / SA / LTM / 3 / Total — Value Qual	ASH LANDFILL / MWT-26 / GW / ALBW20111 / 11/15/2007 / SA / LTM / 4 / Total — Value Qual	ASH LANDFILL / MWT-26 / GW / ALBW20126 / 6/24/2008 / SA / LTM / 5 / Total — Value Qual	ASH LANDFILL / MWT-26 / GW / ALBW20141 / 12/15/2008 / SA / LTM / 6 / Total — Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15 U	1 U	1 U	1 U	1 U	1 U	0.36 U
Toluene	UG/L	590	12%	5	18	32	268	0.33 U	1 U	1 U	1 U	1 U	1 U	0.51 U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2 U	3 U	3 U	3 U	3 U	3 U	0.93 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.2 U	0.6 J	1	0.7 J	1 U	1 U	0.13 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21 U	1 U	1 U	1 U	1 U	1 U	0.37 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	2.5	10	11	3.2	2.8	1.7	1.9
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25 U	1 U	1 U	1 UJ	1 U	1 UJ	0.15 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.18 U	2	6.1	4.4	1 U	1 U	0.24 U
Other														
Iron	UG/L	296,000	100%			12	12		275 J	844				
Iron+Manganese	UG/L	352,900	100%			12	12		1,043 J	2,464				
Manganese	UG/L	56,900	100%			12	12		768	1,620				
Ethane	UG/L	98	95%			129	136		2 U	0.4	1	0.16	0.82	0.046
Ethene	UG/L	200	90%			122	136		2 U	7.8	13	0.4	2.9	0.028
Methane	UG/L	23,000	98%			133	136		2 U	210	390	44	210	10
Sulfate	MG/L	1,060	83%			113	136		988	738	473	1,080	600	841
Total Organic Carbon	MG/L	2050	100%			136	136		3.9 J	15.2	10.3	6.1	5.6	4.4

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
 b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-26	MWT-26	MWT-26	MWT-26	MWT-26	MWT-26	MWT-26
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20156	ALBW20171	ALBW20186	ALBW20202	ALBW20216	ALBW20232	ALBW20246
Sample Date								6/3/2009	12/17/2009	6/29/2010	12/19/2010	7/20/2011	12/15/2011	6/20/2012
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								7	8	9	10	11	12	13
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.26 U	0.26 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.21 U	0.21 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.31 U	0.31 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.23 U	0.23 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.75 U	0.38 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.29 U	0.29 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.41 U	0.41 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	1 UJ	0.39 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.21 U	0.21 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.14 U	0.32 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.16 U	0.36 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.16 U	0.39 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	1.3 U	1.3 U	5 U	5 UJ	5 UR	5 UJ	5 UJ
Benzene	UG/L	0.48	2%	1	0	5	268	0.16 U	0.41 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.39 U	0.39 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ
Bromoform	UG/L	0	0%	80	0	0	268	0.26 UJ	0.26 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	0.19 UJ	0.19 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.27 U	0.27 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.32 U	0.32 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.32 U	0.32 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chloroethene	UG/L	1.1	3%	5	0	7	268	0.32 U	0.32 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Chloroform	UG/L	71	8%	7	7	22	268	0.34 U	0.34 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	6	8.1	6.6	12	9.8	1.1	4.4
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.36 U	0.36 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	0.53 U	0.53 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.29 U	0.29 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.19 U	0.19 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	0.17 UJ	0.5 U	0.19 U	0.19 U	0.19 UJ	0.19 U	0.19 UR
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.28 U	0.28 UJ	0.8 UJ	0.6 U	0.8 UJ	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	1.2 U	1.2 U	1 U	1 U	1 UJ	1 UJ	1 UJ
Methyl chloride	UG/L	0	0%	5	0	0	268	0.35 U	0.35 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1.3 U	1.3 U	1 U	1 U	1 U	1 U	1 UJ
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	0.91 U	0.91 U	1 U	1 U	1 U	1 U	1 UJ
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.16 U	0.16 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	0.44 U	0.44 U	1 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U

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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-26	MWT-26	MWT-26	MWT-26	MWT-26	MWT-26	MWT-26
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20156	ALBW20171	ALBW20186	ALBW20202	ALBW20216	ALBW20232	ALBW20246
Sample Date								6/3/2009	12/17/2009	6/29/2010	12/19/2010	7/20/2011	12/15/2011	6/20/2012
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								7	8	9	10	11	12	13
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.36 U	0.36 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	0.51 U	0.51 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.66 U	0.66 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.13 U	0.42 U	0.37 J	0.67 J	0.81 J	0.2 U	0.24 J
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.37 U	0.37 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 UJ
Trichloroethene	UG/L	3800	69%	5	86	185	268	3.6	8.8	1.7	4.2	1.6	1.2	1.6
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.15 U	0.15 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	3.8	4.2	0.18 U	7.8	4.4	0.47 J	1.1
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	3.2	2.2	2.2	3.7	4.5	0.23	1
Ethene	UG/L	200	90%			122	136	2.7	1.8	0.71	3.3	1	0.425 U	0.5
Methane	UG/L	23,000	98%			133	136	1,100	610	740	1,800	960	39	230
Sulfate	MG/L	1,060	83%			113	136	570	912	880	690	810	880	648
Total Organic Carbon	MG/L	2050	100%			136	136	6.9	5.6	4.6	5.5	6.3	4.5	4.4

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
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Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-26	MWT-26	MWT-26	MWT-26	MWT-26	MWT-27	MWT-27
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20262	ALBW20274	ALBW20289	ALBW20306	ALBW20321	ALBW20067	ALBW20082
Sample Date								12/14/2012	7/11/2013	12/14/2013	6/19/2014	12/17/2014	1/3/2007	3/16/2007
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								14	15	16	17	18	1	2
Filtered								Total	Total	Total	Total	Total	Total	Total
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 UJ	20 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	20 UJ	20 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 UJ	20 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	20 UJ	20 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	20 UJ	20 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	20 UJ	20 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	20 UJ	20 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	20 UJ	20 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	20 UJ	20 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	20 UJ	20 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	20 UJ	20 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	20 UJ	20 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	20 UJ	20 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	20 UJ	20 U
Acetone	UG/L	2600	17%			45	262	5 U	5 U	5 UJ	5 U	5 U	2,000 J	1,300
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	20 UJ	20 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	20 UJ	20 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	20 UJ	20 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	20 UJ	20 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	20 UJ	20 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	20 UJ	20 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	20 UJ	20 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 U	2 U	2 U	2 U	2 U	20 UJ	20 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	20 UJ	20 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	3.1	5.8	2.8	4.5	9.7	49 J	20 U
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	20 UJ	20 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	20 UJ	20 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	20 UJ	20 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	20 UJ	20 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	20 UJ	20 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 U	20 UJ	20 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8 UJ	2 U	2 U	2 UJ	2 U	20 UJ	20 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	1 U	1 U	1 U	1 U	100 UJ	100 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	0.33 UJ	0.33 U	0.33 U	0.33 U	20 UJ	20 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	20 UJ	20 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	1 U	1 U	1 U	1 U	4,100 J	2,200
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U	1 U	1 U	1 U	1 U	100 UJ	100 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	20 UJ	20 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	1 U	1 U	18 J	20 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	20 UJ	20 U

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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-26		MWT-26		MWT-26		MWT-26		MWT-26		MWT-27	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20262		ALBW20274		ALBW20289		ALBW20306		ALBW20321		ALBW20067	
Sample Date								12/14/2012		7/11/2013		12/14/2013		6/19/2014		12/17/2014		1/3/2007	
QC Type								SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								14		15		16		17		18		1	
Filtered								Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedences	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	20	UJ	20	U
Toluene	UG/L	590	12%	5	18	32	268	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	20	UJ	20	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	60	UJ	60	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.2	U	0.2	U	0.2	U	0.4	J	0.2	U	20	UJ	20	U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	20	UJ	20	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	2.1		2.1		1.3		0.83	J	2.1		20	UJ	20	U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	20	UJ	20	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.56	J	1.6		1		1.1		3.3		20	UJ	20	U
Other																			
Iron	UG/L	296,000	100%			12	12											296,000	J	229,000	
Iron+Manganese	UG/L	352,900	100%			12	12											352,900	J	273,800	
Manganese	UG/L	56,900	100%			12	12											56,900		44,500	
Ethane	UG/L	98	95%			129	136	0.096		0.69		0.52		0.92		0.62		10,000	UJ	0.15	
Ethene	UG/L	200	90%			122	136	0.069		0.54		0.2		0.15	J	0.24		10,000	UJ	2.7	
Methane	UG/L	23,000	98%			133	136	9.4		130		61		240		60		10,000	UJ	15,000	
Sulfate	MG/L	1,060	83%			113	136	430		250		610		690		480		10	U	10	U
Total Organic Carbon	MG/L	2050	100%			136	136	4.5		4.1		5.4		4.7		4.4		2,050	J	1,350	

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20096	ALBW20097	ALBW20112	ALBW20127	ALBW20142	ALBW20143	ALBW20157
Sample Date								6/5/2007	6/5/2007	11/15/2007	6/24/2008	12/15/2008	12/15/2008	6/3/2009
QC Type								SA	DU	SA	SA	SA	DU	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								3	3	4	5	6	6	7
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	20 U	20 U	10 U	4 U	2.6 UJ	2.6 UJ	2.6 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	20 U	20 U	10 U	4 U	2.1 UJ	2.1 UJ	2.1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	20 UJ	20 UJ	10 U	4 U	3.1 UJ	3.1 UJ	3.1 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	20 U	20 U	10 U	4 U	2.3 UJ	2.3 UJ	2.3 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	20 U	20 U	10 U	4 U	7.5 U	7.5 U	7.5 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	20 U	20 U	10 U	4 U	2.9 U	2.9 U	2.9 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	20 U	20 U	10 U	4 U	4.1 UJ	4.1 UJ	4.1 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	20 U	20 U	10 U	4 U	10 UJ	10 UJ	10 UJ
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	20 U	20 U	10 U	4 U	1.7 UJ	1.7 UJ	1.7 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	20 U	20 U	10 U	4 U	2 U	2 U	2 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	20 U	20 U	10 U	4 U	2.1 U	2.1 U	2.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	20 U	20 U	10 U	4 U	1.4 U	1.4 U	1.4 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	20 U	20 U	10 U	4 U	1.6 U	1.6 U	1.6 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	20 U	20 U	10 U	4 U	1.6 U	1.6 U	1.6 U
Acetone	UG/L	2600	17%			45	262	1,300	1,300	30 J	20 U	26 J	13 UJ	13 U
Benzene	UG/L	0.48	2%	1	0	5	268	20 U	20 U	10 U	4 U	1.6 U	1.6 U	1.6 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	20 U	20 U	10 U	4 U	3.8 U	3.8 U	3.9 U
Bromoform	UG/L	0	0%	80	0	0	268	20 U	20 U	10 U	4 U	2.6 UJ	2.6 UJ	2.6 UJ
Carbon disulfide	UG/L	0	0%			0	268	20 U	20 U	10 U	4 U	1.9 U	1.9 U	1.9 UJ
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	20 U	20 U	10 U	4 U	2.7 UJ	2.7 UJ	2.7 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	20 U	20 U	10 U	4 U	1.8 U	1.8 U	3.2 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	20 U	20 U	10 U	4 U	3.2 U	3.2 U	3.2 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	20 U	20 U	10 U	4 UJ	3.2 U	3.2 U	3.2 U
Chloroform	UG/L	71	8%	7	7	22	268	20 U	20 U	10 U	4 U	3.4 U	3.4 U	3.4 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	20 U	20 U	10 U	4 U	1.6 U	1.6 U	1.6 U
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	20 U	20 U	10 U	4 U	3.6 U	3.6 U	3.6 U
Cyclohexane	UG/L	0.3	0%			1	268	20 U	20 U	10 U	4 U	2.2 UJ	2.2 UJ	5.3 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	20 U	20 U	10 U	4 U	2.8 U	2.8 U	2.9 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	20 U	20 U	10 U	4 U	1.8 U	1.8 U	1.8 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	20 U	20 U	10 U	4 U	1.9 U	1.9 U	1.9 U
Methyl Acetate	UG/L	6	1%			2	253	20 U	20 U	10 UJ	4 UJ	1.7 UJ	1.7 UJ	1.7 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	20 U	20 U	10 U	4 UJ	2.8 U	2.8 U	2.8 U
Methyl butyl ketone	UG/L	0	0%			0	268	100 U	100 U	50 UJ	20 UJ	12 U	12 U	12 U
Methyl chloride	UG/L	0	0%	5	0	0	268	20 U	20 U	10 U	4 U	3.4 U	3.4 U	3.5 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	20 U	20 U	10 U	4 U	2.2 UJ	2.2 UJ	5 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1,800	1,700	50 U	20 U	13 UJ	13 UJ	13 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	100 U	100 U	50 U	20 U	9.1 UJ	9.1 UJ	9.1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	20 U	20 U	10 U	4 U	1.6 UJ	1.6 UJ	1.6 U
Methylene chloride	UG/L	18	4%	5	7	12	268	11 J	13 J	10 U	4 U	4.4 UJ	4.4 UJ	4.4 U
Styrene	UG/L	0	0%	5	0	0	268	20 U	20 U	10 U	4 U	1.8 U	1.8 U	1.8 U

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Table B-1
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Area							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	
Loc ID							MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	
Matrix							GW	GW	GW	GW	GW	GW	GW	
Sample ID							ALBW20096	ALBW20097	ALBW20112	ALBW20127	ALBW20142	ALBW20143	ALBW20157	
Sample Date							6/5/2007	6/5/2007	11/15/2007	6/24/2008	12/15/2008	12/15/2008	6/3/2009	
QC Type							SA	DU	SA	SA	SA	DU	SA	
Study ID							LTM	LTM	LTM	LTM	LTM	LTM	LTM	
Sample Round							3	3	4	5	6	6	7	
Filtered							Total	Total	Total	Total	Total	Total	Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	20 U	20 U	10 U	4 U	3.6 U	3.6 U	3.6 U
Toluene	UG/L	590	12%	5	18	32	268	20 U	20 U	7.3 J	6.9	6.9 J	7.2 J	5.1 U
Total Xylenes	UG/L	60	1%	5	1	2	268	60 U	60 U	30 U	12 U	9.3 U	9.3 U	6.6 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	20 U	20 U	10 U	4 U	1.3 U	1.3 U	1.3 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	20 U	20 U	10 U	4 U	3.7 U	3.7 U	3.7 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	20 U	20 U	10 U	4 U	1.8 U	1.8 U	1.8 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	20 UJ	20 UJ	10 U	4 UJ	1.5 UJ	1.5 UJ	1.5 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	20 U	20 U	10 U	4 U	2.4 U	2.4 U	2.4 U
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	0.082	0.079	0.025 U	2.3	1.6	1.6	5.1
Ethene	UG/L	200	90%			122	136	0.34	0.32	0.014 J	0.049	0.13	0.12	0.15
Methane	UG/L	23,000	98%			133	136	14,000	13,000	13,000	13,000	15,000	15,000	14,000
Sulfate	MG/L	1,060	83%			113	136	2 U	2.7	31.7	2 U	24.2	23.8	0.93 J
Total Organic Carbon	MG/L	2050	100%			136	136	738	771	167	88.9	53.8	53.1	81.7

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20172	ALBW20173	ALBW20187	ALBW20203	ALBW20217	ALBW20218	ALBW20233
Sample Date								12/16/2009	12/16/2009	6/29/2010	12/18/2010	7/20/2011	7/20/2011	12/14/2011
QC Type								SA	DU	SA	SA	SA	DU	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								8	8	9	10	11	11	12
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	1.3 U	1.3 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	1.1 U	1.1 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	1.5 U	1.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	1.2 U	1.2 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	1.9 U	1.9 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	1.5 U	1.5 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	2 U	2 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	2 U	2 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.83 U	0.83 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	1 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	1.1 U	1.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1.6 U	1.6 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1.8 U	1.8 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	2 U	2 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	6.7 U	6.7 U	11 J	5 UJ	5 UR	5.6 J	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	2 U	2 U	0.25 U	0.25 U	0.25 U	0.25 U	0.26 J
Bromodichloromethane	UG/L	0	0%	80	0	0	268	1.9 U	1.9 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	1.3 U	1.3 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	0.97 U	0.97 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	1.3 U	1.3 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	1.6 U	1.6 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	1.6 U	1.6 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1.6 U	1.6 U	1 U	1 UJ	1 UJ	1 UJ	1 U
Chloroform	UG/L	71	8%	7	7	22	268	1.7 U	1.7 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	1.9 U	1.9 U	0.18 J	1.1	0.15 J	0.27 J	1.4
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1.8 U	1.8 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	2.7 U	2.7 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	1.4 U	1.4 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.92 U	0.92 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.96 U	0.96 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	2.5 U	2.5 U	0.19 UJ	0.19 U	0.19 UJ	0.19 UJ	0.19 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	1.4 U	1.4 U	0.8 UJ	0.8 U	0.8 UJ	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	6.2 U	6.2 U	1 UJ	1 U	1 UJ	1 UJ	1 U
Methyl chloride	UG/L	0	0%	5	0	0	268	1.7 U	1.7 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 UJ
Methyl cyclohexane	UG/L	0.17	0%			1	268	2.5 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	6.6 U	6.6 U	1 U	1 U	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	4.5 U	4.5 U	1 U	1 U	1 U	1 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.8 U	0.8 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	2.2 U	2.2 U	1 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.92 U	0.92 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U

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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20172	ALBW20173	ALBW20187	ALBW20203	ALBW20217	ALBW20218	ALBW20233
Sample Date								12/16/2009	12/16/2009	6/29/2010	12/18/2010	7/20/2011	7/20/2011	12/14/2011
QC Type								SA	DU	SA	SA	SA	DU	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								8	8	9	10	11	11	12
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	1.8 U	1.8 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 UJ
Toluene	UG/L	590	12%	5	18	32	268	2.6 U	2.6 U	0.61 J	0.33 U	1 U	1 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	3.3 U	3.3 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	2.1 U	2.1 U	0.2 U	0.2 U	0.33 J	0.23 J	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1.8 U	1.8 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	2.3 U	2.3 U	0.13 U	0.51 J	0.13 U	0.13 U	0.13 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.76 U	0.76 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	3.2 J	2.9 J	0.18 U	2.1	0.18 U	0.18 U	3
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	4.4	4.3	3.8	3	6.2	6.1	2
Ethene	UG/L	200	90%			122	136	1.2	1.1	0.12	0.88	0.083	0.072	1.6
Methane	UG/L	23,000	98%			133	136	15,000	16,000	13,000	18,000	14,000	14,000	16,000
Sulfate	MG/L	1,060	83%			113	136	13.9 J	14 J	0.95 J	25	0.76 J	0.61 J	19
Total Organic Carbon	MG/L	2050	100%			136	136	49	50.9	61	32	42	41	35

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20247	ALBW20265	ALBW20275	ALBW20276	ALBW20290	ALBW20307	ALBW20322
Sample Date								6/20/2012	12/14/2012	7/11/2013	7/11/2013	12/12/2013	6/19/2014	12/17/2014
QC Type								SA	SA	SA	DU	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								13	14	15	15	16	17	18
Filtered								Total	Total	Total	Total	Total	Total	Total
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	0.18 U	0.18 UJ	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	0.13 U	0.13 UJ	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	0.11 U	0.11 UJ	0.11 U	0.11 U	0.11 U	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	0.44 U	0.44 UJ	0.44 U	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	0.21 U	0.21 UJ	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 UJ	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	0.13 U	0.13 UJ	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	0.28 U	0.28 UJ	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	5 UJ	10 J	5 U	25 U	5 U	8.5 J	9.8 J
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.27 J
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 UJ	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	0.6 U	0.6 UJ	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 UJ	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 UJ	1 U	2 UJ	2 U	2 U	2 U	2 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	0.14 U	0.14 UJ	0.14 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	0.42 J	0.15 U	0.15 UJ	0.15 U	0.48 J	0.83 J	0.76 J
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	0.11 U	0.11 UJ	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 UJ	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	0.11 U	0.11 UJ	0.11 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 UR	0.19 UJ	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8 UJ	0.8 UJ	2 UJ	2 U	2 UJ	2 UJ	2 U*
Methyl butyl ketone	UG/L	0	0%			0	268	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	0.33 U	0.33 UJ	0.33 UJ	0.33 U	0.33 U	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	0.11 U	0.11 UJ	0.11 U	0.11 U	0.11 U	0.11 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID							MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27	MWT-27
Matrix							GW	GW	GW	GW	GW	GW	GW
Sample ID							ALBW20247	ALBW20265	ALBW20275	ALBW20276	ALBW20290	ALBW20307	ALBW20322
Sample Date							6/20/2012	12/14/2012	7/11/2013	7/11/2013	12/12/2013	6/19/2014	12/17/2014
QC Type							SA	SA	SA	DU	SA	SA	SA
Study ID							LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round							13	14	15	15	16	17	18
Filtered							Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15 U	0.15 U	0.15 UJ	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	0.33 U	0.33 U	0.33 UJ	0.33 U	0.33 U	0.33 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.27 J	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21 UJ	0.21 U	0.21 UJ	0.21 U	0.21 UJ	0.21 U	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	0.13 U	0.13 U	0.13 UJ	0.13 U	0.13 U	0.13 U	0.13 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.61 J	0.18 U	0.18 UJ	0.18 U	0.84 J	1	1.3
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	8.4	0.88	2	2.3	1.4	5.3	2.3
Ethene	UG/L	200	90%			122	136	0.68	0.051	0.2 U	0.2 U	0.16 J	0.79	0.35
Methane	UG/L	23,000	98%			133	136	14,000	13,000	13,000	12,000	20,000	16,000	12,000
Sulfate	MG/L	1,060	83%			113	136	1.4	2.5	4.2	3.9	5.2	6.6	37
Total Organic Carbon	MG/L	2050	100%			136	136	28	35	41	40	37 J	39	38

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-27	MWT-28	MWT-28	MWT-28	MWT-28	MWT-28	MWT-28
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20323	ALBW20068	ALBW20069	ALBW20083	ALBW20098	ALBW20113	ALBW20128
Sample Date								12/17/2014	1/3/2007	1/3/2007	3/16/2007	6/5/2007	11/15/2007	6/25/2008
QC Type								DU	SA	DU	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								18	1	1	2	3	4	5
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	20 UJ	20 UJ	20 U	20 UJ	5 U	4 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Acetone	UG/L	2600	17%			45	262	16	2,500 J	2,600 J	170	520	25 U	20 U
Benzene	UG/L	0.48	2%	1	0	5	268	0.26 J	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	2 U	20 UJ	20 UJ	20 U	20 U	5 U	4 UJ
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	0.63 J	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 U	20 UJ	20 UJ	20 UJ	20 U	5 UJ	4 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2 U*	20 UJ	20 UJ	20 U	20 U	5 U	4 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	100 UJ	100 UJ	100 U	100 U	25 UJ	20 UJ
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	4,900 J	4,900 J	180	510	25 U	20 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U	100 UJ	100 UJ	100 U	100 U	25 U	20 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	13 J	14 J	20 U	9.3 J	5 U	4 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-27	MWT-28	MWT-28	MWT-28	MWT-28	MWT-28	MWT-28
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20323	ALBW20068	ALBW20069	ALBW20083	ALBW20098	ALBW20113	ALBW20128
Sample Date								12/17/2014	1/3/2007	1/3/2007	3/16/2007	6/5/2007	11/15/2007	6/25/2008
QC Type								DU	SA	DU	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								18	1	1	2	3	4	5
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Toluene	UG/L	590	12%	5	18	32	268	0.33 U	330 J	380 J	160	800	210	83
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2 U	60 UJ	60 UJ	60 U	60 U	15 U	12 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.2 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	0.13 U	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25 U	20 UJ	20 UJ	20 U	20 UJ	5 U	4 UJ
Vinyl chloride	UG/L	180	67%	2	137	180	268	1.1	20 UJ	20 UJ	20 U	20 U	5 U	4 U
Other														
Iron	UG/L	296,000	100%			12	12		278,000 J	271,000 J	33,000			
Iron+Manganese	UG/L	352,900	100%			12	12		309,800 J	301,800 J	37,450			
Manganese	UG/L	56,900	100%			12	12		31,800	30,800	4,450			
Ethene	UG/L	98	95%			129	136	2.1	10,000 UJ	10,000 UJ	0.57	0.01 J	0.014 J	0.65
Ethene	UG/L	200	90%			122	136	0.32	10,000 UJ	10,000 UJ	0.48	0.057	0.025 U	0.044
Methene	UG/L	23,000	98%			133	136	12,000	12,000 J	13,000 J	19,000	11,000	11,000	12,000
Sulfate	MG/L	1,060	83%			113	136	36	2 U	2.3	2 U	2 U	2 U	2 U
Total Organic Carbon	MG/L	2050	100%			136	136	38	1,820 J	1,730 J	171	309	92	49.2

