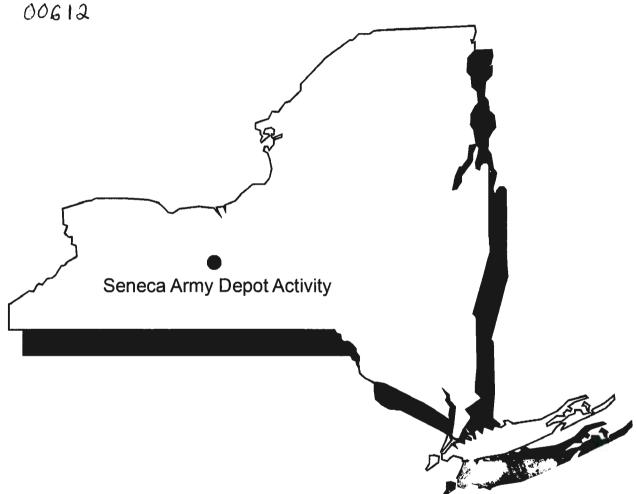
SENECA ARMY DEPOT ACTIVITY

US Army, Engineering & Support Center Huntsville, AL



Seneca Army Depot Activity Romulus, NY



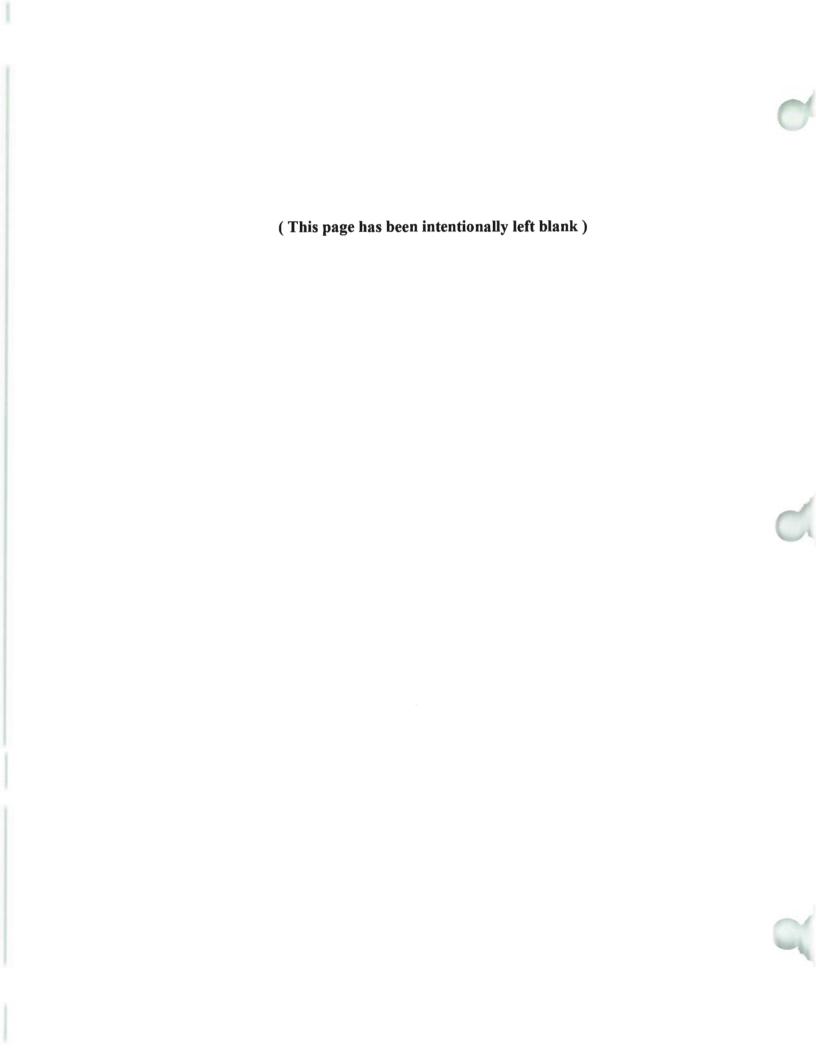
DRAFT ANNUAL REPORT AND YEAR 5 REVIEW

ASH LANDFILL OPERABLE UNIT SENECA ARMY DEPOT ACTIVITY

Contract No. W912DY-08-D-0003 Task Order No. 0012 EPA Site ID# NY0213820830 NY Site ID# 8-50-006

PARSONS

May 2012



DRAFT

ANNUAL REPORT AND YEAR 5 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 HUNTSVILLE, ALABAMA

and

SENECA ARMY DEPOT ACTIVITY ROMULUS, NEW YORK

Prepared by:

PARSONS 100 High Street Boston, MA 02110

Contract Number W912DY-08-D-0003 Task Order No. 0012 EPA Site ID# NY0213820830 NY Site ID# 8-50-006

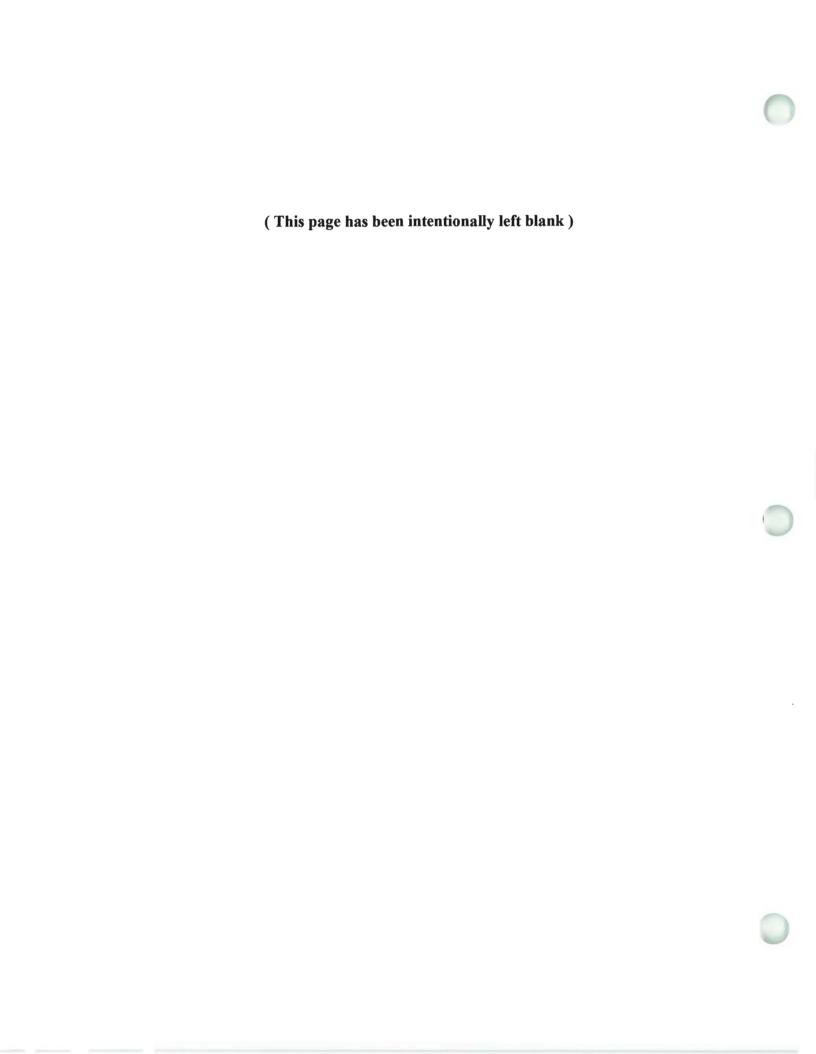


TABLE OF CONTENTS

List o	f Tables	J	ii							
List o	f Figure	s	iii							
List o	f Appen	dices	iv							
1.0		AODUCTION								
1.0		RODUCTION								
	1.1	Long-Term Groundwater Monitoring Objectives	2							
2.0	SITE	BACKGROUND	3							
	2.1	Site Description	3							
	2.2	Site Geology/Hydrogeology	4							
	2.3	Soil and Groundwater Impacts	4							
	2.4	Summary of the Remedial Action.	6							
		2.4.1 Biowalls	6							
		2.4.2 Incinerator Cooling Water Pond	6							
		2.4.3 Ash Landfill and NCFL Vegetative Cover	6							
		2.4.4 Debris Pile Removal	7							
	2.5	Description of Technology Used in Biowalls	7							
3.0	LON	LONG-TERM MONITORING DATA ANALYSIS AND GROUNDWATER REMEDY								
	EVA	LUATION	8							
	3.1	Sample Collection.	8							
	3.2	Groundwater Elevations	10							
	3.3	Geochemical Data	10							
	3.4	Chemical Data Analysis and Groundwater Remedy Evaluation	13							
	3.5	Biowall Recharge Evaluation	17							
	3.6	Soil Remedy Evaluation	20							
	3.7	Land Use Controls (LUCs)								
	3.8	Operating Properly and Successfully	21							
4.0	LON	G-TERM MONITORING CONCLUSIONS AND RECOMMENDATIONS	22							
	4.1	Conclusions	22							
	4.2	Recommendations	23							
5.0	REF	ERENCES	23							

LIST OF TABLES

Table 1	Groundwater Sample Collection
Table 2	Groundwater Elevations
Table 3	Groundwater Geochemical Data
Table 4	Chlorinated Organics in Groundwater
Table 5	Groundwater Trends

LIST OF FIGURES

Figure 1	Ash Landfill Location at SEDA
Figure 2	Ash Landfill Site Plan
Figure 3	Ash Landfill Historic Site Map
Figure 4	Location of Farmhouse
Figure 5	Reductive Dechlorination of Chlorinated Ethenes
Figure 6	Chlorinated Ethenes Concentrations in Groundwater
Figure 7	Groundwater Elevations
Figure 8	Groundwater Contours & Groundwater Flow Direction Dec. 2011
Figure 9A	Concentrations of VOCs Along the Biowalls - Quarter 1, 2007
Figure 9B	Concentrations of VOCs Along the Biowalls - Quarter 2, 2007
Figure 9C	Concentrations of VOCs Along the Biowalls - Quarter 3, 2007
Figure 9D	Concentrations of VOCs Along the Biowalls - Quarter 4, 2007
Figure 9E	Concentrations of VOCs Along the Biowalls - Round 5, 2008
Figure 9F	Concentrations of VOCs Along the Biowalls - Round 6, 2008
Figure 9G	Concentrations of VOCs Along the Biowalls - Round 7, 2009
Figure 9H	Concentrations of VOCs Along the Biowalls - Round 8, 2009
Figure 9I	Concentrations of VOCs Along the Biowalls - Round 9, 2010
Figure 9J	Concentrations of VOCs Along the Biowalls - Round 10, 2010
Figure 9K	Concentrations of VOCs Along the Biowalls - Round 11, 2011
Figure 9L	Concentrations of VOCs Along the Biowalls - Round 12, 2011
Figure 10A	Concentrations of Chlorinated Organics Over Time at MWT-25
Figure 10B	Concentrations of Chlorinated Organics Over Time at MWT-26
Figure 10C	Concentrations of Chlorinated Organics Over Time at MWT-27
Figure 10D	Concentrations of Chlorinated Organics Over Time at MWT-28
Figure 10E	Concentrations of Chlorinated Organics Over Time at MWT-29
Figure 10F	Concentrations of Chlorinated Organics Over Time at MWT-22
Figure 10G	Concentrations of Chlorinated Organics Over Time at PT-22
Figure 10H	Concentrations of Chlorinated Organics Over Time at MWT-23
Figure 10I	Concentrations of Chlorinated Organics Over Time at MWT-24
Figure 10J	Concentrations of Chlorinated Organics Over Time at PT-24
Figure 11A	Historic Concentrations of Chlorinated Organics at PT-18A
Figure 11B	Historic Concentrations of Chlorinated Organics at PT-17
Figure 11C	Historic Concentrations of Chlorinated Organics at MWT-7
Figure 12	Decision Diagram

LIST OF APPENDICES

Appendix A Field Forms for 11R2011 and 12R2011

Appendix B Complete Groundwater Data

Appendix C **Regression Plots**

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 fifth year of long-term groundwater monitoring of the full-scale biowall system installed in 2006. This report also 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 long-term groundwater monitoring (LTM) objectives, listed below in 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) in Section 3.4; and
- An assessment of the remedy's compliance with the United States Environmental Protection Agency's (USEPA's) "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's) 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, LTM is being performed as part of the post-closure operations. Groundwater monitoring is required as part of the remedial design, which was formulated to comply with the ROD. The first of 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" (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.

Year 2 semi-annual monitoring, referred to as Rounds 5 and 6, were completed in June and December 2008, and the results were presented in separate semiannual letter reports for each sampling event. The results of Year 2 of the LTM program were presented in the "Annual Report and Year Two Review" (Parsons, 2009). Year 3 semi-annual monitoring, referred to as Rounds 7 and 8, were completed in June and December 2009 and the results are presented in separate letter reports for each sampling event. The results of Year 3 of the LTM program were presented in the "Annual Report and Year Three Review" (Parsons, 2010). Year 4 semi-annual monitoring, referred to as Rounds 9 and 10, were completed in June and December 2010 and the results were presented in separate letter reports. Year 5 semi-annual monitoring, referred to as rounds 11 and 12, were completed in July and December 2011 and December 15, 2011, and the results were presented in separate letter reports for each sampling event.

This Annual Report reviews the results of the fifth 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 (shown in **Figure 2**) 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. 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;

May 2012

- 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 have been 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). As shown in **Figure 3**, 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).

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 shales, sandstones, conglomerates, limestones and dolostones. At the Ash Landfill site, these rocks (the Ludlowville Formation) are characterized by gray, calcareous shales and mudstones and thin limestones 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.

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.

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 x 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 x 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

-

¹ The Pleistocene Age, also known as the Late Wisconsin Age, occurred 20,000 years before present.

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 above).

Soil

VOCs, specifically trichloroethene (TCE), were detected in the soil in the "Bend in the Road" area. 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 (significantly above TAGMs) 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 discernable and did not extend into the subsurface. The former debris piles were excavated and disposed offsite during the RA in 2006.

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 above, 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, as 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 (as shown in **Figure 2**) were constructed perpendicular to the chlorinated solvent plume at the locations prescribed in the RDR. 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 20101 confirmed that the mulch backfill in the trenches has settled to 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. 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) (see **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

Four rounds of sampling were conducted during the first year of LTM, as follows:

- The first quarter, referred to as 1Q2007, was completed between January 3, 2007 and January 4, 2007;
- The second quarter, referred to as 2Q2007, was completed between March 15, 2007 and March 17, 2007;
- The third quarter, referred to as 3Q2007, was completed between June 5, 2007 and June 7, 2007; and
- The fourth quarter, referred to as 4Q2007, was completed between November 13, 2007 and November 15, 2007.

Two rounds of sampling were conducted during the second year of LTM, as follows:

- Round five, referred to as 5R2008, was completed between June 24, 2008 and June 26, 2008; and
- Round six, referred to as 6R2008, was completed between December 11, 2008 and December 15, 2008.

Two rounds of sampling were conducted during the third year of LTM, as follows:

- Round seven, referred to as 7R2009, was completed between June 1, 2009 and June 4, 2009; and
- Round eight, referred to as 8R2009, was completed between December 14, 2009 and December 18, 2009.

Two rounds of sampling were conducted during the fourth year of LTM, as follows:

Round nine, referred to as 9R2010, was completed between June 28, 2010 and July 2, 2010; and

 Round ten, referred to as 10R2010, was completed between December 14, 2010 and December 19, 2010.

Two rounds of sampling were conducted during the fifth year of LTM, as follows:

- Round eleven, referred to as 11R2011, was completed between July 18, 2011 through July 22, 2011; and
- Round twelve, referred to as 12R2011, was completed between December 12, 2011 and December 15, 2011.

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.

Groundwater samples were collected using low flow sampling techniques during each of the 2011 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 11R2011 and 12R2011 are included on a CD in **Appendix A**.

Fourteen monitoring wells were sampled and classified into three groups (listed in **Table 1**): eleven onsite 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 2010, December 2010, October 2011, and December 2011. During Round 11 of groundwater sampling, 13 of the 14 monitoring wells were sampled between July 18, 2011 and July 22, 2011. Attempts were made to sample the fourteenth well, MW-56, but there was not sufficient water in the well. The Army consulted with USEPA, and the USEPA suggested that the Army monitor the water levels and attempt to sample MW-56 at a time when sufficient groundwater was observed in the aquifer. Parsons returned to the Ash Landfill on October 3, 2011 and collected a groundwater sample from MW-56. The well locations are shown on **Figure 6**.

Three of the biowall process monitoring wells are also plume performance wells (MWT-23, MWT-28, and MWT-29). These five 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.

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 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 11 through 12 to be analyzed for:

- VOCs by USEPA SW846 Method 8260B
- 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 AM20GAX, Microseeps' version of Method RSK 175.

During sampling in the field, 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 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, MTW-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**.

3.2 Groundwater Elevations

Historic groundwater elevations and groundwater elevations from the four years of LTM round are presented in **Figure 7** and **Table 2**. Groundwater contours and groundwater flow direction based on twelfth round measurements taken on December 12, 2011 are provided in **Figure 8**; these data show that groundwater levels were relatively high during the twelfth sampling event

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. For anaerobic reductive dechlorination to be an effective process, typically groundwater will be sulfate-reducing or methanogenic. As mentioned above, geochemical parameters collected in the field that also serve as water quality indicators (i.e., pH, ORP, DO, conductivity, and temperature) were recorded for all the 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-18A, MWT-7, MWT-23, MWT-26, MWT-27, MWT-28, and MWT-29. According to USEPA guidance on natural attenuation of chlorinated solvents (USEPA, 1998), analysis of these geochemical parameters 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**, which is 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 5, 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 5 events (see **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 5, concentrations were less than 20 mg/L in Biowall B1 (MWT-27), Biowall B2 (MWT-28) and Biowall C2 (MWT-23). The sulfate levels detected within the biowalls (at MWT-27, MWT-28, and MWT-23) were orders of magnitude lower than the concentration of sulfate detected upgradient of Biowalls B1/B2 at MWT-26 (see **Table 3**). These conditions indicate that sulfate is being 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 39 micrograms per liter (µg/L) in Round 12. Compared to this concentration, concentrations of methane were orders of magnitude greater at the process wells located within biowall B1, B2, and C2 (see **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, less than -100 millivolts (mV), is conducive for anaerobic reductive dechlorination to occur (USEPA, 1998). During Round 12, ORP values upgradient of Biowall B1/B2 were significantly higher than ORP values in the wells within the biowalls, which were less than or close to -100 mV (see **Table 3**). The ORP levels within Biowalls B1/B2 and C2 indicate that reducing conditions within the biowalls are sufficient to support sulfate reduction, methanogenesis, and anaerobic reductive dechlorination.

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. Typically concentrations of TOC greater than 20 mg/L are sufficient to maintain sulfate reducing and methanogenic conditions (USEPA, 1998). As shown in **Table 3**, the TOC concentration in Biowall B1 was greater than the TOC concentrations upgradient of the biowalls. In Biowalls B2 and C2, the TOC concentrations decreased below the threshold value of 20 mg/L, but remained greater than the concentration at upgradient well, MWT-26. There is a decrease in the concentration of TOC 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 appears to have 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.

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 groundwater at concentrations above the natural background concentrations demonstrates that manganese reduction and iron reduction are occurring at the site. These data support 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 fifth 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 in the biowalls, and greater than at the upgradient well;
- ORP values ranged from -136 mV to -71 mV;
- Sulfate remains below 20 mg/L;
- Methane concentrations range from 8.8 mg/L to 16 mg/L; and
- Ferrous iron concentrations are increasing in the biowalls, indicating that conditions are conducive to the degradation of chlorinated ethenes.

A multiple lines-of-evidence approach that evaluates geochemical parameters together with the analytical data indicates that conditions in the biowalls are sufficient to support anaerobic degradation processes. Substrate in the biowalls has not been significantly depleted and biodegradation continues to occur within the biowalls. Highly anaerobic conditions persist within the biowalls and sufficient levels of organic carbon, ORP, sulfate, and methane are being sustained for effective 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 the twelve rounds 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** presents the chlorinated ethene data for the twelve rounds. The discussion below focuses on data collected during Year 5 (Rounds 11 and 12) 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, with concentrations of TCE, cis-DCE, and VC meeting regulatory standards. As shown in **Table 4**, the fifth year of LTM confirmed that there were no exceedances of COC groundwater standards at MW-56. VC and TCE were not detected in any of the rounds at MW-56; cis-DCE was detected at MW-56 below its Class GA groundwater standard (5 μ g/L) during Year 5.

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 μ g/L) at PT-18A (upgradient of biowalls). Concentrations of TCE at PT-18A varied from a maximum of 2,700 μ g/L in the fourth round to a minimum of 220 μ g/L in the fifth round over the first three years. In the past two years (2010 and 2011), the concentration of TCE has decreased to 120 μ g/L in the ninth round, further decreasing to 6.3 μ g/L in the tenth round, not detected in the eleventh round, and increasing to 7.3 μ g/L in the twelfth round (see **Table 4**). Concentrations of TCE at well MWT-25 (upgradient of Biowall A) have consistently decreased from 50 μ g/L in the first quarter to below the Class GA groundwater standard at a concentration of 1.6 μ g/L in Round 12.

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. Cis-DCE was reported below Class GA standards in the biowalls in all rounds. Concentrations of VC were recorded above the Class GA standard in Biowall B1 at a concentration of 3.0 µg/L and was detected above the Class GA standard in Biowalls B2 and C2. Continued sampling is necessary to confirm any trend for VC at MWT-27 in subsequent monitoring events.

The reduction in concentrations of TCE, coupled with concentrations of cis-DCE and VC not being elevated within the biowalls, suggests that complete mineralization of chlorinated ethenes is occurring. Therefore, the biowalls are operating as expected with no loss of performance within the biowalls.

Ethene, a final product of reductive dechlorination, is only slightly elevated within the biowalls. This suggests that multiple anaerobic degradation processes may be occurring within in the biowalls. For example, ethene is not produced by anaerobic oxidation of cis-DCE or VC, nor by abiotic transformation of chlorinated ethenes by reduced iron sulfides. Alternatively, concentrations of ethene may be low 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. Concentrations of TCE, cis-DCE, and VC at this well decreased during the Summer 2011 monitoring event, and increased slightly in the Winter 2011 event. The area downgradient of MWT-26 is bounded by Biowalls B1/B2 in which the majority of

concentrations of TCE, cis-DCE, and VC, except for the Round 12 exceedence of VC in Biowall B2, remain non-detect or below their respective Class GA standards. The Army will continue to monitor well MWT-26 to see if a trend in concentrations persists.

Concentrations at MWT-24 (downgradient of Biowall C2) show an overall decline over time, with some seasonal variation in TCE (from 0.94 J μ g/L in the first quarter to 5.6 μ g/L in the eleventh round) and cis-DCE (from 210 μ g/L in the first quarter to 23 μ g/L in the tenth round), and substantial decline in VC (from 45 μ g/L in the second quarter to 2.3 μ g/L in the twelfth round). TCE has been at or below the Class GA groundwater standard (5 μ g/L) at MWT-24 in all rounds, with the exception of 6.0 μ g/L in Round 6 and 5.6 μ g/L in Round 11, which were likely due to seasonal fluctuation (i.e., the effects of desorption during a period with frequent precipitation and subsequent high water levels).

The changes in groundwater concentrations of TCE, DCE, and VC as the groundwater passes through the biowalls are shown in **Figures 9A** through **9L** for Rounds 1 through 12, respectively. These figures show that the concentrations of TCE in groundwater within the biowalls are reduced to concentrations near or below detection limits. The concentration of TCE rebounds with distance downgradient of Biowalls C1/C2; this increase may be due to residual TCE that is desorbing from aquifer soils or diffusing out of low permeability soils. These results indicate that the biowalls treat the water within the biowalls and create 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, where the presence of soluble organic carbon released from the biowalls enhances reductive dechlorination processes. 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. The elevated concentration of ethene, $47 \mu g/L$ and $7.3 \mu g/L$ observed at MWT-29 in Round 11 and 12 respectively, as compared to the upgradient concentration of $1.0 \mu g/L$ and ND at MWT-26, also indicates that downgradient biotic reductive dechlorination is occurring. Further downgradient, TCE concentrations continued to decrease at MWT-7, which is 310 feet downgradient of Biowalls C1/C2. TCE was detected at a concentration of $0.52 \mu g/L$ in Round 11 and at $2.3 \mu g/L$ in Round 12.

Achievement of third performance monitoring objective:

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

In general, concentrations of TCE, cis-DCE, and VC decreased over the twelve 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 during Year 5 of LTM compared to previous years. This confirms that the higher concentrations that were observed during the winter monitoring event were likely the result of desorption during periods of seasonal high water levels, and do not reflect an overall increasing concentration trend. The time plots of the downgradient wells (MWT-29, MWT-24, and PT-24) show that TCE concentrations in the wells in the vicinity and downgradient of the biowalls are decreasing over time.

An exponential regression, which models first-order decay typical in biological processes, has been 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. **Table 5** summarizes the trend for each contaminant in each well. Time plots with regression lines are included as **Appendix C**.

The regression plots in Appendix C indicate that all of the wells, with the exception of PT-22 and MWT-22, either comply with the Class GA groundwater standard or are expected to achieve their respective standard by 2055. There may be limiting factors in reaching the groundwater standards, such as desorption and back diffusion from low permeability soils, as well as the effect of desorption on the groundwater concentrations observed during winter months when groundwater levels were high which may drive the actual time required to reach compliance.

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. Figures 11A, 11B, and 11C indicate that there is an overall decreasing trend for TCE, cis-DCE, and VC at PT-18A. There is no trend for cis-DCE or VC at PT-17 and MWT-7. At MWT-7, there is a decreasing trend for TCE. Since PT-18A is located in the Ash Landfill source area upgradient of all biowalls, decreasing trends at this location reflect natural attenuation processes.

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

Non-chlorinated organics were detected in the groundwater at the Ash Landfill OU, and the data are presented in **Appendix B**. Benzene, isopropylbenzene, ethyl benzene, toluene, and total xylenes were detected at PT-18A, and ethyl benzene, toluene, and total xylenes exceeded their respective Class GA Standards with concentrations of 9.2 μ g/L, 130 μ g/L, and 60 μ g/L, respectively, during Round 11. These COCs have not been previously detected at PT-18A and were not detected in Round 12. In Round 12 benzene and ethyl benzene were each detected in one well at concentrations below their respective Class GA standards. Benzene was detected at MWT-27 at a concentration of 0.26 J μ g/L, and ethyl benzene

was detected at MWT-23 at a concentration of $0.16 \text{ J} \mu\text{g/L}$ (average of sample and duplicate). 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 Year 1, Year 2, Year 3, Year 4 concluded that recharge was not required and that a recharge evaluation would be performed again at the end of Year 5.

Recharge Evaluation Process

A recharge evaluation, defined 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 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 will be used.
- 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). If COC concentrations have rebounded by greater than 50% for any single sampling event, this indicates 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 5

The recharge evaluation for Year 5 indicates that recharging the biowalls is not necessary at this time.

Section 3.2 presents the geochemical data for Year 5. The values of geochemical parameters measured in Year 5 support the interpretation that reductive dechlorination is occurring in Biowalls A1/A2, B1/B2, and C1/C2. The tables below show that the geochemical parameters for the wells within the biowalls meet the benchmark values and that groundwater conditions remain highly reducing.

Parameter	Benchmark Value	MWT-27 (Qs 1, 2, 3, 4, Rs 5, 6, 7, 8, 9, 10, 11, 12)
ORP (mV)	< -100	-158, -145, -141, -166, -133, -126, -128, -102, -121, -111, -109, -71
TOC (mg/L)	> 20	2050, 1350, 755, 167, 89, 54, 81.7, 50, 61, 32, 42, 35
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

Parameter	Benchmark Value	MWT-28 (Qs 1, 2, 3, 4, Rs 5, 6, 7, 8, 9, 10, 11, 12)
ORP (mV)	<-100	-150, -113, -131, -151, -91, -95, -135, -148, -104, -100, -135, -125.9
TOC (mg/L)	> 20	1775, 171, 309, 92, 49, 28, 28.2, 25.5, 21, 12, 17, 12
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

Parameter	Benchmark Value	MWT-23 (Qs 1, 2, 3, 4, Rs 5, 6, 7, 8, 9, 10, 11, 12)
ORP (mV)	<-100	-122, -109, -87, -144, -129, -104, -117, -90, -115, -103, -136, -104.1
TOC (mg/L)	> 20	260, 210, 303, 151, 29, 20, 15.6, 17.4, 11, 5.9, 6.2, 6.3
DO (mg/L)	< 1.0	0.26, 0.35, 0, 0.12, 0.15, 0.20, 0.07, 0.63, 0.04, 0.29, 0.85, 0.08

Section 3.3 presents the analytical data for Year 5. As shown in the table below, concentrations of TCE, cDCE, and VC in the biowalls remain low and have not rebounded by greater than 50% for any sampling event. Further, the ability of the biowalls to sustain a high degree of reductive dechlorination is well established.

		TCE (µg/L)	cis-DCE (μg/L)	VC (μg/L)
	Q1	ND	ND	ND
	Q2	ND	ND	ND
	Q3	ND	ND	ND
	Q4	ND	ND	ND
	R5	ND	ND	ND
MWT-27	R6	ND	ND	ND
101 00 1-27	R7	ND _	ND	ND
	R8	ND	ND	3.1 J
	R9	ND	0.18 J	ND
	R10	0.51 J	1.1	2.1
	R11	ND	0.21 J	ND
	R12	ND	1.4	3.0

		TCE (μg/L)	cis-DCE (μg/L)	VC (μg/L)
	Q1	ND	ND	ND
	Q2	ND	ND	ND
	Q3	ND	ND	ND
	Q4	ND	ND	ND
	R5	ND	ND	ND
MWT-28	R6	ND	ND	ND
IVI VV 1-20	R7	ND	ND	ND
	R8	ND	ND	ND
	R9	ND	ND	ND
	R10	ND	0.51 J	0.64 J
	R11	ND	ND	ND
	R12	ND	0.28 J	0.56 J
	Q1	ND	60	23
	Q2	ND	11	4.8
	Q3	ND	3.1	ND
	Q4	ND	3.6 J	3.65
) GYET 00	R5	ND	ND	ND
MWT-23	R6	0.4	2.4	2.8
	R7	ND	0.42 J	ND
	R8	ND	0.47 J	ND
	R9	ND	0.41 J	ND
	R10	0.29 J	4.6	5.3
	R11	ND	0.57 J	0.33 J
	R12	0.18 J	2.0	1.85

The analytical data at MWT-27 shows TCE was not detected in Rounds 11 and 12. The concentration of VC was measured above the Class GA groundwater standard at a concentration of 3.0 µg/L in Round 11; however, this concentration was less than the maximum detected VC concentration at MWT-27 (i.e. 3.1 J µg/L in Round 8). The Army will continue to monitor MWT-27 in subsequent monitoring events to determine any trend for VC at this well.

At MWT-28, concentrations of cDCE and VC remain below Class GA groundwater standards, and the concentration of TCE remains below detections limits. At MWT-23 TCE, cDCE, and VC concentrations were below Class GA groundwater standards.

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-28 and MWT-23, they remain higher than TOC concentrations in the upgradient well. Low DO concentrations and overall low ORPs indicate that highly 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.

May 2012
Page 19

There are some geochemical parameters that are not as strong in the last couple of monitoring rounds and there is some relatively low variations in VOC concentrations. 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 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 have been inspected and field observations from Year 5 note that the landfills are vegetated with grass and clover. At the NCFL, visual observations noted a small amount of soil erosion and the presence of rodent 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 3.5**, the vegetative covers are limiting ecological contact with the underlying soil.

May 2012 Page 20

During 11R2011 and 12R2011, 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.

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 5 of the LTM program are consistent with the data for Year 1, Year 2, and Year 3 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 3.5 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 3.1** 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 3.3** 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 indicate that the covers are preventing ecological receptors from contacting the underlying soil; therefore, there is no threat to the environment. The LUCs have been maintained and no one is accessing the groundwater; therefore, there is no threat 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, as well as an evaluation of the geochemical and analytical data from the three 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 highly 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 PT-18A, 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.

May 2012

4.2 Recommendations

Based on the first five 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 four of monitoring are as follows:

- 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 five years of LTM events at the Ash Landfill OU, the concentrations of COCs, specifically TCE, 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 semiannual 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.
- The frequency of monitoring and the need to recharge the biowalls will be reviewed in the annual report submitted after the completion of the fifth year of LTM, based on the process outlined in Figure 12.

5.0 REFERENCES

Kampbell, D.H. and J.T. Wilson, 1998. Analysis of dissolved methane, ethane, ethene in groundwater by a standard gas chromatographic technique. *Journal of Chromatography*, Vol. 36:253-256.

Parsons, 1994. Remedial Investigation Report at the Ash Landfill Site, Final, July 1994.

Parsons, 2004. Record of Decision for the Ash Landfill Operable Unit, Final, July 2004.

- Parsons, 2006a. Final Sampling and Analysis Plan for Seneca Army Depot Activity (SAP), October 2006.
- Parsons, 2006b. Remedial Design Work Plan for the Ash Landfill Site at Seneca Army Depot Activity, July 2006.
- Parsons, 2006c. Remedial Design Report for the Ash Landfill Operable Unit, August 2006.
- Parsons, 2008a. Land Use Control Remedial Design for SEAD-27, 66, and 64A, Addendum 3, 2008.
- Parsons, 2008b. Annual Report and One Year Review for the Ash Landfill Operable Unit, May 2008.
- Parsons, 2009. Annual Report and Year Two Review for the Ash Landfill Operable Unit, June 2009.
- Parsons, 2010. Annual Report and Year Three Review for the Ash Landfill Operable Unit, August 2010.
- Parsons, 2011. Annual Report and Year Four Review for the Ash Landfill Operable Unit, November 2011.
- US Army Environmental Hygiene Agency (USAEHA), 1987. Interim Final Report, Groundwater Contamination Survey No. 38-26-0868-88, July 1987.
- USEPA, 1996. Guidance for Evaluation of Federal Agency Demonstrations that Remedial Actions are Operating Properly and Successfully, Interim, August 1996.
- USEPA, 1998. Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water. EPA/600/R-98/128, September 1998.

TABLES

 Table 2 Groundwater Elevations Table 3 Groundwater Geochemical Data Table 4 Chlorinated Organics in Groundwater Table 5 Groundwater Trends 	Table l	Groundwater Sample Collection
Table 4 Chlorinated Organics in Groundwater	Table 2	Groundwater Elevations
•	Table 3	Groundwater Geochemical Data
Table 5 Groundwater Trends	Table 4	Chlorinated Organics in Groundwater
	Table 5	Groundwater Trends

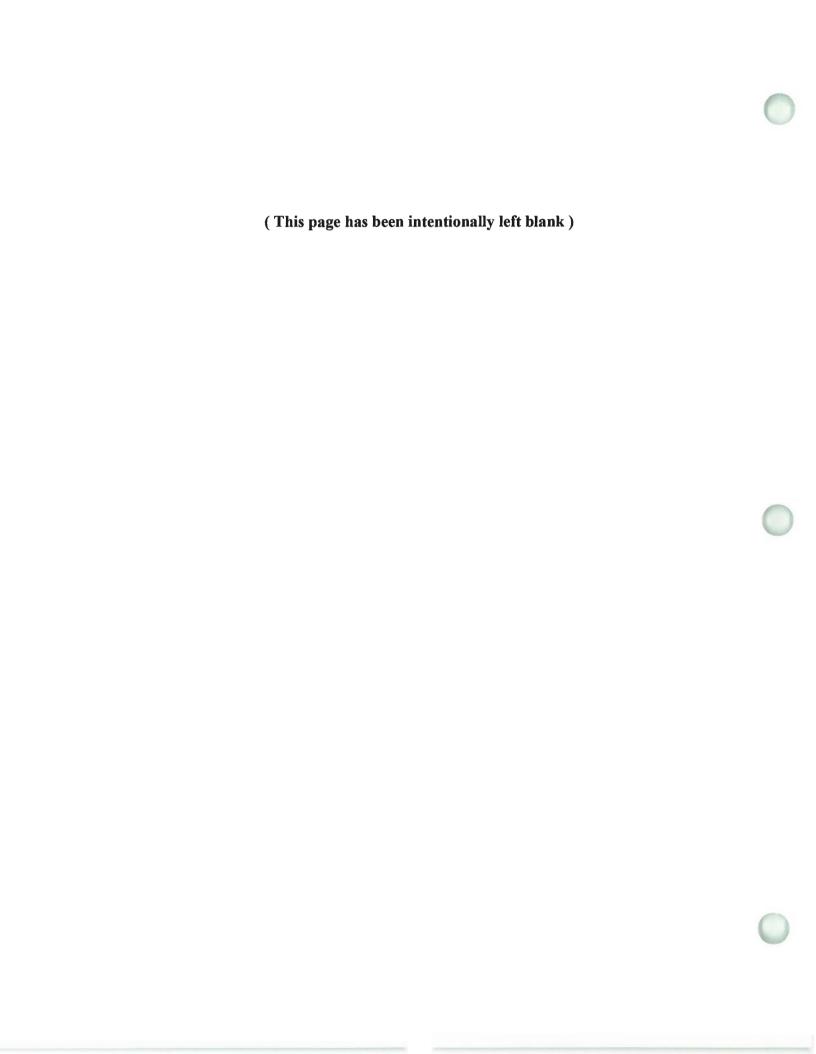


Table 1
Groundwater Sample Collection
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

	Monitoring Well Group				Laborat	ory Analysis	Field Test		
	On-Site Plume		Off-Site	VOC	TOC	MEE	Sulfate	Ferrous	Manganese
Monitoring	Performance	Biowall Process	Performance					Iron	
Wells	Monitoring	Monitoring	Monitoring	8260B	9060A	RSK-175	EPA 300.1	(mg/L)	(mg/L)
PT-18A	X			X				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 between December 12, 2011 and December 15, 2011.

Table 2
Groundwater Elevation Data
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

		Well Depth	LTN	AR12 - December	Historical Data			
Monitoring	Top of Riser		Saturated Thickness	Depth to	Water Level	Groundwater Elevation (ft)		
Well	Elevation (ft)	(rel. TOC) (ft)	(ft)		Elevation (ft)	Maximum	Minimum	Range
PT-17	640.14	7.57	4.89	2.68	637.46	637.50	632.74	4.76
PT-18A	659.05	12.87	6.69	6.18	652.87	653.25	649.65	3.60
PT-22	648.61	11.95	6.47	5.48	643.13	644.30	637.47	6.83
PT-24	636.40	11.92	7.06	4.86	631.54	632.76	627.80	4.96
MW-56	630.51	6.52	3.06	3.46	627.05	627.58	624.39	3.19
MWT-7	638.34	13.73	8.73	5.00	633.34	633.50	626.58	6.92
MWT-22	650.663	14.92	10.39	4.53	646.13	648.13	642.29	5.84
MWT-23	646.772	13.76	7.18	6.58	640.19	640.45	636.40	4.05
MWT-24	641.564	13.01	6.89	6.12	635.44	635.84	632.11	3.73
MWT-25	654.507	13.29	8.85	4.44	650.07	650.65	645.93	4.72
MWT-26	652.191	13.22	8.81	4.41	647.78	648.59	644.58	4.01
MWT-27	652.993	12.79	7.48	5.31	647.68	648.23	644.27	3.96
MWT-28	652.685	12.88	7.55	5.33	647.36	647.84	644.20	3.65
MWT-29	651.816	13.12	8.29	4.83	646.99	647.39	643.18	4.21

Table 3
Groundwater Geochemical Data
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Well ID	Location Description	Sample ID	Sample Round	pН	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							1
		ALBW20088	3Q2007	6.71	5	1.66	0	-23							1
		ALBW20103	4Q2007	6.41	0.0	1.25	0.04	-5							ĺ
		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	1				<u> </u>		ĺ
		ALBW20147	7R2009	6.77	0.45	2.01	0.12	66					1		1
		ALBW20162	8R2009	6.71	0.00	2.04	0.62	154							1
		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							1
		ALBW20207	11R2011	6.62	3.30	1.27	0.19	-17							1
		ALBW20222	12R2011	6.62	0.40	1.751	0.09	59.9				_			
MWT-25	upgradient of Biowall A	ALBW20064	1Q2007	8	9.6	0.29	2.83	63				<u> </u>			
		ALBW20079	2Q2007	7.27	14	2.2	2.8	52							1
		ALBW20093	3Q2007	7.36	6.2	2.43	4.14	100							1
		ALBW20108	4Q2007	6.9	0	1.2	0.21	65							1
		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							1
		ALBW20153	7R2009	7.03	1.6	1.46	1.0	-31							1
		ALBW20168	8R2009	7.21	0	0.792	3.35	98						1	1
		ALBW20183	9R2010	7.06	0.7	1.48	0.2	-116							1
		ALBW20198	10R2010	7.11	2.59	1.23	0.48	-94							1
		ALBW20213	11R2011	6.72	13	1.13	0.03	13							1
		ALBE20228	12R2011	7	5.2	1.503	1.5	-54.9						j	L
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	1.9	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	1.9	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	1.867	0.54	12.1	4.5	860	0.23	ND	39	0.5	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
	1	ALBW20112	4Q2007	6.43	58	5.76	0.06	-166	167	31.7	ND	0.014 J	13,000	> 22	2.19
	1	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
	1	ALBW20157	7R2009	6.68	38	2.99	0.06	-128	81.7	0.93 J	5.1	0.15	14,000	22	1.88
	1	ALBW20172/73	8R2009	6.32	5.1	2.38	0.15	-102	50.0	14.0	4.4	1.2	15,500	9	1.26
	1	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	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	1.982	0.08	-71	35	19.0	2.0	1.6	16,000	>22	1.23

Table 3 Groundwater Geochemical Data Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Well ID	Location Description	Sample ID	Sample	рH	Turbidity	Specific	DO	ORP	TOC	Sulfate	Ethane	Ethene	Methane	Manganese	Ferrous
			Round	P	(NTU)	Conductance (mS/cm)	(mg/L)	(mV)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	Iron (ug/L)
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		(-4)
	}	ALBW20083	2Q2007	6.6	21	2.3	0.09	-113	171	ND	0.67	0.48	19,000	7.5	> 3.3
l	1	ALBW20098	3Q2007	6.56	100	2.74	0	-131	309	ND	0.01 J	0.057	11,000	> 22	> 3.3
l		ALBW20113	4Q2007	6.48	10	1.72	0.08	-151	92	ND	0.014 J	ND	11,000	> 22	2.15
l		ALBW20128	5R2008	6.31	14	2.16	0.15	-91	49.2	ND	0.65	0.044	12,000	> 22	> 3.3
l		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
1	1	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	1.6	0.059	13,500	18.6	0.57
l	i	ALBW20204	10R2010	6.28	4.5	0.802	0.07	-100	12	4.8	1.4	0.17	12,000	5.8	2.58
ı	i	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	0.773	0.02	-125.9	12	19	1.6	ND	12,000	1.1	0.48
MWT-29	downgradient of Biowall B2	ALBW20070	1Q2007	6.49	7.2	2.1	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
l	1	ALBW20099	3Q2007	6.64	1.8	1.68	0.11	-79	15.7	151	13	160	2,800	8.1	2.84
l		ALBW20114	4Q2007	7.04	12.2	1.88	0.21	-101	20.9	289	19	200	2,600	8.6	> 3.3
l		ALBW20129/30	5R2008	6.44	2.7	1.85	0.17	-115	14.1	174	14.5	140	3,100	0.0	> 3.3
1		ALBW20145	6R2008	6.57	3.69	1.58	1.32	67	13.6	312	14	19	2,700	3.3	0.20
1		ALBW20160	7R2009	6.8	1.9	1.8	0.15	-105	11.8	300	10	47	3,000	6.8	2.97
1		ALBW20175	8R2009	6.87	0	2.05	0.58	-75	8.2	644	6.7	12	1,500	6.3	0.96
1		ALBW20190	9R2010	6.77	2	1.74	0.06	-86	10	170	18	88	5,400	9.1	2.54
1		ALBW20205	10R2010	6.71	1.07	1.31	0.56	22	7.4	300	5.1	7.9	3,100	6.4	2.60
1	}	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	0.898	0.29	-30.2	4.9	210	1.7	7.3	760	12.1	0.03
MWT-22	downgradient of Biowall B2	ALBW20071	102007	7,7	4.5	0.13	0.09	-80	1	210	1.,,	, ,, <u>,</u>	700	 	0.04
1		ALBW20075	2Q2007	6.72	41	2.16	0.3	-65	1	l			1	1	1
1		ALBW20100	3Q2007	6.45	2.7	2.03	0.05	-107		l	l			1	1
1		ALBW20115	4Q2007	6.53	7.5	1.81	0.18	-132		l	ļ			1	1
		ALBW20121	5R2008	6.38	14	2.21	0.3	-34	1	l				18.2	> 3.3
[į.	ALBW20136	6R2008	6.44	8.17	1.86	0.57	-19		l	1			10.2	7 3.3
l		ALBW20151	7R2009	6.59	13	2.14	0.31	-91		l	1				1
ı	1	ALBW20166	8R2009	6.5	15	0.898	0.34	-65	1		1				1
ı		ALBW20181	9R2010	6.52	16.8	2.2	0.22	-63	1		1				1
ı		ALBW20196	10R2010	6.39	6.8	1.34	0.07	-58	1	ļ	l				1
ı		ALBW20211	11R2011	6.2	3.6	1.27	0.16	-71	1		l	1			
		ALBW20226	12R2011	5.65	7.7	1.806	0.05	10	1		l	1			
PT-22	between Biowalls B and C	ALBW20060	1Q2007	7.70	4.5	0.13	0.09	-80	+			-	-		
1		ALBW20086	2Q2007	6.78	7	1.18	0.78	-54	1			1			1
I		ALBW20089	3Q2007	6.67	0	1.44	0.09	-97	1		l	1			
ı		ALBW20104	4Q2007	6.73	5.1	1.26	0.07	-166				1	I		
		ALBW20118	5R2008	6.69	7.4	1.38	0.17	-119						0.3	1.20
		ALBW20133	6R2008	6.79	1.96	1.20	0.69	-37				1	1	0.3	1.38
		ALBW20148	7R2009	6.76	11	1.53	0.09	-123				1		1	
I		ALBW20163	8R2009	6.74	6.3	1.45	1.0	-123 -73		1		1			
I		ALBW20178	9R2010	6.87	3.6	1.45						l	I		
		ALBW20178 ALBW20193	10R2010	6.75	0.8		0.4	-75		İ			I	1	1
		ALBW20193 ALBW20208	11R2011			1.14	0.18	15		ľ		1	I	1	1
	1	ALBW20223	1	6.65	2	0.88	0.39	-62				1	I		1
		ALD W 20223	12R2011	5.95	0.38	1.57	0.27	205.8	1	<u> </u>	<u></u>				

Table 3
Groundwater Geochemical Data
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Well ID	Location Description	Sample ID	Sample	рН	Turbidity	Specific	DO	ORP	TOC	Sulfate	Ethane	Ethene	Methane	Manganese	Ferrous
			Round		(NTU)	Conductance (mS/cm)	(mg/L)	(mV)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	lron (ug/L)
MWT-23	in Biowall C2	ALBW20065	1Q2007	7.2	5	0.2	0.26	-122	260 J	ND	ND	ND	12,000		
		ALBW20080	2Q2007	6.51	30	1.8	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
	İ	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	1.5	0.07	-117	15.6	ND	1.6	0.16	21,000	22	2.08
		ALBW20170	8R2009	6.78	10	2.1	0.63	-90	17.4	ND	I	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	1.2	0.85	-136	6.2	1.5	2.3	0.1	15,000	8	>3.3
		ALBW20230/231	12R2011	5.64	6.7	0.999	0.08	-104.1	6.3	14	8.9	1.2	16,000	12.6	1.17
MWT-24	downgradient of Biowalls C1/C2	ALBW20063	1Q2007	7.02	10	0.762	0.27	-160							1
		ALBW20078	2Q2007	6.91	59	1.08	0.32	-146							1 1
		ALBW20092	3Q2007	6.8	5.4	1.48	0.03	-115				İ			i 1
		ALBW20107	4Q2007	6.81	134	1.32	0.41	-114							1 1
		ALBW20122	5R2008	6.65	45	1.21	0.35	-43						9.1	1.54
		ALBW20137	6R2008	6.40	10	1.31	0.09	40				ŀ			i !
		ALBW20152	7R2009	6.81	6.7	1.34	0.11	-20							
		ALBW20164	8R2009	6.61	23	0.558	1.31	59				1			
		ALBW20182	9R2010	6.63	6.8	1.45	0.06	-21		1					1 1
		ALBW20197	10R2010	6.78	8.9	0.919	0.14	10		1					1 1
		ALBW20212	11R2011	6.67	75	0.735	0.39	27		1		1			()
		ALBW20227	12R2011	6.56	8.67	0.627	0.10	46.2				İ	<u> </u>		
PT-17 ¹	downgradient of biowalls	ALBW20058	1Q2007	8	3.8	92	0.23	-111							
		ALBW20073	2Q2007	7.1	14	0.729	0.76	-151							1 1
		ALBW20087	3Q2007	6.99	0.4	0.732	0.9	-157							1 1
		ALBW20102	4Q2007	7.12	8.7	2	NS	-24					1		1 1
		ALBW20116	5R2008		70		0.24		6	15.2	98	66	5700		1 1
		ALBW20131	6R2008	6.68	0.85	0.796	0.30	26	2.6	45.8	6.9	6.6	380	2.8	0.43
		ALBW20146	7R2009	7.19	0.2	1	0.30	-20	4.9	28	50	56	8300	7.5	0.53
	1	ALBW20161	8R2009	6.75	4	0.345	0.58	-52	2.4	46.2	9.9	5	1,500	2.1	0.07
		ALBW20176	9R2010	6.73	0.9	0.816	0.11	-13	2.4	36	16	20	4,300	5.8	0.29
		ALBW20191	10R2010	6.72	0.45	0.619	0.21	42	1.5	31	4.8	3.5	900	4.0	0.06
		ALBW20206	11R2011	6.57	4	0.573	0.85	-22	3.4	24	1.8	3.8	780	>22	0.64
		ALBW20221	12R2011	6.73	3.03	0.686	2.63	91	1.6	27	1.7	2.4	810	0.6	0.01
MWT-7	immed. upgradient of ZVI wall	ALBW20062	1Q2007	6.8	19.6	0.581	0.01	62							
	1	ALBW20077	2Q2007	6.95	8	0.763	0.76	52					1		1 1
		ALBW20091	3Q2007	6.91	4	0.586	0.19	22					1		1 1
		ABLW20106	4Q2007	6.88	0	0.9	0.16	14				1			1 1
		ALBW20120	5R2008	6.85	15	0.974	0.43	37	2.3	29.1	6.7	2	400	0.2	0.09
		ALBW20135	6R2008	6.85	7.37	0.859	0.28	66	29.1	3	11	0.27	670	0.8	0.16
		ALBW20150	7R2009	7.61	2.6	0.786	0.05	16	3.1	27	7.8	0.76	1100	0	0.05
		ALBW20165	8R2009	7.12	0.9	0.555	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	0.758	0.02	35	1.3	31	4.5	0.33	400	1.1	0.19
		ALBW20210	11R2011	6.7	0.85	0.784	0.08	-85	2	39	4.9	0.21	1,600	0.4	0.45
		ALBW20225	12R2011	6.56	3.9	0.619	0.17	197	1.7	26	0.84	ND	79	0.2	0.05

Table 3
Groundwater Geochemical Data
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Well ID	Location Description	Sample ID	Sample	pН	Turbidity	Specific	DO	ORP	TOC	Sulfate	Ethane	Ethene	Methane	Manganese	Ferrous
			Round		(NTU)	Conductance	(mg/L)	(mV)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	Iron
			·			(mS/cm)	, ,	,				, , ,			(ug/L)
PT-24	downgradient of ZVI wall	ALBW20061	1Q2007	8.1	10	70	0.37	-59							
1		ALBW20076	2Q2007	7.58	0	0.464	2.2	-59		İ	·		ł	<u> </u>	i
l		ALBW20090	3Q2007	7.22	1.3	0.557	0.13	-80						i	i l
1		ALBW20105	4Q2007	7.35	9.7	2.38	0.19	-46							i l
1		ALBW20119	5R2008	6.99	4.3	0.9	0.16	-104		l			1	0.5	0.55
1		ALBW20134	6R2008	6.84	5.8	0.656	0.11	-10			1	l			i
1		ALBW20149	7R2009	7.14	4.1	0.679	0.05	-101		ļ		1		1	i
i		ALBW20164	8R2009	7.32	1	0.41	0.34	-192					Į.	1.9	0.2
		ALBW20179	9R2010	7.07	8.3	0.78	0.19	-37		1			ŀ		1
1		ALBW20194	10R2010	7.05	6.14	0.568	0.09	-29			l				1
1		ALBW20208	11R2011	6.69	1.6	0.528	0.82	-16		1	ŀ		l		1
		ALBW20224	12R2011	6.79	0.48	0.391	0.13	26.2							
MW-56 (2)	off-site well	ALBW20072	1Q2007	6.85	3.3	0.462	0.37	-102						1	1
		ALBW20101	3Q2007	6.9	0	0.603	NS	-65							1
		ALBW20124	5R2008	6.73	2	0.763	0.18	-132	1			1	l	0.4	1.18
1		ALBW20139	6R2008	6.85	6	0.545	0.81	-125				1			1
1	1	ALBW20154	7R2009	7.01	0.1	0.623	0.23	-186	l		l				1
1	1	ALBW20169	8R2009	6.59	7.3	0.311	1.86	-149		İ		1			1
1		ALBW20184	9R2010	6.85	3.19	0.403	0.16	-131				1			1
1		ALBW20199	10R2010	6.88	1.26	0.659	0.32	-105					l		
1		ALBW20214	11R2011	6.89	4.8	0.662	0.21	-105				1			1
L		ALBW20229	12R2011	7.15	5.5	0.415	0.45	-74.2				L			

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)

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
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Upgradient

Sample Identification	Class GA	Sample Date Standard (ug/L)	PCE (ug/L)	TCE (ug/L) 5	1,1-DCE (ug/L) 5	cis-DCE (ug/L) 5	(ug/L)	VC (ug/L) 2	1,1-DCA (ug/L) 5
PT-18A	upgradient of walls	3-Jan-07	1 U	2000	0.64 J	220	1.6	2.4	1
	September 1 marks	17-Mar-07	1 U	1000	0.73 J	170	1.4	2.9	1
		5-Jun-07	1 U	1100	1.4	430	3.3	3.3	1
		15-Nov-07	1 U	2700	2.1	720	3.4	8.2	1
		24-Jun-08	1 U	220 1400	1 U 1.3	200 510	0.9 J 2.4	1.4 4.6	0.75
		12-Dec-08 4-Jun-09	0.36 U 0.36 U	810 J	0.8 J	260	1.8	2.6	0.75
		4-Jun-09 17-Dec-09	1.5 U	2100	1.5 U	630	3.5 J	7.1	0.73
		1-Jul-10	0.15 U	120	0.11 U	28	0.2 U	0.18 U	0.25
		19-Dec-10	0.15 U	6.3	0.11 U	0.54 J	0.2 U	0.18 U	0.25
		22-Jul-11	1 U	0.13 U	1.5	15	0.2 U	120	62
		15-Dec-11	0.15 U	7.3	0.11 U	0.53 J	0.2 U	0.18 U	0.25
WT-25	upgradient of Biowall A	3-Jan-07	1 U	50	1 U	41	0.56 J	1.6	
		17-Mar-07	1 U	55	1 U	84	1.2	9.6	
		6-Jun-07	1 U	28	1 U	36	0.5 J	2.1	
		15-Nov-07	1 U	26	1 U	17	1 U	0.64 J	1
		24-Jun-08	1 U	19	1 U	17	1 U	1 U	1
		15-Dec-08	0.36 U	3.2	0.29 U	0.63 J	0.13 U	0.24 U	0.75
		3-Jun-09	0.36 U	12	0.29 U	10	0.13 U	0.24 U	0.75
		17-Dec-09	0.36 U	4.2	0.38 U	3.3	0.42 U	0.24 U	0.29
		30-Jun-10	0.15 U	7.7	0.11 U	13	0.49 J	0.18 U	0.2
		19-Dec-10	0.15 U	1.9	0.11 U	0.97 J	0.2 U	0.18 U	0.2
		20-Jul-11	0.15 U	4.4	0.11 U	14	0.45 J	0.72 J	0.25
	1	15-Dec-11	0.15 U	1.6	0.11 U	0.30 J	0.20 U	0.18 U	0.2
IWT-26	upgradient of Biowalls B1/B2	3-Jan-07	1 U	10	1 U	19	0.6 J	2	
		17-Mar-07	1 U	11	1 U	17	1	6.1	
		5-Jun-07	1 U	3.2	1 U	11	0.7 J	4.4	
		15-Nov-07	1 U	2.8	1 U	2.8	1 U	1 U	1
		24-Jun-08	1 U	1.7	1 U	3.3	1 U	1 U	1
	1	15-Dec-08	0.36 U	1.9	0.29 U	I	0.13 U	0.24 U	0.75
		3-Jun-09	0.36 U	3.6	0.29 U	6	0.13 U	3.5	0.75
		17-Dec-09	0.36 U	5.8	0.38 U	8.1	0.42 U	4.2	0.29
		29-Jun-10	0.15 U	1.7	0.11 U	5.5	0.37 J	0.18 U	0.25
		19-Dec-10	0.15 U	4.2	0.11 U	12	0.67 J	7.6 4.4	0.25
		20-Jul-11 15-Dec-11	0.15 U 0.15 U	1.6 1.2	0.11 U 0.11 U	9.8 1.1	0.81 J 0.2 U	0.47 J	0.25
AWT-27	in Biowall B1	3-Jan-07	20 U	20 UJ	20 UJ	49 J	20 UJ	20 UJ	20
111 1-27	III Blowall B1	16-Mar-07	20 U	20 U	20 U	20 U	20 U	20 U	20
		5-Jun-07	20 U	20 U	20 U	20 U	20 U	20 U	20
		15-Nov-07	10 U	10 U	10 U	10 U	10 U	10 U	10
		24-Jun-08	4 U	4 U	4 U	4 U	4 U	4 U	4
		15-Dec-08	3.6 U	1.8 U	2.9 U	1.6 U	1.3 U	2.4 U	7.5
		3-Jun-09	3.6 U	1.8 U	2.9 U	1.6 U	1.3 U	2.4 U	7.5
		16-Dec-09	1.8 U	2.3 U	1.9 U	1.9 U	2.1 U	3.1 J	1.5
		29-Jun-10	0.15 U	0.13 U	0.11 U	0.18 Ј	0.2 U	0.18 U	0.25
		20-Dec-10	0.15 U	0.51 J	0.11 U	1.1	0.2 U	2.1	0.25
		20-Jul-11	0.15 U	0.13 U	0.11 U	0.21 J	0.28 J	0.18 U	0.25
		14-Dec-11	0.15 UJ	0.13 U	0.11 U	1.4	0.2 U	3.0	0.25
IWT-28	in Biowall B2	3-Jan-07	20 U	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20
	(16-Mar-07	20 U	20 U	20 U	20 U	20 U	20 U	20
		5-Jun-07	20 U	20 U	20 U	20 U	20 U	20 U	20
		15-Nov-07	5 U	5 U	5 U	5 U	5 U	5 U	
		25-Jun-08	4 U	4 U	4 U	4 U	4 U	4 U	7.4
		15-Dec-08	3.6 U	1.8 U	2.9 U	1.6 U	1.3 U	2.4 U	7.5
		3-Jun-09	0.36 U	0.18 U	0.29 U	0.16 U	0.13 U	0.24 U	0.75
		18-Dec-09	1.8 U	2.3 U	1.9 U	1.9 U	2.1 U	1.2 U	1.5
		29-Jun-10 18-Dec-10	0.15 U	0.13 U	0.11 U 0.11 U	0.15 U 0.51 J	0.2 U 0.2 U	0.18 U 0.64 J	0.25
		19-Jul-11	0.15 U 0.15 U	0.13 U 0.13 U	0.11 U	0.31 J	0.2 U	0.18 U	0.25
		14-Dec-11	0.15 UJ	0.13 U	0.11 U	0.13 U	0.2 U	0.16 U	0.25
IWT-29	downgradient of Biowall B2	3-Jan-07	2 U	22	2 U	280	6.5	140	0.2.
11/1-29	downgradient of Biowali B2	16-Mar-07	4 U	19	4.5 U	220	7.75	165	4.5
		5-Jun-07	2 U	7.6	2 U	100	2.1	81	2
		14-Nov-07	1 U	4.4	1 U	96	0.83 J	74	Î
		25-Jun-08	1 U	3.3	1 U	84	0.65 J	74	1
	1	15-Dec-08	0.36 U	6.6	0.29 U	91	0.6 J	80	0.75
	0	3-Jun-09	0.36 U	4.5	0.29 U	61	0.67 J	43	0.75
		16-Dec-09	0.36 U	3.5	0.38 U	37	0.65 J	29	0.29
		30-Jun-10	0.15 U	1.3	0.26 J	78	1.1	69	0.25
		19-Dec-10	0.15 U	2.1	0.4 J	38	0.77 J	27	0.25
		20-Jul-11	0.15 U	0.79 J	0.11 U	33	1.6	43	0.25
		140 404 11	0.10	4.12 4	4.11	33	4.0	10	0.25

Table 4
Chlorinated Organics in Groundwater
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Sample Identification		Sample Date	PCE (ug/L) 5	TCE (ug/L) 5	1,1-DCE (ug/L) 5	cis-DCE (ug/L) 5	trans-DCE (ug/L) 5	VC (ug/L) 2	1,1-DCA (ug/L) 5
MWT-22	downgradient of Biowall B2	3-Jan-07	2 U	5.2	2 U	130	2.7	98	2
	THE RESERVE TO STATE OF THE STA	17-Mar-07	4 U	3.8 J	4 U	90	4 U	64	4
		6-Jun-07	1 U	6.5	1 U	120 99	3.2 0.85 J	81 180	1
		14-Nov-07 25-Jun-08	1 U 5 U	2.6 3 J	1 U 5 U	68	5 U	42	5
		15-Dec-08	1.8 U	5.9	1.4 U	160	0.65 U	140	3.8
		3-Jun-09	0.36 U	2.2	0.29 U	66	0.77 J	89	0.75
	A CONTRACTOR OF THE CONTRACTOR	16-Dec-09	1.8 U	2.3 U	1.9 U	57	2.1 U	52	1.5
		1-Jul-10	0.15 U	0.6 J	0.12 J	41	1.3	57	0.25
		17-Dec-10	0.15 U	1.8	0.66 J	130	2.8	98	0.25
		20-Jul-11	0.15 U	0.32 J	0.11 U	23	2.0	59	0.25
		14-Dec-11	0.15 UJ	2.3	0.38 J	140	3.9	83	0.25
PT-22	between Biowalls B and C	3-Jan-07	1 U	11	1 U	57	0.86 J	22 13	1
		15-Mar-07	1 U	16	1 U 1 U	41 61	0.51 J 0.72 J	32	1
		5-Jun-07 14-Nov-07	1 U	8.5 9.7	1 U	30	0.72 J	11	1
		26-Jun-08	1 U	4.1	ıU	26	0.57 J	13	i
		15-Dec-08	0.36 U	35	0.29 U	52	0.41 J	1.3	0.75
		2-Jun-09	0.36 U	6.9	0.29 U	41	0.81 J	11	0.75
		16-Dec-09	0.36 U	8.7	0.38 U	29	0.42 U	9.5	0.29
		30-Jun-10	0.15 U	4.6	0.11 U	43	0.75 J	11	0.25
		17-Dec-10	0.15 U	29	0.11 U	42	0.48 J	2.1	0.25
		22-Jul-11	0.15 U	31	0.11 U	42	0.2 U	0.18 U	0.25
		14-Dec-11	0.15 UJ	34	0.11 U	32	0.37 J	0.68 J	0.25
MWT-23	in Biowall C2	3-Jan-07	4 U	4 U	4 U	60	4 U	23	4
		16-Mar-07	4 U	4 U	4 U	11	4 U 2 U	4.8 2 U	2
		6-Jun-07	2 U 7 U	2 U 7 U	2 U 2.6 U	3.1 3.6 J	7 U	2 U	7
		16-Nov-07 25-Jun-08	1 U	1 U	1 U	1 U	iU	1 U	1
		12-Dec-08	0.36 U	0.41 J	0.29 U	2.4	0.13 U	2.8	0.75
		2-Jun-09	0.36 U	0.18 U	0.29 U	0.42 U	0.13 U	0.24 U	0.75
		15-Dec-09	0.36 U	0.46 U	0.38 U	0.47 J	0.42 U	0.24 U	0.29
		29-Jun-10	0.15 U	0.13 U	0.11 U	0.41 J	0.2 U	0.18 U	0.25
		19-Dec-10	0.15 U	0.29 J	0.11 U	4.6	0.49 J	5.3	0.52
		19-Jul-11	0.15 U	0.13 U	0.11 U	0.57 J	0.22 J	0.33 J	0.25
		14-Dec-11	0.15 UJ	0.18 J	0.11 U	2.0	0.35 J	1.85	0.33
MWT-24	downgradient of Biowalls C1/C2	3-Jan-07	1 U	0.94 J	1 U	210	2.1 0.88 J	19 45	0.83
		15-Mar-07 5-Jun-07	1 U 2 U	1 U 2 U	1 U 2 U	68 19	2 U	22	1.1
		13-Nov-07	1 U	1.6	1 U	6.7	1 U	3.8	1
		26-Jun-08	5 U	5 U	5 U	31	5 U	5 U	
		12-Dec-08	0.36 U	15	0.29 U	52	0.13 U	3.6	0.75
		2-Jun-09	0.36 U	4.8	0.29 U	38	0.13 U	7.3	0.75
		15-Dec-09	0.36 U	4.7	0.7 J	32	0.42 U	4	0.29
		1-Jul-10	0.15 U	5	0.11 U	31	0.41 J	7.5	0.79
		17-Dec-10	0.15 U	3.3	0.11 U	23	1	4.3	0.58
		21-Jul-11	0.15 U	5.6	0.11 U	39	1.6 0.39 J	17 2.3	0.25
		13-Dec-11	0.15 U	3.1	0.11 U	62	1 U	2.3	0.44
PT-17	downgradient of biowalls	2-Jan-07 15-Mar-07	1 U 2 U	6	2 U	26	2 U	21	2
		5-Jun-07	1 U	3.4	1 U	43	0.77 J	9.9	1
		13-Nov-07	1 U	15	1 U	27	0.54 J	22	1
		26-Jun-08	ıu	8.5	1 U	21	1 U	23	1
		11-Dec-08	0.36 U	9.2	0.29 U	24	0.46 J	10	0.75
		2-Jun-09	0.36 U	8	0.29 U	56	1.1	55	0.75
		15-Dec-09	0.36 U	7.8	0.38 U	65	1.8	20	0.29
		1-Jul-10	0.15 U	3	0.24 J	81	3.2	53	0.25
		18-Dec-10	0.15 U	8.1	0.42 J	39	2.2	16 56	0.25
		21-Jul-11	1 U	4.5	0.11 U	94 25	7.0 1.8	12	0.25
MUT 7	immed. upgradient of ZVI wall	13-Dec-11 4-Jan-07	0.15 U	490	0.11 U	35	1 U	0.51 J	0.2.
MWT-7	nnined. upgradient of Z.v1 wall	4-Jan-07 15-Mar-07	1 U	440	1 U	42	iU	9.7	1
		5-Jun-07	1 U	410	1 U	61	1 U	18	i
		13-Nov-07	1 U	510	1 U	90	1 U	24	1
		25-Jun-08	1 U	440	1 U	90	1 U	12	1
		15-Dec-08	0.36 U	410	0.29 U	79	0.13 U	13	0.75
		2-Jun-09	0.36 U	330	0.29 U	68	0.13 U	9.3	0.75
			00677	350	0.38 U	140	0.55 J	21	0.48
		15-Dec-09	0.36 U						
		1-Jul-10	0.15 U	330	0.78 J	170	0.91 J	15	0.25
									0.25 0.25 0.94

Table 4
Chlorinated Organics in Groundwater
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

	Sample Identification	Class (Sample Date GA Standard (ug/L)	PCE (ug/L) 5	TCE (ug/L) 5	1,1-DCE (ug/L) 5	cis-DCE (ug/L) 5	trans-DCE (ug/L) 5	VC (ug/L) 2	1,1-DCA (ug/L) 5
nt	PT-24	downgradient of ZVI wall	2-Jan-07	1 U	4	1 U	54	0.86 J	0.6 J	0.68
		Committee and the second of	15-Mar-07	1 U	2.8	1 U	38	0.81 J	1 U	1 1
			5-Jun-07	1 U	3.1	1 U	60	1.6	2.6	0.75
			13-Nov-07	1 U	3.8	1 U	39	1 U	1 U	0.56
			26-Jun-08	1 U	2.4	1 U	48	1.1	1.9	0.69
			12-Dec-08	0.36 U	2.2	0.29 U	34	0.36 J	0.26 J	0.75
			2-Jun-09	0.36 U	1.7	0.29 U	32	0.83 J	2	0.75
			15-Dec-09	0.36 U	1.7	0.38 U	28	0.61 J	1.6	0.29
		1	30-Jun-10	0.15 U	0.39 J	0.11 U	33	1.1	3.8	0.54
			17-Dec-10	0.15 U	0.53 J	0.11 U	30	1.4	7.7	0.54
			21-Jul-11	0.15 U	0.38 J	0.11 U	37	1.4	7.9	0.78
			13-Dec-11	0.15 U	0.82 J	0.11 U	21	0.63 J	2.9	0.48
	MW-56	off-site well	4-Jan-07	l U	1 U	l U	1.2	1 U	1 U	I
		and the second second	6-Jun-07	1 U	1 U	1 U	1.7	1 U	1 U	1
			26-Jun-08	1 U	1 U	1 U	1.3	1 U	1 U	1
			11-Dec-08	0.36 U	0.33 J	0.29 U	0.4 J	0.13 U	0.24 U	0.75
	1		4-Jun-09	0.36 U	0.18 U	0.29 U	1	0.13 U	0.24 U	0.75
			18-Dec-09	0.36 U	0.46 U	0.38 U	0.56 J	0.42 U	0.24 U	0.29
			1-Jul-10	0.15 U	0.13 U	0.11 U	0.61 J	0.2 U	0.18 U	0.25
			19-Dec-10	0.15 U	0.13 U	0.11 U	0.86 J	0.2 U	0.18 U	0.25
ent			4-Oct-11	0.15 U	0.13 U	0.11 U	2.3	0.2 U	0.18 U	0.25
			12-Dec-11	0.15 U	0.13 U	0.11 U	0.95 J	0.2 U	0.18 U	0.25

Notes:

- 1. Sample duplicate pairs were collected at MWT-28 in Jan-07 and June-10; MWT-29 in Mar-07, Jun-08, and Dec-09; MWT-27 in Jun-07, Dec-08, Dec-09, July-11; and MWT-23 in Nov-07, Dec-10, and Dec-11. 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.
- 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 5 Seneca Army Depot Activity

Sampled Wells	Location			TCE	cis-1,2-DCE	VC
PT-18A	upgradient of walls	Sample Date:	15-Dec-11 Trend:	7.3 Decreasing	0.53 J Compliant	0.18 U Compliant
MWT-25	upgradient of Biowall A	Sample Date:	15-Dec-11 Trend:	1.6 Compliant	0.3 J Compliant	0.18 U Compliant
MWT-26	upgradient of Biowalls B1/B2	Sample Date:	15-Dec-11 Trend:	1.2 Compliant	1.1 Compliant	0.47 J Compliant
MWT-27	in Biowall B1	Sample Date:	14-Dec-11 Trend:	0.13 J Compliant	1.4 Compliant	3 No Trend
MWT-28	in Biowall B2	Sample Date:	14-Dec-11 Trend:	0.13 U Compliant	0.28 J Compliant	0.56 J Compliant
MWT-29	downgradient of Biowall B2	Sample Date:	14-Dec-11 Trend:	2.4 Compliant	8.5 Decreasing	5.9 Decreasing
MWT-22	downgradient of Biowall B2	Sample Date:	14-Dec-11 Trend:	2.3 Compliant	140 No Trend	83 Decreasing
PT-22	between Biowalls B and C	Sample Date:	14-Dec-11 Trend:	34 Increasing	32 Decreasing	0.68 J Compliant
MWT-23 ¹	in Biowall C2	Sample Date:	14-Dec-11 Trend:	0.18 J Compliant	2 Compliant	1.9 Compliant
MWT-24	downgradient of Biowalls C1/C2	Sample Date:	13-Dec-11 Trend:	3.1 Compliant	16 Decreasing	2.3 Decreasing
PT-17	downgradient of biowalls	Sample Date:	13-Dec-11 Trend:	11 No Trend	25 Decreasing	12 No Trend
MWT-7	immed. upgradient of ZVI wall	Sample Date:	13-Dec-11 Trend:	2.3 Compliant	56 Increasing	4.3 No Trend
PT-24	downgradient of ZVI wall	Sample Date:	13-Dec-11 Trend:	0.82 J Compliant	21 Decreasing	2.9 Decreasing
MW-56	off-site well	Sample Date:	15-Dec-11 Trend:	0.13 U Compliant	0.95 J Compliant	0.18 U Compliant

Notes:

^{1.} The concentrations presented were an average of the sample duplicate pair.

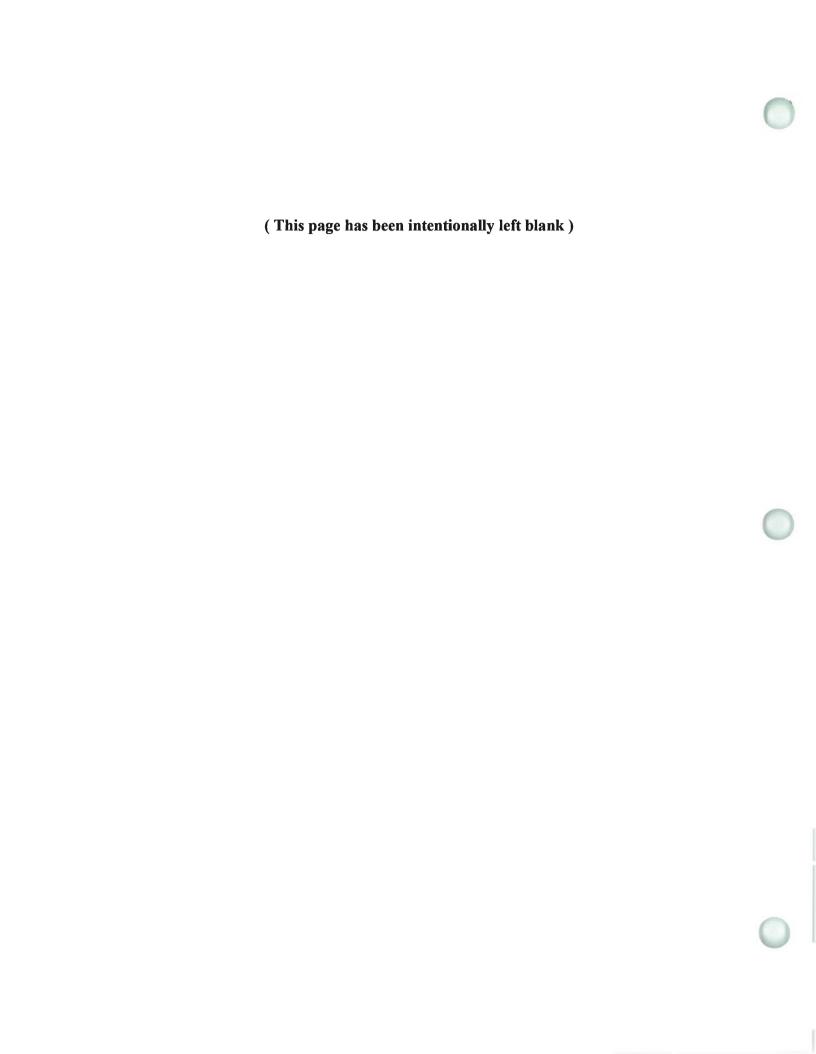
^{2.} Overall concentrations follow a decreasing trend; however further monitoring is needed to elucidate the dates at which compounds can be expected to reach groundwater standards.

