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Broome County
Division of Solid Waste Management

Operational Year 11 Annual Monitoring Report

September 2013

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Operational Year 11 Annual Monitoring Report

Colesville Landfill,
Broome County, New York
NYSDEC Site 704010

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1. Introduction

This Monitoring Report (report) was prepared on behalf of the Broome County Division of Solid Waste Management for the Colesville Landfill, located in Broome County, New York (site) to evaluate and document long-term monitoring (LTM) activities at the site. Remediation and monitoring activities are being conducted pursuant to the Record of Decision (ROD) issued in March 1991 and Explanation of Significant Differences (ESD) that were issued in September 2000 and July 2004, respectively. LTM activities (which include environmental effectiveness and remediation system performance monitoring) were performed in accordance with the LTM Plan (ARCADIS G&M, Inc. 2002), LTM Plan Addendum for Spring Water Remediation Systems (ARCADIS G&M, Inc. 2003), Interim Remedial Action Report (ARCADIS G&M, Inc. 2004), the Proposed Modifications to the Long Term Monitoring Program (ARCADIS G&M, Inc. 2005), and the In-Situ Reactive Zone Discontinuation Pilot Test Work Plan (hereinafter referred to as the "discontinuation pilot test" [ARCADIS of New York Inc. 2012]), which were approved by the United States Environmental Protection Agency (USEPA) and New York State Department of Environmental Conservation (NYSDEC). These documents provide a detailed description of the LTM program, methodology, and rationale. Where applicable these elements are either summarized or incorporated by reference herein.

This report describes the results of the June 2013 and September 2013 groundwater quality monitoring, pilot test activities and data evaluation conducted during Operational Year 11, Quarter Numbers 3 and 4 (April 1 to September 30, 2013) (hereinafter referred to as the reporting period). Included in the analysis of the results is a summary and discussion of all data collected during Operational Year 11 (October 2012 through September 2013). Following the detailed data analysis and discussion is a summary of findings, conclusions, and recommendations.

2. Methodology

The following section provides a summary of the environmental effectiveness and discontinuation pilot test monitoring methodology for the reporting period. A site plan showing the monitoring locations is provided on Figure 1.

2.1 Groundwater Monitoring

Groundwater monitoring performed during the reporting period included the following:

- Water-level (hydraulic) measurements were collected from 24 monitoring wells on June 18 and September 17, 2013 (Table 1).

- Groundwater samples were collected from the five quarterly monitoring wells (GMMW-2, GMMW-5, GMMW-6, PW-4 and TW-1) on June 19, 2013 and from the nineteen annual monitoring wells (annual discontinuation pilot test list of wells [ARCADIS of New York Inc. 2012]) during the week of September 16, 2013. The samples were selectively analyzed for volatile organic compounds (VOCs), dissolved gases, alternate electron acceptors (dissolved iron, dissolved manganese, total iron, total manganese, nitrate, nitrite and sulfate), and total organic carbon (TOC). Field parameters were also recorded at these monitoring locations (Tables 2 and 3 and Appendix B).

- Groundwater samples were collected from select injection wells (IW-3, IW-8 and IW-13) on June 18, 2013 and on September 19, 2013 for the analysis of TOC. Field parameters were also recorded at these monitoring locations (Table 3).

Groundwater samples were collected from monitoring wells utilizing passive diffusive bag (PDB) samplers (VOCs and dissolved gases) or as grab samples utilizing bailers or whale pump (TOC and alternate electron acceptors) in accordance with the LTM Plan (ARCADIS G&M, Inc. 2002) and/or the Proposed Modifications to the Long-Term Monitoring Program (ARCADIS G&M, Inc. 2005).

2.2 Surface Water Monitoring

Surface water samples were collected at the SW-2, SW-3, SW-4, and F-6 locations on September 19, 2013. The samples were analyzed for VOCs and metals (Table 4). Field parameters were also recorded at these surface water locations (Appendix B). Surface water samples were collected mid-stream as grab samples in accordance with the LTM Plan (ARCADIS G&M, Inc. 2002) and/or the Proposed Modifications to the Long-Term Monitoring Program (ARCADIS G&M, Inc. 2005).

2.3 Spring Water and Sediment Monitoring

Spring water samples were collected at the SP-2, SP-3, and SP-4 sampling locations on June 19 and September 19, 2013. The samples were analyzed for VOCs and metals (Table 5). Field parameters were also recorded at these spring locations (Appendix B). Spring water samples were collected as grab samples, where feasible, or with a peristaltic pump.

Sediment samples were collected at the SP-1 (SP-1-SED) and SP-3 (SP-3-SED) spring water locations on September 19, 2013. Samples were analyzed for metals (Table 6). Sediment samples were collected as grab samples from a sample matrix that was homogenized in a stainless steel bowl.

2.4 Spring Water Remediation System Performance Monitoring

SP-5 Spring Water Remediation System OM&M was conducted on June 19, 2013 and September 20, 2013. System OM&M was conducted in accordance with the LTM Plan Addendum for Spring Water Remediation Systems (ARCADIS G&M, Inc. 2003) and consisted of the collection of influent and effluent spring water samples for analysis of VOCs. The influent sample was collected after removing three well volumes from the influent monitoring well, which is located within the SP-5 treatment unit and screened below the liquid phase granular activated carbon (LPGAC) zone. The treatment system effluent sample was collected as a grab sample from the discharge pipe prior to entering the outfall stone apron. All spring water samples were analyzed for VOCs using USEPA Method 8260 (Table 7).

3. Groundwater Flow

Water-level measurements were made from existing wells on June 18 and September 17, 2013.. A summary of water-level elevation data for Operational Year 11 is included in Table 1. Water-level elevations and the groundwater flow direction for the September 2013 monitoring event are shown on Figure 1. As shown on Figure 1, the groundwater flow direction in the project area (i.e., adjacent to the landfill western perimeter) in Operational Year 11, Quarter Number 4 was consistent with the historical flow direction. The groundwater flow direction in the project area is toward the southwest from the western perimeter of the landfill. The groundwater flow direction in areas further to the east of the project area is toward the south/southwest. Water-level elevation data for Operational Year 11 was similar to prior rounds of data. Seasonal fluctuations are observed during each operating quarter; however, the data indicate groundwater flow directions consistent with the conceptual site model (CSM) of groundwater flow toward the discharge boundaries of the North Stream and Susquehanna River.

4. Groundwater Quality

Groundwater analytical results for groundwater samples collected during the June 2013 and September 2013 monitoring rounds are provided in Tables 2 (VOCs) and 3

(general chemistry, field parameters and dissolved gases). A summary of all analytical data collected during Operational Year 11 is also provided in the referenced tables. Where applicable, the previous round of analytical results for the respective sampling location has been provided in the same table for comparative purposes. In addition, Figures A-1 through A-10 provided in Appendix A present the concentration of tetrachloroethylene (PCE)-related degradation compounds versus time or trichloroethane (TCA)-related degradation compounds versus time for monitoring wells GMMW-2, GMMW-5, GMMW-6, W-5, and TW-1. The concentration of VOCs has been converted into micromoles per liter (umol/L) by dividing the mass based concentration of a compound by the molecular weight. This conversion allows for the VOCs to be compared on a molecular basis as opposed to a mass basis. Because anaerobic in-situ reactive zones (IRZs) are constantly releasing adsorbed phase mass and degrading mass to daughter compounds with different molecular weights, the evaluation of anaerobic IRZs on a molecular basis is the appropriate methodology for analyzing the data.

As shown in Table 2 and on Figures A-1 through A-10, total VOC (TVOC) concentrations in the monitoring wells sampled during the reporting period remained stable to decreasing when comparing the June and September 2013 data to historical data. Specifically, the September 2013 TVOC concentration in mid-plume monitoring wells GMMW-2, GMMW-5, GMMW-6, PW-3, PW-4, PW-5, W-5 and TW-1 were 143 ug/L, 85 ug/L, 388 ug/L, 78 ug/L, 28 ug/L, 0.0 ug/L, 117 ug/L and 115 ug/L, respectively.

The September 2013 TVOC concentrations in landfill perimeter monitoring wells GWWM-7, W-6, W-7, and W-13, remained stable to decreasing, when compared to historical data, at 217 ug/L, 29 ug/L, 10 ug/L, and below the limits of detection (0.0 ug/L), respectively. The TVOC concentration for landfill perimeter monitoring well PW-7 increased to 620 ug/L.

The TVOC concentrations for plume boundary monitoring wells W-16S, W-17S and W-18, and the off-site monitoring wells W-14S and W-20S remained stable at 45 ug/L, 0.0 ug/L, 59 ug/L, 0.0 ug/L and 0.0 ug/L, respectively.

TVOC concentrations at recovery wells GMPW-3, GMPW-4 and GMPW-5 of 53 ug/L, 106 ug/L and 0.0 ug/L, respectively, and nearby monitoring wells PW-3, PW-4 and W-18, were stable to decreasing when compared to historical data.