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-28		MWT-28		MWT-28		MWT-28		MWT-28		MWT-28		MWT-28	
Matrix								GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20144		ALBW20158		ALBW20159		ALBW20174		ALBW20188		ALBW20189		ALBW20204	
Sample Date								12/15/2008		6/3/2009		6/3/2009		12/18/2009		6/29/2010		6/29/2010		12/18/2010	
QC Type								SA		SA		DU		SA		SA		DU		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								6		7		7		8		9		9		10	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Volatile Organic Compounds																					
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	2.6	U	0.26	U	0.26	U	1.3	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	2.1	U	0.21	U	0.21	U	1.1	U	0.18	U	0.18	U	0.18	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	3.1	U	0.31	U	0.31	U	1.5	UJ	0.5	UJ	0.5	UJ	0.5	U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	2.3	U	0.23	U	0.23	U	1.2	U	0.13	U	0.13	U	0.13	U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	7.5	U	0.75	U	0.75	U	1.9	U	0.25	U	0.25	U	0.25	U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	2.9	U	0.29	U	0.29	U	1.5	U	0.11	U	0.11	U	0.11	U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	4.1	U	0.41	U	0.41	U	2	U	0.25	U	0.25	U	0.25	U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	10	UJ	1	UJ	1	UJ	2	U	0.44	U	0.44	U	0.44	U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	1.7	U	0.17	U	0.17	U	0.83	U	0.25	U	0.25	U	0.25	U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	2	U	0.2	U	0.2	U	1	U	0.21	U	0.21	U	0.21	U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	2.1	U	0.21	U	0.21	U	1.1	U	0.1	U	0.1	U	0.1	U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1.4	U	0.14	U	0.14	U	1.6	U	0.13	U	0.13	U	0.13	U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1.6	U	0.16	U	0.16	U	1.8	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1.6	U	0.16	U	0.16	U	2	U	0.28	U	0.28	U	0.28	U
Acetone	UG/L	2600	17%			45	262	13	U	1.9	J	1.9	J	6.7	U	6.2	J	5.9	J	5	UJ
Benzene	UG/L	0.48	2%	1	0	5	268	1.6	U	0.16	U	0.16	U	2	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	3.8	U	0.39	U	0.39	U	1.9	U	0.25	U	0.25	U	0.25	U
Bromoform	UG/L	0	0%	80	0	0	268	2.6	U	0.26	UJ	0.26	UJ	1.3	U	0.5	U	0.5	U	0.5	U
Carbon disulfide	UG/L	0	0%			0	268	1.9	U	0.19	UJ	0.19	UJ	0.97	U	0.6	U	0.6	U	0.6	U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	2.7	U	0.27	U	0.27	U	1.3	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	UG/L	0	0%	5	0	0	268	1.8	U	0.32	U	0.32	U	1.6	U	0.25	U	0.25	U	0.25	U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	3.2	U	0.32	U	0.32	U	1.6	U	0.1	U	0.1	U	0.1	U
Chloroethane	UG/L	1.1	3%	5	0	7	268	3.2	U	0.32	U	0.32	U	1.6	UJ	1	U	1	U	1	U
Chloroform	UG/L	71	8%	7	7	22	268	3.4	U	0.34	U	0.34	U	1.7	U	0.14	U	0.14	U	0.14	U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	1.6	U	0.16	U	0.16	U	1.9	U	0.15	U	0.15	U	0.51	J
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	3.6	U	0.36	U	0.36	U	1.8	U	0.11	U	0.11	U	0.11	U
Cyclohexane	UG/L	0.3	0%			1	268	2.2	U	0.53	U	0.53	U	2.7	U	0.25	U	0.25	U	0.25	U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	2.8	U	0.29	U	0.29	U	1.4	U	0.25	U	0.25	U	0.25	U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	1.8	U	0.18	U	0.18	U	0.92	U	0.17	J	0.17	J	0.11	U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	1.9	U	0.19	U	0.19	U	0.96	U	0.1	U	0.1	U	0.1	U
Methyl Acetate	UG/L	6	1%			2	253	1.7	U	0.17	UJ	0.17	UJ	2.5	U	0.19	UJ	0.19	UJ	0.19	U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2.8	U	0.28	U	0.28	U	1.4	UJ	0.8	UJ	0.8	UJ	0.8	UJ
Methyl butyl ketone	UG/L	0	0%			0	268	12	U	1.2	U	1.2	U	6.2	U	1	UJ	1	UJ	1	U
Methyl chloride	UG/L	0	0%	5	0	0	268	3.4	U	0.35	U	0.35	U	1.7	U	0.33	U	0.33	U	0.33	U
Methyl cyclohexane	UG/L	0.17	0%			1	268	2.2	U	0.5	U	0.5	U	2.5	U	0.1	U	0.1	U	0.1	U
Methyl ethyl ketone	UG/L	4900	8%			22	268	13	U	1.3	U	1.3	U	6.6	U	1	U	1	U	1	U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	9.1	U	0.91	U	0.91	U	4.5	U	1	U	1	U	1	U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	1.6	U	0.16	U	0.16	U	0.8	U	0.2	U	0.2	U	0.2	U
Methylene chloride	UG/L	18	4%	5	7	12	268	4.4	UJ	0.44	U	0.44	U	2.2	U	1	U	1	U	1	U
Styrene	UG/L	0	0%	5	0	0	268	1.8	U	0.18	U	0.18	U	0.92	U	0.11	U	0.11	U	0.11	U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID							MWT-28	MWT-28	MWT-28	MWT-28	MWT-28	MWT-28	MWT-28
Matrix							GW	GW	GW	GW	GW	GW	GW
Sample ID							ALBW20144	ALBW20158	ALBW20159	ALBW20174	ALBW20188	ALBW20189	ALBW20204
Sample Date							12/15/2008	6/3/2009	6/3/2009	12/18/2009	6/29/2010	6/29/2010	12/18/2010
QC Type							SA	SA	DU	SA	SA	DU	SA
Study ID							LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round							6	7	7	8	9	9	10
Filtered							Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	3.6 U	0.36 U	0.36 U	1.8 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	5.1 U	0.57 J	0.6 J	2.6 U	0.52 J	0.48 J	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	9.3 U	0.66 U	0.66 U	3.3 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	1.3 U	0.13 U	0.13 U	2.1 U	0.2 U	0.2 U	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	3.7 U	0.37 U	0.37 U	1.8 U	0.21 U	0.21 U	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	1.8 U	0.18 U	0.18 U	2.3 U	0.13 U	0.13 U	0.13 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	1.5 U	0.15 U	0.15 U	0.76 UJ	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	2.4 U	0.24 U	0.24 U	1.2 U	0.18 U	0.18 U	0.64 J
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	2	1.9	1.7	1.6	1.6	1.5	1.4
Ethene	UG/L	200	90%			122	136	0.12	0.062	0.066	0.12	0.057	0.061	0.17
Methane	UG/L	23,000	98%			133	136	19,000	14,000	12,000	15,000	14,000	13,000	12,000
Sulfate	MG/L	1,060	83%			113	136	48.3	0.35 U	0.35 U	3.16	0.5 U	0.5 U	4.8
Total Organic Carbon	MG/L	2050	100%			136	136	27.9	28.7	27.6	25.5	21	21	12

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-28	MWT-28	MWT-28	MWT-28	MWT-28	MWT-28	MWT-28
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20219	ALBW20234	ALBW20248	ALBW20249	ALBW20264	ALBW20277	ALBW20291
Sample Date								7/19/2011	12/14/2011	6/20/2012	6/20/2012	12/14/2012	7/11/2013	12/14/2013
QC Type								SA	SA	SA	DU	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								11	12	13	13	14	15	16
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 U	0.1 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	5 UR	5 U	5 UJ	5 UJ	5 U	5 U	5 UJ
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	0.25 U	0.25 UJ	0.25 UJ	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 UJ	1 U	1 UJ	1 UJ	1 U	2 U	2 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	0.15 U	0.28 J	0.15 U	0.15 U	0.15 U	0.15 U	0.39 J
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	0.11 U	0.11 J	0.13 J	0.12 J	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 UJ	0.19 U	0.19 UR	0.19 UR	0.19 UJ	0.19 U	0.19 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ	2 U	2 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 UJ	1 U	1 UJ	1 UJ	1 U	1 U	1 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	0.33 UJ	0.33 U	0.33 U	0.33 U	0.33 UJ	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	1 U	1 UJ	1 UJ	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U	1 U	1 UJ	1 UJ	1 U	1 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID							MWT-28	MWT-28	MWT-28	MWT-28	MWT-28	MWT-28	MWT-28
Matrix							GW	GW	GW	GW	GW	GW	GW
Sample ID							ALBW20219	ALBW20234	ALBW20248	ALBW20249	ALBW20264	ALBW20277	ALBW20291
Sample Date							7/19/2011	12/14/2011	6/20/2012	6/20/2012	12/14/2012	7/11/2013	12/14/2013
QC Type							SA	SA	SA	DU	SA	SA	SA
Study ID							LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round							11	12	13	13	14	15	16
Filtered							Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15 U	0.15 UJ	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	1 U	0.33 U	0.6 J	0.68 J	0.33 U	0.38 J	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21 U	0.21 U	0.21 UJ	0.21 UJ	0.21 U	0.21 U	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.18 U	0.56 J	0.18 U	0.18 U	0.31 J	0.18 U	0.18 U
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	0.9	1.6	3.3	2.9	0.38	1.6	1.7
Ethene	UG/L	200	90%			122	136	0.0085 J	0.425 U	0.053	0.086	0.074	0.2 U	0.27 J
Methane	UG/L	23,000	98%			133	136	8,800	12,000	15,000	13,000	11,000	14,000	20,000
Sulfate	MG/L	1,060	83%			113	136	0.63 J	19	0.5 J	0.67 J	1.1	1.1 J	2.5 U
Total Organic Carbon	MG/L	2050	100%			136	136	17	12	18	18	25	25	24 J

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-28	MWT-28	MWT-28	MWT-29	MWT-29	MWT-29	MWT-29
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20292	ALBW20308	ALBW20324	ALBW20070	ALBW20084	ALBW20085	ALBW20099
Sample Date								12/14/2013	6/19/2014	12/17/2014	1/3/2007	3/16/2007	3/16/2007	6/5/2007
QC Type								DU	SA	SA	SA	SA	DU	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								16	17	18	1	2	2	3
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	0.5 U	0.5 U	2 U	5 U	4 U	2 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	0.18 U	0.18 U	2 U	5 U	4 U	2 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	2 U	5 U	4 U	2 UJ
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	0.13 U	0.13 U	2 U	5 U	4 U	2 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	0.25 U	0.25 U	2 U	5 U	4 U	2 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	0.11 U	0.11 U	2 U	5 U	4 U	2 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	2 U	5 U	4 U	2 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	0.44 U	0.44 U	2 U	5 U	4 U	2 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	0.25 U	0.25 U	2 U	5 U	4 U	2 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	0.21 U	0.21 U	2 U	5 U	4 U	2 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U	0.1 U	0.1 U	2 U	5 U	4 U	2 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	0.13 U	0.13 U	2 U	5 U	4 U	2 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	0.25 U	0.25 U	2 U	5 U	4 U	2 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	0.28 U	0.28 U	2 U	5 U	4 U	2 U
Acetone	UG/L	2600	17%			45	262	5 UJ	5 U	5 U	10 U	15 J	14 J	5.7 J
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	0.25 U	0.25 U	2 U	5 U	4 U	2 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	0.25 U	0.25 U	2 U	5 U	4 U	2 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	0.5 U	0.5 U	2 U	5 U	4 U	2 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	0.6 U	0.6 U	2 U	5 U	4 U	2 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	0.5 UJ	0.5 U	2 U	5 U	4 U	2 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	2 U	5 U	4 U	2 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	0.1 U	0.1 U	2 U	5 U	4 U	2 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	2 U	2 U	2 U	2 U	5 U	4 U	2 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	0.14 U	0.14 U	2 U	5 U	4 U	2 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	0.35 J	0.15 U	0.19 J	280	220	220	100
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	0.11 U	0.11 U	2 U	5 U	4 U	2 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	0.25 U	0.25 U	2 U	5 U	4 U	2 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	0.25 U	0.25 U	2 U	5 U	4 U	2 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	0.11 U	0.11 U	2 U	5 U	4 U	2 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	0.1 U	0.1 U	2 U	5 U	4 U	2 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 UJ	0.19 U	0.19 U	2 U	5 UJ	4 UJ	2 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2 UJ	2 UJ	2 U*	2 U	5 U	4 U	2 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	1 U	1 U	10 U	25 U	20 U	10 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	0.33 U	0.33 U	2 U	5 U	4 U	2 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	0.1 U	0.1 U	2 U	5 U	4 U	2 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	1 U	1 U	10 U	25 U	20 U	10 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U	1 U	1 U	10 U	25 U	20 U	10 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	0.2 U	0.2 U	2 U	5 U	4 U	2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	2 U	2.5 J	4 U	2 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	0.11 U	0.11 U	2 U	5 U	4 U	2 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID							MWT-28	MWT-28	MWT-28	MWT-29	MWT-29	MWT-29	MWT-29
Matrix							GW	GW	GW	GW	GW	GW	GW
Sample ID							ALBW20292	ALBW20308	ALBW20324	ALBW20070	ALBW20084	ALBW20085	ALBW20099
Sample Dete							12/14/2013	6/19/2014	12/17/2014	1/3/2007	3/16/2007	3/16/2007	6/5/2007
QC Type							DU	SA	SA	SA	SA	DU	SA
Study ID							LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round							16	17	18	1	2	2	3
Filtered							Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15 U	0.15 U	0.15 U	2 U	5 U	4 U	2 U
Toluene	UG/L	590	12%	5	18	32	268	0.33 U	0.33 U	0.33 U	2.6	5 U	2.2 J	2 U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2 U	0.2 U	0.2 U	6 U	15 U	12 U	6 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.2 U	0.2 U	0.2 U	6.6	7.8	8	2.1
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21 U	0.21 U	0.21 U	2 U	5 U	4 U	2 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	0.13 U	0.13 U	0.13 U	22	19	19	7.6
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	2 U	5 U	4 U	2 UJ
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.18 U	0.18 U	0.18 U	140	160	170	81
Other														
Iron	UG/L	296,000	100%			12	12				1,370 J	2,470	2,550	
Iron+Manganese	UG/L	352,900	100%			12	12				8,820 J	8,750	9,060	
Manganese	UG/L	56,900	100%			12	12				7,250	6,280	6,500	
Ethane	UG/L	98	95%			129	136	1.2	2.8	0.35	2,000 U	20	25	13
Ethene	UG/L	200	90%			122	136	0.2	0.0068 J	0.049 J	2,000 U	120	150	160
Methane	UG/L	23,000	98%			133	136	19,000	15,000	12,000	2,000 U	6,500	8,100	2,800
Sulfate	MG/L	1,060	83%			113	136	2.5 U	1.3 U	11	113	179	173	151
Total Organic Carbon	MG/L	2050	100%			138	136	24 J	19	18	25.1 J	35	36.7	15.7

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-29	MWT-29	MWT-29	MWT-29	MWT-29	MWT-29	MWT-29
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20114	ALBW20129	ALBW20130	ALBW20145	ALBW20160	ALBW20175	ALBW20190
Sample Date								11/14/2007	6/25/2008	6/25/2008	12/15/2008	6/3/2009	12/16/2009	6/30/2010
QC Type								SA	SA	DU	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								4	5	5	6	7	8	9
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	1 U	1 U	1 U	0.26 UJ	0.26 U	0.26 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	0.21 UJ	0.21 U	0.21 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	0.31 UJ	0.31 U	0.31 U	0.5 UJ
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	1 U	1 U	1 U	0.23 UJ	0.23 U	0.23 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	1 U	1 U	1 U	0.75 U	0.75 U	0.38 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	1 U	1 U	1 U	0.29 U	0.29 U	0.29 U	0.26 J
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	0.41 UJ	0.41 U	0.41 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	1 U	1 U	1 U	1 UJ	1 UJ	0.39 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	1 U	1 U	1 U	0.17 UJ	0.17 U	0.17 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	1 U	1 U	1 U	0.21 U	0.21 U	0.21 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1 U	1 U	1 U	0.14 U	0.14 U	0.32 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	1 U	1 U	0.16 U	0.16 U	0.36 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	1 U	1 U	0.16 U	0.16 U	0.39 U	0.28 U
Acetone	UG/L	2600	17%			45	262	5 U	5 U	5 U	1.3 UJ	1.3 U	1.3 U	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	1 U	1 U	1 U	0.16 U	0.16 U	0.41 U	0.25 U
Bromodichloromethene	UG/L	0	0%	80	0	0	268	1 U	1 U	1 U	0.38 U	0.39 U	0.39 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	1 U	1 U	1 U	0.26 UJ	0.26 UJ	0.26 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	1 U	1 U	1 U	0.19 U	0.19 UJ	0.19 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	0.27 UJ	0.27 U	0.27 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	0.18 U	0.32 U	0.32 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	1 U	1 U	1 U	0.32 U	0.32 U	0.32 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 U	1 UJ	1 UJ	0.32 U	0.32 U	0.32 U	1 U
Chloroform	UG/L	71	8%	7	7	22	268	1 U	1 U	1 U	0.34 U	0.34 U	0.34 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	96	83	86	91	61	37	78
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1 U	1 U	1 U	0.36 U	0.36 U	0.36 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	1 U	1 U	1 U	0.22 UJ	0.53 U	0.53 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	1 U	1 U	1 U	0.28 U	0.29 U	0.29 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	18	268	1 U	1 U	1 U	0.18 U	0.18 U	0.18 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	1 U	1 U	1 U	0.19 U	0.19 U	0.19 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	1 UJ	1 UJ	1 UJ	0.17 UJ	0.17 UJ	0.5 U	0.19 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	1 U	1 UJ	1 UJ	0.28 U	0.28 U	0.28 U	0.8 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	5 UJ	5 UJ	5 UJ	1.2 U	1.2 U	1.2 U	1 UJ
Methyl chloride	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	0.34 U	0.35 U	0.35 U	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	1 U	1 U	1 U	0.22 UJ	0.5 U	0.5 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	5 U	5 U	5 U	1.3 UJ	1.3 U	1.3 U	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	5 U	5 U	5 U	0.91 UJ	0.91 U	0.91 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	1 U	1 U	1 U	0.16 UJ	0.16 U	0.16 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	0.44 UJ	0.44 U	0.44 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	0.18 U	0.18 U	0.18 U	0.11 U

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID							MWT-29	MWT-29	MWT-29	MWT-29	MWT-29	MWT-29	MWT-29
Matrix							GW	GW	GW	GW	GW	GW	GW
Sample ID							ALBW20114	ALBW20129	ALBW20130	ALBW20145	ALBW20160	ALBW20175	ALBW20190
Sample Date							11/14/2007	6/25/2008	6/25/2008	12/15/2008	6/3/2009	12/16/2009	6/30/2010
QC Type							SA	SA	DU	SA	SA	SA	SA
Study ID							LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round							4	5	5	6	7	8	9
Filtered							Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	1 U	1 U	1 U	0.36 U	0.36 U	0.36 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	2.1	1 U	1 U	0.51 U	0.51 U	0.51 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	3 U	3 U	3 U	0.93 U	0.66 U	0.66 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.83 J	0.62 J	0.68 J	0.6 J	0.67 J	0.65 J	1.1
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1 U	1 U	1 U	0.37 U	0.37 U	0.37 U	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	4.4	3.2	3.3	6.8	4.5	3.8	1.3
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	1 U	1 UJ	1 UJ	0.15 UJ	0.15 U	0.15 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	74	73	74	80	49	29	88
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	19	15	14	14	10	6.7	18
Ethene	UG/L	200	90%			122	136	200	140	140	19	47	12	88
Methane	UG/L	23,000	98%			133	136	2,600	3,200	3,000	2,700	3,000	1,500	5,400
Sulfate	MG/L	1,060	83%			113	136	289	173	174	312	300	644 J	170
Total Organic Carbon	MG/L	2050	100%			136	136	20.9	14.2	14	13.6	11.8	8.2	10

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-29		MWT-29		MWT-29		MWT-29		MWT-29		MWT-29		MWT-29		MWT-29	
Matrix								GW		GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20205		ALBW20220		ALBW20235		ALBW20250		ALBW20263		ALBW20278		ALBW20293			
Sample Date								12/19/2010		7/20/2011		12/14/2011		6/20/2012		12/13/2012		7/10/2013		12/12/2013			
QC Type								SA		SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								10		11		12		13		14		15		16			
Filtered								Total		Total		Total		Total		Total		Total		Total			
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
Volatile Organic Compounds																							
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U		
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U		
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.4	J	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U		
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U		
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1	U	0.1	U	0.1	U	0.1	UJ	0.1	U	0.1	U	0.1	U		
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U		
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U		
Acetone	UG/L	2600	17%			45	262	5	UJ	5	UR	5	U	5	UJ	5	U	5	U	5	U		
Benzene	UG/L	0.48	2%	1	0	5	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25	U	0.25	U	0.25	U	0.25	UJ	0.25	U	0.25	U	0.25	U		
Bromoform	UG/L	0	0%	80	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Carbon disulfide	UG/L	0	0%			0	268	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U		
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U		
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Chloroethane	UG/L	1.1	3%	5	0	7	268	1	U	1	UJ	1	U	1	UJ	1	U	2	U	2	U		
Chloroform	UG/L	71	8%	7	7	22	268	0.14	J	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U		
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	38		33		8.5		36		25		80		28			
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		
Cyclohexane	UG/L	0.3	0%			1	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	UJ		
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Methyl Acetate	UG/L	6	1%			2	253	0.19	U	0.19	UJ	0.19	U	0.19	UR	0.19	UJ	0.19	U	0.19	U		
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8	UJ	0.8	UJ	0.8	UJ	0.8	UJ	0.8	UJ	2	U	2	UJ		
Methyl butyl ketone	UG/L	0	0%			0	268	1	U	1	UJ	1	U	1	UJ	1	U	1	U	1	U		
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33	U	0.33	U	0.33	UJ	0.33	U	0.33	U	0.33	U	0.33	U		
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Methyl ethyl ketone	UG/L	4900	8%			22	268	1	U	1	U	1	U	1	UJ	1	U	1	U	1	U		
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1	U	1	U	1	U	1	UJ	1	U	1	UJ	1	U		
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U		
Methylene chloride	UG/L	18	4%	5	7	12	268	1	U	1	U	1	U	1	U	1	U	1	U	1	U		
Styrene	UG/L	0	0%	5	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-29	MWT-29	MWT-29	MWT-29	MWT-29	MWT-29	MWT-29
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20205	ALBW20220	ALBW20235	ALBW20250	ALBW20263	ALBW20278	ALBW20293
Sample Date								12/19/2010	7/20/2011	12/14/2011	6/20/2012	12/13/2012	7/10/2013	12/12/2013
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								10	11	12	13	14	15	16
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15 U	0.15 U	0.15 UJ	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.77 J	1.6	0.28 J	0.59 J	0.44 J	1.1	0.42 J
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21 U	0.21 U	0.21 U	0.21 UJ	0.21 U	0.21 UJ	0.21 UJ
Trichloroethene	UG/L	3800	69%	5	86	185	268	2.1	0.79 J	2.4	0.69 J	3.3	3.7	2.1
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	27	43	8.9	49	11	32	20
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	5.1	8.3	1.7	10	0.58	2.9	1.5
Ethene	UG/L	200	90%			122	136	7.9	47	7.3	38	0.8	6.6	3.8
Methane	UG/L	23,000	98%			133	136	3,100	3,100	760	5,200	180	2,500	1,700
Sulfate	MG/L	1,060	83%			113	136	300	170	210	95	130	84	130
Total Organic Carbon	MG/L	2050	100%			136	136	7.4	7.7	4.9	8.2	4.8	5.8	6.2