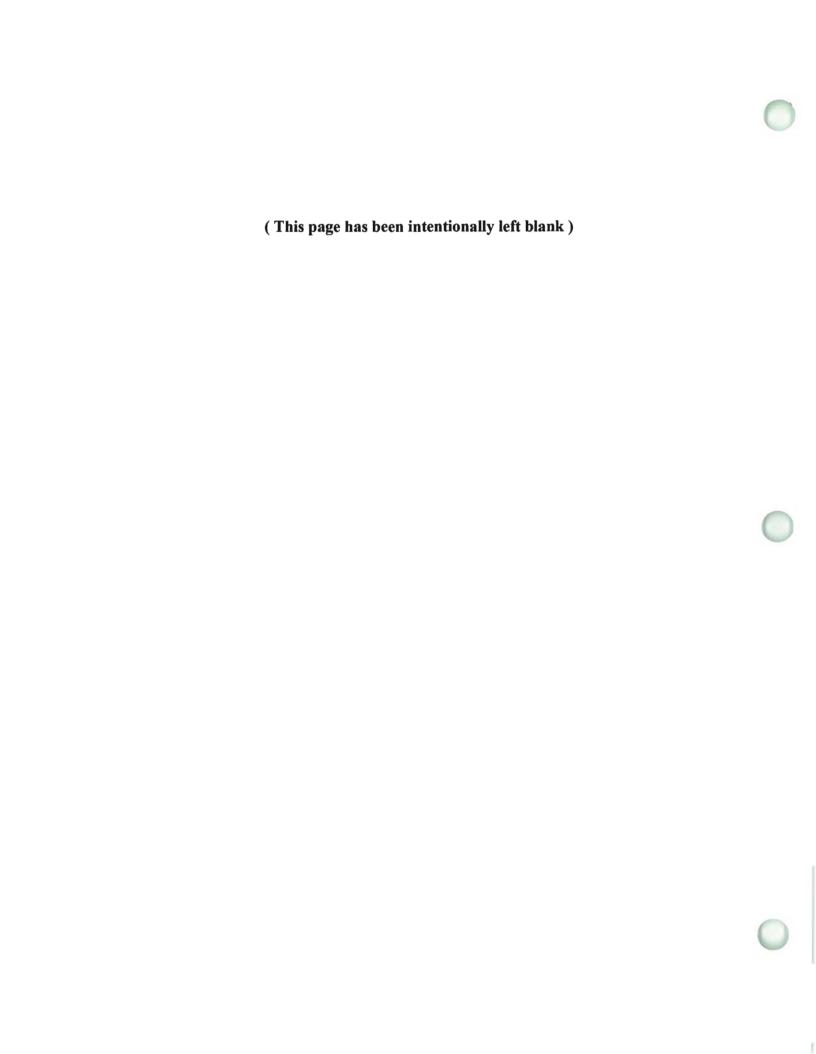
U = compound was not detected.

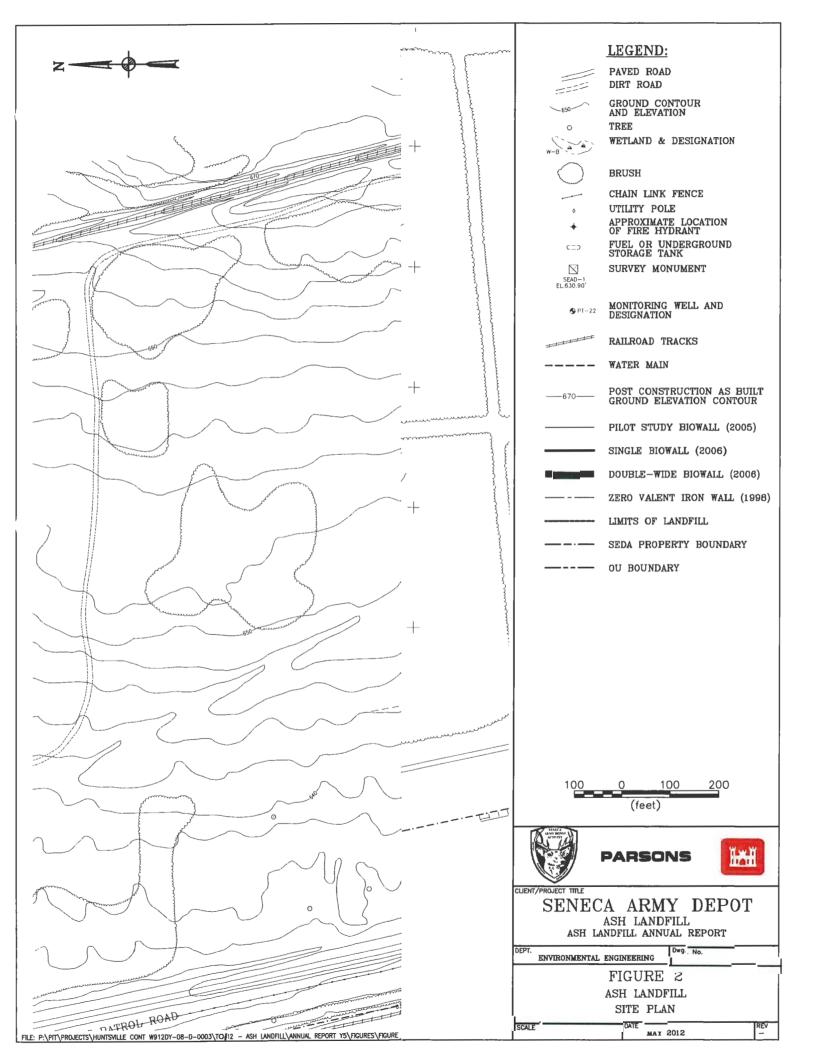
J = the reported value is an estimated concentration.

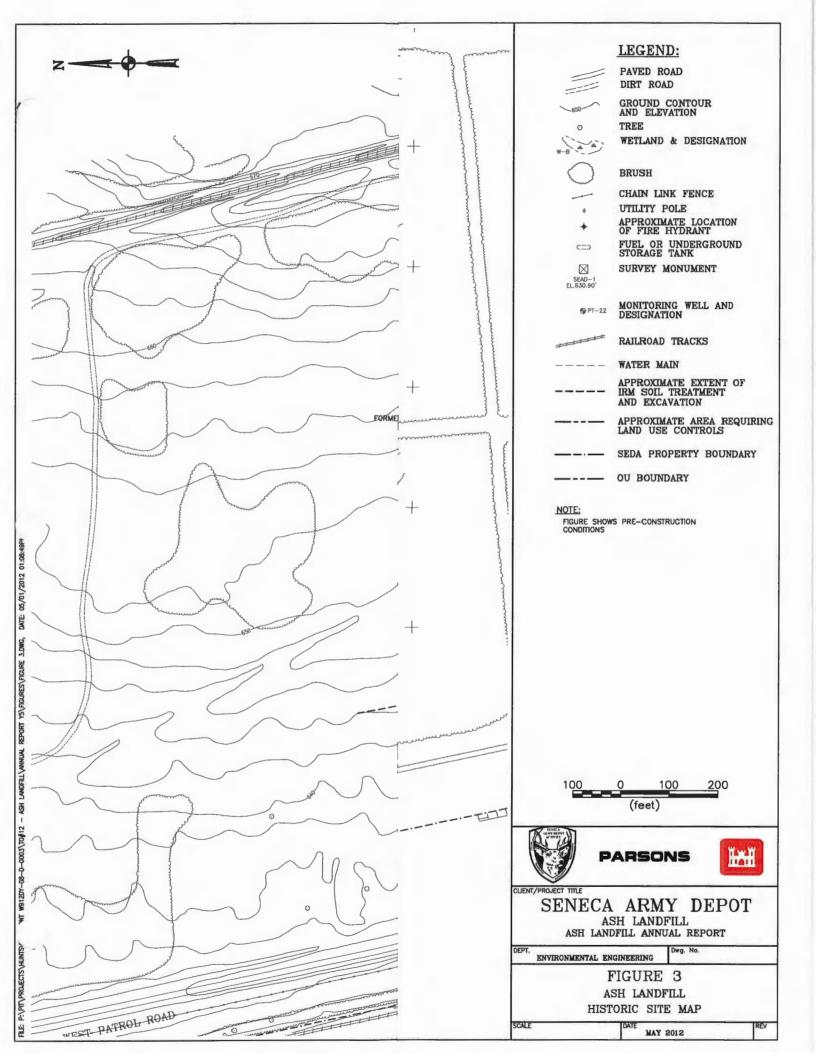
FIGURES

Figure 1	Ash Landfill Location at SEDA
Figure 2	Ash Landfill Site Plan
Figure 3	Ash Landfill Historic Site Map
Figure 4	Location of Farmhouse Wells
Figure 5	Reductive Dechlorination of Chlorinated Ethenes
Figure 6	Chlorinated Ethenes Concentrations in Groundwater
Figure 7	Groundwater Elevations
Figure 8	Groundwater Contours & Groundwater Flow Direction Dec. 2010
Figure 9A	Concentrations of VOCs Along the Biowalls - Quarter 1, 2007
Figure 9B	Concentrations of VOCs Along the Biowalls - Quarter 2, 2007
Figure 9C	Concentrations of VOCs Along the Biowalls - Quarter 3, 2007
Figure 9D	Concentrations of VOCs Along the Biowalls - Quarter 4, 2007
Figure 9E	Concentrations of VOCs Along the Biowalls - Round 5, 2008
Figure 9F	Concentrations of VOCs Along the Biowalls - Round 6, 2008
Figure 9G	Concentrations of VOCs Along the Biowalls - Round 7, 2009
Figure 9H	Concentrations of VOCs Along the Biowalls - Round 8, 2009
Figure 9I	Concentrations of VOCs Along the Biowalls - Round 9, 2010
Figure 9J	Concentrations of VOCs Along the Biowalls - Round 10, 2010
Figure 9K	Concentrations of VOCs Along the Biowalls - Round 11, 2011
Figure 9L	Concentrations of VOCs Along the Biowalls - Round 12, 2011
Figure 10A	Concentrations of Chlorinated Organics Over Time at MWT-25
Figure 10B	Concentrations of Chlorinated Organics Over Time at MWT-26
Figure 10C	Concentrations of Chlorinated Organics Over Time at MWT-27
Figure 10D	Concentrations of Chlorinated Organics Over Time at MWT-28
Figure 10E	Concentrations of Chlorinated Organics Over Time at MWT-29
Figure 10F	Concentrations of Chlorinated Organics Over Time at MWT-22
Figure 10G	Concentrations of Chlorinated Organics Over Time at PT-22
Figure 10H	Concentrations of Chlorinated Organics Over Time at MWT-23
Figure 10I	Concentrations of Chlorinated Organics Over Time at MWT-24
Figure 10J	Concentrations of Chlorinated Organics Over Time at PT-24
Figure 11A	Historic Concentrations of Chlorinated Organics at PT-18A
Figure 11B	Historic Concentrations of Chlorinated Organics at PT-17
Figure 11C	Historic Concentrations of Chlorinated Organics at MWT-7
Figure 12	Decision Diagram









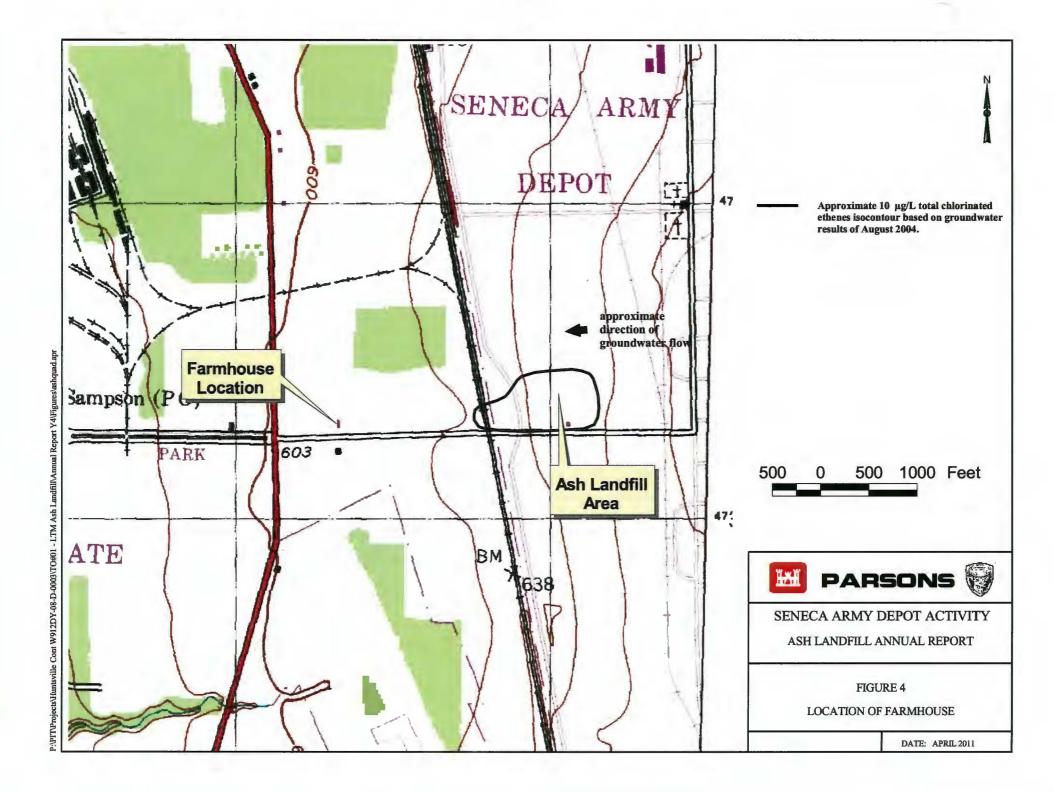
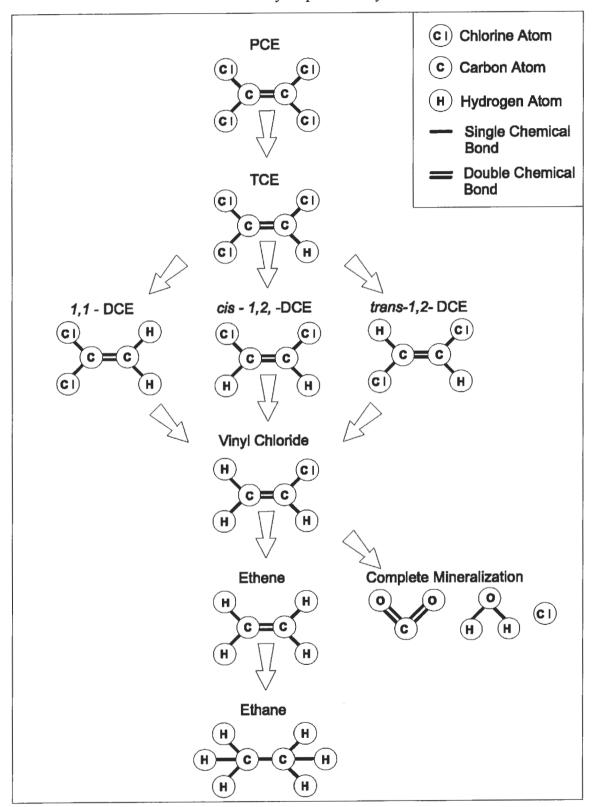
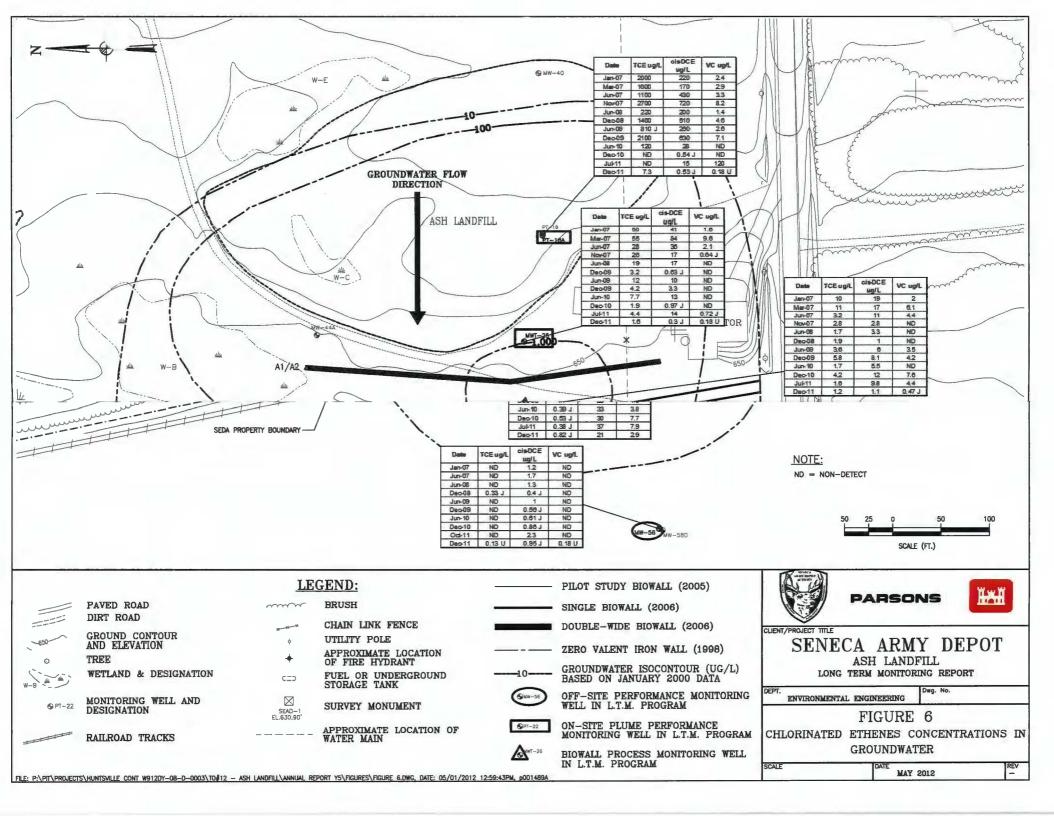


Figure 5
Reductive Dechlorination of Chlorinated Ethenes
Ash Landfill Annual Report
Seneca Army Depot Activity





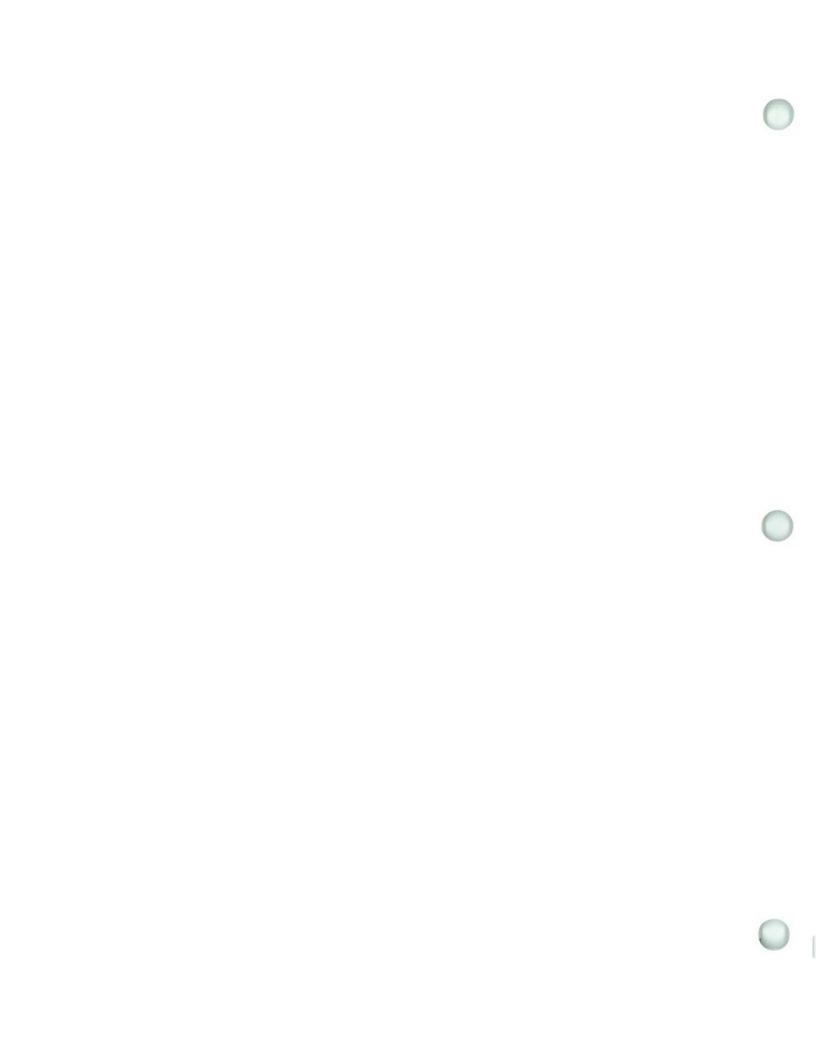
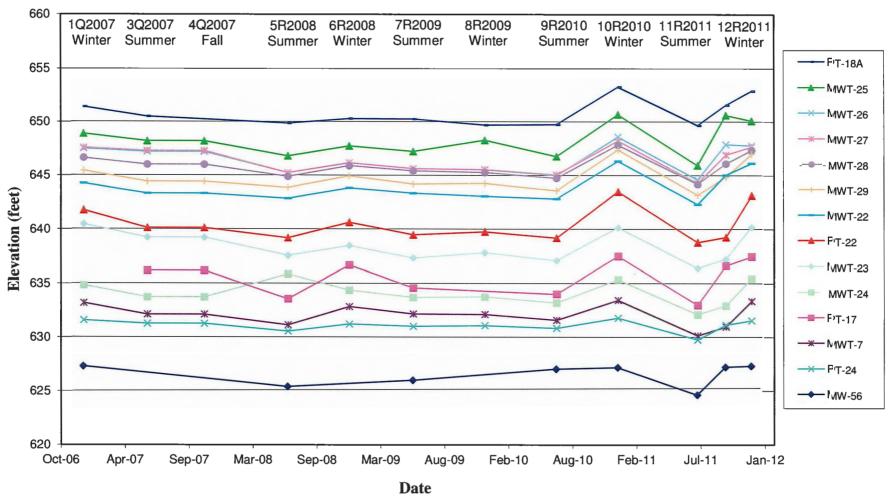
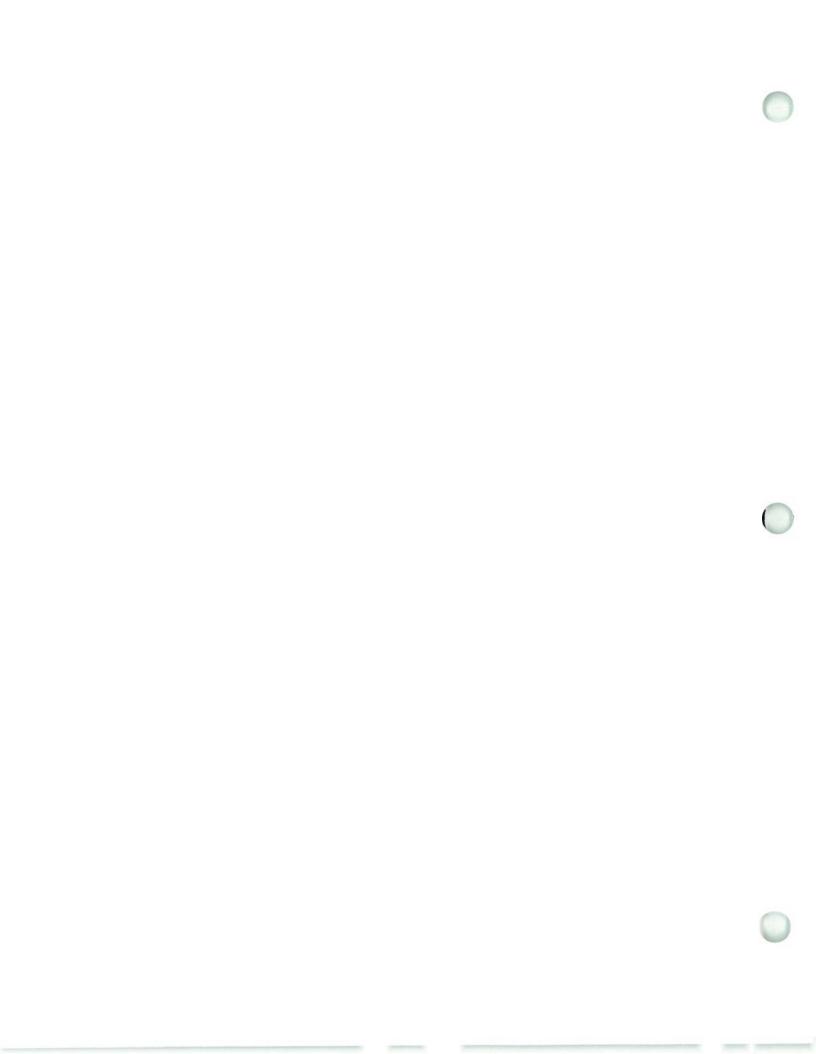


Figure 7
Groundwater Elevations
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



Note: Groundwater levels were measured on: December 12-15, 2006; June 4, 2007; November 7, 2007; June 23, 2008; December 23, 2008; June 1, 2009; December 14, 2009; June 28, 2010, December 13, 2010, and December 12, 2011. In Round 11, Groundwater levels were collected on July 18, 2011, and again on October 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.



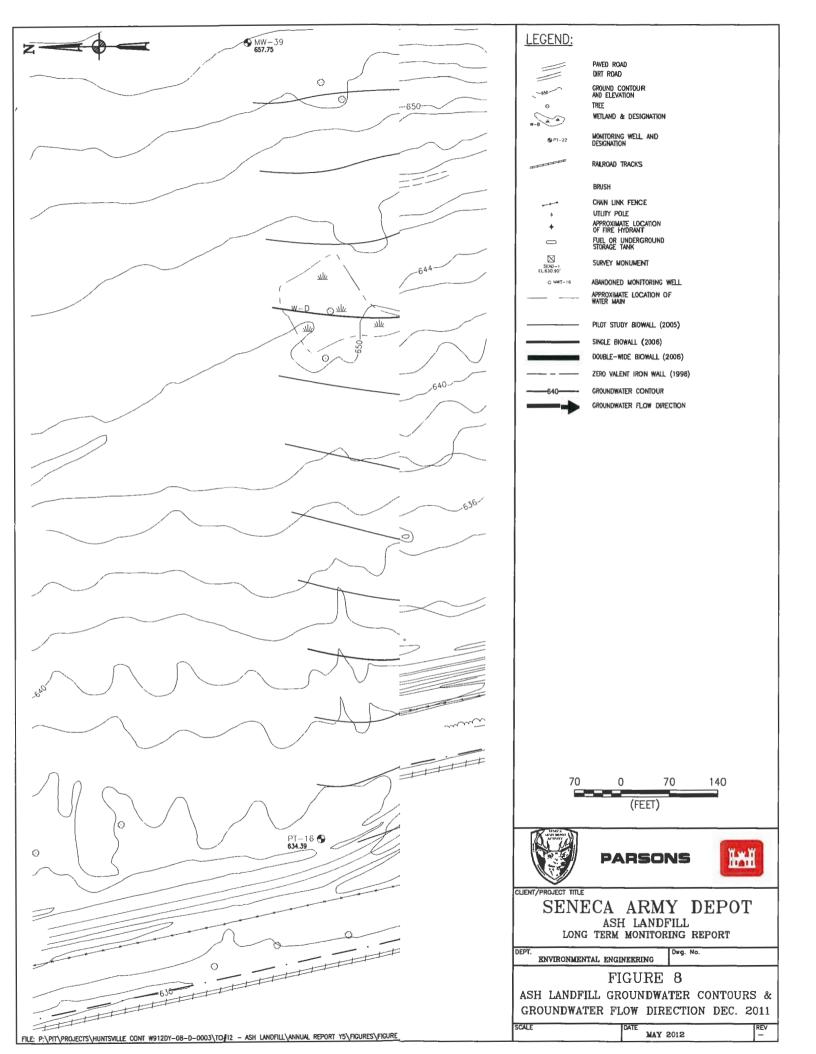


Figure 9A

Concentrations of VOCs Along the Biowalls - Quarter 1, 2007

Ash Landfill Annual Report, Year 5

Seneca Army Depot Activity

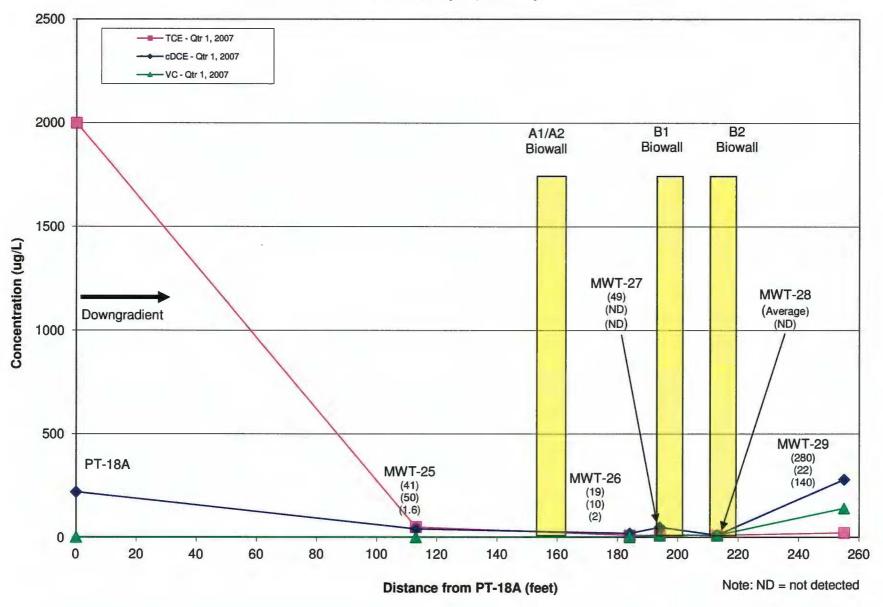


Figure 9B
Concentrations of VOCs Along the Biowalls - Quarter 2, 2007
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

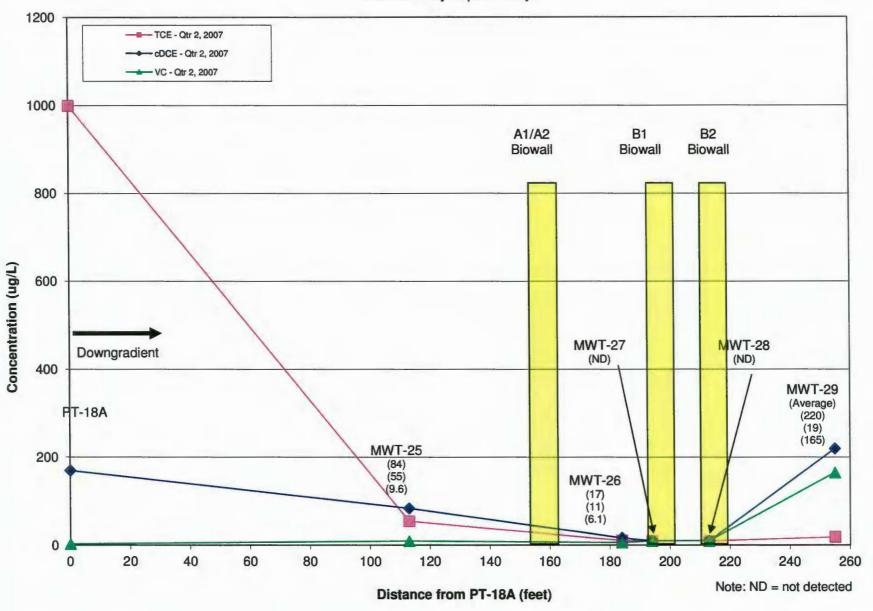


Figure 9C
Concentrations of VOCs Along the Biowalls - Quarter 3, 2007
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

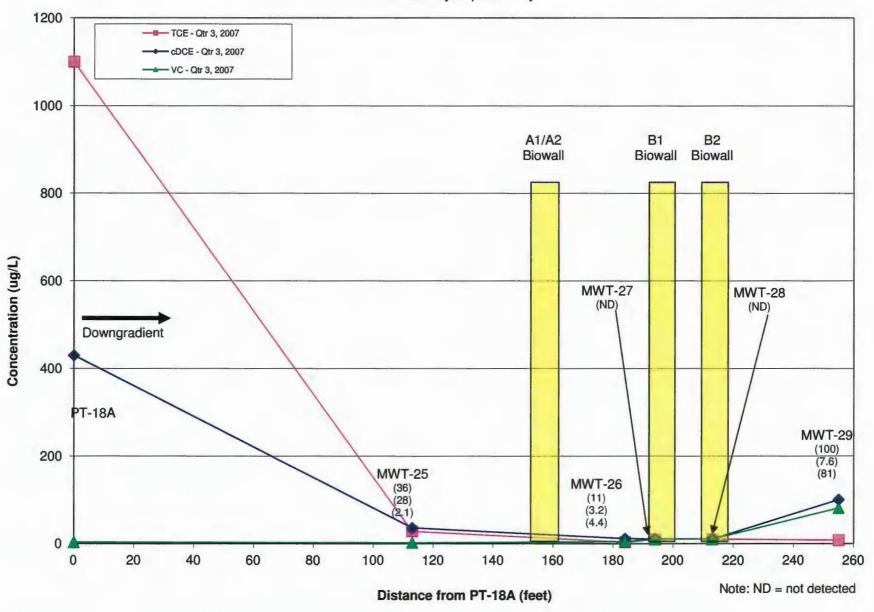


Figure 9D
Concentrations of VOCs Along the Biowalls - Quarter 4, 2007
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

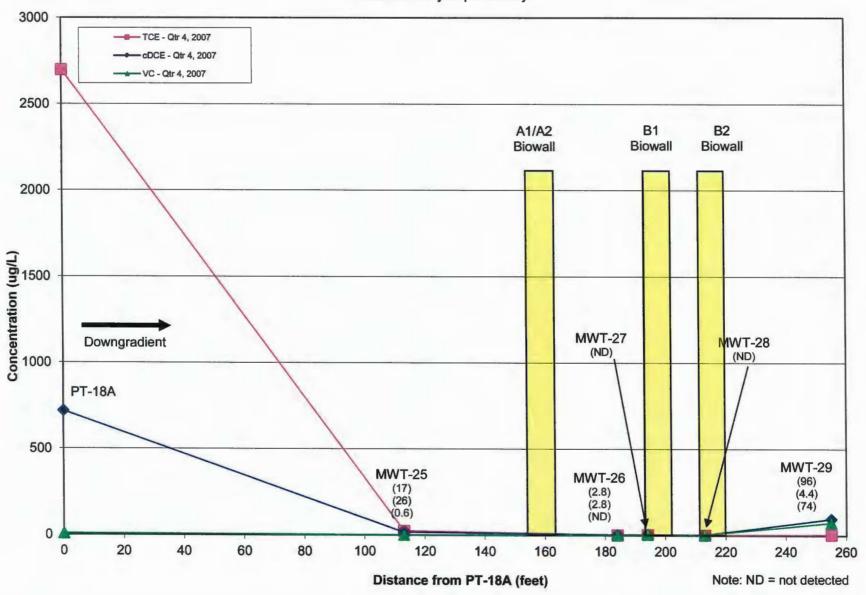


Figure 9A
Concentrations of VOCs Along the Biowalls - Quarter 1, 2007
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

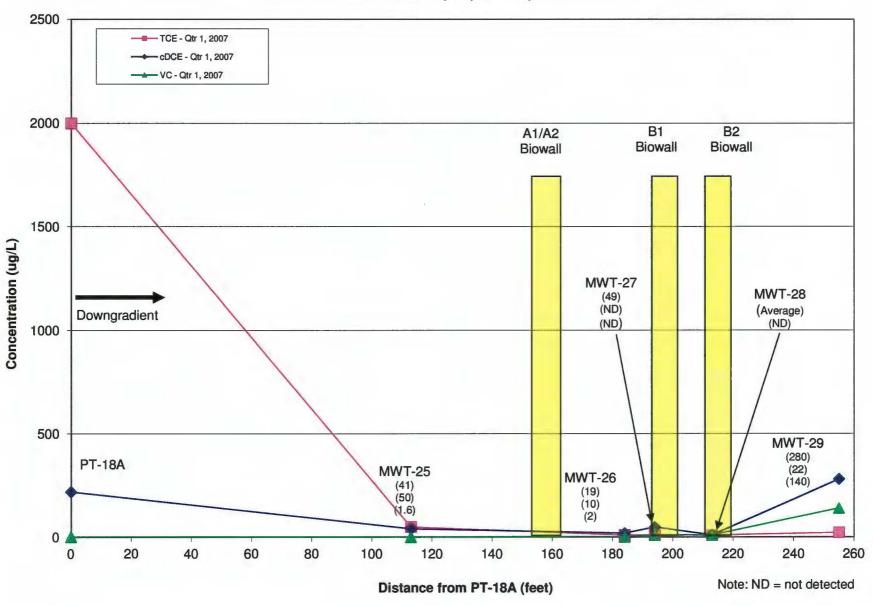


Figure 9B
Concentrations of VOCs Along the Biowalls - Quarter 2, 2007
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

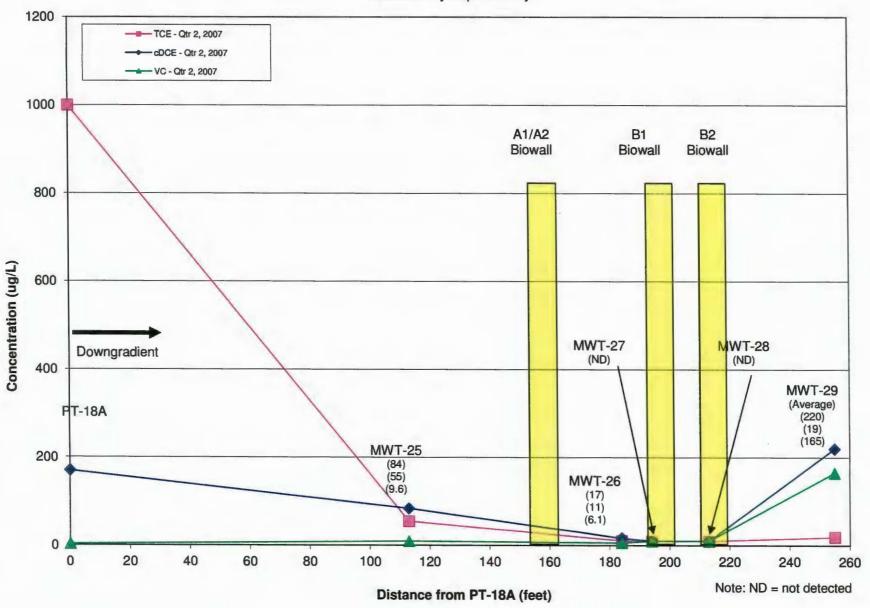


Figure 9C
Concentrations of VOCs Along the Biowalls - Quarter 3, 2007
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

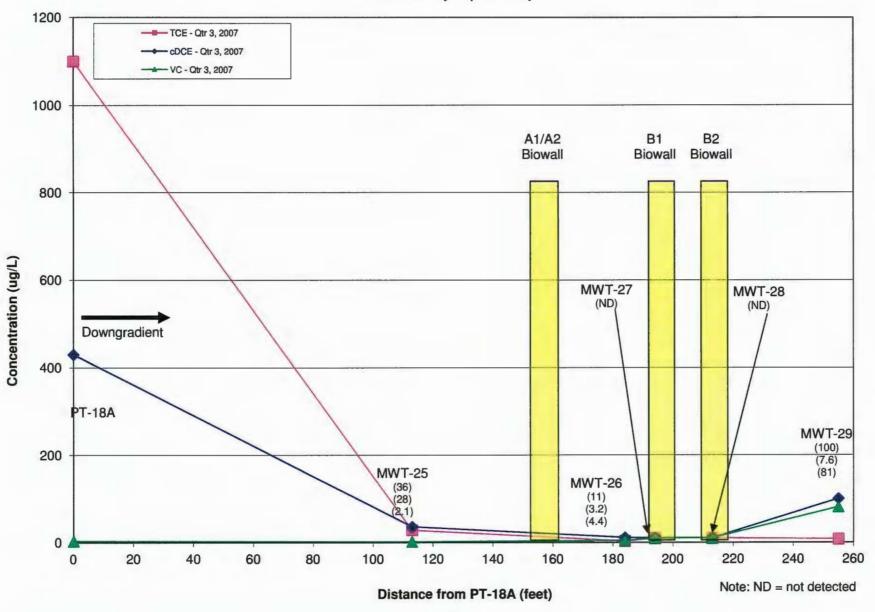


Figure 9D
Concentrations of VOCs Along the Biowalls - Quarter 4, 2007
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

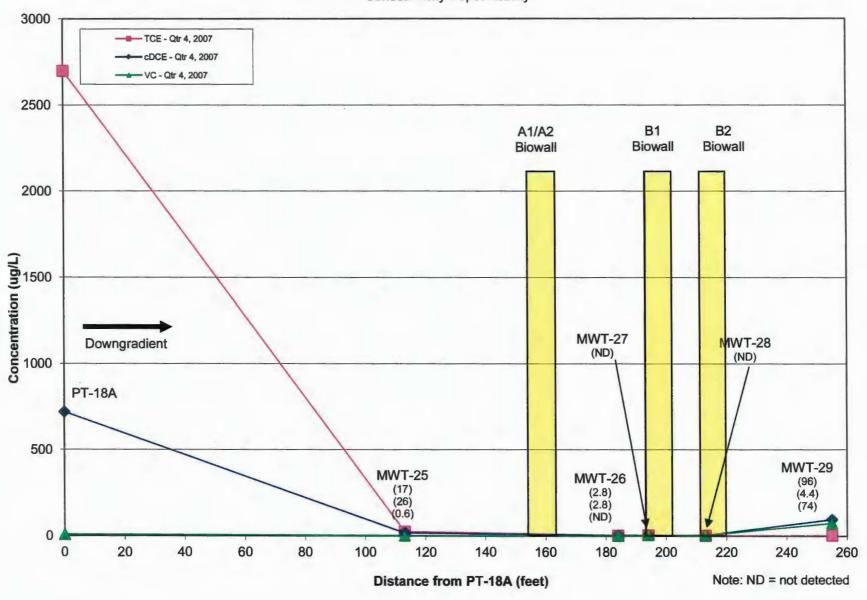


Figure 9E
Concentrations of VOCs Along the Biowalls - Round 5, 2008
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

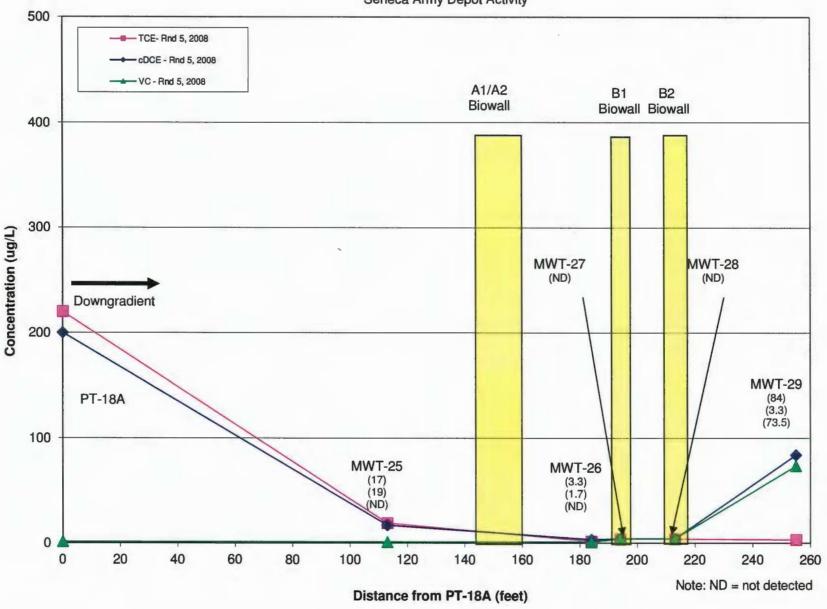


Figure 9F
Concentrations of VOCs Along the Biowalls - Round 6, 2008
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

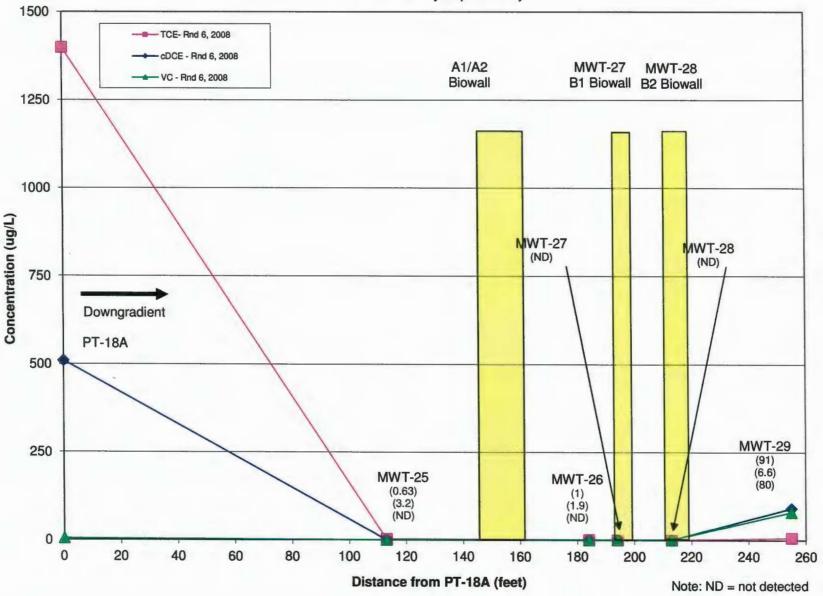


Figure 9G
Concentrations of VOCs Along the Biowalls - Round 7, 2009
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

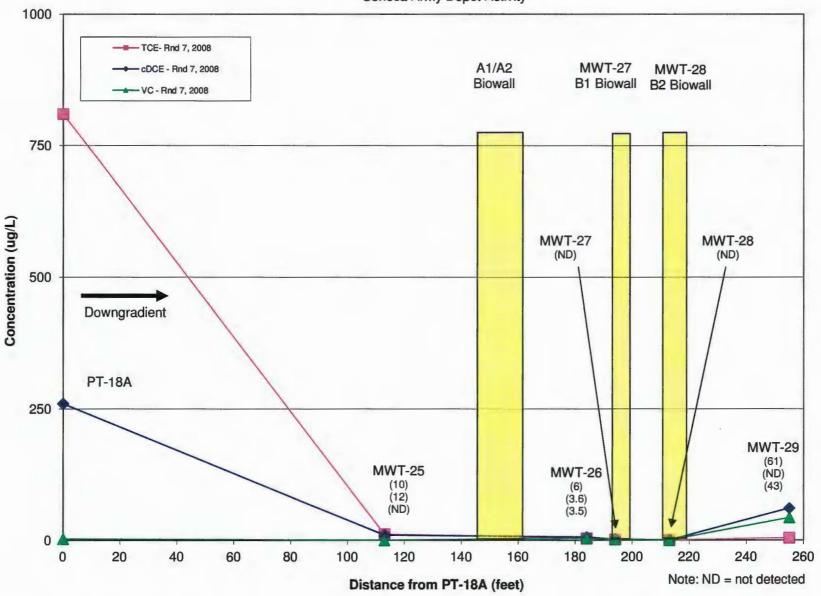


Figure 9H
Concentrations of VOCs Along the Biowalls - Round 8, 2009
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

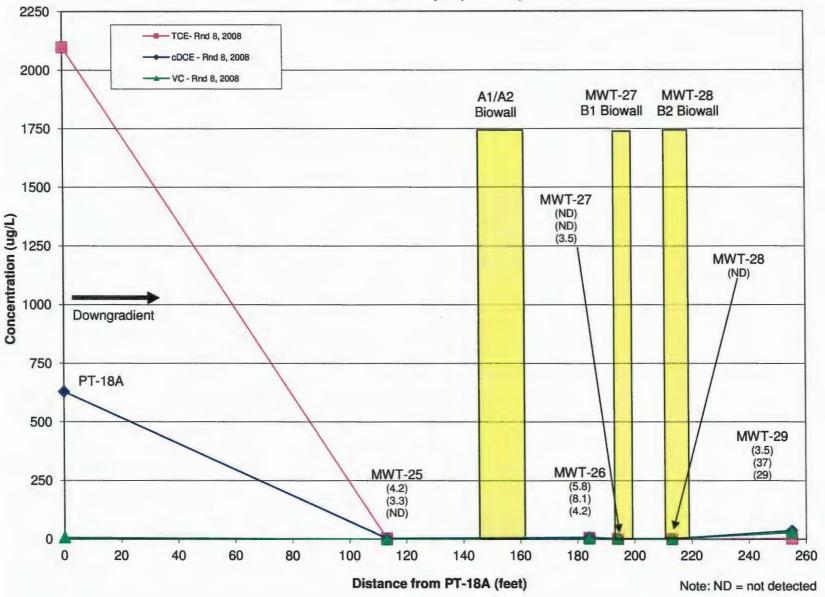


Figure 9I
Concentrations of VOCs Along the Biowalls - Round 9, 2010
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

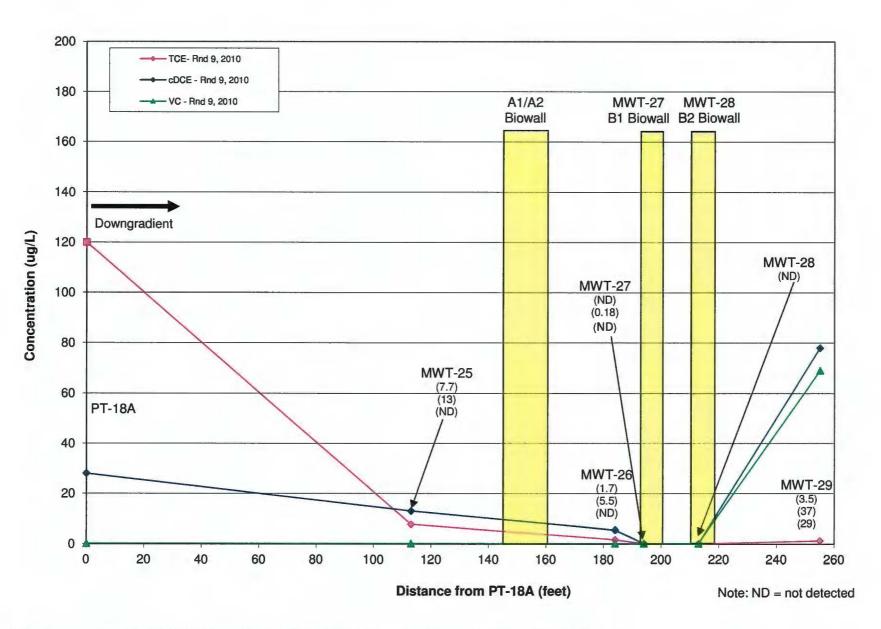


Figure 9A

Concentrations of VOCs Along the Biowalls - Quarter 1, 2007

Ash Landfill Annual Report, Year 5

Seneca Army Depot Activity

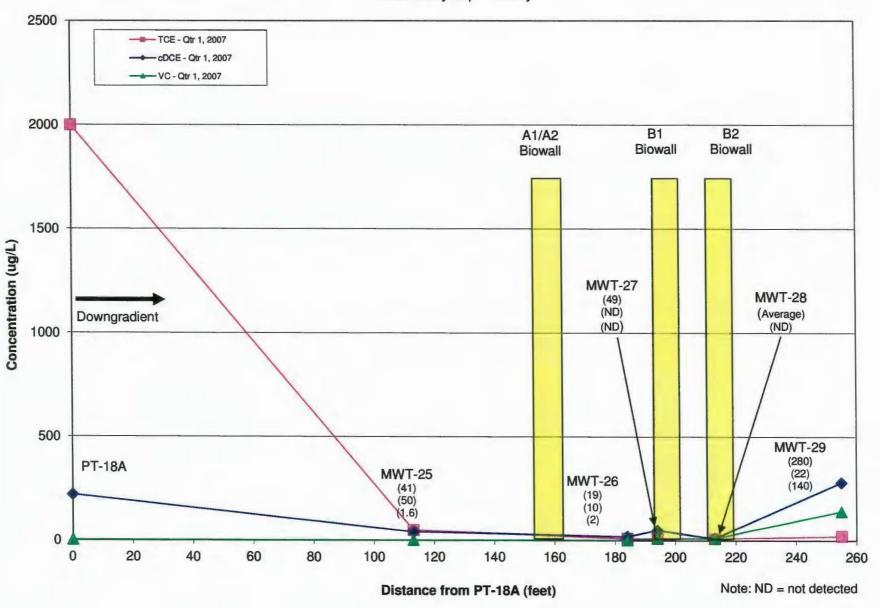


Figure 9B
Concentrations of VOCs Along the Biowalls - Quarter 2, 2007
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

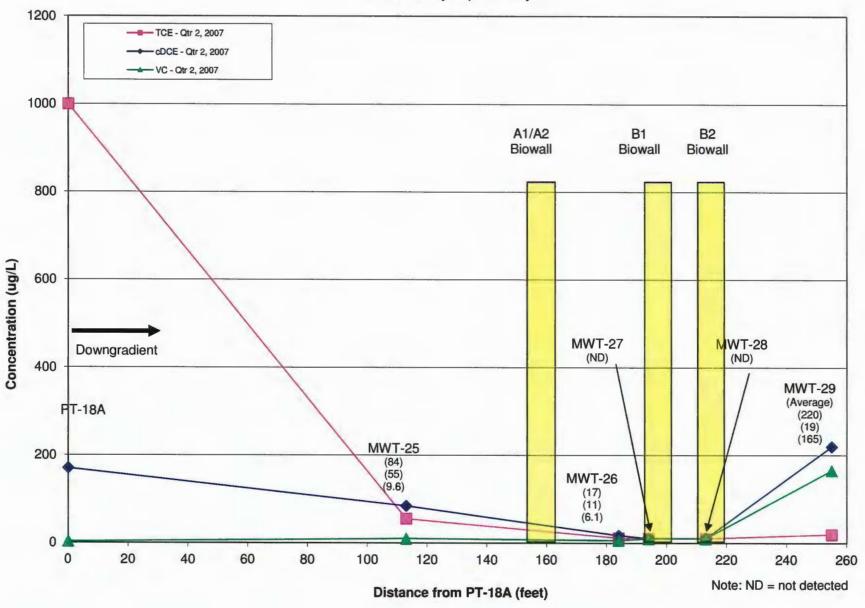


Figure 9C
Concentrations of VOCs Along the Biowalls - Quarter 3, 2007
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

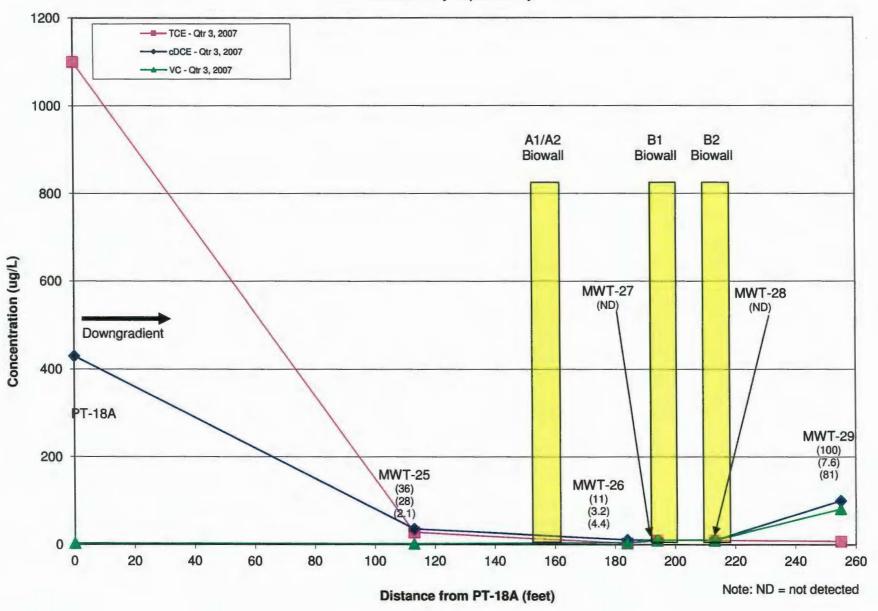


Figure 9D
Concentrations of VOCs Along the Biowalls - Quarter 4, 2007
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

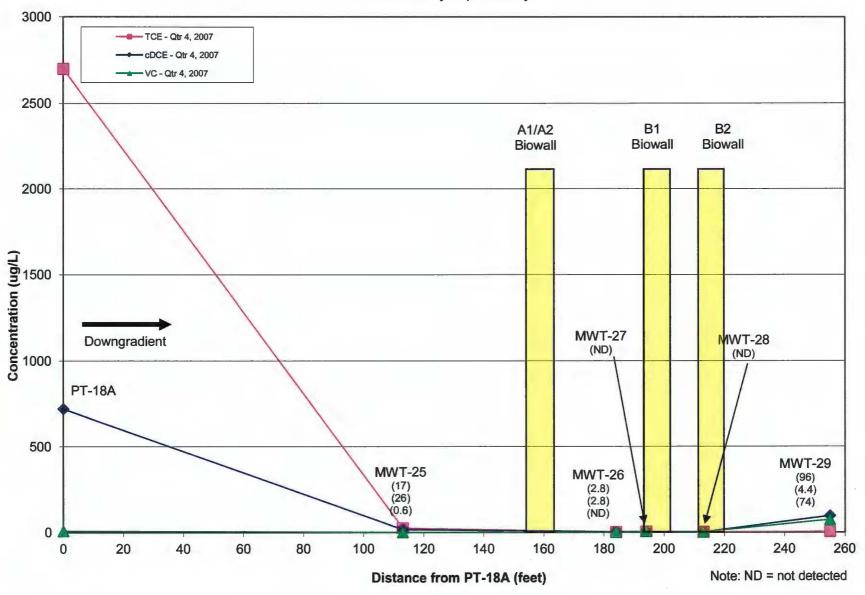


Figure 9E

Concentrations of VOCs Along the Biowalls - Round 5, 2008

Ash Landfill Annual Report, Year 5

Seneca Army Depot Activity

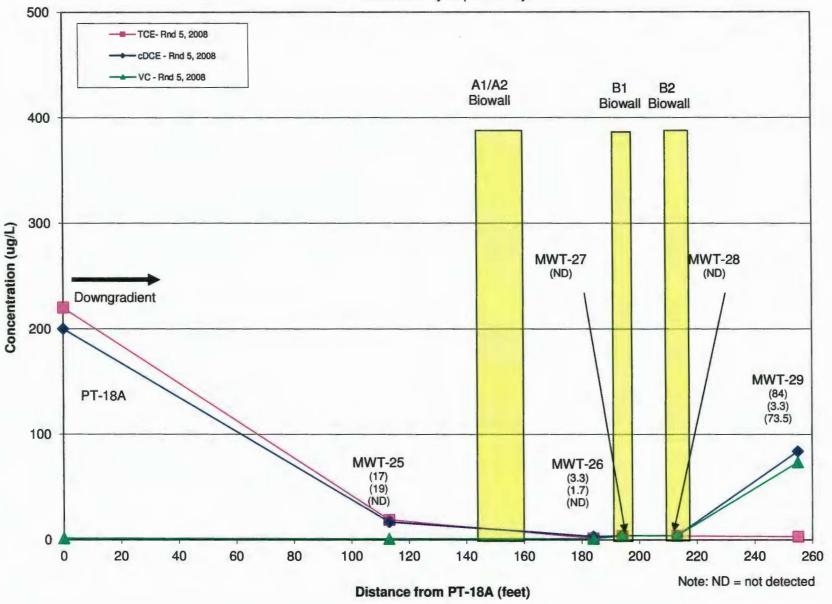


Figure 9F
Concentrations of VOCs Along the Biowalls - Round 6, 2008
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

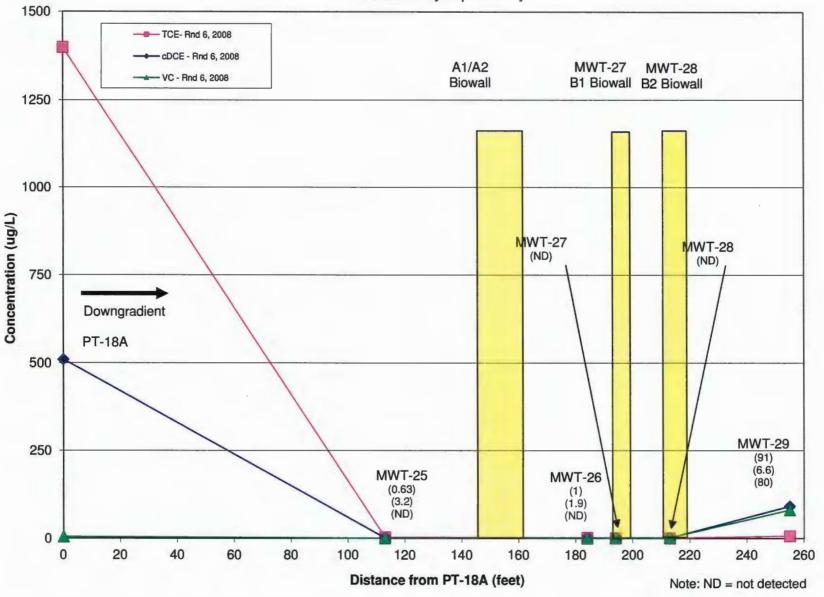


Figure 9G
Concentrations of VOCs Along the Biowalls - Round 7, 2009
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

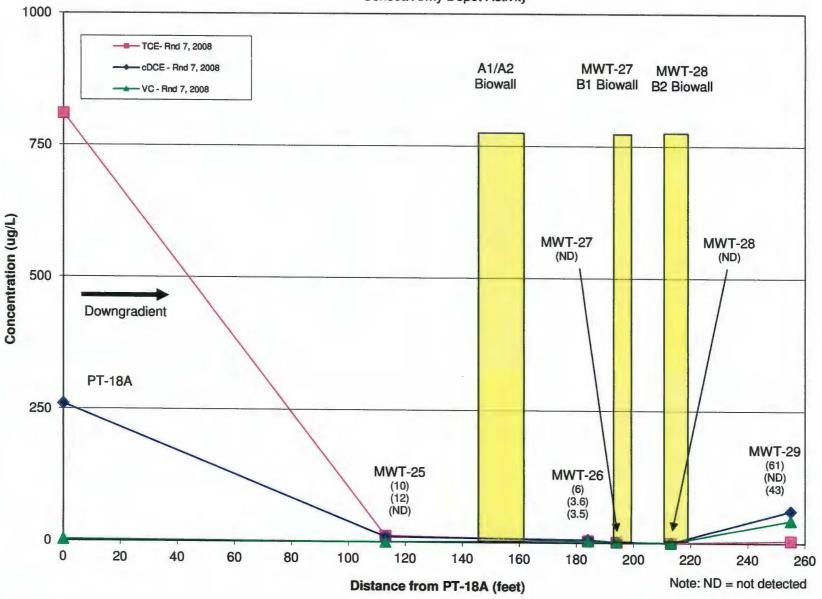


Figure 9H
Concentrations of VOCs Along the Biowalls - Round 8, 2009
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

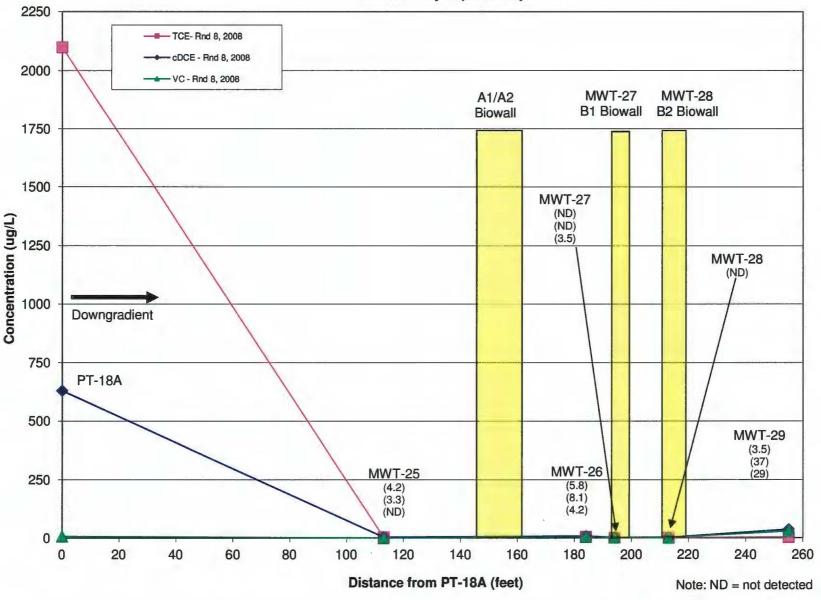


Figure 9I
Concentrations of VOCs Along the Biowalls - Round 9, 2010
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

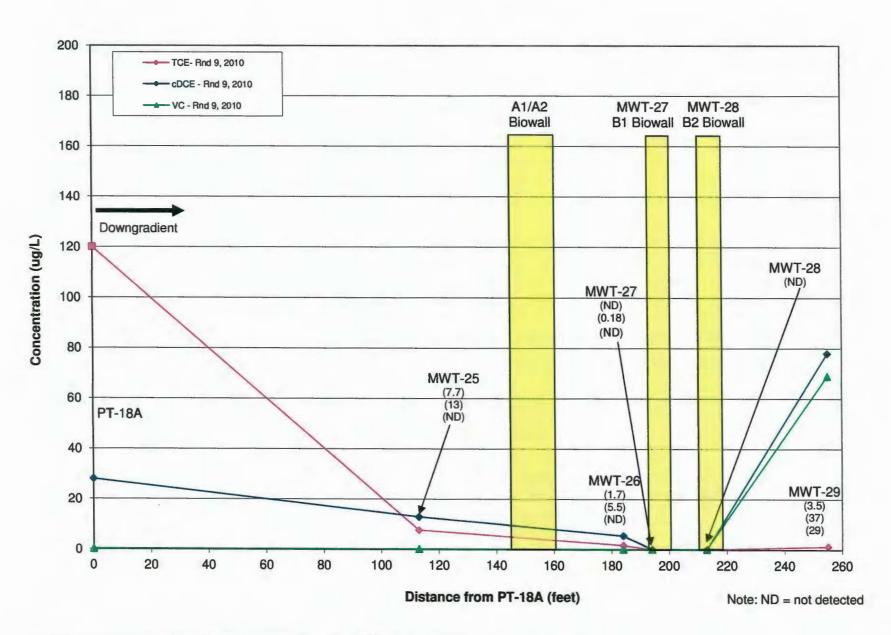


Figure 9J
Concentrations of VOCs Along the Biowalls - Round 10, 2010
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

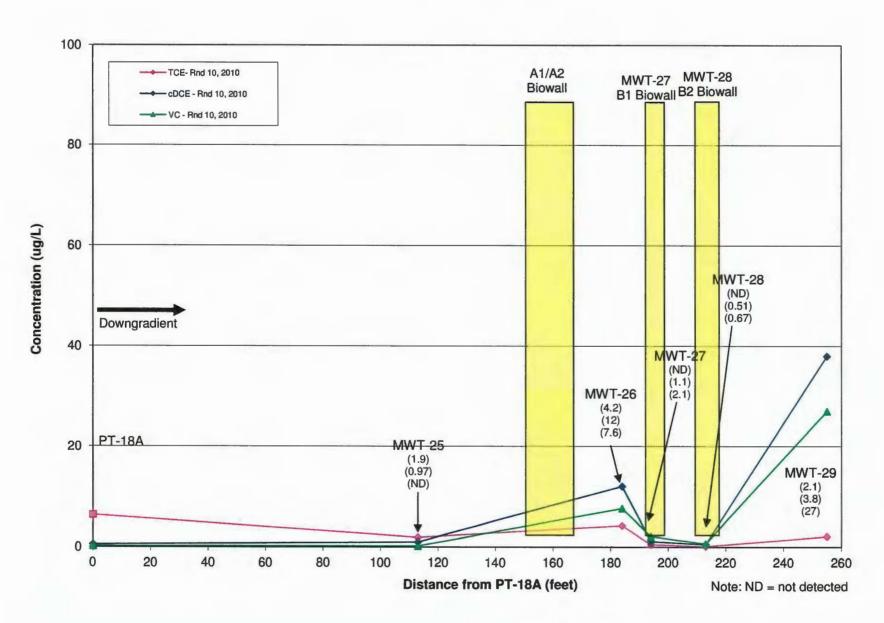


Figure 9K
Concentrations of VOCs Along the Biowalls - Round 11, 2011
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

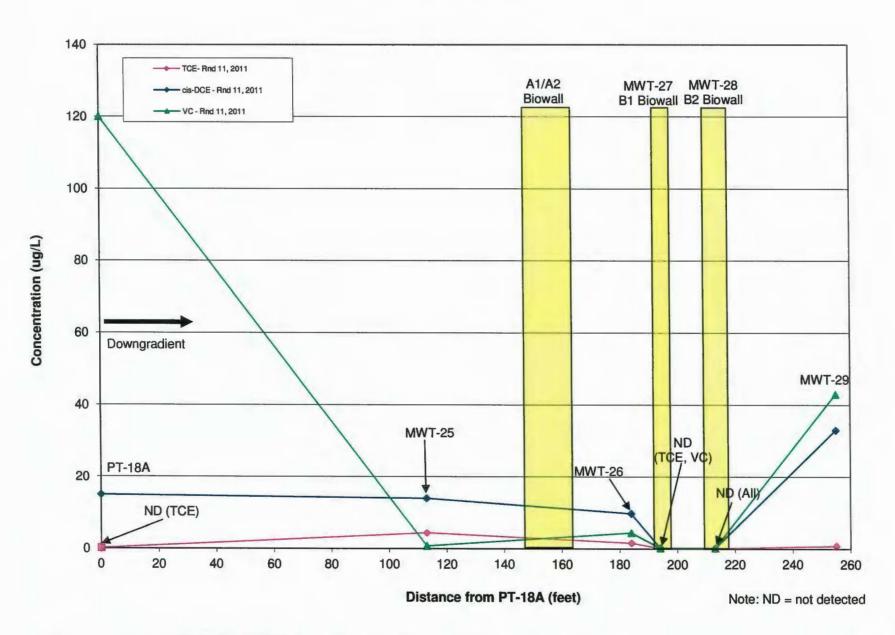


Figure 9L
Concentrations of VOCs Along the Biowalls - Round 12, 2011
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

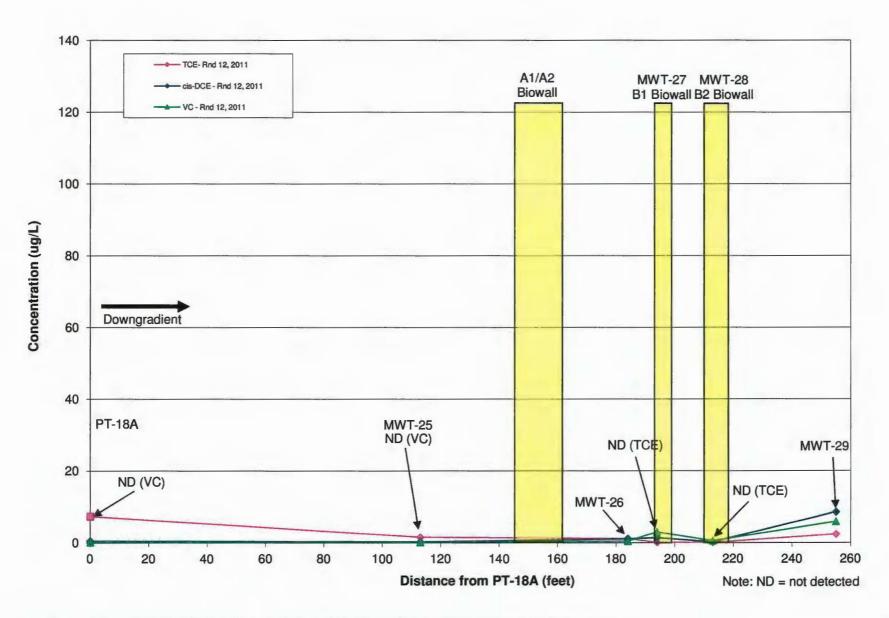
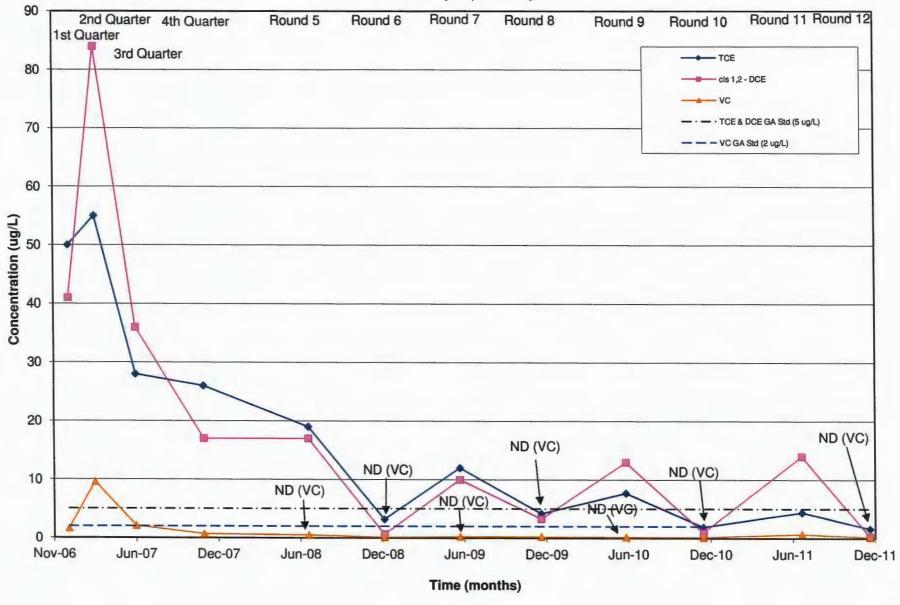


Figure 10A
Concentrations of Chlorinated Organics Over Time at MWT-25
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



Note: ND = not detected.

P:\PIT\



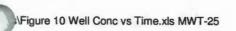
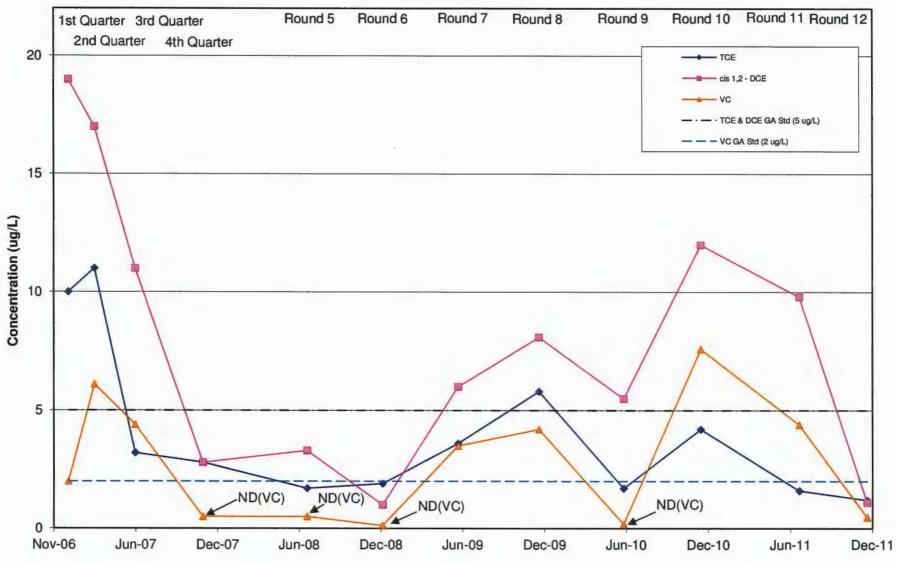
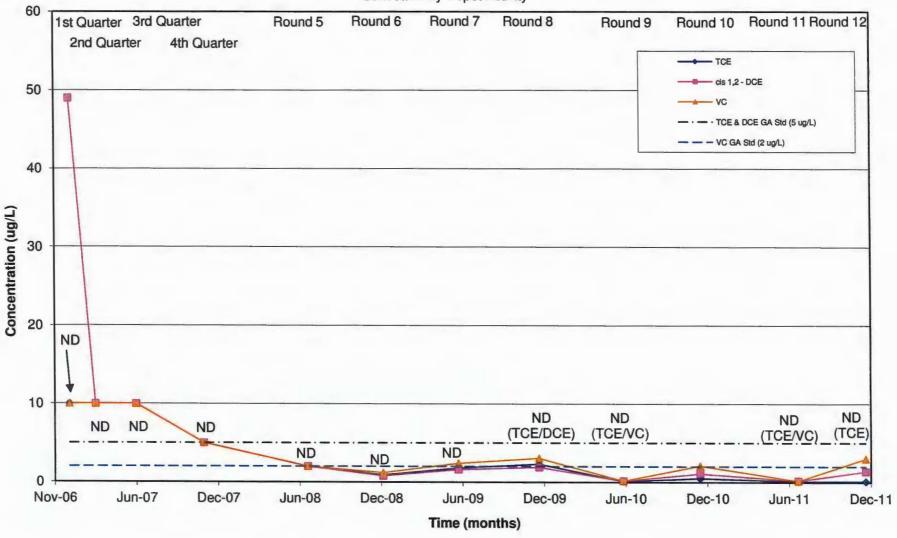


Figure 10B
Concentrations of Chlorinated Organics Over Time at MWT-26
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



Note: ND = not detected.