The data continue to indicate that the dissolved phase plume is stable to decreasing in size. Furthermore, the data indicate that shutdown of the groundwater extraction and treatment and automated injection systems have not resulted in an adverse impact to groundwater quality.

Further discussion of groundwater quality, including a discussion of general chemistry and dissolved gas analytical data, is provided in Section 5.

5. Discontinuation Pilot Test

The following section describes objectives and results of the discontinuation pilot test.

5.1 Discontinuation Pilot Test Objectives

Initiation of the discontinuation pilot test began in October 2012. As discussed in the discontinuation pilot test work plan (ARCADIS of New York Inc. 2012), the pilot test includes the temporary discontinuation of carbon injections and temporary shutdown of the groundwater extraction system to evaluate the resulting effect on groundwater and spring water quality. The objectives of the discontinuation pilot test are to:

- Demonstrate that there is little to no benefit to groundwater quality by continuing injections and groundwater extraction and treatment.
- Document the response of groundwater geochemistry including the evaluation of alternate electron acceptors such as dissolved iron and manganese.
- Evaluate if nearby springs (e.g., SP-3) have a positive response to the discontinuation of injections, including a reduction in visible iron staining and reduction in overall spring water volume.
- Evaluate VOC and metals concentration trends in spring water relative to NYSDEC Division of Technical and Operational Guidance Series (TOGS) 1.1.1 Water Quality Standards and Guidance Values (NYS WQS); and,
- Evaluate metals concentration trends in sediment relative to NYSDEC Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999) and Draft Screening and Assessment of Contaminated Sediments (NYSDEC 2013).

A discussion of the performance monitoring results relative to the discontinuation pilot test objectives is provided below.

5.2 Monitoring Results and Evaluation

The primary monitoring wells that are used to monitor and evaluate the discontinuation pilot test include monitoring wells GMMW-2, GMMW-5, GMMW-6, and TW-1. In addition, monitoring wells GMMW-7 and PW-7, which are located upgradient of the discontinuation pilot test area, were used as background wells to document the geochemistry of landfill impacted groundwater. Table 3 provides a summary of the geochemical monitoring results including general chemistry and dissolved gas parameters. In order to evaluate the geochemical analytical results relative to baseline conditions, the December 7, 1998 analytical results for monitoring well GMMW-5 have been provided in the same table. These historical data were collected to establish baseline conditions during the Enhanced Reductive Dechlorination Pilot Test (ARCADIS G&M, Inc. 1999) and are representative of conditions prior to the initiation of the IRZ injections.

Geochemical analytical data collected during the reporting period indicate that the groundwater geochemistry remains moderately to strongly anaerobic in and immediately downgradient of the reagent injection wells despite the discontinuation of reagent injections on May 1, 2012. Dissolved methane data from select wells located closest to the injection network indicate that the groundwater system is gradually transitioning from strongly anaerobic to mild/moderately anaerobic. The concentration and speciation of chlorinated VOCs and end-products (ethene and ethane) support that enhanced natural attenuation processes (e.g., biologically mediated complete reductive dechlorination) continue to occur. These observations are supported by the following:

- Nitrate concentrations in groundwater monitoring wells in close proximity and downgradiant of the anaerobic IRZ are considerably below the baseline concentration of 0.632 mg/L, at low (0.02 ug/L – 0.11 ug/L) or non-detect concentrations. The low to non-detect concentrations of nitrate is an indicator of reducing conditions.

- Dissolved (filtered) iron concentrations remained elevated and significantly higher than baseline conditions in close proximity to the anaerobic IRZ. The highest dissolved iron concentrations were observed in close proximity to the injection well network at monitoring wells W-5 (49.7 mg/L) and TW-1 (74.9 mg/L) and slightly

downgradient at GMMW-6 (19.1 mg/l). The concentration of dissolved iron at monitoring well GMMW-2 (0.067 mg/L), located downgradient of TW-1 and W-5, and GMMW-5 (0.42 ug/L), is similar to the baseline data from GMMW-5. The presence of elevated dissolved iron is an indicator of reducing conditions. The ratio of dissolved iron to total iron (e.g., oxidized iron) decreased at GMMW-5 when comparing the March 2013 to the September 2013 data. The data may indicate a shift to less reducing conditions in the vicinity of GMMW-5.

- Dissolved (filtered) manganese concentrations remained elevated and significantly higher than baseline conditions in close proximity to the anaerobic IRZ. The highest dissolved manganese concentrations are observed downgradient to the injection well network at monitoring well GMMW-6 (9.2 mg/l) and in close proximity to the injection well network at monitoring well TW-1 (6.1 mg/L). The concentration of dissolved manganese at monitoring wells GMMW-2 (2.1 mg/L), GMMW-5 (2.3 ug/L) and W-5 (1.2 mg/L) is similar to the baseline data from GMMW-5. The presence of elevated dissolved manganese is an indicator of reducing conditions.

- Methane concentrations remained elevated and significantly higher when compared to baseline conditions in close proximity to the anaerobic IRZ. The presence of methane at elevated concentrations is an indicator of strongly reducing conditions. Methane concentrations decreased when comparing the analytical results from the September 2013 sampling event to the March 2013 sampling event at monitoring wells GMMW-5, and TW-1. However, methane concentrations are stable to increasing when comparing the analytical results from the September 2013 sampling event to the March 2013 sampling event at monitoring wells GMMW-2, and GMMW-6. These data indicate that the groundwater geochemistry is gradually beginning to shift from strongly to mild or moderately reducing conditions in wells closest to the injection well network but remains strongly anaerobic in wells GMMW-2 and GMMW-6.

- Ethene and/or ethane were detected at elevated concentrations at all monitoring wells located in close proximity to the anaerobic IRZ. As referenced in Section 5, the concentration of PCE, TCE, cis-1,2-DCE, and VC remain stable to decreasing. When combined with geochemical data, the results indicate that enhanced natural attenuation continue to occur through an anaerobic biologically mediated pathway.

- The concentration of TOC within injection and monitoring wells located in the vicinity of the injection network decreased during the reporting period and ranged from 1.4 ug/L (TW-1) to 61 mg/L (IW-8) during the September 2013 sampling

event. The data indicate that TOC continues to decrease and is slightly elevated in localized areas (e.g., the injection wells) at concentrations that support reductive dechlorination.

A description and evaluation of spring water and sediment quality relative to the discontinuation pilot test is provided in Sections 6 and 7, respectively.

6. Spring Water Quality

The embankment of the North Stream was inspected for springs during the OM&M site visits on June 19, 2013 and September 19, 2013. During the June 19, 2013 inspection, no spring water was observed around the SP-4 area. Minor iron hydroxide staining was observed around the SP-2 and SP-4 area, with a higher degree of staining observed at the SP-3 area. However, the concentration of iron in spring samples at SP-3 have decreased when compared with results from Operational Year 10 (i.e., July 2012). During the September 19, 2013 inspection, spring water and iron hydroxide staining was observed in the SP-2 and SP-3 areas, with the SP-3 area being the most highly impacted with iron hydroxide staining. Minor iron staining was also observed in the SP-4 area. These observations have been generally consistent with conditions observed during the March 2013 OM&M site visit and prior to the beginning of the pilot test.

Spring water samples were collected at the SP-2, SP-3 and SP-4 locations during the June 19, 2013 and September 19, 2013 inspections. Spring water quality analytical results are summarized in Table 5. As shown in Table 5, spring water at the SP-2 location was non-detect for VOCs and consistent with the baseline round of monitoring data (ARCADIS of New York Inc. 2012). TVOC concentrations decreased significantly at the SP-3 spring water location when compared to the previous rounds; however, 1,1-dichloroethane and cis-1,2-dichloroethene were detected at concentrations above NYSDEC Part 703 Water Quality Standards (WQS). Spring water at the SP-4 location exhibited slightly higher concentrations of select VOCs when compared to previous rounds and historical data, and chlorobenzene and chloroethane were also detected at concentrations above the NYSDEC WQS. Despite the presence of VOCs in spring water, non-detect to trace concentrations of VOCs are present in the surface water (Table 4). These data continue to demonstrate that VOCs detected in the spring water are not adversely impacting surface water quality in the North Stream.

7. Sediment Quality

In conjunction with the spring water sampling effort on September 19, 2013, a sediment sample was collected within the North Stream in the vicinity of SP-3. As recommended in the Operational Year 11, Semi-Annual Report (ARCADIS 2013), a background sediment sample (SP-1-SED) upstream of the SP-3 area was also collected during the September 2013 sampling event to confirm background concentrations for the full suite of metals. Sediment quality analytical results are summarized in Table 6. The sediment sample (SP-3-SED) collected during the reporting period has select metals concentrations that exceed the background sediment sample (SP-1-SED [upstream of the SP-3]) and the NYSDEC Freshwater Sediment Screening Value. Specifically, the concentrations of cadmium, copper, and lead were detected below the Severe Effect Level (SEL) during the reporting period, but slightly higher than the Lowest Effect Level (LEL); however, arsenic, iron, manganese, nickel and silver were detected above the SEL during the reporting period.