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-29	MWT-29	MWT-29	MWT-22	MWT-22	MWT-22	MWT-22
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20309	ALBW20309RA	ALBW20325	ALBW20071	ALBW20075	ALBW20100	ALBW20115
Sample Date								6/19/2014	6/19/2014	12/17/2014	1/4/2007	3/17/2007	6/6/2007	11/14/2007
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								17	17	18	1	2	3	4
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U		0.5 U	2 U	4 U	1 U	1 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U		0.18 U	2 U	4 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U		0.5 U	2 U	4 U	1 UJ	1 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U		0.13 U	2 U	4 U	1 U	1 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U		0.25 U	2 U	4 U	1 U	1 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.13 J		0.11 U	2 U	4 U	1 U	1 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U		0.25 U	2 U	4 U	1 U	1 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U		0.44 U	2 U	4 U	1 U	1 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U		0.25 U	2 U	4 U	1 U	1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U		0.21 U	2 U	4 U	1 U	1 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U		0.1 U	2 U	4 U	1 U	1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U		0.13 U	2 U	4 U	1 U	1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U		0.25 U	2 U	4 U	1 U	1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U		0.28 U	2 U	4 U	1 U	1 U
Acetone	UG/L	2600	17%			45	262	5 U		5 U	10 U	18 J	38	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U		0.25 U	2 U	4 U	1 U	1 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U		0.25 U	2 U	4 U	1 U	1 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U		0.5 U	2 U	4 U	1 U	1 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U		0.6 U	2 U	4 U	1 U	1 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 UJ		0.5 U	2 U	4 U	1 U	1 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U		0.25 U	2 U	4 U	1 U	1 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U		0.1 U	2 U	4 U	1 U	1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	2 U		2 U	2 UJ	4 U	1 U	1 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U		0.14 U	2 U	4 U	1 U	1 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	49		18	130	90	120	99
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U		0.11 U	2 U	4 U	1 U	1 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U		0.25 U	2 U	4 U	1 U	1 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U		0.25 U	2 U	4 U	1 U	1 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U		0.11 U	2 U	4 U	1 U	1 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U		0.1 U	2 U	4 U	1 U	1 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 U		0.19 U	2 U	4 UJ	1 U	1 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2 UJ		2 U*	2 U	4 U	1 U	1 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 U		1 U	10 U	20 U	5 U	5 UJ
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U		0.33 U	2 U	4 U	1 U	1 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U		0.1 U	2 U	4 U	1 U	1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U		1 U	6 J	20 U	5 U	5 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U		1 U	10 U	20 U	5 U	5 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U		0.2 U	2 U	4 U	1 U	1 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U		1 U	1.2 J	4 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U		0.11 U	2 U	4 U	1 U	1 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	
Loc ID							MWT-29	MWT-29	MWT-29	MWT-22	MWT-22	MWT-22	MWT-22	
Matrix							GW	GW	GW	GW	GW	GW	GW	
Sample ID							ALBW20309	ALBW20309RA	ALBW20325	ALBW20071	ALBW20075	ALBW20100	ALBW20115	
Sample Date							6/19/2014	6/19/2014	12/17/2014	1/4/2007	3/17/2007	6/6/2007	11/14/2007	
QC Type							SA	SA	SA	SA	SA	SA	SA	
Study ID							LTM	LTM	LTM	LTM	LTM	LTM	LTM	
Sample Round							17	17	18	1	2	3	4	
Filtered							Total	Total	Total	Total	Total	Total	Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15 U		0.15 U	2 U	4 U	1 U	1 U
Toluene	UG/L	590	12%	5	18	32	268	0.33 U		0.33 U	2 U	4 U	1 U	1 U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2 U		0.2 U	6 U	12 U	3 U	3 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	1.1		0.2 U	2.7	4 U	3.2	0.85 J
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21 U		0.21 U	2 U	4 U	1 U	1 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	0.71 J		2.3	5.2	3.8 J	6.8	2.6
Trichlorofluoromethene	UG/L	0	0%	5	0	0	268	0.25 U		0.25 U	2 U	4 U	1 UJ	1 U
Vinyl chloride	UG/L	180	67%	2	137	180	268		130	7.8	98	64	81	160
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	9.1		0.34				
Ethene	UG/L	200	90%			122	136	45		0.87				
Methane	UG/L	23,000	98%			133	136	6,100		160				
Sulfate	MG/L	1,060	83%			113	136	97		120				
Total Organic Carbon	MG/L	2050	100%			136	136	5.7		4.7				

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
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Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-22	MWT-22	MWT-22	MWT-22	MWT-22	MWT-22	MWT-22
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20121	ALBW20136	ALBW20151	ALBW20166	ALBW20181	ALBW20196	ALBW20211
Sample Date								6/25/2008	12/15/2008	6/3/2009	12/16/2009	7/1/2010	12/17/2010	7/20/2011
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								5	6	7	8	9	10	11
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	5 U	1.3 UJ	0.26 U	1.3 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	5 U	1 UJ	0.21 U	1.1 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	5 UJ	1.6 UJ	0.31 U	1.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	5 U	1.2 UJ	0.23 U	1.2 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	5 U	3.8 U	0.75 U	1.9 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	5 U	1.4 U	0.29 U	1.5 U	0.12 J	0.66 J	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	5 U	2 UJ	0.41 U	2 U	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	5 UJ	5 UJ	1 UJ	2 U	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	5 U	0.85 UJ	0.17 U	0.83 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	5 U	1 U	0.2 U	1 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	5 U	1 U	0.21 U	1.1 U	0.1 U	0.25 J	0.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	5 U	0.7 U	0.14 U	1.6 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	5 U	0.8 U	0.16 U	1.8 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	5 U	0.8 U	0.16 U	2 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	25 U	6.5 UJ	2.5 J	6.7 U	5 U	5 UJ	5 UR
Benzene	UG/L	0.48	2%	1	0	5	268	5 U	0.8 U	0.16 U	2 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	5 U	1.9 U	0.39 U	1.9 U	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	5 U	1.3 UJ	0.26 UJ	1.3 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	5 U	0.95 U	0.19 UJ	0.97 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	5 U	1.4 UJ	0.27 U	1.3 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	5 U	0.9 U	0.32 U	1.6 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	5 U	1.6 U	0.32 U	1.6 U	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	5 UJ	1.6 U	0.32 U	1.6 U	1 U	1 U	1 UJ
Chloroform	UG/L	71	8%	7	7	22	268	5 U	1.7 U	0.34 U	1.7 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	68	160	66	57	41	130	23
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	5 U	1.8 U	0.36 U	1.8 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	5 U	1.1 UJ	0.53 U	2.7 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	5 U	1.4 U	0.29 U	1.4 U	0.25 UJ	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	5 U	0.9 U	0.18 U	0.92 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	5 U	0.95 U	0.19 U	0.96 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	5 UJ	0.85 UJ	0.17 UJ	2.5 U	0.19 U	0.19 U	0.19 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	5 UJ	1.4 U	0.28 U	1.4 U	0.8 U	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	25 UJ	6 U	1.2 U	6.2 U	1 U	1 U	1 UJ
Methyl chloride	UG/L	0	0%	5	0	0	268	5 UJ	1.7 U	0.35 U	1.7 U	0.33 U	0.33 U	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	5 U	1.1 UJ	0.5 U	2.5 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	25 UJ	6.5 UJ	1.3 U	6.6 U	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	25 UJ	4.6 UJ	0.91 U	4.5 U	1 U	1 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	5 U	0.8 UJ	0.16 U	0.8 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	5 U	2.2 UJ	0.44 U	2.2 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	5 U	0.9 U	0.18 U	0.92 U	0.11 U	0.11 U	0.11 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-22	MWT-22	MWT-22	MWT-22	MWT-22	MWT-22	MWT-22
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20121	ALBW20136	ALBW20151	ALBW20166	ALBW20181	ALBW20196	ALBW20211
Sample Date								6/25/2008	12/15/2008	6/3/2009	12/16/2009	7/1/2010	12/17/2010	7/20/2011
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								5	6	7	8	9	10	11
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	5 U	1.8 U	0.36 U	1.8 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	5 U	2.5 U	0.51 U	2.6 U	0.33 U	0.33 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	15 U	4.6 U	0.66 U	3.3 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	5 U	0.65 U	0.77 J	2.1 U	1.3	2.8	2
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	5 U	1.8 U	0.37 U	1.8 U	0.21 U	0.21 U	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	3 J	5.8	2.2	2.3 U	0.6 J	1.8	0.32 J
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	5 UJ	0.75 UJ	0.15 U	0.75 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	42	140	89	82	67	96	89
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136							
Ethene	UG/L	200	90%			122	136							
Methane	UG/L	23,000	98%			133	136							
Sulfate	MG/L	1,060	83%			113	136							
Total Organic Carbon	MG/L	2050	100%			136	136							

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-22		MWT-22		MWT-22		MWT-22		MWT-22		MWT-22	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20226		ALBW20241		ALBW20256		ALBW20269		ALBW20281		ALBW20300		ALBW20316
Sample Date								12/14/2011		6/21/2012		12/12/2012		7/10/2013		12/12/2013		6/21/2014		12/18/2014
QC Type								SA		SA		SA		SA		SA		SA		SA
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM
Sample Round								12		13		14		15		16		17		18
Filtered								Total		Total		Total		Total		Total		Total		Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Volatile Organic Compounds																					
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.38	J	0.11	U	0.11	U	0.27	J	0.14	J	0.11	U	0.11	U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	UJ	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.29	J	0.1	UJ	0.22	J	0.28	J	0.25	J	0.11	J	0.1	U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
Acetone	UG/L	2600	17%			45	262	5	U	5	UJ	5	U	5	U	5	U	5	U	5	U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25	U	0.25	UJ	0.25	UJ	0.25	U	0.25	U	0.25	U	0.25	U
Bromoform	UG/L	0	0%	80	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide	UG/L	0	0%			0	268	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1	U	1	UJ	1	U	2	U	2	U	2	UJ	2	U
Chloroform	UG/L	71	8%	7	7	22	268	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	140		57		86		150		100		19		32	
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11	U	0.11	U	0.11	UJ	0.11	U	0.11	U	0.11	U	0.11	U
Cyclohexane	UG/L	0.3	0%			1	268	0.25	U	0.25	U	0.25	UJ	0.25	U	0.25	U	0.25	U	0.25	U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	UJ	0.25	U	0.25	U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Methyl Acetate	UG/L	6	1%			2	253	0.19	U	0.19	UR	0.19	UJ	0.19	U	0.19	U	0.19	U	0.19	U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8	UJ	0.8	UJ	0.8	UJ	2	U	2	UJ	2	U	2	U
Methyl butyl ketone	UG/L	0	0%			0	268	1	U	1	UJ	1	U	1	U	1	U	1	U	1	U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33	UJ	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1	U	1	UJ	1	U	1	U	1	U	1	U	1	U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1	U	1	UJ	1	UJ	1	UJ	1	U	1	U	1	U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Methylene chloride	UG/L	18	4%	5	7	12	268	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Styrene	UG/L	0	0%	5	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-22		MWT-22		MWT-22		MWT-22		MWT-22		MWT-22	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20226		ALBW20241		ALBW20256		ALBW20269		ALBW20281		ALBW20300		ALBW20316	
Sample Date								12/14/2011		6/21/2012		12/12/2012		7/10/2013		12/12/2013		6/21/2014		12/18/2014	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								12		13		14		15		16		17		18	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	UJ	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
Toluene	UG/L	590	12%	5	18	32	268	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	3.9		5		3.8		6.2		7.1		2.8		3.6	
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	U	0.21	UJ	0.21	UJ	0.21	UJ	0.21	UJ	0.21	U	0.21	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	2.3		0.48	J	0.73	J	2		0.88	J	0.19	J	0.21	J
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	83		90		100		84		120		68		84	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136														
Ethene	UG/L	200	90%			122	136														
Methane	UG/L	23,000	98%			133	136														
Sulfate	MG/L	1,060	83%			113	136														
Total Organic Carbon	MG/L	2050	100%			136	136														

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								PT-22		PT-22		PT-22		PT-22		PT-22		PT-22	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20060		ALBW20086		ALBW20089		ALBW20104		ALBW20118		ALBW20133		ALBW20148	
Sample Date								1/3/2007		3/15/2007		6/5/2007		11/14/2007		6/26/2008		12/15/2008		6/2/2009	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								1		2		3		4		5		6		7	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Volatile Organic Compounds																					
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	1	U	1	U	1	U	1	U	1	U	0.26	U	0.26	U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	1	U	1	U	1	U	1	U	1	U	0.21	U	0.21	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	1	U	1	U	1	U	1	U	1	UJ	0.31	U	0.31	U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	1	U	1	U	1	U	1	U	1	U	0.23	U	0.23	U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	1	U	1	U	1	U	1	U	1	U	0.75	U	0.75	U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	1	U	1	U	1	U	1	U	1	U	0.29	U	0.29	U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	1	U	1	U	1	UJ	1	U	1	U	0.41	U	0.41	U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	1	U	1	U	1	U	1	U	1	UJ	1	UJ	1	UJ
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	1	U	1	U	1	U	1	U	1	U	0.17	U	0.17	U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1	U	1	U	1	U	1	U	1	U	0.2	U	0.2	U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	3.3		2.4		5.6		5		3.9		2.8		4	
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1	U	1	U	1	U	1	U	1	U	0.14	U	0.14	U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1	U	1	U	1	U	1	U	1	U	0.16	U	0.16	U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1	U	1	U	1	U	1	U	1	U	0.16	U	0.16	U
Acetone	UG/L	2600	17%			45	262	5	U	5	U	3.8	J	5.3		5	U	1.3	U	1.3	U
Benzene	UG/L	0.48	2%	1	0	5	268	1	U	1	U	1	U	1	U	1	U	0.16	U	0.16	U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	1	U	1	U	1	U	1	U	1	U	0.38	U	0.39	U
Bromoform	UG/L	0	0%	80	0	0	268	1	U	1	U	1	U	1	U	1	U	0.26	U	0.26	UJ
Carbon disulfide	UG/L	0	0%			0	268	1	U	1	U	1	U	1	U	1	U	0.19	U	0.19	UJ
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	1	U	1	U	1	U	1	U	1	U	0.27	U	0.27	U
Chlorobenzene	UG/L	0	0%	5	0	0	268	1	U	1	U	1	U	1	U	1	U	0.18	U	0.32	U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	1	U	1	U	1	U	1	U	1	U	0.32	U	0.32	U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1	UJ	1	U	1.1	J	0.82	J	1	UJ	0.32	U	0.32	U
Chloroform	UG/L	71	8%	7	7	22	268	1	U	1	U	1	U	1	U	1	U	0.34	U	0.34	U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	57		41		61		30		28		62		41	
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1	U	1	U	1	U	1	U	1	U	0.36	U	0.36	U
Cyclohexane	UG/L	0.3	0%			1	268	1	U	1	U	1	U	1	U	1	U	0.22	U	0.53	U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	1	U	1	U	1	UJ	1	U	1	U	0.28	U	0.29	U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	1	U	1	U	1	U	1	U	1	U	0.18	U	0.18	U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	1	U	1	U	1	U	1	U	1	U	0.19	U	0.19	U
Methyl Acetate	UG/L	6	1%			2	253	1	U	1	UJ	1	UJ	1	U	1	UJ	0.17	U	0.17	UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	1	U	1	U	1	UJ	1	U	1	UJ	0.28	U	0.28	U
Methyl butyl ketone	UG/L	0	0%			0	268	5	U	5	U	5	U	5	U	5	UJ	1.2	U	1.2	U
Methyl chloride	UG/L	0	0%	5	0	0	268	1	U	1	U	1	U	1	U	1	UJ	0.34	U	0.35	U
Methyl cyclohexane	UG/L	0.17	0%			1	268	1	U	1	U	1	UJ	1	U	1	U	0.22	U	0.5	U
Methyl ethyl ketone	UG/L	4900	8%			22	268	5	U	5	U	5	U	5	U	5	UJ	1.3	U	1.3	U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	5	U	5	U	5	U	5	U	5	UJ	0.91	U	0.91	U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	1	U	1	U	1	U	1	U	1	U	0.16	U	0.16	U
Methylene chloride	UG/L	18	4%	5	7	12	268	1	UJ	1	U	1	U	1	U	1	U	0.44	UJ	0.44	U
Styrene	UG/L	0	0%	5	0	0	268	1	U	1	U	1	U	1	U	1	U	0.18	U	0.18	U

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								PT-22		PT-22		PT-22		PT-22		PT-22		PT-22	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20060		ALBW20086		ALBW20089		ALBW20104		ALBW20118		ALBW20133	ALBW20148
Sample Date								1/3/2007		3/15/2007		6/5/2007		11/14/2007		6/26/2008		12/15/2008	6/2/2009
QC Type								SA		SA		SA		SA		SA		SA	SA
Study ID								LTM		LTM		LTM		LTM		LTM		LTM	LTM
Sample Round								1		2		3		4		5		6	7
Filtered								Total		Total		Total		Total		Total		Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	1	U	1	U	1	U	1	U	1	U	0.36	U	0.36	U
Toluene	UG/L	590	12%	5	18	32	268	1	U	1	U	1	U	1	U	1	U	0.51	U	0.51	U
Total Xylenes	UG/L	60	1%	5	1	2	268	3	U	3	U	3	U	3	U	3	U	0.93	U	0.66	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.86	J	0.51	J	0.72	J	0.67	J	0.57	J	0.41	J	0.81	J
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1	U	1	U	1	U	1	U	1	U	0.37	U	0.37	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	11		16		8.8		9.7		4.1		36		6.9	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	1	U	1	U	1	U	1	U	1	UJ	0.15	U	0.15	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	22		18		32		11		13		1.3		11	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136														
Ethene	UG/L	200	90%			122	136														
Methane	UG/L	23,000	98%			133	136														
Sulfate	MG/L	1,060	83%			113	136														
Total Organic Carbon	MG/L	2050	100%			136	136														

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								PT-22	PT-22	PT-22	PT-22	PT-22	PT-22	PT-22
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20163	ALBW20178	ALBW20193	ALBW20208	ALBW20223	ALBW20238	ALBW20253
Sample Date								12/16/2009	6/30/2010	12/17/2010	7/22/2011	12/14/2011	6/21/2012	12/13/2012
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								8	9	10	11	12	13	14
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.26 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.21 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.31 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.23 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.38 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.29 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.41 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.39 U	0.44 U	0.44 U	0.44 UJ	0.44 U	0.44 U	0.44 U
1,2-Dibromoethene	UG/L	0	0%	0.0006	0	0	268	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	3	3.2	1.9	0.1 U	1.9	2.1	1.8
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.32 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.36 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.39 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	1.3 U	5 U	5 UJ	5.3 J	5 U	5 UJ	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	0.41 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.39 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	0.26 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	0.19 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.27 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.32 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.32 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	0.32 U	1 U	1 U	1 U	1 U	1 UJ	1 U
Chloroform	UG/L	71	8%	7	7	22	268	0.34 U	0.14 U	0.19 J	1 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	29	43	42	42	32	31	26
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.36 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	0.53 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.29 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.18 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.19 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	0.5 U	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 UR	0.19 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.28 U	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	1.2 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.35 U	0.33 U	0.33 U	0.33 U	0.33 UJ	0.33 U	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1.3 U	1 U	1 U	1 U	1 U	1 UJ	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	0.91 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.16 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	0.44 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.18 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								PT-22		PT-22		PT-22		PT-22		PT-22		PT-22	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20163		ALBW20178		ALBW20193		ALBW20208		ALBW20223		ALBW20238		ALBW20253	
Sample Date								12/16/2009		6/30/2010		12/17/2010		7/22/2011		12/14/2011		6/21/2012		12/13/2012	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								8		9		10		11		12		13		14	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.36	U	0.15	U	0.15	U	0.15	U	0.15	UJ	0.15	U	0.15	U
Toluene	UG/L	590	12%	5	18	32	268	0.51	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.66	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.42	U	0.75	J	0.48	J	0.2	U	0.37	J	0.84	J	0.2	U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.37	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	8.7		4.6		29		31		34		7.9		28	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.15	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	9.8		11		2.1		0.18	U	0.68	J	4		0.46	J
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136														
Ethene	UG/L	200	90%			122	136														
Methane	UG/L	23,000	98%			133	136														
Sulfate	MG/L	1,060	83%			113	136														
Total Organic Carbon	MG/L	2050	100%			136	136														

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								PT-22	PT-22	PT-22	PT-22	MWT-23	MWT-23	MWT-23
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20266	ALBW20284	ALBW20297	ALBW20313	ALBW20065	ALBW20080	ALBW20094
Sample Date								7/9/2013	12/12/2013	6/21/2014	12/18/2014	1/3/2007	3/16/2007	6/6/2007
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								15	16	17	18	1	2	3
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	0.5 U	0.5 U	0.5 U	4 U	4 U	2 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	0.18 U	0.18 U	0.18 U	4 U	4 U	2 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	4 U	4 U	2 UJ
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	0.13 U	0.13 U	0.13 U	4 U	4 U	2 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	0.25 U	0.25 U	0.25 U	4 U	4 U	2 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	0.11 U	0.11 U	0.11 U	4 U	4 U	2 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	4 U	4 U	2 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	0.44 U	0.44 U	0.44 U	4 U	4 U	2 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	4 U	4 U	2 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	0.21 U	0.21 U	0.21 U	4 U	4 U	2 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	2.3	2	3.1	1.2	2.3 J	4 U	1.6 J
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	0.13 U	0.13 U	0.13 U	4 U	4 U	2 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	4 U	4 U	2 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	0.28 U	0.28 U	0.28 U	4 U	4 U	2 U
Acetone	UG/L	2600	17%			45	262	5 U	5 U	5 U	5 U	180	190	190
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	0.25 U	0.25 U	0.25 U	4 U	4 U	2 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	4 U	4 U	2 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	4 U	4 U	2 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	0.6 U	0.6 U	0.6 U	4 U	4 U	2 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	4 U	4 U	2 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	4 U	4 U	2 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	0.1 U	0.1 U	0.1 U	4 U	4 U	2 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	2 U	2 U	2 U	2 U	4 U	4 U	2 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	0.14 U	0.14 U	0.14 U	4 U	4 U	2 U
Cis-1,2-Dichloroethane	UG/L	820	88%	5	166	235	268	49	37	62	23	60	11	3.1
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	4 U	4 U	2 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	0.25 U	0.25 U	0.25 U	4 U	4 U	2 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	0.25 UJ	0.25 U	0.25 U	4 U	4 U	2 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	0.11 U	0.11 U	0.11 U	4 U	4 U	1.3 J
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	0.1 U	0.1 U	0.1 U	4 U	4 U	2 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 U	0.19 U	0.19 U	0.19 U	4 U	4 UJ	5.1
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2 U	2 UJ	2 U	2 U	4 U	4 U	2 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	1 U	1 U	1 U	20 U	20 U	10 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	0.33 U	0.33 U	0.33 U	4 U	4 U	2 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	0.1 U	0.1 U	0.1 U	4 U	4 U	2 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	1 U	1 U	1 U	250	130	73
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 UJ	1 U	1 U	1 U	20 U	20 U	10 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	0.2 U	0.2 U	0.2 U	4 U	4 U	2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	1 U	2.8 J	4 U	2 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	4 U	4 U	2 U

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								PT-22		PT-22		PT-22		PT-22		MWT-23		MWT-23		MWT-23		MWT-23	
Matrix								GW		GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20266		ALBW20284		ALBW20297		ALBW20313		ALBW20065		ALBW20080		ALBW20094		ALBW20094	
Sample Date								7/9/2013		12/12/2013		6/21/2014		12/18/2014		1/3/2007		3/16/2007		6/6/2007		6/6/2007	
QC Type								SA		SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								15		16		17		18		1		2		3		3	
Filtered								Total		Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	U	0.15	U	0.15	U	0.15	U	4	U	4	U	2	U	2	U
Toluene	UG/L	590	12%	5	18	32	268	0.33	U	0.33	U	0.33	U	0.33	U	4	U	7.4		37		37	
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2	U	0.2	U	0.2	U	0.2	U	12	U	12	U	6	U	6	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.45	J	0.28	J	1.3		0.2	U	4	U	4	U	2	U	2	U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	UJ	0.21	UJ	0.21	U	0.21	U	4	U	4	U	2	U	2	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	38		29		23		22		4	U	4	U	2	U	2	U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	4	U	4	U	2	UJ	2	UJ
Vinyl chloride	UG/L	180	67%	2	137	180	268	1.6		0.68	J	2.9		0.18	U	23		4.8		2	U	2	U
Other																							
Iron	UG/L	296,000	100%			12	12									122,000	J	120,000					
Iron+Manganese	UG/L	352,900	100%			12	12									141,500	J	139,500					
Manganese	UG/L	56,900	100%			12	12									19,500		19,500					
Ethane	UG/L	98	95%			129	136									10,000	U	45		4.1		4.1	
Ethene	UG/L	200	90%			122	136									10,000	U	5.9		0.28		0.28	
Methane	UG/L	23,000	98%			133	136									12,000		23,000		18,000		18,000	
Sulfate	MG/L	1,060	83%			113	136									2	U	2	U	2	U	2	U
Total Organic Carbon	MG/L	2050	100%			136	136									260	J	210		303		303	