Figure 10C
Concentrations of Chlorinated Organics Over Time at MWT-27
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

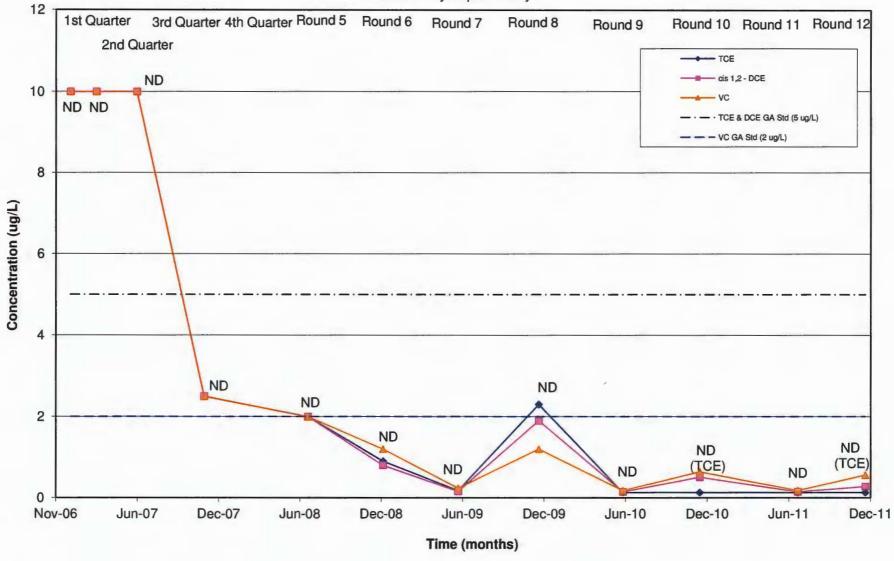


Note:

Round 3 and Round 6 data is the average of the sample and its duplicate.

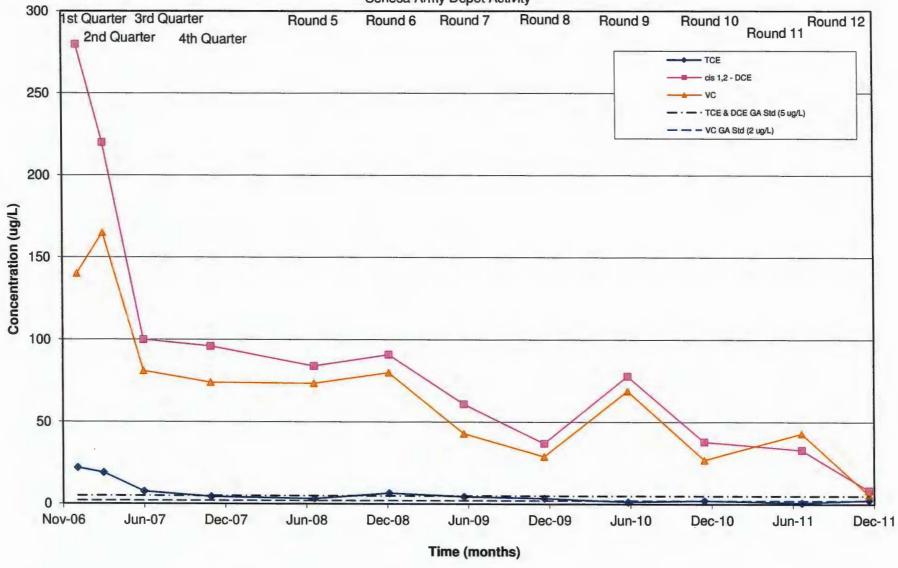
ND = not detected.

Figure 10D
Concentrations of Chlorinated Organics Over Time at MWT-28
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



Note: Round 3 and Round 6 data is the average of the sample and its duplicate. ND = not detected.

Figure 10E
Concentrations of Chlorinated Organics Over Time at MWT-29
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



Note: Round 2 and Round 5 data is the average of the sample and its duplicate.

Figure 10F Concentrations of Chlorinated Organics Over Time at MWT-22 Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

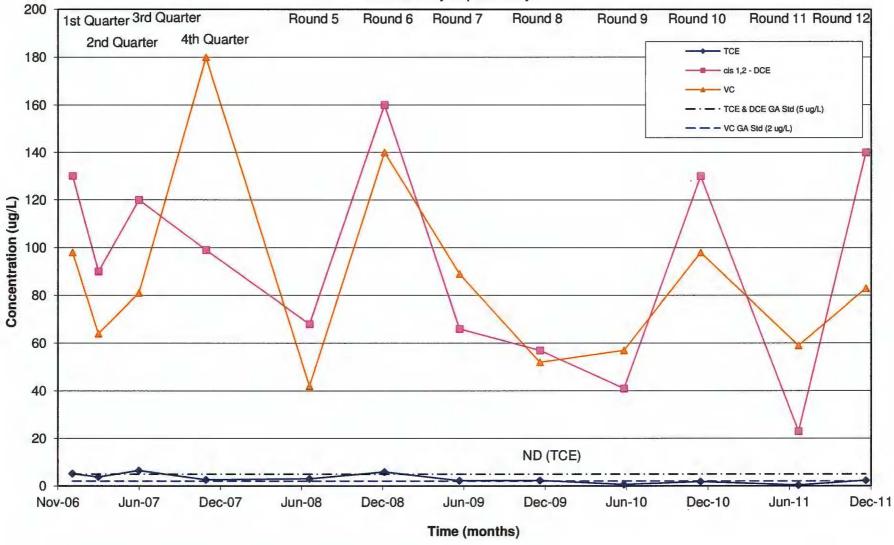
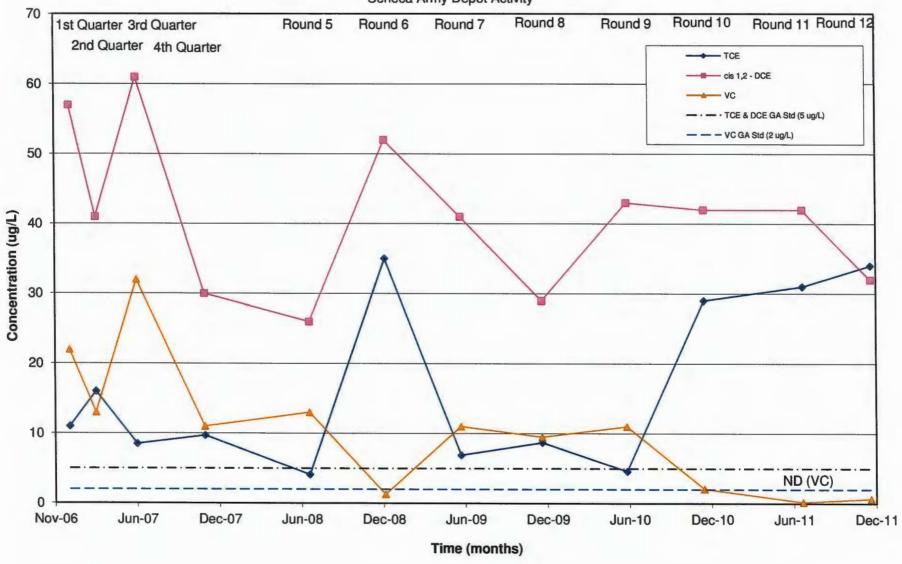


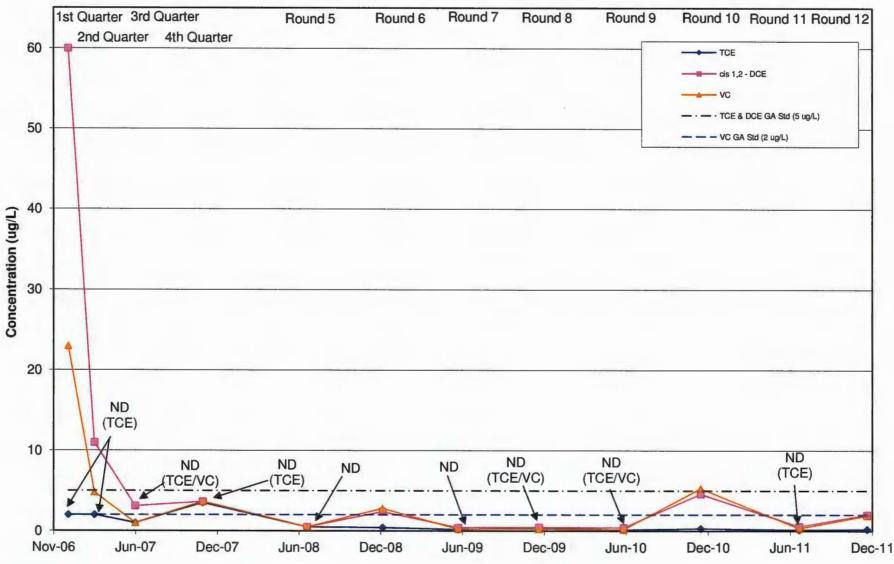
Figure 10G
Concentrations of Chlorinated Organics Over Time at PT-22
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



Note: ND= not injected.

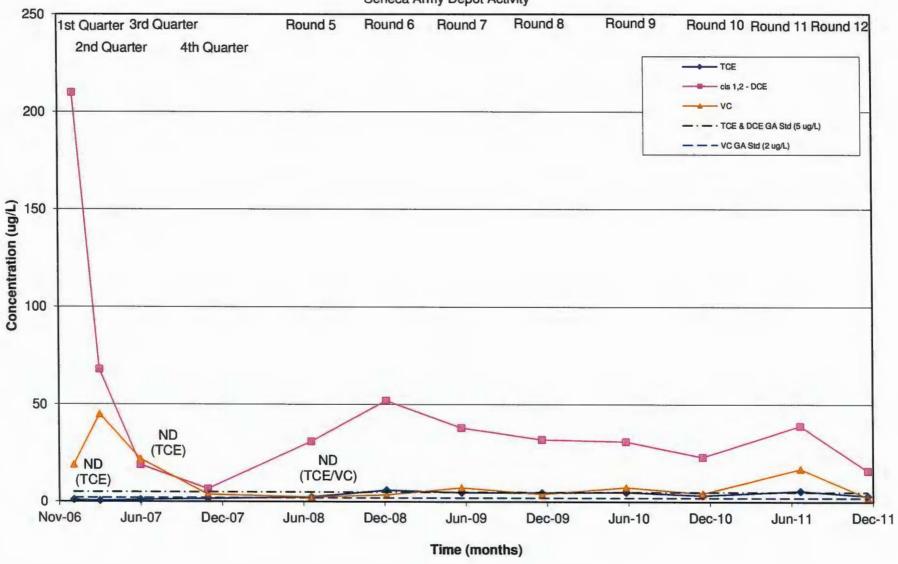


Figure 10H
Concentrations of Chlorinated Organics Over Time at MWT-23
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



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

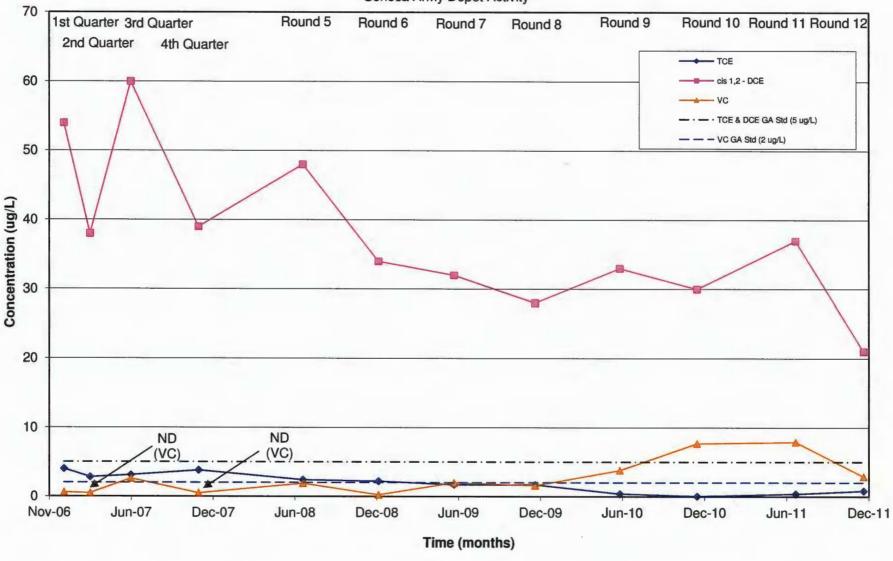
Figure 10I
Concentrations of Chlorinated Organics Over Time at MWT-24
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



Note: ND = not detected.



Figure 10J
Concentrations of Chlorinated Organics Over Time at PT-24
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



Note:

ND = not detected.

Figure 11A
Historic Concentrations of Chlorinated Organics at PT-18A
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

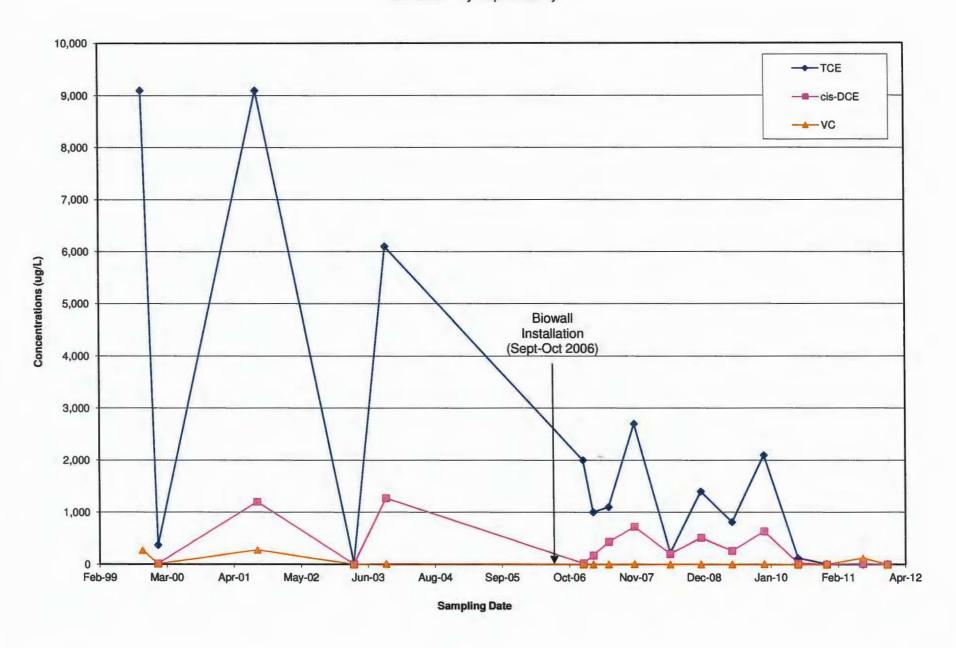






Fig. 11B
Historic Concentrations of rinated Organics at PT-17
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

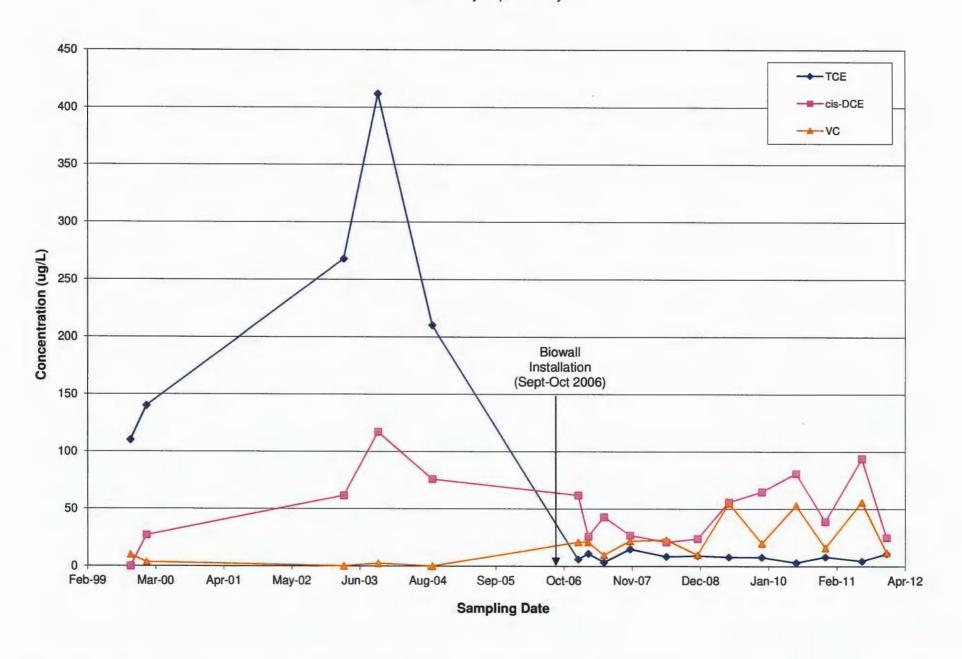
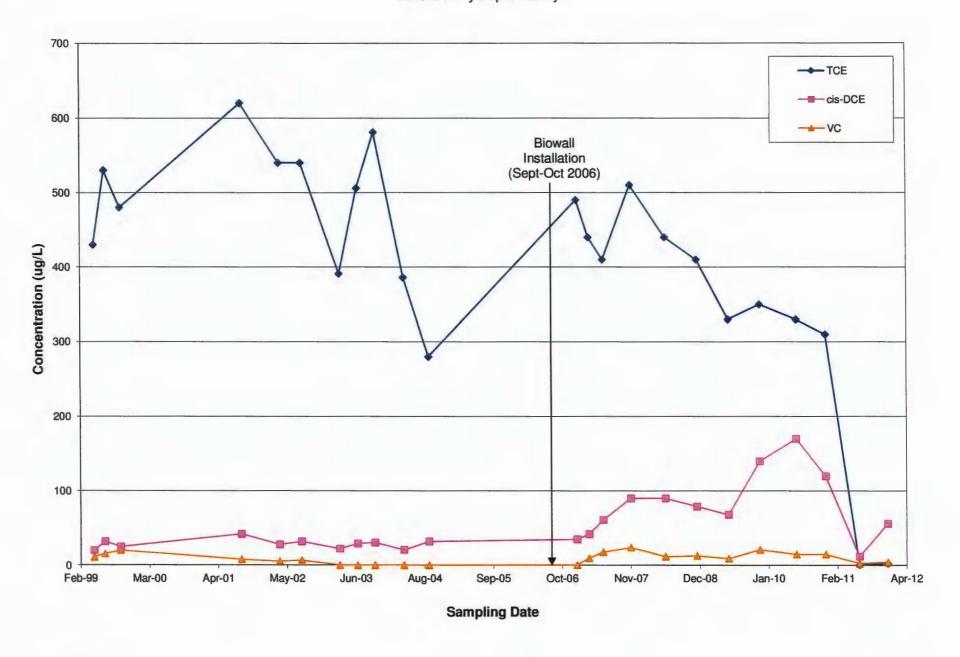
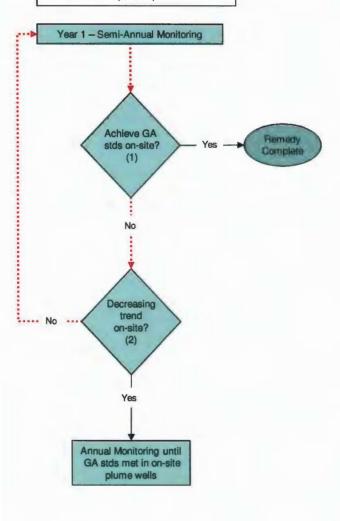


Figure 11C
Historic Concentrations of Chlorinated Organics at MWT-7
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



OFF-SI RFORMANCE
MON. AING WELL
(MW-56)



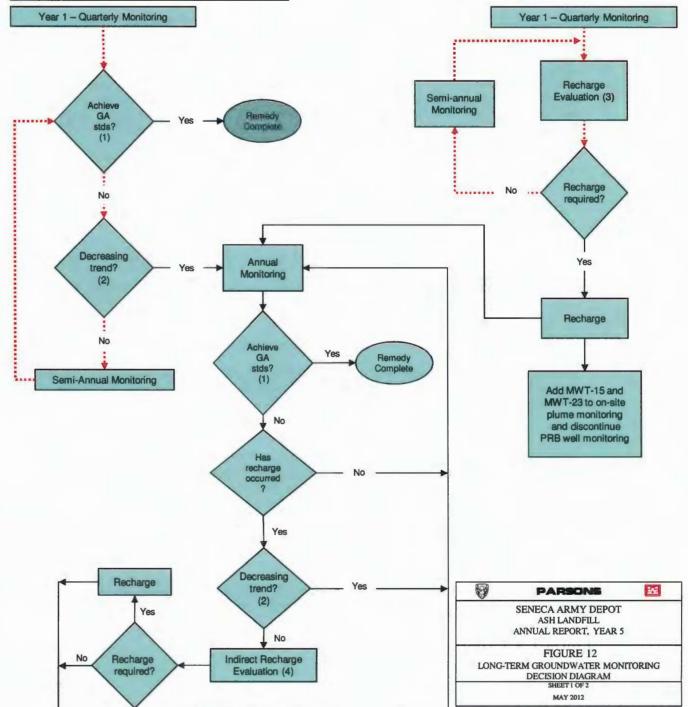
---- Current selected path

SEE SHEET 2 FOR NOTES

ON-SITE ME
PERFORMANCE MOINT ORING 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.)

Year 1 – Quarterly Monitoring

BIOWALL PROCI (MWT-26, MWT-27, MWT-28,/T-29, MWT-23)



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.

APPENDIX A

FIELD FORMS FOR 11R2011 and 12R2011

(This page has been intentionally left blank)

SENECA ARMY DEPOT ACTIVITY PROJECT: LOCATION: Ash Landfill LTM Groundwater Sampling - Round 11 LOCATION: WEATHER / FIELD CONDITIONS CHECKLISY WEATHER / FIELD CONDITIONS CHECKLISY TIME TEMP WEATHER RILL GAIRN LAPPRN WEATHER HANDRY VELOCITY DIRECTION SURFACE GAIRN LAPPR			SAM	PLING R	E	CO	RI		- G F	ROU	IND	W	ATER	2		
LOCATION: ROMULUS, NY INSPECTORS VACE	S	ENEC	A ARMY	DEPOT ACTIVITY	,			P/	\ASOI	45		W	ell #: PT	1	7	
WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES) REL. WIND (FROM) GROUND / STE WIND (FROM) GROUND / STE WIND (FROM) GROUND / STE WEATHER (APPRX) (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (B-360) CONDITIONS INSTRUMENT DETECTOR (APPRX) (B-360) CONDITIONS (APPRX				Ash Landfill L					ling - Roun	d 11		II .	SPECTORS:	_		
TIME (24 HR) (APPRX) (APPRX) (GEN) (GEN) (APPRX) (0 - 360) CONDITIONS 100	"	EATH!	ER / FIELD	CONDITIONS CHEC			7						MPLE ID #:	HCAW- 2		200
(24 HIR) (APPRX) (APPRX) (GEN) (APPRX) (0 - 360) CONDITIONS INSTRUMENT DETECTOR (100 90 5 3 VY	a n	INATE	7755.45	1112 A THEED	1	EL. WIND (FROM) GROUND/SITE				_						
WELL VOLUME CALCULATION ACTORS WELL VOLUME CALCULATION ACTORS GALLONS / ROOT: OUNCE OLIS 0.25 1 3 4 6 ALLONS / ROOT: OUNCE OLIS 0.25 1 2 3 4 6 ALLONS / ROOT: OUNCE OLIS 0.25 1 2 3 4 6 ALLONS / ROOT: OUNCE OLIS 0.25 1 2 3 OUNCE OLIS 0.25 1 2 OUNCE OLIS 0.25 1 OUNCE OLIS 0.	_		1									IN				
WELL, VOLUME CALCULATION FACTORS DIAMETER (INCHES): GALLONS (ROOT: 00026 0.041 (0 163 367 0.654 147 LITERS/FOOT: 0010 0.151 (0 17 1 389 2.475 5.564 DEPTH TO POP LENGTH OF WELL TOP OF LENGTH UTOC) TOP OF SCREEN (TOC) TOP OF SCREEN (TOC) TOP OF SCREEN (TOC) TOP OF SCREEN (TOC)					1 (0	Lai ()				†	2110.10					
DIAMETER (INCHES): GALLONS (FOOT: UITERS/FOOT: 0 000 0.151 0.001 0.163 367 0.64 147 DEPTH TO FOOT: O 000 0.151 0.001 0.000 0.151 0.0000 0.000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.00000 0.00000 0.00000 0.0000 0.00000 0.0000 0.0000 0.0000 0.00000 0.00000 0.0000	- 170		1				1/4.		1 001 7 1				31,11,200			
HISTORIC DATA OF WELL (TOC) SCREEN(TOC) TOP OF SCREEN(TOC) TOP OF SCREEN(TOC) TURBIDITY DEVELOPMENT SPEC COND TOP OF SCREEN(TOC) TURBIDITY DEVELOPMENT SPEC COND DEPTH TO SPEC COND DEPTH TO PLMP INTAKE (TOC) NATER LEVEL (TOC) WA	DIA G	ALLONS	(INCHES): / FOOT:	0.25 1 2 0.0026 0.041 0.163	367	0.654	1 47		ONE WELL V	X	WELL DIAN					
DATA COLLECTED AT WELL SITE PID READING (OPENING WELL) N/A RADIATION SCREENING DATA MONITORING DATA COLLECTED DURING PURGING OPERATIONS TIME WATER PUMPING CYNULATIVE VOL. (GALLONS) ONYGEN (mg/L) 1137 Flow Propring Cell Full 1137 7.30 15 Not Enough Not Enough O.648 636 -39 9.9 1147 7.3 13 O.594 6.81 -61 O.594 6.87 -9 SET ON STABILIZED NOT TURBIDITY O.594 6.35 O.594 6.57 -9 SET ON STABILIZED		HISTORIC	DATA	OF WELL		τυ	POF	LEN	СТН	DEVELOPME		D	EVELOPMENT		EVELOPMENT	
DATA COLLECTED AT WELL SITE PID READING (OPENING WELL) N/A RADIATION SCREENING DATA MONITORING DATA COLLECTED DURING PURGING OPERATIONS TIME WATER PUMPING CYNULATIVE VOL. (GALLONS) ONYGEN (mg/L) 1137 Flow Propring Cell Full 1137 7.30 15 Not Enough Not Enough O.648 636 -39 9.9 1147 7.3 13 O.594 6.81 -61 O.594 6.87 -9 SET ON STABILIZED NOT TURBIDITY O.594 6.35 O.594 6.57 -9 SET ON STABILIZED				7.79												
RADIATION SCREENING	DA			PID READING		WAI	STATI		C) WA	STABILIZE	ED (L	Di	INTAKE		TIME	
NONITORING DATA COLLECTED DURING PURGING OPERATIONS TIME WATER PUMPING CUMULATIVE VOL DISSOLVED DISSOLVED OXYGEN (mg/L) (C) (umhos) pH (mv) (NTU)			_ :			<u> </u>	٦. ٧	- (n				.25	
TIME WATER PUMPING CUMULATIVE VOL DISSOLVED TEMP SPEC. COND (min) Level RATE (milmin) (GALLONS) ONYGEN (mg/L) (C) (umbos) pH (mV) (NTC) 11.37 Flow Marguryn Ce (1 Full E) 11.37 7.30 15 Not Enough 0.648 636 -39 9.9 11477.3 15 YUNY 0.594 6.81 -61 7.8 1157 7.3 13 V 0.594 6.57 -4 5.5 1207 -7721 0.594 6.57 -4 5.5 1217 7.3 12 (5.573 6.57 -22 4.0) X Lec harge Extremely Slow, Wating for Recharge Retween Containers	RAD	DATION S	CREENING A													
(min) LEVEL RATE (ml/min) (GALLONS) OXYGEN (mg/L) (C) (umhor) pH (mV) (NTC) 11.37 Flow throngway cell Full 11.37 7.30 15 Not Enough 0.648 636 -39 9.9 11477.3 15 VULTY 0.594 6.73 -19 5.8 1207 =7.721 01594 6.57 -9 5.5 1217 7.3 12 (C) (umhor) pH (mV) (NTC) (S			MOI	NITORING DATA	CO	LLEC	CTED	DL	IRING I	PURGI	NG OF	'ER	ATIONS			
1137 Flow thorough cell Full 1137 7.30 15 Not Enough 0.648 636 -39 9.9 11477.3 15 Water 0.594 6.81 -61 7.8 1207 57711 01594 6.57 -9 5.5 1217 7.3 12 (5.573 6.57 -22 4.0) R Lecharge Extremely Slow, Warny for Recharge Between Containers			1	1							На					
1137 7.30 15 Not Enough 0.648 636 -39 9.9 11477.3 15 WHY 0.594 6.81 -61 7.8 1157 7.3 13 0597 6.73 -10 5.8 1207 -7.71 01594 6.57 -9 5.5 1217 7.3 12 (1573 155 -22 4.0) K Lecharge Extremely Slow, Warny for Recharge Between Containers	· ·······	113											,,,,,,	ヿ		
11477.3 15 With 0.594 6.81 -61 7.8 1157 7.3 13 Wift 0.594 6.73 - 19 5.8 1207 =7.721 O1594 6.57 -9 5.5 1217 7.3 12 With 0.573 1257 -22 4.0 K Lecharge Extremely Slow, Warny for Recharge Between Containers	1137	7.30	,	NA WAR	T						636		-39		9.9	
167 7.3 13 0 9597 6.73 -10 5.8 1207 =7.721 01594 6.57 -9 5.5 1217 7.3 12 (5.573 6.57 -22 4.0) & Lecharge Extremely Slow, Warny for Recharge Retween Containers	1115	7.3			1				10	594	7	. 1		一		
1207 = 7.71 01594 6.57 -9 5.5 1217 7.3 12 (1573 157 -22 4.0) K Lecharge Extremely Slow, Warning for Recharge Retween Containers	11/-7	7 3	, 2						0.	-97	12 -	12	- 10	$\overline{}$		
121773 12 (1573 154-22 4.0) AK Lecharge Extremely Slow, Warny for Recharge Retween Containers	12 62	700	7.1		 	~			13:	504	<u> </u>		~ q	\dashv		
It Lecharge Extremely Slow, Warny for Recharge Between Containers	120)	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			 			-	10	<u>(5)2</u>		2/1	- 22	\dashv	1 .	
1423 Samping complete 5.88 15.8	No. of		C	in a Ci		100	٦. ٢		000)	2		-24			
	1423	e Cho	amaia	Complete	1	5.8	(19 10	C 15	S	rge o	twee		Contain	2	>	
				J Comp. C				-						\neg		
														\Box		
												\neg		一		
												\dashv		_		
														\dashv		
								_	- 					\dashv		
												\dashv		+		
	_								+			\dashv		\dashv		
			<u> </u>									\dashv		\rightarrow		
	·				ļ		_	_			-			\dashv		
	_	\vdash						_				\dashv		\dashv		

Ash GW SAMPLING RECORD

	SAMPLING	PRESERV	TATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
	ORDER			COUNT/ VOLUME	TYPE	NUMBER		DATE
1	VOC 8260B	4 deg C	IKL	3/ 40 ml	VOA	ALBW 202	× 1217	JK
2	MEE (AM20GAX)	4 deg C	RCL	2/ 40 ml	VOA			
3	TOC (9060A)	4 deg C	НС1	2/ 40 ml	VOA			
4	Sulfate (EPA 300.1)	4 deg C		1 x 250 mL	HDPE		4	
5	Fe+ (HACH)			_	field		1425	
6	Mn+ (HACH)				field	<u> </u>	1425	1
7								
_		17.4						

COMMENTS: (QA	A/QC?) Sereal #
Horioa-	
Sonue.	WOEREBX
Lamot	e 3357
Hach	05076
451 D-6)	14480

Assisting DieJK While waiting For well to Recharge

Ferrous IRON = 0.64mg/L MADY = Limit overlange

П	DW.	IN	FO	RM	AΤ	то	N:

		SAM	PLIN	G R	ID(CO	RI	_	GR	ROL	ND	WA	TE	3	
S	ENEC	A ARMY	DEPOT AC	CTIVITY				PAI	750 1	45		WEI	L #: f/46	77.	-18A
	LOCATION:					M Groundwater Sampling - Round 11 ROMULUS, NY INSPECTORS: PMF (PUMP #: 1696									22/1
"	EATH	ER/ FIELD	CONDITIO	NS CHEC	$\overline{}$					R CHAN	GES)	SAMI	PLE ID #:		
ſ.	IME	TEMP	WEAT	ruen		EL.	VELOC		(FROM)	-	D/SITE	りてり	W 2020		NC
	IME I HR)	TEMP (APPRX							0 - 360)		ITIONS	INST	RUMENT	_	ETECTOR
	130	805	Sur		1	3_	- 3		NF.				OVM-580		PID
G.		(INCHES):	LUME CALCU 0,25 1 0 0026 0 0 0 010 0 1	1 2 141 0 163	TORS 3 0 367 1 389	4 0 654 2 475	6 1.47 5 564			X		TER FA	CTOR (GAL/FT		
	HISTORIC	P DATA		III TO POINT OF WELL (TOC)		10	TILTO POF EN(TOC)	SCREE! LENGT: (FT)		WELL DEVELOPME TURBIDIT			WELL. ELOPMENT pH		WELL EVELOPMENT SPEC COND
			17.8	4									-		
DAT	WELL	ECTED AT SITE		READING NING WELL)			DEPTH 1 STATIO	:	WA	DEPTH TO STABILIZE TER LEVEL	D D	[TO PUMP NTAKE (TOC)	PU	MPING START TIME
0.10	LATION: 6	CREENING	DI'M	P PRIOR TO		9	.54		1	PUNIP AFT	ro I			<u> </u>	
KAD	DAT			PLING (cps)				<u></u>		AMPLING				· - · -	
	,		VITORING					DUR		URGI	NG OPI	ERAT	TIONS		
TIME (min)	WATER LEVEL	PUNIPING RATE (ml/min)	CUMULAT (GALL		1	DISSOLV YYGEN (1		TEMP (C)		nbos)	рН		ORP (mV)		TURBIDITY (NTU)
0950	, -<	tastec	PUMC	Din4	JT	W	9.	45	·						
1000	9.61	40	<u>'</u>									\perp		_	
1005	9.73	40			1.	67		15,	 -	2.2	6.50		-14		11_
KOZO	f	flouin	CUUH	Cel	1	ear	مک	CA	10	<u>30 </u>	6.5	9	-418		9,0
15	-6	ow thro	van	Cell	F	<u> ۲۹۷</u>)	<u> </u>				\perp	-13		4.5
1058	9.84	30_			1	00	<u> </u>	15.3	3	123	6,60	7 -	13_	\Box	4.5
1100	956	32				0,0		1.41	· ·	241	6.6	3	<u>-9</u>	_	4.3 3.2
1105	988	32	ļ		0	.7	6_	14.	-	24	Could	2(-17	\Box	<i>ع,</i> ک
1110	991	120				15		14.0	5	.25	6,6	3	-10 -8	\sqcup	• 3.4
1115	191	25				14		13.0	8 1	.26	650	1	-8		· 3.c/
1120	9.91	25_				45		.713:	$\overline{}$	26			70	\dashv	-3 3, ≥
1135	979	30				0:		13.	<u> -</u>	27	6.50	1	- 11		<u> 3, ž</u>
1140	784	1.75			$\overline{}$. 14	-1	13,4	1 (-	27	659		-10		3,3
1145	9.84	25	111	gallor	2	5.1	9	13.0	1 1	27	6.67		-17		3 ,3
Sa	mo	ed @	11 145	gallor											
				•											
		,	,												•
		• `													
						-									

Ash GW SAMPLING RECORD

	SAMPLING	PRESERV	ATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
	order			COUNT/ VOLUME	TYPE	NUMBER		DATE
1	VOC 8260B	4 deg C	I I ĈL	3/ 40 ml	VOA	AIBWOOT	1145	MERZ
2	MEE (AM20GAX)	4 deg C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)	4 deg C	HCL	2/ 40 ml	VOA	<u> </u>		
4	Sulfate (EPA 300.1)	4 deg C		1 x 250 ml.	HDPE			
5	Fe+ (HACH)				field			
6	Mn+ (HACH)				field			
7								

~	~=	TH AT	3 TA T	100	(QA	10	701
		1 10/11			## B /	. /a Bi	
v	₩	TIANT	A 15	10.		\mathbf{v}	- i I

Lamotte 3557 YSL F 0176 Horiba 14581

IDW INFORMAT	ľ	O.	N	:
--------------	---	----	---	---

		SAM	PL	ING R			KL) -	GK	Ųι	UND	N	ATE	K	
SEN	VEC.	A ARMY I	DEPOT	ACTIVITY				PAJ	rsoi.			W	/ELL #: }	T-	22_
	JECT			Ash Landfill L					3 - Round	1 11	~		DATE:	_	22./11
LOCA	ATIO	N:			R	OMUL	US, N	<u> </u>			-	ı	SPECTORS: PMP #:		<u>Limes</u>
WEA	ATHE	R / FIELD	CONDI	TIONS CHEC	KLIS	 Г	(R	ECORD	MAJOR	CHAN!	GES)	1	MPLE ID #:	0 (274
						EL.	WIN		FROM)	GROUN	ND/SITE		LBW20		
TIM		TEMP	ı	EATHER		IDITY	VELOC		RECTION	1	FACE	<u> </u>	MONIT	_	
(24 H)		(APPRX)		(APPRX) (EN)	(APP		0 - 360)	COND	ITIONS	<u> 18</u>	STRUMENT		ETECTOR
(09)	7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7		 			Mer_					OVM-580	Ή	PID PID		
DITTE	TEP "	WELL VOI INCHES):	UME CA 0.25	LCULATION FAC	TORS 3	4	6	ON	E WELL VO				BILIZED WATER I		.)
GALL		FOOT:	0.0026 0.010	0 041 0 163 0 151 0,617	9 367 1 389	0 654 2 475	1 47 5 564			X.	_	G	_	- •	ک
1.11		501		DEPTH TO POINT	1.09	DEPI	TILTO	SCREEN	1	WELL	<u></u>	ì	WEIT.		WELL
กเรา	TORIC	DATA		OF WELL (TOC)		1	P OF N(TOC)	LENGTE (FT)	, r	TURBIDIT		1	DEVELOPMENT pH		SPEC COND
			11.67	8+ 0.27-11	,95										
DATA	ርሰ፣ ፣ ፣	CTED AT		PID READING			DEPTH 1			DEPTH TO STABILIZE		D	EPTH TO PUMP	PU	MPING START
	VELL S			(OPENING WELL)		$\overline{}$	ER LEVE		WA	TER LEVEL			(TOC)	_	ior
	16				<u> </u>	9,0	91	Chilos	Wo						
RADIAT	ION SC DATA	CREENING		PUMP PRIOR TO SAMPLING (cps)						PUMP AFTI AMPLING (
				NG DATA		LLEC		DUR		URGIN	NG OP	ER	ATIONS		
	ATER EVEL	PUMPING RATE (ml/min)		GALLONS)	i	DISSOLVI (YGEN (#		TEMP (C)		nbos)	pH		ORP (m√)		TURBIDITY (NTU)
		0705		eqia :	آيم ع	1 7 3 -	-		T ,-		<u></u>				,,
082 5		5 a.s.	.p J	Homa	10	9									
	0.29	14		· · · · · · · · · · · · · · · · · · ·	_	0,7	9	13.4	1.2	4	6.7	4	-103		/3
1020 I	0.20	13			_	0.8		13.5	1.2	28 6.7:		7		<u> </u>	10
102.5 10	1:34	15			<u> </u>	0,9		13.4	1.6	28	6.7		-99		8.4
1030 10	0.31	8				0.90	_	13.7	7	28	6.7	2	- A c		8.8
1035 10					(2.98	8	13.	3 /.	2.9	6.7	2	~ 8	1	8.7
1	****	Stoppe	7 0	Pumping	$\overline{}$	ve 11		OUIN			Teses			+	<u> </u>
	_	Coc Re			wi			icn	2 (2			-17		ľ	
	_	Refurr		1220			M	0,1		setu	D for	- 4	umace		
	\dashv	1.01	-	10				Ţ, ·	 ;	~ 1 U	100		- Car		
1230-	_	25			0.	45		15.5	0.9	96	6.80		-29		70
1235	7	20			U	, 60	3	153	0.9		6-7		-24		80
126 -	7	35			(7.30	9		0.9		6.7		722		75
1245-	_	33							0.8		Gold	-1	-73		65
1750 -	-	34						_		48	6-6	- 1	-71		32
139-	-	35				_				559	6.4	$\overline{}$	-68	-	23
13/0/-	二十	36				_		_		75	6.6		-10	3	10
35 -	二十	25						_	~	870	6.6	_	-/	٤	
320	_	10				$\overline{}$			1	186	6.6		- 101	3	2
35 -	二	*		_		_		-	6,	BY	6.6		~1-7	2/	2
			Stope	oed for		0 1		. 4	FOC	Rec	nu 4	L			
C:\Docu	ument	ts and Settin	gs\P006	35141\Desktop	WSH	FORM	S\Field	1 Forms	for Ash	GW.xls	-	5	anny	4,	7/14/2011
													49	-	735

Ash GW SAMPLING RECORD

TIME

SAMPLE

CHECKED BY/

PRESERVATIVES BOTTLES

SAMPLING

SAMPLING	PRE	SERVATIVES	BOLIT	Æ2	SAMPLE	LIME	CHECKED BY
ORDER			COUNT: VOLUME	TYPE	NUMBER		DATE
VOC 8260B	4 deg C	1ICL.	3/ <u>4</u> 0 ml	VOA	Albutzozos	s 1335 -	MEE
MEE (AM20GAX)	4 deg C	HCL	2/ 40 ml	VOA	-		
TOC (9060A)		HCL	2/ 40 ml	VOA			
Sulfato (TPA 2001)							
1	H deg C		1 A LOV III				
			SALE ST				
Mn+ (HACH)				neid			
					_		
	-						
	200	* , ., ., ., .					
		- ,					
Horiber	141581			٠, .		•	
	٠,٠,	: . '	• . • •				Vp= 6
5	• • • • • • • • • • • • • • • • • • • •					٠.	1
••		•					
•	<i>:</i> .	. • <u>.</u>	•	•		•	
			••				1.11
	N.						
V INFORMATION	rg .•'	2.00	:			7.7	
		1-17 13 0	* * *			مر ق	~ 10 ~ 1
· 25 19 15 17	à-73	1-30.		1		Α.	, a
	65.7	0.00	18.3	6		₹ ₆	3-31
20 1957 17 1957 18 187	65.7	250	15.3			?∂ \$.c 8.s	3-31
		255	8.31			ैह इ.ट. १.ड. १.ड. १.ड.	2-31 (1) (4
	MEE (AM20GAX) TOC (9060A) Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH) MMENTS: (QA/C AMOTE YSE HOTIBU	ORDER VOC 8260B MEE (AM20GAX) 4 deg C TOC (9060A) 4 deg C Fe+ (HACH) Mn+ (HACH) MMENTS: (QA/QC?) Amothe 35-57 YSE FOIT HOTIBUL USSE (ORDER VOC 8260B 4 deg C HCL MEE (AM20GAX) 4 deg C HCL Sulfate (EPA 300.1) 4 deg C Fe+ (HACH) Mn+ (HACH) MMENTS: (QA/QC?) Amothe 35-57 YSI FO 176 HOTIBU LUST	ORDER VOC 8260B Jades C JA 10 ml MEE (AM20GAX) JAGES C JACL JA 10 ml JAGES C JACL JA 10 ml JAGES C JACL JA 10 ml JAGES C JACL JA	ORDER VOC 8260B 4 deg C IICL 3/40 ml VOA MEE (AM20GAX) 4 deg C IICL 2/40 ml VOA Suffate (EPA 300.1) Fe+ (HACH) Mn+ (HACH) MMENTS: (QA/QC?) Amothe 35-57 YSE COUNT VOLUME TYPE COUNT VOLUME TYPE COUNT VOLUME TYPE COUNT VOLUME TYPE 3/40 ml VOA 1x 250 mL HDPE Field MMENTS: (QA/QC?) Amothe 35-57 YSE COUNT VOLUME TYPE COUNT VOLUME TYPE COUNT VOLUME TYPE COUNT VOLUME TYPE COUNT VOLUME TYPE COUNT VOLUME TYPE A deg C IICL 2/40 ml VOA INCL 2/40 ml VOA INCL 2/40 ml VOA INCL 2/40 ml VOA INCL 2/40 ml VOA INCL 2/40 ml VOA INCL 2/40 ml VOA INCL 2/40 ml VOA INCL 2/40 ml VOA INCL 2/40 ml VOA INCL 2/40 ml VOA INCL 2/40 ml VOA INCL INCL 2/40 ml VOA INCL INCL 2/40 ml VOA INCL I	ORDER VOC 8260B Adeg C MEE (AM20GAX) Adeg C MCL 2/40 ml VOA Albu2020 MEE (AM20GAX) Adeg C MCL 2/40 ml VOA Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH) MMENTS: (QA/QC?) Amolic 35-5-7 YSE FO 176 Horiba Lulse (ORDER COUNT. VOLUME TYPE NUMBER

		SAM	PLING F		CO	KL) -	GR		MD	W	ATE	L (ot 24
S	ENEC	A ARMY I	DEPOT ACTIVITY	,			PAF	501	JS_		W	ELL #: Mi	J	1
	ROJEC CATIC		Ash Landfill L			water S JIS, NI		- Round	111			DATE: SPECTORS:	7/	16/=
	T A TILL	ED / DISLD	CONDITIONS CHIEF	121 10	r	(D)	CCODD	MA 100	CHAN	CEC)		MP #:	1	769
"	EATH.	ER / FIELD	CONDITIONS CHEC	_	EL.	WIN		MAJOR FROM)	CHAN	D/SITE	SA	MPLE ID #:	461	3420208
Т	IME	ТЕМР	WEATHER		HDITY:	VELOC		ECTION		FACE		MONIT	ORI	ING
(2-	HR)	(APPRX)	(APPRX)	(G	EN)	(APP	RX) (0	- 360)	COND	ITIONS	IN	STRUMENT		ETECTOR
15	00	100	Son			100	one (بز			OVM-580			PID
G		(INCHES): / FOOT:	UME CALCULATION FAC 0.25 1 3 0.0026 0.041 0.163 0.010 0.151 0.617	0 367 1 389		6 1 47 5.564	ONE	WELL VO				BILIZED WATER L R FACTOR (GAL/FT)		.)
			DEPTH TO POINT OF WELL			TII TO P OF	SCREEN LENGTH	D	WELL.	ENT	I	WELL DEVEL OPMENT	D	WELL EVELOPMENT
	HISTORIC	DATA	(TOC)		SCREE	N (TOC)	(FT)		TURBIDIT			ρН		SPEC_COND
			11.92											
DATA COLLECTED AT WELL SITE			PID READING (OPENING WELL)		WAT	DEPTH T STATIC TER LEVE	-		DEPTII TO STABILIZE IER LEVEL	ນ	DI	EPTH TO PUMP INTAKE (TOC)	Pt.	MPING START TIME
			NIA		(g.165	w.79	1-416	٠ ٩٣٠	628	-			1:	530
RAD	IATION S DAT	CREENING A	PUMP PRIOR TO SAMPLING (cps)						PUMP AFT AMPLING (
		MON	IITORING DATA							ER	ATIONS			
TIME (min)	WATER LEVEL	PUNIPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)	1	DISSOLV VYGEN (#		TEMP (C)		COND ahos)	рН		ORP (mV)		TURBIDITY (NTU)
1530		50/0			07		451	0.0	19/	6,6	~	-64		5, 2
150	6.81	100		0	.88		14.7		519	6.45		-C1		1.7
	6.81	ioo	199/161		7,88		14,7		516	6,4		- 2		1.2
1500	681	(00			286		14.7	05	519	6.4	9	-5		1.F
1605	6.81	101)		O	83	7.	141.7	0	521	6.4	φ	-3		1.00
1610	6.81			C	2.83		14.	0.	5 Z 3	6.4	5-	-2		1.00
1615	6.81	100	2 ya 11095	0	.83		14,5	0.5	555	6,	14	-21		D., 56
1620	18,0	100	U	0	83	2	14.7	05	24	6.7	/	-18		1.30
1625	0.81	100		C	1/2	+	141,6		5-2U			-16		1.30
		100			0.8	3_	14.6	0,	1525	66	8	-16		1,00
		טט		C	.87	-	14.6		76	6.70	2_	-18		1.70
1640	(2.81	100	- 3 gailons	1	۶، ۶	52	14.6	5,	28	6.6	9	-16		j,60
				L.									_	
	5/4	mple	W 164	0							_		_	
		,									_		_	
											_		_	
					_						_		_	
				_										
													_	

	SAMPLING	PRESERV	ATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
	ORDER			COUNT VOLUME	TYPE	NUMBER		DATE
1	VOC 8260B	4 deg C	HCL	3/ 40 ml	VOA	A LBW200	8 1640	JK
2	MEE (AM20GAX)	4 deg (HCL	2/ 40 ml	VOA			5
3	TOC (9060A)	4 deg C	HCL	2/40 ml	VOA			L R
4	Sulfate (EPA 300.1)	4 deg C		1 x 250 mL	HDPE			
5_	Fe+ (HACH)				<u> field</u>			1
6	Mn+ (HACH)				<u> field</u>			
7								
\neg								

COMME	NTS: (Q	A/QC?)

Unit	Sereal #
Horioa	14381
Sonde	7460CEBX
Lamotle	3357
# YSI	14480

HOW	ZINEO	DMA	TION

PROJECT: LOCATION: WEATHER FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES) STATE ST	SENEC	A ARMY	DEPOT ACTIVITY			P	AR	SON	ıs		WELL #: /1	W-56	
WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES) TIME TEMP (APPRX) (APPRX) (APPRX) (GEN) (APPRX) (O - 360) GROUND / STITE (24 HR) (APPRX) (APPRX) (GEN) (APPRX) (O - 360) CONDITIONS (III (O - 50 S O VECCEST - 5 M) (APPRX) (O - 360) CONDITIONS (III (O - 50 S O VECCEST - 5 M) (III (III (III (III (III (III (III (Ash Landfill L				npling	- Round	124 L(INSPECTORS:	BOOME	
TIME (24 HR) (APPRX) (APPRX) (APPRX) (GEN) (GEN) (APPRX) (0-360) CONDITIONS GO 5 O VECCOST	WEATHI	ER/ FIELD	CONDITIONS CHEC			_				GES)	ES) SAMPLE ID #: ALBW 20		
	100000000000000000000000000000000000000			HUMI	DITY	ELOCIT	TY DIRI	ECTION	suru	FACE			
DIAMETER (INCHES) C.28 C				(GI	EN) (A								
DIAMETER (IN.H.E.S): GALLONS (FOUT: 0.0026 0.041 0.163 0.057 0.854 1.47 DEPTH TO STREET DEVELOPMENT TURBIDITY DEVELOPMENT DEVELO	1110	1000	1) VEL CUST			2 10	911 10		14 010		-	-	
TOP OF LIBRIGH DEVELOPMENT DEVELOPMENT DEVELOPMENT DEVELOPMENT TURBULT DEVELOPMENT	GALLONS	(INCHES): / FOOT:	0.25 1 2 0.0026 0.041 0.163	0.367		1.47	ONE	WELL VO					
BATA COLLECTED AT PURPING (OPENING WELL) START EVEL (TOC) DEPTH TO STARTE PURPING START THAN PURPING START PURPING (OPENING WELL) STARTE PURPING (OPENING WELL) STARTE PURPING (OPENING WELL) STARTE PURPING (OPENING WELL) STARTE PURPING (OPENING WELL) STARTE PURPING (OPENING WELL) PURPI	HISTORIC	DATA	OF WELL		TOP O	OF 1	ENGTH		EVELOPME	100	DEVELOPMENT	DEVELOPMENT	
DATA COLLECTED AT WELL SITE PURPLE STEEL PURPLE PU			631027	ande							-		
RADIATION SCREENING PURP PRIOR TO SAMPLING (cpp) MONITORING DATA COLLECTED DURING PURGING OPERATIONS IMP WATER PUMPING COUNTLATIVE VOL (ST DISSOLVED DEAP SPEC COND LEVEL RATE (milinal)) (ILEYEL RATE (milinal) (ILEYEL RATE (STATIC		STABILIZED		D d	INTAKE		
MONITORING DATA COLLECTED DURING PURGING OPERATIONS MAMPLING (cps)			3.60 Sort		3.	55	Pro	ben.	sell	LUSGS)	1121	
TIME WATER PUMPING CUMULATIVE VOL (GALLONS) PSECOND (miles) PH (my) TYRRIDITY (miles) PH (my) TYRRIDITY (miles) PH (my) TYRRIDITY (NTU) [[16 3.55 Peap 4 LTH. { YST proba [17] 3.55 130 [18] 3.65 126 [18] 3.65 126 [18] 3.65 126 [18] 3.65 126 [18] 3.65 126 [18] 3.65 150 [18] 3.65 150 [18] 3.65 150 [18] 3.65 150 [18] 3.65 150 [18] 3.65 150 [18] 3.66 138 [18] 3.66 138 [18] 3.66 138 [18] 3.66 138 [18] 3.66 138 [18] 3.66 138 [18] 3.66 138 [18] 3.66 138 [18] 3.66 138 [18] 3.66 138 [18] 3.65 150 [18] 3.66 150 [18] 4.65 150 [18] 4.65 150 [18] 5.40 0.664 6.87 [18] 5.40 0.664 6.89 [18] 5.40	RADIATION S												
(min) LEVEL RATE (milmin) (GALLONS) (GALLONS) (SYC) (minhor) (MTU) 16 3.55 Peap 4 Felt, & YSI proba 17 3.55 130										NG OPI			
1177 3.55 130 1382 3.65 126 1382 3.65 126 1383 3.64 154 1383 3.64 154 149 3.65 150 159 3.65 150 159 3.66 138 159 3.66 138 159 3.66 138 159 3.66 138 159 3.66 138 159 3.66 138 150 0.21 15.4 0.666 6.87 -107 8.7 154 3.66 138 159 3.66 159 -105 14.8 1209 Sample time 1209 Sample t						r) 12	(C)			рН			
132 363126 0.25 15.6 0.673 6.80 -109 34 138 364154 0.17 15.5 0.669 6.88 -101 71 149 366 138 ~0.5 20/5 0.21 1.51 0.668 6.87 -107 8.7 149 56150 0.21 15.4 0.666 6.88 -106 5.7 159 3.66 0.22 15.4 0.664 6.90 -105 5.0 1159 3.66 0.21 15.4 0.662 6.89 -105 41.8 209 Sample time	1102 255	Puap	4 1011. ?	751	Pro		- 1-	0.6	170	7 42	1	12-5-	
138 3.64 154 0.17 15.5 0.669 6.88 - 161 71 148 3.66 [38 ~0.5 20 0.21 1.51 0.668 6.87 - 107 8.7 149 3.65 [50 0.21 15.4 0.666 6.88 - 106 5.7 1154 3.66 0.21 15.4 0.664 6.90 -105 5.0 1159 3.66 0.21 15.4 0.662 6.89 -105 1.8 209 Sample time	II DI			0	25			7.				202	
149 565 138 ~0.5 pals 0.21 1.51 0.668 6.87 -107 8.7 149 565 150 0.21 15.4 0.666 6.88 -106 5.7 1154 3.66 0.22 15.4 0.664 6.90 -105 5.0 1159 3.66 0.21 15.4 0.662 6.89 -105 41.8 1209 Sample time - 15.4 0.662 6.89 -105 41.8 Sample ID ALBO 20214 Sample ID ALBO 20214	1138 266	154			,				0.13			7,	
149 5.65 150 15.4 0.666 6.88 -106 5.7 15.4 0.664 6.90 -105 5.0 15.9 3.66 15.9 Sample time -1.25 3 als parged Sample JD ALBW 20214 Sample Time 1209	HE 3.66	138	20.5 206						1 10	-	4 2 2	8.7	
159 3.66 209 Sample time - 15.4 0.662 6.89 -105 4.8 ~1.25 gals parged Sample JD ALBW 20214 Sample Time 1209	1149 3.65	150		Q	.21	1	5.4	0.1	666	6.88	-106		
159 3.66 209 Sample time - 15.4 0.662 6.89 -105 4.8 ~1.25 jabs parged Sample JD ALBW 20214 Sample Time 1209	1154 3.60	,	1 gal	6	.22	-	15.4	0.	664	6.9	-105	5.0	
Sample ID ALBW 20214 Sample Time 1209	1154 3.66			0	.21	1	5.4	6.	662	6.8	9 -100	5 4.8	
Sample ID ALBW 20214 Sample Time 1209	1209 5	ample	time-		•	+							
Sample Time 1209			~1.25 jals	P	av g E	1			- 18				
Sarph Time 1209 Collected 3 VOAS			Sample ID	A	LBG	12	02	14					
Collected 3 vots				17	.09								
			Collected	3	VOA	3							
		-											

3 TOC (9866A)		SAMPLING	PRES	ERVATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
1 VOC 8260B 4 as C RCL 3/40 ml VOA 2 Mare (AM20GAX) 4 as C RCL 2/40 ml VOA 3 - TOC (3960A) 4 as C RCL 2/40 ml VOA 4 Sulfate (EPA 300.1) 4 as C 1 x 250 mL HDPE 5 Fe+ (HACH) field 6 Mn+ (HACH) field 7		ORDER			COUNT/ VOLUME	TYPE	4		DATE
2. MEE (MAZOGAX)	1	9 0	1 44		240 ml	VOA	ALBW		
3 TOC (986)(A)			i 4 deg. C		37 40 Mi	YUA			
4 Sulfate (EPA 300.1) stop C I x 250 mL HDPE 5 Fe+ (HACH) field 7 field COMMENTS: (QA/QC?)	2	'MEE (AM20GAX)	4 deg. C	HCL	2/40 ml	VOA_		-	ļ
4 Sulfate (EPA 300.1) step C 1 x 250 mL HDPE 5 Fe+ (HACH) field 7 field COMMENTS: (QA/QC?)	.3.	TOC (9060A)	4 deg, C	HCL.	2/ 40 ml	VOA			
5 Fe+ (HACH) field 7 Fet (HACH) field COMMENTS: (QA/QC?)	4	Sulfate (EPA 300.1)	4 deg. C		1 x 250 mL	HDPE			<u> </u>
6 Mn+ (HACH) field 7 COMMENTS: (QA/QC?) DW INFORMATION:	5					field			
DW INFORMATION:				•	- N/4E	. 1	1.		
COMMENTS: (QA/QC?) DW INFORMATION:		MOT (HACH) .				пека			
DW INFORMATION:	7		_						
DW INFORMATION:									
DW INFORMATION:									
DW INFORMATION:	_			•		LAC	75.7	2	
DW INFORMATION:									
DW INFORMATION:		<u> </u>		1	*		L Company of	<u> </u>	
DW INFORMATION:	00	MARKITE. (A.1/A		ام هده ر	18 Base	<u>',</u>	MAN IST	2, 1,	
DW INFORMATION:			C:)						
DW INFORMATION:	*. _n	of the second			ba.	•,	*		
DW INFORMATION:			4						3 4 4 4 1
DW INFORMATION:		. •	***		*96		, au,	er - see , sees) y	
DW INFORMATION:		•	• • •	•	• •	•		W . 10	6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
DW INFORMATION:		*** }			,				
DW INFORMATION:		***	7		19	• . •	7 0 0		X 733
DW INFORMATION:						-	•	7 · k	
DW INFORMATION:		•	* 1				1.	`	Ì
DW INFORMATION:		- · · · · · · · · · · · · · · · · · · ·		•					
1 26 To the state of the state		•	, .						
1 26 To the state of the state	٠		1.	•	•	•		٠.	e
1 26 To the state of the state	•		1.	•	•	•		, • •	e
				•					*
				•					*
				•		****		gran.	*
				•				grana Sec.	*
				•				•	
				•				•	

· -	SAM	PLING R	EC	OR	D	-	GR	OU	ND	W	ATER	<u> </u>	
SENEC	A ARMY I	DEPOT ACTIVITY			P/	\A	SON	lS	-	W	ELL#: M̯	WT	
PROJECT LOCATIO		Ash Landfill L		undwate MULUS,		ling -	- Round	111		ı	DATE: PECTORS: MP #:	7/21][870	
WEATHE	R / FIELD	CONDITIONS CHEC	KLIST		(RECO	RD	MAJOR	CHAN	GES)	SAN	MPLE ID #:		
			REL	. "	IND	(F	ROM)	GROUND / SITE		_	ALBW		
TIME	TEMP	WEATHER	HUMIDITY (CEN)		VELOCITY		ECTION	SURFACE CONDITIONS		IN'S	MONITO TRUMENT		ECTOR
(24 HR) [\&0	(APPRX)	(APPRX) SVNNY	(GEN		PPRX) O		- 360) //A	DE		11/2		DEI	
11170	12	SVNN		_		 	,,	201	~/		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 NWELL VOLUME (GAL) = ((POW - STABILIZED WATER LEVEL) N WELL DIAMETER FACTOR (GAL/FT) S. 8 × 0.163 × 3 = 2.5 g													
Honba#	4480	DEPTH TO POINT OF WELL (TOC)		DEPTH TO TOP OF SCREEN (TO	1.EN	EFN (GTH FT)	D	WELL EVELOPME TURBIDIT		DI	WELL O EVELOPMENT pH	DFVE	WELL LOPMENT C COND
aMoHe#	131591	13.46+.27 = 13.7	3										
DATA COLLE WELL S	CTED AT	PID READING (OPENING WELL)			TH TO ATIC EVEL (TO)C)	l	DEPTH TO STABILIZE TER LEVEL	D	DE.	PTH TO PUMP INTAKE (TOC)		NG START TIME
45I#8	DAN5AR	P NA-		8.	450	<i>\(\frac{1}{2}\)</i>	group)		12	2.73	11	55
RADIATION SO		PUMP PRIOR TO SAMPLING (cps)	T.	8.3	46/1	00 34 34	rater	PUMP AFTI AMPLING (
	MON	ITORING DATA	COLI	LECTE	<u> </u>			URGIN	NG OP	ERA	ATIONS		· . · · · · · · · · · · · · · · · · · ·
TIME WATER	PUMPING	CUMULATIVE VOL	DIS	SOLVED	ED TE		SPEC.	COND	1		ORP	7	TURBIDITY
(min) LEVEL	RATE (ml/min)	(GALLONS)	OXYO	EN (mg/L)	+"	C)	ne)_	hes)	p11	\dashv	(mV)	-	(STU)
1168	S4001	Puno			+	\dashv				-		+	
17.10	1. 1/		a 11	به مثار	101	_	24/10		C	-,	estart	1.	
1/14/065	Lank 18	u Hniba.		fee	15	ᆌ	19 7	<u> </u>	7 X	7,1	-175	1 1	nno 1
1700 0 40	40	0	1 . 6	17	17		0.1	100	6.0	/ 	-137	- 1/5	<u> </u>
220 8.00	130		1	13	10	· O	0.	120	6.6	 	-132	2 /	: 1
17/1- 0.0					1 2	2.1	0.	70 1		\rightarrow			<u> </u>
240 8.58	105			<u>.08</u>		3.[3.d		761	4		<u>- 124</u>		8.8
1245 8.59	112		1	09	 	_			6.6		-114		2.4
250 8.59	115			<u>. 09</u>	_	0		778	6.60		110		. 2
265 8.60	118			.07		<u>.٩</u>		77	6.62		-109		5,0
300 8.6/	120		1	<u>.08</u>		<u>"၅</u>		78	6.65		106		5-0
310 8.60	119	n2.0 gal		07	12			779	6,66		-104		4.8
325 9.59	102			.05	12.	, 7		280	6.6:	$\overline{}$	-100		1.2
6 Wasten		other DO	YS:		Ne.	٩		790	6.6		-95	$\overline{}$	2.6
340 9.60		,		.05	12	ر.		779	6.6		-93		2.8
1350 *		ed Ind D	<u>о у</u>	SI	Ma	-		lad	1 mg	$\overline{}$	ene onse of		0.12
1355 8.59	120	~3.0gal		1.12	_	.5		785		0	-92	_), %
400 8.60	100			11.0	13	1.1		186	6.7	0	<u> </u>		1.95
405 8.58	108). (0	13	,0	0:	785		ىلە	- 8-		0.98
410 B.60	100			80.0	13	٥.	0.	703		9	-8		0.97
4158.60	100	NO Der		0.08	13	Ō	0	784		9	- 8		0.85

C:\Documents and Settings\P0065141\Desktop\ASH FORMS\Field Forms for Ash GW.xls

VOC 2 MEE Fer: 0.45 mg/L

3 N/Fade 2 TOC mn: 0.4 mg/L

7/14/2011

	SAMPLING	PRESERV	ATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
	ORDER			COUNT, VOLUME	TYPE	NUMBER		DATE
1	VOC 8260B	4 deg C	HCl.	3/ 40 ml	VOA	A-CBW 202	1420	
2	MEE (AM20GAX)	4 deg C	HCL	2/40 ml	VOA	40	1420	
3	TOC (9060A)	4 deg C	HCL	2/ 40 ml	VOA		1420	
4	Sulfate (EPA 300.1)	4 deg C		1 x 250 mL	HDPE		1420	
5	Fe+ (HACH)				field		1420	
6	Mn+ (HACH)			•	field	• • • • • • • • • • • • • • • • • • • •	1420	
7								
								12.
						4.00 .5.0	in the	the state of
			,					· · · · ·

COMMENTS:	10 110 00	
	(
E EDIVINARIA ENT	ILIANU !I	

IDW INFORMATION:

SAMPLING RECORD - GROUNDWATER PARSONS WELL #: SENECA ARMY DEPOT ACTIVITY 7/20/11 PROJECT: Ash Landfill LTM Groundwater Sampling - Round 11 DATE: ROMULUS, NY INSPECTORS: LOCATION: PUMP#: SAMPLE ID #: WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES) ALBW 20211 REL. WIND (FROM) GROUND/SITE TIME TEMP WEATHER HUMIDITY VELOCITY DIRECTION SURFACE MONITORING (APPRX) CONDITIONS INSTRUMENT DETECTOR APPRX (APPRX) (GEN) (0 - 360)(24 HR) 1600 95 OVM-580 PID OVE WELL VOLUME (GAL) = ((POW - STABILIZED WATER LEVEL) WELL VOLUME CALCULATION FACTORS DIAMETER (INCHES): 0.25 0 654 0.043 0 163 0.367 1.47 GALLONS / FOOT: 0.0026 4.25 × 0.163 × 5 = 2.1 gul LITERS/FOOT 0 010 0 151 עוט סל 1 389 2 475 5 564 Honba: NGCRE WELL DEPTH TO POINT DEPTH TO WELL. TOP OF DEVELOPMENT DEVELOPMENT DEVELOPMENT OF WELL LENGTH HISTORIG DATA SCREEN (TOC) TURBIDITY pН SPEC COND (FI) (TOC) MER 14.65 - 14,92 YSIN DEPTH TO DEPTH TO DEPTH TO PUMP PUMPING START DATA COLLECTED AT PID READING STABILIZED INTAKE TIME STATIC (OPENING WELL) WATER LEVEL (TOC) WATER LEVEL (TOC) (TOC) WELL SITE 8.40 PUMP AFTER SAMPLING (cps) RADIATION SCREENING PUMP PRIOR TO SAMPLING (cps) MONITORING DATA COLLECTED DURING PURGING **OPERATIONS** PUMPING CUMULATIVE VOL DISSOLVED TEMP SPEC. COND ORP TURBIDITY TIME WATER (C) LEVEL RATE (ml/min) (GALLONS) OXYGEN (mg/L) (umbos) рH (mV) (NTU) 1800 32 8.82 60 90 ٥ 20 21 92 89 3 10. Z 110 80 8 90 3 90 13 3.5 O 13.0 6 105 13.0 20 ٥ V٥

	1	vatives	BOTTL	T T	SAMPLE	TIME	CHECKED BY
ORDER			COUNT VOLUME	TYPE	NUMBER		DATE
YOC 8260B	4 deg C	HCL	3/ 40 ml	VOA			
MEE (AM20GAX)	4 dea C	HCL	2/ 40 ml	VOA			
TOCKNOCOA							
10C (9000A)	न तरहा (<u>IKL</u>					
Sulfate (EPA 300.1)	4 deg C		1 x 250 mL	HDPE			
Fe+ (HACH)		4		field	3 No. 3 . 5	<u> </u>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Mn+ (HACH)	<u>'</u>			tield			
			· ·				
90 : ; ;	2 × 25.	1 - 7.3					
							1.00
				•	l leit		The state of the s
				آ، إذ	!	3 5 6 6	
					<u> </u>		
			•				
						•	
					f ,	,m 11	
					f	** *** !n **	
INFORMATION:						** *** !n **	
INFORMATION:					, n	** *** !n **	
INFORMATION:						** *** !n **	
	Mn+ (HACH)	Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH)	Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH)	Sulfate (EPA 300.1) 4 deg C 1 x 250 mL Fe+ (HACH) Mn+ (HACH)	Sulfate (EPA 300.1) 4 deg C 1 x 250 mL HDPE Fe+ (HACH) field Mn+ (HACH) field	Sulfate (EPA 300.1) I to 250 mL HDPE Fe+ (HACH) Mn+ (HACH) Field Fi	Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH) Adeg C 1 x 250 mL HDPE field field 1.1 x 250 mL Adeg C Ade

	SAM	PLING F	Œ	CO	RI	_	GR	OU	ND	WA'	TER	L
SENECA	ARMY I	PEPOT ACTIVITY	,			PAR	5 01	JS		WELL	#: \U\	DT-9-3
PROJECT:	Market Start	Ash Landfill L		roundw OMUL			- Round	11	-	DA' INSPEC' PUMP #:	rors:]	<u>ን/(9/((</u> ፲ፕ(/ዛው ዓላም
WEATHER	PHEED	CONDITIONS CHEC	_	EL.	(RI		MAJOR	CHAN	GES)	SAMPLE	EID#:	0215
тіме	TEMP	WEATHER	l	· }	VELOC		ECTION	l	FACE	MONITOR		
(24 HR)	(AP) (X)	Sun riv	(G	EN)	(APPI		- 360) (a(M	COND	ITIONS	INSTRU	MENT VM-580	DETECTOR PID
	CT.	. /										
DIAMETER (U GALLONS / I LITERS/FO	NCHES); FOOT;	0.25 1 2 0.0026 0.041 0.163 0.010 0.151 0.612	0.367	3 4 6 0,367 0 654 1 47		1,3	3.14 X.		L)= (POW- VELL DIAMI			
Honba #	WNJY9N	DEPTH TO POINT OF WELL (TOC) 12	76-	DEPT TOP SCREEN	OF	SCREEN LENGTH (FT)	D	WELL EVELOPME TURBIDIT		WEL DEVELOI PH	PMENT	WELL DEVELOPMENT SPEC COND
La MoHet	19480	13.49			DE DE LI			ДЕРТИ ТО		N PTH 7	3 DUDAR	NAMES CALLS
DATA COLLEC WELL SI		PID READING (OPENING WELL)			DEPTH T STATIC ER LEVE	-		STABILIZE ER LEVEL	D	DEPTH TO INTA (TO	KE.	PUMPING START TIME
RADIATION SCI	DEENING	PUMP PRIOR TO			2.3	5		0.60		124		1225
DATA		SAMPLING (cps)		L	+		S	AMPLING (cps)			
TIME WATER	PUMPING	CUMULATIVE VOL		LLEC'		DURI		COND	NG OPI	ERATIC	ORP	TURBIDITY
(min) LEVEL 1	RATE (ml/min)	Pump Star		YGEN (m	g/l,)	(C)	(u n	nhos)	pH		(mV)	(NTU)
11245 10.65	120	10111		0.77		13.7	1.	25	6.19	1 -	120	80
1250 10.65	100			0.79	3	13.6	1.	26	6.10	7 -	124	45
1255 10.68	90			0.7	9	13.5	<u> </u>	<u>25</u>	6.2	0 -	-125	33
300 10.66	63	~ 0.75		0.8	0	13.5	- -	23	6.2	0 .	- (27	27
1315 10.71	70		-	0.8 0.8		13.6	1.	<u>,22</u> 20		0	130	21
13250.70			_	0.8		13.4			6.20		<u> 130</u> 131	13
1530 10.68	- 70			0,8	-	13.4		20	6.2		32	8.87
135 1068	(25		6	2.87		1361	4.7	20	w. 2		134	10.10
1340 10.68			٥	182		132		22	6.2		133	8.11
1356 18.68		21125	$\overline{}$	3.8	A	13.3		21	6.20	1 -	136	8.60
1400 10.68 1405 10.66	70	~h75	_	0.84 2.84		13.2		20	6.20		137	5.75
:40 04	70	~2.0	_	1.8		13.2	_	20	6.2			5.97
1415 Tac		Samples	_									
	3 VOC VIALS			1	Sul	fark	-	2	Toc			
	2 mgs.			7 / -		11	· / .			+		
'	_	Fet:	-	330	_	1	Li	mit		_		
1		·Mn·	-	8.0		rall		:	· -			
									Ļ			

81	RMATION:	35.3	15.	14.8 3 14.8 3 1.8 3 1.8 3	8.C		08	32.5 See
81		5.00	521	1-12	8.0		08	0F.0 C.1 €1 \$6.2, 125 \$6.2, 266
5/1 (**) (**)	777- 3 3	ω	650		(P. 5) (P. 5) (P. 5) (P. 5) (P. 5) (P. 6)	The stage	(25) (25) (27) (40)	**************************************
COMMEN	TS: (QA/QC?)	<u>.</u>	9.67	1,4	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	a(S + 31)	sid see
								# TOY .
7	75. X	= 5	8.18	.12			হসভাগ <u>জ্</u> য	
	(HACH)		γħ	Smpt No	field field	7/11	14 35	JK JK
4 Sulfate ((EPA 300.1)	4 deg C		1 x 250 mL	HDPE	V	14 15	JK
3 TOC	(9060A)	4 deg. C	HCL	2/ 40 ml 2/ 40 ml	VOA VOA		14 35	JK
I THE PARTY OF THE PARTY OF	E 8260B	4 dep C	ncr	3/40 mi	VOA	ALBW20215	1415	JK (
1 VOC		 	VATIVES	COUNT: VOLUME	TYPE	SANIPLE NUMBER	TIME	CHECKED BY/

	SAM	PLING R	E	CO	RI	-	GR	OU	ND	WATE	R	
SENE	CA ARMY	DEPOT ACTIVITY				PAF	150h	15		WELL #: N	w	1-24
PROJEC		Ash Landfill L			vater S		- Round	11	- 11	DATE: INSPECTORS: PUMP #:	7	[21/1] TK TIS
WEATI	IER / FIELD	CONDITIONS CHEC		EL.	(R) WIN		MAJOR			SAMPLE ID #:		
TIME	ТЕМР	WEATHER	l	IDITY	VELO		RECTION		FACE	MON		
(24 HR)	(APPRX	(APPRX)	(G	EN)	(APP)		- 360)		ITIONS	INSTRUMENT		ETECTOR
W 440 1	40 77	2014			ے	\dashv	Ν		RY	OVM-58	1	PID
		0.25 1 2 0.0026 0.041 0.163 0.010 0.151 0.612	TORS 3 0.367 1.389	4 0 654 2 475	6 1 47 5 564	OM	3 X	0 · 63	L)= (POW- WELL DIAME 3 × 3 /	STABILIZED WATER TER FACTOR (GALA 169 2	LEVEL FT)	.)
Honbo:	C DATA	DEPTH TO POINT OF WELL (10C)	721 z (TOI SCREE	TH TO P OF N (TOC)	SCREEN LENGTH (FT)		WELL EVELOPMI TURBIDIT		WELL DEVEL OPMENT pH	ľ	WELL DEVELOPMENT SPEC COND
YSI:		12.74	AL 11	3.61 .1								
WELL	LECTED AT	PID READING (OPENING WELL)			DEPTILI STATIO ER LEVE	I. (TOC)		DEPTH TO STABILIZE ER LEVEL	D	DEPTH TO PUMP INTAKE (TOC)	PL	MPING START TIME
RADIATION	SCREENING	PUMP PRIOR TO			7. SS	-	<u> </u> 	PUMP AFT	ER			
DA	TA	SAMPLING (cps)			TIED.	DUD	·' 	AMPLING (ID A POLONIC		
TIME WATE	R PUMPING	CUMULATIVE VOL	Г	LLEC	ED	DUR		COND		ERATIONS ORP		TURBIDITY
(min) LEVEL	RATE (ml/min)		OX	Y GEN (n	ng/L)	(C)	(4112	shos)	ρU	(m <u>V</u>)		(NTU)
1310/0.7		MIFO	(3.34	7	13.8			6.56	-98		20
13/5 11.04	90		0	2.33	3	17.6	0.0	129	6.59	-112		21
1320 11.00	90		1	<u>0.3</u>		13.2			6.60	. 1	<u>3</u>	22
1325 10.92			_	0.4 0.4		13.7		<u>933</u> 931	6.6			19
1330 10.9		70 /	 		,	13.6			6.60	, , -		18
1335 D	OUSE S	led rising	7	l can	yu;	it ed	Do	, 7C	10-18	1	ta.	
	ymp.	Do increa	sed	+	b >	1.0	, 12	ok	out	pumo.	Fre-	m well
1	o chec	K air lin		A	7'R	/ins		K		is exted	рU	mo into
1	re/1. 3/2	Do increased	W	ek.	15 0	(ny	al	lon	129	to ree	ha	rge.
11200	710/		<u> </u>	1		7	1.			100 (6		
1425 B		no mee	W	ter a	ler		retvi		-	10,66	F-1	75
1435 /0.99 14350 10.0	-).85).63		13.4		29 142	6.60			75
1455	1 70		-	10.		13.0	0.0	<u> </u>	6.60	7 71		<u> </u>
1,7,2												
			_									
1 I		I .	1		1		1			1	,	1

	SAMPLING	PRESERVA	TIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
	ORDER			COUNT/ VOLUME	TYPE	NUMBER		DATE
1	VOC-8260B	4 deg C	HCL	3/ 40 ml	VOA	ļ		
2	MEE (AM20GAX)	4 deg C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)	4 deg C	HCL	2/40 ml	VOA			
4	Sulfate (EPA 300.1)	4 deg (1 x 250 mL	HDPE			
		T dog (1 1 250 1112	field			
5	Fe+ (HACH)	12.4.		• .		•	17.1	1120
6	Mn+ (HACH)			,	field			
7	2078.17;	1 4		<u> </u>			······································	
-	4 7 (0 . 1)	1						Sparity .
_					1.1 8 2 3 2	G.)		
					2019			1,27
								100 Mai
COI	MMENTS: (QA/QC?)		î	ar:		:	in the second	
						- e min	70 PP 70 PP 71 PP 71 PP 1 PP 10	
			100 100 100 100 100 100 100 100 100 100			. ભાગવામ ૧૯૦૦ - ૧૯૦૦ ૨૦૦૦ - ૧૯૦૦		
			100 100 100 100 100 100 100 100 100 100			- e min		

	SAM	PLING F	E	CO	RD	_	GR	OU	ND	WA	ATE	3	
SENEC	A ARMY I	DEPOT ACTIVITY	7			PAF	150h	15		WEI	LL #:		
PROJEC LOCATIO		Ash Landfill I			water S LUS, NY		- Round	111			ec i Oro,	14/2 8-4	-24
WEATH	ER / FIELD	CONDITIONS CHEC	7					CHANG		SAM	PLEID #:	<u>~ · · · · · · · · · · · · · · · · · · ·</u>	10
TIME	ТЕМР	WEATHER	1	EL. HDITY	VELOC		FROM) LECTION	1	D/SITE FACE	FI	MONIT		
(24 HR)	(APPRX)		(G	EN)	(APP)	RX) (0	- 360)	CONDI	TIONS	INST	RUMENT		TECTOR
1415	908	501			-	-					OVM-580		PID
DIAMETER GALLONS LITERS	(INCHES): 7 FOOT:	UME CALCULATION FAC 0.25 1 2 0.0026 0.041 0.163 0.010 0.151 0.617	TORS 3 0 367 1 389		6 1 47 5 564	ONI	WELL YO		ELL DIAM	ETER FA	ized water l ctor (galjet gall ov	וו	
HISTORI	DATA	DEPTH TO POINT OF WELL (TOC)	_	TO	TII TO P OF N (TOC)	SCREEN LENGTH (FT)	D	WFLL FVELOPME TURBIDITY		DEA	WELL ELOPMENT pH		WELL VELOPMENT PEC COND
		13.00		 	DEPTH 1		_	DEPTH TO			H TO PUMP	PLIM	PING START
DATA ('OLL WELL		PID RFADING (OPENING WELL)		WA	TER LEVE		WAT	TER LEVEL			(TOC)	12	1/3
RADIATION S		PUMP PRIOR TO SAMPLING (cps)			447			PUMP AFTI AMPLING (11 5
	MON	ITORING DATA	СО	LLEC	CTED	DUR		URGIN	IG OP	ERAT	TIONS		
TIME WATER (min) LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)		DISSOLV XYGEN (TEMP (C)	(ur	nhos)	pH	,	ORP (mV)	_	TURBIDITY (NTU)
H22 472	25		-					707	6.8	\rightarrow	58	\dashv	100
1435 9.49	20						0.	700	60		26	\dashv	95
1440 Q.99	18						0,-	723	6.4	\neg	77	\dashv	85
1444 900	18			0.3		14.8	$\overline{\mathbf{a}}$	735	6.6		27		75
		Sampie	E al	(P (C)	40			445			<u>-</u>	-	
										_			
	_		 									_	
											_		
	_		├				<u> </u>					\dashv	
			 										
			_										
			-			_	-			+		_	
 -			\vdash				 	_		+			<u>-</u>
												ightharpoons	
			1										

	SAMPLING	nnrern	CATINEC	BOTTL	re	SAMPLE	ТІМЕ	CHECKED BY
	ORDER	PRESER	VATIVES	COUNT, VOLUME	TYPE	NUMBER	IINIE	DATE
1	YOC 8260B	4 deg C	HCL	3/ 40 ml	VOA	ALBUDOIZ	1445	MEE
2	2007/19/4		HCL	2/ 40 ml	VOA			
	MEE (AM20GAX)	4 deg C						
	TOC (9060A)	4 deg C	HCL	2/ 40 ml	VOA			
-	Sulfate (EPA 300.1)	4 dep C		1 x 250 mL	HDPE			
+	l'e+ (HACH)	_			field			
\dashv	Mn+ (HACH)				field			
4		_						
4								
4								
- 1	ſ					1 1		
	MMENTS: (QA/QC) Lamotte:							
	MMENTS: (QA/QC) Lamotte:3 YSI-02F01 Oftoriba: 145		45. 5					
١.,	Lamotte:		t Fig.		\$ \$ \$.		***	
١.,	Lamotte:		t Fig.	rei i	5 K		i i	
١.,	Lamotte:		C.F.		5€ € .		i i	
3	Lamotte:	3357 76 888/ 1	C.F. Co		≥ <u>₹</u> ₹ .		<i>y</i>	, p.i.
\ , ,	Lamotte:	3357 76 888/ 1	C.F.		\$ 5		*	
3	Lamotte:	3357 76 888/ 1	C.F.		≥.5 € ·		**	, p.i.
3	Lamotte:	3357 76 888/ 1	C.F.		5. K		i) i	, a, i.