The metals results for SP-3-SED were also evaluated relative to Table 1a of the NYSDEC Draft Screening and Assessment of Contaminated Sediment document (NYSDEC 2013), which characterizes freshwater sediment as either Class A (low risk to aquatic life), Class B (slightly to moderately contaminated and additional testing is required to evaluate the potential risks to aquatic life), and Class C (sediments are considered to be highly contaminated and likely to pose a risk to aquatic life). The metals concentrations exhibited at the SP-3-SED location fall under the Class A designation, with the exception of four metals that fall within or exceed the limits of the Class B designation. Specifically, arsenic was detected at a concentration of 132 mg/kg (with a Class B range of 10-33 mg/kg), cadmium was detected at a concentration of 1.50 mg/L (with a Class B range of 1.0–5.0 mg/L), nickel was detected at a concentration of 68.2 mg/kg (with a Class B range of 23-49 mg/kg), and silver was detected at a concentration of 15.4 mg/kg (with a Class B range of 1.0-2.2 mg/kg).

It should be noted that the SP-3-SED sample exhibited a percent moisture content of 82.1, which we believe resulted in a positive bias (i.e., distorted higher than the true value) of the results. When the moisture content is very high, the metals in the sediment pore water are included in the analysis. When the sample results are normalized to a dry weight basis the result is a very high concentration of metals in the sediment. Because of the potential for a positive bias in the September SP-3-

SED results, resampling of the sediment at the SP-3 location will be conducted as part of the December 2013 sampling event.

8. Surface Water Quality

Surface water quality analytical results are summarized in Table 4. As shown in Table 4, surface water quality remained consistent when compared to historical data. Specifically, the TVOC concentrations at the F-6 and SW-2 sampling locations were below the limits of detection. The TVOC concentration at the SW-3 and SW-4 sampling locations were 0.72 ug/L and 0.82 ug/L, respectively. The metals concentrations at the F-6, SW-3 and SW-4 sampling locations were also consistent with upgradient sample SW-2. These data indicate that surface water quality is not being adversely impacted by the landfill.

9. Spring Water Remediation System Performance

SP-5 Spring Water Remediation System OM&M was conducted on June 19, 2013 and September 20, 2013 in accordance with the LTM Plan Addendum for Spring Water Remediation Systems (ARCADIS G&M, Inc. 2003). Fresh media was replaced in the LPGAC unit on September 19, 2013 prior of the September OM&M event. SP-5 Spring Water Remediation System analytical results for this reporting period are provided in Table 7. As shown in Table 7, all effluent VOCs were treated to below their respective BPJ limits via the LPGAC. Influent TVOC concentrations remained stable when compared to March 2013 analytical data.

Table 8 contains the SP-5 spring water remediation system operating parameters recorded during the reporting period. As shown in Table 8, approximately 320,000 gallons of spring water was treated and approximately 0.1 lbs of mass was recovered during the reporting period. An estimated 4,260,000 gallons of spring water has been treated and an estimated 2.1 lbs of VOC mass has been recovered since system startup.

10. Conclusions

Based on the data obtained from the reporting period monitoring, ARCADIS concludes the following:

- Water level measurements in the project area (i.e., adjacent to the landfill western perimeter) and site-wide in the June 2013 and September 2013 rounds were

consistent with previous rounds. The groundwater flow direction in the project area is toward the southwest from the western perimeter of the landfill. The groundwater flow direction in areas further to the east of the project area is toward the south/southwest.

- The concentration of VOCs remained stabled to decreasing during the reporting period when compared with historical data, with the exception of PW-7.

- Enhanced natural attenuation mechanisms (e.g., completed reductive dechlorination completed through a biologically mediated pathway) continue to degrade chlorinated VOCs within the discontinuation pilot test area despite the discontinuation of carbon injections as evidenced by stable to decreasing VOC concentrations and elevated ethene and/or ethane.

- The presence of elevated concentrations of reduced forms of alternate electron acceptors (e.g., dissolved iron, dissolved manganese, and dissolved methane) indicate that the groundwater geochemistry remained strongly anaerobic in the vicinity of and downgradient of the injection wells during the reporting period. However, the concentration of methane and dissolved iron declined at monitoring wells (e.g., GMMW-5) located closest to the injection well network which indicate that the geochemistry is transitioning from strongly anaerobic to mildly or moderately anaerobic.

- The concentration of TOC within injection and monitoring wells decreased during the reporting period and ranged from 1.4 ug/L (TW-1) to 61 mg/L (IW-8) during the September 2013 sampling event. The data indicate that TOC remains at concentrations that support reductive dechlorination, but is limited to the general vicinity of the injection wells.

- There have not been any discernible changes in the appearance of spring areas thus far relative to the implementation of the pilot test.

- VOC and metals concentrations in surface water continue to be low or non-detect and consistent with historical data, despite the presence of VOCs and metals in the spring water at concentrations above NYSDEC WQS.

- The sediment sample (SP-3-SED) collected during the reporting period has select metals concentrations that exceed the background sediment sample (SP-1-SED [upstream of the SP-3]) and the NYSDEC Freshwater Sediment Screening Value.

However, a positive bias in the data is suspected due to the very high percent moisture content (82.1%).

11. Recommendations

The following recommendations are made for this reporting period:

- Continue the IRZ Discontinuation Pilot Test and evaluate the resultant response to geochemical conditions in groundwater, volatile organic compound (VOC) concentration trends, and groundwater / surface water interactions.

- Continue to inspect the former spring locations and the embankment of the North Stream.

- Continue to monitor sediment quality relative to potential ecological risk, and resample sediment at the SP-3 location in December 2013 in light of the suspected positive bias in the September 2013 results for metals.

- If staining is present at SP-3 during the March 2014 spring inspection, collect a sediment sample. Following sample collection, Broome County personnel should remove and dispose of the top layer (1") of all stained sediment in the area, and then a sample of the underlying sediment should be collected.

12. Project Schedule

Groundwater environmental effectiveness monitoring is scheduled to be conducted for Operational Year 12 on the quarterly schedule set forth in Table 4 of the discontinuation pilot test (ARCADIS of New York Inc. 2012). OM&M of the ARI and PT systems is temporarily discontinued as part of the IRZ Discontinuation Pilot Test Work Plan and will be restarted if groundwater quality data indicates restart of the systems is necessary for the protection of public health or the environment. Based on the results of Operational Year 11 and pending Operational Year 12 results, extending the Pilot through Year 13 may be warranted.

13. References

ARCADIS G&M, Inc. 2002. Long-Term Monitoring Plan, Colesville Landfill, Broome County, New York, NYSDEC Site 704010. June 28, 2002.

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ARCADIS of New York, Inc. 2012. In-Situ Reactive Zone Discontinuation Pilot Test Work Plan, Colesville Landfill Superfund Site, Colesville, New York. October 11, 2012.

New York State Department of Environmental Conservation (NYSDEC) 1999. Technical Guidance for Screening Contaminated Sediments. January 25, 1999.

New York State Department of Environmental Conservation (NYSDEC) 2013. Draft Screening and Assessment of Contaminated Sediment. Draft version 4.0, January 24, 2013

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Tables

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Table 1. Water-Level Measurements, Colesville Landfill, Broome County, New York.