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-23	MWT-23	MWT-23	MWT-23	MWT-23	MWT-23	MWT-23
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20109	ALBW20110	ALBW20125	ALBW20140	ALBW20155	ALBW20170	ALBW20185
Sample Date								11/16/2007	11/16/2007	6/25/2008	12/12/2008	6/2/2009	12/15/2009	6/29/2010
QC Type								SA	DU	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								4	4	5	6	7	8	9
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	10 U	4 U	1 U	0.26 UJ	0.26 U	0.26 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	10 U	4 U	1 U	0.21 U	0.21 U	0.21 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	10 U	4 U	1 U	0.31 U	0.31 U	0.31 U	0.5 UJ
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	10 U	4 U	1 U	0.23 U	0.23 U	0.23 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	10 U	4 U	1 U	0.75 U	0.75 U	0.38 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	10 U	4 U	1 U	0.29 U	0.29 U	0.29 U	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	10 U	4 U	1 U	0.41 U	0.41 U	0.41 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	10 U	4 U	1 U	1 UJ	1 UJ	0.39 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	10 U	4 U	1 U	0.17 U	0.17 U	0.17 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	10 U	4 U	1 U	0.2 U	0.2 U	0.2 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	10 U	4 U	0.6 J	0.6 J	0.64 J	0.21 U	0.66 J
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	10 U	4 U	1 U	0.14 U	0.14 U	0.32 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	10 U	4 U	1 U	0.16 U	0.16 U	0.36 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	10 U	4 U	1 U	0.16 U	0.16 U	0.39 U	0.28 U
Acetone	UG/L	2600	17%			45	262	64	62	4 J	1.3 U	1.6 J	1.3 U	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	10 U	4 U	1 U	0.16 U	0.16 U	0.41 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	10 U	4 U	1 U	0.38 U	0.39 U	0.39 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	10 U	4 U	1 U	0.26 U	0.26 UJ	0.26 UJ	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	10 U	4 U	1 U	0.19 U	0.19 UJ	0.19 UJ	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	10 U	4 U	1 U	0.27 UJ	0.27 U	0.27 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	10 U	4 U	1 U	0.18 U	0.32 U	0.32 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	10 U	4 U	1 U	0.32 U	0.32 U	0.32 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	10 U	4 U	1 UJ	0.32 U	0.32 U	0.32 UJ	1 U
Chloroform	UG/L	71	8%	7	7	22	268	10 U	4 U	1 U	0.34 U	0.34 U	0.34 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	68%	5	166	235	268	10 U	2.1 J	1 U	2.4	0.42 J	0.47 J	0.41 J
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	10 U	4 U	1 U	0.36 U	0.36 U	0.36 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	10 U	4 U	1 U	0.22 U	0.53 U	0.53 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	10 U	4 U	1 U	0.28 UJ	0.29 U	0.29 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	10 U	4 U	0.85 J	0.71 J	0.49 J	0.18 U	0.38 J
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	10 U	4 U	1 U	0.19 U	0.19 U	0.19 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	10 U	4 UJ	1 UJ	0.17 U	0.17 UJ	0.5 U	0.19 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	10 U	4 U	1 UJ	0.28 U	0.28 U	0.28 U	0.8 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	50 U	20 UJ	5 UJ	1.2 U	1.2 U	1.2 U	1 UJ
Methyl chloride	UG/L	0	0%	5	0	0	268	10 U	4 U	1 U	0.34 U	0.35 U	0.35 UJ	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	10 U	4 U	1 U	0.22 U	0.5 U	0.5 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	26 J	25	12	1.3 U	1.3 U	1.3 U	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	50 U	20 U	5 U	0.91 U	0.91 U	0.91 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	10 U	4 U	1 U	0.16 U	0.16 U	0.16 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	12	4 U	1 U	0.44 UJ	0.44 U	0.44 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	10 U	4 U	1 U	0.18 U	0.18 U	0.18 U	0.11 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-23	MWT-23	MWT-23	MWT-23	MWT-23	MWT-23	MWT-23
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20109	ALBW20110	ALBW20125	ALBW20140	ALBW20155	ALBW20170	ALBW20185
Sample Date								11/16/2007	11/16/2007	6/25/2008	12/12/2008	6/2/2009	12/15/2009	6/29/2010
QC Type								SA	DU	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								4	4	5	6	7	8	9
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	10 U	4 U	1 U	0.36 U	0.36 U	0.36 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	570	590	300	43	1.5	0.51 U	0.34 J
Total Xylenes	UG/L	60	1%	5	1	2	268	30 U	12 U	3 U	0.93 U	0.66 U	0.66 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	10 U	4 U	1 U	0.13 U	0.13 U	0.42 U	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	10 U	4 U	1 U	0.37 U	0.37 U	0.37 U	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	10 U	4 U	1 U	0.41 J	0.18 U	0.46 U	0.13 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	10 U	4 U	1 UJ	0.15 UJ	0.15 U	0.15 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	10 U	2.3 J	1 U	2.8	0.24 U	0.24 U	0.18 U
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	0.49	0.66	0.53	4.6	1.6	1	2.4
Ethene	UG/L	200	90%			122	136	0.3	0.39	0.048	1.2	0.16	0.058	0.038
Methane	UG/L	23,000	98%			133	136	15,000	17,000	18,000	19,000	21,000	18,000	18,000
Sulfate	MG/L	1,060	83%			113	136	2.8	2.7	2 U	6.3	0.35 U	0.35 U	0.5 U
Total Organic Carbon	MG/L	2050	100%			136	136	147	155	28.4	20.1	15.6	17.4	11

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-23		MWT-23		MWT-23		MWT-23		MWT-23		MWT-23		MWT-23		MWT-23	
Matrix								GW		GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20200		ALBW20201		ALBW20215		ALBW20230		ALBW20231		ALBW20245		ALBW20260			
Sample Date								12/19/2010		12/19/2010		7/19/2011		12/14/2011		12/14/2011		6/20/2012		12/13/2012			
QC Type								SA		DU		SA		SA		DU		SA		SA			
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM			
Sample Round								10		10		11		12		12		13		14			
Filtered								Total		Total		Total		Total		Total		Total		Total			
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
Volatile Organic Compounds																							
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U		
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U		
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.52	J	0.52	J	0.25	U	0.32	J	0.33	J	0.25	U	0.25	U		
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U		
1,2-Dibromoethene	UG/L	0	0%	0.0006	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U		
1,2-Dichloroethane	UG/L	5.6	15%	0.6	34	42	268	1.5		1.6		1		1.3		1.2		0.65	J	0.72	J		
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U		
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U		
Acetone	UG/L	2600	17%			45	262	5	UJ	5	UJ	5	UR	5	U	5	U	5	UJ	5	U		
Benzene	UG/L	0.48	2%	1	0	5	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	UJ	0.25	U		
Bromoform	UG/L	0	0%	80	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Carbon disulfide	UG/L	0	0%			0	268	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U		
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U		
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Chloroethane	UG/L	1.1	3%	5	0	7	268	1	UJ	1	UJ	1	UJ	1	U	1	U	1	UJ	1	U		
Chloroform	UG/L	71	8%	7	7	22	268	0.14	U	0.17	J	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U		
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	4.6		4.6		0.57	J	2		2		0.55	J	2			
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		
Cyclohexane	UG/L	0.3	0%			1	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U		
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.14	J	0.12	J	0.13	J	0.15	J	0.17	J	0.13	J	0.21	J		
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Methyl Acetate	UG/L	6	1%			2	253	0.19	U	0.19	U	0.19	UJ	0.19	U	0.19	U	0.19	UR	0.19	UJ		
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8	U	0.8	U	0.8	UJ	0.8	UJ	0.8	UJ	0.8	UJ	0.8	UJ		
Methyl butyl ketone	UG/L	0	0%			0	268	1	U	1	U	1	UJ	1	U	1	U	1	UJ	1	U		
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33	U	0.33	U	0.33	U	0.33	UJ	0.33	UJ	0.33	U	0.33	U		
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Methyl ethyl ketone	UG/L	4900	8%			22	268	1	U	1	U	1	U	1	U	1	U	1	UJ	1	U		
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1	U	1	U	1	U	1	U	1	U	1	UJ	1	U		
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U		
Methylene chloride	UG/L	18	4%	5	7	12	268	1	U	1	U	1	U	1	U	1	U	1	U	1	U		
Styrene	UG/L	0	0%	5	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U		

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-23	MWT-23	MWT-23	MWT-23	MWT-23	MWT-23	MWT-23
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20200	ALBW20201	ALBW20215	ALBW20230	ALBW20231	ALBW20245	ALBW20260
Sample Date								12/19/2010	12/19/2010	7/19/2011	12/14/2011	12/14/2011	6/20/2012	12/13/2012
QC Type								SA	DU	SA	SA	DU	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								10	10	11	12	12	13	14
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15 U	0.15 U	0.15 U	0.15 UJ	0.15 UJ	0.15 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	0.33 U	0.33 U	1 U	0.33 U	0.33 U	0.33 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.49 J	0.49 J	0.22 J	0.38 J	0.35 J	0.42 J	0.29 J
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 UJ	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	0.34 J	0.24 J	0.13 U	0.19 J	0.16 J	0.13 U	0.13 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	5.3	5.3	0.33 J	1.9	1.8	0.33 J	1.9
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	16	16	2.3	8.7	8.9	5	2.5
Ethene	UG/L	200	90%			122	136	2.9	2.8	0.1	1.2	1.2	0.26	0.63
Methane	UG/L	23,000	98%			133	136	16,000	16,000	15,000	16,000	16,000	18,000	16,000
Sulfate	MG/L	1,060	83%			113	136	16	16	1.5	14	14	1.5	13
Total Organic Carbon	MG/L	2050	100%			136	136	5.9	6.3	6.2	6.3	6.3	4.8	11

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-23	MWT-23	MWT-23	MWT-23	MWT-23	MWT-23	MWT-24
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20261	ALBW20273	ALBW20288	ALBW20304	ALBW20305	ALBW20320	ALBW20063
Sample Date								12/13/2012	7/10/2013	12/14/2013	6/20/2014	6/20/2014	12/18/2014	1/3/2007
QC Type								DU	SA	SA	SA	DU	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								14	15	16	17	17	18	1
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.71 J
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	1 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	0.5 J	0.25 U	0.25 U	0.25 U	0.43 J	0.81 J
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	1 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	1 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	1 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.61 J	1.2	0.81 J	0.65 J	0.67 J	0.1 U	1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	1 U
Acetone	UG/L	2600	17%			45	262	5 U	5 U	5 UJ	5 U	5 U	5 U	42 U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	1 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U	1 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 U	2 U	2 U	2 U	2 U	2 U	1 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	1 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	1.8	3.3	2.6	0.46 J	0.43 J	2.7	210
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	1 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.19 J	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	1 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	1 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8 U	2 U	2 U	2 UJ	2 UJ	2 U	1 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	1 U	1 U	1 U	1 U	1 U	5 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	1 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	1 U	1 U	1 U	1 U	1 U	24
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U	1 UJ	1 U	1 U	1 U	1 U	5 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	1 U

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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-23		MWT-23		MWT-23		MWT-23		MWT-23		MWT-23		MWT-24	
Matrix								GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20261		ALBW20273		ALBW20288		ALBW20304		ALBW20305		ALBW20320		ALBW20063	
Sample Date								12/13/2012		7/10/2013		12/14/2013		6/20/2014		6/20/2014		12/18/2014		1/3/2007	
QC Type								DU		SA		SA		SA		DU		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								14		15		16		17		17		18		1	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	U	0.15	U	0.15	U	0.21	J	0.15	U	0.15	U	1	U
Toluene	UG/L	590	12%	5	18	32	268	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	1	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	3	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.29	J	1.4		0.52	J	0.45	J	0.48	J	0.39	J	2.1	
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	U	0.21	UJ	0.21	U	0.21	U	0.21	U	0.21	U	1	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.19	J	0.94	J
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	1	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	1.4		2.9		2.6		0.37	J	0.36	J	0.18	U	19	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136	2.6		7		7		3.4	J	11	J	5.4			
Ethene	UG/L	200	90%			122	136	0.65		2.6		1.7		0.1	J	0.13	J	2.2			
Methane	UG/L	23,000	98%			133	136	15,000		14,000		15,000		17,000		16,000		13,000			
Sulfate	MG/L	1,060	83%			113	136	13		15		10		1.4	J	1.4	J	98			
Total Organic Carbon	MG/L	2050	100%			136	136	11		4.1		5.5		4.9		4.5		5.6			

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-24	MWT-24	MWT-24	MWT-24	MWT-24	MWT-24	MWT-24
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20078	ALBW20092	ALBW20107	ALBW20122	ALBW20137	ALBW20152	ALBW20167
Sample Date								3/15/2007	6/5/2007	11/13/2007	6/26/2008	12/12/2008	6/2/2009	12/15/2009
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								2	3	4	5	6	7	8
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.58 J	2 U	1 U	5 U	0.76 J	0.26 U	0.4 J
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	1 U	2 U	1 U	5 U	0.21 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	1 U	2 UJ	1 U	5 UJ	0.31 U	0.31 U	0.31 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	1 U	2 U	1 U	5 U	0.23 U	0.23 U	0.23 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.83 J	1.1 J	1 U	5 U	0.75 U	0.75 U	0.7 J
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	1 U	2 U	1 U	5 U	0.29 U	0.29 U	0.29 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	1 U	2 U	1 U	5 U	0.41 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	1 U	2 U	1 U	5 UJ	1 UJ	1 UJ	0.39 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	1 U	2 U	1 U	5 U	0.17 U	0.17 U	0.17 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	2 U	1 U	5 U	0.2 U	0.2 U	0.2 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	1 U	2 U	1 U	5 U	0.21 U	0.21 U	0.21 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1 U	2 U	1 U	5 U	0.14 U	0.14 U	0.32 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	2 U	1 U	5 U	0.16 U	0.16 U	0.36 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	2 U	1 U	5 U	0.16 U	0.16 U	0.39 U
Acetone	UG/L	2600	17%			45	262	54	73	5 U	25 U	1.3 U	1.3 U	1.3 U
Benzene	UG/L	0.48	2%	1	0	5	268	1 U	2 U	1 U	5 U	0.16 U	0.16 U	0.41 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	1 U	2 U	1 U	5 U	0.38 U	0.39 U	0.39 U
Bromoform	UG/L	0	0%	80	0	0	268	1 U	2 U	1 U	5 U	0.26 U	0.26 UJ	0.26 UJ
Carbon disulfide	UG/L	0	0%			0	268	1 U	2 U	1 U	5 U	0.19 U	0.19 UJ	0.19 UJ
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	1 U	2 U	1 U	5 U	0.27 UJ	0.27 U	0.27 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	1 U	2 U	1 U	5 U	0.18 U	0.32 U	0.32 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	1 U	2 U	1 U	5 U	0.32 U	0.32 U	0.32 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 U	2 U	1 U	5 UJ	0.32 U	0.47 J	0.32 UJ
Chloroform	UG/L	71	8%	7	7	22	268	1 U	2 U	1 U	5 U	0.34 U	0.34 U	0.34 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	68	19	6.7	31	62	38	32
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1 U	2 U	1 U	5 U	0.36 U	0.36 U	0.36 U
Cyclohexane	UG/L	0.3	0%			1	268	1 U	2 U	1 U	5 U	0.22 U	0.53 U	0.53 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	1 U	2 U	1 U	5 U	0.28 UJ	0.29 U	0.29 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	1 U	2 U	1 U	5 U	0.18 U	0.18 U	0.18 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	1 U	2 U	1 U	5 U	0.19 U	0.19 U	0.19 U
Methyl Acetate	UG/L	6	1%			2	253	1 UJ	6	1 UJ	5 UJ	0.17 U	0.17 UJ	0.5 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	1 U	2 U	1 U	5 UJ	0.28 U	0.28 U	0.28 U
Methyl butyl ketone	UG/L	0	0%			0	268	5 U	10 U	5 UJ	25 UJ	1.2 U	1.2 U	1.2 U
Methyl chloride	UG/L	0	0%	5	0	0	268	1 U	2 U	1 U	5 UJ	0.34 U	0.35 U	0.35 UJ
Methyl cyclohexane	UG/L	0.17	0%			1	268	1 U	2 U	1 U	5 U	0.22 U	0.5 U	0.5 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	36	40	5 U	25 UJ	1.3 U	1.3 U	1.3 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	5 U	10 U	5 U	25 UJ	0.91 U	0.91 U	0.91 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	1 U	2 U	1 U	5 U	0.16 U	0.16 U	0.16 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 J	1 U	5 U	0.44 UJ	0.44 U	0.44 U
Styrene	UG/L	0	0%	5	0	0	268	1 U	2 U	1 U	5 U	0.18 U	0.18 U	0.18 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-24		MWT-24		MWT-24		MWT-24		MWT-24		MWT-24		MWT-24		MWT-24	
Matrix								GW		GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20078		ALBW20092		ALBW20107		ALBW20122		ALBW20137		ALBW20152		ALBW20167	
Sample Date								3/15/2007		6/5/2007		11/13/2007		6/26/2008		12/12/2008		6/2/2009		12/15/2009	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								2		3		4		5		6		7		8	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	1	U	2	U	1	U	5	U	0.36	U	0.36	U	0.36	U
Toluene	UG/L	590	12%	5	18	32	268	1	U	2	U	1	U	5	U	0.51	U	0.51	U	0.51	U
Total Xylenes	UG/L	60	1%	5	1	2	268	3	U	6	U	3	U	15	U	0.93	U	0.66	U	0.66	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.88	J	2	U	1	U	5	U	0.13	U	0.13	U	0.42	U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1	U	2	U	1	U	5	U	0.37	U	0.37	U	0.37	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	1	U	2	U	1.6		5	U	6		4.8		4.7	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	1	U	2	UJ	1	U	5	UJ	0.15	UJ	0.15	U	0.15	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	45		22		3.8		5	U	3.6		7.3		4	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136														
Ethene	UG/L	200	90%			122	136														
Methane	UG/L	23,000	98%			133	136														
Sulfate	MG/L	1,060	83%			113	136														
Total Organic Carbon	MG/L	2050	100%			136	136														

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-24		MWT-24		MWT-24		MWT-24		MWT-24		MWT-24	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20182		ALBW20197		ALBW20212		ALBW20227		ALBW20242		ALBW20257		ALBW20270	
Sample Date								7/1/2010		12/17/2010		7/22/2011		12/13/2011		6/19/2012		12/12/2012		7/9/2013	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								9		10		11		12		13		14		15	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Volatile Organic Compounds																					
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.79	J	0.58	J	0.25	U	0.44	J	0.8	J	0.57	J	0.7	J
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44	U	0.44	U	0.44	UJ	0.44	U	0.44	U	0.44	U	0.44	U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1	U	0.1	U	3.3		0.1	U	0.1	UJ	0.1	U	0.1	U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
Acetone	UG/L	2600	17%			45	262	5	U	5	UJ	5	U	5	U	5	UJ	5	U	5	U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	UJ	0.25	U	0.25	U
Bromoform	UG/L	0	0%	80	0	0	268	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide	UG/L	0	0%			0	268	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	UJ	0.5	UJ	0.5	UJ	0.5	U	0.5	U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1	U	0.1	U	0.1	UJ	0.1	U	0.1	U	0.1	U	0.1	U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1	U	1	U	1	U	1	UJ	1	UJ	1	U	2	U
Chloroform	UG/L	71	8%	7	7	22	268	0.14	U	0.19	J	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	31		23		39		16		28		26		24	
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Cyclohexane	UG/L	0.3	0%			1	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25	UJ	0.25	U	0.25	U	0.25	UJ	0.25	U	0.25	U	0.25	U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Methyl Acetate	UG/L	6	1%			2	253	0.19	U	0.19	U	0.19	U	0.19	U	0.19	UR	0.19	UJ	0.19	U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8	U	0.8	UJ	0.8	UJ	0.8	UJ	0.8	UJ	0.8	UJ	2	U
Methyl butyl ketone	UG/L	0	0%			0	268	1	U	1	U	1	U	1	U	1	UJ	1	U	1	U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33	U	0.33	U	0.33	U	0.33	UJ	0.33	U	0.33	U	0.33	U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1	U	1	U	1	U	1	U	1	UJ	1	U	1	U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1	U	1	U	1	U	1	U	1	UJ	1	U	1	UJ
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Methylene chloride	UG/L	18	4%	5	7	12	268	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Styrene	UG/L	0	0%	5	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-24		MWT-24		MWT-24		MWT-24		MWT-24		MWT-24	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20182		ALBW20197		ALBW20212		ALBW20227		ALBW20242		ALBW20257		ALBW20270	
Sample Date								7/1/2010		12/17/2010		7/22/2011		12/13/2011		6/19/2012		12/12/2012		7/9/2013	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								9		10		11		12		13		14		15	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
Toluene	UG/L	590	12%	5	18	32	268	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.41	J	1		1.6		0.39	J	1.5		0.2	U	1.2	
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	U	0.21	U	0.21	U	0.21	UJ	0.21	UJ	0.21	U	0.21	UJ
Trichloroethene	UG/L	3800	69%	5	86	185	268	5		3.3		6.6		3.1		2.7		4.1		3.7	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	7.6		4.9		17		2.8		6.3		0.31	J	2.1	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136														
Ethene	UG/L	200	90%			122	136														
Methane	UG/L	23,000	98%			133	136														
Sulfate	MG/L	1,060	83%			113	136														
Total Organic Carbon	MG/L	2050	100%			136	136														

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminent Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standerd.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-24		MWT-24		MWT-24		PT-17		PT-17		PT-17		PT-17		PT-17	
Matrix								GW		GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20285		ALBW20301		ALBW20317		ALBW20058		ALBW20073		ALBW20087		ALBW20102			
Sample Date								12/11/2013		6/21/2014		12/18/2014		1/2/2007		3/15/2007		6/5/2007		11/13/2007			
QC Type								SA		SA		SA		SA		SA		SA		SA			
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM			
Sample Round								16		17		18		1		2		3		4			
Filtered								Total		Total		Total		Total		Total		Total		Total			
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
Volatile Organic Compounds																							
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5	U	0.5	U	0.5	U	1	U	2	U	1	U	1	U		
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18	U	0.18	U	0.18	U	1	U	2	U	1	U	1	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U	1	U	2	U	1	UJ	1	U		
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13	U	0.13	U	0.13	U	1	U	2	U	1	U	1	U		
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.67	J	0.25	U	0.38	J	1	U	2	U	1	U	1	U		
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11	U	0.11	U	0.11	U	1	U	2	U	1	U	1	U		
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	1	U	2	U	1	U	1	U		
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44	U	0.44	U	0.44	U	1	U	2	U	1	U	1	U		
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25	U	0.25	U	0.25	U	1	U	2	U	1	U	1	U		
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21	U	0.21	U	0.21	U	1	U	2	U	1	U	1	U		
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1	U	0.1	U	0.1	U	1	U	2	U	1	U	1	U		
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13	U	0.13	U	0.13	U	1	U	2	U	1	U	1	U		
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25	U	0.25	U	0.25	U	1	U	2	U	1	U	1	U		
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28	U	0.28	U	0.28	U	1	U	2	U	1	U	1	U		
Acetone	UG/L	2600	17%			45	262	5	U	5	U	5	U	9.3	U	22		5	U	5	U		
Benzene	UG/L	0.48	2%	1	0	5	268	0.25	U	0.25	U	0.25	U	1	U	2	U	1	U	1	U		
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25	U	0.25	U	0.25	U	1	U	2	U	1	U	1	U		
Bromoform	UG/L	0	0%	80	0	0	268	0.5	U	0.5	U	0.5	U	1	U	2	U	1	U	1	U		
Carbon disulfide	UG/L	0	0%			0	268	0.6	U	0.6	U	0.6	U	1	U	2	U	1	U	1	U		
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U	1	U	2	U	1	U	1	U		
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	1	U	2	U	1	U	1	U		
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1	U	0.1	U	0.1	U	1	U	2	U	1	U	1	U		
Chloroethane	UG/L	1.1	3%	5	0	7	268	2	U	2	U	2	U	1	U	2	U	1	U	1	U		
Chloroform	UG/L	71	8%	7	7	22	268	0.14	U	0.14	U	0.14	U	1	U	2	U	1	U	1	U		
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	21		21		11		62		26		43		27			
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11	U	0.11	U	0.11	U	1	U	2	U	1	U	1	U		
Cyclohexane	UG/L	0.3	0%			1	268	0.25	U	0.25	U	0.25	U	1	U	2	U	1	U	1	U		
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25	UJ	0.25	U	0.25	U	1	U	2	U	1	U	1	U		
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11	U	0.11	U	0.11	U	1	U	2	U	1	U	1	U		
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1	U	0.1	U	0.1	U	1	U	2	U	1	U	1	U		
Methyl Acetate	UG/L	6	1%			2	253	0.19	U	0.19	U	0.19	U	1	U	2	UJ	1	U	1	UJ		
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2	UJ	2	U	2	U	1	U	2	U	1	U	1	U		
Methyl butyl ketone	UG/L	0	0%			0	268	1	U	1	U	1	U	5	U	10	U	5	U	5	UJ		
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33	U	0.33	U	0.33	U	1	U	2	U	1	U	1	U		
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1	U	0.1	U	0.1	U	1	U	2	U	1	U	1	U		
Methyl ethyl ketone	UG/L	4900	8%			22	268	1	U	1	U	1	U	5.4		11		5	U	5	U		
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1	U	1	U	1	U	5	U	10	U	5	U	5	U		
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2	U	0.2	U	0.2	U	1	U	2	U	1	U	1	U		
Methylene chloride	UG/L	18	4%	5	7	12	268	1	U	1	U	1	U	1	U	1.2	J	1	U	1	U		
Styrene	UG/L	0	0%	5	0	0	268	0.11	U	0.11	U	0.11	U	1	U	2	U	1	U	1	U		