S	ENEC	A ARMY	DEPOT ACTIVITY			-	PAR	SON	IS		WELL	#: /	1WT-25
PF	OJE("	r:	Ash Landfill L	IM Gr	roundw	ater Sa	mpling	- Round	111		DA	TE:	71/20/11
LO	CATIO	N:			OMULU	IS, NY				.	INSPEC	TORS:	mce
			and the same of the								PUMP #		11715
W	EATH		CONDITIONS CHEC					MAJOR			SAMPL		CA HOTO
		1.		RE	-	WIN				ND/SITE	NO.		20213
	ME	TEMP	WEATHER	HUMI		VEI.OCI	10.0	ECTION	110000	FACE		MONITO	
_	HR)	(APPRX)		(GI		(APPR	(X) (0	- 360)	COND	ITIONS	INSTRU		DETECTOR
11	17	90'5	SUN	higu	-	OM	W -	-				OVM-580	PID
		11.001		TIES TAN			Java						
		INCHES):	0.25 1 2	3	4	6	ONE	WELLVO	X	WELL DIAME		D WATER LE' OR (GAL/FT)	
	ALLONS LITERS/		0 0026 0 041 0 163	0 367	0.654 2.475	1 47 5 564	١٠,		2.7	ک.			
uer-	-	250176	DEPTH TO POINT	1	DEPTI	1 TO	SCREEN		WFI,L		Wi		WILLI.
יענון	IISTORIC		OF WELL		SCREEN		LENGTH (FT)		TURBIDIT		DEVEL.C		SPEC COND
		AOYBABA				,			7.5				, , , , , , , , , , , , , , , , , , , ,
			13,239										
DAT	A COLLE	381662 ECTED AT	PID READING			STATIC			STABILIZE	D	DEPTH T	AKE	PUMPING STAR TIME
	WELL S	SITE	(OPENING WELL)	-		R LEVEL			ER LEVEL	(10C) A	110		10
			19/4			.65			1)	11.8	۱۲/	1130
RAD	DAT	CREENING	PUMP PRIOR TO SAMPLING (cps)		8.	46 W	1 Pump		PUMP AFT				
			ITORING DATA		LEC		DURI		URGII	NG OPI	ERATIO		
TIME (min)	WATER	PUMPING RATE (ml/min)	(GALLONS)		ISSOLVE VGEN (mg		TEMP (C)		COND hos)	рН		ORP (mV)	TURBIDITY (STU)
(uitu)	1130	Star		0.1	TOTAL (IO)	,,,,	(-)	(u				(2.7)	()
40			7019114	-	- 0		10.0		12	100		12.2	
11:1-1	9.4	85		9	78		15.4	73	-	6.98		133	5.5
700	4,71	83			. 11		15.3	+3	50	6.93	-	135	76
205	281	85		O.	10		15.2	162	4	6.9	4	TP -12	27 17
210	10.0	75		0	209		151	1.15	5	6.93	3 -	-125	50
215	10.20	100			10		15.1	1.1	4	6.9		-122	3.6
	7	110				5	14.8	1-1	i		_	-) 1	
		-/-		-6	2.10	0				6.9	200	111	3.0
_	10.51	6.0			3,0		4.)		2	6.9	900	-110	14
235	10/4				,06		4.6		005	701		-84	16
240	10.7	90		(5,0	7	14.5		593	6.9.	5	-59	13.6
	10.7	90	1,25 961 005		0.0		14.5	0.5		6.40		45	3.7
	1090		1.20		1.00		14.4		57	6.80	-	27	4.0
275	IV, III	250000000000000000000000000000000000000		1987									
20	(A ~	>	w/ slow	ne.	E C)	acus	ge	31	oleb (0 10	nwi	P Ass	STEO
270	16.76	35	W		Say	nol	ide	2					
335	(O, 18			0.	02		4.0	1.1	5	6.79		9	
	[D 565			0	10.		140	}	17	6.7	7	11	13
		250	1-75 gailors		()3		(40)	1.1	3	6.7	2	13	1913
							40	1.		4.1	-		100
134		samo	le Taken								-	-	-
						_					-		

C:\Documents and Settings\P0065141\Desktop\ASH FORMS\Field Forms for Ash GW.xls Horiba Flow through cen Be came 0.3100gcd + Empty.

SAMPLING	PRE	SERVATIVES	вотт		SAMPLE		TIME	CHECI	
ORDER			COUNT: VOLUME	ТҮРЕ	NUMBER	_	10.46	D	ATE
1 VOC 8260B	4 deg C	нст	3/ 40 ml	VOA	ALBW 201	243	1345		
2 SMEERAM20GAX)	4 deg C	HCI.	2/ 40 ml	VOA	N/A				
í A		HC1.	2/ 40 ml	VOA	75000	213	NA		
3 TOC (9060A) 4 Sulfate (EPA 300.1)	4 deg (1 x 250 mL	· HDPE	The state of the s	313	NA		
Fe+ (HACH)				field			_	<u> </u>	
Mn+ (HACH)				field			_		
							2.013.0		
					49	_			
					15.	-	स्वीते (दुपूर इ.स. १८		3 ,. 1 '.
		ļ]		~ 6 2. 4.		טייים
OMMENTS: (QA/	QC?)								
OMMENTS: (QA/O		(1875) 7 (875) 12 (81		N 46 0] 42			. 93 	11 ° 1 13 ° 1 1 ° 1 1 ° 2 1 ° 3 1 °	262 .53

		SAM	PLING R	ID(CO	RI) -	GR	JOL	ND	VAT	ER	
S	ENEC	A ARMY	DEPOT.ACTIVITY				PAR	501	JS		WELL #	#: MC	J-26
1	ROJEC CATIC		Ash Landfill L			water S .US, NY		- Round	111		DATE INSPECTO	E:	7/20 11 1/EE 121 32
"	EATH	ER / FIELD	CONDITIONS CHEC				ECORD				PUMP#: Controle Sample I		ORIGH-OLEO
"	IMP	777740	N/FLTUPP		EL.	WIN		FROM)	l	D/SITE		AIRW	
_	IME (HR)	TEMP (APPRX)	WEATHER (APPRX)		IDITY EN)	VELOC (APPI		ECTION - 360)		FACE ITIONS	<u>n</u> INSTRUM	10NITO	DETECTOR
880		805	Sonny	- (2.17	314	- (/E	COLLE			M-580	PID
		1)			٠,١٠٠	-	,-					
G.	ALLONS	(INCHES): / FOOT:	UME CALCULATION FAC 0.25 1 2 0.0026 0 041 0 163 0 010 0 151 0 617	TORS 3 0 367 1 389	4 0 654 2 475	6 1 47 5 564	ONE		79	L) = [(POW - S NELL DIAME C. \ ~		(GAL/FT) [EL.)
727	L# C	CFOFIG DATA FAO	DEPTH TO POINT OF WELL (TOC)		TO	DH TO P OF N (TOC)	SCREEN LENGTH (FT)		WELT EVFLOPME TURBIDIT		WFLI DEVELOPM pH	ENT	WELL DEVELOPMENT SPEC COND
Hoal	bo#,(0+ 1 #	3138166	13.22	NE									STATE CONTRACTOR
		ECTED AT	PID READING (OPENING WELL)		WA1	DEPTH T STATIC ER, LEVE			DEPTH TO STABILIZE ER LEVEL	p	DEPTH TO I INTAKE (TOC)		PUMPING START TIME
			NIA		(F)	92	WING	Project	Pring	910	11.6	28	0823
RAD	IATION S DAT	CREENING A	PL 'SIP PRIOR TO SAMPLESG (cps)		7.8	ء سر	Probel	Rmps!	UMP AFTI MPLING (ER cps)			
		MON	ITORING DATA	CO	LLEC	TED	DURI	NG P	URGIN	IG OPE	RATION	is_	
TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	('UMULATIVE VOL (GALLONS))ISSOLV YGEN (=		FEMP (C)		COND (hos)	рН		ORP (m¥)	TURBIDITY (NTU)
	7.82	Beyin	SENO @ 08	00									
10823	782	Begin	A 1										
0840	821	110		0	35		174	2,0	2	6:73	-2	8	13
0845	8.28	100	0,25	١٥،	11		7.3	1; 0	19	6.73	- 3	3	9,9
0850	8.4	70	0.5	0,	10		17.4	1.	93	6.72		39	9.0
0853	8,46	70		0	11		17.4		87_	6.7	-	42	8.6
0900				U	.17		17.3	(. '	81	(2.)	<u> </u>	41	7.0
0905	8.58	68		1	.15		17,2		80	6.69		39	68
090	8.68	73	1 99100	Ú	11		17.2	1.	11	6.68		-38	52
0915	4.70	. 80	U	0,	13		17.1	1.	7/	6.6	7 -	35	38
0920				O	13		πJ	') <i>o</i>	6.64		35	
0925		28,			10		16.4	1.0	68	6 -Cd		35	9.0
0930			1,25		. 08		16.8		(07	66		24_	36
0935	4.94	55		D.	08		16-7		. 47	10-60		30	2.0
13945					07		167		67	66		3 ረ	2.20
o 950			2,00	0	.0-	7	166		67	6.64	1	-	2.4
San	pies	take	n @ 10	00									1

	SAMPLING	PRESERV	VATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
	ORDER			COUNT VOLUME	TYPE,	NUMBER		DATE
1	VOC 8260B	4 deg C	HCL	3/ 40 ml	VOA	ALBW20216	1000	
2	MEE (AM20GAX)	4 dek (.	HCL	2/40 ml	VOA			
3	TOC (9060A)	4 deg C	HCL	2/40 ml	VOA			
نم	Sulfate (EP#300.1)	4 deg C		1 x 250 mL	HDPE	V	√	
5	Fe+ (HACH)			1	field	1043	1043	
6	Mn+ (HACH)				field	1049	1049	
7								
_								
							Ph 3 / B 48+	
					(FB)	2 33 K; ~	সা দ্ধ শীলা কৰে। তেওঁৰ বিশ্বাস	710,60

\overline{C}	ō	M	M	E	T	S:	(Q.	A	QC	?)
							•		-	•

FE: 0.89 mg/C MNOY 6.3 mg/C Pump#

IDW INFORMATION:

S	ENECA	ARMY I	DEPOT ACTIVITY	'			PAR	SON	IS_		WEL	L #: 1/3 W	JT-27
	ROJECT: CATION		Ash Landfill I			water S .US, N		- Round	111			ATE: ECTORS:	7/70/11 =TK
"	EATHE	R/ FIELD	CONDITIONS CHEC	KLIST	r	(R	ECORD	MAJOR	CHAN	GES)	7.0	LE ID #:	
				_	EL.	WIN		ROM)		D/SITE	AL	BW 28	12/9/20
Т	IME	TEMP	WEATHER	HUM	IDITY	VELO	CITY DIR	ECTION		FACE		MONIT	
	HR)	(APPRX)	(APPRX)	(G	EN)	(APP		- 360)	-	ITIONS	INSTI	RUMENT	DETECTOR
0	930	95	SUNNY			5		5	Dr	y		OVM-580	PID
		WELL VOI	LUME CALCULATION FA	TORS			ONE	WELL VO				ŽED WATER IJ	
DIA G	METER (II ALLONS/I	FOOT:	0.0026 0 041 (0 163)	0.367	0 654	1 47		ZCIX		× 3 =		CTOR (GAL/FT)	1
	LITERS/FO		0 010 0 151 (0 617) DEPTH TO POINT	1 389	2.475 DEP	5 564 TII TO	SCREEN	7.017,	WELL			WELL.	WELL
Hon	pat 71	GCREBX	OF WELL		TO	P OF	LENGTH	D	EVELOPME	-0		LOPMENT	DEVELOPMENT SPEC COND
Lamo	HISTORIC I	3357	12.13	70	SCREE	N (TOC)	(11)		OKBIDIT			pH	arec COND
DA	TA COLLEC		PID READING			DEPTH	Γ		DEPTH TO STABILIZE	D	Th.	TO PUMP	PUMPING START
VET	WELL ST		(OPFNING WELL)			ER LEVI		WAT	ER LEVEL	(TOC)		(TOC)	
RAD	NATION SCI	90 REENING	PUMP PRIOR TO			. 04			PUMP AFT				
	DATA		SAMPLING (cps)						AMPLING (EDAR	1016	
TIME	WATER	PUMPING	CUMULATIVE VOL		LLEC		DURI		COND	NG OP	ERAT	ORP	TURBIDITY
(min)	LEVEL 1	RATE (ml/min)	(GALLONS)	ON	YGEN (I	ng/L)	(C)		ihos)	pH		(mV)	(NTU)
1000	9.51	120			0.7	6	15.4		05	6.2	7	-116	29.5
1005	9.55	120	11.25 gal		0.7	6	15.8	1.	18	6.28	3 .	- 114	20.2
1010	9.56	130	3		0.3	77	15.8	1.	93	6.2	6.	-112.	10.68
1015	9.55	131			0.	17	15.7	1.0	10	6.2	5 -	-112	₹.75
1025	9.60	129	n2 gal		0.	77	15.7	1.8	6.	6.24	3	-111	6.70
1030	7.57	130	0		0.	77	15.6	, 0	5	6.24		-109	5.13
1035	9.57	133			0.	77	15.6		36	6.2		-(08	4.90
1040	9.57	130			0.7		15.6	1.8	32	6.2	5	-109	
		129			0.7		15.4	1.8		6.2	9	-108	4.0
050	9.58	128		_	0.7	7	15.6	1.8	32	6.3	0	-108	38
1100	Put	-2400	Probe 45	工	# 3	3210	5:	to	we	11	DO	readi	40
		rease	d to o.	69									4
	9.57	127	n4. quel		0.0		16.0		-6	6.3	_	-110	3.8
1115	4.50	129	0 \		0.		16.0	1.7	7	6.3		110	3,7
1170	9,56.	126		_	0.0	_	16.0		76	6.3		-109	
1125	9.57	125	44.75 gal		90		16.0	1.	75	6.3	ð	-109	3.2
116	To	ok &	ample			204							
1210	101	o K	Sample	M	BW	201	7 MS	_			_		
1235	10	ne	Sample				3MF	0			-		
1305	1	ook	Sample			202			-				
	1		Fo+: 3.	10 A	AA II	. 100	200		MA	: 22	0 1	· · ·	

1	SAMPLING		PRES	ERVATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
$oxed{eta}$	ORDER				COUNT, VOLUME	TYPE	NUMBER		DATE
	. VOÇ 8260B		4 deg C	HCL.	3/ 40 ml	VOA			
	,,,								<u> </u>
2	MEE (AM20GAX)		4 deg C	HCL	2/ 40 ml	VOA			
3	TOC (9060A)	, ,	4 deg C	HCT	2/40 ml	VOA			
4 1	Sulfate (EPA 300.1)	`	4 dep C		1 x 250 mL	HDPE			
5	Fe+ (HACH)					field			
6	Mn+ (HACH)		3	, .		field		, , , , ,	547
7									
	v. e. ş.	•••		A Train	• :				
								A TROP	in mires;
-			<u> </u>			-	178.5]
_							*' / C , N ,		
									<u> </u>
					ş:À	8		- A _V /	\$ 100 mm
÷.			••	5. S. n. s.		· .	. 28*		area she
		f. 6					A3 1		
				\$ 1.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7	F.31 F				To the second se
				\$ 1.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7	F.31 F				
				\$ 1.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7	F.S. 63				

S.	AM	PLING R	E	CO	RD	-	GR	OU	ND	WATE	R	
SENECA A	RMY.D	EPOT ACTIVITY				PAR	SON	S		WELL #: 1	LW	7-28
PROJECT:		Àsh Landfill L	TM G	roundy	vater Sa	mpling	- Round	11		DATE:		7/19/10
LOCATION:				-	US, NY					INSPECTORS	: <u>M</u>	EE/J-TK
										PUMP#: 8915'		
WEATHER /	FIELD,	CONDITIONS CHEC						CHANG		SAMPLE ID #: ALBW 20219		
m15.423	7777	6."		EL.	WIN			GROUN				
TIME	TEMP (APPRX)	WEATHER (APPRX)		EN)	VELOCI (APPR	- 1	ECTION - 360)	CONDI	TIONS	MON INSTRUMENT	ITOR	DETECTOR
(24 HR) (DAIC	SUNAL!	100	EIN)			N	CONDI	110,13	OVM-5		PID
70,10	16-31	SOURCE!	 		304		V			N/a		NA
	WELL VOL	UME CALCULATION FAC	TORS			OME	WELL VO	LUME (GA	L) = [(POW -	N A		- A
DIAMETER (INC.) GALLONS / FOO		0.25 1 2 0.0026 0.041 6463	3 0.367	4 0 654	6 1 47	3				TER FACTOR (GAL	/FT) [
LITERS/FOO	т	0 010 0 151 0 617	1.389	2 475	5 564		1.212		.63 =			
Howba# :20	anda	DEPTH TO POINT OF WELL.			TH TO F OF	SCREEN LENGTH	D	WELL EVELOPME	NT	WFLI. DEVELOPMENT	1	WELL DEVELOPMENT
HISTORIC DAT	3257	(TOC)		SCREE	N(TOC)	(FT)		TURBIDIT	·	ltq		SPEC COND
MSI: Pine	# (448)]			
					DEPTH TO STATIC	3		DEPTH TO		DEPTH TO PUMP INTAKE	PU	UMPING START TIME
DATA COLLECTE WELL SITE	ا ۱	PID READING (OPENING WELL)		WAT	ER LEVEL	. (TOC)	F .	ER LEVEL		(TOC)		TIME
	ĺ	NA		7	.46)	8	.99		11,6	1	445
RADIATION SCREE	ENING	PUMP PRIOR TO SAMPLING (cps)			J/A			CMP AFTI MPLING (N		
	MON	ITORING DATA	CO	LLEC	TED	DURI	NG P	URGIN	iG OPI	ERATIONS		
	UMPING	CUMULATIVE VOI.	1	DISSOLV	ED	TEMP	SPEC.	COND		ORP		TURBIDITY
10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(mi/min)	(GALLONS)	0:	CYGEN (n		(C)	(um	nhos)	/ IQ	(mV)	2	(NTU)
1445 13.70	20			ها،		16.0	1-4	14	6.18			710
1750 9.86 <u>- 1750 9.86</u>	17 1			17		15.7	1	26	6.18		<u>ő</u>	0.15
14553.86	98		<u> </u>	1.10	_	15.8		31	6.10	1 1	<u>ଷ</u>	7.45
1600 8.83	90-1	D.25 gas	<u> </u>	.04		15.8	<u>'.</u>	32	60.10	1 -119		7,66
1665 8.84	ið	J	1	03،		158	1	33	Ceil	71 -12	1	4.27
1610 8.84	10			0,9	8	15.8	1,	341	6.1	8 -17	٣_	8.55
1 10 -0	80			0,0		15.8		4	6.10	1 -12	6	4,28
	97			3.9	$\overline{}$	15.9		5	6.19			4.69
	00		Г,	0,0	15	15.9		35	6.18			3.99
1630 9.87		~ Igal		0 9	2	15.9	_	35	6.5			3 95
	98			~		15.7	•	37	6.16	- 140)	3.85 3.35
	% S		\vdash	0.0		15.9		38	6.	4 - 4		2 42
GAS 8.97	016		 			15,5	1	39	6.16	- (2)	$\overline{}$	341
18.8 030	96			0:0	_	15.9		40	6.14	- - ,		3.43 3.41 3.61
1700 3.91	75	V Regal.	\vdash	0.4	$\overline{}$	15.9	1	42	6.15			3,4/
1705 871	75 70	- regur.		03		13.4		172	6.15			3,68
17(0)	80					170		12	614		37	3.70
1715 844 1	10	~ 2.25 gal		5,31 0,1		16.9		LILI	6.14		35	3.93
1,20,1			, ,		•	1100-		-1-1	1	19/L		3.73
-3 Voc	1001	- comple	2					G +.	3:30	nmit		
1 5mf		2 toc -					<u> </u>	Mn:	8.9	male		

C:\Documents and Settings\P0065141\Desktop\ASH FORMS\Field Forms for Ash GW.xls

7/14/2011

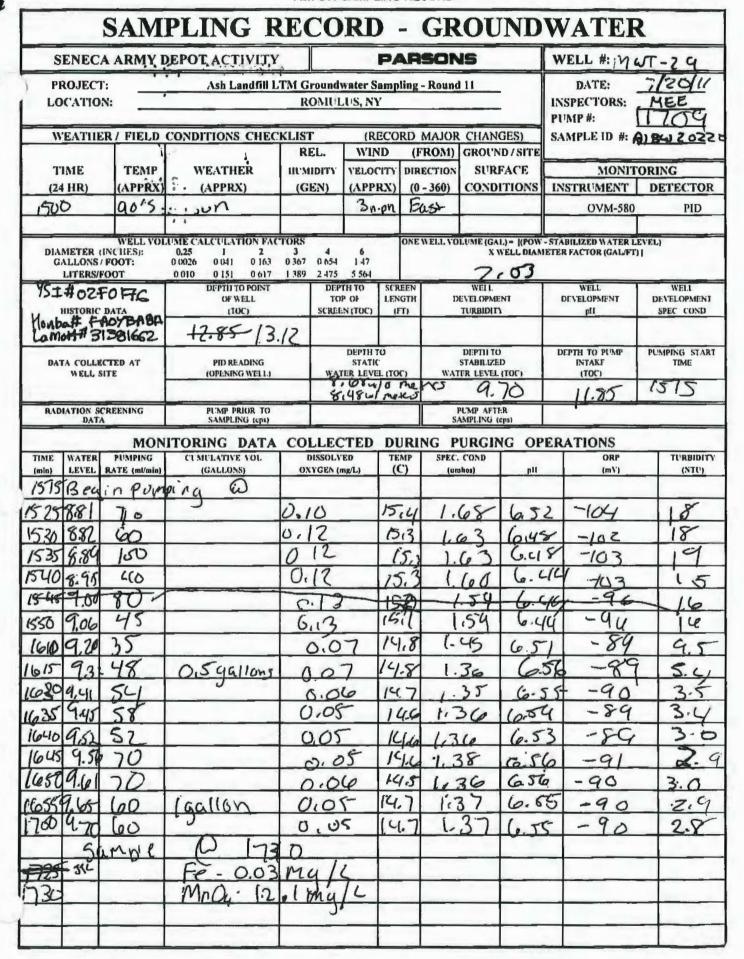
* Fryed 2nd YSI for Do Reading (Prne#3210, S/N 02F0176)

3.	AMPLING	PRES	ERVATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
100	ORDER			COUNT/ VOLUME	ТУРЕ	NUMBER		DATE
1. V(C 8260B	4 deg C	IKL	3/ 40 ml	VOA	ALBW20219	1715	JK
2 MED	MM20GAX)	4 deg C	HCL	2/ 40 m)	VOA		1.:	JK
TO	C (9060A)	4 deg C	HCL	2/ 40 ml	VOA			JK
Sulfate	(EPA 300.1)			1 x 250 mL	HDPE			JK
		ч оед с		1 A 250 Hills	field		1715	JK
	(HACH)			Smph W		्र महार	1715	8K
. ej	+ (HACH)				field		14 (0	OK.
'			! ** **	, i				
<u> </u>		٠. ن : ٠.,	[188] II	• 7 •	_		१४४सम्ब	3 15 15 Carbola
+								1 .
							2974 4 2	B TOTAL
الإدرج			• • • • • • • • • • • • • • • • • • • •			$A_{k}^{*}(A)$		
	DRMATION:		26			· or ·		
TAN TIAL	JRIVIA IJON		Mr 44	0,0	2		25	535 N
	jaje Pjaje	in G				* * * * * *	2. V	135 Ag
		-					2.11	
V 1		·				4151 A		
•	11				•		4 '	
•	يسدو بالأ	(. e _a	1 62		,	(1), 11 (1) (10) (13) (1)		obyt.

C:\Documents and Settings\P0065141\Desktop\ASH FORMS\Field Forms for Ash GW.xls

N

7/14/2011



	SAMPLING	PRES	ERVATIVES	BOTTL		SAMPLE	TIME	CHECKED B
_	ORDER			COUNT/ VOLUME	TYPE	NUMBER		DATE
1	VOC 8260B	4 deg C	HCL	3/ 40 ml	VOA	ALBUZ 0220	1710	
!	MBB (AM20GAX)	4 deg (*	HCT.	2/ 40 ml	VOA		1	·
	TOC (9060A)	4 deg C	IICL	2/ 40 ml	VOA			
	Sulfate (EPA 300.1)	4 deg C		1 x 250 ml.	HDPE	J	4	
	Fe+ (HACH)				field		1725	
	Mn+ (HACH)				field		1730	
		\$25			-			
							. 1 mg	735020
1					-		1844V	h laine
1							19,10.3	114, 4104,001,
0	MMENTS: (QA/QC	<u>C?</u>)						<u> </u>
O	MMENTS: (QA/QC	<u>C?</u>)						

		SAM	PLING I	RE	CO	RI	-	GR	OU	'ND'	WA7	[EF	\
S	EŊŖŒ	A ARMY	DEPOT ACTIVIT	Y!-			PAR	SON	JS		WELL	#: [7]	17
1	ROJĚC CATIO		Ash Laudfill	R	OMUL	US, NY		- Round	JH-12		DAT INSPECT PUMP #:		12/13/11 ME
"	EATIII	ER / FIELD	CONDITIONS CHE		1, -		ECORD	MAJOR	CHAN	GES)	SAMPLE		11710
		,			EL.	WIN		FROM)	1	D/SITE	<u>HUBU</u>		
	TIME TEMP WEATHER HOMID (24 HR) (APPRX) (APPRX) C. C. (GEN					VELOC (APPI		= 360)		FACE ITIONS	INSTRU	MONIT MENT	ORING DETECTOR
	319 40'5 Sun/Chardes,					0-5	_ 4	W	Dr			VM-580	PID
	` \		7. 7.1.										
G.	METER ALLONS LITERS/	(INCHES): / FOOT:	UME CALCULATION FA 0,25 1 2 0 0026 0.041 0 164 0 010 0 151 0 617	CTORS 3 0 367 1.389	4 0 654 2 475	6 1.47 5 564					STABILIZED STER FACTO 2, 34	R (GAL/FT)	EVEL)
	111111111111111111111111111111111111111	1001	DEPTH TO POINT OF WELL	71.5-07	DLP	TH TO	SCREEN LENGTH		WELL	1	DEVELOP	I.	WELL DEVELOPMENT
1	HISTORIC	DATA	(TOC)			N (TOC)	(FT)		TURBIDIT		рН		SPEC COND
			7.5!										
DAT	TA COLLI WELL	ECTED AT SI TE	PID READING (OPENING WELL)		_	DEPTH I STATIC ER LEVE	1. (TOC)	WAT	DEPTH TO STABILIZE TER LEVEL	(TOC)	DEPTH TO INIAN (TOC	KE ')	PUMPING START TIME
		anna			7	.72		-	2.76		6.5	1	13:32
RAD	EATION S DAT	CREENING A	PUMP PRIOR TO SAMPLING (cps)				-		PUMP AFTI				
			ITORING DATA		LLEC		DURI			VG - OPI	RATIO	NS 🔌	* ter . ,
TIME (nila)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVE VOL (GALLONS)		DISSOLV AYGEN (n	ng/L)	(C)	(011	COND (ph		(mV) 3	TURBIDITY (NTU)
1324	319	W/PU	mps in	4	ST &	5	YSE	45	1650	2,7,2		-> <u>0.:</u>	Lamote
1332	Put	npstur!	- Notice to	o na c	TAC		Fer		pem	PIN M	المعدد ا		
1410		Resume	Pumping	ļ_			4		35	1415	1	पण्डे स क	10000
1414	2.79	*250		1	0.2		9.6	0.491.		7.19	90	ج) ۱	4
1419	2.12	120	0,5	_	101	_	10.1	10.0	492	6.9	7	9.8	. 2252
1424		132		_	5.03		10.1	-	196	6.80		. 5-	21.6
1434			1, 5	_	180		9.9		195	6.81	- 1	1.6	11.0
1439		120			-1.4		9.9	2.6		6.80	-	6.4	9.32
1444					1.19		9.4	0. 4	445			7.3	
1499 1454		_	1.75	_	3.83 3.53	_	9.9	0.0		6.7		9-5	6.71
1454				_	.25		10,00			6.74		0.2	4.84
1604					3.0		1000	Spec	CoAO.	6.70		10.9	
1509	•		3.02	_	2.6		10.00		686	6.7		71.0	
1519				-									
/		Same	ne @ 152	4	-								
	James E 132												
			F= = 0.0	Mo	1/6	Fe							
					_								

8140

51248 12/11/2010

S	SAMPLING	- 1	PRES	SERVATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED
	ORDER				COUNT/ VOLUME	TYPE	NUMBER		DATE
V	OC 8260B	4	i deg C	JRT.	3/ 40 ml	VOA	2022(1528	380
	(ÄM20GAX)		deg C	H.L	2/ 40 ml	VOA	"	4	
7.1	(1) C (9060A)			HCL	2/.10 ml	Anbar	4	7	
3 TO	e (EPA 300.1)	211	deg ('	, III L			4	4	
Sulfat	e (EPA 300.1)		1 deg C		1 x 250 mL	HDPE	0.01.00		
i Fe	+ (HACH)			• 1 ,	` ¼ `.	Jield	0.01 7/2		
Мп	n+ (HACH)					field_	0.6 7/1		

	f se i	2,3	47 A						
							1.7		
-							- 1		
.818	ri is				::	<u> </u>			
YS.1	NTS: (QA/ L 650 X L 85 D	レザ	321	0					•
YS.1	T 45 X	レザ	321	0		an sale an salah	ni Nama dia kangangan Nama dia kangan	and the state of t	- (1.2) 1945 - (8) 194 - (8)
YS.1	T 45 X	レザ	321	0		i prospile Normalista	13 12 - 40 M 13 July 12		1000 1000 1 100 100 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100 100 1 100
YS.1	T 45 X	L # # # # # # # # # # # # # # # # # # #	3210 48 - 11 16	0 710 250 773		an selection			
YS.1	I 85 D lotto # dder Pu pressor for level	L# 12 # # #	3210 48 48 16 16	0 710 250 773	1 ,1				·
YS.1	T 45 X	L# 12 # # #	3210 48 161 161	0 710 250 773	4 76 3 3 71		13 12 - 14 M 13 M 1 M		
YS.1	I 85 D lotto # dder Pu pressor for level	LO 0 1 # # # # # # # # # # # # # # # # # #	3210 48 161 161	0 710 250 773	* 2* * } ** *				·
YS.1	I 85 D lotto # dder Pu pressor for level	LO 0 1 # # # # # # # # # # # # # # # # # #	3210 48 16 16	710 250 773					100 (A) 100 (A) 100 (A) 100 (A) 100 (A)
YS.1	I 85 D Totto # Ider Pu pressor ter level	LOOP##	3210 48 16 16	0 710 250 773					
451 45 Bla Cun	I 85 D lotto # dder Pu pressor for level	LOO P##	3210 48 16 16	710 250 773				, 14 , 14 , 14 , 14 , 14 , 14 , 14 , 14	100 (A) 100 (A) 100 (A) 100 (A) 100 (A)
451 45 Bla Cun	I 85 D lotte # dder Pa pressor ter leve	LOOp##	3210	710 250 773	on t			, 14 , 14 , 14 , 14 , 14 , 14 , 14 , 14	
YSI YS Bla Can WENF	T 85 D Toffer # Ider Pur pressor ter level	LOOp##	3210	710 250 773	m/s		.,.		
YSI YS Bla Can WENF	T 85 D Toffer # Ider Pur pressor ter level	LOOp##	3210	710	m/s	3			
451 45 Bla Cun	T 85 D Toffer # Ider Pur pressor ter level	LOOp##	3210	710	m/s	3	.,.		

S	AM	PLING R	E	CO	RI) -	GR	JOI	JND	WATE	R
SENECA	ARMY I	DEPOT ACTIVITY	,			РАЯ	501	JS		WELL #: ₽	TISIT
PROJECT: LOCATION:		Ash Landfill L			vater S US, N		- Round	12	-	DATE: INSPECTORS: PUMP #:	12/15/11 ME 10298
WEATHER	/ FIELD	CONDITIONS CHEC	KLIS	r	(R	ECORD	MAJOR	CHAN		SAMPLE ID #:	
				CI	WIN					ALBW 201	
TIME (24 HR)	(APPRX)	WEATHER (APPRX)		idity En)	(APP)		- 360)		FACE ITIONS	INSTRUMENT	DETECTOR
1140	44	Ovecast	70		20		oun	wet	-	OVM-580	PID
DIAMETER (IN GALLONS / FO LITTERS/FO	CHES): OOT;	NME CALCULATION FAC 0.25 1 2 0.0026 0.041 0.163 0.010 0.151 0.617	TORS 3 0 367 1 389	4 0 654 2.475	6 1.47 5.564	ONE	WELL VO			- STABILIZED WATER ETER FACTOR (GALIF	
		DEPTH TO POINT OF WELL		DEPT	HTO OF	SCREEN LENGTH	D	WELL, EVELOPM	ENT	WELL DEVELOPMENT	WELL DEVELOPMENT
HISTORIC DA	ATA	(TOC)			N (TOC)	(FT)		TURBIDIT		pH	SPEC. COND
		12.79					<u> </u>				
DATA COLLECT WELL SITE		PID READING (OPENING WELL)		WAT	DEPTH 7 STATIC ER LEVE	;		DEPTH TO STABILIZE ER LEVEL	ED	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
					22		6	.39		1679	1144
RADIATION SCRI	EENING	PUMP PRIOR TO SAMPLING (cps)			_		SA	UMP AFT MPLING	ER (cps)		
	MON	ITORING DATA	CO	LLEC	TED	DURI	NG P		NG OP	ERATIONS	
	PUMPING ATE (ml/min)	CUMULATIVE VOL (GALLONS)		NESSOLVI YGEN (a		TEMP (C)		COND	рН	02P (cxV)	TURBIDITY (NTU)
1148 6.12	PUMP	inwell	Y 5	55		শূর	45I 650		YSI 6	50 452 656	Lamore
1149 Dume	<u>s</u> s	artei)							6		
1154636	150		٥.	12		11.0		12	6.48		14
	50		61			10.8	1,7	24	6.7		11
	<i>ψ</i> 7		0,			10.58		φ	6,73	39,9	6.4
1204 6.34		_	0.	1 -		10.1		32	6.70	110	1,1500
	1445		0 '	_		107		38	616		14843
· · · · · · · · · · · · · · · · · · ·	154	1) c-		12		10.7		7217	60.60		13.5
1224 6,34 1		-1,5 gas	0	11	\dashv	10.0		745	6,60		1.8
1234 6.39 1	417		<u>0</u>	04	\dashv	10.6	1,7		6,6		1.00
1239 638				104		16.6	1.7		662		0.70
1244 6.39	140			.04		10.0	1.75		6.62	57.3	0,40
12-19 6-39	-12			10		111.15	1.75		6662		0,45
	46	2 201.1		.69		10:6		51	6:62		6.40
	Scinno	2 2gil									
]					

GW SAMPLING RECORD

	SAMPLING		PRESERVATIVES		BOTTL	ES	SAMPLE	TIME	CHECKED BY
	ORDER	J	/		COUNT/ VOLUME	TYPE	NUMBER		DATE
1	VOC -CLP(Low Level) 8260B	マ	4 deg. C	HCL	3/ 40 ml	VOA	45222	1304	
2	тос	_	4 deg. C	на	2 x 40 mL	VOA			
3	MEE		4 deg, C	HCL	1 x 40 mL	VOA			
4_	Sulfate/Chloride	_	4 deg. C	HCL	1 x 4 oz	HDPE			
5	Fe+		Field						
6_	Mn+		Field						
									1

COMMENTS: (QA/QC?)

Lamotte# 61248

YSI8S # 3210

YSI 650 # 41308 + 045163000 AB

PUMP# 16298

Controller # 016250

WL Indicutor # 21757

	177	11.3	I N	4111	M/ /	T 10	7.00	1
ID'	77	щ	F	JK		711	Uľ.	٧:

		SAM	PLING R	(ID)	CO	RI) –	GF	OU	IND	N	ATE	3	
SI	ENEC	A ARMY	DEPOT ACTIVITY	,			PAI	150r	4 5		W	ELL 4:PT	2	2
	ROJEC ČATIO		Ash Landfill f			ester S		- Ronn	d 1?			DATF: [SPECTORS: MP#:	P	14/11 16 1695
W	EATH	ER/ FIELD	CONDITIONS CHEC					MAJOI			SAMPLE ID #: A L BW 20223			3
	IME	TEMP	WEATHER		EL. HDITY	WIN		FROM) RECTION	4	SD/SITE FACE		MONIT	_	
	HR	(APPRX)	1		EN)	(APP		D - 360)	1	ITIONS	IN	STRUMENT	7	ETECTOR
	144	30'5	Sun			0-9	5 S	outh	Moi	54		⊖V M -580		PID
									<u> </u>					···
G		050Hk59 /FOOF	1 MF CALCET ATION FAC 10 25 1 2 0 000 n 10 041 19 163 0.010 0.151 0 517	1.389	4 0 n54 2 175	6 1 47 5 561	a.v	₽ ##11 / C				BB I/FD WALFR FACTOR IGAL/FT		15
			OF WELL		то	HE FO	SCREE!		WILT WILT		D	Well DEVELOPMENT	Г	WILL DEVELOPMENT
Н	IISTORIC	DATA	(TOC)		SCREE	N (TOC)	(FT)		TURBIDIT	Y		pH	-	SPEC COND
		 -	11.88				<u> </u>					VINERAL PROPERTY.		76 ATMERIES - 2000 - 1100
DAI		ECTED AT	PID READING			SIAIR		37.65	DEPTH TO STABILIZE TER LEVEL	n (r	DI	EPTIC TO PUMP INTAKE (TOC)	, r	JMPING START IIMI
	WELL.	SHE	(OPENING WELL)		 	ER LEVE		+	48	.(10.)		10,88		3904
яди	A LION >	a neevini,	PUMP PRIEM 11) SAMPLING (eps)				<u>'</u>		PLIME AFT			7078		
	27,0		ITORING DATA	CO	LLEC	TED	DUR	ING E			FR	ATIONS		
TIME	WATER	bi-watet:	COMINA ATIME AND	1	nişşanı V	Fft	TFMP	dbr.f.	COND	1		OHP		TURRIDITY
(mia)		Dr. (no. 107	(GALLONS)		ST 8		45E 85	155	nhei)	P11	50	45F 650	<u> </u>	Lamoth
6904			tarted_	I		<u> </u>	185	1750	<u>.,,c</u>	1, 100	~ 7	-13- WJ		Caria
4(12			harres		.58	<u> </u>	/c, 3	+1.7	63	6.00	,	205.8		10,97
0917				T	,5°		10.3		75	5, 9	$\overline{}$	211.8	_	8.18
0922					,578	•	10.2	 ""	64	5.80		2111	7	7.91
0427					,57		K.3		64	5.80	•	216.7	<i></i>	8,74
0932				1	,40		10.3	1	44	5,91	-	217,2	·	01 1 -1
5437				-	, 4		10.3		67	5.42	_	2/4.3		7 5 0
0942					. (1	/		1.1		5,93		215,5	_	3.25
			~0,5qa1		.47		10.3	7	67	5,9		213,0		2.05
0952	5.96	70 -	01392		3,30	1	10.3	1.1	65	5,00		212.7		7103
6087	5916	100		, — —	(3		10.3	1.10	64	5,47		210,1		1.37
1002	5.9k	120		ā			103		-9	5,45 5,4	51	207.1	r	0.74
		120			12		103			5.45		204.3		6,44
	_		~1.28qal	7	, 2	7	10:3	1	7	5,45	-	205.8	<u>ا</u> ر	0,38
<u> </u>		mple		<u> </u>				1,,,	,		+	~ ~ 0,0		<u> </u>
	عد ا	inpic	1020								-			
											+			
								-			-			
								 			-			
								 			-			

Section No. Appendix G

	SAMPLING	PRESER	VATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
	ORDER			COUNT/ VOLUME	TYPE	NUMBER		DATE
ı	VOC -C LP(Low Level) 8260B			3/ 40 ml	VOA	7 0223	1022	
2	SVOC 8270C	4 de	ag C	l x lL	A.m., G			
3	PESTICIDES 8081	4 dq	ъ C	l x IL	Am G			
4	PCBs 8082			l x IL				
5	METALS 6010 & 7###	4 deg. C	HINO3	1 x 500 mL	HDPE			
6	CYANIDE 9012	4 day, C	NaOH	1 x 500 mL	HDPE			
7	Total Pet Hydrocarbon	4 dog, C	нсі	1 x IL	Am G			
ō	MMENTS: (QA/QC) Lomothe A Yoruso + Yoruso - Pump conto Pump + 19	0245 4308 3210)					

nw	NEO	RMA	TION:

Section No. Appendix C Revision No. 0 Date: 6/15/2005

		SAM	PLING R	E	CO	RI) -	GR	JOL	NDV	VATE	ξ
			DEPOT ACTIVITY				PAR	501	15	·	well #: PT	-24
	ROJEC		Ash Landfill L	TM G				- Round	11817		DATE: 12	/13/11
ro	CATIO)N:		R	OMUL	LUS, NY	<u>. </u>			- 11		830/AE
W	/EATHI	ER / FIELD	CONDITIONS CHEC			T	ECORD				AMPLEID#:	
_T	IME	ТЕМР	WEATHER		EL. (IDITY	VELOC		FROM) RECTION	1	TACE	MONIT	
(24	4 HR)	(APPRX)	(APPRX)	1	EN)	(APPI	RX) (0	- 360)			NSTRUMENT	DETECTOR
8.	48	30	Sanay	-		8-4	o m	J-7 5E	troe	en	OVM-580	PID
-			LUME CALCULATION FAC	_			ONE	WELL VO	LUMIE (GA	L) = [(POW-S	TABILIZED WATER L	EVEL)
G/	ALLONS		0.25 1 2 2 0.0026 0.041	0.367		1,47	6	.48 40	1.143	WELL DIAMET	TABILIZED WATER L ER FACTOR (GAL/FT) S = 3.41 s	1/2
	LITERS/	FOOT	0.010 0.151 0.617 DEPTH TO POINT	1.389	DEP	5,564 TH TO	SCREEN		WELL.	/3	WELL	WELL
:	HISTORIC	C DATA	OF WELL (TOC)			P OF EN (TOC)	LENGTH (FT)		EVELOPME		DEVELOPMENT pH	DEVELOPMENT SPEC COND
			11.85	-				_				ı
DA.		ECTED AT	PID READING			DEPTH T	C		DEPTH TO STABILIZE	20	DEPTH TO PUMP INTAKE	PUMPING START TIME
	WELL !	SITE	(OPENING WELL)		WAT	1.87	T (LOC)	1 	er level 4,89	.(TOC)	(100)	anI
RAD	NOTATION S	SCREENING	PUMP PRIOR TO			101		1	PUMP AFTI AMPLING (10.85	-101
	<u> </u>		SAMPLING (cps) VITORING DATA	CO	LLEC	TED	DURI	4			RATIONS ?	1 40 3/
TIME (min)	WATER		CUMULATIVE VOL	I	DISSOLV XYGEN (E	/ED	TEMP (C)	SPEC.	COND	华45.32	OPP	TURRIDITY
855	488	Punp	in well	Y5.			YSIS	,	TL90	545 CS	48C - 42	a ballette
907		Purp	Started					<u> </u>	7-31	8) 井	0	Bi.dd.
0922	490				0.14		10.5	0.	3872 3	7.06	232.83	1.12
0427	41.88	154		0	.17		10.5	0.	3884	686	#21506	~ #H44
0932	4.90	100		مِ	17		105	0.3	392	680	18812	10.6
0937	4.84	102		0.	15	5	1015		392	679	59.1	8.96
09.42			6.25	0.			10.5	1 **		6.78	133.1	6.81
		100			14		105	7		6.77	105.3	4,22
		100	<u> </u>	1	.13		10.5	<u> </u>		6.77		3.96
	1 '	108	1.0		.14		10.5		388	6.77		
1002					14		-	0.3		6.77	70.8	2.48
1012	41289	98			14			6.3		678	· · · · · · · · · · · · · · · · · · ·	2.46
1017	4.89	102			.15	_		6.3		6.78	49.4	0.86
1022	484	102			<u>۱۱۵</u>		105		390			
	4.89		15	0	114	1	105					1.31
1034	41.90	100			,13			0.	341	6.79		
1037	4.90	100		· ما	<u>. 11</u>		10.5	-		6.79	29.4	1.09
1042	4.90		2.25	1	113	<u> </u>	10.5	0.3	191	6.79		0.48
	-54	mple	time 105	<u></u>							 	_
4 '	1 1	4	1	1		,						

	SAMPLING		PRES	BERVATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
	ORDER				COUNT/ VOLUME	TYPE	NUMBER		DATE
1	VOG 8260B		4 deg. C	HCT	3/ 40 ml	VOA	4L8N 20224	1050	BB0 12/13/11
2.	MEE (AM20GAX)		4 deg, C	HÇL	2/ 40 ml	VOA	,		
3	TOC (9060A)		4 deg, C	HCL	2/ 40 ml	VOA			
4	Sulfate (EPA 300.1)	2	4 deg, C		1 x 250 mL	HDPE			
5	Fe+ (HACH)			- 30	e-1 Mt - 13	field		alues à	£:;
6	Mn+ (HACH)		- "	3 \$4.4 ° 30	Salling Sall	field	•	100%	
7				₹3.1.5 a	\$7				
_	1.41 346	7 2	X :-1	}} 1.1 =4					
_		<u> </u>					1 44 4 1		-
\dashv							18.		
					3 4.	L			
	MMENTS: (QA/			1	:1	14	•••		
	YSI 650 XL	- #	26	74					
:	YSI 650 XL YSI 85 D LaMoHo # Bladder Pur	- # 0 # 0 ()	26 247 417	74 216 5 - 2 - 2 - 2 8 73 1	*a _{Zij}	· ::::::::::::::::::::::::::::::::::::)25	n maraka araban nganjarah	
7	YSI 650 XL YSI 85 D LaMoHo # Bladder Pur Compressor Water level	- # # - 0 () # #	上 37 本年で 4 17 016 15日	210 8731 250				ing and the second	45 / A
	YSI 85 D Lattotto # Bladder Pur Conpressor Water level	0 # 0 (7 # #	# 17 016	210 5 - 31 250 - 3				The second	AND THE
	YSI 85 D Lattotto # Bladder Pur Conpressor Water level	0 # 0 (7 # #	# 17 016	210 8731 250				ing and the second	45 / A
	YSI 85 D Lattotto # Bladder Pur Conpressor Water level	0 # 0 (7 # #	# 17 016	210 5 - 31 250 - 3				The second	AND THE
	YSI 85 D Lattotto # Bladder Pur Conpressor Water level	0 # 0 (7 # #	# 17 016	210 5 - 31 250 - 3		 د ام		The second	Age of the second
	YSI 85 D Lattotto # Bladder Pur Conpressor Water level	0 # 0 (7 # #	# 17 016	210 5 - 31 250 - 3		 د ام		The second	AND THE
DV.	YSI 85 D Lattotto # Bladder Pur Conpressor Water level	0 # 0 (7 # #	# 17 016	210 5 - 31 250 - 3		 د ام		The second	Age of the second
DW	YSI 85 D Lattotto # Bladder Pur Conpressor Water level	0 # 0 (7 # #	# 17 016	210 5 2 2 8 +3 1 2 5 0 2 2 +3		 د ام		The second	AND THE
DW	YSI 85 D Lattotto # Bladder Pur Conpressor Water level	0 # 0 (7 # #	# 17 016	210 5 2 2 8 +3 1 2 5 0 2 2 +3		 د ام		The second	AND THE
DV	YSI 85 D Lattotto # Bladder Pur Conpressor Water level	0 # 0 (7 # #	# 17 016	210 5 2 2 8 +3 1 2 5 0 2 2 +3		 د ام		The second	ARANA AND
>	YSI 85 D Lattotto # Bladder Pur Conpressor Water level	0 # 0 (7 # #	# 17 016	210 5 2 2 8 +3 1 2 5 0 2 2 +3		 د ام		The second	**************************************

		SAM	PLINC	FR	E(CO	RD	-	(GR	OU	ND	W	ATE	?	
j.x)SI	ENEÇ	A'ARMY	ОЕРОТ АСТ	IVITY				PA	R	SON	is		W	ELL #: M(J -	56
	OJEC CATIO		Ash La	ndfill L	_		water S		ng -	Round	110/2		IN:	DATE: \(\bar{l}\bar{l}\) SPECTORS: \(\bar{l}\) MP #: \(\bar{l}\)	12 88 09	OME
W	EATHI	ER/ FIELD	CONDITIONS	CHEC					_		CHANG		SA	MPLE ID #:		
T1	ME	TEMP	WEATR	ER	'	EL. IDITY	WIN		<u> </u>	ROM)	GROUN SURI	6		MONIT	OR	ING
	HR)	(APPRX)				EN)	(APPI	RX)	(0 -	- 360)	CONDI	TIONS	IN	STRUMENT		ETECTOR
14	37	44	Sunny				2-(0	-	2	Ų-74∕	5 fro	240		OVM-580	_	PID
		WELL VOI	UME CALCULA	TIONOFAC	TORS		<u> </u>	IO	NE V	WELL VO	LUME (GA)	L) = [(FOW	- STA	BILIZED WATER I	EVE	L)
GA		(INCHES): / FOOT:	0.25 1 0.0026 0.041 0.010 0.151	0.163 0.617) 3 0.367 1,389	4 0.654 2.475	6 1,47 5,564							K 3 = L.		
			DEPTH T OF W	ELL		TO	TH TO P OF	LENG	TH		WELL EVELOPME	NT		DEVELOPMENT	D	EVELOPMENT
B	IISTORIC	DATA	6.4			SCREE	2N (TOC)	(FI	7		TURBIDITY			pH	<u> </u>	SPEC. COND
DAT	WELL :	ECTED AT	PID RE (OPENIN	ADING		WAT	DEPTH 1 STATIO TER LEVE	C	,		DEPTH TO STABILIZED TER LEVEL	·	DI	EPTH TO PUMP INTAKE (TOC)	PU	MPING START TIME
						3	.46	,'_				}	- 6	5.49	_/	445
RADI	ATION S	CREENING A	PUMP P SAMPLI								PUMP AFTE AMPLING (<u> </u>	
			ITORING				CTED	DU			URGI	G OP	ER	ATIONS		
TIME (min)	WATER LEVEL	PUMPING RATE (ml/min)	CUMULATIVI (GALLON			DISSOLV (YGEN ()		TEM (C			nhos)	pН		ORP (≡V)		TURBIDITY (NTU)
1440	3.47	Water	laul u	pa	10	h	nell		_				Щ			
1448			Started		<u>'</u>			ļ								
111	3,5					, 92		6.	Ц		125	1.8	$\overline{}$	-280		65
	3.56	124				.60	<u> </u>	5,4	╌		444	7,59		-44.9		411.5
1504	3.54	132				146		5.	8		134	7.43		-55.9		24,5
1509	3.69	131				2.40		5.	긔		125	7.3		-641.3		14.1
1514	36	130				14/0				0.4		7.20		-66.L	<u>e</u>	4.27
1524		,	<u> </u>			136				Q (7.1		-72:		6.03
		148	10.1			2 · 4 3 · 4/1				4.4	415	7.13				5.5
1.01	<i>عب</i> ري.	140	1 ga		1-7	<u> </u>		31.	7		11.5	<u> </u>		,,-1,,	_	3.5
Sa			539		7	10		11.0		ev.	3 lade	-				
		-7 coll	ected 3	VOA	vi	<u>i2) '2</u>	10	企	- 1	•	- Spanner		_			17
											`		#4	7.17.11	<u></u>	pt F , 1
									_				٠.	20 1 to 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
					<u> </u>				4							~4 m 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
									_				\dashv			
					_			-								
L									\dashv				-i			
<u>, —</u>									\dashv						\dashv	

	AMPLING	PRES	ERVATIVES	BOTTL		SAMPLE	TIME	CHECKED BY
	ORDER	-		COUNTY VOLUME	TYPE	NUMBER		DATE
V	OC 8260B	4 deg C	HCL	3/ 40 ml	VOA	ALBU20229	1529	BBO 12/12/
	(MAZOGAX)	4 deg. C	HCL	2/ 40 ml	VOA			
. то	C (9060A)	4 deg, C	HCL	2/ 40 ml	VOA			
Sulfate	(EPA 300.1)	4 day, C		1 x 250 mL	HDPE			
Fe	+ (HACH)				field			
Mn	+ (HACH)	(45)	1944 2.A.A.	· My ball by	field	`	id Same	ji (A. 34)
	200		-			•		
	N 3 × 1.43	791	1970X					
						\$6 A 6 8.		
-1-12-13	ęu.	1	•	ે હું છે.	, -	•		
ははない。							1 () () () () () () () () () (

	SAN	IPL	ING F	SE(CO	RD	_	GR	OU	ND	W.	ATER	2	
SENE	CA ARM	DEPO	T ACTIVITY	43			PAR	501	15		WE	ELL#: /	V	T-7
PROJEC		\.	Ash Landfill					- Round	12012			DATE: 1	<u> </u>	3/11
госуль	on: _			R	OMUI	JUS, NY	,				1		R	
32/27 4 (02)		i covin	LERONG CHIE		<u> </u>	(D)	CUODE	A (A 1/2)	(311431/	SES.	1	1P#: 0 1PLE 1D #:	170	25
WEATH	IER/ FIEL	D COND	ITIONS CHEC		<u>T </u>	WIN		ROM)	GROUN			BW 20 2	7 7	~
TIME	TEM	1	VEATHER	1	IIDITY	VELOC	$\overline{}$	ECTION		FACE		MONIT		
(24 HR)	(APPR		APPRICA TO		EN)	(APPI		- 360)	COND		INS	TRUMENT	_	ETECTOR
1111	30	· · · · · · · · · · · · · · · · · · ·	(2) 1 1 (1) 29 · · ·	 ```	123.19		10 AL			zen		OVM-580		PID
1111	- 10	 } ~~	accy	+-		0-	•		100	—	\vdash	0 4141-2007		1112
	WELL	OLUME C	ALCULATION EA	CTORS		1	IONE	WELL VO	LUME (GA	L) ≈ [(POW	- STAB	ILIZED WATER I,	EVEL)	
	(INCHES): S/FOOT:	0.25 0.0026	0.041 (0.16)	0.367	4 0,654	6 1 4 7	d	07 X /	163	VELL DIAM	IETER I	FACTOR (GAL/FT	11	
	S/FOOT	0.010	0151 0617	1.389		5.564	,,	P 1.	4700	5 X	<u> </u>	4.41 9.	<u> کاب</u>	
			DEPTH TO POINT OF WELL			TIITO POF	SCREEN LENGTH	[r	WELL DEVELOPME	NT	DI	WELL	DI	WELL EVELOPMENT
HISTORI	IC DATA		(100)			EN (TOC)	(FT)		TURBIDIT			рH		SPEC_COND
		}	13.65					1						
					 	DEPTH 1	(0)	 	DEPTH TO		DEI	рти то ремр	PLO	MPING START
	LECTED AT . SITE		PID READING (OPENING WELL)		W.A.	STATIO TER LEVE		WA.	STABILIZE TER LEVEL			INTAKF (TOC)		TIME
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, ,,,,,		(OILINITO WELL)		1	1.63	/			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,,,,,,	11	32
RADIATION	SCREENING		PUMP PRIOR TO		T	,,,,		Y	PUMP AFT!	-R				<u> </u>
	TA		SAMPLING (cps)	7	<u></u>	-			AMPLING (1 2 7		
	M	NITOR	ING DATA		LLEX		dok	NG F	URGI		ERA	THOMS ?	<u>ù</u>	·a. •a
TIME WATER			IULATIVE A CL. (GALLONS)	3 35	NYGEN ((ED: D.	TEATP	SPEC	. COND	<u> </u>	*	್	2.	TURBIDITY (STU)
1131 4.63		<u>" </u>	(OALLONS)	_	SETE		YSE		650	YSDE	4 62	45£:650	213	barletto
***	DENT	$\frac{1}{dI}$	1 60H	+-	-		75			3 88	- 1	1 44-	- T	
132	ranp	APP 1		+	1			1		023	7 1) 17 		7 800
(1)+	AN CO	press	or wont	- CY	طح	a:r	disc	lung	<u>e, u</u>	-	PC	Deck the	9	- TAESTON
1521 14.20	Pump	rest	orted, h	406	Sta	ed V	مادد	1250	de i	in pi	~ 55±		-1	43° 24.44
1308 89	94				2.40	<u> </u>	10.3	0.0	<u>,47</u>	6.8	<u>3</u>	169.5		14
1313 4.72	112			0	.37	-	10.5	0.6	33	6.6	6	177.1		12
1318 4.72	100			0	.24	1	10.6	0.6	25	4.60	0	189.3		8.4
1323 4.7					.18				,ZZ	6.5	$\overline{}$	190.7	\dashv	7.5
12 4 6 1 7	2 106		A 5 1	$\overline{}$	$\overline{}$		10 11	4 /	10	•		107 7	\dashv	5.3
13284.7	7 100	 	0.5gd		16		10.4			6.5		192.3		
1333 4.7.					. 22		10.5			6.50		193.4	\dashv	4.6
13384.7			0.7 gals	0	.22	<u> </u>	10.7	0.6	26	6.50	0	194.8		4.1
1343 4.72	130	~	1.0 2013	0	.18		10.7	0.6	050	6.50		196.1		3.9
134847					17		10.7	_		6.50		197,0	\neg	3.9
10 0- 101,	1110	+ -		+	. ,						_		\neg	,
1444	C /	+>	117/1-	-	_		C 11	اعتاء	7	12-1	- /). 1140	\dashv	
1400			ALBWZ	UCC	-)		الم	معاعة				- VOC	\dashv	
	Darpe	LITIM	1400	-						VOAS	_	A NEE	$\overline{}$	
	Furs	1	1.5 gal	5					IP	3 toc	4	<u>r Suffe</u>	k	
	Fe+	= 0.0	5 ~3/L									for to		
	M.+	E 0.	2 M/L	1								<u> </u>		
	1/19	1	<u> </u>	 			 	 		 	\dashv		\dashv	
	-	-		+			-	 		-	\dashv		\dashv	
I I	1	- 1		1			I	1		1	- 1			

SAM	MPLING	PRES	ERVATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
	RDER			COUNT, VOLUME	TYPE	NUMBER		DATE
1 L. 3 VOC	8260B	4 deg C	HC1.	3/ 40 ml	VOA	ALBW ZOZZT	(400	12/13/4
2 MURW	120GAX)	4 deg (*	1KL	2/ 40 ml	VOA	l1	4	9
3 TOC	(9060A)	4 deg C	HCL	-2/ 40 mil	Anber	01	4	4
4 Sulfate (EPA 300.1)	4 deg C		1 x 250 mL	HDPE	61	4	4
	НАСН)	1000		7.0.00	field	0.05~3/	2	
	(HACH)	142	1mi: 96	क्रमात्या करा करा करा करा करा करा करा करा करा कर	field	0.2		711;
7	(1,1,1011)		.=					
2)	£. 41 ga	~ . .	ر في دو ج د المراجع مرد	2013.		``		
						123.8		
						, - , 1,		
530				8.5	<u>.</u>		<u> </u>	<u> </u>
		CO		•				
YSI (TS: (QA/QC 650 XL 85 D0	# 430 # 321	ਰ 1 -	3 (adder Pu Hach DR	70 # 890 #	019095	,)	
YSI To be Compre	TS: (QA/QC 650 XL 85 DO 投资 准 2	# 430 # 321 833	7 T	Studder Rushach DR	77 ¥ 37 €	019095	sign at rand	1 %, 15; 1 55,
YSI To be Compre	TS: (QA/QC 650 XL 85 DO 187 讲 2 850 #! Level #!	# 430 # 321 833 5720	8 T	Hach DR	820 # 820 #	019095	sign of contract estimated the estimated the	1 %, 15; 1 55; 14. 70; 1 cm; 100
YSI To be Compre	TS: (QA/QC G50 XL B5 D0 H3: # 2 Hard # !	# 430 # 321 \$33 5720	8 T	Hach DR	820 #	019095 05650	ing and and a and and and a solitor of the	
YST To be Compre	TS: (QA/QC G 50 XL B 5 DO H 2 + Level #	# 430 # 321 \$33 5720	8 T	Huch DR	820 #	019095 05650	minana dana danasaran dan dan dan danasaran danasaran danasaran dan dan dan dan dan danasaran dan dan dan dan dan dan dan dan dan d	
YST To be Compre	TS: (QA/QC G 50 XL B 5 DO HS: # 2 Level #	# 430 # 321 \$33 5720	8 T	Huch DR	70 # 820 #	019095 05650	and the second	
• .		1. 4110			70 # 820 #		tother the contraction of the co	37.4
	15: (QA/QC 650 XL 85 DO XL 85 # # # # # # # # # # # # # # # # # #	44 3	2	4.5	79 # 820 #	019095 205650		\$7 /2 H 5 S
		33.0	S .	5, 4.5. 5, 2.60 5, 5, 0	***	2. Sugar		27 12 13 3 273 1473 274 1473
		33.0	S .	5, H.M. 5, 2, 67 5, 5, 67	***	2. Sugar	- 86. - 00. - 18.	27 12 13 3 273 1473 274 1473
IDW INFO	RMATION	37.0		5, H.M. 5, 2, 67 5, 5, 67		A Sunday	A OF	27 (2 4 1 2 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
IDW INFO	RMATION	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		5. 単元 た され さ 下か た 平元		A. Symbolic Company of the Company o	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	ER PARTS ER PERE ER PERE ER PERE ER PERE
DW INFO	RMATION	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		5. 単元 た され さ 下か た 平元		A Sunday	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	EV PANS ERLY STEE OF MALE PRODUCT

SA	MPI	LING R	E	COI	RD	-	GR	.OU	NDV	VATER	22
SENECA AR	MY DEP	OT ACTIVITY				PAR	SON	is	,	WELL #: 1	WT-ZA
PROJECT:		Ash Landfill L'	rm G	roundwa	ater S	anipling .	- Round	1812		DATE: 12	-14/11
LOCATION:			R	DMULL	'S, NY				• 11	NSPECTORS: / PUMP #: /	MF 8 731
WEATHER / FI	ELD CON	NDITIONS CHECK	KLIST	•	(RI	CORD	MAJOR	CHAN		AMPLE ID #:	8 (3)
				EL.	WIN					16BW 2022	6
1	EMP	WEATHER			VELOC		ECTION		FACE	MONITO	
***************************************	1988) 198	(APPRX) ろびり	(G.		(APPI			COND Mars		NSTRUMENT OVM-580	DETECTOR PID
		.3011			<u>U</u> .		BG /- (1 10 1 3		(74141-200)	rib
DIAMETER (INCHES		CALCULATION FAC	TORS 3	4	6	ONE	WELL VOI			FABILIZED WATER LE ER FACTOR (GAL/FT)	
GALLONS / FOOT: LITERS/FOOT	0.00	026 0 041 0 163	0.367	0.654	1 47 5 564					,	
		DEPTH TO POINT OF WELL		DEPTH	TÓ	SCRLEN LENGIH	וח	WELL EVELOPME	:NT	WELL DEVELOPMENT	WELL DEVELOPMENT
HISTORIC DATA	_	(10C)		SCREEN		(FT)		TURBIDIT	I .	pH	SPEC COND
		14.83									
DATA COLLECTED A	т	PID READING			DEPTH T STATIC	`	!	DEPTH TO STABILIZE	D	DEPTH TO PUMP INTAKE	PUMPING START TIME
WELL SITE		(OPENING WELL)				L (TOC)		S O		(700)	1/26
RADIATION SCREENIN	G	PUMP PRIOR TO SAMPLING (cps)			83		Р	UMP AFTI	ER	13,83	
	MONITO	ORING DATA	COI	LLEC	red	DURI		URGIN		RATIONS	
TIME WATER PUME (min) LEVEL RATE (ING (CUMULATIVE VOI. (GALLONS)	I	ISSOLVE VGEN (mg	D	TEMP (C)	SPEC.	COND (hos)		ORP (mV)	TURBIDITY (NTL)
1124 4.27 W/	Pumo			45E S	_	725	7514		75I 650		Lamork
1126 PUMPSTO	- 4	23 1 11000	111			33	10.4		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1,0,5 4,30	
1124 Sp. 110			0,	06		16.9	1780	7	5.88	1812	89.2
1134 568 126			0.	06		10.8	1.79		5,81	141,0	
1139 6.19 110			C	, -		108	180	3	576	12.7	80,6
114 652 110)		Q,	dil		10,9	1,80	5	573	17,3	74.3
#49 7.14 110			0.	OLI		11.0	1.80		5,72	20,7	64.7
1184 731 92			0	CL/		11, 1	1.80	5	571	23.2	
1159 72	,		٥٠	03		II.Ĵ	1,8	041	5,70	25.6	60.7
1254 7.83 98	3		0,	<i>t3</i>		ルと	1, 80	14	5.69	25.6	57.2
1209 8.15- 100) h	gal	0	(0,5		11.3	1.81 3	S		225	48.7
1214 8.23 100	_	•		103		į64	1.81	1	5.69	201	45.
1219 8.32 10L				1001		11.3	181		5,69	17.7	43.61
1224 8.32 1.0			6	.04		4.9	1.80		5,68	"T	37.2
1229 8.43 10				OLI		11.4	1.81		5.68		33.0
1:34 8,416 117		.75 941		104		115			5,08		209
1239 8:521 10			(ICL		115	1.81		5,67		25.2
12418:55 018				106	Щ	11.5			5.67	15.11	23
1249 858 40				CLI		11.6	1.8		5.6. T	11.00	121
1254 8,63 110		0.000		.06		11.6	1.80		5,600		17
1728 8:13 113		2,25 901		100		11.60	1180	17 1050	5.6%	107	14

0748 12/11/2010

Ash GW SAMPLING RECORD (2)

	SAMPLING		PRES	SERVATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY/
	ORDER				COUNT/ VOLUME	TYPE	NUMBER		DATE
1	VOC 8260B	7/	4 deg (°	HCI_	3/ 40 m1	VOA	ALBWZOZZ	6 1329	
2	MEE (AM20GAX)		4 ರೆ ಪ್ಲ (*)	HCL	2/ 40 ml	VOA			
3	TOC (9060A)		4 deg C	нсг	2/40 ml	VOA			
4	Sulfate (EPA 300.1)		4 deg C		1 x 250 mL	HDPE		<u>_</u>	
5_	Fe+ (HACH)					field			
6	Mn+ (HACH)					field			
7									
	W								
									

COMMENTS: (QA/QC?)