Well Identification	MP Elevation (feet above msl)	6/18/2013 Depth to Water (feet below MP)	6/18/2013 Water-Table Elevation (feet above msl)	9/17/2013 Depth to Water (feet below MP)	9/17/2013 Water-Table Elevation (feet above msl)	MP Description
GMMW-2	1,030.95	36.74	994.21	37.00	993.95	Inner casing
GMMW-3	1,028.02	34.53	993.49	34.79	993.23	Inner casing
GMMW-4	1,042.90	46.00	996.90	46.15	996.75	Inner casing
GMMW-5	1,043.66	49.75	993.91	49.86	993.80	Inner casing
GMMW-6	1,033.56	39.26	994.30	39.36	994.20	Inner casing
GMMW-7	1,045.43	48.07	997.36	48.10	997.33	Inner casing
PW-1	976.23	14.62	961.61	14.88	961.35	Inner casing
PW-2	975.28	6.34	968.94	6.64	968.64	Inner casing
PW-3	988.92	12.94	975.98	13.51	975.41	Inner casing
PW-4	1,001.75	17.62	984.13	18.28	983.47	Inner casing
PW-5	986.12	0.72	985.40	0.79	985.33	Inner casing
PW-7	1,042.47	40.96	1,001.51	40.94	1,001.53	Inner casing
PW-8	1,049.73	40.29	1,009.44	40.29	1,009.44	Inner casing
PW-10[(1)]	1,049.29	--	--	--	--	Inner casing
PW-11	1,052.37	53.59	998.78	53.80	998.57	Inner casing
PW-13	1,072.41	62.30	1,010.11	62.30	1,010.11	Inner casing
W-5	1,051.41	52.42	998.99	52.62	998.79	Inner casing
W-6	1,050.38	50.96	999.42	51.16	999.22	Inner casing
W-7	1,049.12	43.87	1,005.25	43.79	1,005.33	Inner casing
W-13	1,053.43	47.05	1,006.38	46.59	1,006.84	Inner casing
W-14S	957.68	7.16	950.52	8.35	949.33	Inner casing
W-16S	990.33	9.45	980.88	9.59	980.74	Outer casing
W-17S	959.13	9.90	949.23	10.33	948.80	Inner casing
W-18	973.56	10.36	963.20	10.40	963.16	Inner casing
W-20S	952.88	8.95	943.93	10.31	942.57	Inner casing

1. Measurement not collected due to obstruction in well at 11.21 feet below M

msl Mean sea level
MP Measuring point
-- Not measured

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	GMMW-2 12/18/2012	GMMW-2 3/27/2013	GMMW-2 6/19/2013	GMMW-2 9/18/2013
1,1,1-Trichloroethane		**1.2**	**1.4**	**1.4**	**1.6**
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		**49**	**49**	**44**	**52**
1,1-Dichloroethene		<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		**0.37 J**	<1.0	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		**2.1**	**2.1**	**1.9**	**1.8**
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		**25**	**29**	**28**	**27**
Chloroethane		**14**	**18**	**11**	**18**
Chloroform		<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		**20**	**27**	**22**	**23**
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		<1.0	**0.53 J**	**0.21 J**	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		<1.0	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		**13**	**14**	**13**	**13**
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		**6.1**	**6.2**	**5.6**	**6.9**
Xylenes (total)		<2.0	<2.0	<2.0	<2.0
Total VOCs		**131 J**	**147 J**	**127 J**	**143**

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	GMMW-5 12/18/2012	GMMW-5 3/26/2013	GMMW-5 6/19/2013	GMMW-5 9/18/2013
1,1,1-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		<1.0	**0.43 J**	**1.1**	**3.2**
1,1-Dichloroethene		<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		**0.21 J**	<1.0	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		**0.69 J**	<1.0	**0.58 J**	**0.77 J**
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		**10**	**4.2 J**	**5.6**	**6.9**
Chloroethane		**27**	**29**	**32**	**71**
Chloroform		<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		<1.0	<1.0	<1.0	**1.3**
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		**0.30 J**	<1.0	<1.0	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		<1.0	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0
Toluene		**2.7**	<1.0	**0.71 J**	**0.66 J**
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		<1.0	**0.49 J**	**0.88 J**	**0.73 J**
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		<1.0	<1.0	<1.0	<1.0
Xylenes (total)		**1.6 J**	<1.0	<2.0	<2.0
Total VOCs		**43 J**	**34 J**	**41 J**	**85 J**

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	GMMW-6 12/18/2012	GMMW-6 3/26/2013	GMMW-6 6/19/2013	GMMW-6 9/18/2013
1,1,1-Trichloroethane		**0.92 J**	<2.0	<2.0	<2.0
1,1,2,2-Tetrachloroethane		<1.0	<2.0	<2.0	<2.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<2.0	<2.0	<2.0
1,1,2-Trichloroethane		<1.0	<2.0	<2.0	<2.0
1,1-Dichloroethane		**120 D**	**110 J**	**93**	**69**
1,1-Dichloroethene		<1.0	<2.0	<2.0	<2.0
1,2,4-Trichlorobenzene		<1.0	<2.0	<2.0	<2.0
1,2-Dibromo-3-chloropropane		<1.0	<2.0	<2.0	<2.0
1,2-Dibromoethane		<1.0	<2.0	<2.0	<2.0
1,2-Dichlorobenzene		<1.0	<2.0	<2.0	<2.0
1,2-Dichloroethane		**0.81 J**	<2.0	**0.80 J**	<2.0
1,2-Dichloropropane		<1.0	<2.0	<2.0	<2.0
1,3-Dichlorobenzene		<1.0	<2.0	<2.0	<2.0
1,4-Dichlorobenzene		<1.0	<2.0	<2.0	<2.0
2-Butanone		<10	<20	<20	<20
2-Hexanone		<5.0	<10	<10	<10
4-Methyl-2-pentanone		<5.0	<10	<10	<10
Acetone		<10	<20	<20	<20
Benzene		**5.2**	**5.0**	**4.8**	**5.6**
Bromodichloromethane		<1.0	<2.0	<2.0	<2.0
Bromoform		<1.0	<2.0	<2.0	<2.0
Bromomethane		<1.0	<2.0	<2.0	<2.0
Carbon Disulfide		<1.0	<2.0	<2.0	<2.0
Carbon Tetrachloride		<1.0	<2.0	<2.0	<2.0
Chlorobenzene		**22**	**26**	**26**	**27 J**
Chloroethane		**140 D**	**150**	**140**	**270 D**
Chloroform		<1.0	<2.0	<2.0	<2.0
Chloromethane		<1.0	<2.0	<2.0	<2.0
cis-1,2-Dichloroethene		**8.3**	**13**	**12**	**5.0**
cis-1,3-Dichloropropene		<1.0	<2.0	<2.0	<2.0
Cyclohexane		**2.9**	<2.0	<2.0	<2.0
Dibromochloromethane		<1.0	<2.0	<2.0	<2.0
Dichlorodifluoromethane		<1.0	<2.0	<2.0	<2.0
Ethylbenzene		<1.0	<2.0	<2.0	<2.0
Isopropylbenzene		<1.0	<2.0	<2.0	<2.0
Methyl acetate		<1.0	<2.0	<2.0	<2.0
Methyl tert-butyl ether		<1.0	<2.0	<2.0	<2.0
Methylcyclohexane		<1.0	<2.0	<2.0	<2.0
Methylene Chloride		**3.2**	**4.6**	**3.4**	**3.5**
Styrene		<1.0	<2.0	<2.0	<2.0
Tetrachloroethene		<1.0	<2.0	<2.0	<2.0
Toluene		**2.1**	<2.0	<2.0	<2.0
trans-1,2-Dichloroethene		<1.0	<2.0	<2.0	<2.0
trans-1,3-Dichloropropene		<1.0	<2.0	<2.0	<2.0
Trichloroethene		**7.1**	**5.3**	**9.6**	**4.0 J**
Trichlorofluoromethane		<1.0	<2.0	<2.0	<2.0
Vinyl Chloride		**7.8**	**7.7**	**8.0**	**3.9**
Xylenes (total)		**1.2 J**	<4.0	<4.0	<4.0
Total VOCs		**322 DJ**	**322 J**	**298 J**	**388 DJ**

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	GMMW-7 9/19/2012	GMMW-7 9/18/2013	PW-3 9/19/2012	PW-3 9/17/2013
1,1,1-Trichloroethane		**2.2**	**3.6**	**3.0**	**2.6**
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		**0.45 J**	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		**1.0**	<1.0	<1.0	<1.0
1,1-Dichloroethane		**230 DJ**	**78**	**34**	**30**
1,1-Dichloroethene		**1.3**	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		**2.1**	**0.45 J**	**0.26 J**	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		**2.6**	**1.3**	<1.0	**0.67 J**
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		**23**	**18**	**1.2**	**2.5**
Chloroethane		**160 D**	**23**	**6.4**	**3.6**
Chloroform		**1.1**	<1.0	**0.57 J**	**0.35 J**
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		**200 DJ**	**46**	**17**	**16**
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		**0.37 J**	<1.0	<1.0	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		**2.0**	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		**2.3**	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		**0.44 J**	<1.0	**2.5**	**2.4**
Toluene		<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		**0.92 J**	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		**47**	**23**	**19**	**20**
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		**100 D**	**24**	<1.0	<1.0
Xylenes (total)		<2.0	<2.0	<2.0	<2.0
Total VOCs		**777 DJ**	**217 J**	**84 J**	**78 J**

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	PW-4 12/18/2012	PW-4 3/26/2013	PW-4 6/19/2013	PW-4 9/20/2013
1,1,1-Trichloroethane		**5.8**	**4.5**	**4.8**	**4.5**
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		**7.7**	**4.8**	**4.8**	**5.5**
1,1-Dichloroethene		**0.30 J**	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		<1.0	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		<1.0	<1.0	<1.0	<1.0
Chloroethane		**1.0**	<1.0	**1.0**	<1.0
Chloroform		**0.53 J**	<1.0	**0.47 J**	**0.50 J**
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		**4.4**	**2.9**	**3.4**	**4.8**
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		**0.69 J**	<1.0	<1.0	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<1.0	<1.0	**1.3**	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		<1.0	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		**14**	**10**	**10**	**13**
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		<1.0	<1.0	<1.0	<1.0
Xylenes (total)		<2.0	<2.0	<2.0	<2.0
Total VOCs		**34 J**	**22**	**26 J**	**28 J**