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-24		MWT-24		MWT-24		PT-17		PT-17		PT-17	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20285		ALBW20301		ALBW20317		ALBW20058		ALBW20073		ALBW20087		ALBW20102
Sample Date								12/11/2013		6/21/2014		12/18/2014		1/2/2007		3/15/2007		6/5/2007		11/13/2007
QC Type								SA		SA		SA		SA		SA		SA		SA
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM
Sample Round								16		17		18		1		2		3		4
Filtered								Total		Total		Total		Total		Total		Total		Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	U	0.15	U	0.15	U	1	U	2	U	1	U	1	U
Toluene	UG/L	590	12%	5	18	32	268	0.33	U	0.33	U	0.33	U	1	U	2	U	1	U	1	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2	U	0.2	U	0.2	U	3	U	6	U	3	U	3	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	1.5		1.6		0.2	U	1	U	2	U	0.77	J	0.54	J
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	UJ	0.21	U	0.21	U	1	U	2	U	1	U	1	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	1.9		1.5		1.9		8		11		3.4		18	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	1	U	2	U	1	UJ	1	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	2.4		3.8		0.18	U	21		21		9.9		22	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136														
Ethene	UG/L	200	90%			122	136														
Methene	UG/L	23,000	98%			133	136														
Sulfate	MG/L	1,060	83%			113	136														
Total Organic Carbon	MG/L	2050	100%			135	136														

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								PT-17	PT-17	PT-17	PT-17	PT-17	PT-17	PT-17
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20116	ALBW20131	ALBW20146	ALBW20161	ALBW20176	ALBW20191	ALBW20206
Sample Date								6/26/2008	12/11/2008	6/2/2009	12/15/2009	7/1/2010	12/18/2010	7/21/2011
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								5	6	7	8	9	10	11
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	1 U	0.26 UJ	0.26 U	0.26 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	1 U	0.21 U	0.21 U	0.21 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	1 UJ	0.31 U	0.31 U	0.31 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	1 U	0.23 U	0.23 U	0.23 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethene	UG/L	62	13%	5	1	34	268	1 U	0.75 U	0.75 U	0.38 U	0.25 U	0.25 U	0.25 UJ
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	1 U	0.29 U	0.29 U	0.29 U	0.24 J	0.42 J	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	1 U	0.41 U	0.41 U	0.41 U	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	1 UJ	1 UJ	1 UJ	0.39 U	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	1 U	0.17 U	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	0.2 U	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	1 U	0.21 U	0.21 U	0.21 U	0.1 U	0.1 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1 U	0.14 U	0.14 U	0.32 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	0.16 U	0.16 U	0.36 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	0.16 U	0.16 U	0.39 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	5 U	1.3 U	1.3 U	1.3 U	5 U	5 UJ	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	1 U	0.16 U	0.16 U	0.41 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	1 U	0.38 U	0.39 U	0.39 U	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	1 U	0.26 U	0.26 UJ	0.26 UJ	0.5 U	0.5 U	0.5 UJ
Carbon disulfide	UG/L	0	0%			0	268	1 U	0.19 U	0.19 UJ	0.19 UJ	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	1 U	0.27 UJ	0.27 U	0.27 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	1 U	0.18 U	0.32 U	0.32 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	1 U	0.32 U	0.32 U	0.32 U	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 UJ	0.32 U	0.49 J	0.32 UJ	1 U	1 U	1 U
Chloroform	UG/L	71	8%	7	7	22	268	1 U	0.34 U	0.34 U	0.34 U	0.14 U	0.15 J	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	21	24	56	65	81	39	94
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1 U	0.36 U	0.36 U	0.36 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	1 U	0.22 U	0.53 U	0.53 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	1 U	0.28 UJ	0.29 U	0.29 U	0.25 UJ	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	1 U	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	1 U	0.19 U	0.19 U	0.19 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	1 UJ	0.17 U	0.17 UJ	0.5 U	0.19 U	0.19 U	0.19 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	1 UJ	0.28 U	0.28 U	0.28 U	0.8 U	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	5 UJ	1.2 U	1.2 U	1.2 U	1 U	1 U	1 U
Methyl chloride	UG/L	0	0%	5	0	0	268	1 UJ	0.34 U	0.35 U	0.35 UJ	0.33 U	0.33 U	0.33 UJ
Methyl cyclohexane	UG/L	0.17	0%			1	268	1 U	0.22 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	5 UJ	1.3 U	1.3 U	1.3 U	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	5 UJ	0.91 U	0.91 U	0.91 U	1 U	1 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	1 U	0.16 U	0.16 U	0.16 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	0.44 UJ	0.44 U	0.44 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	1 U	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U

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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								PT-17		PT-17		PT-17		PT-17		PT-17		PT-17		PT-17	
Matrix								GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20116		ALBW20131		ALBW20146		ALBW20161		ALBW20176		ALBW20191		ALBW20206	
Sample Date								6/26/2008		12/11/2008		6/2/2009		12/15/2009		7/1/2010		12/18/2010		7/21/2011	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								5		6		7		8		9		10		11	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	1	U	0.36	U	0.36	U	0.36	U	0.15	U	0.15	U	1	U
Toluene	UG/L	590	12%	5	18	32	268	1	U	0.51	U	0.51	U	0.51	U	0.33	U	0.33	U	0.33	U
Total Xylenes	UG/L	60	1%	5	1	2	268	3	U	0.93	U	0.66	U	0.66	U	0.2	U	0.2	U	0.2	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	1	U	0.46	J	1.1		1.8		3.2		2.2		7	
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1	U	0.37	U	0.37	U	0.37	U	0.21	U	0.21	U	0.21	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	8.8		9.2		8		7.8		3		8.1		4.5	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	1	UJ	0.15	UJ	0.15	U	0.15	U	0.25	U	0.25	U	0.25	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	23		10		88		20		83		16		86	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136	98		6.9		50		9.9		16		4.8		1.8	
Ethene	UG/L	200	90%			122	136	66		6.6		56		5		20		3.5		3.8	
Methane	UG/L	23,000	98%			133	136	5,700		380		8,300		1,500		4,300		900		780	
Sulfate	MG/L	1,060	83%			113	136	15.2		45.8		28		46.2	J	36		31		24	
Total Organic Carbon	MG/L	2050	100%			136	136	6		2.6		4.9		2.4		2.4		1.5		3.4	

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	ASH LANDFILL PT-17 GW ALBW20221 12/13/2011 SA LTM 12 Total	ASH LANDFILL PT-17 GW ALBW20236 6/19/2012 SA LTM 13 Total	ASH LANDFILL PT-17 GW ALBW20251 12/13/2012 SA LTM 14 Total	ASH LANDFILL PT-17 GW ALBW20264A 7/10/2013 SA LTM 15 Total	ASH LANDFILL PT-17 GW ALBW20279 12/13/2013 SA LTM 16 Total	ASH LANDFILL PT-17 GW ALBW20295 6/20/2014 SA LTM 17 Total	ASH LANDFILL PT-17 GW ALBW20311 12/16/2014 SA LTM 18 Total
								Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	0.37 J	0.18 J	0.11 U	0.16 J	0.32 J	0.31 J
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	5 U	5 UJ	5 U	5 U	5 U	5 U	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 UJ	1 UJ	1 U	2 U	2 U	2 U	2 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	25	170	68	38	64	130	120
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 U	0.19 UR	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8 U	0.8 UJ	0.8 UJ	2 U	2 UJ	2 UJ	2 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 UJ	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U	1 UJ	1 U	1 UJ	1 U	1 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								PT-17	PT-17	PT-17	PT-17	PT-17	PT-17	PT-17
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20221	ALBW20236	ALBW20251	ALBW20264A	ALBW20279	ALBW20295	ALBW20311
Sample Date								12/13/2011	6/19/2012	12/13/2012	7/10/2013	12/13/2013	6/20/2014	12/16/2014
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								12	13	14	15	16	17	18
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	12%	5	18	32	268	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	1.8	18	8.3	5.2	11	18	22
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21 U	0.21 UJ	0.21 U	0.21 UJ	0.21 UJ	0.21 U	0.21 U
Trichloroethene	UG/L	3800	69%	5	86	185	268	11	6.9	12	14	8.4	3.4	7.4
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	137	180	268	12	66	21	7.9	17	66	38
Other														
Iron	UG/L	296,000	100%			12	12							
Iron+Manganese	UG/L	352,900	100%			12	12							
Manganese	UG/L	56,900	100%			12	12							
Ethane	UG/L	98	95%			129	136	1.7	10	2.2	1.1	1.5	4.5	2.5
Ethene	UG/L	200	90%			122	136	2.4	12	2.4	0.69	1.4	6.5	2
Methane	UG/L	23,000	98%			133	136	810	8,200	810	780	960	5,700	1,600
Sulfate	MG/L	1,060	83%			113	136	27	25	35	27	31	20	29
Total Organic Carbon	MG/L	2050	100%			136	136	1.6	2.8	1.7	1.2	2	2.9	1.7

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standerd.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-7	MWT-7	MWT-7	MWT-7	MWT-7	MWT-7	MWT-7
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20062	ALBW20077	ALBW20091	ALBW20106	ALBW20120	ALBW20135	ALBW20150
Sample Date								1/4/2007	3/15/2007	6/5/2007	11/13/2007	6/25/2008	12/15/2008	6/2/2009
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								1	2	3	4	5	6	7
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	1 U	1 U	1 U	1 U	1 U	0.26 U	0.26 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	1 U	1 U	1 UJ	1 U	1 UJ	0.31 U	0.31 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	1 U	1 U	1 U	1 U	1 U	0.23 U	0.23 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	1 U	1 U	1 U	1 U	1 U	0.75 U	0.75 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	1 U	1 U	1 U	1 U	1 U	0.29 U	0.29 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	1 U	1 U	1 U	1 U	1 U	0.17 U	0.17 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	1 U	1 U	1 U	1 U	0.2 U	0.2 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	1 U	1 U	1 U	1 U	1 U	0.21 U	0.21 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1 U	1 U	1 U	1 U	1 U	0.14 U	0.14 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	1 U	1 U	1 U	1 U	0.16 U	0.16 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1 U	1 U	1 U	1 U	1 U	0.16 U	0.16 U
Acetone	UG/L	2600	17%			45	262	5 U	5 U	5 U	5 U	5 U	1.3 U	1.3 U
Benzene	UG/L	0.48	2%	1	0	5	268	1 U	1 U	1 U	1 U	1 U	0.16 U	0.16 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	1 U	1 U	1 U	1 U	1 U	0.38 U	0.39 U
Bromoform	UG/L	0	0%	80	0	0	268	1 U	1 U	1 U	1 U	1 U	0.26 U	0.26 UJ
Carbon disulfide	UG/L	0	0%			0	268	1 U	1 U	1 U	1 U	1 U	0.19 U	0.19 UJ
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 U	0.27 U	0.27 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 U	0.18 U	0.32 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	1 U	1 U	1 U	1 U	1 U	0.32 U	0.32 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 U	1 U	1 U	0.65 J	1 UJ	0.93 J	0.61 J
Chloroform	UG/L	71	8%	7	7	22	268	1 U	1 U	1 U	1 U	1 U	0.34 U	0.34 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	36	42	61	90	90	79	68
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1 U	1 U	1 U	1 U	1 U	0.36 U	0.36 U
Cyclohexane	UG/L	0.3	0%			1	268	1 U	1 U	1 U	1 U	1 U	0.22 U	0.53 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	1 U	1 U	1 U	1 U	1 U	0.28 U	0.29 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	1 U	1 U	1 U	1 U	1 U	0.18 U	0.18 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	1 U	1 U	1 U	1 U	1 U	0.19 U	0.19 U
Methyl Acetate	UG/L	6	1%			2	253	1 U	1 UJ	1 U	1 UJ	1 UJ	0.17 U	0.17 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	1 U	1 U	1 U	1 U	1 UJ	0.28 U	0.28 U
Methyl butyl ketone	UG/L	0	0%			0	268	5 U	5 U	5 U	5 UJ	5 UJ	1.2 U	1.2 U
Methyl chloride	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 UJ	0.34 U	0.35 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	1 U	1 U	1 U	1 U	1 U	0.22 U	0.5 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	5 U	5 U	5 U	5 U	5 UJ	1.3 U	1.3 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	5 U	5 U	5 U	5 U	5 UJ	0.91 U	0.91 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	1 U	1 U	1 U	1 U	1 U	0.16 U	0.16 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	1 U	1 U	0.44 UJ	0.44 U
Styrene	UG/L	0	0%	5	0	0	268	1 U	1 U	1 U	1 U	1 U	0.18 U	0.18 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-7		MWT-7		MWT-7		MWT-7		MWT-7		MWT-7	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20062		ALBW20077		ALBW20091		ALBW20106		ALBW20120		ALBW20135		ALBW20150	
Sample Date								1/4/2007		3/15/2007		6/5/2007		11/13/2007		6/25/2008		12/15/2008		6/2/2009	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								1		2		3		4		5		6		7	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	1	U	1	U	1	U	1	U	1	U	0.36	U	0.36	U
Toluene	UG/L	590	12%	5	18	32	268	1	U	1	U	1	U	1	U	1	U	0.51	U	0.51	U
Total Xylenes	UG/L	60	1%	5	1	2	268	3	U	3	U	3	U	3	U	3	U	0.93	U	0.66	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	1	U	1	U	1	U	1	U	1	U	0.13	U	0.13	U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1	U	1	U	1	U	1	U	1	U	0.37	U	0.37	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	490		440		410		510		440		410		330	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	1	U	1	U	1	UJ	1	U	1	UJ	0.15	U	0.15	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.51	J	9.7		18		24		12		13		9.8	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136									6.7		11		7.8	
Ethene	UG/L	200	90%			122	136									2		0.27		0.76	
Methane	UG/L	23,000	98%			133	136									400		670		1,100	
Sulfate	MG/L	1,060	83%			113	136									29.1		29.1		27	
Total Organic Carbon	MG/L	2050	100%			136	136									2.3		3		3.1	

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-7	MWT-7	MWT-7	MWT-7	MWT-7	MWT-7	MWT-7
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20165	ALBW20180	ALBW20195	ALBW20210	ALBW20225	ALBW20240	ALBW20255
Sample Date								12/15/2009	7/1/2010	12/18/2010	7/22/2011	12/13/2011	6/19/2012	12/13/2012
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								8	9	10	11	12	13	14
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.26 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.21 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.31 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.23 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.38 U	0.25 U	0.25 U	0.94 J	1.2	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.48 J	0.78 J	0.98 J	0.11 U	0.11 U	0.59 J	0.5 J
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.41 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.39 U	0.44 U	0.44 U	0.44 UJ	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.21 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.32 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.36 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.39 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	1.3 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	0.41 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.39 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 UJ
Bromoform	UG/L	0	0%	80	0	0	268	0.26 UJ	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	0.19 UJ	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.27 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.32 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.32 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	0.32 UJ	1 U	1 U	1 U	1 UJ	1 UJ	1 U
Chloroform	UG/L	71	8%	7	7	22	268	0.34 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	140	170	120	12	56	140	100
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.36 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 UJ
Cyclohexane	UG/L	0.3	0%			1	268	0.53 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.29 U	0.25 UJ	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.18 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.19 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	0.5 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 UR	0.19 UJ
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.28 U	0.8 U	0.8 UJ	0.8 UJ	0.8 U	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	1.2 U	1 U	1 U	1 U	1 U	1 UJ	1 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.35 UJ	0.33 U	0.33 U	0.33 U	0.33 UJ	0.33 U	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1.3 U	1 U	1 U	1 U	1 U	1 UJ	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	0.91 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.16 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	0.44 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.18 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-7		MWT-7		MWT-7		MWT-7		MWT-7		MWT-7	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20165		ALBW20180		ALBW20195		ALBW20210		ALBW20225		ALBW20240		ALBW20255	
Sample Date								12/15/2009		7/1/2010		12/18/2010		7/22/2011		12/13/2011		6/19/2012		12/13/2012	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								8		9		10		11		12		13		14	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.36	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
Toluene	UG/L	590	12%	5	18	32	268	0.51	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.66	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.55	J	0.91	J	0.75	J	0.34	J	0.24	J	0.64	J	0.33	J
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.37	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	UJ	0.21	UJ
Trichloroethene	UG/L	3800	69%	5	86	185	268	280		330		310		0.52	J	2.3		280		290	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.15	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	21		16		18		2.6		4.3		11		8.9	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136	17		9		4.5		4.9		0.84		3.1		0.64	
Ethene	UG/L	200	90%			122	136	0.52		0.55		0.2		0.21		0.425	U	0.33		0.067	
Methane	UG/L	23,000	98%			133	136	2,900		1,700		400		1,600		79		1,600		96	
Sulfate	MG/L	1,060	83%			113	136	29.3	J	29		31		39		26		28		29	
Total Organic Carbon	MG/L	2050	100%			136	136	4.5	J	1.5		1.3		2		1.7		1.8		1.6	

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MWT-7	MWT-7	MWT-7	MWT-7	PT-24	PT-24	PT-24
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20268	ALBW20283	ALBW20299	ALBW20315	ALBW20061	ALBW20076	ALBW20090
Sample Date								7/10/2013	12/13/2013	6/20/2014	12/16/2014	1/2/2007	3/15/2007	6/5/2007
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								15	16	17	18	1	2	3
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	1 U	0.5 U	2.5 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	0.36 U	0.18 U	0.9 U	1 U	1 U	1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	1 U	0.5 U	2.5 U	1 U	1 U	1 UJ
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	0.26 U	0.13 U	0.65 U	1 U	1 U	1 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	0.5 U	0.25 U	1.3 U	0.68 J	1 U	0.75 J
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.5 J	0.22 U	0.69 J	1.8 J	1 U	1 U	1 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.5 U	0.25 U	1.3 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	0.88 U	0.44 U	2.2 U	1 U	1 U	1 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	0.5 U	0.25 U	1.3 U	1 U	1 U	1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	0.42 U	0.21 U	1.1 U	1 U	1 U	1 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U	0.2 U	0.1 U	0.5 U	1 U	1 U	1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	0.26 U	0.13 U	0.65 U	1 U	1 U	1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	0.5 U	0.25 U	1.3 U	1 U	1 U	1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	0.56 U	0.28 U	1.4 U	1 U	1 U	1 U
Acetone	UG/L	2600	17%			45	262	5 U	10 UJ	5 U	25 U	5 U	5 U	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	0.5 U	0.25 U	1.3 U	1 U	1 U	1 U
Bromodichloromethene	UG/L	0	0%	80	0	0	268	0.25 U	0.5 U	0.25 U	1.3 U	1 U	1 U	1 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	1 U	0.5 U	2.5 U	1 U	1 U	1 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	1.2 U	0.6 U	3 U	1 U	1 U	1 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	1 U	0.5 UJ	2.5 U	1 U	1 U	1 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.5 U	0.25 U	1.3 U	1 U	1 U	1 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	0.2 U	0.1 U	0.5 U	1 U	1 U	1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	2 U	4 U	2 U	10 U	1 U	1 U	1 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	0.53 J	0.14 U	0.95 J	1 U	1 U	1 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	110	140	110	150	54	38	60
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	0.22 U	0.11 U	0.55 U	1 U	1 U	1 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	0.5 U	0.25 U	1.3 U	1 U	1 U	1 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	0.5 U	0.25 U	1.3 U	1 U	1 U	1 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	0.22 U	0.11 U	0.55 U	1 U	1 U	1 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	0.2 U	0.1 U	0.5 U	1 U	1 U	1 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 U	0.38 U	0.19 U	0.95 U	1 U	1 UJ	1 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2 U	4 U	2 UJ	10 U	1 U	1 U	1 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	2 U	1 U	5 U	5 U	5 U	5 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	0.66 U	0.33 U	1.7 U	1 U	1 U	1 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	0.2 U	0.1 U	0.5 U	1 U	1 U	1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	2 U	1 U	5 U	5 U	5 U	5 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 UJ	2 U	1 U	5 U	5 U	5 U	5 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	0.4 U	0.2 U	1 U	1 U	1 U	1 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	2 U	1 U	5 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	0.22 U	0.11 U	0.55 U	1 U	1 U	1 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MWT-7		MWT-7		MWT-7		MWT-7		PT-24		PT-24		PT-24	
Matrix								GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20268		ALBW20283		ALBW20299		ALBW20315		ALBW20061		ALBW20076		ALBW20090	
Sample Date								7/10/2013		12/13/2013		6/20/2014		12/16/2014		1/2/2007		3/15/2007		6/5/2007	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								15		16		17		18		1		2		3	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	U	0.3	U	0.15	U	0.75	U	1	U	1	U	1	U
Toluene	UG/L	590	12%	5	18	32	268	0.33	U	0.66	U	0.33	U	7.5		1	U	1	U	1	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2	U	0.4	U	0.2	U	1	U	3	U	3	U	3	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.46	J	0.4	U	0.73	J	1.8	J	0.86	J	0.81	J	1.6	
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	UJ	0.42	U	0.21	U	1.1	U	1	U	1	U	1	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	300		370		190		260		4		2.8		3.1	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	0.5	U	0.25	U	1.3	U	1	U	1	U	1	UJ
Vinyl chloride	UG/L	180	67%	2	137	180	268	2.6		9.6		9.6		16		0.6	J	1	U	2.6	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136	0.5		1.2		1.2		1.1							
Ethene	UG/L	200	90%			122	136	0.2	U	0.18	J	0.19	J	0.095	J						
Methane	UG/L	23,000	98%			133	136	160		1,000		510		1,300							
Sulfate	MG/L	1,060	83%			113	136	31		26		23		23							
Total Organic Carbon	MG/L	2050	100%			136	136	0.89	J	2		1.4		2							