Lamotte # 0248

YSE 450 # 4308 + CUJI6000AB

YSE 85 # 3210

Pump controller # 016250

Pump 14 161655 18731

1	117	W	TN	I N/A	RM	A	777	YAJ.
J	w	VV.	117	rv	L V	LAL I	I ES	JIX:

pg 2052

		SAM	PLING R			RD	_	GR	OL	IND	W	ATER	<u> </u>	
S	ENEC.	A ARMY I	DEPOT ACTIVITY				PAF	150N	15		WE	LL #: Mu	- آز	22 (0
	ROJECT C'ATIO		Ash Landfill L			water S JUS, NY		g - Round	1412	-		ECTORS: 1		7.3 i
- 14	EATHE	R/ FIELD	CONDITIONS CHEC	KLISI	r	(RI		MAJOR			SAM	PLE ID #:		
		-		RI	EL.	WIN		FROM)	1	ND/SITE	1	LBW20		
	IME	TEMP	WEATHER		IDITY	VELOC		RECTION	l .	FACE	12107	MONIT		
(24	HR)	(APPRX)	(APPRX)	(G	EN)	(APPI		<u>0 - 360)</u> S		ITIONS	INST	RUMENT	DE	TECTOR
	1 3	140 /	30 n	-		0-1	0	2	Moi	7 (OVM-580		PID
G.	METER (ALLONS LITERS/	(INCHES): / FOOT :	LUME CALCULATION FAC 0.25 1 2 0.0026 0 041 0 163 0 010 0 151 0.617	TORS 3 0.367 1.389	4 0 654 2.475	6 1.47 5 564			X.			JZED WATER LE ACTOR (GAL/FT)		
_			DEPTH TO POINT OF WELL			IH TO P OF	SCREEN LENGTH		WELL EVELOPMI	ENT	DEV	WFLI TELOPMENT	DEV	WELI VELOPMENT
1	HISTORIC	DATA	(TOC)		SCREE	N (TOC)	(FT)	-	TURBIDIT	Y		pH	SP	EC COND
ı			14.85											
DAT	VELL:	ECTED AT SITE	PID READING (OPENING WELL)			DEPTH T STATIC ER LEVE	L (TOC)	_	DEPTH TO STABILIZE TER LEVEL	:D		TH TO PUMP INTAKE (TOC)		PING START TIME
						183)		,70		13	83		2φ
RAD	IATION S DAT	CREENING A	PUMP PRIOR TO SAMPLING (cps)			-			PUMP AFT AMPLING					
		MON	ITORING DATA	CO	LLEC	TED	DUR	ING P	URGII	NG OP	ERA'	TIONS		
TIME (min)	WATER LEVEL	PUMPING RATE (mVmin)	CUMULATIVE VOL (GALLONS)		DISSOLV NGEN (r		TEMP (C)		. COND nhos)	119		ORP (mV)		TURBIDITY (NTU)
1304	9.01	132	,,	·	105		11.6	7	06	1		9.0	十	/31 c
1309	9.03	112			.05			1 / 6	507	5.65	_	9,5	\dashv	// 10
	9.13	114					1/1 (80	5.65	-	9,6	\dashv	9.9
1314	7	•	0.2.	_	15		11.4			5.69			+	7,7
1319	9.20	116	13991100		05		مي, ۱۱	1,0	806	3.6	'	10,0	+	<i>)</i> , }
		5 ang	1329	<u> </u>				ļ			\perp			
												· · · · · · · · · · · · · · · · · · ·		
											_	<u>-</u>	_	
				-				+			_		-	_
	\vdash							 			-		+	
													\dashv	
													_	
			<u> </u>	L						<u></u>				
						•								1
	\vdash										\dashv		\dashv	
		<u> </u>		-				 			+		+	
		_	-	<u> </u>				-			+		\dashv	
				<u> </u>							\bot			
				<u> </u>			<u></u>							
							<u> </u>	†						

Ash GW SAMPLING RECORD

ORDER VOC 8260B MEE (AM20GAX) TOC (9060A) Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH)	4 deg C 4 deg C 4 deg C	HCL HCL IICL	3/ 40 ml 2/ 40 ml 2/ 40 ml 1 x 250 mL	VOA VOA VOA HDPE field field	NUMBER		DATE
MEE (AM20GAX) TOC (9060A) Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH)	4 deg C 4 deg C	HCI	2/ 40 ml	VOA VOA HDPE			
TOC (9060A) Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH)	4 deg C		2/ 40 ml	VOA HDPE field			
TOC (9060A) Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH)	4 deg C	IICI.		HDPE field			
Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH)			1 x 250 ml.	field			
Fe+ (HACH) Mn+ (HACH)	7?)						
Mn+ (HACH)	2?)			field			
IMENTS: (QA/QC	2?)						
IMENTS: (QA/QC	C?)						
IMENTS: (QA/QC	C?)						
IMENTS: (QA/QC	C?)						
IMENTS: (QA/QC	C?)						
MENTS: (QA/QC	7?)						
MENTS: (QA/QC	C?)						
INFORMATION			-				
	INFORMATION:	INFORMATION:	INFORMATION:	INFORMATION:	INFORMATION:	INFORMATION:	INFORMATION:

		ATER	NDW	OU	GR	D ·	RI	CO	XE	NG F	PL.	SAM		
	17-23	ELL #: MW	W	is	RSON	P/			Ý	ACTIVITY)EPO	ARMY I	ENEC	S
	4/11	DATE: 12/14	2	را سد	ig - Round	Sampl	dwater :	Ground	LTM_C	Ash Landfill L			ROJEC'I	PI
-	30	SPECTORS: 53				NY	ilus, n	ROMUI	F			:	CATIO	LO
-	1096			CHAN	2 14 100	n raa	4.0				((A))	. / EUN B	9 . T	
310	0/2023	MPLE ID #: LBWZOZ30	D/SITE	GROUN	(FROM)	IND		REL.	_	TONS CHEC	COND	C/ FIELD	EATHE	
٣'		MONITOR	FACE	1	IRECTION	_		MIDITY		EATHER	, w	ТЕМР	ME	Т
OR	DETECTOR	STRUMENT D	ITIONS IN	COND	(0 - 360)	PRX)	(API	(GEN)	((APPRX)		(APPRX)	IIR)	(24
,	PID	OVM-580	n /	Croze	2-7W	-10	5-		Ly_	my partly	54	35	4	84
			uddy	1			<u> </u>							
	EL)	BILIZED WATER LEVEL R FACTOR (GAL/FT) - 7 7/	L) = {(POW - STA VELL DIAMETE	LUME (GA	NE WELL VO		6		CTORS 3	CULATION FAC	.UME C3 0.25		METER (DIA
	.5	= 3.36 , 1,	6 x3	12 20	- L				ノ 0 367	0.041 0.163	0.0026		LLONS/	
	WELL	WELL		WELL	N	SCR	PTH TO	DEP		DEPTH TO POINT	1		B11 B140/1	
	DEVELOPMENT SPEC COND			EVELOPME TURBIDITY		D OF	OP OF <u>EEN (TOC)</u>			OF WELL. (TOC)		ATA	HSTORIC	
						\top				13.66				
ART	PUMPING START	EPTH TO PUMP PU) D	DEPTH TO	+	II TO	DEPTH	+		() - 0 0	l			
	TIME	INTAKE (TOC)		STABILIZE IER LEVEL			STAT. ATTER LEV	WA		PID RLADING OPENING WELL)			A COLLE	DAT
	907	9				81	6.79	6						
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			PUMP AFTI						UMP PRIOR TO		REENING	ATION S	RAD
		. = 1 = 2 = 2		AMPLING (SAMPLING (cps)			DATA	
ITY	TURBIDITY	ATIONS	NG OPER	COND	RING P	D DU		OLLEC	r Co	NG DATA		MON	WATER	TIME
	(NTU)	(mV)	Ifq	nhos)	•	((mg/L)	OXYGEN ($\overline{}$	ALLONS)		RATE (ml/min)	LEVEL.	(min)
ф.	Larotte	650	450	650	- YS7	Y	75	15\$8	Y	well	14	Pung :	6.73	106
12	a water 12	frequently in	rened h	3 06	bablle	y a	. Tia	112	e	rd	Har	Pump !		107
	17	- 74,5	5.81	65	1.0	u.	0	0.10	T			~110	6.25	116
\neg	15	-8Z.6	5.72	43	11.0	11.	8	0.0				138	696	721
\neg	13	-88.1	5.69	29	_	II.		0.0				120	6.98	126
\neg	12	-9z.7	5.67	24	-	il.		0.0	_	2.55.15	2	120	(199	131
$\overline{}$	10.0	-96.3	5.65			ii.		0.06		10 94.2		114	6.98	17/
		-99.0	5.65			11.		-		•		104		
	10.0					_		08		A /-		_		
	8.7	-100.6	5.64			11.		0.05		105218	~	120	6.96	
	7.7		5.65	10		11.		0.09			ļ.,	126		
	7.6		5.64	05	_	11.	1	0.09	10	259.15	~1	94	6.96	<u> 156</u>
<u>-</u>	7.7	-103,6	5.64	100	1.0	11.	<u>5</u>	0.08	0			116	6.96	001
7	6.7	-(04,1	5.64	199	10.9	11.	3	.08	0.	No gals	1		6.27	006
	Glass	Collected				7								
		-3 vote fo	54	15	10	\top	30	2023	112	ALBO	+D	Sample		010
	_	- 2 VOAS A	MS	5		4				ALB C		- Input		V 10
						_			$\overline{}$				\vdash	
			MSD	15	_	413			1	ALBI			\vdash	
		- (Glass Anbi	DU	30		-				ALBU	<u> </u>			
-25	Je vate	lor to pun	Hole or	of ect	no de	~/ /	Tota	<u>ή2</u>	350	1-1.7	lurg			
				_		┵				1117				
- 1	i		l		1				17/1	117.6	I M			

	SAMPLING	i	PRES	SERVATIVES	ВОТТ	LES	SAMPLE	TIME	CHECKED
	ORDER				COUNT, VOLUME	TYPE	NUMBER		DATE
	VQ€ 8260B		4 dep (°	HCL	3/ 40 ml		BW 20230 BW 20231	1015	BBC 12/14/1
2	MID (Th20GAX)		4 deg C	HCL	2/ 40 ml	VOA	17	c _f	
3	TOC (9060A)		4 deg C	HCL	2/40 m l	Anter	*1	۲,	
7.5	Sulfate (EPA 300.1)			11.0	1 x 250 mL	HDPE	4	4	
			4 deg C		, ;	1			
5	Fe+ (HACH)			्रः भगवास्ति ७	1017 make	field	The second	P. 35.	· 44.
6	Mn+ (HACH)		براشد	15	12,6 pig/L	field			
7		-		र्षेक्षा उ	· · · · · · · · · · · · · · · · · · ·		•		
	Sheet Sale	÷: '	-4 .	en la cons					
			_				33.8.		
	NA.				15%				
CO.	MMENTS: (QA/ VST 650	XL#	1 26	74 (Chpressor	# 15 +	20		
	MMENTS: (QA/ VSI 650 VSI 85 D	XL# 0 #	26 321 293	, 74 (7 L	Nater Leve	# 15 + 1 # 140 840 #	20 143 5650		
CO	LaMotto	# 07	24 S	3 +	14CH DK7	# OP8	563 O	e e e	હે દેમાં કે
eil.	Ad Mis	# 07	245 7 vi	257.25.A	ACH DICT	१४० म् १४३४	1:maj :	יאון אין אין אין אין אין אין אין אין אין אי	ώ ε∓. ε 6.∓3 εε
ດປິ່ນ ໝໍ້, ກ	LaMotto LaMott	# 02 64 }	CYS Pai NYM	1,065 1,065 1,065	TACH DOCT	75 TEV	1:maj :	hari nad ())	3 10 10 10 10 10 10 10 10 10 10 10 10 10 1
eŭ.	La Motto	T ON	245 7 44 144 144 144 144 144 144 144 144 144	2.90°; ge capp ge cap ge cap ge cap ge capp ge cap ge capp ge cap ge cap ge cap ge cap ge cap ge cap ge cap ge	ACH DICT	**************************************	1:maj :	1960 STAN 1960 1981	A Marie
cůw m, n	LaMotto And Message File Capper File Cappe	THE CALL	245 246 246 246 246 246 246 246 246 246 246	2001 2001 2001 2001 2001 2001 2001 2001	TACH DICT	2.4.	isomethics in the second	iden Grad 110 28 20	3 6 296 2 11 226 2
euw m. 1	LaMotto LaMott	# 01 6# 15 15	Parameter State St	2001 2001 2001 2001 2001 2001 2001 2001	HACH DICT	# 054 8 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	isomethics in the second	han gin 011 22 20 20 25	3
eille mi, n	LaMotto And Message And Messa			2001 2001 2001 2001 2001 2001 2001 2001	HACH DICT	2.5.	المراجعة المراجعة	Mari Mari 011 012 000 000 000 44	3
eille mi, n	LaMotto And Message And Messa			2001 2001 2001 2001 2001 2001 2001 2001	HACH DICT	2.5.	المراجعة المراجعة	Mari Mari 011 012 000 000 000 44	in the second of
cultural states of the states	LaMotto And Message And Messa			2001 2001 2001 2001 2001 2001 2001 2001	HACH DICT	2.5.	المراجعة المراجعة	Mari Mari 011 012 000 000 000 44	in the second of
eile M. T	LaMotto And Message And Messa			2001 2001 2001 2001 2001 2001 2001 2001	HACH DICT	2.5.	المراجعة المراجعة	Mari Mari 011 012 000 000 000 44	3
eille M. T	La Motto		ZYS ZYS ZYS ZYS ZYS ZYS ZYS ZYS ZYS ZYS	2001 2001 2001 2001 2001 2001 2001 2001	HACH DICT	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	المراجعة المراجعة	HART OFFI ON ON ON ON ON ON ON ON ON ON ON ON ON	
in the state of th	VINFORMATIO	N: N:		2001 2001 2001 2001 2001 2001 2001 2001	一番の ・		1 en ()	HART OF THE STATE	
IDV	VINFORMATIO	The state of the s		2001 2001 2001 2001 2001 2001 2001 2001	一番の ・		1 en ()	HART OF THE STATE	
IDV	VINFORMATIO	N: Ha		2001 2001 2001 2001 2001 2001 2001 2001	本の ・ ない yell ・ ない yell ・ ない ・ な ・ な ・ な ・ な ・ な ・ な ・ な ・ な		1 may (1)	Mari Mari Oli Oli Oli Oli Oli Oli Oli Oli Oli Ol	
IDV	VINFORMATIO	The state of the s	Company of the second of the s	2101 2101 2101 2101 2101 2101 2101 2101	本の			Mari Mari Oli Oli Oli Oli Oli Oli Oli Oli Oli Ol	
IDV	VINFORMATIO	THE CONTRACT OF THE CONTRACT O	Company of the Compan	5101 5101 5101 5101 5101 5101 5101 5101	HACH DICTORY OF THE PARTY OF TH			Mark opin OII OII OII OII OII OII OII OI	

		SAM	PLING R	E)	CORI) -	GR	OL	JND	WATER	1
			DEPOT ACTIVITY	ţ.		PAR	1501	45		WELL #: M	WT-24
1000	ROJEC CATIO		Ash Landfill L		roundwater OMULUS, N		g - Roun	1.01	_	DATE: 12/ INSPECTORS: / PUMP#:	13/11 4E 89/9
W	EATHI	ER/ FIELD	CONDITIONS CHEC	-		ECORD		-		SAMPLE ID #:	227
T	IME	TEMP	WEATHER	1.	EL. WI	CITY DI	FROM)		FACE	ACBW 207	
1000	HR)	(APPRX)	(APPRX)	5745	EN) (APF	100	- 360)	112-1	ITIONS	INSTRUMENT	DETECTOR
110	26	40'5	sun		0-	5 E	ast	Dr	4	OVM-580	PID
		WELL VOI	UME CALCULATION PA	TOPS		IONE	WELL VO	TUNGE (C)	The ((BOW)	STABILIZED WATER LI	TVPI A
G,	METER ALLONS LITERS/	(INCHES): / FOOT:	0.25 1 2 0 0026 0 041 0.163 0.010 0.151 0.617	0.367 1,389	4 6 0.654 1.47 2.475 5.564	4.	76 K	0.163	WELL DIAME	= 3.31 ga	ls
1	HISTORIC	DATA	DEPTH TO POINT OF WELL (TOC)		DEPTH TO TOP OF SCREEN (TOC)	SCREEN LENGTH (FT)	D	WELL EVELOPMI TURBIDIT		WELL DEVELOPMENT pH	WELL DEVELOPMENT SPEC COND
			12.93'								
DAT	WELL :	ECTED AT	PID READING (OPENING WELL)		DEPTH STATI WATER LEV	C		DEPTH TO STABILIZE ER LEVEL	D O	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
			-		6.1	(片		6.33	11193	1123
RAD	DAT	CREENING A	PUMP PRIOR TO SAMPLING (cps)		_		S	AMPLING (ER (cps)		
		MON	ITORING DATA		LLECTED			URG	NG OP	ERATIONS '	hope
TIME (min)	WATER. LEVEL	PUMPING RATE (ml/min)	(GALLONS)	ox	YGEN (mg/L)	TEMP (C)	(100	COND	0).55	(av)	"F" (NTU)
1123	6.33			J	35-83	YSIAS	KI 6	50	ADDAR	9: 4 AME 6201	u. Lydot
1129	6.33	102		- 5	0.21	10.9	0.0	£211	Za 477	CN45.5	168
1139	6.33	89		10	0.22	108	0.	6335	bile?	14346	15/0
1145	6.35	106			.20	10.8	0.6	345	6.64	115.8	7.9.4
1150	6.32	112			.20	8.01	0.6		6.63		34.5
1155	6.33		~0.5 gals	_	81.6	10.8		629	6.62		29.1
1200	6.33	_		0		10.8	6	28	6.6	1 72.7	21.0
		118	~1.0 2013		112	10.8			16.61	64.1	16.9
		110			.13				6.58		13.8
1215					.13	10.8		175.0	6.58		12.4
		110			2.14	105			6.57	78.8	
1225	6.53	.08	00	77-1	11	108			6.57		
1230	653		2 gal	C	0,10	10.8	0.	627	6.50	0 46.2	8.67
12	40	· San	12 gal								

3 VOA'S SN#-3110 -> 2674 - C:\Documents and Settings\c0010112\My Documents\Field Forms\Field Forms\for OB & S-25 GW.xls

01248

Ash GW SAMPLING RECORD

						-		
ORDER			_	COUNT/ VOLUME	TYPE	NUMBER		DATE
VOC.8260B	4	dez. C	HCL	3/ 40 ml	VOA	20227	1240	12/13/11
MEB (AM20GAX)			HCL		VOA			
1-2*								
			11011					
		ieg. C		TA 250 HIL				
			7,	1 7		<i>?</i> .	•	•
MIII+ (HACH)					neia			
S. 48 3 50	-: ;			-				
•								
			<u>-</u>			6		
				1 1				
<u></u>		. ,		i				
MENTS: (QA/	QC?) . # Z	267	4	!				
IMENTS: (QA/ (S T 650 K L	QC?) . # Z	267	4	a gaise	ide , les			1 (177) 14 (17) 12 (18)
IMENTS: (QA/ (S T 650 K L	QC?) . # Z	267	4					-
IMENTS: (QA/ (S T 650 K L	QC?) . # Z	267	4	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			· · · · · · · · · · · · · · · · · · ·	n it in the
MENTS: (QAM (SI 650 KL (SI 85 DO indicates to indicates QC?) Z # 3: # 0 1 2.4 # 0 1 2.4	67	4	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				-	
MENTS: (QAM (SI 650 KL (SI 85 DO Matter 16 Sindler Pa compressor where Level	QC?) Z # 3 i z y # 6 i z y	67	4					ng Pangalan Langgan
MENTS: (QAM (SI 650 KL (SI 85 DO indicates to indicates QC?) Z # 3 1 2 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	210	4	5.		33.7	* \ \		
MENTS: (QA/ (SI 650 KL (SI 85 DO indicates to the server) inter level	QC?) Z # 3 2 4 6 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1	210	7919 50 73	5. · P.A.	**************************************			
MENTS: (QA/ (SI 650 KL (SI 85 DO indicates to the server) inter Level	QC?) Z # 3	210	7919 73.	5.			* \ \	
MENTS: (QAM (SI 650 KL (SI 85 DO MATERIAL PARAMETRICAL	QC?) Z # 3 1 Z # # # X X X X X X X X X X X X X X X X	200	7919 73.	5. · P.A.	**************************************		* \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	
MENTS: (QA/ (SI 650 KL (SI 85 DO indicates to the server) inter Level	QC?) Z # 3 1 Z # # # X X X X X X X X X X X X X X X X	200	7919 73.	5. · P.A.	**************************************		* \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	
	VOC.8260B MEE (AM20GAX) TOC (9060A) Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH)	VOC.8260B MEF (AM20GAX) TOC (9060A) Sulfate (EPA 300.1) Fe+ (HACH) Mn+ (HACH)	VOC.8260B 4 deg. C MEE (AM20GAX) 4 deg. C TOC (9060A) 4 deg. C Sulfate (EPA 300.1) 4 deg. C Fe+ (HACH) Mn+ (HACH)	VOC.8260B 4 deg C HCL MEE(AM20GAX) 4 deg C HCL TOC (9060A) 4 deg C HCL Sulfate (EPA 300.1) 4 deg C Fe+ (HACH) Mn+ (HACH)	VOC.8260B 4 deg. C HCL 3/40 ml MEE (AM20GAX) 4 deg. C HCL 2/40 ml TOC (9060A) 4 deg. C HCL 2/40 ml Sulfate (EPA 300.1) 4 deg. C 1 x 250 mL Fe+ (HACH)	VOC.8260B 4 deg. C HCL 3/40 ml VOA MEE (AM20GAX) 4 deg. C HCL 2/40 ml VOA TOC (9060A) 4 deg. C HCL 2/40 ml VOA Sulfate (EPA 300.1) 4 deg. C 1 x 250 mL HDPE Fe+ (HACH) field	VOC.8260B	VOC 8260B

C:\Documents and Settings\c0010112\My Documents\Field Forms\Field Forms for OB & S-25 GW.xls

12/19/2010

	SAM	PLING R	E	CO	RI) -	GR	O	JND	W	ATE	₹
SENEC	A ARMY I	DEPOT ACTIVITY	,			PAF	1501	15		WI	ELL #: M	WT-25
PROJEC		Ash Landfill L		_	water S JUS, N		z - Round	1 12	-		PECTORS:	1/15/11 ME 19090
WEATH	ER/FIELD	CONDITIONS CHEC					MAJOR		,		APLE ID #:	
OWD AE	TEMP	WEATHER		EL.	VELOC		FROM)		TD/SITE	AL.	BW 201	
TIME (24 HR)	(APPRX)			IDITY EN)	(APP) - 360)		ITIONS	INS	TRUMENT	DETECTOR
0413	45	Overcast	7	0%	20	2	auth	inet			OVM-580	PID
DIAMETER GALLONS LITERS	(INCHES): 5/FOOT:	0.25 1 2 0.0026 0.041 0.63 0.010 0.151 0.617	TORS 0 367 1 389	4 0.654 2.475	6 1.47 5.564	ON	E WELL VÕ				BILIZED WATER I FACTOR (GAL/FT)	
		DEPTH TO POINT OF WELL			TH TO	SCREEN		WELL, EVELOPM	ENT	DE	WELL VELOPMENT	WELL DEVELOPMENT
HISTORIC	C DATA	(roc)			N (TOC)	(FT)	_	TURBIDIT			pH	SPEC COND
		12.71										
DATA COLL		PED READING (OPENING WELL)		-	DEPTH 7 STATK ER LEVE	:		DEPTH TO STABILIZE ER LEVEL	ם כב	DEF	TH TO PUMP INTAKE (TOC)	PUMPING START TIME
				4	,15		7	, 15			179	094/
RADIATION S		PUMP PRIOR TO SAMPLING (cps)						MIMP AFT		,		
		ITORING DATA		LLEC		DUR		URGI	NG OP	ERA	TIONS	,
TIME WATER (min) LEVEL	PUMPING RATE (ml/mbs)	CUMULATIVE VOL (GALLONS)		ESSOLVI YGEN (¤		TEMP (C)		COND	РĦ		ORP (mV)	TURBIDITY (NTU)
0970 3.91	Pumps	+ Meterin -	Air	Lin	e 0-	Ring	UPEC	15 R	DIACE	114	mt.	
oqui Pur	16 Start			85		N. T.	4516		GIG		45I 650	Lamote
00ig 5.22	200		Cis	04		100	1,4	122	7,29	$\overline{}$	89	
0948 5.18	:170		3	75		100	1.4	36	7,20		25-3	90
953 5.39	140		3	60		100	1.4	141	7.16		15.3	65
958 551	104		3.	94,	X	9.8	140	49	7.12		3 9	50
105356	110		3	62		10.0	1,4	53	7.10	2	-1.8	33
1008 591	100	2/41	3:	210		9.9	1,4		7109	5-	-235	24
1013 Laos	98	J -	3,	14]		10,00	1, 4	174	7,09	5-	-32 ₁₅	14
1018 (22)			2.4	16		9,4	14180	١	7,03	3	-38.5	17
1023 4.41	124		7,0	13		9.0	1.4	2 2	7,0		-45.3	15
1028 la74			20	45			11.4	90	7.0		-4/8/6	17
1033 6.91	100		2	28		10.1	1,4	96	7.0		-51,2	11
1038 6.45	94	~2941	Ĺ	28		101	1,4	96	7,01		-524	9,5
043 698	92	•		84		16.1	1. 4	197	7.01		-53, 2	& 3
1048 702	89			75		10 2	1,4		1,01		-53,0	
1093 706	160			2ند)		10.Z			7.00) -	54.9	7.3
1095 7.12	100	~2.5grl	1	51		10,2		83	7.00	<u> </u>	54.5	5.4
1103 7,5	100		L	50		10.2	1.50	-	7.00	د	- 54,9	5. 3
11.5	Sun	ole Kne		2.11	13							

GW SAMPLING RECORD

	SAMPLING		PRES	ERVATIVES	BOTTL	ES	SAMPLE	TIME	CHECKED BY
	ORDER				COUNT/ VOLUME	TYPE	NUMBER		DATE
1	VOC CLP(LdwLevel)	/	4 deg. C	HCL	_3/ 40 ml	VOA	20228	1113	
2	Tolk		4 dág, C	HCI	2 x 40 mL	VOA			
<u>.</u>	MEE		4 deg. C	HCL	1 x 40 mL	VOA			
	Sulfate/Chloride	3.4	1 00g. C	HCL	1 x 4 oz	HDPE			
5	Fe+		Field						
<u>.</u>	Mn+		Field						
							•		
			_						-
Ol	MMENTS: (QA/	QC?)			· · · · · · · · · · · · · · · · · · ·				
	Lamette# c	0124	8				77.	2	
	45I85 #	3210)						
	USI 650	OUT	1000	GAR +	×1308				
	Pump #	19	046						

110337	II. VE N	ASSES TO BE	TAUDIAL.	π.
1117W		LIKIYL	ATIO	м:

Pump container +1 016280

	AIVI	LLING K	JU	KD) -	GK	UL	עמו	WATER				
SENECA	ARMY I	DEPOT ACTIVITY				PAR	SON	15		WELI	L #: M	WT-26	
PROJECT:	·····	Ash Landfill L	TM G	roundy	vater S	ampling	- Round	12		D/	TE: 12	15/4	
LOCATION:					US, NY	-				INSPE	CTORS: 7		
										PUMP		8133	.
WEATHER	/ FIELD	CONDITIONS CHEC					MAJOR				ED#: ひ207	777	.
CONTRACTOR	TELEGO			EL. Dety	WIN	 	FROM)		FACE	ALU	MONIT		
TIME (24 HR)	TEMP	WEATHER (APPRX)	HUM.		(APPE		ection - 360)		TIONS	INSTR	UMENT	DETECTO	R
915	45	-CACART SCA CON	10.	2119	10-2		אק- נ	-	11.		OVM-580	PID	
		Table						ores	74.50		<u> </u>		
		UME CALCULATION SAC				ONE	WELL VO	.UME (G/	LL) - KPOW	-STABILIZ	ED WATER	LEVEL)	7
DIAMETER (IN GALLONS / FO		0.25 1 2 0.0026 0.041 0.163	0 367	4 0 654	6 1.47	9,	48 X O	163	WELL DIAM	ETER PACT	CED WATER I FOR (GAL/FT)) (
LITERS/FO	or	0.010 0.151 0.617 DEPTH TO POINT	1.389	2 475 DEP	5.564 H TO	SCREEN	2- (1	7 2 4	els X3		ELL	Uフ WELL	
		OF WELL		TO	OF	LENGTH	1	VELOPM		DEVEL	OPMENT'	DEVELOPMEN	
HETORIC DA	ATA	12 1/-		SCREE	N (TOC)	(FT)	-	TURBIDIT	·		M	SPEC. COND	'
		13.16											
DATA COLLECT		PED READING			DEPTH T		5	DEPTH TO	2 D	D/I	TO PUMP AKE	PUMPING STA TIME	RT
WELL SITT	E	(OPENING WELL)			ER LEVE		WATI	er level	·(toc)	(1	OC)	930	\dashv
940		PARAM BOARD		9	.68		<u> </u>	Dar Ann	V20			-630	
RADIATION SCRI	EENING	PUMP PRIOR TO SAMPLING (cps)						UMP AFT MPLING					
	MON	ITORING DATA	COI	LEC	TED	DUR	NG P	URGI	NG OP	ERATI	ONS		
1 1	PUMPING	CUMULATIVE VOL		ISSOLV		TEMP (C)	SPEC.				ORP	TURBIDI	TY
27 3.55 A	TE (mi/min)	(GALLONS)		YGEN (a		ar	(um	I	pH		(EV)	(NTU)	
12A V	2 P	n cell	VSF.	35		路	167	450	450	71	<u>ious 0</u> 650	ines too	77
(, SO P	unp	Started	1	10			134	1-2	7 -		031	276	1778
41 4.11	150			<u>63</u>	-	10.4	1.60	2)	+.7	-3	<u> </u>	+·L	
46 4.45	132		1.	<u> 35</u>		10.Z	1.64	12	4.2	2 3	6.1	6.0	4
156 482	110		1.	29		10-1	1.6	70	7.13	5 4	<u> </u>	4.2	
001 4.76 4	76	40.75545	1.	11		W.3	1.6	20	7,0	3 4	19.2	3.9	_1
006 5.17	106	~1.0726	14	05	•	10.3	1.71	2	7.11	4	7.1	3.4	
011 5.30	08			93		(0.4	1.7	29	7.10	4	3.7	3,1	
016 5,46		21.3 2015		81			1.7		7.0		0.4	3.1	\neg
021 5-52		**/ 7413		83			1.7		7.08		6.4	3.7	\dashv
		AIC I							7 .00			3.0	
026 5.74		~1.5 gals		<u>75</u>		10.4			7.08		1.7	2.7	
131 2184				69			1.79		7.08		7.5	2.3	_
365.96 -		_		64			1.81		7.07		4.0	2.1	
0416.19 8	6-79	16 22.0gals	0.	60		10.5	1.7	10	7.01	6 2	8.0	2.3	3
5466.37	02		0.	57			1.84		7.06		7.6	2.1	
	00	~7.25,015		<u>54</u>			1.85		7.00		5.1	1,9	\neg
0560.82	09			55			1.86		7.05		3.2	1.9	\dashv
100,00	10	475 L	~	54	-				Ÿ				\dashv
1016.94 1	10	~2.5 gals	<i>U</i> .	<u> </u>		1013	1.86	<u></u>	7.05		2.1	2.2	4
106		6// 1											4
IIAI K	a - ala	Collected							1				
110 5	angle	ID ALBG											_

Sample Time 1115

Fet: 0.0 ~9/L check Mnt: 0.5 ~9/L

C:\Documents and Settings\c0010112\text{My Documents\Field Forms\Ash well sampling form.xis}

GW SAMPLING RECORD

	SAMPLING	$\neg \top$	PRI	ESERVATIVES	BOTTL	.ES	SAMPLE	TIME	CHECKED BY
	ORDER				COUNT/ VOLUME	TYPE	NUMBER		DATE
	VOC -CLP(Lbw,Level)				71.10		ALBIU	1115	
_	8260B	4:	deg, C	HCL	3/40 ml	VOA	20232		
2	TÔC 🗗	4.	deg, C	HCI	2 x 40 mL	VOA	ir.	17	
_	MEE					Anlser	٠,	-1	
3		41	deg. C	HCL	1 × 40 mb	VOA	, , , , , , , , , , , , , , , , , , ,		
4	Sulfate/Chloride		deg. C	HCL.	1 x 4 oz	HDPE	W	4	
-	Sulatoremonde	- 	ocs. C	1 IRL	12402	I IIDI L	00 00	Charles	
5	Fe+	Fin	eld				0.0.7	checked twice	
,				المواقع إلى .	2112-12-1	~ J.	0 500/	teachers.	1 20 00 0
6	Mn+	Fic	ield	THE RESIDE		-	/*		
	e 1 4 6 1 4 6 1		- 5						
_									
J	MMENTS: (QA/QC	[?) <u>"</u>		7.1					
	AZT 620 K	レー	- 7	-6 +H			21.	S	
	VSF BT DO	#	3	217			0.1.	٠.	
	La Matto	件:	29	133					
		·	- 1	5720					
	(Bybyc2200	- 54	. 4		, 1	3. 5.			
	Bladday R	AAP	#	= (8183					
	olenner .	1	44	- 14043	?				
	water her	101	н	P14043					
	Conpressor Bladder R Water Lea HACH DR	121 1890	יי כ	# 2620					
	HACH DR	790	Ο,	# 2520)	-		••	. 30 (
· N	HACH DR	7890 17174	Ο,	# 2520)	માં જાણ (કરે)	a,; 1	Now M.	CAS 8147
· N	HACH DR	1890 1717 1			Pant Its	445F)	4 1 1 m	कः विदेशकः स्वर्धः मक्टा वक्षान्दे । १	com PCS
it.	HACH DR	1890 1717 1			Pant Its	, ,		कर विकास स्थिति संकार सम्भादी । व	4.15 11.5 1 1941 15 1
N	HACH DR	1890 1717 1			Pant Its	, ,		्रेड्डिक म्हिल्ले । प्रकार क्षेत्र तहे । प्र	Simple Services
	HACH DR	1890 1717 1			Pant Its	34,	•	कर वेदेशका अर्थ । मध्य र बक्र महै । १	25 197 6 649 117 5 649 1877 1
N	HACH DR	1890 1717 1			Pant Its	, ,	•	कर् वेदेशका अर्थे । भक्ता वक्तार्थे । १	28 11.5 1 24 11.5 1 24 11.5 1
	HACH DR	7890			Pant Its	34,	•	विकास स्थाप सम्बद्धाः सम्भागते । १	Constitution of the second sec
	HACH DR	7890				12.		ilian pi	quin PEN I
	HACH DR	7890				55	•	and an of the	
	HACH DR	7890	2	# 5 6 5 0 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		12.		, `	
	HACH DR	7890	2	# 5 6 5 0 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		55		, `	
	WINFORMATION	890		# 5650				Signal Miles	
	HACH DR	890 1913 3		# 5 6 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		55			
	HACH DR	890	200	# 5650					
	HACH DR	890		# 5650					
	WINFORMATION	890 1913 1	200	# 5650					
	WINFORMATION	890		# 5650					
	WINFORMATION	890		# 5650					
	WINFORMATION	890							
	WINFORMATION	890							
	WINFORMATION	890							
	VINFORMATION	890							
	WINFORMATION	890							
	WINFORMATION	890							
	WINFORMATION	890							

		5	SAM	PLING F	NG RECORD - GROUND							W	ATER	2	
	S	ENECA	ARMY D	DEPOT ACTIVITY	,			PA	RSON	1 5		WELL #: MWT-27			
	PI	ROJECT:		Ash Landfill L	лм G	roundy	water Sa	amplir	ıg - Round	1412	_		DATE: 12	/14	111
	ւօ	CATION	l:		R	OMUL.	US, NY	•					SPECTORS: 7	13	ME
		18 · A **** 8 5 ° T		AND THE PARTY AND THE			4D.F	2000	D 1/1/OT	CULAN	ara,		MP#: 2	541	-
	"	EATHER	R / FIELD	CONDITIONS CHEC	$\overline{}$	EL.	(KI WIN		MAJOF (FROM)				MPLE ID #: BW ZO Z	77	
	т	IME	ТЕМР	WEATHER		IDITY	VELOC		IRECTION	1	FACE	-1.0	MONIT		
		IIR)	(APPRX)	(APPRX)	(G	EN)	(APPI	(X)	(0 - 360)	COND	ITIONS	IN	STRUMENT	DI	ETECTOR
	13	39	~35	Partly cloudy			5-11	0 !	5-7N	Mad	4		OVM-580	_	PID
			82911 200		1777		<u> </u>		or street 1 Av	L NAME (CA	11 - 40011	CTA	MALESTON AND AND A	dve.	
	WELL VOLUME CALCULATION FA DIAMETER (INCHES): 0.25 1 2 GALLONS / FOOT: 0.0026 0.041 0.162 LITERS/FOOT 0.010 0.151 0.617					4 0 654	6	ľ	NE WELL YO				BILIZED WATER LI V FACTOR (GAL/FT)		
		LITERS/FO		0 367 1 389	2 475	5 564									
				DEPTH TO POINT OF WELL			TH TO P OF	SCREE LENGT		WFLL DEVELOPMENT		I	WELL DEVELOPMENT	DE	WELL. EVELOPMENT
	1	HISTORIC I	12.73		SCREE	N(TOC)	(FT)		TURBIDIT	Y		Efg .	5	SPLC COND	
	DA	TA COLLEC				DEPTH T			DEPTH TO STABILIZE		D	EPTII TO PUMP INTAKE	PLU	MPING START TIMI:	
	DATA COLLECTED AT PID READING WELL SITE (OPENING WELL						ER LEVE	L (TOC)		TER LEVEL			1/72		59
	RAD	PUMP PRIOR TO		5	, 4Ç			S AP &			1673	ات	,3.7		
	RADIATION SCREENING PUMP PRIOR TO DATA SAMPLING (cps)						<u> </u>		S	AMPLING (cps)				
	TIME	WATER	MON	CUMULATIVE VOL	_	LLEC	TED	DUI		URGI	NG OP	ER	ATIONS		TURBIDITY
	(min)	LEVEL I	RATE (ml/min)	(GALLONS)	07	(YGEN (mg/L,)	(C)	(u	mhos)	рН		(mV)	_	(NTU)
	1354	5.34	W/ fur	nos tometos	4	518	5	427	- 451	<u> 650</u>	42E	عكاه	USE 450	_	Lamate
	1350	Pil	no Ste	rtel-water	_									\rightarrow	
	1400	575	128			6.00	4	10.0	$\overline{}$	78	5,7	7	-44,9	_	340
	1400	5.55	110		<u> </u>	30.6	1	10.	3 2,4	85	5.7	3	-50, y		
	1413	5.88	108		<u>C</u>	100	/	10.3	2.4	77	5,70	2	-52,3		230
	1418	5.58			(1,04		10 .	3 24	447	562	8	-55.9		
	1423	5.881	40		7	105	5	10.	3 2, 1.	1.54	5.68		-57.8		140
i	1438	283	150			CL		10,	3 2.4	35	5,66		-61,6		
		538	124		0,	05		103	2.4	123	5.6		-63.1		100
	14/28	5.88	120			CLI		/C1		39	560	-/	-(65.1)	\neg	8.5
		584	144		$\overline{}$), C (c)	,	10.2			5.4	_	-68,2	_	70
1		59/	142		$\overline{}$	c5		_	¿ 2.3		5,6		-686		450
463	1503		164		_	. Oé		10.			50	$\overline{}$	-68.9		50
100	1458	544	174	12.5cjal	_	06		10.3	_	30	5.61	_	-68.4		40
]	1503	544	12/	300		06		10.2	$\overline{}$	14/3	5,59	ì	-68:1		.33
		544	700				-	10		<u> </u>	5,50	$\overline{}$	-64,7		31
ì		5.43	150	23901	Cic			IU:		43			-64,8	+	25
				-2000		υ <u>7</u>		10		٠٠-	5.58		-64.5	_	23
l		584	134	126.1		37			2.0	//	5,57			-+	19
	523		iul	13.59(1)		7		10.1	2,02	<u> </u>	55	_	-61,6		
		3.80	15.8	13561	Oil	08		0.1	2,4	س_	5,55		771.0	-	16
	1543	1-548	MOK /		1			l			I			- 1	

C:\Documents and Settings\P0065141\Desktop\ASH FORMS\Field Forms for Ash GW.xls

Pary C Dated 1765 Cryptimic Coll Clothy Stained Brown Black

Ash GW SAMPLING RECORD

	SAMPLING		PRES	ERVATIVES	BOTTL	ES	SAM	PLE	1	TIME	CHECKED B	177
	ORDER				COUNT/ VOLUME	TYPE	NUM	BER			DATE	
1	VOC 8260B		4 deg (°	HCL	3/ 40 ml	VOA	ALBU	2013	15	43		7
2	MICE (AM20GAX)		4 deg C	HCL	2/ 40 ml	VOA						
3_	TOC (9060A)		4 deg C	HCL	2 / 40 ml -	Anlser VOA						
4	Sulfate (EPA 300.1)	14	4 deg C		1 x 250 mL	HDPE		_	y			
5	Fe+ (HACH)					field	1.23					
6	Mn+ (HACH)		باذيها	N Maria	45 OF	field	22.0	" Algy	DVC.	vimit	7827	
7							•					╝
												╛
							ે દ -૪	.2.			.,,	

C	OMMENTS:	(QA/QC?)

Lamotte #0248 45t 450 # 4308 + 04316000 AB

45C88 # 3210

Pump controlor # 016290 Pump # 8919

Hacn # 5650

IDW INFORMATION	١
-----------------	---

SAMPLING RECORD **GROUNDWATER** WELL #: MWT-28 SENECA ARMY DEPOT ACTIVITY PARSONS DATE: 12/14/11 PROJECT: Ash Landfill LTM Groundwater Sampling - Round 14 12 INSPECTORS: 350 ROMULUS, NY LOCATION: PUMP#: 8135 SAMPLE ID #: WEATHER / FIELD CONDITIONS CHECKLIST (RECORD MAJOR CHANGES) LBW20 234 REL. WIND (FROM) GROUND/SITE TEMP WEATHER MONITORING TIME HUMIDITY VELOCITY DIRECTION SURFACE CONDITIONS APPRX (APPRX) INSTRUMENT DETECTOR (24 HR) (GEN) (APPRX) (0 - 360)H1343 35 5-10 5 みん Sanny OVM-580 PID ONE WELL VOLUME (GAL) = KPOW - STABILIZED WATER LEVEL) WELL VOLUME CALCULATION FACTORS 7.29 X 0.163 WELL DIAMETER FACTOR (GALIFT) DIAMETER (INCHES): 0.25 GALLONS / FOOT: 0.0026 0 041 0.367 0 654 1 47 = 3,56 5215 LITERS/FOOT 0.010 0.151 1 389 0.617 2.475 5 564 WELL. DEPTH TO POINT WELL DEPTH TO SCREEN WELL DEVELOPMENT LENGTH DEVELOPMENT DEVELOPMENT OF WELL TOP OF HISTORIC DATA (TOC) SCREEN (TOC) (FT) TURBIDITY pН SPEC COND 12.79 DEPTH TO PUME PUMPING START DEPTH TO DEPTH TO DATA COLLECTED AT PID READONS STATIC STABILIZED INTAKE TIME WELL SITE (OPENING WELL) WATER LEVEL (TOC) WATER LEVEL (TOC) (TOC) 5.89 5.5 1355 RADIATION SCREENING PUMP PRIOR TO PUMP AFTER SAMPLING (cps) SAMPLING (cps) **DURING PURGING OPERATIONS** MONITORING DATA COLLECTED CUMULATIVE VOL DISSOLVED TURBIDITY TIME WATER PUMPING TEMP SPEC COND OXYGEN (mg/L) (min LEVEL RATE (ml/min) (GALLONS) (mV) (NTU) 5.44 SE85 YSI 650 650 16#0 650 353 35 un -48.7 0.725 11 140 0.03 ıl.l 1400 6.32 1405 5.7 114 11.1 -49.3 3 0.02 0.703 6. IZ 5.79 1410 0.0Z a.700 6.03 ll. ı 1415 5.8Z 0.03 709 5.46 15 ~ 0. 5 sals 3.84 5.43 1420 0.02 2 0.0Z 0.722 5.31 142515.85 134 10 0.728 5.87 1430 5.88 11.1 ~1.0 72(3 0.02 11.0 5.86 435 5.88 0.01 0.734 -107.5 446 **み**.4 5.89 7 38 0.62 1445 5.88 0.0Z 6. 6 5.7 2.1 1481 5.89 128 0.745 5.80 4/5 0.01 5.90 0.01 10.9 5.78 -119.8 5.5 1456 170 5.39 0,03 -123.4 5.4 4.0 601 126 1506 5.90 0.02 -125.9 6.2 Car Vac 1510 LB420234 15 Mnt!

I	SAMPLING	PR	ESERVATIVES	ВОТТ	LES	SAMPLE	TIME	CHECKED BY
	ORDER			COUNT/ VOLUME	TYPE	NUMBER		DATE
	VOC 8260B	4 deg C	I I CL	3/40 ml	VOA	ALBU 20234	1515	12/14/4
2 MI	M20GAX)	4 deg C	HCL	2/ 40 ml	VOA	4	4	
3	TOC (9060A)	4 deg C	HCL	2/ 40 ml	ANGA	G	4	
4 Sul	fate (EPA 300.1)	4 deg C		1 x 250 mL	HDPE	. 4	4	
! !	Fe+ (HACH)		VV 200		field	0.48 ~1/2		
	Mn+ (HACH)	•	Maria	2.5 01	field	1.1449/2	35 Favil	"hEin!
7				_				
	200 , 300		Car Car	15.4·		Sec. 1		
						54.5.		
-2.3×	<u> </u>		- mg- 15	A ma	·,·			
						15720		
	ENTS: (QA/(YSI 650 X	4 # 26	74	(ompr	1 1	± 14043		
	YST 85 DO	# 321	7	HACH	DRZYO.	# C7CV		
<u>t</u>	LaMotto	# 029	55 miles	, 7,7,00 3,34	131	" 3 D 3 D	.i 1	r the thirthe
24. Wya's	بو¥ € ټو	.y. d.	(A.2.4) (A.1)	48	The policy	أحد أحداد و(I M GMH	ing interpolation Co. Nama
,	ESU.	55 6	77 15 %		3 5 4.	64	Lizze, Just	
9-1	4,000	- C + 3.		J.	C - 4 .			4.0
5 A	>. 611	77.3 -2	St 547 3	1.3	•		37.7. \$41.1.1	The colorest The colorest
•	5.13,	1. 1. 1. 1.		N 100	•		1	C 63 C. 17.
3.	5.7.5	210 cm	C 37 .	n jak	30,		7.5	\$2.5 J.H.
9.	7.77 7.77 7.77	18 1 18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 076.0 0 076.0 11 1 1 1	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	•		75. 75.	22.5 3.7 beis 3.77
i	7.77 7.77 7.77 77.3	2000 2000 2000 2000 2000	007.0 007.0 007.0	n den Gebeure Gelden		2142 టి.చి	75) 75) 75,	75.5 75.6 75.5 75.6 75.6 75.6 76.6 75.6
9.	7.70 7.70 7.74 7.75 0.78	2000 2000 2000 2000 2000 2000	77 F.:	7	30,	टाइट् व्हें हो	75) 38, 75)	75.2 714, 75.2 714, 76.2 754, 176.2 754,
S. Colinson	7.77 77.57 77.57 27.57	50.00 50.00	77 F. 3 77 F. 3 77 F. 3	7			75) 75) 75) 75)	28.7 374 28.7 374 28.7 374 28.7 374 28.7 374
から いったたよう	7.77 77.37 77.37 07.78 01.74	5000 5000 5000 5000 5000 5000 5000 500	77 F. 3 77 F. 3 77 F. 3			टाइट् व्हें हो	751 751 752 753 753 753 753 753 753	28.7 354 128.7 284 128.7 324 128.7
から いったたよう	E.TV C.TW- S.O V.JO	20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	77 F	2		टाइट् व्हें हो	757 757 757 775 775 775 775	28.7. 3.19 28.7. 3.19 28.7. 324 28.7. >325 326 327 327 327 327 327 327 327 327 327 327
IDW IN	C.TY C.TY C.TS V.10	2000 2000 2000 2000 2000 2000 2000 200	77 F. C. C. C. C. C. C. C. C. C. C. C. C. C.		36, 5 36, 5 36, 5 26, 5 27, 6 27, 6 27, 7	टाइट् व्हें हो		28' 2 256' 28' 3 356' 28' 3 356' 28' 3 256' 28' 3 26' 28' 5 36' 28' 5 36' 28' 5 36'
IDWIN	C.TV C.TV C.TO	27.0 27.0 28.0 28.0 28.0 28.0 28.0	777 777 7778 7778 7784 734			टाइट् व्हें हो	757 757 775 775 277 277 277 277	28.3 256 28.3 256 28.3 356 28.3 356 28.3 356 28.3 356 28.3 356 28.5 356 28.5 356 28.5 356
IDWIN	FORMATIO	2000 2000 2000 2000 2000 2000 2000 200	277. 277. 277. 277. 277. 427.		36, 36, 36, 36, 36, 36, 36, 36, 36, 36,	Congress of the Congress of th	757 757 757 775 775 775 775 775 775 775	28.2 229. 28.2 259. 28.2 259. 28.2 259. 28.2 259. 28.2 259. 28.2 259. 28.2 259. 28.2 259.
NI WILL	C.TV C.TV C.TO	200 200 200 200 200 200 200 200 200 200	277. 277. 277. 277. 277. 427.			ور المحادة	757 757 757 775 775 775 775 775 775 775	5.2 (2) 5.2 (2) 5.2 (2) 5.2 (2) 5.2 (2) 5.2 (2) 5.2 (2) 5.2 (2) 5.3 (2) 5.4 (2) 5.5 (2) 5.6 (2) 5.6 (2) 5.7 (2) 5.8
NI WOI	FORMATION PARTIES	5.7.7.5 5.8.	17.77 77.77 77.78 77.78 77.78 77.78 77.78 77.78			Congress of the Congress of th	757 757 775 775 775 775 775 775 775 775	52 5 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
NI WOU	FORMATION	200 200 200 200 200 200 200 200 200 200	17.77 77.78 77.78 77.78 77.78 77.78 77.78 77.78				TO STATE OF THE ST	22' 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
IDWIN TO SEE THE SEE T	FORMATIO	27.25 27.25 28.25 26.25	17.77 77.78 77.78 77.78 77.78 77.78 77.78 77.78				TS TS TS TS TS TS TS TS TS TS TS TS TS T	22, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
NI WILL S. F.	FORMATION	200 200 200 200 200 200 200 200 200 200	17.77 77.78 77.78 77.78 77.78 77.78 77.78 77.78				TO STATE OF THE ST	22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

SENECA	ARMY I	DEPOT ACTIVITY			P	AR	SON	IS		WELL #: M	WT-29
PROJECT: LOCATION		Ash Landfill L	_	roundwa DMULU		pling	- Round	Jr17		DATE: 12 INSPECTORS: 7	14/11
WEATHER	/ FIELD	CONDITIONS CHEC	LIET		/DECC	חמו	MAIOD	CHAN	(CES)	PUMP#: { SAMPLE ID #:	710
WEATHER	(FIELD	CONDITIONS CHEC	RE		WIND		ROM)		D/SITE	ALBWZ02	35
TIME	ТЕМР	WEATHER	HUMI		ELOCITY	DIR	ECTION		FACE	MONIT	
(24 HR)	(APPRX)	(APPRX)	(GI	EN) (APPRX)	(0	- 360)	COND	ITIONS	INSTRUMENT	DETECTOR
1140	35	sunny		(5-10			gudd	4	OVM-580	PID
DIAMETER (IN GALLONS / F LITERS/FO	SCHES): FOOT:	UME CALCULATION FAC 0.25 1 0.0026 0 041 0 162 0 010 0 151 0 617	TORS 3 0 367 1 389		6 1.47 5 564	8	39 K	LIME (GA O, 163 7-24	SELL DIAM	STABILIZED WATER L ETER FACTOR (GAL/FT)	evel)
LITERS/FC	101	DEPTH TO POINT	1 369	DEPTH		REEN	- 64	WELL	., ., .	WELL	WELI.
HISTORIC D	ATA	OF WELL (TOC)		TOP O		NGTH (FT)		EVELOPME TURBIDIT		DEVELOPMENT pH	DEVELOPMENT SPEC COND
		13.6									
DATA COLLEC		PID READING (OPENING WELL)			EPTH TO STATIC LEVEL (TO	nc.		DEPTH TO STABILIZE ER LEVEL	.D	DEPTH TO PUMP INTAKE (TOC)	PUMPING START TIME
WELL OF		(OFENING WELL)			.21		1974.1	EN CLYCL	(100)	(100)	1141
RADIATION SCR DATA	REENING	PUMP PRIOR TO SAMPLING (cps)				•		PUMP AFTI AMPLING (10.11
	MON	ITORING DATA	COL	LLECT	ED D	URI	NG P	URGIN	VG OP	ERATIONS	
TIME WATER	PUMPING	CUMULATIVE VOL	D	ISSOLVED	Т	ЕМР	SPEC.	COND		ORP	TURBIDITY.
	ATE (ml/min)	(GALLONS)		YGEN (mg/		(C) 32	V2F	(toda	650	650	(NTU)
135 4.71	Pump in					55	1 -4		430	4.0	Wrote
141	Kunp S	terted, repl		mis		40	ter	line			
46 5,37	86-71	22	0	.93	10	.4	1.0	49	6.43	-58.2	7.3
51 5.8Z 1	42-71	10	0	29	10	1.3	1.1	06	6.19	-66.6	4.9
56 6.11	138		0.	87	10	.3	0.9	125	6.30	-61.5	5.8
01 6.31	128	~0,3 gals	0.	4 -		.0			6.36		5.9
206 6.55	148-			.68	_				6.38		4.7
	A COLUMN TO SERVICE AND A COLU			,56					6.38		
211 6.78	136	118				.0				COLUMN TO THE REAL PROPERTY OF THE PARTY OF	
2167.05	150	7 ~ 1.05 als		58		0.0		75	6,3	COURT OF THE PROPERTY OF THE PA	
221715	110		_	,42			40.00		6.3		
226 7,29	116		0	42	10	1,6	0.8	82	6,30	4 -33,5	2.6
131 7.38	116	~1.59415	0.	35	10	.3	0.8	84	6.32	-33.Z	2.4
367.44	116			.33			0.8		6.3		2.7
2417.56		~1.892(5		32				92	7		
46 7.64	A. W	~2.0996		.29			0.8	COLUMN TO SERVICE THE	6.2		0.00
10 1104	100	-10 9413		1		• [0.0	10	4,6	30,2	
256	Sample	collected			(ال	rete	d -	the f	ellay	
	Same	ID ALBW	208	235						340A=	YOC_
1		Time 1256				45	ad a	- Z.1	54/3		G MEE
Mnt	41	1.0 mg/L									- Sile
-	AL +1	2.04 ~2/1								1 / 1	770

1146

	SAMPLING		PRES	SERVATIVES	BOTTI		SAMPLE	TIME	CHECKED
	ORDER				COUNT/ VOLUME	TYPE	NUMBER		DATL.
, 1	VOC 8260B		4 deg C	HCL.	3/ 40 ml	VOA	ALBW 20235	1256	BB0 12/14/0
							11	41	100/1-1/1/
2	MEE (ANIZOGAX)		4 deg C	HCL	2/ 40 ml	ANDER			
3	TOC (9060A)		4 deg C	HCL	- 2/40 ml-	VOA	"	"	
4	Sulfate (EPA 300.1)**		4 deg C		1 x 250 mL	HDPE	q	(r	
5	Fe+ (HACH)					field	0.04~7/	<u></u>	
			١,	ilates : Jr.	(* ' - ' '		1.0 19/2	Think, ", ".	1,40
6	Mn+ (HACH)		<u>'</u>			field	, , , , ,		
7			<u> </u>	्रेडिंग (चे क्षा) (चित्रे (चे क्षा)	1200				
	the sale	۶ ۶	Xe		1:				
ľ									

\dashv							* * * * .		
_1									
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				1.77.77				
d.l.	iller its	•	134	42.54	HACH DR	38.32			مهروات والمراو
				580 4	Sinc mente	eina -	and a se	الدم الديدة المادة العمام الديدة الم	i 134
***	=	-	-	35.4	Since Switz	eina -	and a se	9421 AND	45.2.9h
*F		. 9	1	301.1	ojesna onis H _a g Esta	2.14A ~.	and a se	53177 331 33177 331 331, 7334	4:
	100 Billion		ξ,:	301.1		ena Et :	on the con	100 - 100 miles 100 - 100 100 - 100 100 - 100 100 - 100	4) 40 534 51 582 : 54 51
\$ 00 to \$	10 2014 - 2016 -		₹	14 8.	oficial onice High Each (1) (1) (2) (3) (4) (5) (6)	THE STATE OF THE S	engo, com	143.7 Per 122. 142.7 Per 123. 143.7 Per 123. 143.7 Per 123.7 Per 1	4! 42 5/37 51 5/82 : 51 6/3!
· · · · · · · · · · · · · · · · · · ·			\$. 6 \$. 6 \$. 6	350	oficeral online High Each (1) (1) (2) (3) (4) (5) (6)	TO A	spirite sin	647 Feed 100 - 122 427 Fe 126 126 148 - 415 b	14 7.37 51 5.82 . 51 5.82 . 51 5.51 51 5.51
		- 3 7 8	2. 3 2. 3 2. 3 3. 3 4. 3 5. 3	1. 18 . 19 . 19 . 19 . 19 . 19 . 19 . 19	3).5.4 \$1.0		spirite since	12 12 12 12 12 12 12 12 12 12 12 12 12 1	14 7.37 51 5.82 51 6.31 51 6.31 64 6.75
199		- 3	5.4 5.4 5.4 5.4 6.3 6.3 6.3		3/25/20 24/2 11.9. 2.5/25/20 2.6/25/20 2.6/26/20 2		spirite since	126 - 126 127 - 127 126 - 127 126 - 127 126 - 127 127 - 127	10 7.82 . 10 10 10 10 10 10 10 10 10 10 10 10 10
- 44 - 44	35.4 35.4 35.4 35.4	- 3			3) 5 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6		enger over	126 - 126 -	10 7.82 . 10 7.65 . 10 7.6
- 44 - 44	35.4 35.4 35.4 35.4	- 3			3) 5 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6		enger over	125 AND 125 AN	10 7.37 51 5.82 51 5.82 51 6.31 51 6.73 51 6.73 52 6.73 52 6.73
DW.	TNFORMATIO	N: 7		183. ·	3,01		enger over	551 - 501 551 - 501	10 7.37 70 0.37 70
DW	VINFORMATIO E.EE	N: 7		288.	11.0. 11		Sagara Sagara	551 - 551 551 - 551	10 137 137 137 137 137 137 137 137 137 137
DW	VINFORMATIO	N: 7	は、 は、 は、 は、 は、 は、 は、 は、 は、 は、 は、 は、 は、 は	7.83. 7.83. 7.83. 7.83.	# 10 mis # 10 m		Ang Park	12 (12 (12 (12 (12 (12 (12 (12 (12 (12 (10 7.82
DW	VINFORMATIO E.EE	N: 7	は、 は、 は、 は、 は、 は、 は、 は、 は、 は、 は、 は、 は、 は	7.83. 7.83. 7.83. 7.83.	# 10 mis # 10 m		Ang Park	551 - 551 551 - 551	10 7.82
DW	INFORMATIO 2.88 2.88 2.88 2.88	N: 7		775. 148. 148. 178.	1.01 2.01 2.01 2.01 2.01 2.01 2.01 2.01 2.01 2.01		A Park		12 元 2 元 2 元 2 元 2 元 2 元 2 元 2 元 2 元 2 元
DW	INFORMATIO 2.52 2.52 2.52 2.52	N: 7		100 100 100 100 100 100 100 100 100 100	1.01 2.01 2.01 2.01 2.01 2.01 2.01 2.01 2.01 2.01			351 - 100 351 -	10 7.82 . 10 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6
DW	INFORMATIO	N: 7		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	11.0. 11			12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	を
DW	INFORMATIO 2.52 2.52 2.52 2.52	N: 7		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	11.0. 11				10 7.82 . 10 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6

C:\Documents and Settings\P0065141\Desktop\ASH FORMS\Field Forms for Ash GW.xls

7/14/2011

APPENDIX B

COMPLETE GROUNDWATER DATA



Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL PT-18A PT-18A PT-18A PT-18A PT-18A PT-18A GW ALBW20059 GW GW GW GW GW ALBW20117 ALBW20132 ALBW20074 ALBW20088 ALBW20103 11/15/2007 6/24/2008 12/12/2008 1/3/2007 3/17/2007 6/5/2007 SA LTM SA SA LTM SA SA SA LTM LTM

Sample Round								1	2	3	4	5	6
Parameter	Unit	Maximum Value	Frequency of Detection	Cleanup Goals ¹	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	1 U	1 U	1 U	1 U	1 U	0.26 W
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.21 U
1,1,2-Trichloro-1,2,2-Triffuoroethane	UG/L	0	0%	5	0	0	178	1 U	1 U	1 UJ	1 U	1 UJ	0.31 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	178	1 U	1 U	1 U	1 U	1 U	0.23 U
1.1-Dichloroethane	UG/L	62	12%	5	1	22	178	1 U	1 U	1 U	1 U	1 U	0.75 U
1,1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	0.64 J	0.73 J	1.4	2.1	1 U	1.3
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	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	178	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	1 U	1 U	1 U	1 U	1 U	0.17 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	.1 U	1 U	1 U	1 U	1 U	0.2 U
1.2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	1 U	1 U	1 0	1 Ū	1 U	0.21 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	1 0	1 Ü	1 Ŭ	1 U	1 U	0.14 U
1.3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 U	1 Ü	1 Ü	1 U	1 U	0.16 U
1.4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 Ŭ	1 U	1 U	1 U	1 U	0.16 U
Acetone	UG/L	2600	24%			41	172	5 U	2 J	7	5 U	5 U	1.3 U
Benzene	UG/L	0.38	1%	1.	0	2	178	1 U	1 Ŭ	1 U	1 U	1 U	0.16 U
Bromodichloromethane	UG/L	0	0%	80	Ō	0	178	1 0	1 0	1 U	1 U	1 U	0.38 U
Bromoform	UG/L	0	0%	80	Ö	0	178	1 U	1 0	1 U	1 U	1 U	0.26 U
Carbon disulfide	UG/L	Ô	0%	7.7		n	178	1 U	1 U	1 U	1 U	1 U	0.19 U
Carbon tetrachloride	UG/L	ñ	0%	5	0	n	178	1 U	1 0	1 0	1 U	1 U	0.27 UJ
Chlorobenzene	UG/L	ň	0%	5	ň	Ô	178	1 0	1 0	1 U	1 0	1 Ŭ	0.18 U
Chlorodibromomethane	UG/L	ō	0%	80	ñ	0	178	1 U	1 0	1 U	1 U	1 0	0.32 U
Chloroethane	UG/L	1.1	4%	5	ñ	7	178	1.0	1 0	1.0	1.0	1 UJ	0.32 U
Chloroform	UG/L	27	9%	7	4	16	178	27	13 U	14	8.7	1 U	2.2
Cis-1.2-Dichloroethene	UG/L	720	86%	5	115	153	178	220	170	430	720	200	510
Cls-1,3-Dichioropropene	UG/L	0	0%	0.4	0	0	178	1 U	1 U	1 U	1 U	1 U	0.36 U
Cyclohexane	UG/L	ő	0%	0.4	•	0	178	1 0	1 U	1 U	1 U	1 U	0.22 U
Dichlorodifiuoromethane	UG/L	ŏ	0%	5	0	Ô	178	1 0	1 0	1 U	1 U	1 0	0.28 UJ
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	10	1 0	1 0	1 Ŭ	1 0	0.18 U
Isopropylbenzene	UG/L	0.1	1%	5	'n	1	178	1 0	1 0	1 0	1 0	1 0	0.19 U
Methyl Acetate	UG/L	6	1%	3	U	2	178	1 U	1 111	1 U	1 UJ	1 UJ	0.17 U
Methyl bromide	UG/L	ő	0%	5	0	2	177	10	1 U	1 0	1 U	1 UJ	0.28 U
Methyl bityl ketone	UG/L	ŏ	0%	3	U	ŏ	178	5 U	5 U	5 U	5 UJ	5 UJ	1.2 U
Methyl chloride	UG/L	ñ	0%	=	0	0	178	1 U	1 U	1 U	1 U	1 UJ	0.34 U
	UG/L	0.17	1%	5	U	4	178	1 U	1 U	1 U	1 0	1 03	0.34 U
Methyl cyclohexane	UG/L	4900	12%			22	178	1 U 5 U	1 U 5 U	1 U 5 U	1 U	1 U 5 UJ	1.3 U
Methyl ethyl ketone	UG/L	1.9	12%			22	178		5 U	5 U	5 U	5 UJ	0.91 U
Methyl isobutyl ketone	UG/L	0				1	178	5 U		5 U	5 U	5 UJ 1 U	0.91 U
Methyl Tertbutyl Ether			0%		-	40		1 U	1 U		10	10	0.16 U 0.44 UJ
Methylene chloride	UG/L	18 0	7% 0%	5	0	12	178 178	1 UJ	1 U 1 U	1 U 1 U	1 U	10	0.44 UJ 0.18 U
Styrene	UG/L	U	U%	5	U	U	1/8	1 U	1 0	10	10	10	0.18 U

Appendix B

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Are	a							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	
Loc II	D							PT-18A	PT-18A	PT-18A	PT-18A	PT-18A	PT-18A	
Matri								GW	GW	GW	GW	GW	GW	
Sample II								ALBW20059	ALBW20074	ALBW20088	ALBW20103	ALBW20117	ALBW20132	
Sample Dat	е							1/3/2007	3/17/2007	6/5/2007	11/15/2007	6/24/2008	12/12/2008	
QC Typ								SA	SA	SA	SA	SA	SA	
Study I								LTM	LTM	LTM	LTM	LTM	LTM	
Sample Roun	d							1	2	3	4	5	6	
						Number of	Number of		_				•	
		Maximum	Frequency of	Cleanup	Number of	Times	Samples							
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	
Tetrachloroethene	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.36 U	•
Toluene	UG/L	590	16%	5	17	28	178	1 U	1 U	1 U	1 U	1 U	0.51 U	
Total Xylenes	UG/L	. 60	1%	5	1	2	178	3 U	3 U	3 U	3 U	3 U	0.93 U	
Trans-1,2-Dichloroethene	UG/L	. 8	50%	5	4	89	178	1.6	1.4	0.0	0.4	0.9 J	z.→	
Trans-1 3-Dichloroproposo	LIGA	0	00%	0.4	0	0	170	1 11	1 11	111	1 11	1 11	0.37 11	

rarameter	Unit	value	Detection	GOERS	Exceedances	Detected	Anaiyzed
Tetrachloroethene	UG/L	0	0%	5	0	0	178
Toluene	UG/L	590	16%	5	17	28	178
Total Xylenes	UG/L	60	1%	5	1	2	178
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	17B
Trichloroethene	UG/L	2,700	70%	5	60	124	178
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178
Vinyl chloride	UG/L	180	67%	2	100	119	178
Other							
Iron	UG/L	296000	100%			12	12
Iron+Manganese	UG/L	352900	100%			12	12
Manganese	UG/L	56900	100%			12	12
Ethane	UG/L	98	92%			81	88
Ethene	UG/L	200	89%			7B	88
Methane	UG/L	23,000	97%			85	88
Sulfate	MG/L	1060	80%			68	88
Total Organic Carbon	MG/L	2050	100%			88	88

Notes:

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

1.4

Table 4-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL Loc ID PT-18A PT-18A PT-18A PT-18A PT-18A Matrix GW GW ALBW20192 12/19/2010 ALBW20207 7/22/2011 ALBW20147 ALBW20162 ALBW20177 Sample ID Sample Date 6/4/2009 12/17/2009 7/1/2010 SA LTM SA LTM SA LTM 11 QC Type SA SA LTM LTM Study ID

QC Ty Study Sample Rou	ID					Number of	Number of	6/4/2009 SA LTM 7	12/17/2009 SA LTM 8	7/1/2010 SA LTM 9	12/19/2010 SA LTM 10	7/22/2011 SA LTM 11	12/15/2011 SA LTM 12
Parameter	Unit	Maximum Value	Frequency of Detection	Cleanup Goals ¹	Number of Exceedances	Times Detected	Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
/olatile Organic Compounds	Oint	Yelus	Detocaon	Godie	LACOGUEITOGO	Dottoctard	Aimiyaou	Value (At)	Valido (G)	Value (di)	value (a)	- Value (4)	taido (d)
.1.1-Trichloroethane	UG/L	15	3%	5	1	5	178	0.26 U	1.1 U	0.5 U	0.5 U		0.5 U
,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	178	0.21 U	0.85 U	0.18 U	0.18 U	0.18 U	0.18 U
.1.2-Trichloro-1.2.2-Trifluoroetha		0	0%	5	Ö	0	178	0.31 U	1.2 UJ	0.5 U	0.5 U	0.5 U	0.5 U
.1.2-Trichloroethane	UG/L	0	0%	1	0	0	178	0.23 U	0.92 U	0.13 U	0.13 U	0.13 U	0.13 U
.1-Dichloroethane	UG/L	62	12%	5	1	22	178	0.75 U	1.5 U	0.25 U	0.25 U	62	0.25 U
.1-Dichloroethene	UG/L	2.1	10%	5	ò	18	178	0.8 J	2 J	0.11 U	0.11 U	1.5	0.11 U
.2.4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	0.41 U	1.6 U	0.25 U	0.25 U	0.25 U	0.25 U
,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	Õ	0	178	1 U	1.6 U	0.44 U	0.44 U	0.44 UJ	0.44 U
.2-Dibromoethane	UG/L	0	0%	0.0006	ő	Ö	178	0.17 U	0.66 U	0.25 U	0.25 U	0.25 U	0.25 U
.2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.2 U	0.81 U	0.21 U	0.21 U	0.21 U	0.21 U
,2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	0.21 U	0.86 U	0.1 U	0.1 U	0.1 U	0.1 U
.2-Dichloropropane	UG/L	0.29	1%	4	0	4	178	0.14 U	1.3 U	0.13 U	0.13 U	0.29 J	0.13 U
.3-Dichlorobenzene	UG/L	0.25	0%	3	0	ó	178	0.14 U	1.4 U	0.15 U	0.15 U	0.25 U	0.15 U
.4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.16 U	1.6 U	0.28 U	0.28 U	0.28 U	0.28 U
	UG/L	2600	24%	3	U	41	172		1.6 U	5 U	5 UJ	8.1 J	5 UJ
Acetone	UG/L	0.38		1	•	2	178	1.3 UJ					0.25 U
Benzene			1%	•	0	0	178	0.16 U	1.6 U	0.25 U	0.25 U	0.38 J 0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	•		0.39 U	1.5 U	0.25 U	0.25 U		
Bromoform	UG/L	0	0%	80	U	0	178	0.26 U	1 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Carbon disulfide	UG/L	0	0%	_		0	178	0.19 U	0.78 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	0.27 U	1.1 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	0.32 U	1.3 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	0.32 U	1.3 U	0.1 U	0.1 U	0.1 UJ	0.1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	0.32 U	1.3 UJ	1 U	1 U	1 U	1 UJ
Chloroform	UG/L	27	9%	7	4	16	178	9	3.1 J	2.1	0.27 J	0.14 U	0.14 U
Cls-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	260	630	28	0.54 J	4245	0.53 J
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.36 U	1.4 U	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0	0%			0	178	0.53 U	2.1 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	0.29 U	1.1 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	0.18 U	0.74 U	0.11 U	0.11 U	9.2	0.11 U
sopropylbenzene	UG/L	0.1	1%	5	0	1	178	0.19 U	0.77 U	0.1 U	0.1 U	0.1 J	0.1 U
Methyl Acetate	UG/L	6	1%			2	178	0.17 U	2 U	0.19 U	0.19 U	0.19 U	0.19 U
Methyl bromide	UG/L	0	0%	5	0	0	177	0.28 U	1.1 UJ	0.8 U	0.8 UJ	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	0	0%			0	178	1.2 U	5 U	1 U	1 U	1 U	1 UJ
Methyl chloride	UG/L	0	0%	5	0	0	178	0.35 U	1.4 U	0.33 U	0.33 U	0.33 U	0.33 U
Methyl cyclohexane	UG/L	0.17	1%			1	178	0.5 U	2 U	0.1 U	0.1 U	0.17 J	0.1 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1.3 U	5.3 U	1 U	1 U	5.1 J	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	0.91 U	3.6 U	1 U	1 U	1.9 J	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	178	0.16 U	0.64 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	7%	5	7	12	178	0.44 U	1.B U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	ó	0	178	0.18 U	0.74 U	0.11 U	0.11 U	0.11 U	0.11 U

ASH LANDFILL PT-18A

> ALBW20222 12/15/2011

GW

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Loc	trix o ID ate ype y ID					Number of	Number of	ASH LANDFILL PT-18A GW ALBW20147 6/4/2009 SA LTM 7	ASH LANDFILL PT-18A GW ALBW20162 12/17/2009 SA LTM 8	ASH LANDFILL PT-18A GW ALBW20177 7/1/2010 SA LTM 9	ASH LANDFILL PT-18A GW ALBW20192 12/19/2010 SA LTM 10	ASH LANDFILL PT-18A GW ALBW20207 7/22/2011 SA LTM 11	ASH LANDFILL PT-18A GW ALBW20222 12/15/2011 SA LTM 12
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detection	Goels ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachioroethene	UG/L	0	0%	5	0	0	178	0.36 U	1.5 U	0.15 U	0.15 U	1 U	0.15 U
Toluene	UG/L	590	16%	5	17	28	178	0.51 U	2 U	0.33 U	0.33 U	130	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.66 U	2.6 U	0.2 U	0.2 U	60	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	1.8	3.5 J	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.37 U	1.5 U	0.21 U	0.21 U	0.21 U	0.21 L
Trichloroethene	UG/L	2,700	70%	5	60	124	178	810 .	10 PM 10 PM 10	1 PRO 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6.3	0.13 U	7.3
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.15 U	0.61 UJ	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride Other	UG/L	180	67%	2	100	119	178	2	THE RESIDENCE OF THE PARTY OF T	0.18 U	0.18 U	1;0	0.18 U
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88						
Ethene	UG/L	200	89%			78	88						
Methane	UG/L	23,000	97%			85	88						
Sulfate	MG/L	1060	80%			68	88						
Total Organic Carbon	MG/L	2050	100%			88	88						

Notes:

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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Take 4-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL Area MWT-25 Loc ID MWT-25 MWT-25 MWT-25 **MWT-25** MWT-25 GW ALBW20138 GW GW GW GW ALBW20108 GW ALBW20123 Matrix ALBW20079 Sample ID ALBW20064 ALBW20093 12/15/2008 Sample Date 1/3/2007 3/17/2007 6/6/2007 11/15/2007 6/24/2008 QC Type Study ID SA LTM SA LTM SA SA SA SA

Sample Round								1	2	3	4	5	6
Parameter	Unit	Maximum Value	Frequency of Detection	Cleanup Goals ¹	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	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	178	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	178	1 U	1 U	1 W	1 U	1 UJ	0.31 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	178	1 U	1 U	1 U	1 U	1 U	0.23 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	1 U	1 U	1 U	1 U	1 U	0.75 U
1,1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	1 U	1 U	1 U	1 U	1 U	0.29 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	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	178	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	1 U	1 U	1 U	1 U	1 U	0.17 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 U	1 U	1 U	1 U	1 U	0.2 U
1,2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	1 U	1 U	1 U	1 U	1 U	0.21 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	1 U	1 U	1 U	1 U	1 U	0.14 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 U	1 U	1 U	1 U	1 U	0.16 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 U	1 U	1 U	1 U	1 U	0.16 U
Acetone	UG/L	2600	24%			41	172	5 U	5 U	4.5 J	5 U	5 U	1.3 U
Benzene	UG/L	0.38	1%	1	0	2	178	1 U	1 U	1 U	1 U	1 U	0.16 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	1 U	1 U	1 U	1 U	1 U	0.38 U
Bromoform	UG/L	0	0%	80	0	0	178	1 U	1 U	1 U	1 U	1 U	0.26 U
Carbon disulfide	UG/L	0	0%			0	178	1 U	1 U	1 U	1 U	1 U	0.19 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.27 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.18 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	1 U	1 U	1 U	1 U	1 U	0.32 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	1 U	1 U	1 U	1 U	1 UJ	0.32 U
Chloroform	UG/L	27	9%	7	4	16	178	10	1 U	1 U	1 U	1 U	0.34 U
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178 F	41	84	36	17	17	0.63 J
Cls-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	1 U	10	10	1 U	10	0.36 U
Cyclohexane	UG/L	0	0%			0	178	1 U	1 U	1 U	1 U	· 1U	0.22 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.28 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	1 U	1 U	1 U	1 U	1 U	0.18 U
Isopropylbenzene	UG/L	0.1	1%	5	0	1	178	1 Ü	1 U	1 U	1 U	1 U	0.19 U
Methyl Acetate	UG/L	6	1%			2	178	1 0	1 UJ	1 U	1 UJ	1 UJ	0.17 U
Methyl bromide	UG/L	0	0%	5	0	0	177	1 U	1 U	1 U	1 U	1 UJ	0.28 U
Methyl butyl ketone	UG/L	0	0%			0	178	5 U	5 U	5 U	5 UJ	5 UJ	1.2 U
Methyl chloride	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 UJ	0.34 U
Methyl cyclohexane	UG/L	0.17	1%	-	-	1	178	1 0	1 Ü	1 U	1 Ŭ	1 U	0.22 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	5 U	5 U	5 U	5 U	5 UJ	1.3 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	5 U	5 U	5 U	5 U	5 UJ	0.91 U
Methyl Sobutyl Retorie	UG/L	0	0%			ó	178	1 U	1 U	1 U	1 U	1 U	0.16 U
Methylene chloride	UG/L	18	7%	5	7	12	178	1 0	1 0	1 0	1 0	1 0	0.44 UJ
Styrene	UG/L	0	0%	5	'n	0	178	1 U	1 U	1 U	1 0	1 U	0.18 U
Otherie	OOL	•	0 /0	5	•	•	170	10	1.0		. 0		0.10 0

Appendix B

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round		Maximum	Frequency of	Cleanup	Number of	Number of Times	Number of Samples	ASH LANDFILL MWT-25 GW ALBW20064 1/3/2007 SA LTM 1	ASH LANDFILL MWT-25 GW ALBW20079 3/17/2007 SA LTM 2	ASH LANDFILL MWT-25 GW ALBW20093 6/6/2007 SA LTM 3	ASH LANDFILL MWT-25 GW ALBW20108 11/15/2007 SA LTM 4	ASH LANDFILL MWT-25 GW ALBW20123 6/24/2008 SA LTM 5	ASH LANDFILL MWT-25 GW ALBW20138 12/15/2008 SA LTM 6
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 Ü	0.36 U
Toluene	UG/L	590	16%	5	17	28	178	1 Ŭ	1 Ŭ	4.6	1 Ü	1 Ü	0.51 U
Total Xylenes	UG/L	60	1%	5	1	2	178	3 U	3 U	3 U	3 U	3 U	0.93 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.56 J	1.2	0.5 J	1 Ü	1 Ü	0.13 U
Trans-1,3-Dichloropropene	UG/L	ō	0%	0.4	Ó	0	178	1 U	1 U	1 U	1 U	1 U	0.37 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	50	55	28	26	19	3.2
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	1 U	10	1 UJ	1 U	1 UJ	0.15 U
Vinyl chloride	UG/L	180	67%	2	100	119	178	1.6	9.6	2.1	0.64 J	1 U	0.24 U
Other				-									5.2.
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88						
Ethene	UG/L	200	89%			78	88						
Methane	UG/L	23,000	97%			85	88						
Sulfate	MG/L	1060	80%			68	88						
Total Organic Carbon	MG/L	2050	100%			88	88						

Notes:

- 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
 UJ= the compound was not detected; the associated reporting limit is approximate.