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	PW-5 9/19/2012	PW-5 9/17/2013	PW-7 9/19/2012	PW-7 3/27/2013
1,1,1-Trichloroethane		<1.0	<1.0	<1.0	<2.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<2.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<2.0
1,1,2-Trichloroethane		<1.0	<1.0	**0.51 J**	**0.49 J**
1,1-Dichloroethane		<1.0	<1.0	**160 D**	**180**
1,1-Dichloroethene		<1.0	<1.0	**0.38 J**	<2.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<2.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<2.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<2.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<2.0
1,2-Dichloroethane		<1.0	<1.0	**1.1**	<2.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<2.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<2.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<2.0
2-Butanone		<10	<10	<10	<20
2-Hexanone		<5.0	<5.0	<5.0	<10
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<10
Acetone		<10 B	<10	<10	<20
Benzene		<1.0	<1.0	**1.1**	**1.9 J**
Bromodichloromethane		<1.0	<1.0	<1.0	<2.0
Bromoform		<1.0	<1.0	<1.0	<2.0
Bromomethane		<1.0	<1.0	<1.0	<2.0
Carbon Disulfide		<1.0	<1.0	<1.0	<2.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<2.0
Chlorobenzene		<1.0	<1.0	**34**	**15**
Chloroethane		<1.0	<1.0	**71**	**81**
Chloroform		<1.0	<1.0	<1.0	<2.0
Chloromethane		<1.0	<1.0	<1.0	<2.0
cis-1,2-Dichloroethene		<1.0	<1.0	**75**	**79**
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<2.0
Cyclohexane		<1.0	<1.0	<1.0	<2.0
Dibromochloromethane		<1.0	<1.0	<1.0	<2.0
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<2.0
Ethylbenzene		<1.0	<1.0	**13**	<2.0
Isopropylbenzene		<1.0	<1.0	**1.3**	<2.0
Methyl acetate		<1.0	<1.0	<1.0	<2.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<2.0
Methylcyclohexane		<1.0	<1.0	<1.0	<2.0
Methylene Chloride		<1.0	<1.0	**0.68 J**	**2.0**
Styrene		<1.0	<1.0	<1.0	<2.0
Tetrachloroethene		<1.0	<1.0	**0.52 J**	<2.0
Toluene		<1.0	<1.0	<1.0	<2.0
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<2.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<2.0
Trichloroethene		<1.0	<1.0	**11**	**9.4**
Trichlorofluoromethane		<1.0	<1.0	<1.0	<2.0
Vinyl Chloride		<1.0	<1.0	**44**	**31**
Xylenes (total)		<2.0	<2.0	**0.87 J**	<4.0
Total VOCs		NA	NA	**414 DJ**	**400 J**

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	PW-7 9/17/2013	PW-13 9/19/2012	PW-13 9/17/2013	W-5 9/19/2012
1,1,1-Trichloroethane		**1.8**	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		**0.84 J**	<1.0	<1.0	<1.0
1,1-Dichloroethane		**260 D**	**3.5**	**2.6**	**30**
1,1-Dichloroethene		**1.1**	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		**1.1**	**1.1**	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		**2.6**	<1.0	<1.0	**5.1**
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		**28**	**8.2**	**1.0**	**6.2**
Chloroethane		**110 D**	**9.6**	**2.2**	**89 D**
Chloroform		<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		**150 D**	**1.1**	<1.0	**1.8**
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		<1.0	<1.0	<1.0	**5.0**
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		**0.78 J**	<1.0	<1.0	<1.0
Ethylbenzene		**3.1**	<1.0	<1.0	**0.82 J**
Isopropylbenzene		**0.83 J**	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		**2.2**	<1.0	<1.0	**1.2**
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	**0.64 J**
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		**17**	**1.4**	**1.1**	**0.77 J**
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		**40**	<1.0	<1.0	<1.0
Xylenes (total)		**0.85 J**	<2.0	<2.0	**2.2**
Total VOCs		**620 DJ**	**25**	**6.9**	**143 DJ**

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	W-5 9/18/2013	W-6 9/19/2012	W-6 9/17/2013	W-7 9/19/2012
1,1,1-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		**11**	**17**	**10**	**1.9**
1,1-Dichloroethene		<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		<1.0	**0.56 J**	<1.0	<1.0
1,2-Dichloropropane		<1.0	**1.1**	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		**5.6**	**1.6**	**1.2**	**0.48 J**
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		**4.1**	**7.0**	**5.7**	**1.9**
Chloroethane		**92**	**5.6**	**2.1**	**4.9**
Chloroform		<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		**1.7**	**5.9**	**2.5**	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		<1.0	<1.0	<1.0	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<1.0	**2.5**	**1.2**	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		**1.0**	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		**0.73 J**	**6.2**	**4.6**	**0.85 J**
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		<1.0	**2.1**	**1.5**	<1.0
Xylenes (total)		**0.79 J**	<2.0	<2.0	<2.0
Total VOCs		**117 J**	**50 J**	**29**	**10 J**

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	W-7 9/17/2013	W-13 9/19/2012	W-13 9/17/2013	W-14S 9/18/2012
1,1,1-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		**2.7**	<1.0	<1.0	<1.0
1,1-Dichloroethene		<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		**0.57 J**	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		**2.1**	<1.0	<1.0	<1.0
Chloroethane		**3.3**	<1.0	<1.0	<1.0
Chloroform		<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		**0.84 J**	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		<1.0	**0.24 J**	<1.0	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		<1.0	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		**0.71 J**	<1.0	<1.0	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		<1.0	<1.0	<1.0	<1.0
Xylenes (total)		<2.0	<2.0	<2.0	<2.0
Total VOCs		**10 J**	**0.24 J**	NA	NA

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	W-14S 9/17/2013	W-16S 9/18/2012	W-16S 9/17/2013	W-17S 9/18/2012
1,1,1-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		<1.0	**13**	**12**	<1.0
1,1-Dichloroethene		<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		<1.0	**1.7**	**1.3**	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		<1.0	**18**	**19**	<1.0
Chloroethane		<1.0	**9.5**	**8.4**	<1.0
Chloroform		<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		<1.0	**1.3**	**1.5**	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		<1.0	<1.0	<1.0	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		<1.0	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		<1.0	**2.7**	**2.9**	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		<1.0	<1.0	<1.0	<1.0
Xylenes (total)		<2.0	<2.0	<2.0	<2.0
Total VOCs		NA	**46**	**45**	NA

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	W-17S 9/17/2013	W-18 9/18/2012	W-18 9/17/2013	W-20S 9/18/2012
1,1,1-Trichloroethane		<1.0	**8.2**	**8.1**	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	**0.34 J**	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		<1.0	**18**	**16**	<1.0
1,1-Dichloroethene		<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		<1.0	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		<1.0	<1.0	<1.0	<1.0
Chloroethane		<1.0	**1.8**	<1.0	<1.0
Chloroform		<1.0	**0.49 J**	**0.41 J**	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		<1.0	**16**	**15**	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		<1.0	<1.0	<1.0	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		<1.0	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		<1.0	**19**	**19**	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		<1.0	<1.0	<1.0	<1.0
Xylenes (total)		<2.0	<2.0	<2.0	<2.0
Total VOCs		NA	**64 J**	**59 J**	NA

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	W-20S 9/17/2013	TW-1 12/18/2012	TW-1 3/27/2013	TW-1 6/19/2013
1,1,1-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		<1.0	<1.0	<1.0	**4.8**
1,1-Dichloroethene		<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		<1.0	**0.25 J**	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		<1.0	**3.1**	**3.6**	**2.2**
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		<1.0	**5.5**	**4.3**	**12**
Chloroethane		<1.0	**63**	**70**	**41**
Chloroform		<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		<1.0	**1.7**	**1.4**	**2.7**
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		<1.0	**1.4**	<1.0	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		<1.0	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	**0.85 J**	**0.75 J**	**0.52 J**
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		<1.0	**0.81 J**	**0.55 J**	**5.4**
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		<1.0	**1.1**	**0.92 J**	**2.8**
Xylenes (total)		<2.0	<2.0	**1.5 J**	<2.0
Total VOCs		NA	**78 J**	**83 J**	**71 J**

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	TW-1 9/18/2013	GMPW-3 9/20/2013	GMPW-4 9/20/2013	GMPW-5 9/19/2013
1,1,1-Trichloroethane		<1.0	**3.6**	**7.8**	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		<1.0	**11**	**29**	<1.0
1,1-Dichloroethene		<1.0	<1.0	**0.61 J**	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10
Benzene		**5.5**	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0
Chlorobenzene		**6.0**	**3.4**	**4.7**	<1.0
Chloroethane		**97**	**3.1**	**14**	<1.0
Chloroform		<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		**2.1**	**10**	**14**	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Cyclohexane		<1.0	<1.0	<1.0	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<1.0	**0.83 J**	**1.1**	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0
Methylene Chloride		<1.0	<1.0	**0.59 J**	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	**0.66 J**	**0.40 J**	<1.0
Toluene		**0.93 J**	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0
Trichloroethene		**0.55 J**	**20**	**31**	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		**1.2**	<1.0	**3.1**	<1.0
Xylenes (total)		**1.9 J**	<2.0	<2.0	<2.0
Total VOCs		**115 J**	**53 J**	**106 J**	NA

Notes and abbreviations on last page.