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								PT-24		PT-24		PT-24		PT-24		PT-24		PT-24		PT-24		PT-24	
Matrix								GW		GW		GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20105		ALBW20119		ALBW20134		ALBW20149		ALBW20164		ALBW20179		ALBW20194			
Sample Date								11/13/2007		6/26/2008		12/12/2008		6/2/2009		12/15/2009		6/30/2010		12/17/2010			
QC Type								SA		SA		SA		SA		SA		SA		SA			
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM			
Sample Round								4		5		6		7		8		9		10			
Filtered								Total		Total		Total		Total		Total		Total		Total			
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
Volatile Organic Compounds																							
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	1	U	1	U	0.26	U	0.26	U	0.26	U	0.5	U	0.5	U		
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	1	U	1	U	0.21	U	0.21	U	0.21	U	0.18	U	0.18	U		
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	1	U	1	UJ	0.31	U	0.31	U	0.31	U	0.5	UJ	0.5	U		
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	1	U	1	U	0.23	U	0.23	U	0.23	U	0.13	U	0.13	U		
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.56	J	0.69	J	0.75	U	0.75	U	0.38	U	0.54	J	0.54	J		
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	1	U	1	U	0.29	U	0.29	U	0.29	U	0.11	U	0.11	U		
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	1	U	1	U	0.41	U	0.41	U	0.41	U	0.25	U	0.25	U		
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	1	U	1	UJ	1	UJ	1	UJ	0.39	U	0.44	U	0.44	U		
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	1	U	1	U	0.17	U	0.17	U	0.17	U	0.25	U	0.25	U		
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1	U	1	U	0.2	U	0.2	U	0.2	U	0.21	U	0.21	U		
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	1	U	1	U	0.21	U	0.21	U	0.21	U	0.1	U	0.1	U		
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	1	U	1	U	0.14	U	0.14	U	0.32	U	0.13	U	0.13	U		
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1	U	1	U	0.16	U	0.16	U	0.36	U	0.25	U	0.25	U		
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	1	U	1	U	0.16	U	0.16	U	0.39	U	0.28	U	0.28	U		
Acetone	UG/L	2600	17%			45	262	5	U	5	U	1.3	U	1.3	U	1.3	U	5	U	5	UJ		
Benzene	UG/L	0.48	2%	1	0	5	268	1	U	1	U	0.16	U	0.16	U	0.41	U	0.25	U	0.25	U		
Bromodichloromethane	UG/L	0	0%	80	0	0	268	1	U	1	U	0.38	U	0.39	U	0.39	U	0.25	U	0.25	U		
Bromoform	UG/L	0	0%	80	0	0	268	1	U	1	U	0.26	U	0.26	UJ	0.26	UJ	0.5	U	0.5	U		
Carbon disulfide	UG/L	0	0%			0	268	1	U	1	U	0.19	U	0.19	UJ	0.19	UJ	0.6	U	0.6	U		
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	1	U	1	U	0.27	U	0.27	U	0.27	U	0.5	U	0.5	U		
Chlorobenzene	UG/L	0	0%	5	0	0	268	1	U	1	U	0.18	U	0.32	U	0.32	U	0.25	U	0.25	U		
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	1	U	1	U	0.32	U	0.32	U	0.32	U	0.1	U	0.1	U		
Chloroethane	UG/L	1.1	3%	5	0	7	268	1	U	1	UJ	0.32	U	0.32	U	0.32	UJ	1	U	1	U		
Chloroform	UG/L	71	8%	7	7	22	268	1	U	1	U	0.34	U	0.34	U	0.34	U	0.14	U	0.16	J		
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	39		48		34		32		28		33		30			
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1	U	1	U	0.38	U	0.36	U	0.36	U	0.11	U	0.11	U		
Cyclohexane	UG/L	0.3	0%			1	268	1	U	1	U	0.22	U	0.53	U	0.53	U	0.25	U	0.25	U		
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	1	U	1	U	0.28	U	0.29	U	0.29	U	0.25	U	0.25	U		
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	1	U	1	U	0.18	U	0.18	U	0.18	U	0.11	U	0.11	U		
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	1	U	1	U	0.19	U	0.19	U	0.19	U	0.1	U	0.1	U		
Methyl Acetate	UG/L	6	1%			2	253	1	UJ	1	UJ	0.17	U	0.17	UJ	0.5	U	0.19	UJ	0.19	U		
Methyl bromide	UG/L	2.1	0%	5	0	1	262	1	U	1	UJ	0.28	U	0.28	U	0.28	U	0.8	UJ	0.8	UJ		
Methyl butyl ketone	UG/L	0	0%			0	268	5	UJ	5	UJ	1.2	U	1.2	U	1.2	U	1	UJ	1	U		
Methyl chloride	UG/L	0	0%	5	0	0	268	1	U	1	UJ	0.34	U	0.35	U	0.35	UJ	0.33	U	0.33	U		
Methyl cyclohexane	UG/L	0.17	0%			1	268	1	U	1	U	0.22	U	0.5	U	0.5	U	0.1	U	0.1	U		
Methyl ethyl ketone	UG/L	4900	8%			22	268	5	U	5	UJ	1.3	U	1.3	U	1.3	U	1	U	1	U		
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	5	U	5	UJ	0.91	U	0.91	U	0.91	U	1	U	1	U		
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	1	U	1	U	0.16	U	0.16	U	0.16	U	0.2	U	0.2	U		
Methylene chloride	UG/L	18	4%	5	7	12	268	1	U	1	U	0.44	UJ	0.44	U	0.44	U	1	U	1	U		
Styrene	UG/L	0	0%	5	0	0	268	1	U	1	U	0.18	U	0.18	U	0.18	U	0.11	U	0.11	U		

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL			
Loc ID								PT-24		PT-24		PT-24		PT-24		PT-24		PT-24		PT-24			
Matrix								GW		GW		GW		GW		GW		GW		GW			
Sample ID								ALBW20105		ALBW20119		ALBW20134		ALBW20149		ALBW20164		ALBW20179		ALBW20194			
Sample Date								11/13/2007		6/26/2008		12/12/2008		6/2/2009		12/15/2009		6/30/2010		12/17/2010			
QC Type								SA		SA		SA		SA		SA		SA		SA			
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM			
Sample Round								4		5		6		7		8		9		10			
Filtered								Total		Total		Total		Total		Total		Total		Total			
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual		
Tetrachloroethene	UG/L	27	1%	5	1	2	268	1	U	1	U	0.36	U	0.36	U	0.36	U	0.15	U	0.15	U		
Toluene	UG/L	590	12%	5	18	32	268	1	U	1	U	0.51	U	0.51	U	0.51	U	0.33	U	0.33	U		
Total Xylenes	UG/L	60	1%	5	1	2	268	3	U	3	U	0.93	U	0.66	U	0.66	U	0.2	U	0.2	U		
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	1	U	1.1		0.36	J	0.83	J	0.61	J	1.1		1.4			
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	1	U	1	U	0.37	U	0.37	U	0.37	U	0.21	U	0.21	U		
Trichloroethene	UG/L	3800	69%	5	86	185	268	3.8		2.4		2.2		1.7		1.7		0.39	J	0.53	J		
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	1	U	1	UJ	0.15	U	0.15	U	0.15	U	0.25	U	0.25	U		
Vinyl chloride	UG/L	180	67%	2	137	180	268	1	U	1.9		0.26	J	2		1.6		3.8		7.7			
Other																							
Iron	UG/L	296,000	100%			12	12																
Iron+Manganese	UG/L	352,900	100%			12	12																
Manganese	UG/L	56,900	100%			12	12																
Ethane	UG/L	98	95%			129	136																
Ethene	UG/L	200	90%			122	136																
Methane	UG/L	23,000	98%			133	136																
Sulfate	MG/L	1,060	83%			113	136																
Total Organic Carbon	MG/L	2050	100%			136	136																

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								PT-24		PT-24		PT-24		PT-24		PT-24		PT-24	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20209		ALBW20224		ALBW20239		ALBW20254		ALBW20267		ALBW20282		ALBW20298	
Sample Date								7/21/2011		12/13/2011		6/19/2012		12/12/2012		7/9/2013		12/11/2013		6/20/2014	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								11		12		13		14		15		16		17	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Volatile Organic Compounds																					
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.78	J	0.48	J	0.57	J	0.32	J	0.51	J	0.52	J	0.25	U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1	U	0.1	U	0.1	UJ	0.1	U	0.1	U	0.1	U	0.1	U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
Acetone	UG/L	2600	17%			45	262	5	U	5	U	5	UJ	5	U	5	U	5	U	5	U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25	U	0.25	U	0.25	UJ	0.25	U	0.25	U	0.25	U	0.25	U
Bromoform	UG/L	0	0%	80	0	0	268	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide	UG/L	0	0%			0	268	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	UJ
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1	U	1	UJ	1	UJ	1	U	2	U	2	U	2	U
Chloroform	UG/L	71	8%	7	7	22	268	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Cis-1,2-Dichloroethene	UG/L	820	68%	5	166	235	268	37		21		30		18		24		23		23	
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Cyclohexane	UG/L	0.3	0%			1	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25	U	0.25	UJ	0.25	U	0.25	U	0.25	U	0.25	UJ	0.25	U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Methyl Acetate	UG/L	6	1%			2	253	0.19	U	0.19	U	0.19	UR	0.19	UJ	0.19	U	0.19	U	0.19	U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8	UJ	0.8	U	0.8	UJ	0.8	UJ	2	U	2	UJ	2	UJ
Methyl butyl ketone	UG/L	0	0%			0	268	1	U	1	U	1	UJ	1	U	1	U	1	U	1	U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33	UJ	0.33	UJ	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1	U	1	U	1	UJ	1	U	1	U	1	U	1	U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1	U	1	U	1	UJ	1	U	1	UJ	1	U	1	U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Methylene chloride	UG/L	18	4%	5	7	12	268	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Styrene	UG/L	0	0%	5	0	0	268	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U

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Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								PT-24		PT-24		PT-24		PT-24		PT-24		PT-24	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20209		ALBW20224		ALBW20239		ALBW20254		ALBW20267		ALBW20282		ALBW20298	
Sample Date								7/21/2011		12/13/2011		6/19/2012		12/12/2012		7/9/2013		12/11/2013		6/20/2014	
QC Type								SA		SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								11		12		13		14		15		16		17	
Filtered								Total		Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedences	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
Toluene	UG/L	590	12%	5	18	32	268	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	1.4		0.63	J	0.84	J	0.38	J	0.8	J	0.86	J	1	
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	U	0.21	U	0.21	UJ	0.21	U	0.21	UJ	0.21	UJ	0.21	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	0.38	J	0.82	J	0.87	J	1.1		1.6		1.3		1.3	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	7.9		2.9		2.8		0.18	U	0.83	J	1.8		1.7	
Other																					
Iron	UG/L	296,000	100%			12	12														
Iron+Manganese	UG/L	352,900	100%			12	12														
Manganese	UG/L	56,900	100%			12	12														
Ethane	UG/L	98	95%			129	136														
Ethene	UG/L	200	90%			122	136														
Methane	UG/L	23,000	98%			133	136														
Sulfate	MG/L	1,060	83%			113	136														
Total Organic Carbon	MG/L	2050	100%			136	136														

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								PT-24	MW-56	MW-56	MW-56	MW-56	MW-56	MW-56
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20314	ALBW20072	ALBW20101	ALBW20124	ALBW20139	ALBW20154	ALBW20169
Sample Date								12/19/2014	1/4/2007	6/6/2007	6/26/2008	12/11/2008	6/4/2009	12/18/2009
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								18	1	3	5	6	7	8
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	1 U	1 U	1 U	0.26 UJ	0.26 U	0.26 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	1 U	1 U	1 U	0.21 U	0.21 U	0.21 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	1 U	1 UJ	1 UJ	0.31 U	0.31 U	0.31 UJ
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	1 U	1 U	1 U	0.23 U	0.23 U	0.23 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.29 J	1 U	1 U	1 U	0.75 U	0.75 U	0.38 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	1 U	1 U	1 U	0.29 U	0.29 U	0.29 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	1 U	1 U	1 U	0.41 U	0.41 U	0.41 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	1 U	1 U	1 UJ	1 UJ	1 U	0.39 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	1 U	1 U	1 U	0.17 U	0.17 U	0.17 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U	1 U	1 U	1 U	0.21 U	0.21 U	0.21 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	1 U	1 U	1 U	0.14 U	0.14 U	0.32 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	1 U	1 U	1 U	0.16 U	0.16 U	0.36 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	1 U	1 U	1 U	0.16 U	0.16 U	0.39 U
Acetone	UG/L	2600	17%			45	262	5 U	5 U	5 U	5 U	1.3 U	1.3 UJ	1.3 U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	1 U	1 U	1 U	0.16 U	0.16 U	0.41 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	1 U	1 U	1 U	0.38 U	0.39 U	0.39 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	1 U	1 U	1 U	0.26 U	0.26 U	0.26 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	1 U	1 U	1 U	0.19 U	0.19 U	0.19 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	1 U	1 U	1 U	0.27 UJ	0.27 U	0.27 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	1 U	1 U	1 U	0.18 U	0.32 U	0.32 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	1 U	1 U	1 U	0.32 U	0.32 U	0.32 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	2 U	1 U	1 U	1 UJ	0.32 U	0.32 U	0.32 UJ
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	1 U	1 U	1 U	0.34 U	0.34 U	0.34 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	13	1.2	1.7	1.3	0.4 J	1	0.56 J
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	1 U	1 U	1 U	0.36 U	0.36 U	0.36 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	1 U	1 U	1 U	0.22 U	0.53 U	0.53 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 U	1 U	1 U	1 U	0.28 UJ	0.29 U	0.29 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	1 U	1 U	1 U	0.18 U	0.18 U	0.18 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	1 U	1 U	1 U	0.19 U	0.19 U	0.19 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 U	1 U	1 U	1 UJ	0.17 U	0.17 U	0.5 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2 U	1 U	1 U	1 UJ	0.28 U	0.28 U	0.28 UJ
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	5 U	5 U	5 UJ	1.2 U	1.2 U	1.2 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	1 U	1 U	1 UJ	0.34 U	0.35 U	0.35 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	1 U	1 U	1 U	0.22 U	0.5 U	0.5 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	5 U	5 U	5 UJ	1.3 U	1.3 U	1.3 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U	5 U	5 U	5 UJ	0.91 U	0.91 U	0.91 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	1 U	1 U	1 U	0.16 U	0.16 U	0.16 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	1 U	0.44 UJ	0.44 U	0.44 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	1 U	1 U	1 U	0.18 U	0.18 U	0.18 U

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								PT-24		MW-56		MW-56		MW-56		MW-56		MW-56	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								ALBW20314		ALBW20072		ALBW20101		ALBW20124		ALBW20139		ALBW20169	
Sample Date								12/19/2014		1/4/2007		6/6/2007		6/26/2008		12/11/2008		12/18/2009	
QC Type								SA		SA		SA		SA		SA		SA	
Study ID								LTM		LTM		LTM		LTM		LTM		LTM	
Sample Round								18		1		3		5		6		8	
Filtered								Total		Total		Total		Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	U	1	U	1	U	1	U	0.36	U	0.36	U
Toluene	UG/L	590	12%	5	18	32	268	0.33	U	1	U	1	U	1	U	0.51	U	0.51	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2	U	3	U	3	U	3	U	0.93	U	0.66	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.53	J	1	U	1	U	1	U	0.13	U	0.13	U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	U	1	U	1	U	1	U	0.37	U	0.37	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	0.85	J	1	U	1	U	1	U	0.33	J	0.18	U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	1	U	1	UJ	1	UJ	0.15	UJ	0.15	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.18	U	1	U	1	U	1	U	0.24	U	0.24	U
Other																			
Iron	UG/L	296,000	100%			12	12												
Iron+Manganese	UG/L	352,900	100%			12	12												
Manganese	UG/L	56,900	100%			12	12												
Ethane	UG/L	98	95%			129	136												
Ethene	UG/L	200	90%			122	136												
Methane	UG/L	23,000	98%			133	136												
Sulfate	MG/L	1,060	83%			113	136												
Total Organic Carbon	MG/L	2050	100%			136	136												

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID								MW-56	MW-56	MW-56	MW-56	MW-56	MW-56	MW-56
Matrix								GW	GW	GW	GW	GW	GW	GW
Sample ID								ALBW20184	ALBW20199	ALBW20214	ALBW20229	ALBW20244	ALBW20259	ALBW20272
Sample Date								7/1/2010	12/19/2010	10/4/2011	12/12/2011	6/18/2012	12/14/2012	7/9/2013
QC Type								SA	SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								9	10	11	12	13	14	15
Filtered								Total	Total	Total	Total	Total	Total	Total
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Volatile Organic Compounds														
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	17%			45	262	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	268	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	3%	5	0	7	268	1 U	1 UJ	1 U	1 U	1 UJ	1 U	2 U
Chloroform	UG/L	71	8%	7	7	22	268	0.14 U	0.24 J	1	0.14 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	0.61 J	0.86 J	2.3	0.95 J	2.2	0.85 J	2.2
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0.3	0%			1	268	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	253	0.19 U	0.19 U	0.19 U	0.19 U	0.19 UR	0.19 UJ	0.19 U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	0.8 U	0.8 U	0.8 U	0.8 U	0.8 UJ	0.8 UJ	2 U
Methyl butyl ketone	UG/L	0	0%			0	268	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1 U	1 U	1 U	1 U	1 UJ	1 U	1 UJ
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	4%	5	7	12	268	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	268	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed
Tetrachloroethene	UG/L	27	1%	5	1	2	268
Toluene	UG/L	590	12%	5	18	32	268
Total Xylenes	UG/L	60	1%	5	1	2	268
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268
Trichloroethene	UG/L	3800	69%	5	86	185	268
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268
Vinyl chloride	UG/L	180	67%	2	137	180	268
Other							
Iron	UG/L	296,000	100%			12	12
Iron+Manganese	UG/L	352,900	100%			12	12
Manganese	UG/L	56,900	100%			12	12
Ethane	UG/L	98	95%			129	136
Ethene	UG/L	200	90%			122	136
Methane	UG/L	23,000	98%			133	136
Sulfate	MG/L	1,060	83%			113	136
Total Organic Carbon	MG/L	2050	100%			136	136

Area	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID	MW-56	MW-56	MW-56	MW-56	MW-56	MW-56	MW-56
Matrix	GW	GW	GW	GW	GW	GW	GW
Sample ID	ALBW20184	ALBW20199	ALBW20214	ALBW20229	ALBW20244	ALBW20259	ALBW20272
Sample Date	7/1/2010	12/19/2010	10/4/2011	12/12/2011	6/18/2012	12/14/2012	7/9/2013
QC Type	SA	SA	SA	SA	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	9	10	11	12	13	14	15
Filtered	Total	Total	Total	Total	Total	Total	Total
Parameter	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual
Tetrachloroethene	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Total Xylenes	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,3-Dichloropropene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 UJ	0.21 U	0.21 UJ
Trichloroethene	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Trichlorofluoromethane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
 b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

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Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
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Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MW-56		MW-56		MW-56	
Matrix								GW		GW		GW	
Sample ID								ALBW20287		ALBW20303		ALBW20319	
Sample Date								12/11/2013		6/22/2014		12/19/2014	
QC Type								SA		SA		SA	
Study ID								LTM		LTM		LTM	
Sample Round								16		17		18	
Filtered								Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/L	15	2%	5	1	5	268	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	268	0.18	U	0.18	U	0.18	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	268	0.5	U	0.5	UJ	0.5	U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	268	0.13	U	0.13	U	0.13	U
1,1-Dichloroethane	UG/L	62	13%	5	1	34	268	0.25	U	0.25	U	0.25	U
1,1-Dichloroethene	UG/L	2.6	12%	5	0	33	268	0.11	U	0.11	U	0.11	U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	268	0.44	U	0.44	U	0.44	U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	268	0.25	U	0.25	U	0.25	U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.21	U	0.21	U	0.21	U
1,2-Dichloroethane	UG/L	5.6	16%	0.6	34	42	268	0.1	U	0.1	U	0.1	U
1,2-Dichloropropane	UG/L	0.29	0%	1	0	1	268	0.13	U	0.13	U	0.13	U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	268	0.28	U	0.28	U	0.28	U
Acetone	UG/L	2600	17%			45	262	5	U	5	U	5	U
Benzene	UG/L	0.48	2%	1	0	5	268	0.25	U	0.25	U	0.25	U
Bromodichloromethane	UG/L	0	0%	80	0	0	268	0.25	U	0.25	U	0.25	U
Bromoform	UG/L	0	0%	80	0	0	268	0.5	U	0.5	U	0.5	U
Carbon disulfide	UG/L	0	0%			0	268	0.6	U	0.6	U	0.6	U
Carbon tetrachloride	UG/L	0	0%	5	0	0	268	0.5	U	0.5	U	0.5	U
Chlorobenzene	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U
Chlorodibromomethane	UG/L	0	0%	80	0	0	268	0.1	U	0.1	U	0.1	U
Chloroethane	UG/L	1.1	3%	5	0	7	268	2	U	2	UJ	2	U
Chloroform	UG/L	71	8%	7	7	22	268	0.14	U	0.14	U	0.14	U
Cis-1,2-Dichloroethene	UG/L	820	88%	5	166	235	268	1.7		0.98	J	0.89	J
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.11	U	0.11	U	0.11	U
Cyclohexane	UG/L	0.3	0%			1	268	0.25	U	0.25	U	0.25	U
Dichlorodifluoromethane	UG/L	0.3	0%	5	0	1	268	0.25	UJ	0.25	U	0.25	U
Ethyl benzene	UG/L	9.2	7%	5	1	19	268	0.11	U	0.11	U	0.11	U
Isopropylbenzene	UG/L	0.1	0%	5	0	1	268	0.1	U	0.1	U	0.1	U
Methyl Acetate	UG/L	6	1%			2	253	0.19	U	0.19	U	0.19	U
Methyl bromide	UG/L	2.1	0%	5	0	1	262	2	UJ	2	U	2	U
Methyl butyl ketone	UG/L	0	0%			0	268	1	U	1	U	1	U
Methyl chloride	UG/L	0	0%	5	0	0	268	0.33	U	0.33	U	0.33	U
Methyl cyclohexane	UG/L	0.17	0%			1	268	0.1	U	0.1	U	0.1	U
Methyl ethyl ketone	UG/L	4900	8%			22	268	1	U	1	U	1	U
Methyl isobutyl ketone	UG/L	1.9	0%			1	268	1	U	1	U	1	U
Methyl Tertbutyl Ether	UG/L	0	0%			0	268	0.2	U	0.2	U	0.2	U
Methylene chloride	UG/L	18	4%	5	7	12	268	1	U	1	U	1	U
Styrene	UG/L	0	0%	5	0	0	268	0.11	U	0.11	U	0.11	U

Appendix B

Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

Area								ASH LANDFILL		ASH LANDFILL		ASH LANDFILL	
Loc ID								MW-56		MW-56		MW-56	
Matrix								GW		GW		GW	
Sample ID								ALBW20287		ALBW20303		ALBW20319	
Sample Date								12/11/2013		6/22/2014		12/19/2014	
QC Type								SA		SA		SA	
Study ID								LTM		LTM		LTM	
Sample Round								16		17		18	
Filtered								Total		Total		Total	
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals	Number of Exceedances	Number of Times Detects	Number of Samples Analyzed	Value	Qual	Value	Qual	Value	Qual
Tetrachloroethene	UG/L	27	1%	5	1	2	268	0.15	U	0.15	U	0.15	U
Toluene	UG/L	590	12%	5	18	32	268	0.33	U	0.33	U	0.33	U
Total Xylenes	UG/L	60	1%	5	1	2	268	0.2	U	0.2	U	0.2	U
Trans-1,2-Dichloroethene	UG/L	22	52%	5	12	140	268	0.2	U	0.2	U	0.2	U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	268	0.21	UJ	0.21	U	0.21	U
Trichloroethene	UG/L	3800	69%	5	86	185	268	0.13	U	0.13	U	0.13	U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	268	0.25	U	0.25	U	0.25	U
Vinyl chloride	UG/L	180	67%	2	137	180	268	0.18	U	0.18	U	0.18	U
Other													
Iron	UG/L	296,000	100%			12	12						
Iron+Manganese	UG/L	352,900	100%			12	12						
Manganese	UG/L	56,900	100%			12	12						
Ethane	UG/L	98	95%			129	136						
Ethene	UG/L	200	90%			122	136						
Methane	UG/L	23,000	98%			133	136						
Sulfate	MG/L	1,060	83%			113	136						
Total Organic Carbon	MG/L	2050	100%			136	136						

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
   a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
   b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
2. Shading indicates a concentration above the GA GW standard.