Styrene

UG/L

0%

Table 3-1

Complete Groundwater Data for Ash Landfill Long Term Monitoring

Ash Landfill Annual Report, Year 5

Seneca Army Depot Activity

ASH LANDFILL Area ASH LANDFILL ASH LANDFILL ASH LANDFILL **ASH LANDFILL ASH LANDFILL** Loc ID **MWT-25** MWT-25 MWT-25 MWT-25 MWT-25 MWT-25 Matrix GW GW GW GW GW GW Sample ID ALBW20153 ALBW20168 ALBW20183 ALBW20198 ALBW20213 ALBW20228 Sample Date 12/17/2009 6/30/2010 12/19/2010 7/20/2011 6/3/2009 12/15/2011 QC Type SA SA SA SA SA SA Study ID LTM LTM LTM LTM LTM LTM Sample Round 12 8 9 10 11 Number of Number of Cleanup Maximum Frequency of **Number of** Timee Value Detection Parameter Unit Goals Exceedances Detected Analyzed Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Volatile Organic Compounds UG/L 15 1.1.1-Trichloroethane 3% 5 5 178 0.26 U 0.26 U 0.5 U 0.5 U 0.5 U 0.5 U UG/L 1,1,2,2-Tetrachloroethane 0 0% 178 0 0 0.21 U 0.21 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% 0 0 178 0.31 U 0.31 U 0.5 UJ 0.5 U 0.5 U 0.5 U UG/L 0 1,1,2-Trichloroethane 0% 0 0 178 0.23 U 0.23 LI 0.13 U 0.13 U 0.13 U 0.13 U UG/L 62 1.1-Dichloroethane 12% 22 178 0.75 U 0.38 U 0.25 U 0.25 U 0.25 U 0.25 U 1,1-Dichloroethene UG/L 2.1 10% 18 178 0 0.29 U 0.29 U 0.11 U 0.11 U 0.11 U 0.11 U UG/L 0 0% 0 178 1.2.4-Trichlorobenzene 0 5 0.41 U 0.41 U 0.25 U 0.25 U 0.25 U 0.25 U UG/L 0% 1,2-Dibromo-3-chloropropane 0 0.04 0 0 178 1 UJ 0.39 U 0.44 U 0.44 U 0.44 U 0.44 U 1,2-Dibromoethane UG/L 0 0% 0.0006 0 178 0.17 U 0.17 U 0.25 U 0.25 U 0.25 U 0.25 U 0 1.2-Dichlorobenzene UG/L 0% 0 n 178 - 3 0.2 U 0.2 U 0.21 U 0.21 U 0.21 U 0.21 U UG/L 5.6 14% 1,2-Dichloroethane 0.6 21 25 178 0.21 U 0.21 U 0.1 U 0.1 U 0.1 U 0.1 U 1,2-Dichloropropane UG/L 0.29 1% 0 178 0.14 U 0.32 U 0.13 U 0.13 U 0.13 U 0.13 U 1.3-Dichlorobenzene UG/L 0 0% 0 178 0 3 0.16 U 0.36 U 0.25 U 0.25 U 0.25 U 0.25 U UG/L 1,4-Dichlorobenzene 0 0% 3 0 0 178 0.16 U 0.39 U 0.28 U 0.28 U 0.28 U 0.28 U Acetone UG/L 2600 24% 41 172 1.3 U 1.3 U 5 U 5 UJ 21 J 5 UJ UG/L 0.38 Benzene 1% 0 2 178 0.18 U 0.41 U 0.25 U 0.25 U 0.25 U 0.25 U Bromodichloromethane UG/L 0 0% 80 0 0 178 0.39 U 0.39 U 0.25 U 0.25 U 0.25 U 0.25 U UG/L 0 0% 80 0 178 Bromoform 0.26 UJ 0.26 U 0.5 U 0.5 U 0.5 U 0.5 U UG/L 0 0% Carbon disulfide 0 178 0.19 UJ 0.19 U 0.6 U 0.6 U 0.6 U 0.6 U UG/L 0 0% 5 0 178 Carbon tetrachloride 0 0.27 U 0.27 U 0.5 U 0.5 U 0.5 U 0.5 U Chlorobenzene UG/L 0 0% 178 5 0 0 0.32 U 0.32 U 0.25 U 0.25 U 0.25 U 0.25 U Chlorodibromomethane UG/L 0 0% 80 0 0 178 0.32 U 0.32 U 0.1 U 0.1 U 0.1 U 0.1 U Chloroethane UG/L 1.1 4% 5 0 178 0.32 U 0.32 U 1 U 1 UJ 1 UJ 1 UJ UG/L 27 9% 178 Chloroform 16 0.34 U 0.34 U 0.14 U 0.14 U 0.14 U 0.14 U UG/L Cis-1,2-Dichloroethene 720 86% 5 115 153 178 #10° 3.3 J43 0.97 J wante - star 3 0.3 J Cis-1,3-Dichloropropene UG/L 0 0% 0.4 0 0 178 0.36 U 0.11 U 0.36 LL 0.11 LI 0.11 U 0.11 LI UG/L 0 0% 178 Cyclohexane 0 0.53 U 0.53 U 0.25 U 0.25 U 0.25 U 0.25 U Dichlorodifluoromethane UG/L 0 0% 5 0 178 0.29 U 0.29 U 0.25 U 0.25 U 0.25 U 0.25 UJ UG/L 9.2 7% 13 Ethyl benzene 5 178 0.18 11 0 18 U 0.11 U 0.11 U 0 11 11 0.11 U UG/L 0.1 1% 178 Isopropylbenzene 5 0 0.19 U 0.19 U 0.1 U 0.1 U 0.1 U 0.1 U Methyl Acetate UG/L 6 1% 178 0.19 U 0.17 UJ 0.5 U 0.19 UJ 0.19 U 0.19 UJ Methyl bromide UG/L 0 0% 5 0 0 177 0.28 U 0.28 UR 0.8 UJ 0.8 U 0.8 UJ 0.8 UJ UG/L Methyl butyl ketone 0 0% 0 178 1.2 U 1.2 U 1 UJ 1 U 1 UJ 1 UJ Methyl chloride UG/L 0 0% 5 0 178 0.35 U 0.33 U 0.35 U 0.33 U 0.33 U 0.33 U UG/L 0.17 1% 178 Methyl cyclohexane 0.5 U 0.1 U 0.1 U 0.1 U 0.5 U 0.1 U UG/L 4900 Methyl ethyl ketone 12% 22 178 1.3 U 1.3 U 1 U 1 U 1 U 1 U UG/L 1.9 1% 178 Methyl isobutyl ketone 0.91 U 0.91 U 1 U 1 U 1 U 1 U Methyl Tertbutyl Ether UG/L 0 0% 0 178 0.16 U 0.16 U 0.2 U 0.2 U 0.2 U 0.2 U Methylene chloride UG/L 18 7% 5 7 12 178 0.44 U 0.44 U 1 U 1 U 1 U 1 U

178

0.18 U

0.18 U

0.11 U

0.11 U

0.11 U

0.11 U

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round						Number of	Number of	ASH LANDFILL MWT-25 GW ALBW20153 6/3/2009 SA LTM 7	ASH LANDFILL MWT-25 GW ALBW20168 12/17/2009 SA LTM 8	ASH LANDFILL MWT-25 GW ALBW20183 6/30/2010 SA LTM 9	ASH LANDFILL MWT-25 GW ALBW20198 12/19/2010 SA LTM 10	ASH LANDFILL MWT-25 GW ALBW20213 7/20/2011 SA LTM 11	ASH LANDFILL MWT-25 GW ALBW20228 12/15/2011 SA LTM 12
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	0.36 U	0.36 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	16%	5	17	28	178	0.51 U	0.51 U	0.33 U	0.33 U	1 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.66 U	0.66 U	0.2 U	0.2 U	0.28 J	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.13 U	0.42 U	0.49 J	0.2 U	0.45 J	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.37 U	0.37 U	0.21 U	0.21 U	0.21 U	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	12	4.2	7.7	1.9	4.4	1.6
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.15 U	0.15 UJ	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	100	119	178	0.24 U	0.24 U	0.18 U	0.18 U	0.72 J	0.18 U
Other													
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88						
Ethene	UG/L	200	89%			78	88						
Methane	UG/L	23,000	97%			85	88						
Sulfate	MG/L	1060	80%			68	88						
Total Organic Carbon	MG/L	2050	100%			88	88						

Notes:

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Table 3-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID								ASH LANDFILL MWT-26 GW ALBW20066 1/3/2007 SA LTM	ASH LANDFILL MWT-26 GW ALBW20081 3/17/2007 SA LTM	ASH LANDFILL MWT-26 GW ALBW20095 6/5/2007 SA LTM	ASH LANDFILL MWT-26 GW ALBW20111 11/15/2007 SA LTM	ASH LANDFILL MWT-26 GW ALBW20126 6/24/2008 SA LTM	ASH LANDFILL MWT-26 GW ALBW20141 12/15/2008 SA LTM
Sample Round						Number of	Number of	1	2	3	4	5	6
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detection	Goals'	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (0
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	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	178	1 U	1 U	1 U	1 U	1 U	0.21 U
1.1.2-Trichlom-1.2.2-Trifluoroethane	UG/L	0	0%	5	0	0	178	1.0	1 11	1 (1)	1 11	1 U	0.31 U

Parameter	Unit	Maximum Value	Frequency of Detection	Cleanup Goals ¹	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	Vakue (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds	Olat	72100	Deacaon	Guais	EACOGUATICOS	Deusched	Allelyzou	Asing (CI)	Agine (42)	vaine (G)	Value (Q)	value (Q)	Value (Q)
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	1 U	1 U	1 U	1 U	1 U	0.26 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	ò	Ď.	178	1 U	1 U	1 0	1 0	1 U	0.21 U
1.1.2-Trichloro-1.2.2-Trifluoroethane	UG/L	0	0%	5	n n	ñ	178	1 0	1 U	1 ເມ	1 Ŭ	1 Ŭ	0.31 U
1.1.2-Trichloroethane	UG/L	ő	0%	1	0	o o	178	1 0	1 U	1 U	1 0	1 U	0.23 U
1.1-Dichloroethane	UG/L	62	12%	5	1	22	178	1 0	1 U	1 0	1 U	1 Ŭ	0.75 U
1.1-Dichloroethene	UG/L	2.1	10%	5	'n	18	178	1 U	1 U	1 0	1 U	1 Ŭ	0.29 U
1.2.4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	1 0	1 U	1 0	1 0	1 0	0.41 U
1.2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	ñ	178	1 0	1 U	1 U	1 0	1 Ŭ	1 UJ
1.2-Dibromoethane	UG/L	Ô	0%	0.0006	0	0	178	1 0	1 U	1 0	1 U	1 Ŭ	0.17 U
1,2-Dichlorobenzene	UG/L	ő	0%	3	0	0	178	1 U	1 U	1 U	1 U	1 U	0.2 U
1.2-Dichloroethane	UG/L	5.8	14%	0.6	21	25	178	10	1 0	1 0	1 0	1 0	0.21 U
1.2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	1 U	1 U	1 0	1 0	1 0	0.14 U
1.3-Dichlorobenzene	UG/L	0.29	0%	3	Ô	Ċ	178	10	1 U	1 0	1 0	1 0	0.14 U
1.4-Dichiorobenzene	UG/L	Ö	0%	3	0	0	178	10	1 U	1 0	1 U	1 U	0.16 U
Acetone	UG/L	2600	24%	3	U	41	172	5 U	17	5 U	5 U	5 U	1.3 U
	UG/L	0.38	1%		0	41	178	1 U	1 U	1 U	1 U	1 U	0.16 U
Benzene	UG/L	0.36		1	0	2	178			10	1 U	1 U	0.16 U
Bromodichloromethane	UG/L	0	0%	80 80	0	0	178	1 U	1 U	10	10	10	0.26 U
Bromoform		0	0%	80	U	0		1 U	1 U				
Carbon disulfide	UG/L	Ü	0%	_		0	178	1 U	1 U	1 U	1 U	1 U	0.19 U
Carbon tetrachloride	UG/L	O	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.27 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.18 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	1 U	1 U .	1 U	1 U	1 U	0.32 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	1 U	1 U	1 U	1 U	1 UJ	0.32 U
Chloroform	UG/L	27	9%	7	4	16	178	10	1.0	1 U	1 U	1 U	0.34 U
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	19	17	11	2.8	3.3	1
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	1 U	10	10	1 U	1 U	0.36 U
Cyclohexane	UG/L	0	0%			0	178	1 U	1 U	1 U	1 U	1 U	0.22 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.28 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	1 U	1 U	1 U	1 U	1 U	0.18 U
Isopropylbenzene	UG/L	0.1	1%	5	0	1	178	1 U	1 U	1 U	1 U	1 U	0.19 U
Methyl Acetate	UG/L	6	1%			2	178	1 U	1 UJ	1 U	1 UJ	1 UJ	0.17 U
Methyl bromide	UG/L	0	0%	5	0	0	177	1 U	1 U	1 U	1 U	1 UJ	0.28 U
Methyl butyl ketone	UG/L	0	0%			0	178	5 U	5 U	5 U	5 UJ	5 UJ	1.2 U
Methyl chloride	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.34 U
Methyl cyclohexane	UG/L	0.17	1%			1	178	1 U	1 U	1 U	1 U	1 U	0.22 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	5 U	15	5 U	5 U	5 U	1.3 U
Methyl Isobutyl ketone	UG/L	1.9	1%			1	178	5 U	5 U	5 U	5 U	5 U	0.91 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	178	1 U	1 U	1 U	1 U	1 U	0.18 U
Methylene chloride	UG/L	18	7%	5	7	12	178	1 U	1 U	1 U	1 U	1 U	0.44 UJ
Styrene	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.18 U

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area Loc IC Matri Sample IC Sample Date QC Typy Study IC Sample Round) x) 3 3				,	Number of	Number of	ASH LANDFILL MWT-26 GW ALBW20066 1/3/2007 SA LTM 1	ASH LANDFILL MWT-26 GW ALBW20081 3/17/2007 SA LTM 2	ASH LANDFILL MWT-26 GW ALBW20095 6/5/2007 SA LTM 3	ASH LANDFILL MWT-26 GW ALBW20111 11/15/2007 SA LTM 4	ASH LANDFILL MWT-26 GW ALBW20126 6/24/2008 SA LTM 5	ASH LANDFILL MWT-26 GW ALBW20141 12/15/2008 SA LTM 6
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	1 U	1 Ü	1 U	1 U	1 U	0.36 U
Toluene	UG/L	590	16%	5	17	28	178	1 U	1 U	1 U	1 U	1 U	0.51 U
Total Xylenes	UG/L	60	1%	5	1	2	178	3 U	3 U	3 U	3 U	3 U	0.93 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	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	178	1 U	1 U	1 U	1 U	1 U	0.37 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178			3.2	2.8	1.7	1.9
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	1 U	1.0	1 UJ	1 U	1 UJ	0.15 U
Vinyl chloride Other	UG/L	180	67%	2	100	119	178	2		4.4	1 U	1 U	0.24 U
fron	UG/L	296000	100%			12	12	275 J	844				
Iron+Manganese	UG/L	352900	100%			12	12	1,043 J	2,464				
Manganese	UG/L	56900	100%			12	12	768	1,620				
Ethane	UG/L	98	92%			81	88	2 U	0.4	1	0.16	0.82	0.046
Ethene	UG/L	200	89%			78	88	2 U	7.8	13	0.4	2.9	0.028
Methane	UG/L	23,000	97%			85	88	2 U	210	390	44	210	10
Sulfate	MG/L	1060	80%			68	88	958	738	473	1,060	600	541
Total Organic Carbon	MG/L	2050	100%			88	88	3.9 J	15.2	10.3	6.1	5.6	4.4

- Notes:

 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).
- Federal Maximum Contaminant Level (http://www.eps.gov/safewater/contaminants/index.html);
 Shading indicates a concentration above the GA GW standard.

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

Tah. --1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area
Loc ID
Matrix
Sample ID
Sample Date
QC Type
Study ID
Sample Round

ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL MWT-26 MWT-26 **MWT-26 MWT-26** MWT-26 **MWT-26** GW ALBW20232 GW GW GW GW GW ALBW20156 ALBW20171 ALBW20186 ALBW20202 ALBW20216 12/17/2009 6/3/2009 6/29/2010 12/19/2010 12/15/2011 7/20/2011 SA SA SA SA SA SA

Sample Round								LIM 7	LIM 8	LIM 9	10	LIM	12
Sample Round						Number of	Number of	1	•	9	10	11	12
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds								1 3 3 4 4 7	, , , , , , , , , , , , , , , , , , , ,	7 (/ /	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	0.26 U	0.26 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	178	0.21 U	0.21 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	178	0.31 U	0.31 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	178	0.23 U	0.23 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	0.75 U	0.38 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	0.29 U	0.29 U	0.11 U	0.11 U	0.11 U	0.11 U
1,2,4-Trichiorobenzene	UG/L	0	0%	5	0	0	178	0.41 U	0.41 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	178	1 UJ	0.39 U	0.44 U	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	0.21 U	0.21 U	0.1 U	0.1 U	0.1 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	0.14 U	0.32 U	0.13 U	0.13 U	0,13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.16 U	0.36 U	0.25 U	0.25 U	0.25 U	0.25 U
1.4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.16 U	0.39 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	24%			41	172	1.3 U	1.3 U	5 U	5 UJ	5 UR	5 UJ
Benzene	UG/L	0.38	1%	1	0	2	178	0.16 U	0.41 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	Ō	0	178	0.39 U	0.39 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	178	0.26 UJ	0.26 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%	- 20		0	178	0.19 UJ	0.19 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	o o	0%	5	0	0	178	0.27 U	0.27 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	UG/L	o o	0%	5	o o	0	178	0.32 U	0.32 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	o	0%	80	Õ	0	178	0.32 U	0.32 U	0.1 U	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	4%	5	o o	7	178	0.32 U	0.32 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Chloroform	UG/L	27	9%	7	4	16	178	0.34 U	0.34 U	0.14 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	6	8.1	5.5	12	9.8	1.1
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.36 U	0.36 U	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0	0%	0.1	•	o o	178	0.53 U	0.53 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	ō	0%	5	0	o o	178	0.29 U	0.29 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	1%	5	'n	1	178	0.19 U	0.19 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%	•	•	2	178	0.17 UJ	0.5 U	0.19 U	0.19 U	0.19 UJ	0.19 U
Methyl bromide	UG/L	ő	0%	5	0	ō	177	0.17 US	0.28 UJ	0.8 UJ	0.8 U	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	ő	0%	•	•	0	178	1.2 U	1.2 U	1 U	1 U	1 UJ	1 UJ
Methyl chloride	UG/L	o	0%	5	0	Õ	178	0.35 U	0.35 U	0.33 U	0.33 U	0.33 U	0.33 U
Methyl cyclohexane	UG/L	0.17	1%	•	•	1	178	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.33 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1.3 U	1.3 U	1 U	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	0.91 U	0.91 U	1 0	1 0	1 0	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			'n	178	0.16 U	0.16 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	7%	5	7	12	178	0.16 U	0.16 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	ó	0	178	0.44 U	0.44 U	0.11 U	0.11 U	0.11 U	0.11 U
Styrene	OGIL	U	0.70	3	U	U	170	U. 10 U	0.16 U	0.11 0	0.11 0	0.11 0	0.11 0

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 **Seneca Army Depot Activity**

Lo M Samp Sample QC	Date Type dy ID					Western		ASH LANDFILL MWT-26 GW ALBW20156 6/3/2009 SA LTM 7	ASH LANDFILL MWT-26 GW ALBW20171 12/17/2009 SA LTM 8	ASH LANDFILL MWT-26 GW ALBW20186 6/29/2010 SA LTM 9	ASH LANDFILL MWT-26 GW ALBW20202 12/19/2010 SA LTM 10	ASH LANDFILL MWT-26 GW ALBW20216 7/20/2011 SA LTM 11	ASH LANDFILL MWT-26 GW ALBW20232 12/15/2011 SA LTM 12
		Maximum	Frequency of	Cleanup	Number of	Number of Times	Number of Samples						
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachioroethene	UG/L	0	0%	5	0	0	178	0.36 U	0.36 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	16%	5	17	26	178	0.51 U	0.51 U	0.33 U	0.33 U	0.33 U	0.33 U
Total Xvienes	UG/L	60	1%	5	1	2	178	0.66 U	0.66 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.13 U	0.42 U	0.37 J	0.67 J	0.81 J	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	17B	0.37 U	0.37 U	0.21 U	0.21 U	0.21 U	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	3.6	5.8	1.7	4.2	1.6	1.2
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.15 U	0.15 UJ	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride Other	UG/L	180	67%	2	100	119	178	3.5	4.2	0.18 U	7.6	4.4	0.47 J
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88	3.2	2.2	2.2	3.7	4.5	0.23
Ethene	UG/L	200	89%			78	88	2.7	1.8	0.71	3.3	1	0.425 U
Methane	UG/L	23,000	97%			85	88	1,100	610	740	1,600	960	39
Sulfate	MG/L	1060	80%			68	88	570	912	680	690	510	860
Total Organic Carbon	MG/L	2050	100%			88	88	6.9	5.6	4.6	5.5	6.3	4.5

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
- b. Federal Maximum Contaminant Level (http://www.eps.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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Ta. 3-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 **Seneca Army Depot Activity**

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round						Number of	Number of	ASH LANDFILL MWT-27 GW ALBW20067 1/3/2007 SA LTM 1	ASH LANDFILL MWT-27 GW ALBW20082 3/16/2007 SA LTM 2	ASH LANDFILL MWT-27 GW ALBW20096 6/5/2007 SA LTM 3	ASH LANDFILL MWT-27 GW ALBW20097 6/5/2007 DU LTM 3	ASH LANDFILL MWT-27 GW ALBW20112 11/15/2007 SA LTM 4	ASH LANDFILL MWT-27 GW ALBW20127 6/24/2008 SA LTM 5
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds													
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1,1,2-Trichloro-1,2,2-Triffuoroethane	UG/L	0	0%	5	0	0	178	20 UJ	20 U	20 UJ	20 UJ	10 U	4 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1,1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1.2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1.2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1.2-Dichloroethane	UG/L	5.8	14%	0.6	21	25	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1.2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Acetone	UG/L	2600	24%			41	172	2,000 J	1,300	1,300	1,300	30 J	20 U
Benzene	UG/L	0.38	1%	1	0	2	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Bromoform	UG/L	o	0%	80	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Carbon disulfide	UG/L	0	0%	••	•	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Carbon tetrachloride	UG/L	0	0%	5	0	Õ	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Chlorobenzene	UG/L	0	0%	5	o o	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Chlorodibromomethane	UG/L	o	0%	80	0	ő	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	20 UJ	20 U	20 U	20 U	10 U	4 UJ
Chloroform	UG/L	27	9%	7	4	18	178	20 UJ	20 U	20 U	20 U	10 U	4 U
	UG/L	720	86%	5	115	153	178	20 05	20 U	20 U	20 U	10 U	4 U
Cis-1,2-Dichloroethene	UG/L	0	0%	0.4	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	U	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Cyclohexane	UG/L	0	0%	5	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Dichlorodifluoromethane	UG/L	9.2	7%	5	1	13	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Ethyl benzene				5	Ó	4	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Isopropylbenzene	UG/L	0.1 6	1% 1%	5	U	2	178	20 UJ	20 UJ	20 U	20 U	10 UJ	4 W
Methyl Acetate				5	0	2	177	20 UJ	20 U	20 U	20 U	10 U	4 UJ
Methyl bromide	UG/L	0	0%	5	U	0	178	100 LU	100 U	100 U	100 U	50 UJ	20 UJ
Methyl butyl ketone	UG/L	0	0%	-	0	ŏ	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Methyl chloride	UG/L	0	0%	5	U	1	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Methyl cyclohexane	UG/L	0.17	1%			20					1,700	50 U	20 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	4,100 J	2,200	1,800		50 U	20 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	100 UJ	100 U	100 U	100 U	10 U	4 U
Methyl Tertbutyl Ether	UG/L	0	0%	_	_	0	178	20 UJ	20 U	20 U	20 U		4 U
Methylene chloride	UG/L	18	7%	5	7	12	178	P18E4	20 U	LANGUE	2002035EE &	10 U	4 U
Styrene	UG/L	0	0%	5	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 0

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round						Number of	Number of	ASH LANDFILL MWT-27 GW ALBW20067 1/3/2007 SA LTM 1	ASH LANDFILL MWT-27 GW ALBW20082 3/16/2007 SA LTM 2	ASH LANDFILL MWT-27 GW ALBW20096 6/5/2007 SA LTM 3	ASH LANDFILL MWT-27 GW ALBW20097 6/5/2007 DU LTM 3	ASH LANDFILL MWT-27 GW ALBW20112 11/15/2007 SA LTM 4	ASH LANDFILL MWT-27 GW ALBW20127 6/24/2008 SA LTM 5
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Toluens	UG/L	590	16%	5	17	28	178	20 UJ	20 U	20 U	20 U	7.3 J	5.9
Total Xylenes	UG/L	60	1%	5	1	2	178	60 UJ	60 U	60 U	60 U	30 U	12 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	20 UJ	20 U	20 UJ	20 UJ	10 U	4 UJ
Vinyl chloride	UG/L	180	67%	2	100	119	178	20 UJ	20 U	20 U	20 U	10 U	4 U
Other													
Iron	UG/L	296000	100%			12	12	296,000 J	229,000				
Iron+Manganese	UG/L	352900	100%			12	12	352,900 J	273,500				
Manganese	UG/L	56900	100%			12	12	56,900	44,500				
Ethane	UG/L	98	92%			81	88	10,000 UJ	0.15	0.082	0.079	0.025 U	2.3
Ethene	ŲG/L	200	89%			78	88	10,000 UJ	2.7	0.34	0.32	0.014 J	0.049
Methane	ŲG/L	23,000	97%			85	88	10,000 UJ	15,000	14,000	13,000	13,000	13,000
Sulfate	MG/L	1060	80%			68	88	10 U	10 U	2 U	2.7	31.7	2 U
Total Organic Carbon	MG/L	2050	100%			88	88	2,050 J	1,350	738	771	167	88.9

Notes:

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
- Hober and Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
 Shading indicates a concentration above the GA GW standard.
- U = compound was not detected
- J = the reported value is and estimated concentration
- UJ= the compound was not detected; the associated reporting limit is approximate.

Append.

UG/L

UG/L

Methylene chloride

Styrene

18

n

7%

0%

5

5

O

Ta. 3-1

Complete Groundwater Data for Ash Landfill Long Term Monitoring

Ash Landfill Annual Report, Year 5

Seneca Army Depot Activity

Area 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 Matrix GW GW GW GW GW GW ALBW20142 ALBW20143 ALBW20157 ALBW20172 ALBW20173 ALBW20187 Sample ID Sample Date 12/15/2008 12/15/2008 6/3/2009 12/16/2009 12/16/2009 6/29/2010 QC Type SA DU SA SA DU SA LTM. LTM LTM LTM. LTM LTM Study ID 9 Sample Round Number of Number of Cleanup Frequency of Number of Maximum Times Samples Value (Q) Value (Q) Value (Q) Unit Value Detection Goals1 Exceedances Detected Analyzed Value (Q) Value (Q) Value (Q) Parameter Volatile Organic Compounds 1,1,1-Trichloroethane UG/L 15 3% 5 5 178 2.6 UJ 2.6 UJ 2.6 U 1.3 U 1.3 U 0.5 U UG/L 0 0% 178 2.1 UJ 2.1 UJ 1.1 U 0.18 U 1,1,2,2-Tetrachloroethane 5 0 0 2.1 U 1.1 U 1,1,2-Trichloro-1,2,2-Trifluoroethane UG/L 0 0% 5 ٥ 0 178 3.1 UJ 3.1 UJ 3.1 U 1.5 U 1.5 U 0.5 UJ UG/L 0 0% 178 2.3 UJ 2.3 UJ 2.3 U 1.2 U 1.2 U 0.13 U 1,1,2-Trichloroethane 0 UG/L 62 12% 22 178 0.25 U 7.5 U 7.5 U 7.5 U 1.9 U 1.9 U 1.1-Dichloroethane 5 1,1-Dichloroethene UG/L 2.1 10% 5 0 18 178 2.9 U 2.9 U 2.9 U 1.5 U 1.5 U 0.11 U 1,2,4-Trichlorobenzene UG/L 0 0% ٥ 178 4.1 UJ 4.1 UJ 4.1 U 2 U 2 U 0.25 U UG/L O 0% 0.04 178 10 U.I 0.44 U 1,2-Dibromo-3-chloropropane 0 O 10 UJ 10 UJ 2 LI 2 11 1,2-Dibromoethane UG/L 0 0% 0.0006 0 n 178 1.7 UJ 1.7 UJ 1.7 U 0.83 U 0.83 U 0.25 U UG/L 0 0% 178 0.21 U 1.2-Dichlorobenzene 3 0 2 U 2 U 2 U 1 U 1 U UG/L 56 14% 0.6 178 21 25 2 1 LJ 2.1 U 2.1 U 1.1 U 1.1 U 1.2-Dichloroethane ∩ 1 II 1,2-Dichloropropane UG/L 0.29 1% 0 178 1.4 U 1.4 U 1.4 U 1.6 U 1.6 U 0.13 U UG/L 0% 178 1.3-Dichlorobenzene 0 3 0 1.6 U 1.6 U 1.6 U 1.8 U 1.8 U 0.25 U UG/L 0% 178 0.28 U 1,4-Dichlorobenzene 0 3 ۵ O 1.6 U 1.6 U 16 U 2 U 2 U Acetone UG/L 2600 24% 41 172 26 J 13 UJ 13 U 6.7 U 6.7 U 11 J UG/L 0 0.38 1% 1 178 1.6 U 1.6 U 2 U 2 U 0.25 U Benzene 1.6 U UG/L 0% 178 1.9 U 0.25 U Bromodichloromethane 0 80 0 3.8 U 3.8 U 3.9 U 1.9 U UG/L 0 0% 80 0 178 2.6 UJ 1.3 U 1.3 U 0.5 U Bromoform 2.6 UJ 2.6 UJ UG/L 0 0% 178 0.97 U 0.97 U 0.6 U Carbon disulfide 0 19 U 19 U 19 U.J Carbon tetrachloride UG/L 0 0% 5 0 178 2.7 UJ 2.7 UJ 2.7 U 1.3 U 1.3 U 0.5 U 0.25 U Chlorobenzene UG/L 0 0% 0 178 1.8 U 1.8 U 3.2 U 1.6 U 1.6 U UG/L 0% 178 0 80 3.2 11 16 U 0.1 U Chlorodibromomethane 0 0 3.2 U 3.2 U 1.6 U Chloroethane UG/L 1.1 4% 5 0 178 3.2 U 3.2 U 3.2 U 1.6 U 1.6 U 1 U UG/L 27 9% 16 178 3.4 U 3.4 U 3.4 U 1.7 U 1.7 U 0.14 U Chloroform UG/L 86% 178 0.18.1 720 115 153 1.9 U Cis-1,2-Dichloroethene 5 1.6 U 1.6 U 1.6 U 1.9 U Cis-1,3-Dichloropropene UG/L 0 0% 0.4 0 0 178 3.6 U 3.6 U 3.6 U 1.8 U 1.8 U 0.11 U UG/L 0.25 U Cyclohexane 0 0% 178 2.2 UJ 2.2 UJ 5.3 U 2.7 U 2.7 U UG/L 0% 0 178 0 5 0.25 U Dichlorodifluoromethane 0 2.8 U 2.8 U 2.9 U 1.4 U 1.4 U UG/L 9.2 7% 13 178 1.8 U 1.8 U 1.8 U 0.92 U 0.92 U 0.11 U Ethyl benzene UG/L 0.1 1% 5 0 178 1.9 U 1.9 U 1.9 U 0.96 U 0.96 U 0.1 U isopropyibenzene UG/L 25 U 0.19 UJ Methyl Acetate 6 1% 2 178 1.7 UJ 1.7 UJ 1.7 UJ 2.5 U Methyl bromide UG/L 0 0% 5 0 177 2.8 U 2.8 U 2.8 U 1.4 U 1.4 U 0.8 UJ UG/L 0% 178 6.2 U 1 UJ Methyl butyl ketone 0 12 LI 12 U 12 U 6.2 U 5 0 0.33 U Methyl chloride UG/L 0 0% 0 178 3.4 U 3.4 U 3.5 U 1.7 U 1.7 U UG/L 0.17 1% 178 2.2 UJ 2.2 UJ 2.5 U 2.5 U 0.1 U 5 U Methyl cyclohexane UG/L 4900 12% 22 178 13 U.I 13 U 6.6 U 6.6 U 1 U Methyl ethyl ketone 13 IIJ Methyl isobutyl ketone UG/L 1.9 1% 178 9.1 UJ 9.1 UJ 9.1 U 4.5 U 4.5 U 1 U Methyl Tertbutyl Ether UG/L 0 0% 178 1.6 UJ 1.6 UJ 1.6 U 0.8 U 0.8 U 0.2 U

178

178

4.4 UJ

1.8 U

4 4 III

1.8 U

4411

1.8 U

12

1 U

0.11 U

22 U

0.92 U

2.2 U

0.92 U

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 **Seneca Army Depot Activity**

Lo M Samp Sample QC	Date Type dy ID							ASH LANDFILL MWT-27 GW ALBW20142 12/15/2008 SA LTM 6	ASH LANDFILL MWT-27 GW ALBW20143 12/15/2008 DU LTM 6	ASH LANDFILL MWT-27 GW ALBW20157 6/3/2009 SA LTM 7	ASH LANDFILL MWT-27 GW ALBW20172 12/16/2009 SA LTM 8	ASH LANDFILL MWT-27 GW ALBW20173 12/16/2009 DU LTM 8	ASH LANDFILL MWT-27 GW ALBW20187 6/29/2010 SA LTM 9
				Cleanup		Number of	Number of						
Parameter	Unit	Maximum Value	Frequency of Detection	Goals ¹	Number of Exceedances	Times Detected	Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	3.6 U	3.6 U	3.6 U	1.8 U	1.8 U	0.15 U
Toluene	UG/L	590	16%	5	17	28	178	6.9 J	7.2 J	5.1 U	2.6 U	2.6 U	0.61 J
Total Xylenes	UG/L	60	1%	5	1	2	178	9.3 U	9.3 U	6.6 U	3.3 U	3.3 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	1.3 U	1.3 U	1.3 U	2.1 U	2.1 U	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	3.7 U	3.7 U	3.7 U	1.8 U	1.8 U	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	1.8 U	1.8 U	1.8 U	2.3 U	2.3 U	0.13 U
Trichiorofluoromethane	UG/L	0	0%	5	0	0	178	1.5 W	1.5 UJ	1.5 U	0.76 U	0.76 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	100	119	178	2.4 U	2.4 U	. 2.4 U	325	2.9 3	0.18 U
Other													
Iron	UG/L	296000	100%			12	12						
iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88	1.6	1.6	5.1	4.4	4.3	3.8
Ethene	UG/L	200	89%			78	88	0.13	0.12	0.15	1.2	1.1	0.12
Methane	UG/L	23,000	97%			85	88	15,000	15,000	14,000	15,000	16,000	13,000
Sulfate	MG/L	1060	80%			68	88	24.2	23.8	0.93 J	13.9 J	14 J	0.95 J
Total Organic Carbon	MG/L	2050	100%			88	88	53.8	53.1	81.7	49	50.9	61

- Notes:

 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).
- Federal Maximum Contaminant Level (http://www.epe.gov/safewater/contaminants/index.html)
 Shading indicates a concentration above the GA GW standard.

- U = compound was not detected
 J = the reported value is and estimated concentration
 UI= the compound was not detected; the associated reporting limit is approximate.

Parameter

Voiatile Organic Compounds

1,1,2-Trichloro-1,2,2-Trifluoroethane

1.1.1-Trichloroethane

1,1,2-Trichloroethane

1.2.4-Trichlorobenzene

1,2-Dibromo-3-chloropropane

1.1-Dichloroethane

1,1-Dichloroethene

1,2-Dibromoethane

1,2-Dichloroethane

1,2-Dichloropropane

1.3-Dichlorobenzene

1.4-Dichlorobenzene

Bromodichloromethane

Acetone

Benzene

Bromoform

Carbon disulfide

Chlorobenzene

Chloroethane

Cyclohexane

Ethyl benzene

Methyl Acetate Methyl bromide

Methyl chloride

Isopropylbenzene

Methyl butyl ketone

Methyl cyclohexane

Methyl ethyl ketone

Methylene chloride

Styrene

Methyl isobutyl ketone Methyl Tertbutyl Ether

Chloroform

Carbon tetrachloride

Chlorodibromomethane

Cis-1,2-Dichloroethene

Cis-1,3-Dichloropropene

Dichlorodifluoromethane

1.2-Dichlorobenzene

1,1,2,2-Tetrachloroethane

Tab. - 0-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 **Seneca Army Depot Activity**

Number of

Times

Detected

5

0

0

0

22

18

0

0

0

0

25

0

0

41

2

0

0

0

0

0

0

16

153

0

0

0

13

2

0

0

0

22

0

12

178

178

178

178

178

178

178

178

178

178

178

178

178

178

172

178

178

178

178

178

178

178

178

178

178

178

178

178

178

178

178

177

178

178

178

178

178

178

178

178

0.33 U

0.1 U

1 U

1 U

1.11

0.2 U

0.11 U

0.33 U

0.1 U

1 II

1 U

1 U

0.2 U

0.11 U

Cleanup

Goals¹

5

5

5

0.04

0.0006

0.6

3

3

80

80

5

80

5

5

0.4

5

5

5

5

5

Number of

Exceedances

0

0

0

0

21

0

0

0

0

0

0

0

0

115

0

0

0

0

0

0

Frequency of

Detection

3%

0%

0%

0%

12%

10%

0%

0%

0%

0%

14%

1%

0%

0%

24%

1%

0%

0%

0%

0%

0%

0%

4%

9%

86%

0%

0%

0%

7%

1%

1%

0%

0%

0%

1%

12%

1%

0%

7%

ASH LANDFILL

ASH LANDFILL

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round

Maximum

Value

15

0

0

0

62

2.1

0

0

0

0

5.6

0.29

0

0

2600

0.38

0

0

0

0

0

0

1.1

27

720

0

n

0

9.2

0.1

6

0

0

0

0.17

4900

1.9

0

18

Unit

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

LIG/I

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/I

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

MWT-27 MWT-27 MWT-27 MWT-27 MWT-28 MWT-28 GW GW GW GW GW GW ALBW20217 ALBW20218 ALBW20233 ALBW20068 ALBW20069 ALBW20203 12/18/2010 7/20/2011 7/20/2011 12/14/2011 1/3/2007 1/3/2007 SA DU SA SA DU SA LTM LTM LTM LTM LTM LTM 12 10 11 11 Number of Samples Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Analyzed 0.5 U 0.5 U 0.5 U 0.5 U 20 UJ 20 UJ 0.18 U 0.18 U 0.18 U 0.18 U 20 UJ 20 UJ 0.5 U 0.5 U 0.5 U 0.5 U 20 UJ 20 UJ 0.13 U 0.13 U 0.13 U 0.13 U 20 UJ 20 UJ 0.25 U 0.25 U 20 UJ 0.25 U 0.25 U 20 LU 0.11 U 0.11 U 0.11 U 0.11 U 20 UJ 20 UJ 0.25 U 0.25 U 0.25 U 0.25 U 20 W 20 UJ 0.44 U 0.44 U 0 44 11 0.44 U 20 UJ 20 UJ 0.25 U 0.25 U 0.25 U 0.25 U 20 UJ 20 UJ 20 UJ 20 UJ 0.21 U 0.21 U 0.21 U 0.21 U 20 UJ 20 ILI 0 1 U 0.1 U 0.1 U 0.1 U 0.13 U 0.13 U 0.13 U 0.13 U 20 UJ 20 UJ 20 UJ 20 UJ 0.25 U 0.25 U 0.25 U 0.25 U 0.28 U 0.28 U 0.28 U 20 LU 20 UJ 0.28 U 5 UJ 5 UR 5.6 J 5 U 2,500 J 2,600 J 20 UJ 20 UJ 0.25 U 0.25 U 0.25 U 0.26 J 20 UJ 0.25 U 0.25 U 20 UJ 0.25 U 0.25 U 0.5 U 0.5 U 0.5 U 20 UJ 20 UJ 0.5 U 0.6 U 20 UJ 20 UJ 0.6 U 0 6 U 0 6 U 0.5 U 0.5 U 0.5 U 0.5 U 20 UJ 20 UJ 0.25 U 20 UJ 20 UJ 0.25 U 0.25 U 0.25 U 20 UJ 20 UJ 0.1 U 0.1 U 0.1 U 0.1 U 1 UJ 1 UJ 1 UJ 1 U 20 UJ 20 UJ 0.14 U 0.14 U 0.14 U 0.14 U 20 UJ 20 UJ 20 UJ 20 UJ 0.27 J 1.1 0.15 J 1.4 0.11 U 0.11 U 0.11 U 0.11 U 20 UJ 20 UJ 20 UJ 20 UJ 0.25 U 0.25 U 0.25 U 0.25 U 20 UJ 20 LJ 0.25 U 0.25 U 0.25 U 0.25 LI 0.11 U 0.11 U 0.11 U 0.11 U 20 UJ 20 UJ 20 UJ 0.1 U 0.1 U 0.1 U 20 UJ 0.1 U 20 U.I 20 ILI 0.19 U 0.19 UJ 0.19 UJ 0.19 U 0.8 U 0.8 UJ 0.8 UJ 0.8 UJ 20 UJ 20 UJ 100 UJ 100 UJ 1 U 1 UJ 1 UJ 1 U

0.33 U

0.1 U

1 U

1 U

1 11

0.2 U

0.11 U

0.33 UJ

0.1 U

1 U

1 U

1 U

0.2 U

0.11 U

ASH LANDFILL

ASH LANDFILL

ASH LANDFILL

ASH LANDFILL

20 UJ

20 UJ

100 UJ

20 UJ MOUNTAINED.

20 LU

4,900 J

20 UJ

20 UJ

100 UJ

20 UJ

网络四种科学

20 UJ

4.900 J

Appendix B

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 **Seneca Army Depot Activity**

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round				Classics		Number of	Number of	ASH LANDFILL MWT-27 GW ALBW20203 12/18/2010 SA LTM 10	ASH LANDFILL MWT-27 GW ALBW20217 7/20/2011 SA LTM 11	ASH LANDFILL MWT-27 GW ALBW20218 7/20/2011 DU LTM 11	ASH LANDFILL MWT-27 GW ALBW20233 12/14/2011 SA LTM 12	ASH LANDFILL MVT-28 GW ALBW20068 1/3/2007 SA LTM 1	ASH LANDFILL MWT-28 GW ALBW20069 1/3/2007 DU LTM 1
		Maximum	Frequency of	Cleanup	Number of	Times	Samples				14.1 - (0)		14-1
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)		Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	0.15 U	0.15 U	0.15 U	0.15 UJ	20 UJ	20 UJ
Toluene	UG/L	590	16%	5	17	28	178	0.33 U	1 U	1 U	0.33 U	330 J	3/50 J
Total Xylenes	UG/L	60	1%	5	1	2	178	0.2 U	0.2 U	0.2 U	0.2 U	60 UJ	90 N1
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.2 U	0.33 J	0.23 J	0.2 U	20 UJ	20 UJ
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.21 U	0.21 U	0.21 U	0.21 U	20 UJ	20 UJ
Trichloroethene	UG/L	2,700	70%	5	60	124	178	0.51 J	0.13 U	0.13 U	0.13 U	20 UJ	20 UJ
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U	0.25 U	20 UJ	20 UJ
Vinyl chloride	UG/L	180	67%	2	100	119	178	2.1	0.18 U	0.18 U	3	20 UJ	20 UJ
Other									1			-	
Iron	UG/L	296000	100%			12	12					278,000 J	271,000 J
Iron+Manganese	UG/L	352900	100%			12	12					309,800 J	301,800 J
Manganese	UG/L	56900	100%			12	12					31,800	30,800
Ethane	UG/L	98	92%			81	88	3	6.2	6.1	2	10,000 UJ	10,000 UJ
Ethene	UG/L	200	89%			78	88	0.88	0.083	0.072	1.6	10,000 UJ	10,000 UJ
Methane	UG/L	23,000	97%			85	88	18,000	14,000	14,000	16,000	12,000 J	13,000 J
Sulfate	MG/L	1060	80%			68	88	25	0.76 J	0.61 J	19	2 U	2.3
Total Organic Carbon	MG/L	2050	100%		•	88	88	32	42	41	35	1,820 J	1,730 J

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Tak. . d-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round						Number of	Number of	ASH LANDFILL MWT-28 GW ALBW20083 3/16/2007 SA LTM 2	ASH LANDFILL MWT-28 GW ALBW20098 6/5/2007 SA LTM 3	ASH LANDFILL MWT-28 GW ALBW20113 11/15/2007 SA LTM 4	ASH LANDFILL MWT-28 GW ALBW20128 6/25/2008 SA LTM 5	ASH LANDFILL MWT-28 GW ALBW20144 12/15/2008 SA LTM 6	ASH LANDFILL MWT-28 GW ALBW20158 6/3/2009 SA LTM 7
		Maximum	Frequency of	Cleanup	Number of	Times	Samples			14.4.40	14-1 (0)	14-1 (0)	\(\alpha\)
Parameter	Unit	Value	Detection	Goals1	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds			001	-		-	470	20.11	00.11	5 U	4 U	2.6 U	0.26 U
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5 0	178 178	20 U	20 U 20 U	5 U	4 U	2.0 U	0.25 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5 5	0	0	178	20 U	20 UJ	5 U	4 U	3.1 U	0.21 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	-	178	20 U		5 U	4 U	2.3 U	0.23 U
1,1,2-Trichloroethane	UG/L	0	0%	1 5	0	0 22	178	20 U	20 U 20 U	5 U	4 U	7.5 U	0.23 U
1,1-Dichloroethane	UG/L	62	12% 10%	5 5	0	18	178	20 U 20 U	20 U	5 U	4 U	2.9 U	0.79 U
1,1-Dichloroethene	UG/L	2.1 0	0%	5	0	0	178	20 U	20 U	5 U	4 U	4.1 U	0.41 U
1,2,4-Trichlorobenzene	UG/L	0	0%	0.04	0	0	178	20 U	20 U	5 U	4 U	10 UJ	1 UJ
1,2-Dibromo-3-chloropropane	UG/L UG/L	0	0%	0.0006	0	0	178	20 U	20 U	5 U	4 U	1.7 U	0.17 U
1,2-Dibromoethane 1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	20 U	20 U	5 U	4 U	2 U	0.2 U
1.2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	20 U	20 U	5 U	4 U	2.1 U	0.21 U
1,2-Dichloroethane	UG/L	0.29	1%	1	0	1	178	20 U	20 U	5 U	4 U	1.4 U	0.14 U
1.3-Dichlorobenzene	UG/L	0.23	0%	3	Õ	ó	178	20 U	20 U	5 U	4 U	1.6 U	0.16 U
1,4-Dichlorobenzene	UG/L	ő	0%	3	ñ	0	178	20 U	20 U	5 U	4 U	1.6 U	0.16 U
Acetone	UG/L	2600	24%	3	Ü	41	172	170	520	25 U	20 U	13 U	1.9 J
Benzerie	UG/L	0.38	1%	1	0	2	178	20 U	20 U	5 U	4 U	1.6 U	0.16 U
Bromodichloromethane	UG/L	0	0%	80	Õ	0	178	20 U	20 U	5 U	4 U	3.8 U	0.39 U
Bromoform	UG/L	ŏ	0%	80	Õ	Õ	178	20 U	20 U	5 U	4 U	2.6 U	0.26 UJ
Carbon disulfide	UG/L	Õ	0%		-	0	178	20 U	20 U	5 U	4 U	1.9 U	0.19 UJ
Carbon tetrachloride	UG/L	Õ	0%	5	0	Ö	178	20 U	20 U	5 U	4 U	2.7 U	0.27 U
Chlorobenzene	UG/L	ō	0%	5	Ō	Ō	178	20 U	20 U	5 U	4 U	1.8 U	0.32 U
Chlorodibromomethane	UG/L	ō	0%	80	Ö	0	178	20 U	20 U	5 U	4 U	3.2 U	0.32 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	20 U	20 U	5 U	4 UJ	3.2 U	0.32 U
Chioroform	UG/L	27	9%	7	4	16	178	20 U	20 U	5 U	4 U	3.4 U	0.34 U
Cis-1.2-Dichloroethene	UG/L	720	86%	5	115	153	178	20 U	20 U	5 U	4 U	1.6 U	0.16 U
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	20 U	20 U	5 U	4 U	3.6 U	0.36 U
Cyclohexane	UG/L	0	0%			0	178	20 U	20 U	5 U	4 U	2.2 U	0.53 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	20 U	20 U	5 U	4 U	2.8 U	0.29 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	20 U	20 U	5 U	4 U	1.8 U	0.18 U
Isopropylbenzene	UG/L	0.1	1%	5	0	1	178	20 U	20 U	5 U	4 U	1.9 U	0.19 U
Methyl Acetate	UG/L	6	1%			2	178	20 UJ	20 U	5 UJ	4 UJ	1.7 U	0.17 UJ
Methyl bromide	UG/L	0	0%	5	0	0	177	20 U	20 U	5 U	4 UJ	2.8 U	0.28 U
Methyl butyl ketone	UG/L	0	0%			0	178	100 U	100 U	25 UJ	20 UJ	12 U	1.2 U
Methyl chloride	UG/L	0	0%	5	0	0	178	20 U	20 U	5 U	4 U	3.4 U	0.35 U
Methyl cyclohexane	UG/L	0.17	1%			1	178	20 U	20 U	5 U	4 U	2.2 U	0.5 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	180	510	25 U	20 U	13 U	1.3 U 0.91 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	100 U	100 U	25 U	20 U	9.1 U 1.6 U	0.91 U 0.16 U
Methyl Tertbutyl Ether	UG/L	0	0%	_	-	0	178	20 U	20 U	5 U	4 U	1.6 U 4.4 UJ	0.16 U 0.44 U
Methylene chloride	UG/L	18	7%	5	7	12	178	20 U	9.3 J	5 U 5 U	4 U 4 U	4.4 UJ 1.8 U	0.44 U 0.18 U
Styrene	UG/L	0	0%	5	0	0	178	20 U	20 U	5 0	4 0	1.0 U	0.10 0

Area Loc IC Matrio Sample IC Sample Date QC Type Study IC Sample Round						Number of	Number of	ASH LANDFILL MWT-28 GW ALBW20083 3/16/2007 SA LTM 2	ASH LANDFILL MWT-28 GW ALBW20098 6/5/2007 SA LTM 3	ASH LANDFILL MWT-28 GW ALBW20113 11/15/2007 SA LTM 4	ASH LANDFILL MWT-28 GW ALBW20128 6/25/2008 SA LTM 5	ASH LANDFILL MWT-28 GW ALBW20144 12/15/2008 SA LTM 6	ASH LANDFILL MWT-28 GW ALBW20158 6/3/2009 SA LTM 7
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	20 U	20 U	5 U	4 U	3.6 U	0.36 U
Toluene	UG/L	590	16%	5	17	28	178	160	500	210	53	5.1 U	0.57 J
Total Xylenes	UG/L	60	1%	5	1	2	178	60 U	60 U	15 U	12 U	9.3 U	0.66 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	20 U	20 U	5 U	4 U	1.3 U	0.13 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	20 U	20 U	5 U	4 U	3.7 U	0.37 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	20 U	20 U	5 U	4 U	1.8 U	0.18 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	20 U	20 UJ	5 U	4 UJ	1.5 U	0.15 U
Vinyl chloride Other	UG/L	180	67%	2	100	119	178	20 U	20 U	5 U	4 U	2.4 U	0.24 U
Iron	UG/L	296000	100%			12	12	33,000					
Iron+Manganese	UG/L	352900	100%			12	12	37,450					
Manganese	UG/L	56900	100%			12	12	4,450					
Ethane	UG/L	98	92%			81	88	0.67	0.01 J	0.014 J	0.65	2	1.9
Ethene	UG/L	200	89%			78	88	0.48	0.057	0.025 U	0.044	0.12	0.062
Methane	UG/L	23,000	97%			85	88	19,000	11,000	11,000	12,000	19,000	14,000
Sulfate	MG/L	1060	80%			68	88	2 U	2 U	2 U	2 U	48.3	0.35 U
Total Organic Carbon	MG/L	2050	100%			88	88	171	309	92	49.2	27.9	28.7

- Notes:

 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 (Inttp://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
 UJ= the compound was not detected; the associated reporting limit is approximate.

Append.

Ta⊾.. ⊿-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area Loc ID Matrix Sample Date OC Type Study ID Sample Round						Number of	Number of	ASH LANDFILL MWT-28 GW ALBW20159 6/3/2009 DU LTM 7	ASH LANDFILL MWT-28 GW ALBW20174 12/18/2009 SA LTM 8	ASH LANDFILL MWT-28 GW ALBW20188 6/29/2010 SA LTM 9	ASH LANDFILL MWT-28 GW ALBW20189 6/29/2010 DU LTM 9	ASH LANDFILL MWT-28 GW ALBW20204 12/18/2010 SA LTM 10	ASH LANDFILL MWT-28 GW ALBW20219 7/19/2011 SA LTM 11
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter Communication of the	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds	UG/L	15	3%	5	4	5	178	0.26 U	1.3 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	Ó	0	178	0.26 U 0.21 U	1.3 U 1.1 U	0.5 U	0.18 U	0.5 U	0.5 U
1.1.2-Trichloro-1.2.2-Trifluoroethane	UG/L	0	0%	5	0	o o	178	0.21 U	1.1 U 1.5 UJ	0.18 U	0.18 UJ	0.18 U	0.16 U
1.1.2-Trichloroethane	UG/L	0	0%	1	0	ő	178	0.23 U	1.3 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	0.75 U	1.2 U	0.15 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.1	10%	5	'n	18	178	0.29 U	1.5 U	0.11 U	0.11 U	0.11 U	0.11 U
1.2.4-Trichlorobenzene	UG/L	0	0%	5	Õ	0	178	0.41 U	2 U	0.25 U	0.25 U	0.25 U	0.25 U
1.2-Dibromo-3-chloropropane	UG/L	ō	0%	0.04	Ö	Ö	178	1 UJ	2 U	0.44 U	0.44 U	0.44 U	0.44 U
1,2-Dibromoethane	UG/L	Ö	0%	0.0006	Ö	ō	178	0.17 U	0.83 U	0.25 U	0.25 U	0.25 U	0.25 U
1.2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.2 U	1 U	0.21 U	0.21 U	0.21 U	0.21 U
1.2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	0.21 U	1.1 U	0.1 U	0.1 U	0.1 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	0.14 U	1.6 U	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.16 U	1.8 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.16 U	2 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	24%			41	172	1.9 J	6.7 U	6.2 J	5.9 J	5 UJ	5 UR
Benzene	UG/L	0.38	1%	1	0	2	178	0.16 U	2 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	0.39 U	1.9 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	178	0.26 UJ	1.3 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	178	0.19 UJ	0.97 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	0.27 U	1.3 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	0.32 U	1.6 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	0.32 U	1.6 U	0.1 U	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	0.32 U	1.6 UJ	1 U	1 U	1 U	1 UJ
Chloroform	UG/L	27	9%	7	4	16	178	0.34 U	1.7 U	0.14 U	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloro ethene	UG/L	720	86%	5	115 0	153 0	178 178	0.16 U	1.9 U	0.15 U	0.15 U	0.51 J	0.15 U 0.11 U
Cis-1,3-Dichloropropene	UG/L	0	0% 0%	0.4	0	0	178	0.36 U	1.8 U	0.11 U	0.11 U	0.11 U 0.25 U	0.11 U 0.25 U
Cyclohexane	UG/L UG/L	0	0%	5	0	0	178	0.53 U 0.29 U	2.7 U 1.4 U	0.25 U 0.25 U	0.25 U 0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	9.2	7%	5	1	13	178	0.29 U 0.18 U	0.92 U	0.25 U 0.17 J	0.25 U 0.17 J	0.25 U 0.11 U	0.23 U
Ethyi benzene Isopropyibenzene	UG/L	0.1	1%	5	'n	1	178	0.18 U	0.92 U	0.17 J	0.17 J	0.11 U	0.1 U
Methyl Acetate	UG/L	6	1%	3	v	2	178	0.19 U 0.17 UJ	2.5 U	0.19 UJ	0.19 UJ	0.19 U	0.19 UJ
Methyl bromide	UG/L	ő	0%	5	0	ō	177	0.28 U	1.4 UJ	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	ő	0%	•	v	ő	178	1.2 U	6.2 U	1 UJ	1 U.J	1 U	1 UJ
Methyl chloride	UG/L	ő	0%	5	0	Ö	178	0.35 U	1.7 U	0.33 U	0.33 U	0.33 U	0.33 U
Methyl cyclohexane	UG/L	0.17	1%	Ū	•	1	178	0.5 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1.3 U	6.6 U	1 U	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	0.91 U	4.5 U	1 Ü	1 Ŭ	1 U	1 Ü
Methyl Tertbutyl Ether	UG/L	0	0%			0	178	0.16 U	0.8 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	7%	5	7	12	178	0.44 U	2.2 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	178	0.18 U	0.92 U	0.11 U	0.11 U	0.11 U	0.11 U

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 **Seneca Army Depot Activity**

Are. Loc II Matri Sample II Sample Dat QC Typ Study II Sample Roun	O X O e e e					Number of	Number of	ASH LANDFILL MWT-28 GW ALBW20159 6/3/2009 DU LTM 7	ASH LANDFILL MWT-28 GW ALBW20174 12/18/2009 SA LTM 8	ASH LANDFILL MWT-28 GW ALBW20188 6/29/2010 SA LTM 9	ASH LANDFILL MWT-28 GW ALBW20189 6/29/2010 DU LTM 9	ASH LANDFILL MWT-28 GW ALBW20204 12/18/2010 SA LTM 10	ASH LANDFILL MWT-28 GW ALBW20219 7/19/2011 SA LTM 11
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	0.36 U	1.8 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	16%	5	17	28	178	0.6 J	2.6 U	0.52 J	0.48 J	0.33 U	1 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.66 U	3.3 U	0.2 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.13 U	2.1 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	178	0.37 U	1.8 U	0.21 U	0.21 U	0.21 U	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	0.18 U	2.3 U	0.13 U	0.13 U	0.13 U	0.13 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.15 U	0.76 UJ	0.25 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	100	119	178	0.24 U	1.2 U	0.1B U	0.18 U	0.64 J	0.18 U
Other													
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88	1.7	1.6	1.6	1.5	1.4	0.9
Ethene	UG/L	200	89%			78	88	0.066	0.12	0.057	0.061	0.17	0.0085 J
Methane	UG/L	23,000	97%			85	88	12,000	15,000	14,000	13,000	12,000	8,800
Sulfate	MG/L	1060	80%			68	88	0.35 U	3.16	0.5 U	0.5 U	4.8	0.63 J
Total Organic Carbon	MG/L	2050	100%			88	88	27.6	25.5	21	21	12	17

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Table 6-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area
Loc ID
Matrix
Sample ID
Sample Date
QC Type
Study ID

ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL **MWT-28 MWT-29** MWT-29 **MWT-29** MWT-29 MWT-29 GW GW GW GW GW ALBW20234 ALBW20070 ALBW20084 ALBW20085 ALBW20099 ALBW20114 12/14/2011 1/3/2007 3/16/2007 3/16/2007 6/5/2007 11/14/2007 DU SA LTM SA LTM SA SA LTM LTM LTM

Sample Round								12	1	2	2	3	4
Parameter	Unit	Maximum Value	Frequency of Detection	Cleanup Goals ¹	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds	Unit	Amine	Detaction	Goals	Excesuarioss	Detacted	Analyzeu	Value (Q)		value (Q)	Value (Q)	Value (Q)	Value (Q)
1.1.1-Trichloroethane	UG/L	15	3%	5	1	5	178	0.5 U	2 U	5 U	4 U	2 U	1 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	'n	0	178	0.18 U	2 U	5 U	4 U	2 U	1 U
1,1,2-Trichioro-1,2,2-Trifluoroethane	UG/L	ő	0%	5	0	0	178	0.5 U	2 U	5 U	4 U	2 UJ	1 0
1.1.2-Trichioroethane	UG/L	0	0%	1	0	0	178	0.13 U	2 U	5 U	4 U	2 U	1 U
1,1-Dichloroethane	UG/L	62	12%	-	4	22	178	0.13 U		5 U	4 U	2 U	1 U
1.1-Dichloroethene	UG/L	2.1	10%	5		18	178		2 U	5 U	4 U	2 U	1 0
1.2.4-Trichlorobenzene	UG/L	0	0%	5	0	10	178	0.11 U	2 U	5 U	4 U	2 U	1 U
	UG/L	0		0.04	0	0	178	0.25 U	2 U			2 U	1 U
1,2-Dibromo-3-chloropropane		•	0%		0	0		0.44 U	2 U	5 U	4 U		
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	0.25 U	2 U	5 U	4 U	2 U	1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.21 U	2 U	5 U	4 U	2 U	1 U
1,2-Dichloroethane	UG/L	5.8	14%	0.6	21	25	178	0.1 U	2 U	5 U	4 U	2 U	1 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	0.13 U	2 U	5 U	4 U	2 U	1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	. 0	0	178	0.25 U	2 U	5 U	4 U	2 U	1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.28 U	2 U	5 U	4 U	2 U	1 U
Acetone	UG/L	2600	24%			41	172	5 U	10 U	15 J	14 J	5.7 J	5 U
Benzene	UG/L	0.38	1%	1	0	2	178	0.25 U	2 U	5 U	4 U	2 U	1 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	0.25 U	2 U	5 U	4 U	2 U	1 U
Bromoform	UG/L	0	0%	80	0	0	178	0.5 U	2 U	5 U	4 U	2 U	1 U
Carbon disulfide	UG/L	0	0%			0	178	0.6 U	2 U	5 U	4 U	2 U	1 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	0.5 U	2 U	5 U	4 U	2 U	1 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	0.25 U	2 U	5 U	4 U	2 U	1 U
Chlorodibromomethane	UG/L	o	0%	80	Õ	0	178	0.1 U	2 U	5 U	4 U	2 U	1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	1 U	2 U	5 U	4 U	2 U	1 U
Chloroform	UG/L	27	9%	7	4	16	178	0.14 U	2 U	5 U	4 U	2 U	1 U
Cis-1.2-Dichloroethene	UG/L	720	86%		115	153	178	0.28 J	280	220	220	100	96
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.28 J	2 U	5 U	4 U	2 U	1 U
Cyclohexane	UG/L	0	0%	0.4	U	0	178	0.11 U	2 U	5 U	4 U	2 U	1 U
	UG/L	0	0%	5	0	0	178				4 U	2 U	1 U
Dichlorodifluoromethane	UG/L	9.2	7%	5	4	40	178	0.25 U	2 U	5 U 5 U	4 U	2 U	1 U
Ethyl benzene				5	1	13		0.11 U	2 U				
sopropylbenzene	UG/L	0.1	1%	5	0	1	178	0.1 U	2 U	5 U	4 U	2 U	1 U
Methyl Acetate	UG/L	6	1%	-		2	178	0.19 U	2 U	5 UJ	4 UJ	2 U	1 W
Wethyl bromide	UG/L	0	0%	5	0	0	177	0.8 UJ	2 U	5 U	4 U	2 U	1 U
Methyl butyl ketone	UG/L	0	0%			0	178	1 U	10 U	25 U	20 U	10 U	5 UJ
Methyl chloride	UG/L	0	0%	5	0	0	178	0.33 UJ	2 U	5 U	4 U	2 U	1 U
Methyl cyclohexane	UG/L	0.17	1%			1	178	0.1 U	2 U	5 U	4 U	2 U	1 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1 U	10 U	25 U	20 U	10 U	5 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	1 U	10 U	25 U	20 U	10 U	5 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	178	0.2 U	2 U	5 U	4 U	2 U	1 U
Methylene chloride	UG/L	18	7%	5	7	12	178	1 U	2 U	2.5 J	4 U	2 U	1 U
Styrene	UG/L	0	0%	5	0	0	178	0.11 U	2 U	5 U	4 U	2 U	1 U

rea							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
												MWT-29
												GW
												ALBW20114
												11/14/2007
												SA
								LTM				LTM
und							12	1	2	2	3	4
Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
	0		5	0	0		0.15 W	2 U	5 U	4 U	2 U	1 U
			5	17	28		0.33 U	2.6		2.2 J	2 U	2.1
	60		5	1	2		0.2 U	6 U	15 U	12 U	6 U	3 U
UG/L	8	50%	5	4	89		0.2 U	6.5	7.5	8	2.1	0.83 J
	0		0.4	0	0		0.21 U	2 U	5 U	4 U	2 U	1 U
UG/L	2,700	70%	5	60	124		0.13 U	22	19	19	7.6	4.4
UG/L	0	0%	5	0	0	178	0.25 U	2 U	5 U	4 U	2 UJ	1 U
UG/L	180	67%	2	100	119	178	0.56 J	140	160	170	81	74
UG/L	296000	100%			12	12		1.370 J	2.470	2.550		
UG/L	352900	100%			12	12						
UG/L	56900	100%			12	12						
UG/L	98	92%			81	88	1.6				13	19
UG/L	200	89%			78							200
UG/L		97%										2,600
MG/L	1060	80%										289
MG/L	2050	100%			88	88	12	25.1 J	35	36.7	15.7	20.9
	Unit Unit Unit Unit Unit Unit Unit Unit	ID ID ID ID ID ID ID ID	ID In In In In In In In	ID Intrix ID ID Intrix ID Intrix ID Intrix ID Intrix ID ID Intrix ID	IID Irrix IID Irrix IID IID IIID mber of Times Number of	Number of Samples Number of Value Prequency of Octoor Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Times Samples Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Number of Value Cleanup Clea	Month Markimum Frequency of Cleanup Number of Times Samples Value CQ		In Maximum Frequency of Cleanup Number of Times Detected Arabyzad Arabyzad Value (Q) Value (Number of Numb	Month Mont	

Notes.

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

UJ= the compound was not detected; the associated reporting limit is approximate.

Ta⊾ d-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL Area MWT-29 GW ALBW20190 6/30/2010 SA LTM MWT-29 GW MWT-29 Loc ID MWT-29 **MWT-29** MWT-29 Matrix GW GW GW GW ALBW20129 6/25/2008 ALBW20145 ALBW20160 ALBW20175 Sample ID ALBW20130 6/25/2008 12/15/2008 6/3/2009 12/16/2009 Sample Date QC Type SA DU SA SA SA

Study ID								LTM	LTM	LTM	LTM	LTM	LTM
Sample Round						Manustran of	Number of	5	5	6	7	8	9
Parameter	Unit	Maximum	Frequency of Detection	Cleanup Goals ¹	Number of Exceedances	Number of Times Detected	Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds	Oille	12,00	Delocoon	Cours	L.KOBOGRIFOON	Descend	Attelyaco	V 222 ((4)	value (a)	Value (GI)	Tunus (ui)	(u)	14.55
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	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	178	1 Ü	1 Ü	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	178	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	178	1 U	1 U	0.23 UJ	0.23 U	0.23 U	0.13 U
1.1-Dichloroethane	UG/L	62	12%	5	1	22	178	1 U	1 U	0.75 U	0.75 U	0.38 U	0.25 U
1.1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	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	178	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	178	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	178	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	178	1 U	1 U	0.2 U	0.2 U	0.2 U	0.21 U
1.2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	1 U	1 U	0.21 U	0.21 U	0.21 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	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	178	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	o o	178	1 U	1 U	0.16 U	0.16 U	0.39 U	0.28 U
Acetone	UG/L	2600	24%	•		41	172	5 U	5 U	1.3 UJ	1.3 U	1.3 U	5 U
Benzene	UG/L	0.38	1%	1	0	2	178	1 U	1 U	0.16 U	0.16 U	0.41 U	0.25 U
Bromodichloromethane	UG/L	0.50	0%	80	0	ō	178	1 0	1 U	0.38 U	0.39 U	0.39 U	0.25 U
Bromoform	UG/L	Õ	0%	80	Õ	ő	178	1 U	1 U	0.26 UJ	0.26 UJ	0.26 U	0.5 U
Carbon disulfide	UG/L	0	0%	00	•	0	178	1 U	1 U	0.19 U	0.19 UJ	0.19 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	. 5	0	ŏ	178	1 U	1 U	0.27 UJ	0.27 U	0.27 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	1 U	1 U	0.18 U	0.32 U	0.32 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	Õ	178	1 U	1 U	0.32 U	0.32 U	0.32 U	0.1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	1 UJ	1 UJ	0.32 U	0.32 U	0.32 U	1 U
Chloroform	UG/L	27	9%	7	4	16	178	1 U	1 U	0.34 U	0.34 U	0.34 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	83	85	91 I	61	37	78
Cis-1,2-Dichloropropene	UG/L	0	0%	0.4	113	0	178	1 U	10	0.36 U	0.36 U	0.36 U	0.11 U
Cyclohexane	UG/L	0	0%	0.4	0	ŏ	178	1 U	1 U	0.22 UJ	0.53 U	0.53 U	0.25 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	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	13	178	1 U	1 U	0.18 U	0.18 U	0.18 U	0.11 U
Isopropylbenzene	UG/L	0.1	1%	5	0	1	178	1 0	1 U	0.19 U	0.19 U	0.19 U	0.1 U
Methyl Acetate	UG/L	8	1%	3	•	2	178	1 W	1 UJ	0.17 UJ	0.17 UJ	0.5 U	0.19 UJ
	UG/L	0	0%	5	0	2	177	1 W	1 UJ	0.17 US	0.28 U	0.28 U	0.8 UJ
Methyl bromide	UG/L	0	0%	3	U	0	178	5 UJ	5 UJ	1.2 U	1.2 U	1.2 U	1 UJ
Methyl butyl ketone	UG/L	0	0%	5	0	0	176	1 U	1 U	0.34 U	0.35 U	0.35 U	0.33 U
Methyl chloride	UG/L	0.17	1%	5	U	1	178	1 U	10	0.34 U 0.22 UJ	0.5 U	0.5 U	0.1 U
Methyl cyclohexane	UG/L	4900				22	178	5 U	5 U	1.3 UJ	1.3 U	1.3 U	1 U
Methyl ethyl ketone			12%			22	178	5 U	5 U	0.91 UJ	0.91 U	0.91 U	1 U
Methyl Isobutyl ketone	UG/L	1.9	1%			1						0.91 U	0.2 U
Methyl Tertbutyl Ether	UG/L	0	0%	-	-	40	178	1 U	1 U	0.16 UJ	0.16 U	0.16 U 0.44 U	1 U
Methylene chloride	UG/L	18	7%	5	,	12	178	1 U	1 U	0.44 UJ	0.44 U		0.11 U
Styrene	UG/L	0	0%	5	0	0	178	1 U	1 U	0.18 U	0.18 U	0.18 U	0.11 0

							ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
												MWT-29
												GW
												ALBW20190
												6/30/2010
												SA
							LIM	-		LTM		LTM
ina					Number of	Name has a of	5	5	8	7	8	9
	Manimum	Emmunous of	Cleanup	Name to a set								
41-14												
			Goals	Exceedances	Detected							Value (Q)
			5	0	0							0.15 U
			5	17	28						0.51 U	0.33 U
	60		5	1	2						0.66 U	0.2 U
	8		5	4	89			0.68 J	0.6 J	0.67 J	0.65 J	1.1
	0		0.4	0	0		1 U	1 U		0.37 U	0.37 U	0.21 U
			5	60	124		3.2	3.3	6.6	4.5	3.5	1.3
			5	0	0		1 03	1 UJ	0.15 UJ	0.15 U	0.15 U	0.25 U
UG/L	180	67%	2	100	119	178	73		80		29	61
		100%			12	12						
UG/L		100%			12	12						
UG/L	56900	100%			12							
UG/L	98	92%			81		15	14	14	10	6.7	18
UG/L	200	89%										88
UG/L												5,400
MG/L												170
MG/L	2050	100%			88	88	14.2	14	13.8	11.8	8.2	10
	UG/L UG/L UG/L MG/L	ID Itrix ID Itrix ID Itrix ID ID ID ID ID ID ID I	ID Itrix ID Itrix ID Itrix ID ID Itrix ID ID Itrix ID ID Itrix ID ID ID ID ID ID ID I	ID Itrix ID Itrix ID Itrix ID ID Itrix ID Itrix ID Itrix ID Itrix ID Itrix ID Itrix ID Itrix ID ITrix ID ITrix ID ITrix ID ITrix ID ID ID ID ID ID ID I	ID Itrix ID Itrix ID Itrix ID ID Itrix ID ID Itrix ID Itrix ID Itrix ID Itrix ID Itrix ID Itrix ID ITrix ID ID ID ID ID ID ID I	Number of Times Number of	Number of Value Prequency of Value Prequency of Value Detection Coats Exceedances Detected Analyzed	MWT-29 GW ALBW20129 6725/2008 SA LTM Samples Samples Linkt Value Detection Goals Exceedances Detected Analyzed Value C3 C4 C4 C5 C4 C5 C5 C5 C5	Martin M	Maximum Frequency of Cleanup Number of Times Detected Analyzed Value (Q)	Number of Numb	MWT-29

- 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).
- Hose and Maximum Contaminant Level (http://www.eps.gov/safewater/contaminants/index.html)
 Shading indicates a concentration above the GA GW standard.
- U = compound was not detected
- J = the reported value is and estimated concentration
 UJ= the compound was not detected; the associated reporting limit is approximate.