Table 2. Concentrations of Volatile Organic Compounds Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Notes and Abbreviations:

Bold constituent detected above method detection limit.

B	Compound considered non-detect at the listed value due to associated blank contamination.
D	Concentration is based on a diluted sample analysis.
J	Estimated value.
NA	Not applicable.
ug/L	Micrograms per liter.
VOCs	Volatile organic compounds.
<	Analyte below detection limit.

Table 3. Concentrations of General Chemistry, Field Parameters, and Dissolved Gases Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Parameters	Units	Typical Baseline Values for Discontinuation Pilot Test Area [1]	Sample ID: / Date:	GMMW-2 12/18/2012	GMMW-2 3/27/2013	GMMW-2 6/19/2013	GMMW-2 9/18/2013	GMMW-5 12/18/2012	GMMW-5 3/26/2013	GMMW-5 6/19/2013	GMMW-5 9/18/2013
GENERAL CHEMISTRY											
Total Organic Carbon	mg/L	**6.6**		**1.5**	**2.6**	**0.49 J**	**1.4**	**17.3**	**12.4**	**21.2**	**6.2**
FIELD PARAMETERS											
pH	Standard units	**6.88**		**6.50**	**6.83**	**6.61**	**6.44**	**6.42**	**6.46**	**6.71**	**6.62**
Specific Conductance	mmhos/cm	**0.420**		**0.622**	**0.619**	**0.544**	**0.596**	**0.299**	**0.336**	**0.379**	**0.488**
Temperature	deg C	**13**		**9.9**	**10.4**	**11.8**	**11.8**	**9.9**	**9.3**	**15.2**	**14.3**
DISSOLVED GASES											
Ethane	ng/L	**2,590**		**380**	**420**	**540**	**310**	**7,900**	**8,300**	**12,000**	**15,000**
Ethene	ng/L	**7,700**		**3,000**	**1,900**	**1,800**	**1,600**	**53**	**150**	**280**	**710**
Methane	ug/L	**0.45**		**13,000**	**12,000**	**13,000**	**13,000**	**12,000**	**4,500**	**3,600**	**3,700**
MISCELLANEOUS											
Ferrous Iron	mg/L	**0.27**			--	--	--	--	--	--	--
Iron	mg/L	**0.493**		--	**0.200**	--	**0.500**	--	**19.4 J**	--	**24.8**
Iron (Filtered)	mg/L	**0.455**		--	<0.05	--	**0.067**	--	**23.8 J**	--	**0.42**
Manganese	mg/L	**2.15**		--	**1.50**	--	**2.20**	--	**1.20 J**	--	**1.80 J**
Manganese (Filtered)	mg/L	**1.79**		--	**1.5**	--	**2.1**	--	**1.6 J**	--	**2.3 J**
Nitrate	mg/L	**0.632**		--	**0.039 J**	--	<0.05	--	**0.051**	--	**0.02 J**
Nitrite	mg/L	**0.026**		--	R	--	<0.05	--	R	--	<0.05
Sulfate	mg/L	**4.38**		--	**4.7 J**	--	**6.1**	--	**3.9 J**	--	**5**

Notes and Abbreviations:

1. Values represent data from monitoring well GMMW-5 collected on December 7, 1998.

Bold constituent detected above method detection limit.

deg C	Degrees Celsius.
R	The sample results are rejected; due to significant quality control problems, the analysis is invalid and provides no information as to whether the compound is present or not.
J	Estimated value.
mg/L	Milligrams per liter.
mmhos/cm	Millimhos per centimeter.
ng/L	Nanograms per liter.
ug/L	Micrograms per liter.
--	Not analyzed or collected.

Table 3. Concentrations of General Chemistry, Field Parameters, and Dissolved Gases Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Parameters	Units	Typical Baseline Values for Discontinuation Pilot Test Area [1]	Sample ID: / Date:	GMMW-6 12/18/2012	GMMW-6 3/26/2013	GMMW-6 6/19/2013	GMMW-6 9/18/2013	GMMW-7 9/19/2012	GMMW-7 9/18/2013	PW-3 9/19/2012	PW-3 9/17/2013
GENERAL CHEMISTRY											
Total Organic Carbon	mg/L	**6.6**		**3.1**	**3.8**	**4.1**	**3.8**	<1.0	**1.3**	--	--
FIELD PARAMETERS											
pH	Standard units	**6.88**		**6.58**	**6.72**	**6.74**	**6.55**	**6.64**	**6.74**	**6.26**	**6.43**
Specific Conductance	mmhos/cm	**0.420**		**0.858**	**0.826**	**0.815**	**0.989**	**0.280**	**0.295**	**0.570**	**0.491**
Temperature	deg C	**13**		**9.9**	**9.0**	**13.1**	**12.9**	**14.7**	**12.2**	**15.1**	**14.2**
DISSOLVED GASES											
Ethane	ng/L	**2,590**		**16,000**	**11,000**	**11,000**	**18,000**	**1,100**	**230**	--	--
Ethene	ng/L	**7,700**		**12,000**	**15,000**	**12,000**	**4,900**	**6,500**	**2,100**	--	--
Methane	ug/L	**0.45**		**9,000**	**4,600**	**8,200**	**12,000**	**770**	**910**	--	--
MISCELLANEOUS											
Ferrous Iron	mg/L	**0.27**		--	--	--	--	--	--	--	--
Iron	mg/L	**0.493**		--	**17.8**	--	**18.8**	--	**2.10**	--	--
Iron (Filtered)	mg/L	**0.455**		--	**14.8**	--	**19.1**	--	**1.3**	--	--
Manganese	mg/L	**2.15**		--	**8.50**	--	**8.20 J**	--	**0.890**	--	--
Manganese (Filtered)	mg/L	**1.79**		--	**8.7**	--	**9.2 J**	--	**0.88**	--	--
Nitrate	mg/L	**0.632**		--	R	--	**0.08**	--	**0.18**	--	--
Nitrite	mg/L	**0.026**		--	R	--	<0.05	--	<0.05	--	--
Sulfate	mg/L	**4.38**		--	**13.4 J**	--	**32.9**	--	**12.4**	--	--

Notes and Abbreviations:

1. Value represent data from monitoring well GMMW-5 collected on December 7, 1998.

Bold constituent detected above method detection limit.

deg C	Degrees Celsius.
R	The sample results are rejected; due to significant quality control problems, the analysis is invalid and provides no information as to whether the compound is present or not.
J	Estimated value.
mg/L	Milligrams per liter.
mmhos/cm	Millimhos per centimeter.
ng/L	Nanograms per liter.
ug/L	Micrograms per liter.
--	Not analyzed or collected.

Table 3. Concentrations of General Chemistry, Field Parameters, and Dissolved Gases Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Parameters	Units	Typical Baseline Values for Discontinuation Pilot Test Area [1]	Sample ID: / Date:	PW-4 12/18/2012	PW-4 3/26/2013	PW-4 6/19/2013	PW-4 9/20/2013	PW-5 9/19/2012	PW-5 9/17/2013	PW-7 9/19/2012	PW-7 3/27/2013
GENERAL CHEMISTRY											
Total Organic Carbon	mg/L	**6.6**		<1.0	**2.8**	**0.64 J**	**1.3**	<1	<1	--	<1.0
FIELD PARAMETERS											
pH	Standard units	**6.88**		**6.73**	**6.39**	**6.07**	**5.82**	**7.83**	**7.83**	**6.12**	**6.35**
Specific Conductance	mmhos/cm	**0.420**		**0.531**	**0.541**	**0.555**	**0.678**	**0.290**	**0.277**	**0.360**	**0.306**
Temperature	deg C	**13**		**10.9**	**9.0**	**12.2**	**12.6**	**17.5**	**13.1**	**14.3**	**11.2**
DISSOLVED GASES											
Ethane	ng/L	**2,590**		**98**	**33**	**150**	<200	**9 J**	<1,000	--	**260**
Ethene	ng/L	**7,700**		**22 J**	**47**	**130**	<200	**24 J**	<1,000	--	**2,000**
Methane	ug/L	**0.45**		**3.0**	**1.1**	**1.8**	**0.24**	**1.7**	**1.6**	--	**500**
MISCELLANEOUS											
Ferrous Iron	mg/L	**0.27**		--	--	--	--	--	--	--	--
Iron	mg/L	**0.493**		--	--	--	--	--	--	--	**189**
Iron (Filtered)	mg/L	**0.455**		--	--	--	--	--	--	--	**20.5**
Manganese	mg/L	**2.15**		--	--	--	--	--	--	--	**7.5**
Manganese (Filtered)	mg/L	**1.79**		--	--	--	--	--	--	--	**7.2**
Nitrate	mg/L	**0.632**		--	--	--	--	--	--	--	**0.55 J**
Nitrite	mg/L	**0.026**		--	--	--	--	--	--	--	R
Sulfate	mg/L	**4.38**		--	--	--	--	--	--	--	**18.4 J**