U = compound was not detected
J = the reported value is and estimated concentration
R = Rejected, data validation rejected the results
UJ= the compound was not detected; the associated reporting limit is approximate
UR= the compound was not detected; data validation rejected the results

APPENDIX C

REGRESSION PLOTS

Figure C-1
Regression Plot of Well Concentrations At MWT-25
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

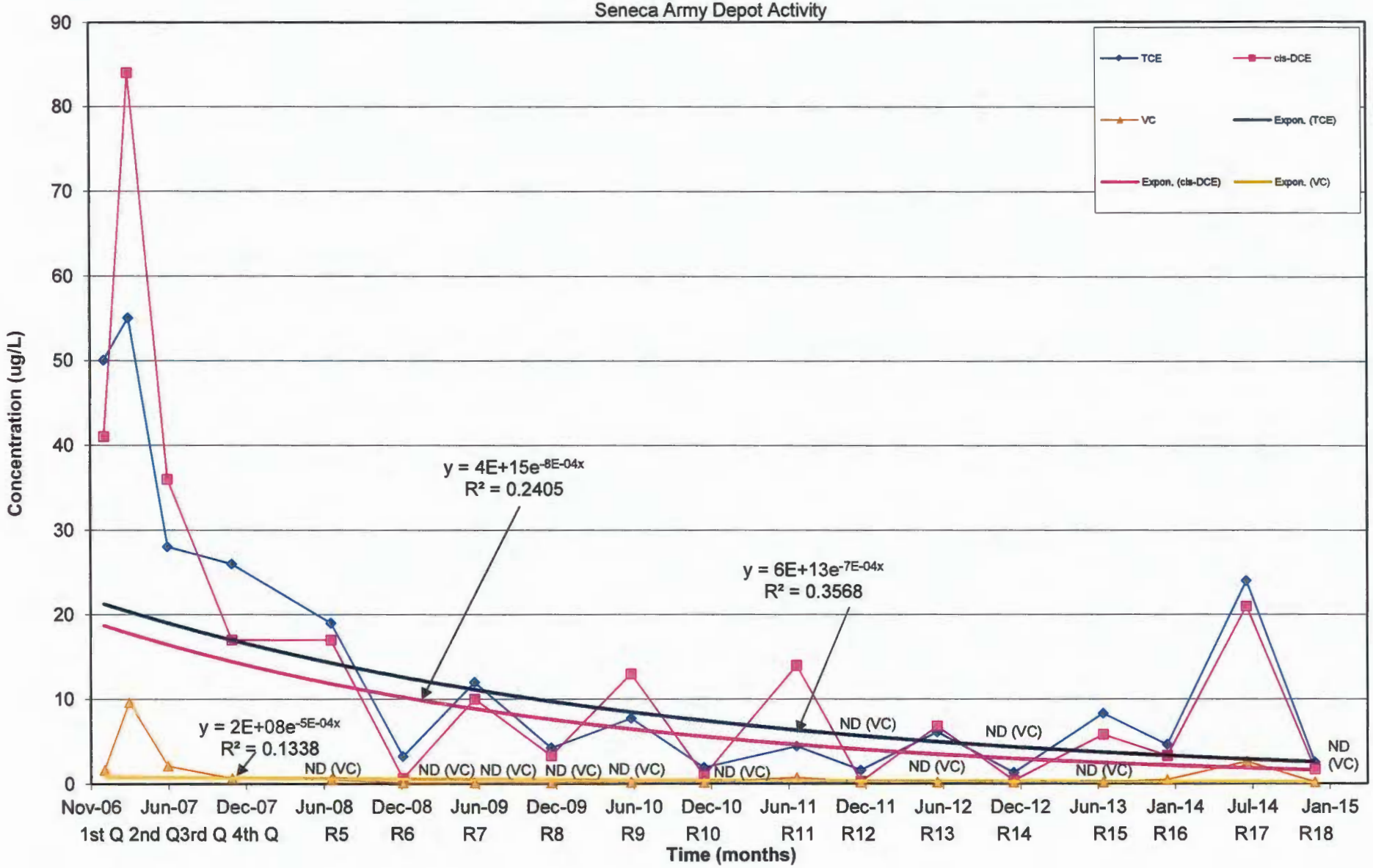

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Figure C-2
Regression Plot of Well Concentrations At MWT-26
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

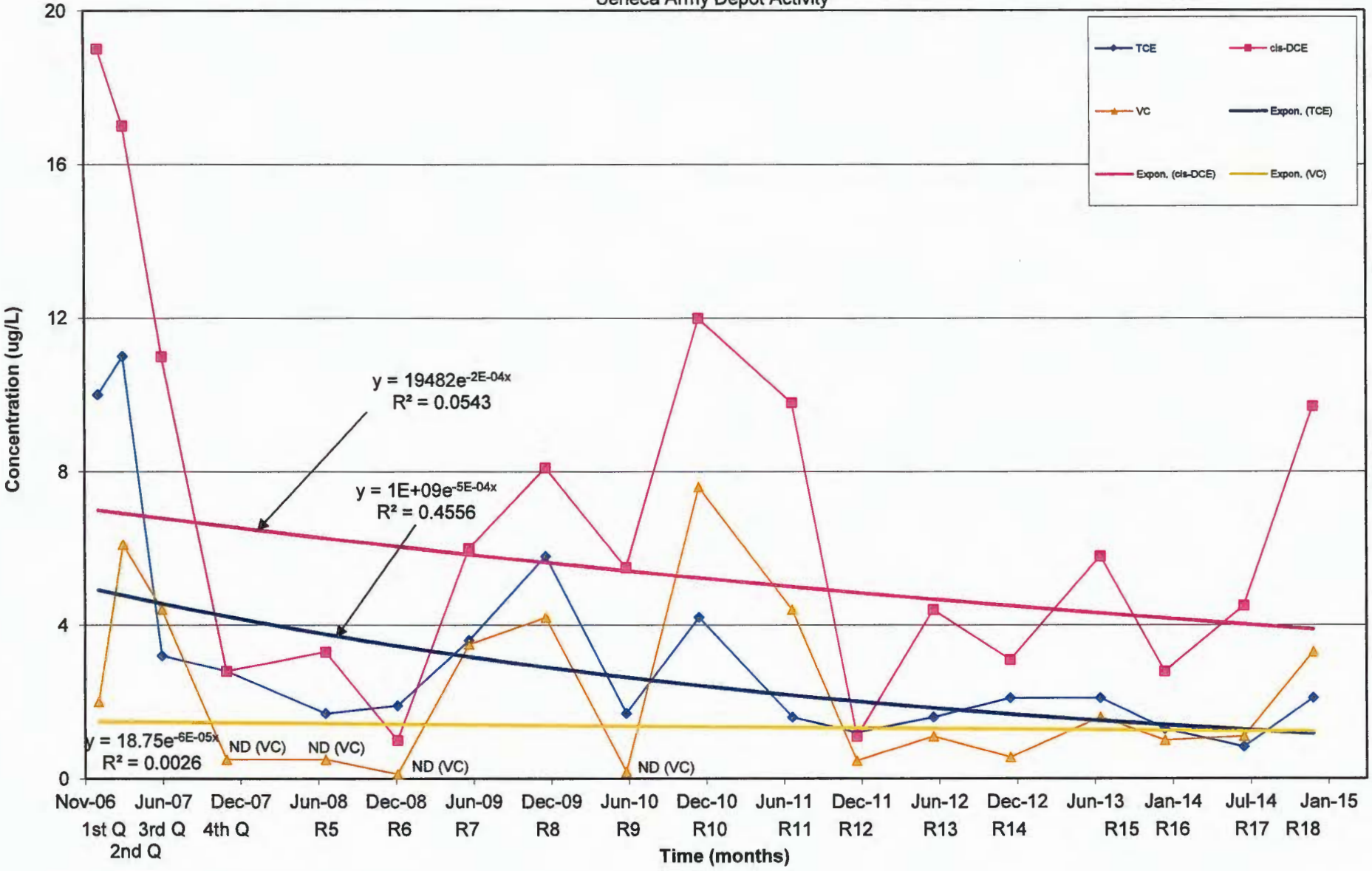

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Figure C-3
Regression Plot of Well Concentrations At MWT-27
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

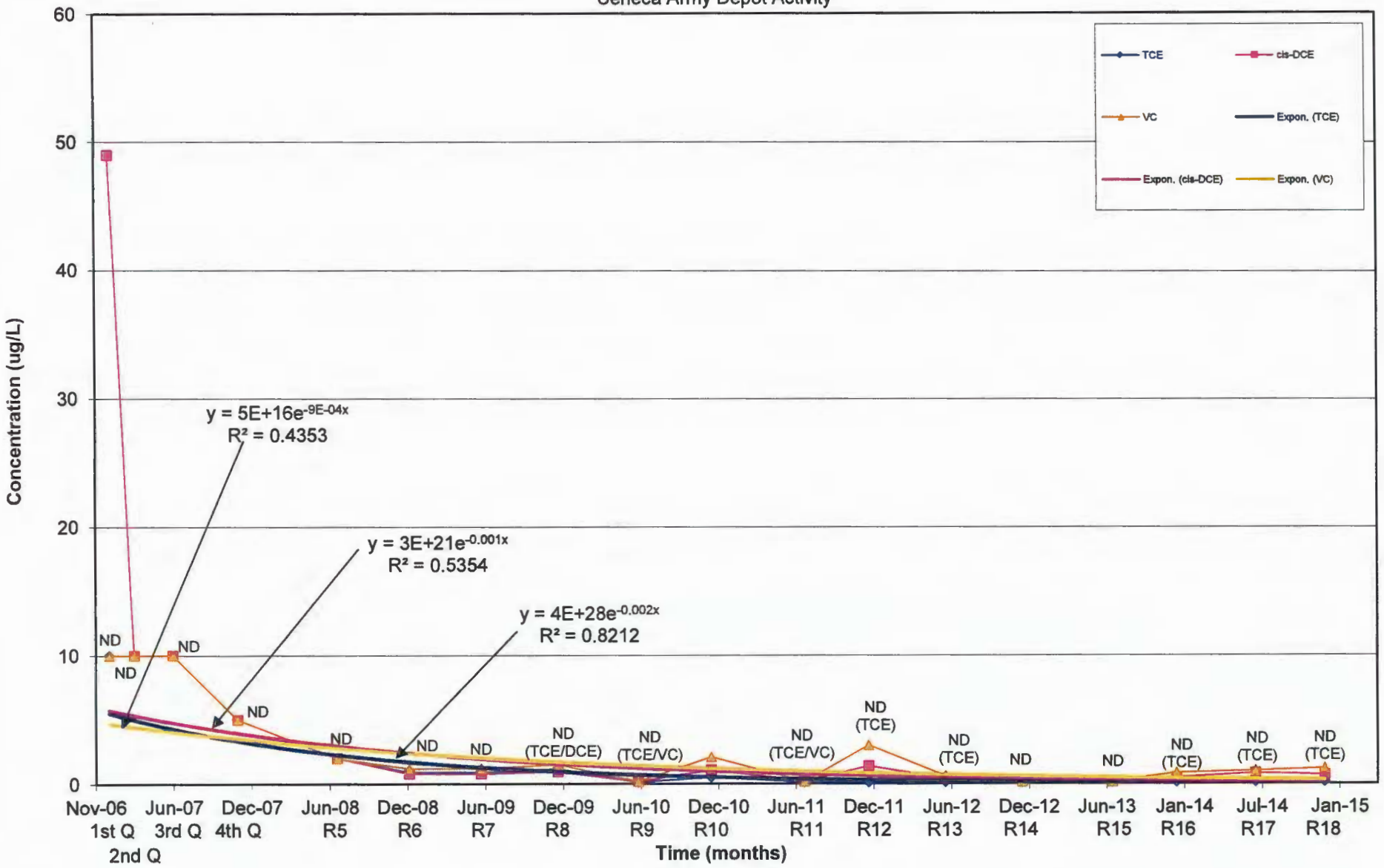

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Figure C-4
Regression Plot of Well Concentrations At MWT-28
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

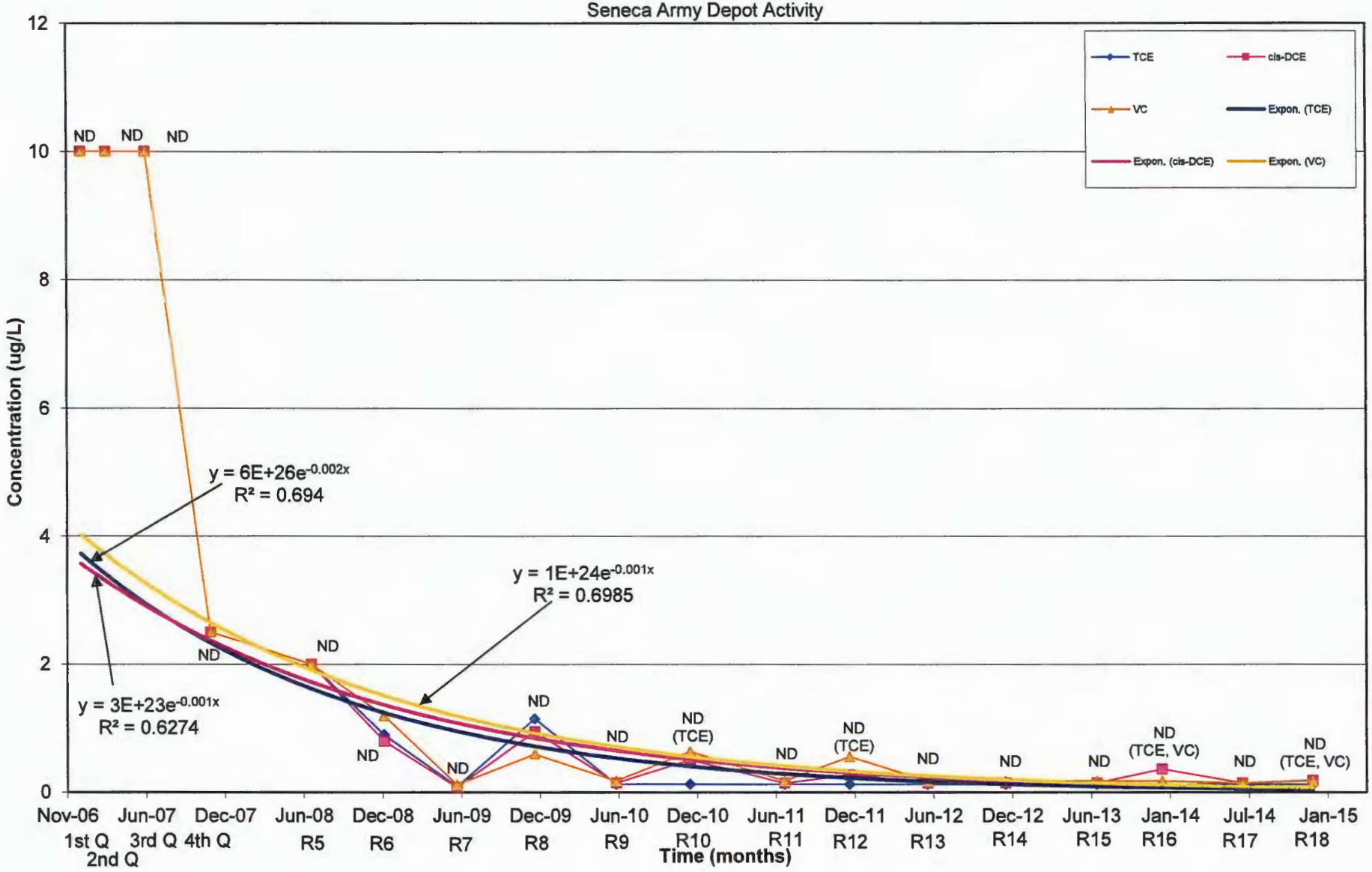

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Figure C-5
Regression Plot of Well Concentrations At MWT-29
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

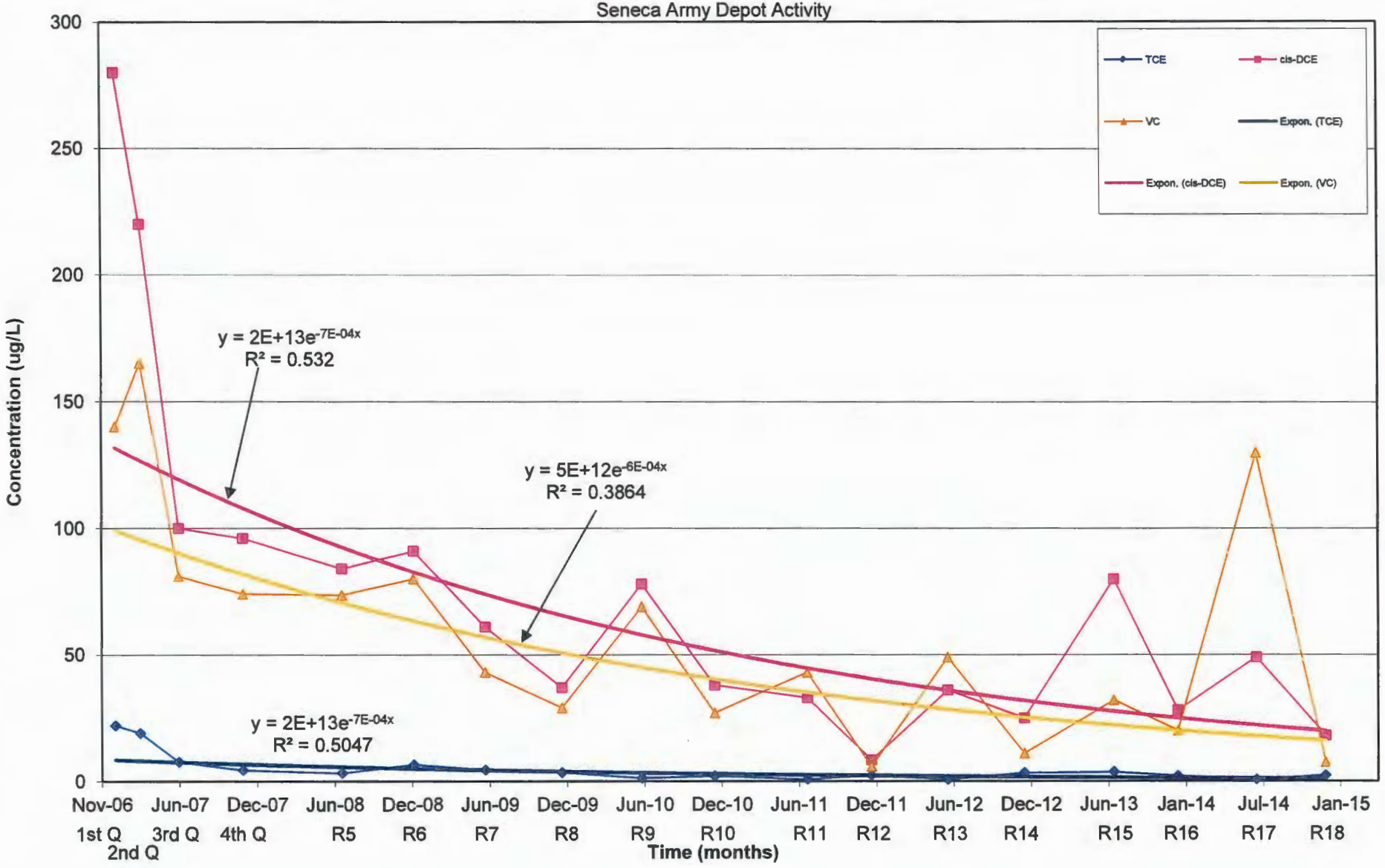

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Figure C-6
Regression Plot of Well Concentrations At MWT-22
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

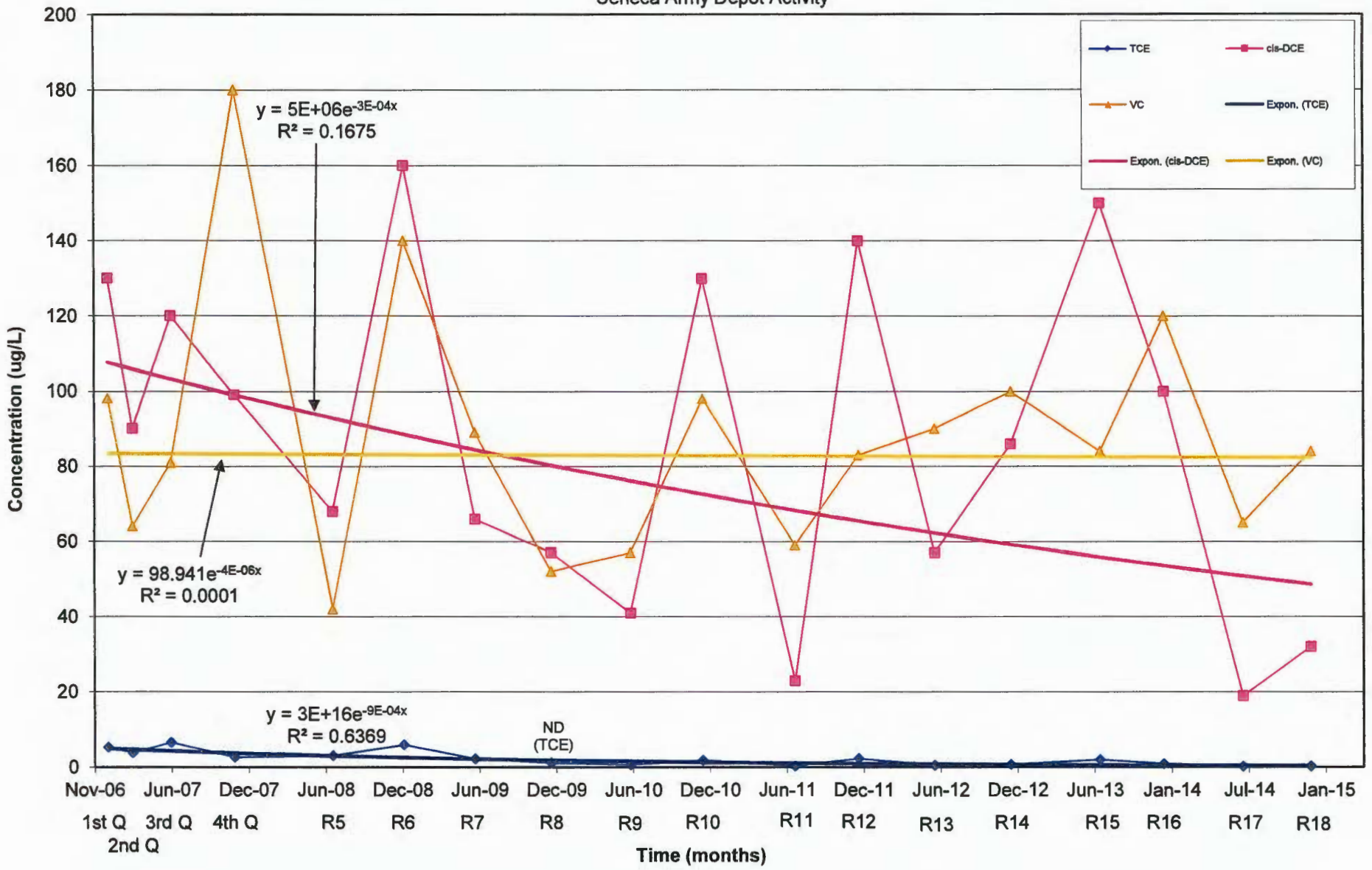

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Figure C-7
Regression Plot of Well Concentrations At PT-22
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

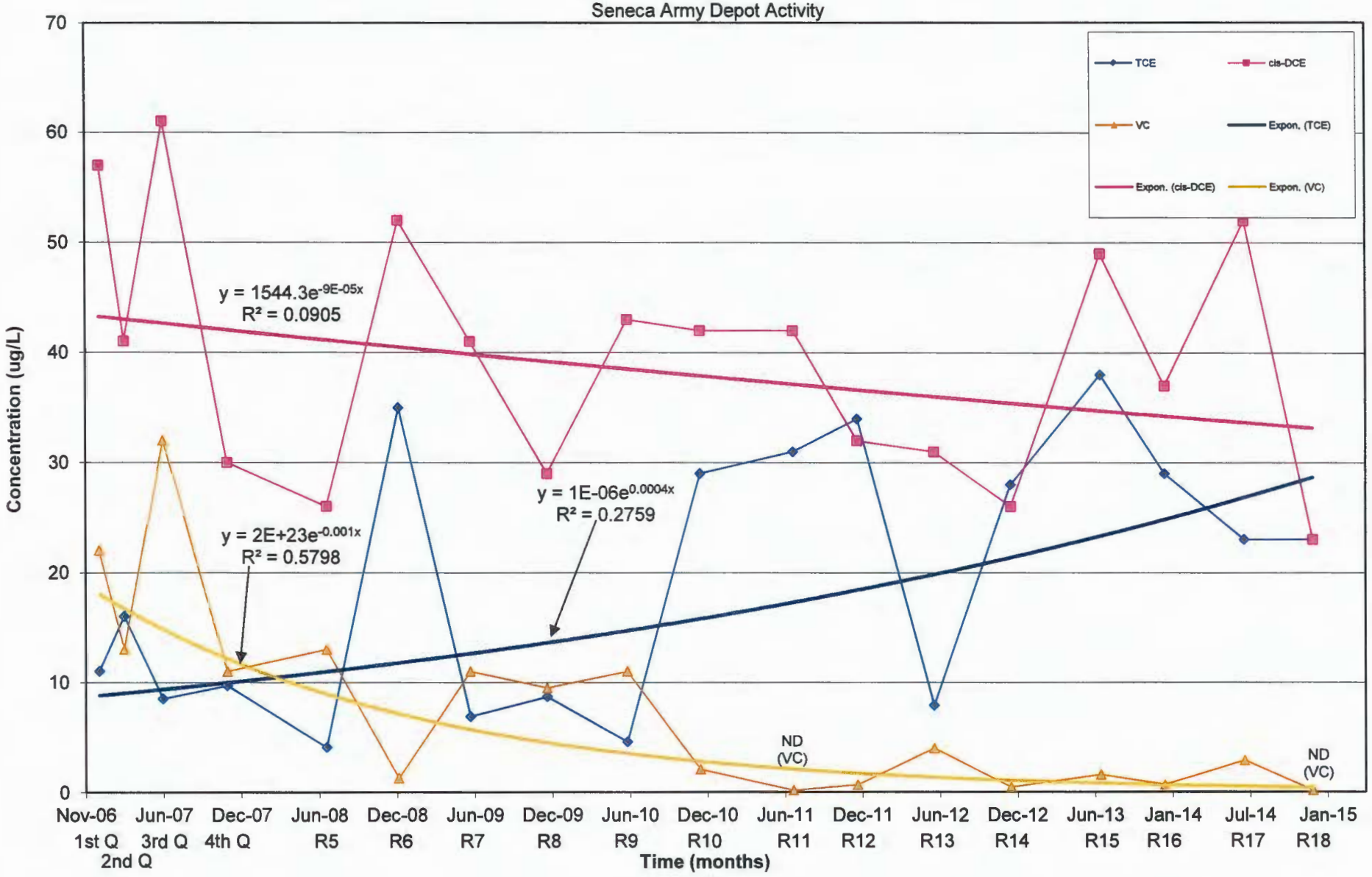

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Figure C-8
Regression Plot of Well Concentrations At MWT-23
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