Parameter

Volatile Organic Compounds

1,1,2-Trichloro-1,2,2-Trifluoroethane

1,1,1-Trichloroethane

1,1,2,2-Tetrachloroethane

Tal. J-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 **Seneca Army Depot Activity**

Number of

Times

Detected

5

0

0

Cleanup

Goals¹

5

Frequency of

Detection

3%

0%

0%

Number of

Exceedances

0

0

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round

Maximum

Value

15

0

Unit

UG/L

UG/L

UG/L

ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL **MWT-29** MWT-29 MWT-22 **MWT-22** MWT-22 **MWT-29** GW GW GW GW ALBW20235 ALBW20071 ALBW20075 ALBW20100 ALBW20205 ALBW20220 12/19/2010 12/14/2011 1/4/2007 3/17/2007 6/6/2007 7/20/2011 SA SA SA SA LTM LTM LTM LTM LTM LTM 10 11 12 3 Number of Samples Analyzed Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) 178 0.5 U 0.5 U 0.5 U 2 U 4 U 1 U 178 0.18 U 0.18 U 0.18 U 2 Ü 4 U 1 U 178 4 U 0.5 U 0.5 U 0.5 U 2 Ù 1 UJ 178 0.13 U 0.13 U 0.13 U 2 U 4 U 1 U

1,1,2-i nchioro-1,2,2-i milioroethane	UG/L	U	0%	5	U	U	178	0.5 U	0.5 U	0.5 U	2 0	4 0	1 03
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	178	0.13 U	0.13 U	0.13 U	2 U	4 U	1 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	0.25 U	0.25 U	0.25 U	2 U	4 U	1 U
1,1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	0.4 J	0.11 U	0.11 U	2 U	4 U	1 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U	2 U	4 U	1 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	178	0.44 U	0.44 U	0.44 U	2 U	4 U	1 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	0.25 U	0.25 U	0.25 U	2 U	4 U	1 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.21 U	0.21 U	0.21 U	2 U	4 U	1 U
1,2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	0.1 U	0.1 U	0.1 U	2 U	4 U	1 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	0.13 U	0.13 U	0.13 U	2 U	4 U	1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.25 U	0.25 U	0.25 U	2 U	4 U	1 U
,4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.28 U	0.28 U	0.28 U	2 U	4 U	1 U
Acetone	UG/L	2600	24%			41	172	5 UJ	5 UR	5 U	10 U	18 J	38
Benzene	UG/L	0.38	1%	1	0	2	178	0.25 U	0.25 U	0.25 U	2 U	4 U	1 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	0.25 U	0.25 U	0.25 U	2 U	4 U	1 U
Bromoform	UG/L	0	0%	80	0	0	178	0.5 U	0.5 U	0.5 U	2 U	4 U	1 U
Carbon disulfide	UG/L	0	0%			0	178	0.6 U	0.6 U	0.6 U	2 U	4 U	1 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	0.5 U	0.5 U	0.5 U	2 U	4 U	1 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U	2 U	4 U	1 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	0.1 U	0.1 U	0.1 U	2 U	4 U	1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	1 U	1 UJ	1 U	2 UJ	4 U	1 U
Chloroform	UG/L	27	9%	7	4	16	178	0.14 J	0.14 U	0.14 U	2 U	4 U	1 U
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	38	33	8.5	130	90	120
Cis-1.3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.11 U	0.11 U	0.11 U	2 U	4 U	1 U
Cyclohexane	UG/L	0	0%			0	178	0.25 U	0.25 U	0.25 U	2 U	4 U	1 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U	2 U	4 U	1 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	0.11 U	0.11 U	0.11 U	2 U	4 U	1 U
sopropylbenzene	UG/L	0.1	1%	5	0	1	178	0.1 U	0.1 U	0.1 U	2 U	4 U	1 U
Vethyl Acetate	UG/L	6	1%			2	178	0.19 U	0.19 UJ	0.19 U	2 U	4 UJ	1 U
Methyl bromide	UG/L	0	0%	5	0	0	177	0.8 UJ	0.8 UJ	0.8 UJ	2 U	4 U	1 U
Methyl butyl ketone	UG/L	0	0%			0	178	1 U	1 UJ	1 U	10 U	20 U	5 U
Methyl chloride	UG/L	0	0%	5	0	0	178	0.33 U	0.33 U	0.33 UJ	2 U	4 U	1 U
Methyl cyclohexane	UG/L	0.17	1%			1	178	0.1 U	0.1 U	0.1 U	2 U	4 U	1 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1 U	1 U	1 U	6 J	20 U	5 U
Methyl Isobutyl ketone	UG/L	1.9	1%			1	178	1 Ū	1 U	1 U	10 U	20 U	5 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	178	0.2 U	0.2 U	0.2 U	2 U	4 U	1 U
Methylene chloride	UG/L	18	7%	5	7	12	178	1 U	1 U	1 U	1.2 J	4 U	1 U
	UG/L	0	0%	5	n	0	178	0.11 U	0.11 U	0.11 U	2 U	4 U	1 Ü

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Sar	Area Loc ID Matrix Sample ID mple Date QC Type Study ID ple Round						Number of	Number of	ASH LANDFILL MWT-29 GW ALBW20205 12/19/2010 SA LTM 10	ASH LANDFILL MWT-29 GW ALBW20220 7/20/2011 SA LTM 11	ASH LANDFILL MWT-29 GW ALBW20235 12/14/2011 SA LTM 12	ASH LANDFILL MWT-22 GW ALBW20071 1/4/2007 SA LTM 1	ASH LANDFILL MWT-22 GW ALBW20075 3/17/2007 SA LTM 2	ASH LANDFILL MWT-22 GW ALBW20100 6/6/2007 SA LTM 3
			Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter		Unit	Value	Detection	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachioroethene		UG/L	0	0%	5	0	0	178	0.15 U	0.15 U	0.15 UJ	2 U	4 U	1 U
Toluene		UG/L	590	16%	5	17	28	178	0.33 U	0.33 U	0.33 U	2 U	4 U	1 U
Total Xylenes		UG/L	60	1%	5	1	2	178	0.2 U	0.2 U	0.2 U	6 U	12 U	3 U
Trans-1,2-Dichloroethene		UG/L	8	50%	5	4	89	178	0.77 J	1.6	0.26 J	2.7	4 U	3.2
Trans-1,3-Dichloropropene		UG/L	0	0%	0.4	0	0	178	0.21 U	0.21 U	0.21 U	2 U	4 0	1 U
Trichloroethene		UG/L	2,700	70%	5	60	124	178	2.1	0.79 J	2.4		3.8 J	
Trichlorofluoromethane		UG/L	0	0%	5	0	0	178	0.25 U	را 0.25	0.25 U	2 U	4 U	1W
Vinyl chloride Other		UG/L	180	67%	2	100	119	178		43		98	64	
Iron		UG/L	296000	100%			12	12						
Iron+Manganese		UG/L	352900	100%			12	12						
Manganese		UG/L	56900	100%			12	12						
Ethane		UG/L	98	92%			81	88	5.1	8.3	1.7			
Ethene		UG/L	200	89%			78	88	7.9	47	7.3			
Methane		UG/L	23,000	97%			85	88	3,100	3,100	760			
Sulfate		MG/L	1060	80%			68	88	300		210			
Total Organic Carbon		MG/L	2050	100%			88	88	7.4	170 7.7	4.9			

Notes:

- Notes:

 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Methyl Tertbutyl Ether

Methylene chloride

Styrene

0

18

n

UG/L

UG/L

0%

7%

0%

5

5

0

Ta- 4-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

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 ALBW20115 ALBW20121 ALBW20136 ALBW20151 ALBW20166 ALBW20181 Sample Date 11/14/2007 6/25/2008 12/15/2008 6/3/2009 12/16/2009 7/1/2010 QC Type SA SA SA SA Study ID LTM LTM LTM LTM LTM LTM Sample Round 5 6 9 **Number of** Number of Cleanup Maximum Frequency of Number of Times Samples Parameter Unit Value Detection Goals¹ Exceedance Detected Value (Q) Value (Q) Value (Q) Analyzed Value (Q) Value (Q) Value (Q) Volatile Organic Compounds UG/L 15 1,1,1-Trichloroethane 3% 5 5 178 1 U 5 U 1.3 UJ 0.26 U 1.3 U 0.5 U 1,1,2,2-Tetrachloroethane UG/L 0 0% 0 178 1 U 5 U 1 UJ 0.21 U 1.1 U 0.18 U 1,1,2-Trichloro-1,2,2-Trifluoroethane UG/L 0 0% 0 178 5 0 1 U 5 UJ 1.6 UJ 0.31 U 1.5 U 0.5 U UG/L 1,1,2-Trichloroethane 0 0% 0 0 178 1 U 5 U 1.2 UJ 0.23 U 1.2 U 0.13 U 1,1-Dichloroethane UG/L 62 12% 22 178 1 U 5 U 3.8 U 0.75 U 0.25 U 1.9 U 1.1-Dichloroethene UG/L 2.1 10% 18 178 5 0 1 U 5 U 1.4 U 0.29 U 1.5 U 0.12 J UG/L 0% 1,2,4-Trichlorobenzene 0 5 n 0 178 1 U 5 U 2 UJ 0.41 U 2 U 0.25 U 1,2-Dibromo-3-chloropropane UG/L 0 0% 0.04 0 178 1 U 5 UJ 5 UJ 1 U.I 2 U 0.44 U 0% 1.2-Dihmmoethane UG/L 0 0.0006 0 178 n 1 U 5 U 0.85 UJ 0.17 U 0.83 U 0.25 U UG/L 1,2-Dichlorobenzene Ω 0% 3 n 0 178 5 U 0.2 U 0.21 U 1 U 1 U 1 U 1,2-Dichloroethane UG/L 5.6 14% 25 0.6 21 178 1.11 5 U 1 U 0.21 U 1.1 U 0.111 UG/L 0.29 1% 1.2-Dichloropropane 178 0 1 1 U 5 U 0.7 U 0.14 U 1.6 U 0.13 U 1.3-Dichlorobenzene UG/L 0 0% 3 0 0 178 5 U 0.16 U 1.8 U 0.25 U 1 U U 8.0 UG/L 1.4-Dichlorobenzene ٥ 0% 3 0 0 178 1 U 5 U 0.8 U 0.16 U 2 U 0.28 U UG/L 2600 24% 41 Acetone 172 5 U 25 U 6.5 UJ 2.5 J 6.7 U 5 U Benzene UG/L 0.38 1% 0 2 178 0.16 U 0.25 U 1 U 5 U U 8.0 2 U Bromodichloromethane UG/L 0 0% 80 178 0.39 U 0 1 11 5 U 1.9 U 1.9 U 0.25 U 0 UG/L 0% Bromoform n 80 0 0 178 1 U 5 U 1.3 UJ 0.28 UJ 1.3 U 0.5 U Carbon disulfide UG/L 0 0% 0 178 1 U 5 U 0.95 U 0.19 UJ 0.97 U 0.6 U UG/L Carbon tetrachloride ٥ 0% 5 0 0 178 1 U 5 U 1.4 UJ 0.27 U 1.3 U 0.5 U Chlorobenzene UG/L 0 0% 5 0 0 178 1 U 5 U 0.9 U 0.32 U 1.6 U 0.25 U Chlorodibromomethane UG/L 0 0% 80 0 0 178 5 U 0.32 U 1.6 U 0.1 U 1 U 1.8 U UG/L 4% 178 1.1 Chloroethane 5 0 1 U 5 UJ 1.6 U 0.32 U 1.6 U 1 U 0.14 U Chloroform UG/L 27 9% 16 178 1 U 5 U 0.34 U 1.7 U Cis-1,2-Dichloroethene UG/L 720 86% 5 115 153 178 57 41 99 160 68 66 LIG/L Cis-1,3-Dichloropropene 0 0% 0.4 ٥ 0 178 1 U 5 U 1.8 U 0.36 U 18 U 0.11 U UG/L 0 0% 0 178 0.53 U 2.7 U Cyclohexane 1 U 5 U 1.1 UJ 0.25 U 0% UG/L 0 5 0 0 178 Dichlorodiffuoromethane 1.4 U 0.29 U 1.4 U 0.25 UJ 1 U 5 U UG/L 92 7% 178 Ethyl benzene 13 1 U 5 U 0.9 U 0.18 U 0.92 U 0.11 U UG/L 0.1 1% 5 178 Isopropylbenzene 0 1 U 5 U 0.95 U 0.19 U 0.96 U 0.1 U 1% Methyl Acetate UG/L 6 2 178 1 UJ 5 U.I 0.85 UJ 2.5 U 0.19 U 0.17 U.J UG/L 0% 5 Methyl bromide 0 0 0 177 1 U 5 UJ 1.4 U 0.28 U 1.4 U 0.8 U UG/L 0 0% 178 Methyl butyl ketone 5 UJ 25 UJ 6 U 1.2 U 6.2 U 1 U 0% UG/L 0 5 0 Methyl chloride 0 178 1 11 5 UJ 1.7 U 0.35 U 1.7 U 0.33 U Methyl cyclohexane UG/L 0.17 1% 178 1 U 5 U 1.1 UJ 0.5 U 2.5 U 0.1 U Methyl ethyl ketone UG/L 4900 12% 22 178 5 U 25 UJ 6.5 UJ 1.3 U 6.6 U 1 U UG/L 1.9 1% Methyl isobutyl ketone 1 178 5 U 25 UJ 4.6 UJ 0.91 U 4.5 U 1 U UG/L

0.2 U

0.11 U

1 U

0

12

178

178

178

1 U

1 U

1 U

5 U

5 U

5 U

0.8 UJ

2.2 UJ

0.9 U

0.16 U

0.44 U

0.18 U

0.8 U

2.2 U

0.92 U

Appendix B Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5

Seneca Army Depot Activity

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 1D	ALBW20115	ALBW20121	ALBW20136	ALBW20151	ALBW20166	ALBW20181
Sample Date	11/14/2007	6/25/2008	12/15/2008	6/3/2009	12/16/2009	7/1/2010
QC Type	SA	SA	ŞA	SA	ŞA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	4	5	6	7	8	9

						Number of	Number of						
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detection	_ Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	1 U	5 U	1.8 U	0.36 U	1.8 U	0.15 U
Toluene	UG/L	590	16%	5	17	28	178	1 U	5 U	2.6 U	0.51 U	2.6 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	178	3 U	15 U	4.6 U	0.66 U	3.3 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.85 J	5 U	0.65 U	0.77 J	2.1 U	1.3
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	1 U	5 U	1.8 U	0.37 U	1.8 U	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	2.6	3 J	5.9	2.2	2.3 U	0.6 J
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	1 U	5 UJ	0.75 UJ	0.15 U	0.76 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	100	119	178	180	42	140	89	52	57
Other													
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88						
Ethene	UG/L	200	89%			78	88						
Methane	UG/L	23,000	97%			85	88						
Sulfate	MG/L	1060	80%			68	88						
Total Organic Carbon	MG/L	2050	100%			88	88						

Notes:

- 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Tame 6-1

Complete Groundwater Data for Ash Landfill Long Term Monitoring

Ash Landfill Annual Report, Year 5

Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round ASH LANDFILL ASH LANDFILL ASH LANDFILL MWT-22 MWT-22 GW GW GW ALBW20196 ALBW20211 ALBW20226 12/17/2010 7/20/2011 12/14/2011 SA SA SA LTM LTM LTM LTM 10 11 12

Sample Round							M b ad	10	11	12
Parameter	Unit	Maximum Value	Frequency of Detection	Cleanup Goals ¹	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds	Other		500000011		CAUCULATION	Dottooted	Allenyaou	yaide (d)	Value (dr)	Value (dr)
1.1.1-Trichloroethane	UG/L	15	3%	5	1	5	178	0.5 U	0.5 U	0.5 U
1.1.2.2-Tetrachloroethane	UG/L	0	0%	5	0	0	178	0.18 U	0.18 U	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	ő	o	178	0.5 U	0.5 U	0.5 U
1.1.2-Trichloroethane	UG/L	ō	0%	1	Õ	o	178	0.13 U	0.13 U	0.13 U
1.1-Dichloroethane	UG/L	62	12%	5	1	22	178	0.15 U	0.25 U	0.15 U
1.1-Dichloroethene	UG/L	2.1	10%	5	ò	18	178	0.66 J	0.11 U	0.38 J
1,2,4-Trichlorobenzene	UG/L	0	0%	5	ő	0	178	0.25 U	0.25 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	ŏ	0%	0.04	o	o	178	0.44 U	0.44 U	0.44 U
1.2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	0.44 U	0.44 U	0.25 U
1,2-Dibromoetriane 1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.25 U	0.21 U	0.25 U
1.2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	0.21 U	0.21 U	0.21 U
1.2-Dichloropropane	UG/L	0.29	1%		0	1	178	0.25 J 0.13 U	0.13 U	0.29 J
				1 3	0	o	178			
1,3-Dichlorobenzene	UG/L	0	0%					0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L		0%	3	0	0	178	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	24%			41	172	5 UJ	5 UR	5 U
Benzene	UG/L	0.38	1%	1	0	2	178	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	178	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	178	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	0.5 U	0.5 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	1 U	1 UJ	1 U
Chloroform	UG/L	27	9%	7	4	16	178	0.14 U	0.14 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	238F003 CALA	GFR-31-302343-66-1	-E2540)
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0	0%			0	178	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	1%	5	0	1	178	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	178	0.19 U	0.19 UJ	0.19 U
Methyl bromide	UG/L	0	0%	5	0	0	177	0.8 UJ	0.8 UJ	0.8 UJ
Methyl butyl ketone	UG/L	ő	0%	-	•	ŏ	178	1 U	1 UJ	1 U
Methyl chloride	UG/L	ő	0%	5	0	ő	178	0.33 U	0.33 U	0.33 UJ
Methyl cyclohexane	UG/L	0.17	1%		•	1	178	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	1 U	1 U	1 0
Methyl Tertbutyl Ether	UG/L	0	0%			ò	178	0.2 U	0.2 U	0.2 U
	UG/L	18	7%	5	7	12	178	1 U	1 U	1 U
Methylene chloride	UG/L	0	0%	5 5	ó	0	178	0.11 U	0.11 U	0.11 U
Styrene	UG/L	0	U76	5	0	U	1/6	U.11 U	0.110	0.11 U

Value (Q) 0.15 UJ 0.33 U

0.2 U 3.9

0.21 U 2.3 0.25 U

Area	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID	MWT-22	MWT-22	MWT-22
Matrix	GW	GW	GW
Sample ID	ALBW20196	ALBW20211	ALBW20226
Sample Date	12/17/2010	7/20/2011	12/14/2011
QC Type	SA	SA	SA
Study ID	LTM	LTM	LTM
Sample Round	10	11	12

Number of Number of

Parameter	Unit	Maximum Value	Frequency of Detection	Cleanup Goals ¹	Number of Exceedances	Times Detected	Samples Analyzed	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	0.15 U	0.15 U
Toluene	UG/L	590	16%	5	17	28	178	0.33 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	2.8	2
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.21 U	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	1.8	0.32 J
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.25 t/	0.25 U
Vinyl chloride	UG/L	180	67%	2	100	119	178	-98	59
Other							31.0		
Iron	UG/L	296000	100%			12	12		
Iron+Manganese	UG/L	352900	100%			12	12		
Manganese	UG/L	56900	100%			12	12		
Ethane	UG/L	98	92%			81	88		
Ethene	UG/L	200	89%			78	88		
Methane	UG/L	23,000	97%			85	88		
Sulfate	MG/L	1060	80%			68	88		
Total Organic Carbon	MG/L	2050	100%			88	88		

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).
- b. Federal Maximum Contaminant Level (http://www.eps.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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Tab. 3-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area Loc ID ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL **ASH LANDFILL** PT-22 PT-22 PT-22 PT-22 PT-22 Matrix GW GW GW GW GW Sample ID ALBW20060 ALBW20086 ALBW20089 ALBW20104 ALBW20118 Sample Date
QC Type 1/3/2007 3/15/2007 6/5/2007 11/14/2007 6/26/2008 SA SA SA SA SA

Sample D								ALBW20060 1/3/2007	ALBW20086 3/15/2007	ALBW20089 6/5/2007	ALBW20104 11/14/2007	ALBW20118 6/26/2008	ALBW20133 12/15/2008
QC T								SA	SA	SA	SA	SA	SA
Study								LTM	LTM	LTM	LTM	LTM	LTM
Sample Rou	ind							1	2	3	4	5	6
						Number of	Number of						
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds				-		_							
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	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	178	1 U	1 U	1 U	1 U	1 U	0.21 U
1,1,2-Trichloro-1,2,2-Trifluoroethan		0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 UJ	0.31 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	178	1 U	1 U	1 U	1 U	1 U	0.23 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	1 U	1 U	1 U	1 U	1 U	0.75 U
1,1-Dichioroethene	UG/L	2.1	10%	5	0	18	178	1 U	1 U	1 U	1 U	1 U	0.29 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	1 U	1 U	1 UJ	1 U	1 U	0.41 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	178	1 U	1 U	1 U	1 U	1 UJ	1 UJ
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	1 U	1 U	1 U	1 U	1 U	0.17 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 U	1.0	1.U	1.0	1.0	0.2 U
1,2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	3.3	2.4	5.6	5	3.9	2.8
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	10	1 U	10	10	10	0.14 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 U	1 U	1 U	1 U	1 U	0.16 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 U	1 U	1 U	1 U	1 U	0.16 U
Acetone	UG/L	2600	24%			41	172	5 U	5 U	3.8 J	5.3	5 U	1.3 U
Benzene	UG/L	0.38	1%	1	0	2	178	1 U	1 U	1 U	1 U	1 U	0.16 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	1 U	1 U	1 U	1 Ü	1 U	0.38 U
Bromoform	UG/L	0	0%	80	0	0	17B	1 U	1 U	1 U	1 U	1 U	0.26 U
Carbon disulfide	UG/L	0	0%			0	178	1 U	1 U	1 U	1 U	1 U	0.19 U
Carbon tetrachloride	UG/L	a	0%	5	0	o	178	1 U	1 Ü	1 Ü	1 U	1 U	0.27 U
Chlorobenzene	UG/L	ō	0%	5	n	n	178	1 0	1 0	1 0	1 Ŭ	1 U	0.18 U
Chlorodibromomethane	UG/L	Ö	0%	80	n	o o	178	1 Ü	1 0	1 U	1 0	1 U	0.32 U
Chloroethane	UG/L	1.1	4%	5	Ô	7	178	1 UJ	1 0	1.1 J	0.82 J	1 UJ	0.32 U
Chloroform	UG/L	27	9%	7	4	16	178	1 U	10	1.0	1 U	1.0	0.34 U
Cis-1.2-Dichloroethene	UG/L	720	86%	5	115	153	178 F	57	41	61	30	26	52
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	10	10	10	10	1 U	0.36 U
Cyclohexane	UG/L	0	0%	0.4	· ·	0	178	1 U	1 U	1 U	1 U	10	0.22 U
Dichlorodifluoromethane	UG/L	0	0%	5	a	0	178	10	10	1 UJ	1 0	1 0	0.28 U
	UG/L	9.2	7%	5	4	13	178	10	10	1 UJ	1 0	1 0	0.18 U
Ethyl benzene	UG/L	0.1	1%	5	,	13	178	10		1 U	1 0	1 0	0.19 U
Isopropyibenzene	UG/L	6	1%	ə	U	1	178	10	1 U 1 UJ			1 UJ	0.19 U
Methyl Acetate		0		5	•	2				1 UJ	1 U		0.17 U
Methyl bromide	UG/L	0	0%	5	0	Ü	177	1 U	1 U	1 UJ	10	1 UJ	
Methyl butyl ketone	UG/L	_	0%	_	_	Ü	17B	5 U	5 U	5 U	5 U	5 UJ	1.2 U
Methyl chloride	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	10	1 UJ	0.34 U
Methyl cyclohexane	UG/L	0.17	1%			1	178	1 U	1 U	1 UJ	1 U	1 U	0.22 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	5 U	5 U	5 U	5 U	5 UJ	1.3 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	5 U	5 U	5 U	5 U	5 UJ	0.91 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	178	1 U	1 U	1 U	1 U	1 U	0.16 U
Methylene chloride	UG/L	18	7%	5	7	12	178	1 UJ	1 U	1 U	1 U	1 U	0.44 UJ
Styrene	UG/L	0	0%	5	0	0	178	1 U	1 U	1 U	1 U	1 U	0.18 U

PT-22

ALBW20133

GW

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
Sample Date	1/3/2007	3/15/2007	6/5/2007	11/14/2007	6/26/2008	12/15/2008
QC Type	SA	SA	SA	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	1	2	3	4	5	6

Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals ¹	Number of Exceedances	Times Detected	Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	1 U	1 U	1 Ü	1 U	1 U	0.36 U
Toluene	UG/L	590	16%	5	17	28	178	1 U	1 U	1 U	1 U	1 U	0.51 U
Total Xylenes	UG/L	60	1%	5	1	2	178	3 U	3 U	3 U	3 U	3 U	0.93 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.86 J	0.51 J	0.72 J	0.67 J	0.57 J	0.41 1
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	1 U	1.0	1.0	1.0	1 U	0.37 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	11	16	8.5	9.7	4.1	35
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	1.0	1.0	10	1.0	1 UJ	0.15 U
Vinyl chloride	UG/L	180	67%	2	100	119	178	22	13	32	11	13	1.3
Other													1.0
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88						
Ethene	UG/L	200	89%			78	88						
Methane	UG/L	23,000	97%			85	88						
Sulfate	MG/L	1060	80%			68	88						
Total Organic Carbon	MG/L	2050	100%			88	88						

The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).

- b. Federal Maximum Contaminant Level (http://www.eps.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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Ta... 4-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round						Number of	Number of	ASH LANDFILL PT-22 GW ALBW20148 6/2/2009 SA LTM 7	ASH LANDFILL PT-22 GW ALBW20163 12/16/2009 SA LTM 8	ASH LANDFILL PT-22 GW ALBW20178 6/30/2010 SA LTM 9	ASH LANDFILL PT-22 GW ALBW20193 12/17/2010 SA LTM 10	ASH LANDFILL PT-22 GW ALBW20208 7/22/2011 SA LTM 11	ASH LANDFILL PT-22 GW ALBW20223 12/14/2011 SA LTM 12
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q
Volatile Organic Compounds		45		-			470						
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	0.26 U	0.26 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	178	0.21 U	0.21 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	178	0.31 U	0.31 U	0.5 UJ	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	178	0.23 U	0.23 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	0.75 U	0.38 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	0.29 U	0.29 U	0.11 U	0.11 U	0.11 U	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	0.41 U	0.41 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	178	1 UJ	0.39 U	0.44 U	0.44 U	0.44 UJ	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.2 U	0,2 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	4	3	3.2	1.9	0.1 U	~A19
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	0.14 U	0,32 U	0.13 U	0.13 U	0.13 U	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.16 U	0.36 U	0.25 U	0.25 U	0.25 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.16 U	0.39 U	0.28 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	24%			41	172	1.3 U	1.3 U	5 U	5 UJ	5.3 J	5 U
Benzene	UG/L	0.38	1%	1	0	2	178	0.16 U	0.41 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	0.39 U	0.39 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	178	0.26 UJ	0.26 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Carbon disulfide	UG/L	0	0%			0	178	0.19 UJ	0.19 U	0.6 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	0.27 U	0.27 U	0.5 U	0.5 U	0.5 UJ	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	0.32 U	0.32 U	0.25 U	0.25 U	0.25 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	0.32 U	0.32 U	0.1 U	0.1 U	0.1 UJ	0.1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	0.32 U	0.32 U	1 U	1 U	1 U	1 U
Chloroform	UG/L	27	9%	7	4	16	178	0.34 U	0.34 U	0.14 U	0.19 J	1 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	41	29	43	42	42	32
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.36 U	0.36 U	0.11 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0	0%			0	178	0.53 U	0.53 U	0.25 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	0.29 U	0.29 U	0.25 U	0.25 U	0.25 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1	1%	5	0	1	178	0.19 U	0.19 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	178	0.17 UJ	0.5 U	0.19 UJ	0.19 U	0.19 U	0.19 U
Methyl bromide	UG/L	0	0%	5	0	0	177	0.28 U	0.28 U	0.8 UJ	0.8 UJ	0.8 UJ	0.8 U.
Methyl butyl ketone	UG/L	0	0%			0	178	1.2 U	1.2 U	1 UJ	1 U	1 U	1 U
Methyl chloride	UG/L	0	0%	5	0	0	178	0.35 U	0.35 U	0.33 U	0.33 U	0.33 U	0.33 U.
Methyl cyclohexane	UG/L	0.17	1%			1	178	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1.3 U	1.3 U	1 U	1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	0.91 U	0.91 U	1 U	1 U	1 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	178	0.16 U	0.16 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	7%	5	7	12	178	0.44 U	0.44 U	1 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	0	0	178	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.11 U

Value (Q)

0.36 U

0.51 U

0.66 U

0.81 J

0.37 U

0.15 U

Value (Q)

0.36 U

0.51 U

0.66 U

0.42 U

0.37 U

8.7 0.15 U

Number of Number of

Area
Loc ID
Matrix
Sample ID
Sample Date
QC Type
Study ID
Sample Round

ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
PT-22	PT-22	PT-22	PT-22	PT-22	PT-22
GW	GW	GW	GW	GW	GW
ALBW20148	ALBW20163	ALBW20178	ALBW20193	ALBW20208	ALBW20223
6/2/2009	12/16/2009	6/30/2010	12/17/2010	7/22/2011	12/14/2011
SA	SA	SA	SA	SA	SA
LTM	LTM	LTM	LTM	LTM	LTM
7	8	9	10	11	12

Value (Q)

0.15 U

0.33 U

0.48 J

0.21 U

0.25 U

0.2 U

Value (Q)

0.15 U

0.33 U

0.2 U

0.2 U

0.21 U

0.25 U 0.18 U

Value (Q)

0.15 U

0.33 U

0.2 U

0.75 J

0.21 U

4.6

0.25 U

Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals ¹	Number of Exceedances	Times Detected	Samples Analyzed
Tetrachloroethene	UG/L	0	0%	5	0	0	178
Toluene	UG/L	590	16%	5	17	28	178
Total Xylenes	UG/L	60	1%	5	1	2	178
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178
Trichloroethene	UG/L	2,700	70%	5	60	124	178
Trichlorofluoromethane	UG/L	0	0%	5 2	0	0	178
Vinyl chloride	UG/L	180	67%	2	100	119	178
Other							
Iron	UG/L	296000	100%			12	12
Iron+Manganese	UG/L	352900	100%			12	12
Manganese	UG/L	56900	100%			12	12
Ethane	UG/L	98	92%			81	88
Ethene	UG/L	200	89%			78	88
Methane	UG/L	23,000	97%			85	88
Sulfate	MG/L	1060	80%			68	88
Total Organic Carbon	MG/L	2050	100%			88	88

The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 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

UJ= the compound was not detected; the associated reporting limit is approximate.

Value (Q) 0.15 UJ

0.33 U

0.2 U

0.37 J

0.21 U

34 0.25 U

0.68 J

ASH LANDFILL MWT-23 Area Loc ID ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL MWT-23 MWT-23 MWT-23 MWT-23 MWT-23 GW ALBW20125 Matrix GW GW GW GW GW ALBW20065 ALBW20080 ALBW20094 ALBW20109 ALBW20110 Sample ID Sample Date
QC Type 6/25/2008 SA 1/3/2007 3/16/2007 6/6/2007 11/16/2007 11/16/2007 SA SA DU SA SA LTM LTM LTM Study ID LTM

	mple Round													
							Number of	Number of	1	2	3	4	4	5
			Maximum	Frequency of	Cleanup	Number of	Times	Samples			,			
Parameter		Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compo	unds		4.5	001	_		-	470						
1,1,1-Trichloroethane		UG/L	15 0	3%	5	1	5	178	4 U	' 4 U	2 U	10 U	4 U	10
1,1,2,2-Tetrachloroethane		UG/L	_	0%	5	0	•	178	4 U	4 U	2 U	10 U	4 U	1 U
1,1,2-Trichloro-1,2,2-Triflu	uoroethane	UG/L	0	0%	5	0	0	178	4 U	4 U	2 UJ	10 U	4 U	1 U
1,1,2-Trichloroethane		UG/L	0	0%	1	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
1,1-Dichloroethane		UG/L	62	12%	5	1	22	178	4 U	4 U	2 U	10 U	4 U	1 U
1,1-Dichloroethene		UG/L	2.1	10%	5	0	18	178	4 U	4 U	2 U	10 U	4 U	1 U
1,2,4-Trichlorobenzene		UG/L	0	0%	5	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
1,2-Dibromo-3-chloropropa	ane	UG/L	0	0%	0.04	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
1,2-Dibromoethane		UG/L	0	0%	0.0006	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
1,2-Dichlorobenzene		UG/L	0	0%	3	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
1,2-Dichloroethane		UG/L	5.6	14%	0.6	21	25	178	42/37/64	4 U	1.6 J	10 U	4 U	0.6 J
1,2-Dichloropropane		UG/L	0.29	1%	1	0	1	178	4 U	4 U	2 U	10 U	4 U	1 U
1.3-Dichlorobenzene		UG/L	0	0%	3	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
1.4-Dichlorobenzene		UG/L	0	0%	3	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
Acetone		UG/L	2600	24%			41	172	180	190	190	64	62	4 J
Benzene		UG/L	0.38	1%	1	0	2	178	4 U	4 U	2 U	10 U	4 U	10
Bromodichloromethane		UG/L	0	0%	80	0	ō	178	4 U	4 U	2 U	10 U	4 U	1 U
Bromoform		UG/L	0	0%	80	n	o o	178	4 U	4 U	2 U	10 U	4 U	1 U
Carbon disulfide		UG/L	o o	0%	-	•	ň	178	4 U	4 U	2 U	10 U	4 U	1 U
Carbon tetrachloride		UG/L	Ô	0%	5	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
Chlorobenzene		UG/L	ő	0%	5	ñ	ŏ	178	4 U	4 U	2 U	10 U	4 U	10
Chlorodibromomethane		UG/L	o	0%	80	0	ŏ	178	4 U	4 U	2 U	10 U	4 0	10
Chloroethane		UG/L	1.1	4%	5	0	7	178	4 U	4 U	2 U	10 U	4 U	1 UJ
Chloroform		UG/L	27	9%	7	4	16	178			2 U	10 U	4 U	1 U
		UG/L	720	86%	,	115		178 F	4 U	4 U				10
Cis-1,2-Dichloroethene			0		5		153	178	60	11	3.1	10 U	2.1 J	
Cis-1,3-Dichloropropene		UG/L	-	0%	0.4	0	•		4 U	4 U	2 U	10 U	4 U	10
Cyclohexane		UG/L	0	0%	_		0	178	4 U	4 U	2 U	10 U	4 U	10
Dichlorodlfluoromethane		UG/L	0	0%	5	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
Ethyl benzene		UG/L	9.2	7%	5	1	13	178	4 U	4 U	1.3 J	10 U	4 U	0.85 J
sopropylbenzene		UG/L	0.1	1%	5	0	1	178	4 U	4 U	2 U	10 U	4 U	1 U
Methyl Acetate		UG/L	6	1%			2	178	4 U	4 UJ	5.1	10 U	4 UJ	1 UJ
Viethyl bromide		UG/L	0	0%	5	0	0	177	4 U	4 U	2 U	10 U	4 U	1 UJ
Viethyl butyl ketone		UG/L	0	0%			0	178	20 U	20 U	10 U	50 U	20 UJ	5 UJ
Methyl chloride		UG/L	0	0%	5	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
Methyl cyclohexane		UG/L	0.17	1%			1	178	4 U	4 U	2 U	10 U	4 U	1 U
Viethyl ethyl ketone		UG/L	4900	12%			22	178	250	130	73	26 J	25	12
Methyl isobutyl ketone		UG/L	1.9	1%			1	178	20 U	20 U	10 U	50 U	20 U	5 U
Methyl Tertbutyl Ether		UG/L	0	0%			0	178	4 U	4 U	2 U	10 U	4 U	1 U
Methylene chloride		UG/L	18	7%	5	7	12	178	2.8 J	4 U	2 U	State Co.	4 U	1 U
Styrene		UG/L	0	0%	5	'n	0	178	4 U	4 U	2 U	10 U	4 U	1 U

Area	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
Matrix	GW	GW	GW	GW	GW	GW
Sample ID	ALBW20065	ALBW20080	ALBW20094	ALBW20109	ALBW20110	ALBW20125
Sample Date	1/3/2007	3/16/2007	6/6/2007	11/16/2007	11/16/2007	6/25/2008
QC Type	SA	SA	SA	SA	DU	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	1	2	3	4	4	5

Parameter	Un		Frequency of Detections	Cleanup Goals ¹	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG		0%	5	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
Toluene	UG		16%	5	17	28	178	4 U	7.4	37	570	590	300
Total Xylenes	UG	L 60	1%	5	1	2	178	12 U	12 U	6 U	30 U	12 U	3 U
Trans-1,2-Dichloroethene	UG	L 8	50%	5	4	89	178	4 U	4 U	2 U	10 U	4 U	1 U
Trans-1,3-Dichloroproper	e UG	L O	0%	0.4	0	0	178	4 U	4 U	2 U	10 U	4 U	1 U
Trichloroethene	UG	L 2,700	70%	5	60	124	178	4 U	4 U	2 U	10 U	4 U	1 U
Trichlorofluoromethane	UG	L O	0%	5	0	0	178	4. U	4 U	2 UJ	10 U	4 U	1 UJ
Vinyl chloride	UG	L 180	67%	2	100	119	178	23	4.8	2 U	10 U	2.3 J	1 U
Other							_						
Iron	UG	L 296000	100%			12	12	122,000 J	120,000				
Iron+Manganese	UG	L 352900	100%			12	12	141,500 J	139,500				
Manganese	UG	L 56900	100%			12	12	19,500	19,500				
Ethane	UG		92%			81	88	10,000 U	45	4.1	0.49	0.66	0.53
Ethene	UG		89%			78	88	10,000 U	5.9	0.28	0.3	0.39	0.048
Methane	UG		97%			85	88	12,000	23,000	18,000	15,000	17,000	18,000
Sulfate	MG		80%			68	88	2 U	2 U	2 U	2.8	2.7	2 U
Total Organic Carbon	MG		100%		,	88	88	260 J	210	303	147	155	28.4

- 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);
 Shading indicates a concentration above the GA GW standard.
- U = compound was not detected
- J = the reported value is and estimated concentration
- UJ= the compound was not detected; the associated reporting limit is approximate.

Methyl Tertbutyl Ether

Methylene chloride

Styrene

UG/L

UG/L

UG/L

0

18

0

0%

7%

0%

5

0

Area 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 Matrix GW GW GW GW GW ALBW20201 Sample ID ALBW20140 ALBW20155 ALBW20170 ALBW20185 ALBW20200 12/19/2010 Sample Date 12/12/2008 6/2/2009 12/15/2009 6/29/2010 12/19/2010 QC Type SA SA SA DU LTM LTM LTM LTM LTM LTM Study ID Sample Round 6 10 10 Number of Number of Cleanup Maximum Number of Times Samples Frequency of Unit Value Detections Goals Exceedances Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Detected Analyzed Volatile Organic Compounds UG/L 15 1,1,1-Trichloroethane 3% 5 5 178 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% 0 0 178 0.21 U 0.21 U 0.21 U 0.18 U 0.18 U 0.18 U UG/L 0 0% 5 0 0 178 1.1.2-Trichloro-1.2.2-Trifluoroethane 0.31 U 0.31 U 0.31 U 0.5 UJ 0.5 U 0.5 U 1,1,2-Trichloroethane UG/L 0 0% 0 0 178 0.23 U 0.23 U 0.23 U 0.13 U 0.13 U 0.13 U 1,1-Dichloroethane UG/L 62 12% 22 178 0.75 U 0.75 U 0.38 U 0.25 U 0.52 J 0.52 J 1,1-Dichloroethene UG/L 2.1 10% 18 178 5 n 0.29 U 0.29 U 0.29 U 0.11 U 0.11 U 0.11 U 1,2,4-Trichlorobenzene UG/L 0 0% 5 0 0 178 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% 0.04 0 178 1 U.I 1 UJ 0.39 U 0.44 U 0.44 U 0.44 U 1,2-Dibromoethane UG/L 0 0% 0.0006 n 0 178 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 0 178 0.21 U 0.21 U 0.21 U 0.2 U 0.2 U UG/L 1.2-Dichloroethane 5.6 14% 0.6 21 25 178 CALL . 0.21 U .50.662E A 10.0 ALC: 0.6 J 1,2-Dichloropropane UG/L 0.29 1% 178 Ω 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 0 178 0.16 U 0.36 U 0.16 U 0.25 U 0.25 U 0.25 U 1,4-Dichlorobenzene UG/L 0 0% 3 0 0 178 0.16 U 0.16 U 0.39 U 0.28 U 0.28 U 0.28 U UG/L 2600 24% 41 Acetone 172 1.3 U 1.6 J 1.3 U 5 U 5 UJ 5 UJ UG/L 0.38 1% 0 2 178 0.16 U 0.16 U 0.41 U 0.25 U 0.25 U 0.25 U Benzene 0% UG/L 80 178 0.25 U 0.25 U Bromodichloromethane 0 0 0 0.38 U 0.39 U 0.39 U 0.25 U Bromoform UG/L 0 0% 80 0 0 178 0.26 U 0.26 UJ 0.26 UJ 0.5 U 0.5 U 0.5 U Carbon disulfide UG/L 0 0% 0 178 0.19 U 0.19 UJ 0.19 UJ 0.6 U 0.6 U 0.6 U 0% Carbon tetrachloride UG/I 0 5 0 0 178 0.27 UJ 0.27 U 0.27 U 0.5 U 0.5 U 0.5 U UG/L 0 0% 0 0 178 0.18 U 0.32 U 0.32 U 0.25 U 0.25 U 0.25 U Chlorobenzene UG/L 0 0% 80 0 0 178 0.32 U 0.32 U 0.32 U 0.1 U 0.1 U 0.1 U Chlorodibromomethane UG/L 4% 178 0.32 U 0.32 UJ Chloroethane 1.1 5 0 0.32 U 1 U 1 UJ 1 UJ Chloroform UG/L 27 9% 16 178 0.34 U 0.34 U 0.34 U 0.14 U 0.14 U 0.17 J Cis-1,2-Dichloroethene UG/L 720 86% 5 115 153 178 0.42 J 0.47 J 041.1 46 2.4 46 0.11 U Cis-1,3-Dichloropropene UG/L 0 0% 0.4 0 0 178 0.36 U 0.36 U 0.36 U 0.11 U 0.11 U UG/L 0 0% 0 178 0.22 U 0.53 U 0.53 U 0.25 U 0.25 U 0.25 U Cyclohexane Dichlorodifluoromethane 0 UG/L 0 0% 5 0 178 0.28 UJ 0.29 U 0.29 U 0.25 U 0.25 U 0.25 U UG/L 92 7% Ethyl benzene 13 178 0.71 J 0.49 J 0.18 U 0.38 J 0.14 J 0.12 J UG/L 0.1 1% 0 178 0.19 U 0.19 U 0.1 U 0.1 U 0.1 U isopropylbenzene 5 0.19 U Methyl Acetate UG/L 6 1% 2 178 0.17 LI 0.17 UJ 0.5 U 0.19 UJ 0.19 U 0.19 U Methyl bromide 0% 5 0 UG/L 0 0 177 0.28 U 0.28 U 0.28 U 0.8 UJ 0.8 U 0.8 U UG/L 0% 0 Methyl butyl ketone 178 1.2 U 1.2 U 1.2 U 1 UJ 1 U 1 U UG/L 0% 0 0 0 5 178 0.35 U 0.35 UJ 0.33 U 0.33 H 0.33 11 Methyl chloride 0.34 U Methyl cyclohexane UG/L 0.17 1% 178 0.22 U 0.5 U 0.5 U 0.1 U 0.1 U 0.1 U Methyl ethyl ketone UG/L 4900 12% 22 178 1.3 U 1.3 U 1 U 1 U 1.3 U 1 U Methyl isobutyl ketone UG/L 1.9 1% 1 178 0.91 U 0.91 U 0.91 U 1 U 1 U 1 11

0.2 U

0.11 U

1 U

0

12

0

178

178

178

0.16 U

0.44 UJ

0.18 U

0.16 U

0.44 U

0.18 U

0.16 U

0.44 U

0.18 U

0.2 U

0.11 U

1 U

0.2 U

0.11 U

1 U

Area Loc IC Mathin Sample IC Sample Date QC Type Study IC Sample Round) ())					Number of	Number of	ASH LANDFILL MWT-23 GW ALBW20140 12/12/2008 SA LTM 6	ASH LANDFILL MWT-23 GW ALBW20155 6/2/2009 SA LTM 7	ASH LANDFILL MWT-23 GW ALBW20170 12/15/2009 SA LTM 8	ASH LANDFILL MWT-23 GW ALBW20185 6/29/2010 SA LTM 9	ASH LANDFILL MWT-23 GW ALBW20200 12/19/2010 SA LTM 10	ASH LANDFILL MWT-23 GW ALBW20201 12/19/2010 DU LTM 10
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed _	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	0.36 U	0.36 U	0.36 U	0.15 U	0.15 U	0.15 U
Toluene	UG/L	590	16%	5	17	28	178	43	1.5	0.51 U	0.34 J	0.33 U	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.93 U	0.66 U	0.66 U	0.2 U	0.2 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.13 U	0.13 U	0.42 U	0.2 U	0.49 J	0.49 J
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.37 U	0.37 U	0.37 U	0.21 U	0.21 U	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	D.41 J	0.18 U	0.46 U	0.13 U	0.34 √	0.24 J
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.15 UJ	0.15 U	0.15 U	0.25 U	0.25 U	0.25 L
Vinyl chloride	UG/L	180	67%	2	100	119	178	2.8	0.24 U	0.24 U	0.18 U	5.3	5.3
Other										V.=. · ·	0.100		
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88	4.6	1.6	1	2.4	16	16
Ethene	UG/L	200	89%			78	88	1.2	0.16	0.058	0.038	2.9	2.8
Methane	UG/L	23,000	97%			85	88	19,000	21,000	18,000	18,000	16,000	16,000
Sulfate	MG/L	1060	80%			68	88	6.3	0.35 U	0.35 U	0.5 U	16	16
Total Organic Carbon	MG/L	2050	100%			88	88	20.1	15.6	17.4	11	5.9	6.3

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Methyl ethyl ketone

Methylene chloride

Styrene

Methyl isobutyl ketone

Methyl Tertbutyl Ether

UG/L

UG/L

HG/I

UG/L

UG/L

4900

1.9

0

18

12%

1%

0%

7%

0%

Ta.... d-1

Complete Groundwater Data for Ash Landfill Long Term Monitoring

Ash Landfill Annual Report, Year 5

Seneca Army Depot Activity

Area ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL **ASH LANDFILL** Loc ID **MWT-23** MWT-23 **MWT-23** MWT-24 MWT-24 MWT-24 Matrix GW GW GW GW GW GW Sample ID ALBW20215 ALBW20230 ALBW20231 ALBW20063 ALBW20078 ALBW20092 7/19/2011 12/14/2011 12/14/2011 1/3/2007 3/15/2007 6/5/2007 Sample Date QC Type SA SA DU SA SA SA Study ID LTM LTM LTM LTM LTM LTM Sample Round 11 12 12 3 Number of Number of Cleanup Frequency of Number of Samples Maximum Times Value Goals1 Value (Q) Value (Q) Unit Detections Exceedances Detected Analyzed Value (Q) Value (Q) Value (Q) Value (Q) Volatile Organic Compounds 1,1,1-Trichloroethane UG/L 15 3% 5 176 0.5 U 0.5 U 0.5 U 0.71 J 0.58 J 2 U 5 1,1,2,2-Tetrachloroethane UG/L 0 0% 5 0 0 178 0.18 U 0.18 U 0.18 U 1 U 1 U 2 U 1,1,2-Trichloro-1,2,2-Trifluoroethane UG/L 0 0% 5 0 178 0.5 U 0.5 U 0.5 U 1 U 1 U 2 UJ UG/L 0 0% 1,1,2-Trichloroethane 0 0 178 0.13 U 0.13 U 0.13 U 1 U 1 U 2 U 1.1 J 1,1-Dichloroethane UG/L 62 12% 22 178 0.25 U 0.32 J 0.33 J 0.81 J 0.83 J 1,1-Dichloroethene UG/L 2.1 10% 18 178 0.11 U 0.11 U 0.11 U 1 U 1 U 2 U HG/I 0% 0 178 0.25 U 2 U 1,2,4-Trichlorobenzene n n 0.25 U 0.25 U 1 U 1 U 1,2-Dibromo-3-chloropropane UG/L 0 0% 0.04 0 0 178 0.44 U 0.44 U 0.44 U 1 U 1 U 2 U UG/L 0% 0.0006 0 1.2-Dibromoethane 0 0 178 0.25 U 0.25 U 0.25 U 1 U 1 U 2 U UG/L 0 0% 178 0.21 U 2 U 1.2-Dichlorobenzene 0 0 0.21 U 0.21 U 1 II 1 U 1,2-Dichloroethane UG/L 5.6 14% 0.6 21 25 178 1 U 1 U 2 U --22 1.2-Dichloropropane UG/L 0.29 1% 0 178 0.13 U 0.13 U 1 U 1 U 2 U 1 0.13 U 1 1,3-Dichlorobenzene LIG/I 0 0% 3 0 n 178 0.25 U 0.25 U 0.25 U 1 U 1 11 2 U UG/L 0 0% 0 178 0.28 U 0.28 U 0.28 U 1 U 2 U 1,4-Dichlorobenzene 1 U 41 UG/L 2600 24% 172 42 U 54 73 5 UR 5 U Acetone 5 U 0.38 2 U Benzene UG/L 1% 0 2 178 0.25 U 0.25 U 0.25 U 1 U 1 U UG/L 0 0% 80 178 0.25 U 0.25 U 0.25 U 1 U 1 U 2 U Bromodichloromethane UG/L 0 0% 80 0 0 178 0.5 U 1 U 1 U 2 U Bromoform 0.5 U 0.5 U Carbon disulfide UG/L 0 0% 0 178 0.6 U 0.6 U 0.6 U 1 U 1 U 2 U Carbon tetrachloride UG/L 0% 0 178 0.5 U 0.5 U 0.5 U 1 U 1 U 2 U UG/L 0% 178 2 U Chlorobenzene n n 0 0.25 U 0.25 U 0.25 U 1 U 1 II Chlorodibromomethane UG/L 0 0% 80 0 0 178 0.1 U 0.1 U 0.1 U 1 U 1 U 2 U UG/L 1.1 4% 178 1 U 1 U 2 U 5 1 U Chloroethane 1 UJ 1 U UG/L 27 9% 16 178 0.14 U 0.14 U Chloroform 0.14 U 1 U Cis-1,2-Dichloroethene UG/L 720 86% 5 115 153 178 0.57 J 210 UG/L 0 0% 0.4 0 0 178 0.11 U 0.11 U 0.11 U 1.1 1 U 2 U Cis-1,3-Dichloropropene 0% 1 U Cyclohexane UG/L 0 Ω 178 0.25 U 0.25 U 0.25 U 1 11 2 LI UG/L 0 0% 0 0 178 0.25 U 0.25 U 0.25 U 1 U 1 U 2 U Dichlorodifluoromethane UG/L 9.2 13 178 0.17 J 1 U 2 U 7% 0.13 J 0.15 J 1 U Ethyl benzene Isopropylbenzene UG/L 0.1 1% 5 0 178 0.1 U 0.1 U 0.1 U 1 U 1 U 2 U UG/L 1% 2 178 0.19 U 0.19 U 1 U 1 UJ Methyl Acetate 6 0.19 UJ UG/L 5 0 0.8 UJ 1 U 2 U 0 0% 0 177 0.8 UJ 0.8 UJ 1 U Methyl bromide UG/L 0 0% 0 178 1 UJ 1 U 1 U 5 U 5 U 10 U Methyl butyl ketone UG/L 0% 0 0 178 0.33 UJ 1 U 2 U Methyl chloride 0 0.33 U 0.33 UJ 1 U UG/L 0.17 1 U 2 U Methyl cyclohexane 1% 178 0.1 U 0.1 U 0.1 U 1 U

40

10 U

2 U

1 J

2 U

0

22

1

n

12

0

178

178

178

178

178

1 U

1 U

0.2 U

0.11 U

1 U

1 U

0.2 U

0.11 U

1 U

1 U

1 U

0.2 U

0.11 U

24

5 U

1 11

1 U

1 U

36

5 U

1 U

1 U

1 U

Area Loc IT Matri Sample II Sample Date QC Typn Study II Sample Round	x D B D			S lander		Number of	Number of	ASH LANDFILL MWT-23 GW ALBW20215 7/19/2011 SA LTM 11	ASH LANDFILL MWT-23 GW ALBW20230 12/14/2011 SA LTM 12	ASH LANDFILL MWT-23 GW ALBW20231 12/14/2011 DU LTM 12	ASH LANDFILL MWT-24 GW ALBW20063 1/3/2007 SA LTM 1	ASH LANDFILL MWT-24 GW ALBW20078 3/15/2007 SA LTM 2	ASH LANDFILL MWT-24 GW ALBW20092 6/5/2007 SA LTM 3
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	0.15 U	0.15 UJ	0.15 ŲJ	1 U	1 U	2 U
Toluene	UG/L	590	16%	5	17	28	178	1 U	0.33 U	0.33 U	1 U	1 U	2 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.2 U	0.2 U	0.2 Ų	3 U	3 U	6 U
Trans-1,2-Dichloroethene	ŲG/L	8	50%	5	4	89	178	0.22 J	0.38 J	0.35 J	2.1	0.88 J	2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.21 U	0.21 U	0.21 U	1 U	1 U	2 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	0.13 U	0.19 J	0.16 J	0.94 J	1 U	2 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U	1 U	10	2 UJ
Vinyl chloride	UG/L	180	67%	2	100	119	178	0.33 J	1.9	1.8	19	45	2:2
Other													
Iron	UG/L	296000	100%			12	12						
Iron+Mariganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88	2.3	8.7	8.9			
Ethene	UG/L	200	89%			78	88	0.1	1.2	1.2			
Methane	UG/L	23,000	97%			85	88	15,000	16,000	16,000			
Sulfate	MG/L	1060	80%			68	88						
Total Organic Carbon	MG/L	2050	100%			88	88	1.5	14	14			
Total Olganic Carbon	WG/L	2000	100%			86	88	6.2	6.3	6.3			

- Notes:

 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 stendard.
- U = compound was not detected
- J = the reported value is and estimated concentration
- UJ= the compound was not detected; the associated reporting limit is approximate.

Ta... 6-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area
Loc ID
Matrix
Sample ID
Sample Date
QC Type
Study ID
Sample Round

ASH LANDFILL MWT-24 ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL MWT-24 MWT-24 MWT-24 MWT-24 MWT-24 GW GW GW GW GW GW ALBW20107 ALBW20122 ALBW20152 ALBW20167 ALBW20182 ALBW20137 11/13/2007 6/26/2008 12/12/2008 6/2/2009 12/15/2009 7/1/2010 SA SA SA SA SA LTM LTM

Sample Round								LIM	EIM	6	7	LIM	9
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals ¹	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q
Volatile Organic Compounds	- Other			9000		500000	ranayaou	value (d)	7 al ac (ac)	Value (at)	Talac (d)	Taleo (4)	1000 (0
1.1.1-Trichloroethane	UG/L	15	3%	5	1	5	178	1 U	5 U	0.76 J	0.26 U	0.4 J	0.5 U
.1.2.2-Tetrachloroethane	UG/L	0	0%	5	'n	Ö	178	1 0	5 U	0.21 U	0.21 U	0.21 U	0.18 U
.1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	Ö	178	1 U	5 UJ	0.31 U	0.31 U	0.31 U	0.5 U
.1.2-Trichloroethane	UG/L	0	0%	1	ñ	ő	178	1 0	5 U	0.23 U	0.23 U	0.23 U	0.13 U
.1-Dichloroethane	UG/L	62	12%	5	1	22	178	1 0	5 U	0.75 U	0.75 U	0.7 J	0.79 J
.1-Dichloroethene	UG/L	2.1	10%	5	'n	18	178	1 0	5 U	0.29 U	0.29 U	0.29 U	0.11 U
.2.4-Trichlorobenzene	UG/L	0	0%	5	ő	0	178	1 U	5 U	0.41 U	0.41 U	0.41 U	0.25 U
,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	ñ	0	178	iŭ	5 UJ	1 UJ	1 UJ	0.39 U	0.44 U
.2-Dibromoethane	UG/L	0	0%	0.0006	ñ	0	178	1 0	5 U	0.17 U	0.17 U	0.17 U	0.25 U
2-Dichlorobenzene	UG/L	0	0%	3	ñ	0	178	1 U	5 U	0.2 U	0.2 U	0.2 U	0.21 U
.2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	1 Ŭ	5 U	0,21 U	0.21 U	0.21 U	0.1 U
.2-Dichloropropane	UG/L	0.29	1%	1	n.	1	178	1 Ŭ	5 U	0.14 U	0.14 U	0.32 U	0.13 U
.3-Dichlorobenzene	UG/L	0	0%	3	ő	ò	178	1 0	5 U	0.16 U	0.14 U	0.36 U	0.25 U
.4-Dichlorobenzene	UG/L	o	0%	3	0	Ö	178	1 Ŭ	5 U	0.16 U	0.16 U	0.39 U	0.28 U
cetone	UG/L	2600	24%	•	•	41	172	5 U	25 U	1.3 U	1.3 U	1.3 U	5 U
denzene	UG/L	0.38	1%	1	0	2	178	1 U	5 U	0.16 U	0.16 U	0.41 U	0.25 U
romodichloromethane	UG/L	0	0%	80	ŏ	ō	178	1 0	5 U	0.38 U	0.39 U	0.39 U	0.25 U
romoform	UG/L	0	0%	80	ň	Ô	178	1 0	5 U	0.26 U	0.26 UJ	0.26 UJ	0.5 U
Carbon disulfide	UG/L	ő	0%	00		ő	178	1 U	5 U	0.19 U	0.19 UJ	0.19 UJ	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	ň	178	1 Ŭ	5 U	0.13 UJ	0.27 U	0.27 U	0.5 U
Chlorobenzene	UG/L	ő	0%	5	ŏ	ň	178	1 0	5 U	0.1B U	0.32 U	0.32 U	0.25 U
chlorodibromomethane	UG/L	0	0%	80	ŏ	ő	178	10	5 U	0.32 U	0.32 U	0.32 U	0.1 U
Chloroethane	UG/L	1,1	4%	5	Ŏ	7	178	10	5 UJ	0.32 U	0.47 J	0.32 UJ	1 U
Chloroform	UG/L	27	9%	7	4	16	178	1 U	5 U	0.34 U	0.34 U	0.34 U	0.14 U
Cls-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	AN BOT LAN	SPANNE FIL	V.52-//370	no to File August and		as a de la companya d
Cls-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	1 U	5 U	0.36 U	0.36 U	0.38 U	0.11 U
Cyclohexane	UG/L	ő	0%	0.4	· ·	o	178	1 U	5 U	0.22 U	0.53 U	0.53 U	0.25 U
ichlorodifluoromethane	UG/L	o	0%	5	0	o o	178	1 U	5 U	0.28 UJ	0.29 U	0.29 U	0.25 U.
thyl benzene	UG/L	9.2	7%	5	1	13	178	1 0	5 U	0.18 U	0.18 U	0.18 U	0.11 U
sopropylbenzene	UG/L	0.1	1%	5	ò	1	178	1 U	5 U	0.19 U	0.19 U	0.19 U	0.1 U
Methyl Acetate	UG/L	6	1%	•	•	2	178	1 UJ	5 UJ	0.17 U	0.17 UJ	0.5 U	0.19 U
lethyl bromide	UG/L	ŏ	0%	5	0	ō	177	1 U	5 UJ	0.17 U	0.28 U	0.28 U	0.8 U
Methyl butyl ketone	UG/L	Õ	0%	•	· ·	Ô	178	5 UJ	25 UJ	1.2 U	1.2 U	1.2 U	1 U
lethyl chloride	UG/L	o o	0%	5	0	ñ	178	1 U	5 UJ	0.34 U	0.35 U	0.35 UJ	0.33 U
lethyl cyclohexane	UG/L	0.17	1%	•	•	1	178	1 U	5 U	0.22 U	0.5 U	0.5 U	0.1 U
lethyl ethyl ketone	UG/L	4900	12%			22	178	5 U	25 UJ	1.3 U	1,3 U	1.3 U	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	5 U	25 UJ	0.91 U	0.91 U	0.91 U	1 0
lethyl Tertbutyl Ether	UG/L	0	0%			0	178	1 U	5 U	0.16 U	0.16 U	0.16 U	0.2 U
Methylene chloride	UG/L	18	7%	6	7	12	178	1 U	5 U	0.16 U 0.44 UJ	0.44 U	0.44 U	1 U
				5	ó								0.11 U
Styrene	UG/L	Ö	0%	5	ò	Ö	178	1 0	5 U	0.18 U	0.18 U	0.18 U	(

A	rea							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	
Ma	trix							GW	GW	GW	GW	GW	GW	
Sample	ID .							ALBW20107	ALBW20122	ALBW20137	ALBW20152	ALBW20167	ALBW20182	
Sample D								11/13/2007	6/26/2008	12/12/2008	6/2/2009	12/15/2009	7/1/2010	
QC Ty	уре							SA	SA	SA	SA	SA	SA	
Study								LTM	LTM	LTM	LTM	LTM	LTM	
Sample Rou	und							4	5	6	7	8	9	
						Number of	Number of							
		Maximum	Frequency of	Cleanup	Number of	Times	Samples							
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q))
Tetrachloroethene	UG/L		0%	5	0	0	178	1 U	5 U	0.36 U	0.36 U	0.36 U	0.15 U	_
Toluene	UG/L		16%	5	17	28	178	1 U	5 U	0.51 U	0.51 U	0.51 U	0.33 U	
Total Xylenes	UG/L	60	1%	5	1	2	178	3 U	15 U	0.93 U	0.66 U	0.66 U	0.2 U	
Trans-1,2-Dichloroethene	UG/L		50%	5	4	89	178	1 U	5 U	0.13 U	0.13 U	0.42 U	0.41 J	
Trans-1,3-Dichloropropene	UG/L	. 0	0%	0.4	0	0	178	1 U	5 U	0.37 U	0.37 U	0.37 U	0.21 U	

1 U

5 U

5 UJ 5 U

		maximum	Frequency of	Cleanup	Number of	Times	Samples	
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	
Tetrachloroethene	UG/L	0	0%	5	0	0	178	_
Toluene	UG/L	590	16%	5	17	28	178	
Total Xylenes	UG/L	60	1%	5	1	2	178	
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	
Trichloroethene	UG/L	2,700	70%	5	60	124	178	
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	
Vinyl chloride	UG/L	180	67%	2	100	119	178	
Other								
Iron	UG/L	296000	100%			12	12	
Iron+Manganese	UG/L	352900	100%			12	12	
Manganese	ŲG/L	56900	100%			12	12	
Ethane	UG/L	98	92%			81	88	
Ethene	UG/L	200	89%			78	88	
Methane	UG/L	23,000	97%			85	88	
Sulfate	MG/L	1060	80%			68	88	
Total Organic Carbon	MG/L	2050	100%			88	88	

Notes:

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

0.37 U

0.37 U

0.21 U

Tahan d-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL Area Loc ID MWT-24 MWT-24 MWT-24 PT-17 PT-17 PT-17 Matrix GW GW GW GW GW GW ALBW20197 ALBW20212 Sample ID ALBW20227 ALBW20058 ALBW20073 ALBW20087 Sample Date 12/17/2010 7/22/2011 12/13/2011 1/2/2007 3/15/2007 6/5/2007 QC Type SA SA SA SA SA LTM LTM LTM LTM LTM LTM Study ID Sample Round 10 11 12 3 Number of Number of Maximum Cleanup Number of Frequency of Times Samples Parameter
Volatile Organic Compounds Value Detections Goals¹ Exceedances Analyzed Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) Value (Q) 1,1,1-Trichloroethane UG/L 15 178 0.5 U 0.5 U 0.5 U 1 U 2 U 1 U 1,1,2,2-Tetrachloroethane UG/L 0 0% 5 0 0 178 0.18 U 0.18 U 0.18 U 2 U 1 U 1 U UG/L 0% 1,1,2-Trichloro-1,2,2-Trifluoroethane 0 178 0 0 0.5 U 0.5 U 0.5 U 1 U 2 U 1 UJ 1,1,2-Trichloroethane UG/L 0 0% 178 0.13 U 0.13 U 0.13 U 1 U 2 U 1 U 1,1-Dichloroethane UG/L 62 12% 22 178 2 U 1 U -5 0.58 J 0.25 U 0.44 J 1 U 2.1 UG/L 10% 1,1-Dichloroethene 18 178 0.11 U 0.11 U 0.11 U 1 U 2 U 1 U 0% 0% 0% 1,2,4-Trichlorobenzene UG/L 0 178 0.25 U 0.25 U 2 U 1 U 0.25 U 1 U UG/L 0 1,2-Dibromo-3-chloropropane 0.04 0 178 0 0.44 U 0.44 UJ 0.44 U 1 U 2 U 1 U UG/L 0 0.0006 178 1,2-Dibromoethane 0 0 0.25 U 0.25 U 0.25 U 1 U 2 U 1 U 1,2-Dichlorobenzene UG/L 0% 178 0.21 U 0.21 U 2 U 0.21 U 1 U 1 U

1,2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	0.1 U		0.1 U	1 U	2 U	1 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	0.13 U	0.13 U	0.13 U	1 U	2 U	1 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.25 U	0.25 U	0.25 U	1 U	2 U	1 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.28 U	0.28 U	0.28 U	1 U	2 U	1 U
Acetone	UG/L	2600	24%			41	172	5 UJ	5 U	5 U	9.3 U	22	5 U
Benzene	UG/L	0.38	1%	1	0	2	178	0.25 U	0.25 U	0.25 U	1 U	2 U	1 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	0.25 U	0.25 U	0.25 U	1 U	2 U	1 U
Bromoform	UG/L	0	0%	80	0	0	178	0.5 U	0.5 UJ	0.5 U	1 U	2 U	1 U
Carbon disulfide	UG/L	0	0%			0	178	0.6 U	0.6 U	0.6 U	1 U	2 U	1 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	0.5 U	0.5 UJ	0.5 UJ	1 U	2 U	1 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U	1 U	2 U	1 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	0.1 U	0.1 UJ	0.1 U	1 U	2 U	1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	1 U	1 U	1 UJ	1.0	2 U	1 U
Chloroform	UG/L	27	9%	7	4	16	178	0.19 J	0.14 U	0.14 U	10	2 U	10
Cis-1.2-Dichloroethene	UG/L	720	86%	5	115	153	178	23	39	16	62	26	43
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.11 U	0.11 U	0.11 U	10	2 U	10
Cyclohexane	UG/L	0	0%			0	178	0.25 U	0.25 U	0.25 U	1 U	2 U	1 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 UJ	1 U	2 U	1 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	0.11 U	0.11 U	0.11 U	1 U	2 U	1 U
Isopropylbenzene	UG/L	0.1	1%	5	0	1	178	0.1 U	0.1 U	0.1 U	1 U	2 U	1 U
Methyl Acetate	UG/L	6	1%			2	178	0.19 U	0.19 U	0.19 U	1 U	2 UJ	1 U
Methyl bromide	UG/L	0	0%	5	0	0	177	0.8 UJ	0.8 UJ	0.8 UJ	1 U	2 U	1 U
Methyl butyl ketone	UG/L	0	0%			0	178	1 U	1 U	1 U	5 U	10 U	5 U
Methyl chloride	UG/L	0	0%	5	0	0	178	0.33 U	0.33 U	0.33 UJ	1 U	2 U	1 U
Methyl cyclohexane	UG/L	0.17	1%			1	178	0.1 U	0.1 U	0.1 U	1 U	2 U	1 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1 U	1 U	1 U	5.4	11	5 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	1 U	1 U	1 U	5 U	10 U	5 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	178	0.2 U	0.2 U	0.2 U	1 U	2 U	1 U
Methylene chloride	UG/L	18	7%	5	7	12	178	1 U	1 U	1 U	1 U	1.2 J	1 U
Styrene	UG/L	0	0%	5	0	0	178	0.11 U	0.11 U	0.11 U	1 U	2 U	1 U

Loc ID								MWT-24	MWT-24	MWT-24	PT-17	PT-17	PT-17
Matrix								GW	GW	GW	GW	GW	GW
Sample ID								ALBW20197	ALBW20212	ALBW20227	ALBW20058	ALBW20073	ALBW20087
Sample Date								12/17/2010	7/22/2011	12/13/2011	1/2/2007	3/15/2007	6/5/2007
QC Type								SA	SA	SA	SA	SA	SA
Study ID								LTM	LTM	LTM	LTM	LTM	LTM
Sample Round								10	11	12	1	2	3
						Number of	Number of						
				Classin									
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Maximum Value	Prequency of Detections	Goals ¹	Number of Exceedances	Detected	Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Parameter Tetrachloroethene	Unit UG/L							Value (Q) 0.15 U	Value (Q) 0.15 U	Value (Q) 0.15 U	Value (Q)	Value (Q)	Value (Q)
			Detections				Analyzed						
Tetrachloroethene	UG/L UG/L UG/L	Value 0	0% 16% 1%			Detected 0	178 178 178 178	0.15 U	0.15 U	0.15 U	1 U	2 U	1 U
Tetrachloroethene Toluene	UG/L UG/L	0 590	0% 16% 1% 50%			Detected 0	178 178 178 178 178	0.15 U 0.33 U	0.15 U 0.33 U	0.15 U 0.33 U	1 U 1 U	2 U 2 U	1 U 1 U
Tetrachloroethene Toluene Total Xylenes	UG/L UG/L UG/L	Value 0 590 60 8 0	Detections 0% 16% 1% 50% 0%			0 28 2	178 178 178 178	0.15 U 0.33 U	0.15 U 0.33 U 0.2 U	0.15 U 0.33 U 0.2 U	1 U 1 U 3 U	2 U 2 U 6 U	1 U 1 U 3 U
Tetrachloroethene Toluene Total Xylenes Trans-1,2-Dichloroethene	UG/L UG/L UG/L UG/L	0 590	0% 16% 1% 50%	5 5 5 5 5		0 28 2	178 178 178 178 178	0.15 U 0.33 U 0.2 U 1	0.15 U 0.33 U 0.2 U 1.6	0.15 U 0.33 U 0.2 U 0.39 J	1 U 1 U 3 U 1 U	2 U 2 U 6 U 2 U	1 U 1 U 3 U 0.77 J

178

12

12

12

88

88

88

88

88

119

12

12

12

81

78

85

68

ASH LANDFILL

4.3

ASH LANDFILL

ASH LANDFILL

ASH LANDFILL

ASH LANDFILL

ASH LANDFILL

Notes:

Vinyl chloride

Iron+Manganese

Total Organic Carbon

Manganese

Ethane

Ethene

Sulfate

Methane

Other

Iron

1. The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

MG/L

MG/L

180

296000

352900

56900

98

200

23,000

1060

2050

100%

100%

100%

92%

89%

97%

80%

100%

a. NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).

Area

- 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Table 3-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area ASH LANDFILL ASH LANDFILL ASH LANDFILL **ASH LANDFILL** ASH LANDFILL ASH LANDFILL Loc ID Matrix PT-17 PT-17 PT-17 PT-17 PT-17 PT-17 GW GW GW GW GW GW ALBW20131 12/11/2008 ALBW20176 7/1/2010 ALBW20102 Sample ID ALBW20116 ALBW20146 ALBW20161 Sample Date QC Type 11/13/2007 6/26/2008 6/2/2009 12/15/2009 SA SA SA SA Study ID LTM LTM

Sample Round								LIM	LIM 5	LIM 6	LIM 7	LIM	LIM 9
•		Maximum Value	Frequency of	Cleanup Goals ¹	Number of	Number of Times	Number of Samples	V-1 (0)			·	V-I (0)	
Parameter	Unit	Value	Detections	Goals	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Volatile Organic Compounds	1104	45	0.01	-		_	470						
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	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	178	1 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	178	1 U	1 UJ	0.31 U	0.31 U	0.31 U	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	178	1 U	1 U	0.23 U	0.23 U	0.23 U	0.13 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	1 U	1 U	0.75 U	0.75 U	0.38 U	0.25 U
1,1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	1 U	1 U	0.29 U	0.29 U	0.29 U	0.24 J
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	1 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	178	1 U	1 UJ	1 UJ	1 UJ	0.39 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	1 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	178	1 U	1 U	0.2 U	0.2 U	0.2 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	1 U	1 U	0.21 U	0.21 U	0.21 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	1 Ŭ	1 U	0.14 U	0.14 U	0.32 U	0.13 U
1.3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 0	1 U	0.16 U	0.16 U	0.36 U	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	Ô	178	1 0	1 0	0.16 U	0.16 U	0.39 U	0.28 U
Acetone	UG/L	2600	24%	•	•	41	172	5 U	5 U	1.3 U	1.3 U	1.3 U	5 U
Benzene	UG/L	0.38	1%	1	n	2	178	1 U	1 U	0.16 U	0.16 U	0.41 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	Õ	ñ	178	1 U	1 0	0.38 U	0.39 U	0.39 U	0.25 U
Bromoform	UG/L	ŏ	0%	80	ŏ	0	178	1 0	1 U	0.26 U	0.26 UJ	0.26 UJ	0.5 U
Carbon disulfide	UG/L	0	0%	00	U	Ŏ	178	1 U	1 U	0.20 U	0.26 UJ	0.19 UJ	0.5 U
Carbon tetrachloride	UG/L	0	0%	5	•	0	178	1 U					
Chlorobenzene	UG/L	0	0%	5	,	0	178	1 U	10	0.27 UJ	0.27 U	0.27 U	0.5 U
	UG/L	0		80	0	0			10	0.18 U	0.32 U	0.32 U	0.25 U
Chlorodibromomethane			0%		0	0	178	1 U	1 U	0.32 U	0.32 U	0.32 U	0.1 U
Chloroethane	UG/L	1.1	4%	5	Ü	,	178	1 U	1 UJ	0.32 U	0.49 J	0.32 UJ	1 U
Chloroform	UG/L	27	9%		4	16	178	1.0	1.0	0,34 U	0.34 U	0,34 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	27	21	24	56	65	81
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	10	10	0.36 U	0.36 U	0.36 U	0.11 U
Cyclohexane	UG/L	0	0%			0	178	1 U	1 U	0.22 U	0.53 U	0.53 U	0.25 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	1 U	1 U	0.28 UJ	0.29 U	0.29 U	0.25 UJ
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	1 U	1 U	0.18 U	0.18 U	0.18 U	0.11 U
Isopropylbenzene	UG/L	0.1	1%	5	0	1	178	1 U	1 U	0.19 U	0.19 U	0.19 U	0.1 U
Methyl Acetate	UG/L	6	1%			2	178	1 UJ	1 UJ	0.17 U	0.17 UJ	0.5 U	0.19 U
Methyl bromide	UG/L	0	0%	5	0	0	177	1 U	1 UJ	0.28 U	0.28 U	0.28 U	0.8 U
Methyl butyl ketone	UG/L	0	0%			0	178	5 UJ	5 UJ	1.2 U	1.2 U	1.2 U	1 U
Methyl chloride	UG/L	0	0%	5	0	0	178	1 U	1 UJ	0.34 U	0.35 U	0.35 UJ	0.33 U
Methyl cyclohexane	UG/L	0.17	1%	_		1	178	1 0	1 U	0.22 U	0.5 U	0.5 U	0.1 U
Vethyl ethyl ketone	UG/L	4900	12%			22	178	5 U	5 UJ	1.3 U	1.3 U	1,3 U	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	5 U	5 UJ	0.91 U	0.91 U	0.91 U	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			ò	178	1 U	1 U	0.16 U	0.16 U	0.16 U	0.2 U
Methylene chloride	UG/L	18	7%	5	7	12	178	10	10	0.44 UJ	0.16 U 0.44 U	0.44 U	0.2 U
Styrene chlonde	UG/L	0	0%	5	ó	0	178	10	10		0.44 U	0.44 U	0.11 U
Stylelle	UG/L	U	070	9	U	U	1/0	1 0	10	0.18 U	U.18 U	0.16 0	0.110

L Sample Sample QC	Type dy ID							ASH LANDFILL PT-17 GW ALBW20102 11/13/2007 SA LTM 4	ASH LANDFILL PT-17 GW ALBW20116 6/26/2008 SA LTM 5	ASH LANDFILL PT-17 GW ALBW20131 12/11/2008 SA LTM 6	ASH LANDFILL PT-17 GW ALBW20146 6/2/2009 SA LTM 7	ASH LANDFILL PT-17 GW ALBW20161 12/15/2009 SA LTM 8	ASH LANDFILL PT-17 GW ALBW20176 7/1/2010 SA LTM 9
		Maximum	Frequency of	Cleanup	Number of	Number of Times	Number of Samples						
Parameter	Unit	Vaiue	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	1 U	1 U	0.38 U	0.36 U	0.36 U	0.15 U
Toluene	UG/L	590	16%	5	17	28	178	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	178	3 U	3 U	0.93 U	0.66 U	0.66 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.54 J	1 U	0.46 J	1.1	1.8	3.2
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	1 U	1 U	0.37 U	0.37 U	0.37 U	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178		8,5	9.2	8	7.8	1 3
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	1 U	1 UJ	0.15 UJ	0.15 U	0.15 U	0.25 U
Vinyl chloride Other	UG/L	180	67%	2	100	119	178	2	23	10	55	20	53
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88		98	6.9	50	9.9	16
Ethene	UG/L	200	89%			78	88		66	6.6	56	5	20
Methane	UG/L	23,000	97%			85	88		5,700	380	8,300	1,500	4,300
Sulfate	MG/L	1060	80%			68	88		15.2	45.8	28	46.2 J	36
Total Organic Carbon	MG/L	2050	100%			88	88		6	2.6	4.9	2.4	2.4

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

- U = compound was not detected
 J = the reported value is and estimated concentration
 UJ= the compound wes not detected; the associated reporting limit is approximate.