Notes and Abbreviations:

1. Value represent data from monitoring well GMMW-5 collected on December 7, 1998.

Bold constituent detected above method detection limit.

deg C	Degrees Celsius.
R	The sample results are rejected; due to significant quality control problems, the analysis is invalid and provides no information as to whether the compound is present or not.
J	Estimated value.
mg/L	Milligrams per liter.
mmhos/cm	Millimhos per centimeter.
ng/L	Nanograms per liter.
ug/L	Micrograms per liter.
--	Not analyzed or collected.

Table 3. Concentrations of General Chemistry, Field Parameters, and Dissolved Gases Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Parameters	Units	Typical Baseline Values for Discontinuation Pilot Test Area [1]	Sample ID: / Date:	PW-7 9/17/2013	PW-13 9/19/2012	PW-13 9/17/2013	W-5 9/19/2012	W-5 9/18/2013	W-6 9/19/2012	W-6 9/17/2013	W-7 9/19/2012
GENERAL CHEMISTRY											
Total Organic Carbon	mg/L	**6.6**		--	--	--	**1.4**	**5.9**	--	--	--
FIELD PARAMETERS											
pH	Standard units	**6.88**		**6.13**	**6.01**	**5.86**	**6.49**	**6.34**	**6.05**	**6.20**	**5.85**
Specific Conductance	mmhos/cm	**0.420**		**0.275**	**0.430**	**0.150**	**0.990**	**0.991**	**0.500**	**0.495**	**0.400**
Temperature	deg C	**13**		**22.0**	**14.5**	**10.5**	**11.8**	**10.9**	**13.6**	**10.7**	**12.5**
DISSOLVED GASES											
Ethane	ng/L	**2,590**		--	--	--	**11,000**	**8,400**	--	--	--
Ethene	ng/L	**7,700**		--	--	--	**650**	**1,000**	--	--	--
Methane	ug/L	**0.45**		--	--	--	**8,400**	**4,800**	--	--	--
MISCELLANEOUS											
Ferrous Iron	mg/L	**0.27**		--	--	--	--	--	--	--	--
Iron	mg/L	**0.493**		--	--	--	--	**83.6**	--	--	--
Iron (Filtered)	mg/L	**0.455**		--	--	--	--	**49.7**	--	--	--
Manganese	mg/L	**2.15**		--	--	--	--	**2.70**	--	--	--
Manganese (Filtered)	mg/L	**1.79**		--	--	--	--	**1.2**	--	--	--
Nitrate	mg/L	**0.632**		--	--	--	--	<0.05	--	--	--
Nitrite	mg/L	**0.026**		--	--	--	--	<0.05	--	--	--
Sulfate	mg/L	**4.38**		--	--	--	--	<5	--	--	--

Notes and Abbreviations:

1. Value represent data from monitoring well GMMW-5 collected on December 7, 1998.

Bold constituent detected above method detection limit.

deg C	Degrees Celsius.
R	The sample results are rejected; due to significant quality control problems, the analysis is invalid and provides no information as to whether the compound is present or not.
J	Estimated value.
mg/L	Milligrams per liter.
mmhos/cm	Millimhos per centimeter.
ng/L	Nanograms per liter.
ug/L	Micrograms per liter.
--	Not analyzed or collected.

Table 3. Concentrations of General Chemistry, Field Parameters, and Dissolved Gases Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Parameters	Units	Typical Baseline Values for Discontinuation Pilot Test Area [1]	Sample ID: / Date:	W-7 9/17/2013	W-13 9/19/2012	W-13 9/17/2013	W-14S 9/18/2012	W-14S 9/17/2013	W-16S 9/18/2012	W-16S 9/17/2013	W-17S 9/18/2012
GENERAL CHEMISTRY											
Total Organic Carbon	mg/L	**6.6**		--	--	--	--	--	--	--	--
FIELD PARAMETERS											
pH	Standard units	**6.88**		**6.36**	**5.94**	**5.69**	**5.53**	**5.62**	**6.33**	**5.79**	**6.22**
Specific Conductance	mmhos/cm	**0.420**		**0.476**	**0.310**	**0.280**	**0.160**	**0.042**	**0.440**	**0.318**	**0.220**
Temperature	deg C	**13**		**11.4**	**14.1**	**10.7**	**16.3**	**14.1**	**15.2**	**13.2**	**16.1**
DISSOLVED GASES											
Ethane	ng/L	**2,590**		--	--	--	--	--	--	--	--
Ethene	ng/L	**7,700**		--	--	--	--	--	--	--	--
Methane	ug/L	**0.45**		--	--	--	--	--	--	--	--
MISCELLANEOUS											
Ferrous Iron	mg/L	**0.27**		--	--	--	--	--	--	--	--
Iron	mg/L	**0.493**		--	--	--	--	--	--	--	--
Iron (Filtered)	mg/L	**0.455**		--	--	--	--	--	--	--	--
Manganese	mg/L	**2.15**		--	--	--	--	--	--	--	--
Manganese (Filtered)	mg/L	**1.79**		--	--	--	--	--	--	--	--
Nitrate	mg/L	**0.632**		--	--	--	--	--	--	--	--
Nitrite	mg/L	**0.026**		--	--	--	--	--	--	--	--
Sulfate	mg/L	**4.38**		--	--	--	--	--	--	--	--

Notes and Abbreviations:

1. Value represent data from monitoring well GMMW-5 collected on December 7, 1998.

Bold constituent detected above method detection limit.

deg C	Degrees Celsius.
R	The sample results are rejected; due to significant quality control problems, the analysis is invalid and provides no information as to whether the compound is present or not.
J	Estimated value.
mg/L	Milligrams per liter.
mmhos/cm	Millimhos per centimeter.
ng/L	Nanograms per liter.
ug/L	Micrograms per liter.
--	Not analyzed or collected.

Table 3. Concentrations of General Chemistry, Field Parameters, and Dissolved Gases Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Parameters	Units	Typical Baseline Values for Discontinuation Pilot Test Area [1]	Sample ID: / Date:	W-17S 9/17/2013	W-18 9/18/2012	W-18 9/17/2013	W-20S 9/18/2012	W-20S 9/17/2013	TW-1 12/18/2012	TW-1 3/27/2013	TW-1 6/19/2013
GENERAL CHEMISTRY											
Total Organic Carbon	mg/L	**6.6**		--	--	--	--	--	**24.5**	<1.0	<1
FIELD PARAMETERS											
pH	Standard units	**6.88**		**6.37**	**6.12**	**6.20**	**5.76**	**6.08**	**6.34**	**6.71**	**6.64**
Specific Conductance	mmhos/cm	**0.420**		**0.241**	**0.540**	**0.379**	**0.110**	**0.113**	**1.099**	**1.137**	**0.695**
Temperature	deg C	**13**		**13.2**	**17.1**	**15.5**	**15.1**	**13.6**	**10.6**	**9.1**	**14.2**
DISSOLVED GASES											
Ethane	ng/L	**2,590**		--	--	--	--	--	**6,500**	**4,100**	**3,200**
Ethene	ng/L	**7,700**		--	--	--	--	--	**260**	**400**	**2,700**
Methane	ug/L	**0.45**		--	--	--	--	--	**9,500**	**7,400**	**2,400**
MISCELLANEOUS											
Ferrous Iron	mg/L	**0.27**		--	--	--	--	--	--	--	--
Iron	mg/L	**0.493**		--	--	--	--	--	--	**87.9**	--
Iron (Filtered)	mg/L	**0.455**		--	--	--	--	--	--	**87.3**	--
Manganese	mg/L	**2.15**		--	--	--	--	--	--	**5.20 J**	--
Manganese (Filtered)	mg/L	**1.79**		--	--	--	--	--	--	**7.4 J**	--
Nitrate	mg/L	**0.632**		--	--	--	--	--	--	**0.11 J**	--
Nitrite	mg/L	**0.026**		--	--	--	--	--	--	R	--
Sulfate	mg/L	**4.38**		--	--	--	--	--	--	**24.1 J**	--

Notes and Abbreviations:

1. Value represent data from monitoring well GMMW-5 collected on December 7, 1998.

Bold constituent detected above method detection limit.

deg C	Degrees Celsius.
R	The sample results are rejected; due to significant quality control problems, the analysis is invalid and provides no information as to whether the compound is present or not.
J	Estimated value.
mg/L	Milligrams per liter.
mmhos/cm	Millimhos per centimeter.
ng/L	Nanograms per liter.
ug/L	Micrograms per liter.
--	Not analyzed or collected.