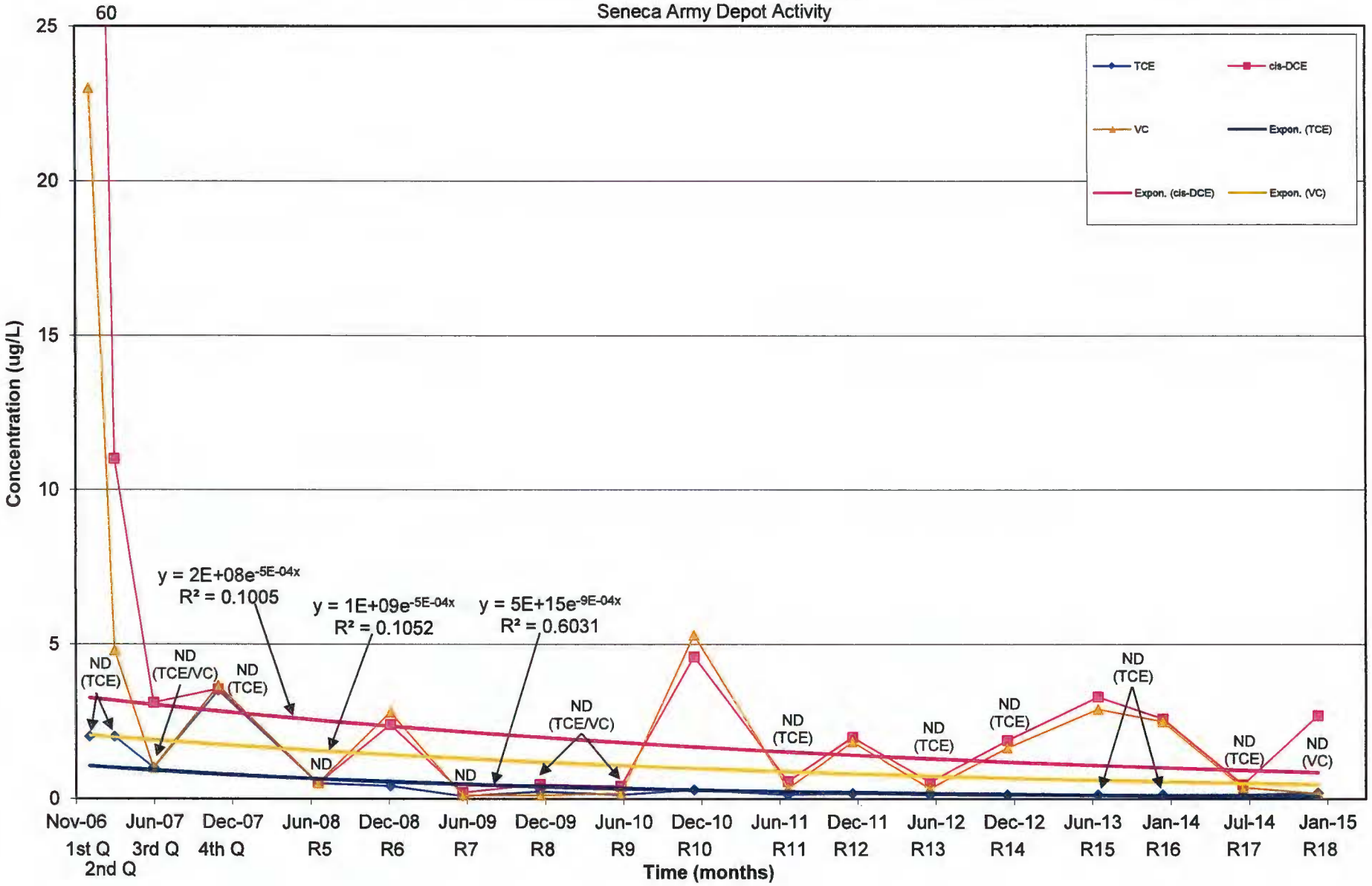

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Figure C-9
Regression Plot of Well Concentrations At MWT-24
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

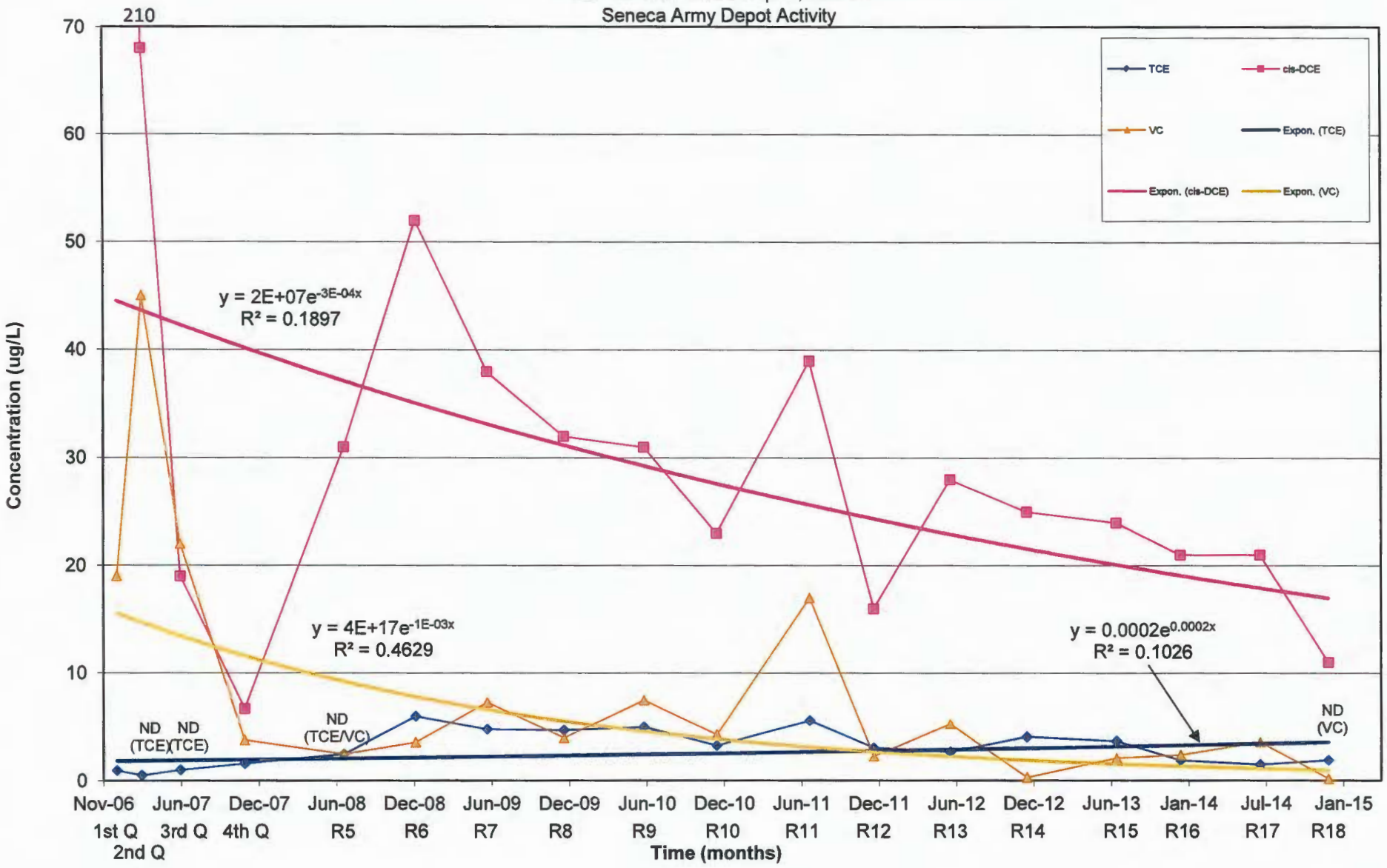

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Figure C-10
Regression Plot of Well Comcentrations At PT-24
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

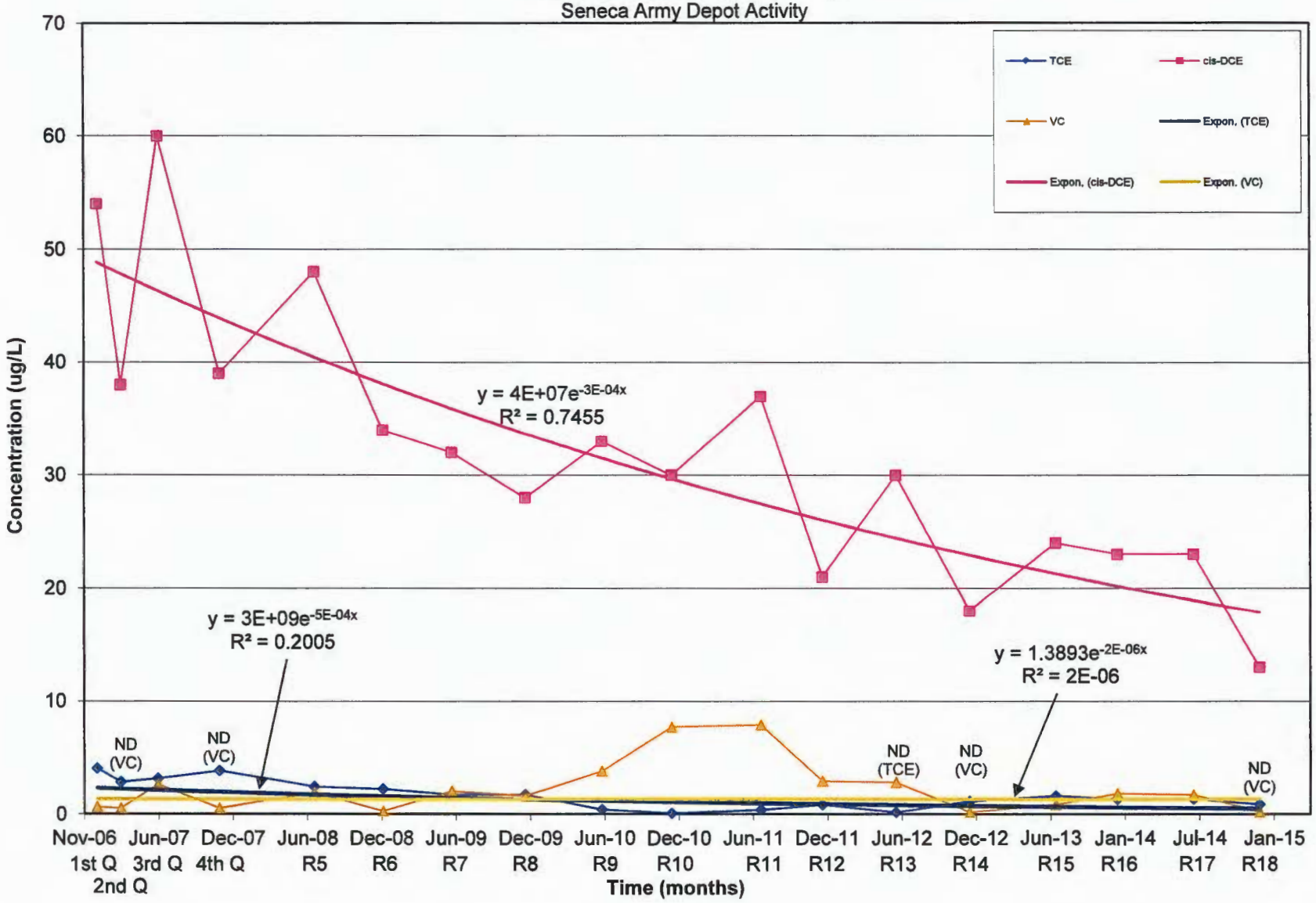

Figure C-11
Regression Plot of Well Concentrations At PT-18A
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

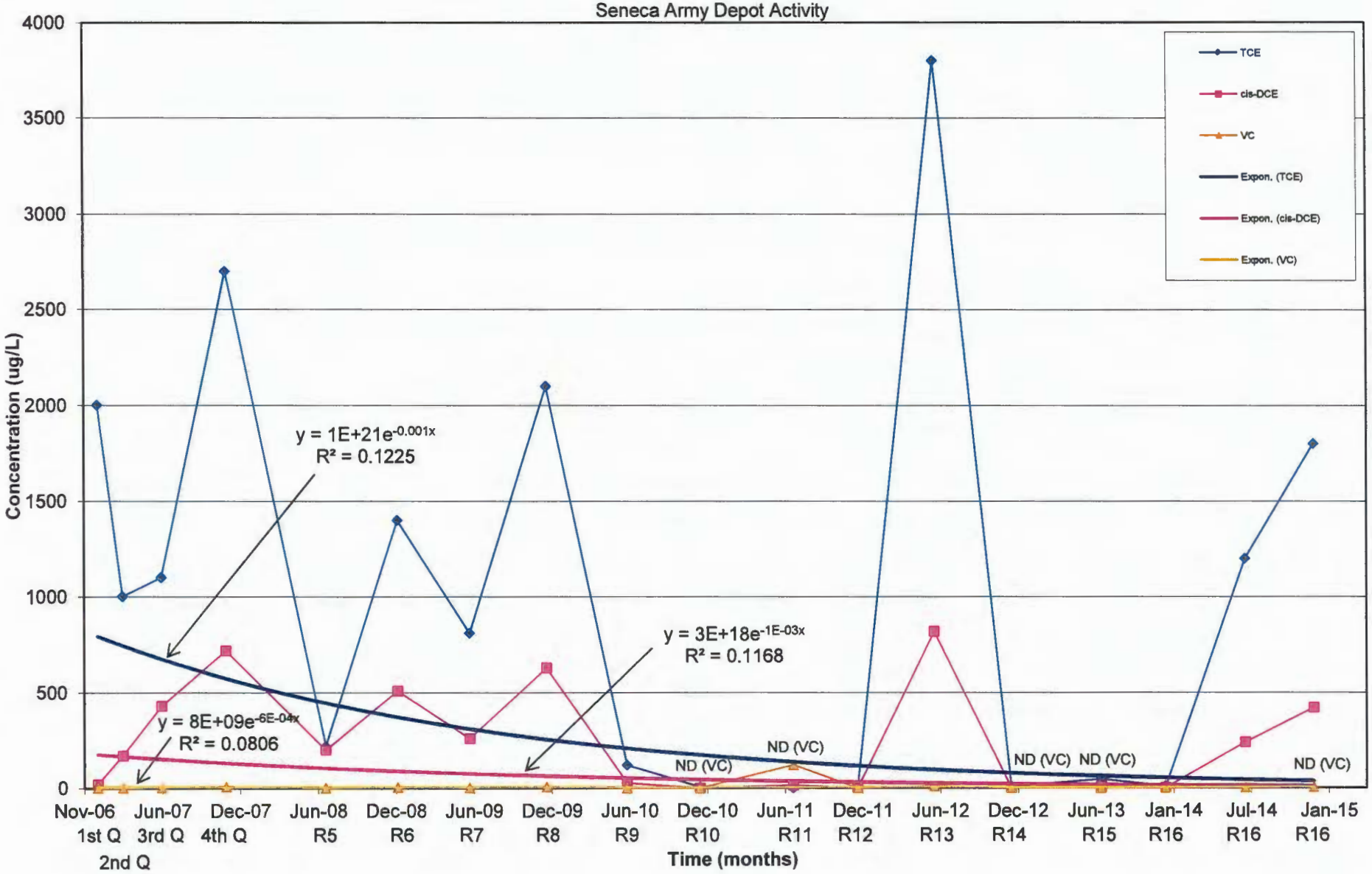

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Figure C-12
Regression Plot of Well Concentrations At PT-17
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity

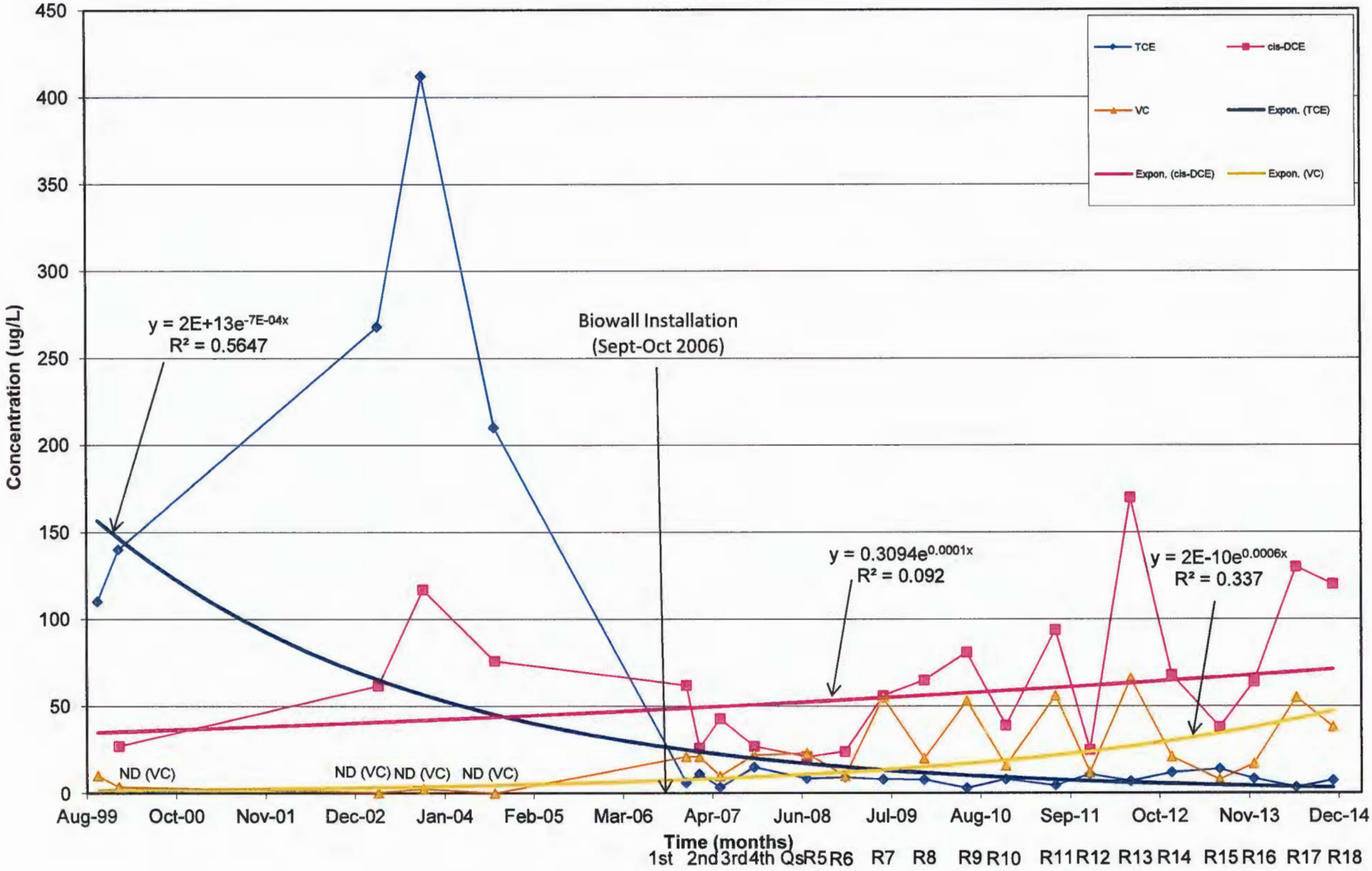

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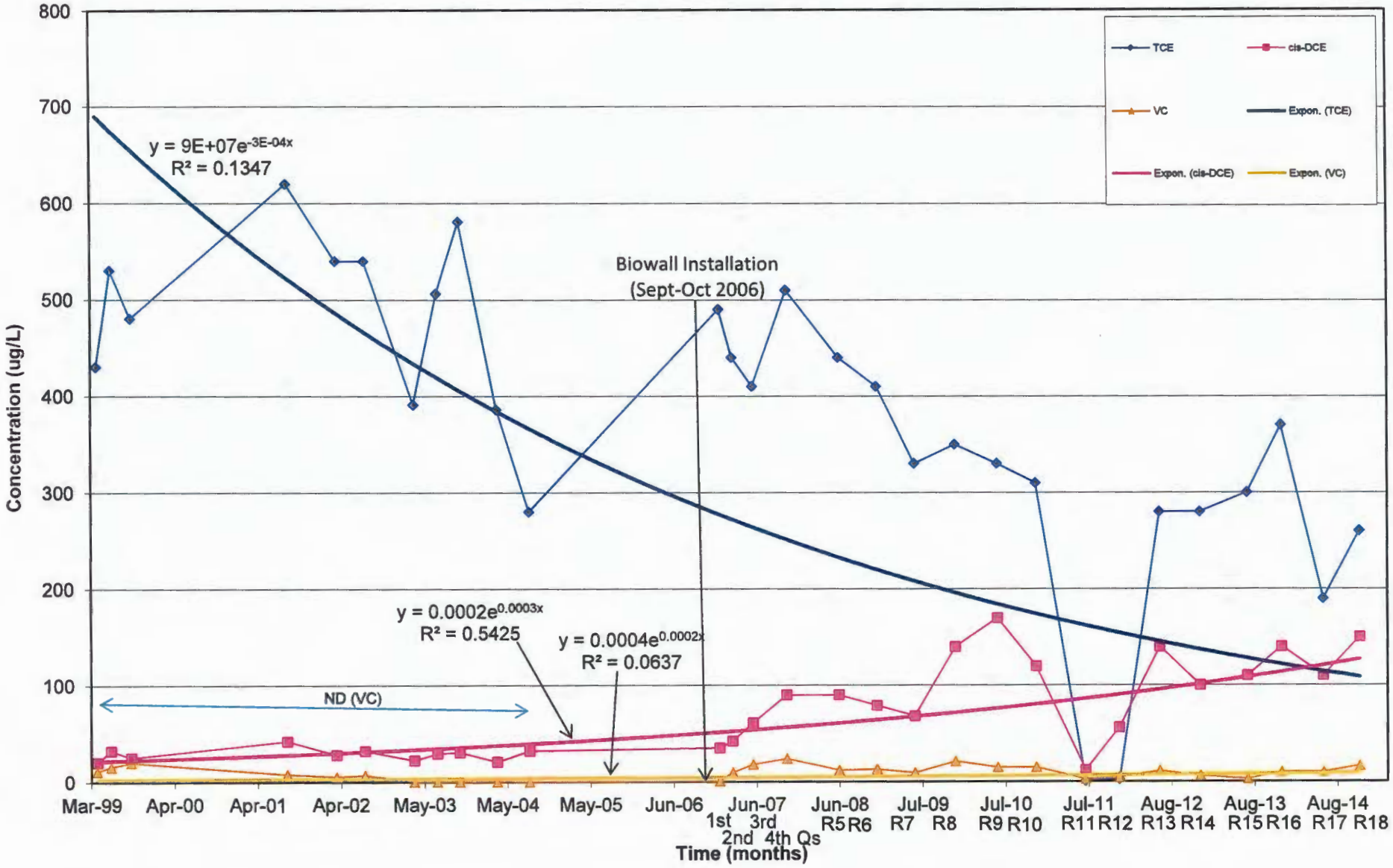
Figure C-13
Regression Plot of Well Concentrations At MWT-7
Ash Landfill Annual Report, Year 8
Seneca Army Depot Activity



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