Ta... 6-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

ASH LANDFILL MWT-7 GW Area ASH LANDFILL **ASH LANDFILL** ASH LANDFILL ASH LANDFILL ASH LANDFILL MWT-7 Loc ID MWT-7 PT-17 PT-17 PT-17 Matrix GW GW GW GW GW ALBW20191 12/18/2010 ALBW20062 1/4/2007 Sample ID ALBW20206 ALBW20221 ALBW20077 ALBW20091 Sample Date 7/21/2011 12/13/2011 3/15/2007 6/5/2007 QC Type SA SA SA SA

Study iD Sample Round								LTIM 10	LTM 11	LTM 12	LTM 1	LTM 2	LTM 3
		Maximum	Frequency of	Cleanup Goals ¹	Number of	Number of Times	Number of Samples						
Parameter Volatile Organic Compounds	Unit	Value	Detections	GOEIS	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U
1.1.2.2-Tetrachloroethane	UG/L	0	0%	5	Ó	o o	178	0.18 U	0.18 U	0.18 U	1 0	1 0	1 0
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	ŏ	0%	5	ñ	ñ	178	0.5 U	0.5 U	0.5 U	1 0	1 U	1 UJ
1,1,2-Trichloroethane	UG/L	0	0%	1	n	Õ	178	0.13 U	0.13 U	0.13 U	1 0	1 U	1 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	0.25 U	0.25 UJ	0.25 U	1 0	1 U	1 U
1,1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	0.42 J	0.11 U	0.11 U	1 U	1 U	1 U
1.2.4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	178	0.44 U	0.44 U	0.44 U	1 U	1 U	1 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	0.25 U	0.25 U	0.25 U	1 0	1 U	1 U
1.2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.21 U	0.21 U	0.21 U	1 U	1 U	1 0
1.2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	0.1 U	0.1 U	0.1 U	1 U	1 U	10
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	0.13 U	0.13 U	0.13 U	1 Ŭ	1 0	1 0
1.3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
1.4-Dichlorobenzene	UG/L	0	0%	3	ō	0	178	0.28 U	0.28 U	0.28 U	1 Ŭ	1 Ŭ	1 U
Acetone	UG/L	2600	24%			41	172	5 UJ	5 U	5 U	5 U	5 U	5 U
Benzene	UG/L	0.38	1%	1	0	2	178	0.25 U	0.25 U	0.25 U	1 0	1 U	1 U
Bromodichloromethane	UG/L	0	0%	80	Ö	ō	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
Bromoform	UG/L	. 0	0%	80	Ō	ō	178	0.5 U	0.5 UJ	0.5 U	1 Ŭ	1 U	1 U
Carbon disulfide	UG/L	0	0%	-		o	178	0.6 U	0.6 U	0.6 U	1 0	1 Ü	10
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	0.5 U	0.5 U	0.5 U	1 Ü	1 U	1 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	0.1 U	0.1 U	0.1 U	1 Ü	1 U	1 U
Chloroethane	UG/L	1.1	4%	5	ō	7	178	1 U	1 U	1 UJ	1 0	1 0	1 U
Chloroform	UG/L	27	9%	7	4	16	178	0.15 J	0.14 U	0.14 U	1.0	10	10
Cis-1.2-Dichloroethene	UG/L	720	86%	5	115	153	178	39	94	25	35	42	61
Cis-1.3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.11 U	0.11 U	0.11 U	10	1 U	10
Cyclohexane	UG/L	0	0%			0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
Dichlorodifiuoromethane	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 UJ	1 U	1 U	1 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	0.11 U	0.11 U	0.11 U	1 U	1 U	1 U
Isopropylbenzene	UG/L	0.1	1%	5	0	1	178	0.1 U	0.1 U	0,1 U	1 U	1 U	1 U
Methyl Acetate	UG/L	8	1%			2	178	0.19 U	0.19 U	0.19 U	1 U	1 UJ	1 U
Methyl bromide	UG/L	0	0%	5	0	0	177	0.8 UJ	0.8 UJ	0.8 U	1 U	1 U	1 U
Methyl butyl ketone	UG/L	0	0%			0	178	1 U	1 U	1 U	5 U	5 U	5 U
Methyl chloride	UG/L	0	0%	5	0	0	178	0.33 U	0.33 UJ	0.33 UJ	1 U	1 U	1 U
Methyl cyclohexane	UG/L	0.17	1%			1	178	0.1 U	0.1 U	0.1 U	1 Ü	1 U	1 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1 U	1 U	1 U	5 U	5 U	5 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	1 U	1 U	1 U	5 U	5 U	5 U
Methyl Tertbutyl Ether	UG/L	0	0%			0	178	0.2 U	0.2 U	0.2 U	1 Ü	1 U	1 U
Methylene chloride	UG/L	18	7%	5	7	12	178	1 U	1 U	1 U	1 Ŭ	1 0	1 U
Styrene	UG/L	0	0%	5	ò	0	178	0.11 U	0.11 U	0.11 U	1 0	1 U	1 0

Area Loc IC Matrix Sample IC Sample Date QC Type Study IC Sample Round						Number of	Number of	ASH LANDFILL PT-17 GW ALBW20191 12/18/2010 SA LTM 10	ASH LANDFILL PT-17 GW ALBW20206 7/21/2011 SA LTM 11	ASH LANDFILL PT-17 GW ALBW20221 12/13/2011 SA LTM 12	ASH LANDFILL MWT-7 GW ALBW20062 1/4/2007 SA LTM 1	ASH LANDFILL MWT-7 GW ALBW20077 3/15/2007 SA LTM 2	ASH LANDFILL MWT-7 GW ALBW20091 6/5/2007 SA LTM 3
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	0.15 U	1 U	0.15 U	1 Ü	1 Ü	1 U
Toluene	UG/L	590	16%	5	17	28	178	0.33 U	0.33 U	0.33 U	1 U	1 U	1 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.2 U	0.2 U	0.2 U	3 U	3 U	3 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	2.2	7	1.8	1 U	1 U	1 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.21 U	0.21 U	0.21 U	1 U	1 U	1 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	8.1	4.5		490	440	410
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 UJ
Vinyl chloride	UG/L	180	67%	2	100	119	178	16	56	12	0.51 J	9.7	18
Other													
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88	4.8	1.8	1.7			
Ethene	UG/L	200	89%			78	88	3.5	3.8	2.4			
Methane	UG/L	23,000	97%			85	88	900	780	810			
Sulfate	MG/L	1060	80%			68	88	31	24	27			
Total Organic Carbon	MG/L	2050	100%			88	88	1.5	3.4	1.6			

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Tahan d-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area
Loc ID
Matrix
Sample ID
Sample Date
QC Type
Study ID
Sample Round

ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL MWT-7 MWT-7 MWT-7 MWT-7 MWT-7 MWT-7 MW1-7 GW ALBW20180 7/1/2010 SA LTM 9 GW ALBW20106 GW ALBW20120 GW ALBW20135 GW ALBW20150 GW ALBW20185 11/13/2007 6/25/2008 12/15/2008 6/2/2009 12/15/2009 SA LTM 4 SA LTM SA LTM 8 SA LTM SA LTM

Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals ¹	Number of Exceedances	Number of Times Detected	Number of Samples	4	5	6	,	8	9
Volatile Organic Compounds	Unit	Amine	Democrous	GOMB	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
1.1.1-Trichloroethane	UG/L	15	3%		4		178	1 U	4.11	0.00.11			
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	9	178	1 U	1 U	0.26 U	0.26 U	0.26 U	0.5 U
1.1.2-Trichloro-1.2.2-Trifluoroethane	UG/L	o	0%	5	0	0	178		10	0.21 U	0.21 U	0.21 U	0.18 U
1.1.2-Trichloroethane	UG/L	0	0%	1	0	0	178	1 U	1 UJ	0.31 U	0.31 U	0.31 U	0.5 U
1.1-Dichloroethane	UG/L	62	12%	-	4	22	178	1 U	1 U	0.23 U	0.23 U	0.23 U	0.13 U
I,1-Dichloroethene	UG/L	2.1	10%	5	1	18	178	1 U	1 U	0.75 U	0.75 U	0.38 U	0.25 U
1,2.4-Trichlorobenzene	UG/L	2.1	0%	5	0	18	178	1 U	1 U	0.29 U	0.29 U	0.48 J	0.78 J
,2-Dibromo-3-chloropropane	UG/L	ŭ	0%	0.04	Ü	0		1 U	1 U	0.41 U	0.41 U	0.41 U	0.25 U
I.2-Dibromo-3-chloropropane	UG/L	0			Ü	0	178	1 U	1 UJ	1 UJ	1 UJ	0.39 U	0.44 U
I.2-Dichlorobenzene	UG/L	0	0%	0.0006	Ü	0	178	1 U	1 U	0.17 U	0.17 U	0.17 U	0.25 U
			0%	3	0	0	178	1 U	1 U	0.2 U	0.2 U	0.2 U	0.21 U
,2-Dichloroethane	UG/L	5.8	14%	0.6	21	25	178	1 U	1 U	0.21 U	0.21 U	0.21 U	0.1 U
,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	1 U	1 U	0.14 U	0.14 U	0.32 U	0.13 U
,3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 U	1 U	0.16 U	0.16 U	0.36 U	0.25 U
,4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	1 U	1 U	0.16 U	0.16 U	0.39 U	0.28 U
Acetone	UG/L	2600	24%			41	172	5 U	5 U	1.3 U	1.3 U	1.3 U	5 U
Benzene	UG/L	0.38	1%	1	0	2	178	1 U	1 U	0.16 U	0.18 U	0.41 U	0.25 U
romodichloromethane	UG/L	0	0%	80	0	0	178	1 U	1 U	0.38 U	0.39 U	0.39 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	178	1 U	1 U	0.26 U	0.26 UJ	0.28 UJ	0.5 U
Carbon disulfide	UG/L	0	0%			0	178	1 U	1 U	0.19 U	0.19 UJ	0.19 UJ	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	. 0	178	1 U	1 U	0.27 U	0.27 U	0.27 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	0	0	178	1 U	1 U	0.18 U	0.32 U	0.32 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	1 U	1 U	0.32 U	0.32 U	0.32 U	0.1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	0.65 J	1 UJ	0.93 J	0.61 J	0.32 UJ	1 U
Chloroform	UG/L	27	9%	7	4	16	178	10	111	0.34 U	0.34 U	0.34 U	0.14 U
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	90	90	79	68	140	170
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	10	1 U	0.36 U	0.36 U	0.36 U	0.11 U
Cyclohexane	UG/L	0	0%			0	178	1 U	1 U	0.22 U	0.53 U	0.53 U	0.25 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	1 U	1 U	0.28 U	0.29 U	0.29 U	0.25 UJ
thyl benzene	UG/L	9.2	7%	5	1	13	178	1 U	iŭ	0.18 U	0.18 U	0.18 U	0.11 U
sopropylbenzene	UG/L	0.1	1%	5	0	1	178	1 U	1 U	0.19 U	0.19 U	0.19 U	0.1 U
Methyl Acetate	UG/L	6	1%	-	•	2	178	1 UJ	1 UJ	0.17 U	0.17 UJ	0.5 U	0.19 U
Methyl bromide	UG/L	0	0%	5	0	0	177	1 U	1 UJ	0.28 U	0.28 U	0.28 U	0.8 U
Methyl butyl ketone	UG/L	0	0%	•	•	Ů	178	5 UJ	5 UJ	1.2 U	1.2 U	1.2 U	1 U
Methyl chloride	UG/L	ñ	0%	5	0	Ô	178	1 U	1 UJ	0.34 U	0.35 U	0.35 UJ	0.33 U
Methyl cyclohexane	UG/L	0.17	1%	•	•	1	178	1 U	1 U	0.34 U	0.5 U	0.5 U	0.33 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	5 U	5 UJ	1.3 U	1.3 U	1.3 U	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	5 U	5 UJ	0.91 U			10
Methyl Tertbutyl Ether	UG/L	0	0%			Ó	178			0.91 U 0.16 U	0.91 U	0.91 U	
Methylene chloride	UG/L	18	7%	-	7	12	178	1 U	10		0.16 U	0.16 U	0.2 U
	UG/L	0	0%	5 5	,	0	178	1 U	1 U	0.44 UJ	0.44 U	0.44 U	1 U
Styrene	UG/L	U	U76	5	U	0	1/6	1 U	1 U	0.18 U	0.18 U	0.18 U	0.11 U

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area Loc IC Matri Sample It Sample Dat QC Typ Study II Sample Round) x) ;					Number of	Number of	ASH LANDFILL MWT-7 GW ALBW20106 11/13/2007 SA LTM 4	ASH LANDFILL MWT-7 GW ALBW20120 6/25/2008 SA LTM 5	ASH LANDFILL MWT-7 GW ALBW20135 12/15/2008 SA LTM 6	ASH LANDFILL MWT-7 GW ALBW20150 6/2/2009 SA LTM 7	ASH LANDFILL MWT-7 GW ALBW20165 12/15/2009 SA LTM 8	ASH LANDFILL MWT-7 GW ALBW20180 7/1/2010 SA LTM 9
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	ŲG/L	0	0%	5	0	0	178	1 U	1 U	0.36 U	0.36 U	0.36 U	0.15 U
Toluene	UG/L	590	16%	5	17	28	178	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	178	3 U	3 U	0.93 U	0.66 U	0.66 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	1 U	1 U	0.13 U	0.13 U	0.55 J	0.91 J
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	1 U	1 U	0.37 U	0.37 U	0.37 U	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	510	440	410	330	350	330
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	1 U	1 UJ	0.15 U	0.15 U	0.15 U	0.25 U
Vinyl chloride	UG/L	180	67%	2	100	119	178	24	12	13	9.3	21	15
Other													
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88		6.7	11	7.8	17	9
Ethene	UG/L	200	89%			78	88		2	0.27	0.76	0.52	0.55
Methane	UG/L	23,000	97%			85	88		400	670	1,100	2,900	1,700
Sulfate	MG/L	1060	80%			68	88		29.1	29.1	27	29.3 J	29
Total Organic Carbon	MG/L	2050	100%			88	88		2.3	3	3.1	4.5 J	1.5

- The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Parameter

Volatile Organic Compounds 1,1,1-Trichloroethane

1,1,2-Trichioro-1,2,2-Trifluoroethane

1,1,2,2-Tetrachloroethane

1.1.2-Trichloroethane

1.2.4-Trichlorobenzene

1,2-Dibromo-3-chloropropane

1,1-Dichloroethane

1,1-Dichloroethene

1,2-Dibromoethene

1,2-Dichlorobenzene

1,2-Dichloroethane

1.2-Dichloropropane

1.3-Dichlorobenzene

1,4-Dichlorobenzene

Bromodichloromethane

Acetone

Benzene

Bromoform

Carbon disulfide

Chlorobenzene

Chloroethane

Chloroform

Cyclohexane

Ethyl benzene

Methyl Acetate

Methyl bromide

Methyl chloride

Methyl butyl ketone

Methyl cyclohexane

Methyl ethyl ketone

Methylene chloride

Styrene

Methyl isobutyl ketone

Methyl Tertbutyl Ether

Isopropyibenzene

Carbon tetrachloride

Chlorodibromomethane

Cis-1,2-Dichloroethene

Cis-1,3-Dichloropropene

Dichlorodifluoromethane

Ta ... 4-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Number of

Times

Detected

5

0

0

0

22

18

0

0

0

0

25

1

Ω

41

2

0

0

16

153

0

0

13

0

0

22

0

12

178

178

178

178

178

178

178

0.33 U

0.1 U

1 U

1 U

0.2 U

0.11 U

1 U

0.33 U

0.1 U

1 U

1 U

1 U

0.2 U

0.11 U

Cleanup

Goals¹

5

5

5

5

5

5

0.04

0.0006

3

0.6

1

3

3

80

80

5

80

5

5

0.4

5

5

5

5

5

5

5

Number of

Exceedances

0

٥

0

0

0

21

0

٥

0

0

0

0

0

115

0

0

0

0

0

Frequency of

Detections

3%

0%

0%

0%

12%

10%

0%

0%

0%

0%

14%

1%

0%

0%

24%

1%

0%

0%

0%

0%

0%

0%

4%

9%

86%

0%

0%

0%

7%

1%

1%

0%

0%

0%

1%

12%

1%

0%

7%

0%

ASH LANDFILL

ASH LANDFILL

Area Loc ID Matrix Sample ID Sample Date QC Type Study ID Sample Round

Unit

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

Value

15

0

0

0

62

2.1

0

0

0

0

5.6

0.29

0

0

2600

0.38

0

0

0

0

0

0

1.1

27

720

0

0

0

9.2

0.1

6

0

0

0

0.17

4900

1.9

0

18

0

Number of	MWT-7 GW ALBW20195 12/18/2010 SA LTM 10	MWT-7 GW ALBW20210 7/22/2011 SA LTM 11	MWT-7 GW ALBW20225 12/13/2011 SA LTM 12	PT-24 GW ALBW20061 1/2/2007 SA LTM 1	PT-24 GW ALBW20076 3/15/2007 SA LTM 2	PT-24 GW ALBW20090 6/5/2007 SA LTM 3
Samples						
Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
178	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U
178	0.18 U	0.18 U	0.18 U	1 U	1 U	1 U
178	0.5 U	0.5 U	0.5 U	1 U	1 U	1 UJ
178	0.13 U	0.13 U	0.13 U	1 U	1 U	1 U
178	0.25 U	0.94 J	1.2	0.68 J	1 U	0.75 J
178	0.98 J	0.11 U	0.11 U	1 U	1 U	1 U
178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
178	0.44 U	0.44 UJ	0.44 U	1 U	1 U	1 U
178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
178	0.21 U	0.21 U	0.21 U	1 U	1 U	1 U
178	0.1 U	0.1 U	0.1 U	1 U	1 U	1 U
178	0.13 U	0.13 U	0.13 U	1 U	1 U	1 U
178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
178	0.28 U	0.28 U	0.28 U	1 U	1 U	1 U
172	5 UJ	5 U	5 U	5 U	5 U	5 U
178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
178	0.5 U	0.5 UJ	0.5 U	1 U	1 U	1 U
178	0.6 U	0.6 U	0.6 U	1 U	1 U	1 U
178	0.5 U	0.5 UJ	0.5 U	1 U	1 U	1 U
178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
178	0.1 U	0.1 UJ	0.1 U	1 U	1 U	1 U
178	1 U	1 U	1 UJ	1 U	1 U	1 U
178	0.14 U	0.14 U	0.14 U	1.0	1.0	10
178	120	12	56	54	38	60
178	0.11 U	0.11 U	0.11 U	1 U	10	10
178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
178	0.25 U	0.25 U	0.25 UJ	1 U	1 U	1 U
178	0.11 U	0.11 U	0.11 U	1 U	1 U	1 U
178	0.1 U	0.1 U	0.1 U	1 U	1 U	1 U
178	0.19 U	0.19 U	0.19 U	1 U	1 UJ	1 U
177	0.8 UJ	0.8 UJ	0.8 U	1 U	1 U	1 U
178	1 U	1 U	1 U	5 U	5 U	5 U
470			0.00.111	4 11	4 4 4	

0.33 UJ

0.1 U

1 U

1 U

0.2 U

0.11 U

1 U

1 U

5 U

5 U

1 U

1 U

1 U

1 U

1 U

5 U

5 U

1 U

1 U

1 U

ASH LANDFILL

ASH LANDFILL

ASH LANDFILL

ASH LANDFILL

1 U

1 II

5 U

5 U

1 U

1 U

1 U

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Arec Loc II Matri Semple Date Sample Date QC Type Study II Sample Round) x) 3							ASH LANDFILL MWT-7 GW ALBW20195 12/18/2010 SA LTM 10	ASH LANDFILL MWT-7 GW ALBW20210 7/22/2011 SA LTM 11	ASH LANDFILL MWT-7 GW ALBW20225 12/13/2011 SA LTM 12	ASH LANDFILL PT-24 GW ALBW20061 1/2/2007 SA LTM	ASH LANDFILL PT-24 GW ALBW20076 3/15/2007 SA LTM 2	ASH LANDFILL PT-24 GW ALBW20090 6/5/2007 SA LTM 3
		Maximum	Frequency of	Cleanup	Number of	Number of Times	Number of Samples						
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachioroethene	UG/L	0	0%	5	0	0	178	0.15 U	0.15 U	0.15 U	10	10	10
Toluene	UG/L	590	16%	5	17	28	178	0.33 U	0.33 U	0.33 U	1 U	1 U	1 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.2 U	0.2 U	0.2 U	3 U	3 U	3 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.75 J	0.34 J	0.24 J	0.86 J	0.81 J	1.6
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.21 U	0.21 U	0.21 U	1 U	1 U	1 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	3	0.52 J	2.3	4	2.8	3.1
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 UJ
Vinyl chloride Other	UG/L	180	67%	2	100	119	178				0.6 J	1 U	2.6
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88	4.5	4.9	0.84			
Ethene	UG/L	200	89%			78	88	0.2	0.21	0.425 U			
Methane	UG/L	23,000	97%			85	88	400	1,600				
Sulfate	MG/L	1060	80%			68	88	31	39	79 28			
Total Organic Carbon	MG/L	2050	100%			88	88	1.3	2	1.7			

Notes:

- Notes:

 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
 UJ= the compound was not detected; the associated reporting limit is approximate.

Table 4-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area
Loc ID
Matrix
Sample ID
Sample Date
QC Type
Study ID
Sample Round

ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL ASH LANDFILL PT-24 PT-24 PT-24 PT-24 PT-24 PT-24 GW GW GW GW GW GW ALBW20105 11/13/2007 ALBW20134 12/12/2008 ALBW20164 12/15/2009 ALBW20119 ALBW20149 ALBW20179 6/26/2008 6/2/2009 6/30/2010 SA SA SA SA SA SA LTM LTM LTM

Sample Round								4	5	6	7	8	9
Parameter	Unit	Maximum Value	Frequency of Detections	Cleanup Goals ¹	Number of Exceedances	Number of Times Detected	Number of Samples Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (C
Volatile Organic Compounds				_									
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	176	1 U	1 U	0.26 U	0.26 U	0.26 U	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	178	1 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	178	1 U	1 UJ	0.31 U	0.31 U	0.31 U	0.5 UJ
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	178	1 U	1 U	0.23 U	0.23 U	0.23 U	0.13 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	0.56 J	0.69 J	0.75 U	0.75 U	0.38 U	0.54 J
1,1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	1 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	178	1 U	1 U	0.41 U	0.41 U	0.41 U	0.25 U
,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	178	1 U	1 UJ	1 UJ	1 UJ	0.39 U	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	1 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	178	1 U	1 U	0.2 U	0.2 U	0.2 U	0.21 U
1,2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	1 U	1 U	0.21 U	0.21 U	0.21 U	0.1 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	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	178	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	178	1 U	1 Ü	0.16 U	0.16 U	0.39 U	0.28 U
Acetone	UG/L	2600	24%			41	172	5 U	5 U	1.3 U	1.3 U	1.3 U	5 U
Benzene	UG/L	0.38	1%	1	0	2	178	1 U	1 U	0.16 U	0.16 U	0.41 U	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	1 U	1 U	0.38 U	0.39 U	0.39 U	0.25 U
Bromoform	UG/L	0	0%	80	0	0	178	1 Ŭ	1 U	0.26 U	0.26 UJ	0.26 UJ	0.5 U
Carbon disulfide	UG/L	0	0%	•		0	178	1 U	1 U	0.19 U	0.19 UJ	0.19 UJ	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	1 Ŭ	1 Ŭ	0.27 U	0.27 U	0.27 U	0.5 U
Chlorobenzene	UG/L	0	0%	5	ō	0	178	1 U	1 U	0.18 U	0.32 U	0.32 U	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	ŏ	178	1 U	1 U	0.32 U	0.32 U	0.32 U	0.1 U
Chloroethane	UG/L	1.1	4%	5	ő	7	178	1 U	1 UJ	0.32 U	0.32 U	0.32 UJ	1 U
Chloroform	UG/L	27	9%	7	4	16	178	10	1 U	0.34 U	0.34 U	0.34 U	0.14 U
Cis-1.2-Dichloroethene	UG/L	720	86%	5	115	153	178	39	48	34	32	28	33
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	10	10	0.36 U	0.36 U	0.36 U	0.11 U
Cyclohexane	UG/L	o o	0%	0.4	•	0	178	1 U	1 U	0.22 U	0.53 U	0.53 U	0.25 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	0	178	1 0	1 U	0.28 U	0.29 U	0.29 U	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	1 U	10	0.18 U	0.18 U	0.18 U	0.11 U
sopropylbenzene	UG/L	0.1	1%	5	'n	1	178	1 U	1 U	0.19 U	0.19 U	0.19 U	0.1 U
Methyl Acetate	UG/L	6	1%	5	U	2	178	1 UJ	1 UJ	0.19 U	0.17 UJ	0.19 U	0.19 U.
Methyl bromide	UG/L	0	0%	5	0	0	177	1 U	1 UJ	0.17 U	0.17 UJ	0.3 U	0.19 U.
Methyl butyl ketone	UG/L	0	0%	3	· ·	0	178	5 UJ	5 UJ	1.2 U	1.2 U	1.2 U	1 U.
Methyl chloride	UG/L	0	0%	5	0	0	178	5 UJ 1 U	5 UJ 1 UJ	0.34 U	0.35 U	0.35 UJ	0.33 U
Methyl cyclohexane	UG/L	0.17	1%	3	U	1	178	10	1 UJ	0.34 U 0.22 U	0.35 U	0.35 UJ	0.33 U
Methyl cyclonexane Methyl ethyl ketone	UG/L	4900	12%			22	178	5 U	5 UJ	1.3 U	1.3 U	1.3 U	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			4	178	5 U	5 UJ				
	UG/L	0	0%			1	178			0.91 U	0.91 U	0.91 U	10
Methyl Tertbutyl Ether	UG/L	18	7%		-	40	178	1 U	1 U	0.16 U	0.16 U	0.16 U	0.2 U
Methylene chloride	UG/L	18	0%	5	ó	12		1 U	1 U	0.44 UJ	0.44 U	0.44 U	1 U
Styrene	UG/L	U	U%	5	U	0	178	1 U	1 U	0.18 U	0.18 U	0.18 U	0.11 U

Appendix B

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

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	ALBW20105	ALBW20119	ALBW20134	ALBW20149	ALBW20164	ALBW20179
Sample Date	11/13/2007	6/26/2008	12/12/2008	6/2/2009	12/15/2009	6/30/2010
QC Type	SA	SA	SA	SA	SA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	4	5	6	7	8	9

						Number of	Number of						
		Maximum	Frequency of	Cleanup	Number of	Times	Samples						
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)_	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	1 Ü	1 U	0.36 U	0.36 U	0.36 U	0.15 Ú
Toluene	UG/L	590	16%	5	17	28	178	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	178	3 U	3 U	0.93 U	0.66 U	0.66 U	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	1 U	1.1	0.36 J	0.83 J	0.61 J	1.1
Trans-1,3-Dichloropropene	ŲG/L	0	0%	0.4	0	0	178	1 U	1 U	0.37 U	0.37 U	0.37 U	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	3.8	2.4	2.2	1.7	1.7	0.39 J
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	1 U	1 ŲJ	0.15 U	0.15 U	0.15 U	0.25 U
Vinyl chloride	ŲG/L	180	67%	2	100	119	178	1 U	1.9	0.26 J	2	1.6	3.8
Other													
Iron	UG/L	296000	100%			12	12						
Iron+Manganese	UG/L	352900	100%			12	12						
Manganese	UG/L	56900	100%			12	12						
Ethane	UG/L	98	92%			81	88						
Ethene	UG/L	200	89%			78	88						

88

88

85

68

Methane

Total Organic Carbon

Sulfate

The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).

UG/L

MG/L

MG/L

- b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)

23,000

1060

2050

97%

80%

100%

- 2. Shading indicates a concentration above the GA GW standard.
- U = compound was not detected
- J = the reported value is and estimated concentration
- UJ= the compound was not detected; the associated reporting limit is approximate.

Parameter

Volatile Organic Compounds 1,1,1-Trichioroethane

1,1,2-Trichloro-1,2,2-Trifluoroethane

1,1,2,2-Tetrachioroethane

1,1,2-Trichloroethane

1,1-Dichloroethane

1,1-Dichloroethene

1,2-Dibromoethane

1,2-Dichloroethane
1,2-Dichlorocropane

1,2-Dichlorobenzene

1,3-Dichlorobenzene

1,4-Dichlorobenzene

Acetone

Benzene Bromodichloromethane

Bromoform

Carbon disulfide

Chlorobenzene

Chloroethane

Cyclohexane

Ethyl benzene

Methyl Acetate

Methyl bromide

Methyl chloride

Isopropylbenzene

Methyl butyl ketone

Methyl cyclohexane

Methyl ethyl ketone

Methylene chloride

Styrene

Methyl isobutyl ketone

Methyl Tertbutyl Ether

Chloroform

Carbon tetrachloride

Chlorodibromomethane

Cis-1,2-Dichloroethene

Cis-1,3-Dichloropropene

Dichlorodifluoromethane

1,2,4-Trichlorobenzene

1,2-Dibromo-3-chloropropane

Ta... 6-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

ASH LANDFILL

PT-24

ASH LANDFILL

PT-24

Area
Loc ID
Matrix
Sample ID
Sample Date
QC Type
Study ID
Sample Round

			GW ALBW20194 12/17/2010	GW ALBW20209 7/21/2011	GW ALBW20224 12/13/2011	GW ALBW20072 1/4/2007	GW ALBW20101 6/6/2007	GW ALBW20124 6/26/2008
			SA	SA	SA	SA	SA	SA
			LTM	LTM	LTM	LTM	LTM	LTM
			10	11	12	1	3	5
Number of	Number of Times	Number of Samples						
Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
1	5	178	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U
0	0	178	0.18 U	0.18 U	0.18 U	1 U	1 U	1 U
0	0	178	0.5 U	0.5 U	0.5 U	1 U	1 UJ	1 UJ
0	0	178	0.13 U	0.13 U	0.13 U	1 U	1 U	1 U
1	22	178	0.54 J	0.78 J	0.48 J	1 U	1 U	1 U
0	18	178	0.11 U	0.11 U	0.11 U	1 U	1 U	1 U
0	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
0	0	178	0.44 U	0.44 U	0.44 U	1 U	1 U	1 UJ
0	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
0	0	178	0.21 U	0.21 U	0.21 U	1 U	1 U	1 U
21	25	178	0.1 U	0.1 U	0.1 U	1 U	1 U	1 0
0	1	178	0.13 U	0.13 U	0.13 U	1 U	1 U	1 U
0	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
0	0	178	0.28 U	0.28 U	0.28 U	1 U	1 U	1 U
	41	172	5 UJ	5 U	5 U	5 U	5 U	5 U
0	2	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
0	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
0	0	178	0.5 U	0.5 UJ	0.5 U	1 U	1 U	1 U
	0	178	0.6 U	0.6 U	0.6 U	1 U	1 U	1 U
0	0	178	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U
0	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 U
0	0	178	0.1 U	0.1 U	0.1 U	1 U	1 U	1 U
0	7	178	1 U	1 U	1 UJ	1 U	1 U	1 UJ
4	16	178	0.16 J	0.14 U	0.14 U	1 U	1 U	1 U
115	153	178	30	37	21	1.2	1.7	1.3
0	0	178	0.11 U	0.11 U	0.11 U	1 U	1 U	1 U
	0	178	0.25 U	0.25 U	0.25 U	1 U	1 U	1 Մ
0	0	178	0.25 U	0.25 U	0.25 UJ	1 U	1 U	1 U
1	13	178	0.11 U	0.11 U	0.11 U	1 U	1 U	1 U
0	1	178	0.1 U	0.1 U	0.1 U	1 U	1 U	1 U
	2	178	0.19 U	0.19 U	0.19 U	1 U	1 U	1 UJ
0	0	177	UJ 8.0	0.8 UJ	0.8 U	1 U	1 U	1 UJ
	0	178	1 U	1 U	1 U	5 U	5 U	5 UJ
0	0	178	0.33 U	0.33 UJ	0.33 UJ	1 U	1 U	1 UJ
	1	178	0.1 U	0.1 U	0.1 U	1 U	1 U	1 U
	22	178	1 U	1 U	1 U	5 U	5 U	5 UJ
	1	178	1 U	1 U	1 U	5 U	5 U	5 UJ

0.2 U

0.11 U

1 U

0.2 U

0.11 U

1 U

0.2 U

0.11 U

1 U

1 U

1 U

1 U

1 U

1 U

1 U

ASH LANDFILL

PT-24

ASH LANDFILL

MW-56

ASH LANDFILL

MW-56

ASH LANDFILL

MW-56

1 U

1 U

1 U

178

178

178

0

12

Cleanup

Goals1

5

5

5

5

5

5

0.04

0.0006

3

0.6

1

3

3

80

80

5

80

5

7

5

0.4

5

5

5

Frequency of

Detections

3%

0%

0%

0%

12%

10%

0%

0%

0%

0%

14%

1%

0%

0%

24%

1%

0%

0%

0%

0%

0%

0%

4%

9%

86%

0%

0%

0%

7% 1%

1%

0%

0%

0%

1% 12%

1%

0%

7%

0%

Value

15 0

0

0

62

2.1

0

0

0

0

5.6

0.29

0

0

2600

0.38

0

0

0

0

0

0

1.1

27

720

0

ō

0

9.2

0.1

6

0

0

0

0.17

4900

1.9

0

18

0

Unit

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

UG/L

Table B-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID	PT-24	PT-24	PT-24	MW-56	MW-56	MW-56
Matrix	GW	GW	GW	GW	GW	GW
Sample ID	ALBW20194	ALBW20209	ALBW20224	ALBW20072	ALBW20101	ALBW20124
Sample Date	12/17/2010	7/21/2011	12/13/2011	1/4/2007	6/6/2007	6/26/2008
QC Type	SA	SA	SA	SA	ŞA	SA
Study ID	LTM	LTM	LTM	LTM	LTM	LTM
Sample Round	10	11	12	1	3	5

			_	OI		Nutriber of	MUITIDAL OI					
		Maximum	Frequency of	Cleanup	Number of	Times	Samples					
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
Tetrachioroethene	UG/L	0	0%	5	0	0	178	0.15 U	0.15 U	0.15 U	1 U	1 U
Toluene	UG/L	590	16%	5	17	28	178	0.33 U	0.33 U	0.33 U	1 U	1 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.2 U	0.2 U	0.2 U	3 U	3 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	1.4	1.4	0.63 J	1 U	1 U
Frans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.21 U	0.21 U	0.21 U	1 U	1 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	0.53 J	0.38 J	0.82 J	1 U	1 U
richlorofluoromethane	UG/L	0	0%	5	0	0	178	0.25 LJ	0.25 U	0.25 U	1 U	1 UJ
/inyl chloride	UG/L	180	67%	2	100	119	178	79	7.9	2:9	1 U	1 U
Other												
ron	UG/L	296000	100%			12	12					
ron+Manganese	UG/L	352900	100%			12	12					
Manganese	UG/L	56900	100%			12	12					
thane	UG/L	98	92%			81	88					
Ethene	UG/L	200	89%			78	88					
Methane	UG/L	23,000	97%			85	88					
		2										

88 88

68

Total Organic Carbon

Sulfate

The cleanup goal values are NYSDEC Class GA GW Standards unless noted otherwise.
 NYSDEC Class GA GW Standards (TOGS 1.1.1, June 1998).

MG/L

MG/L

- b. Federal Maximum Contaminant Level (http://www.epa.gov/safewater/contaminants/index.html)
 2. Shading indicates a concentration above the GA GW standard.

1060

2050

80%

100%

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

Value (Q) 1 U 3 U 1 U 1 U 1 U 1 UJ 1 U

Appena.

Tak... d-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area Loc ID Matrix Sample Di Sample Date QC Type Study ID Sample Round				Cleanup	Nontra	Number of	Number of	ASH LANDFILL MW-56 GW ALBW20139 12/11/2008 SA LTM 6	ASH LANDFILL MW-56 GW ALBW20154 6/4/2009 SA LTM 7	ASH LANDFILL MW-56 GW ALBW20169 12/18/2009 SA LTM 8	ASH LANDFILL MW-56 GW ALBW20184 7/1/2010 SA LTM 9	ASH LANDFILL MW-56 GW ALBW20199 12/19/2010 SA LTM 10	ASH LANDFILL MW-56 GW ALBW20214 10/4/2011 SA LTM 11
		Maximum	Frequency of		Number of	Times	Samples						
Volatile Organic Compounds	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
1,1,1-Trichloroethane	UG/L	15	3%	5	4	5	178	0.26 UJ	0.26 U	0.26 U	0.5 U	0.5 U	0.511
1.1.2.2-Tetrachioroethane	UG/L	0	0%	5	0	0	178	0.26 UJ 0.21 U	0.26 U 0.21 U	0.26 U 0.21 U			0.5 U
1.1.2-Trichloro-1.2.2-Trifluoroethane	UG/L	Ö	0%	5	ő	0	178	0.21 U	0.21 U	0.21 U 0.31 UJ	0.18 U 0.5 U	0.18 U 0.5 U	0.18 U 0.5 U
1.1.2-Trichloroethane	UG/L	ő	0%	1	ñ	0	178	0.23 U	0.31 U	0.31 UJ 0.23 U	0.5 U	0.5 U	0.5 U 0.13 U
1.1-Dichloroethane	UG/L	62	12%	5	1	22	178	0.23 U 0.75 U	0.23 U 0.75 U	0.23 U	0.13 U	0.13 U 0.25 U	0.13 U 0.25 U
1,1-Dichloroethene	UG/L	2.1	10%	5	'n	18	178	0.75 U	0.75 U 0.29 U	0.38 U 0.29 U	0.25 U	0.25 U 0.11 U	0.25 U 0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	Õ	0	178	0.41 U	0.41 U	0.41 U	0.11 U	0.11 U	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	ő	0%	0.04	Õ	0	178	1 UJ	1 U	0.39 U	0.44 U	0.44 U	0.44 U
1.2-Dibromoethane	UG/L	Ô	0%	0.0006	Õ	ō	178	0.17 U	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U
1.2-Dichlorobenzene	UG/L	Ö	0%	3	Ô	Ô	178	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	14%	0.6	21	25	178	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	1%	1	0	1	178	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	178	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	178	0.16 U	0.16 U	0.39 U	0.28 U	0.28 U	0.28 U
Acetone	UG/L	2600	24%			41	172	1.3 U	1.3 UJ	1.3 U	5 U	5 UJ	5 U
Benzene	UG/L	0.38	1%	1	0	2	178	0.16 U	0.16 U	0.41 U	0.25 U	0.25 U	0.25 U
Bromodichioromethane	UG/L	0	0%	80	0	0	178	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	178	0.26 U	0.26 U	0.26 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	UG/L	0	0%			0	178	0.19 U	0.19 U	0.19 U	0.6 U	0.6 U	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	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	178	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	178	0.32 U	0.32 U	0.32 U	0.1 U	0.1 U	0.1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	0.32 U	0.32 U	0.32 UJ	1 U	1 UJ	1 U
Chloroform	UG/L	27	9%	7	4	16	178	0.34 U	0.34 U	0.34 U	0.14 U	0.24 J	1
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	0.4 J	1	0.56 J	0.61 J	0.86 J	2.3
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.36 U	0.36 U	0.36 U	0.11 U	0.11 U	0.11 U
Cyclohexane	UG/L	0	0%	_		0	178	0.22 U	0.53 U	0.53 U	0.25 U	0.25 U	0.25 U
Dichlorodifluoromethane	UG/L	0	0%	5	0 1	0	178	0.28 UJ	0.29 U	0.29 U	0.25 UJ	0.25 U	0.25 U
Ethyl benzene	UG/L UG/L	9.2 0.1	7% 1%	5 5	0	13 1	178 178	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U
Isopropylbenzene	UG/L	0.1 6	1%	5	U	1 2	178 178	0.19 U	0.19 U	0.19 U	0.1 U	0.1 U	0.1 U
Methyl Acetate	UG/L	0	0%	5	0	0	178	0.17 U	0.17 U	0.5 U	0.19 U	0.19 U	0.19 U
Methyl bromide	UG/L	0	0%	5	v	0	178	0.28 U	0.28 U	0.28 UJ	0.8 U	0.8 U	0.8 U
Methyl butyl ketone Methyl chloride	UG/L	ů	0%	5	0	Û	178	1.2 U 0.34 U	1.2 U 0.35 U	1.2 U 0.35 U	1 U 0.33 U	1 U 0.33 U	1 U 0.33 U
Methyl cyclohexane	UG/L	0.17	1%	3	U	1	178	0.34 U 0.22 U	0.35 U	0.35 U 0.5 U	0.33 U 0.1 U	0.33 U 0.1 U	0.33 U 0.1 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1.3 U	1.3 U	1,3 U	0.1 U	1 U	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	0.91 U	0.91 U	0.91 U	1 U	10	10
Methyl Tertbutyl Ether	UG/L	0	0%			ó	178	0.16 U	0.16 U	0.16 U	0.2 U	0.2 U	0.2 U
Methylene chloride	UG/L	18	7%	5	7	12	178	0.44 UJ	0.10 U	0.44 U	1 U	1 U	1 U
Styrene	UG/L	0	0%	5	Ó	0	178	0.18 U	0.18 U	0.18 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 5 Seneca Army Depot Activity

Area		ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL	ASH LANDFILL
Loc ID		MW-56	MW-56	MVV-56	MW-56	MW-56	MW-56
Matrix		GW	GW	GW	GW	GW	GW
Sample ID		ALBW20139	ALBW20154	ALBW20169	ALBW20184	ALBW20199	ALBW/20214
Sample Date		12/11/2008	6/4/2009	12/18/2009	7/1/2010	12/19/2010	10/4/2011
QC Type		SA	SA	SA	SA	SA	SA
Study ID		LTM	LTM	LTM	LTM	LTM	LTM
Sample Round		6	7	8	9	10	11
	Number of	Number of					

						Hullibel Of	MUITIDEI OI			
		Maximum	Frequency of	Cleanup	Number of	Times	Samples			
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)	Value (Q)	Value (Q)
Tetrachloroethene	UG/L	0	0%	5	0	0	178	0.36 U	0.36 U	0.36 U
Toluene	UG/L	590	16%	5	17	28	178	0.51 U	0.51 U	0.51 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.93 U	0.66 U	0.66 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.13 U	0.13 U	0.42 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.37 U	0.37 U	0.37 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	0.33 J	0.18 U	0.46 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.15 UJ	0.15 U	0.15 UJ
Vinyl chloride	UG/L	180	67%	2	100	119	178	0.24 U	0.24 U	0.24 U
Other										
Iron	UG/L	296000	100%			12	12			
Iron+Manganese	UG/L	352900	100%			12	12			
Manganese	UG/L	56900	100%			12	12			
Ethane	UG/L	98	92%			81	88			
Ethene	UG/L	200	89%			78	88			
Methane	UG/L	23,000	97%			85	88			
Sulfate	MG/L	1060	80%			68	88			
Total Organic Carbon	MG/L	2050	100%			88	88			
-										

Notes:

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
- UJ= the compound was not detected; the associated reporting limit is approximate.

Value (Q)

0.15 U

0.33 U

0.2 U

0.2 U

0.21 U 0.13 U

0.25 U 0.18 U

Value (Q)

0.15 U

0.33 U

0.2 U

0.2 U

0.21 U

0.13 U

0.25 U

0.18 U

Value (Q) 0.15 U 0.33 U

0.2 U

0.2 U

0.21 U

0.13 U

0.25 U

0.18 U

Append.

Tab... d-1 Complete Groundwater Data for Ash Landfill Long Term Monitoring Ash Landfill Annual Report, Year 5 Seneca Army Depot Activity

Area
Loc ID
Matrix
Sample ID
Sample Date
QC Type
Study ID
Sample Round

ASH LANDFILL MW-56 GW ALBW20229 12/12/2011 SA LTM 12

Sample Round								12
			_	01		Number of	Number of	
		Maximum	Frequency of	Cleanup	Number of	Times	Samples	
Parameter	Unit	Value	Detections	Goals ¹	Exceedances	Detected	Analyzed	Value (Q)
Volatile Organic Compounds				_		_		
1,1,1-Trichloroethane	UG/L	15	3%	5	1	5	178	0.5 U
1,1,2,2-Tetrachloroethane	UG/L	0	0%	5	0	0	178	0.18 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	UG/L	0	0%	5	0	0	178	0.5 U
1,1,2-Trichloroethane	UG/L	0	0%	1	0	0	178	0.13 U
1,1-Dichloroethane	UG/L	62	12%	5	1	22	178	0.25 U
1,1-Dichloroethene	UG/L	2.1	10%	5	0	18	178	0.11 U
1,2,4-Trichlorobenzene	UG/L	0	0%	5	0	0	178	0.25 U
1,2-Dibromo-3-chloropropane	UG/L	0	0%	0.04	0	0	178	0.44 U
1,2-Dibromoethane	UG/L	0	0%	0.0006	0	0	178	0.25 U
1,2-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.21 U
1,2-Dichloroethane	UG/L	5.6	14%	0.6	21	25	178	0.1 U
1,2-Dichloropropane	UG/L	0.29	1%	1	0	1	178	0.13 U
1,3-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.25 U
1,4-Dichlorobenzene	UG/L	0	0%	3	0	0	178	0.28 U
Acetone	UG/L	2600	24%			41	172	5 U
Benzene	UG/L	0.38	1%	1	0	2	178	0.25 U
Bromodichloromethane	UG/L	0	0%	80	0	0	178	0.25 U
Bromoform	UG/L	0	0%	80	0	0	178	0.5 U
Carbon disulfide	UG/L	0	0%			0	178	0.6 U
Carbon tetrachloride	UG/L	0	0%	5	0	0	178	0.5 U
Chlorobenzene	UG/L	0	0%	5	Ō	0	178	0.25 U
Chlorodibromomethane	UG/L	0	0%	80	0	0	178	0.1 U
Chloroethane	UG/L	1.1	4%	5	0	7	178	1 Ü
Chloroform	UG/L	27	9%	7	4	16	178	0.14 U
Cis-1,2-Dichloroethene	UG/L	720	86%	5	115	153	178	0.95 J
Cis-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	178	0.11 U
Cyclohexane	UG/L	0	0%		-	0	178	0.25 U
Dichlorodifluoromethane	UG/L	0	0%	5	0	Ō	178	0.25 U
Ethyl benzene	UG/L	9.2	7%	5	1	13	178	0.11 U
Isopropylbenzene	UG/L	0.1	1%	5	Ó	1	178	0.1 U
Methyl Acetate	UG/L	6	1%	_	•	2	178	0.19 U
Methyl bromide	UG/L	Ö	0%	5	0	ō	177	0.8 U
Methyl butyl ketone	UG/L	Ö	0%	•	•	Ö	178	1 U
Methyl chloride	UG/L	ō	0%	5	0	ŏ	178	0.33 U
Methyl cyclohexane	UG/L	0.17	1%	•	•	1	178	0.1 U
Methyl ethyl ketone	UG/L	4900	12%			22	178	1 U
Methyl isobutyl ketone	UG/L	1.9	1%			1	178	1 U
Methyl Tertbutyl Ether	UG/L	0	0%			ó	178	0.2 U
Methylene chloride	UG/L	18	7%	5	7	12	178	0.2 U
Styrene	UG/L	0	0%	5	ó	0	178	0.11 U
Otylono	JOIL	o o	J 76	3	U	U	110	0.11 0

Appendix B Table B-1
Complete Groundwater Data for Ash Landfill Long Term Monitoring

Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

Area A\$H LANDFILL Loc ID MW-56 Matrix GW Sample ID ALBW20229 Sample Date 12/12/2011 QC Type Study ID LTM 12 Sample Round Number of Number of

		Maximum	Frequency of	Cleanup	Number of	Times	Samples	
Parameter	Unit	Value	Detections	Goals	Exceedances	Detected	Analyzed	Value (Q)
Tetrachloroethene	ÜG/L	0	0%	5	0	0	178	0.15 U
Toluene	UG/L	590	16%	5	17	28	178	0.33 U
Total Xylenes	UG/L	60	1%	5	1	2	178	0.2 U
Trans-1,2-Dichloroethene	UG/L	8	50%	5	4	89	178	0.2 U
Trans-1,3-Dichloropropene	UG/L	0	0%	0.4	0	0	17B	0.21 U
Trichloroethene	UG/L	2,700	70%	5	60	124	178	0.13 U
Trichlorofluoromethane	UG/L	0	0%	5	0	0	178	0.25 U
Vinyl chloride	UG/L	180	67%	2	100	119	178	0.18 U
Other								
Iron	UG/L	296000	100%			12	12	
Iron+Manganese	UG/L	352900	100%			12	12	
Manganese	UG/L	56900	100%			12	12	
Ethane	UG/L	98	92%			81	88	
Ethene	UG/L	200	89%			78	88	
Methane	UG/L	23,000	97%			85	88	
Sulfate	MG/L	1060	80%			68	88	
Total Organic Carbon	MG/L	2050	100%			88	88	

Notes:

- 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
- UJ= the compound was not detected; the associated reporting limit is approximate.

APPENDIX C

REGRESSION PLOTS

(This page has been intentionally left blank)

.

Figure C-1
Regression Plot of Well Concentrations At MWT-25
Ash Landfill Annual Report, Year 5

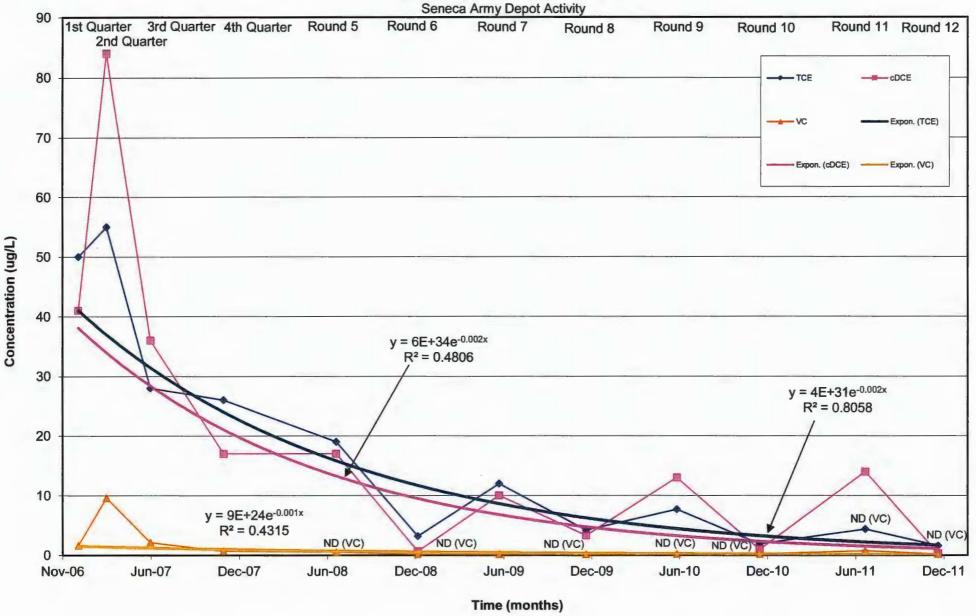


Figure C-2
Regression Plot of Well Concentrations At MWT-26
Ash Landfill Annual Report, Year 5

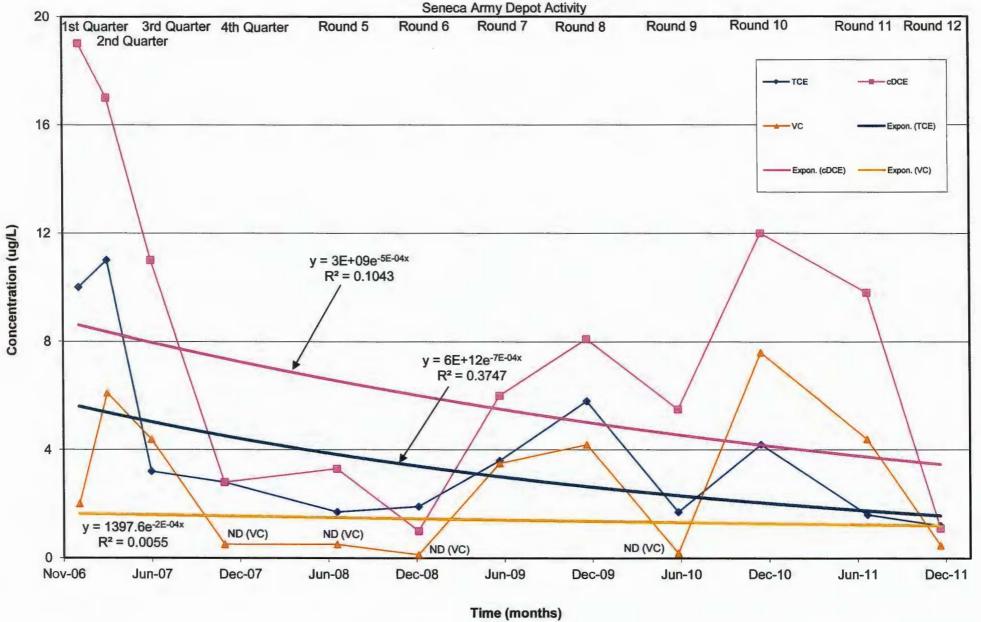


Fig C-3
Regression Plot of Well —ncentrations At MWT-27
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

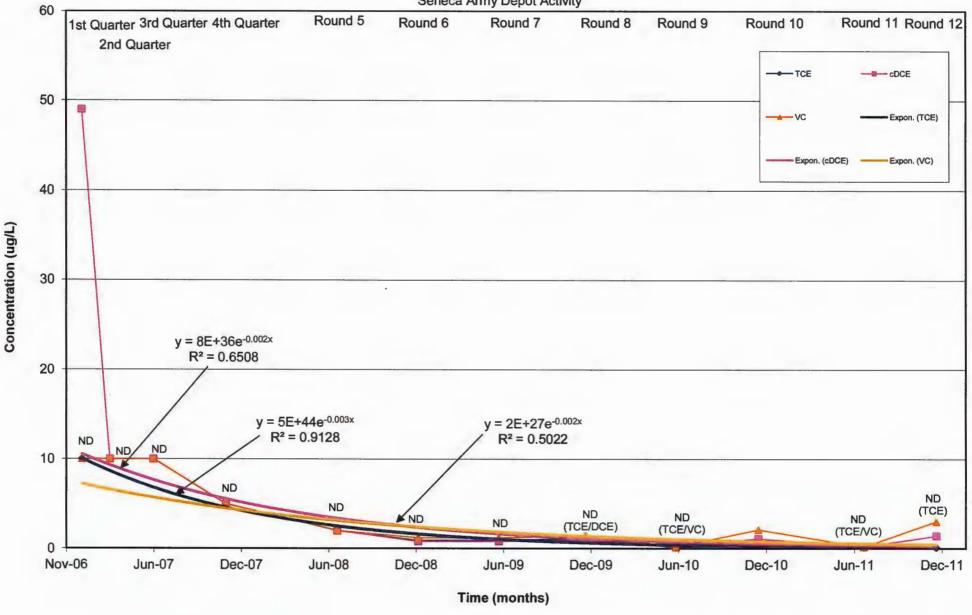
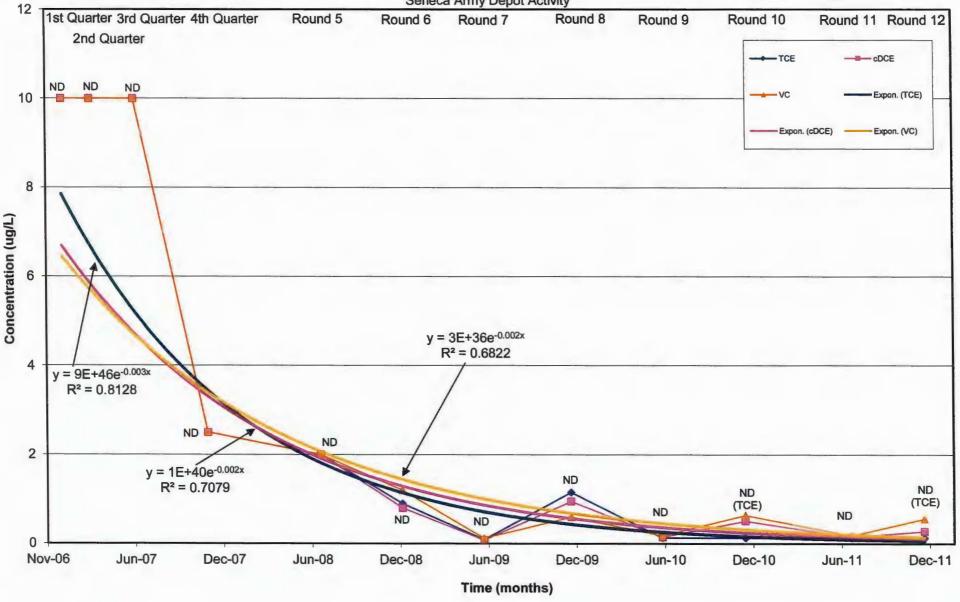


Figure C-4
Regression Plot of Well Concentrations At MWT-28
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



\\Bosfs0

Fig \$-5
Regression Plot of Well concentrations At MWT-29
Ash Landfill Annual Report, Year 5

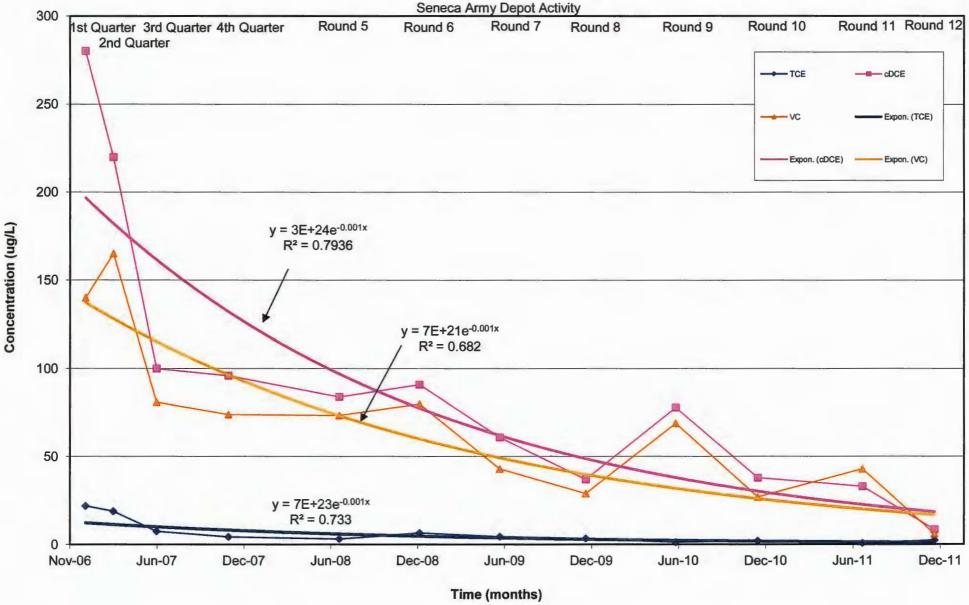
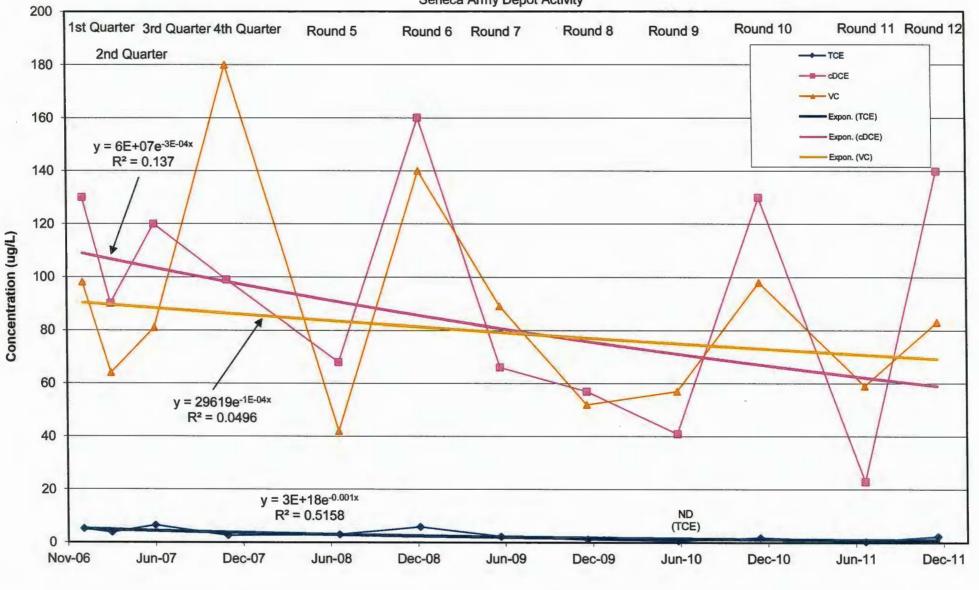


Figure C-6
Regression Plot of Well Concentrations At MWT-22
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity



Time (months)

ND = not detected.

ts\PIT\Projects\Huntsville Cont W912DY-08-D-0003\TO#12 - Ash Landfill\Annual Report Y5



Fig 7-7
Regression Plot of Wen Concentrations At PT-22
Ash Landfill Annual Report, Year 5

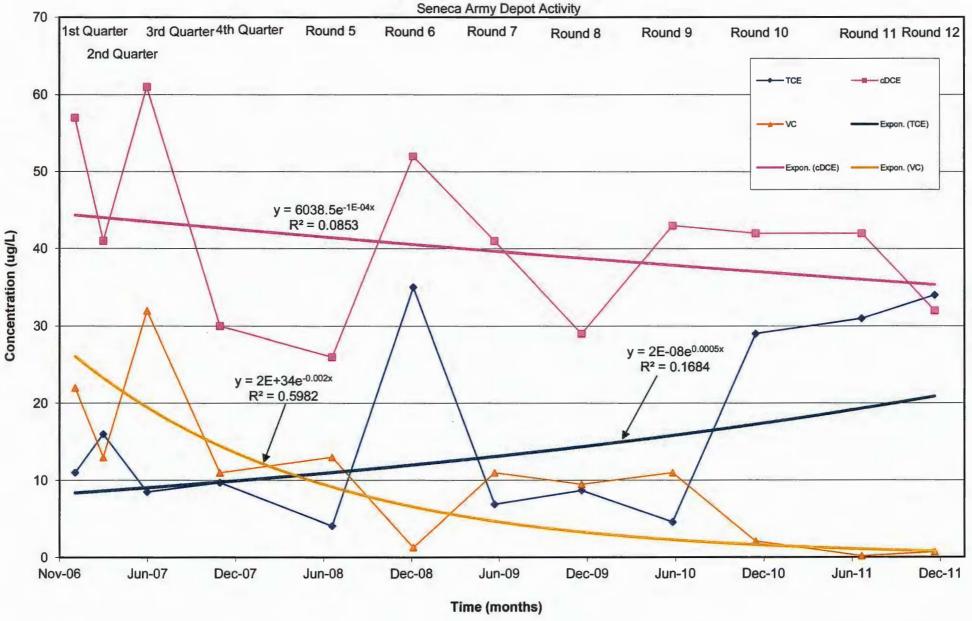


Figure C-8
Regression Plot of Well Concentrations At MWT-23
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

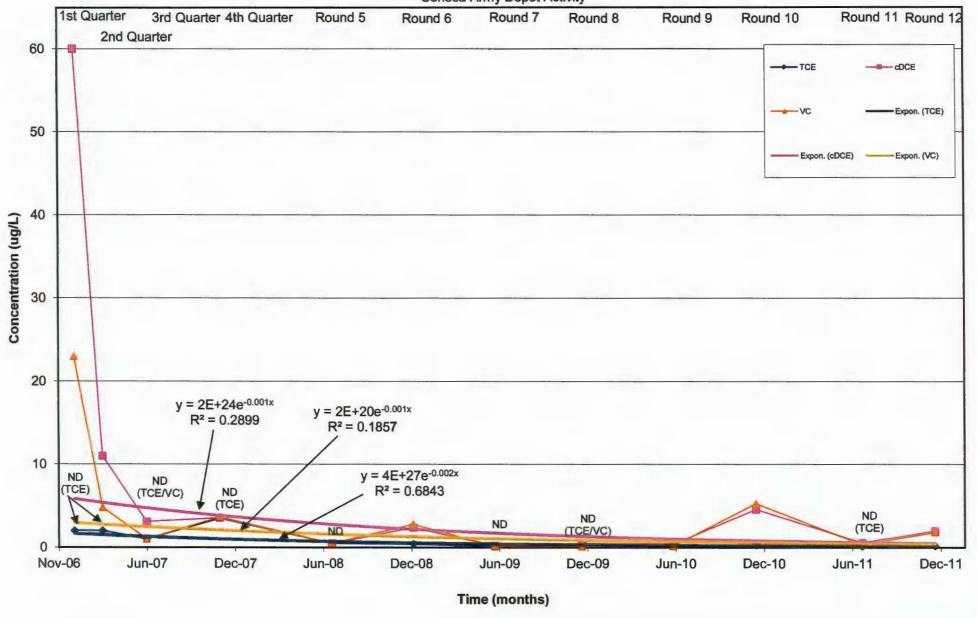


Fig 7-9
Regression Plot of Well centrations At MWT-24
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

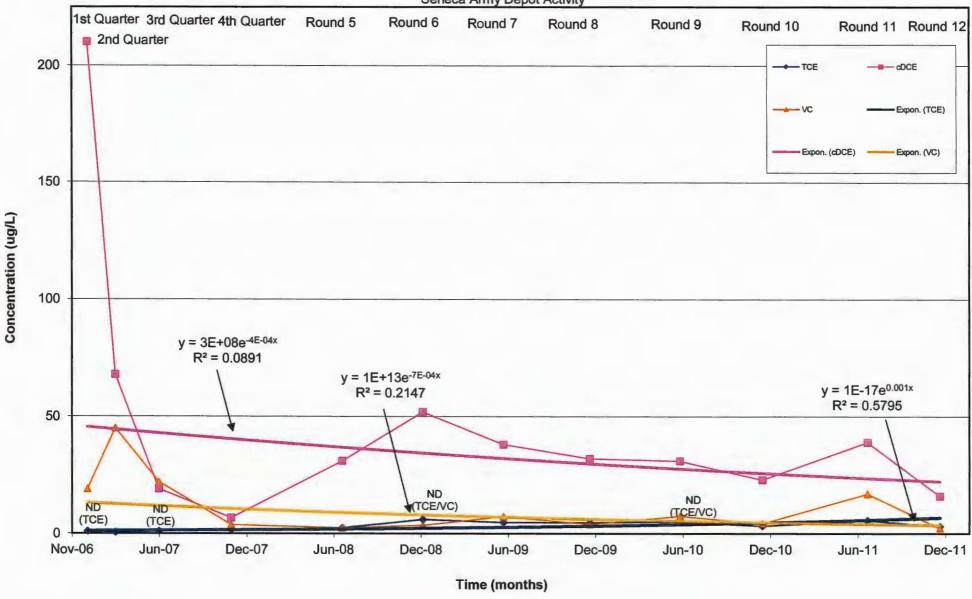


Figure C-10
Regression Plot of Well Comcentrations At PT-24
Ash Landfill Annual Report, Year 5
Seneca Army Depot Activity

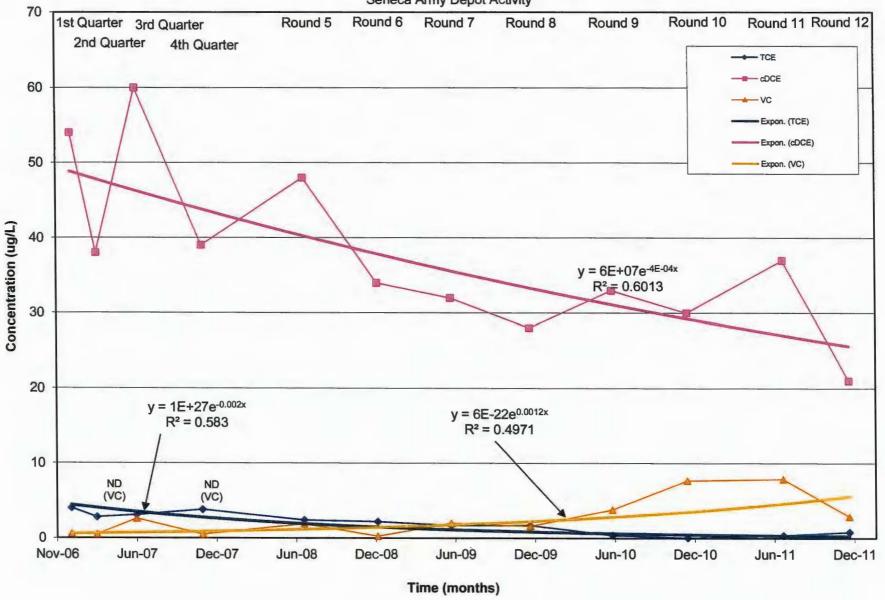
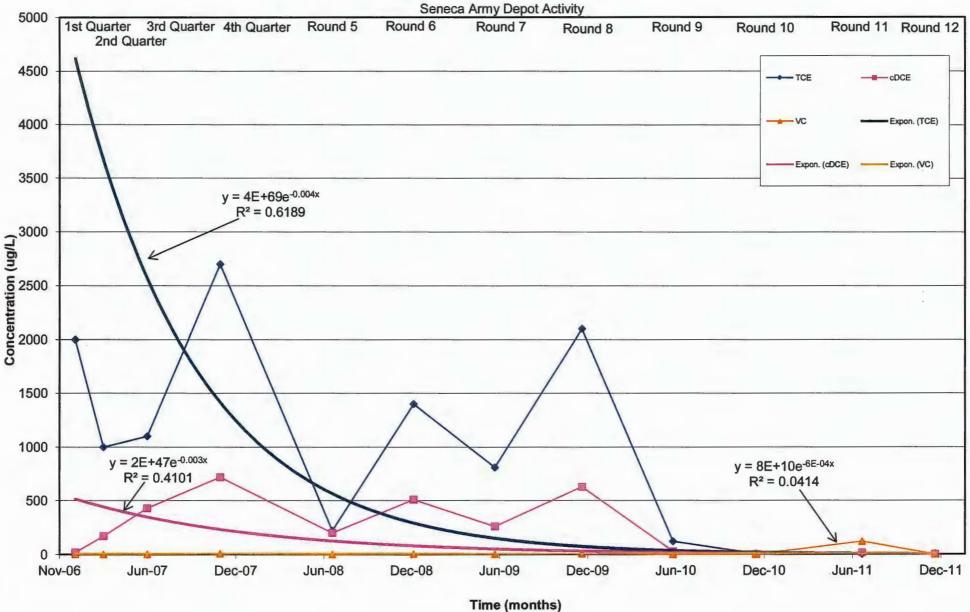


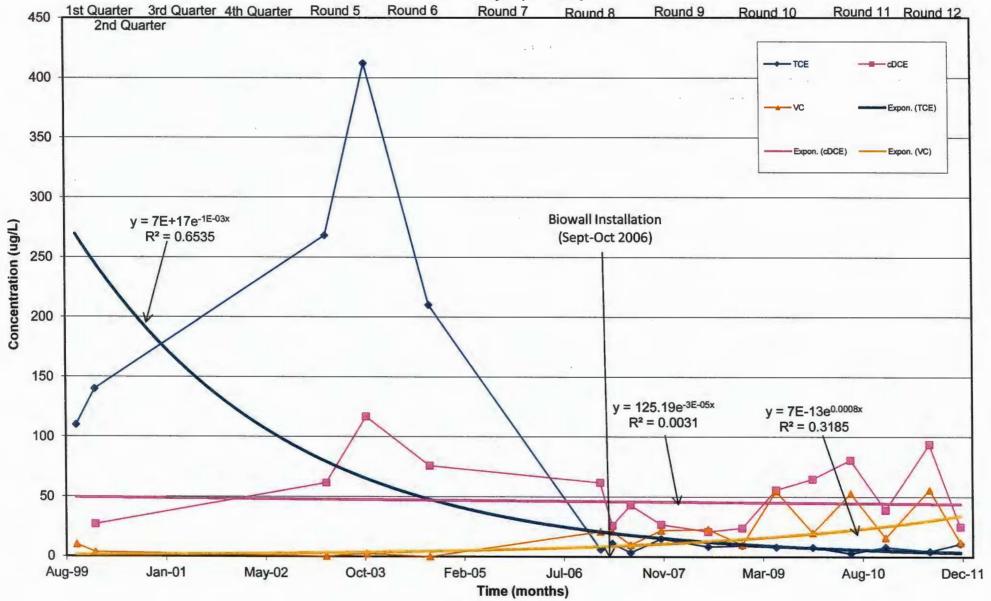
Fig. }-11
Regression Plot of Well Concentrations At PT-18A
Ash Landfill Annual Report, Year 5



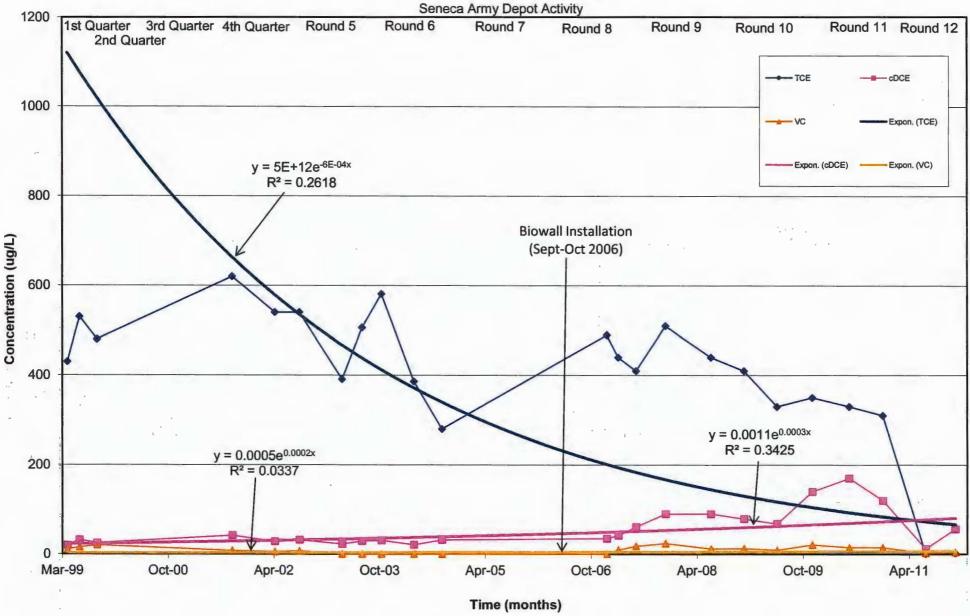
ND = not detected.

Figure C-12 Regression Plot of Well Concentrations At PT-17 Ash Landfill Annual Report, Year 5

Seneca Army Depot Activity



Fig⁷ -13
Regression Plot of Well concentrations At MWT-7
Ash Landfill Annual Report, Year 5



on many series of a

		"