Table 3. Concentrations of General Chemistry, Field Parameters, and Dissolved Gases Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Parameters	Units	Typical Baseline Values for Discontinuation Pilot Test Area [1]	Sample ID: / Date:	TW-1 9/18/2013	IW-3 12/18/2012	IW-3 3/28/2013	IW-3 6/18/2013	IW-3 9/19/2013	IW-8 9/20/2012	IW-8 3/27/2013	IW-8 6/18/2013
GENERAL CHEMISTRY											
Total Organic Carbon	mg/L	**6.6**		**17.8**	**9.1**	**6.4**	**3.6**	**5.7**	**328**	**65.9**	**49.4**
FIELD PARAMETERS											
pH	Standard units	**6.88**		**6.53**	**6.13**	**6.68**	**6.73**	**6.37**	**5.92**	**6.65**	**6.46**
Specific Conductance	mmhos/cm	**0.420**		**1.179**	--	**0.600**	**0.516**	**0.539**	**1.380**	**1.048**	**0.973**
Temperature	deg C	**13**		**13.1**	--	**8.1**	**13.6**	--	**16.6**	**10.4**	**13.4**
DISSOLVED GASES											
Ethane	ng/L	**2,590**		**3,500**	--	--	--	--	--	--	--
Ethene	ng/L	**7,700**		**190 J**	--	--	--	--	--	--	--
Methane	ug/L	**0.45**		**6,700**	--	--	--	--	--	--	--
MISCELLANEOUS											
Ferrous Iron	mg/L	**0.27**		--	--	--	--	--	--	--	--
Iron	mg/L	**0.493**		**76.0**	--	--	--	--	--	--	--
Iron (Filtered)	mg/L	**0.455**		**74.9**	--	--	--	--	--	--	--
Manganese	mg/L	**2.15**		**8.70**	--	--	--	--	--	--	--
Manganese (Filtered)	mg/L	**1.79**		**6.1**	--	--	--	--	--	--	--
Nitrate	mg/L	**0.632**		<0.05	--	--	--	--	--	--	--
Nitrite	mg/L	**0.026**		<0.05	--	--	--	--	--	--	--
Sulfate	mg/L	**4.38**		**32.1**	--	--	--	--	--	--	--

Notes and Abbreviations:

1. Value represent data from monitoring well GMMW-5 collected on December 7, 1998.

Bold constituent detected above method detection limit.

deg C	Degrees Celsius.
R	The sample results are rejected; due to significant quality control problems, the analysis is invalid and provides no information as to whether the compound is present or not.
J	Estimated value.
mg/L	Milligrams per liter.
mmhos/cm	Millimhos per centimeter.
ng/L	Nanograms per liter.
ug/L	Micrograms per liter.
--	Not analyzed or collected.

Table 3. Concentrations of General Chemistry, Field Parameters, and Dissolved Gases Detected in Groundwater, Operational Year 11, Colesville Landfill, Broome County, New York.

Parameters	Units	Typical Baseline Values for Discontinuation Pilot Test Area [1]	Sample ID:	IW-8	IW-13	IW-13	IW-13	IW-13
			Date:	9/19/2013	12/19/2012	3/28/2013	6/18/2013	9/19/2013
GENERAL CHEMISTRY								
Total Organic Carbon	mg/L	**6.6**		**61**	**61.1**	**46.2**	**29.4**	**19.4**
FIELD PARAMETERS								
pH	Standard units	**6.88**		**6.34**	**6.28**	**6.66**	**6.54**	**6.49**
Specific Conductance	mmhos/cm	**0.420**		**0.926**	--	**0.921**	**0.784**	**0.668**
Temperature	deg C	**13**		--	--	**10.3**	**12.9**	--
DISSOLVED GASES								
Ethane	ng/L	**2,590**		--	--	--	--	--
Ethene	ng/L	**7,700**		--	--	--	--	--
Methane	ug/L	**0.45**		--	--	--	--	--
MISCELLANEOUS								
Ferrous Iron	mg/L	**0.27**		--	--	--	--	--
Iron	mg/L	**0.493**		--	--	--	--	--
Iron (Filtered)	mg/L	**0.455**		--	--	--	--	--
Manganese	mg/L	**2.15**		--	--	--	--	--
Manganese (Filtered)	mg/L	**1.79**		--	--	--	--	--
Nitrate	mg/L	**0.632**		--	--	--	--	--
Nitrite	mg/L	**0.026**		--	--	--	--	--
Sulfate	mg/L	**4.38**		--	--	--	--	--

Notes and Abbreviations:

1. Value represent data from monitoring well GMMW-5 collected on December 7, 1998.

Bold constituent detected above method detection limit.

deg C	Degrees Celsius.
R	The sample results are rejected; due to significant quality control problems, the analysis is invalid and provides no information as to whether the compound is present or not.
J	Estimated value.
mg/L	Milligrams per liter.
mmhos/cm	Millimhos per centimeter.
ng/L	Nanograms per liter.
ug/L	Micrograms per liter.
--	Not analyzed or collected.

Table 4. Concentrations of Volatile Organic Compounds and Selected Metals Detected in Surface Water, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents	Sample ID: / Date:	F-6 3/28/2013	F-6 9/19/2013	SW-2 3/28/2013	SW-2 9/19/2013	SW-3 3/28/2013	SW-3 9/19/2013	SW-4 3/28/2013	SW-4 9/19/2013
Volatile organic compounds (VOCs) (Units in ug/L)									
1,1,1-Trichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	**0.72 J**	**0.49 J**	**0.82 J**
1,1-Dichloroethene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone		<10	<10	<10	<10	<10	<10	<10	<10
2-Hexanone		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Acetone		<10	<10	<10	<10	<10	<10	<10	<10
Benzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyclohexane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl acetate		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total VOCs		NA	NA	NA	NA	NA	**0.72 J**	**0.49 J**	**0.82 J**

See notes on last page.

Table 4. Concentrations of Volatile Organic Compounds and Selected Metals Detected in Surface Water, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents	Sample ID: / Date:	F-6 3/28/2013	F-6 9/19/2013	SW-2 3/28/2013	SW-2 9/19/2013	SW-3 3/28/2013	SW-3 9/19/2013	SW-4 3/28/2013	SW-4 9/19/2013
Metals (Units in mg/L) (Continued)									
Aluminum		**0.077 J**	<0.200	**0.13 J**	<0.200	**0.11 J**	<0.200	**0.085 J**	<0.200
Antimony		<0.020	<0.0200	<0.020	<0.0200	<0.020	<0.0200	<0.020	<0.0200
Arsenic		<0.010	<0.0100	<0.010	<0.0100	<0.010	<0.0100	<0.010	<0.0100
Barium		**0.0066**	**0.00890**	**0.0067**	**0.00780**	**0.0065**	**0.00810**	**0.0066**	**0.00830**
Beryllium		<0.0020	<0.00200	<0.0020	<0.00200	<0.0020	<0.00200	<0.0020	<0.00200
Cadmium		<0.0010	<0.00100	<0.0010	<0.00100	<0.0010	<0.00100	<0.0010	<0.00100
Calcium		**8.7**	**20.7**	**5.3**	**14.6**	**7.2**	**17.9**	**7.9**	**19.2**
Chromium		<0.0040	<0.00400	<0.0040	<0.00400	<0.0040	<0.00400	<0.0040	<0.00400
Cobalt		<0.0040	<0.00400	<0.0040	<0.00400	<0.0040	<0.00400	<0.0040	<0.00400
Copper		<0.010	<0.0100	<0.010	<0.0100	<0.010	<0.0100	<0.010	<0.0100
Iron		**0.16**	**0.0870**	**0.16**	**0.0190 J**	**0.13**	<0.0500	**0.18**	**0.0670**
Lead		<0.0050	<0.00500	<0.0050	<0.00500	<0.0050	<0.00500	<0.0050	<0.00500
Magnesium		**2.4**	**4.50**	**1.9**	**3.60**	**2.2**	**4.00**	**2.3**	**4.20**
Manganese		**0.064**	**0.0900**	**0.025**	**0.00180 J**	**0.021**	**0.00530**	**0.061**	**0.0790**
Mercury		<0.00020	<0.000200	<0.00020	<0.000200	<0.00020	<0.000200	<0.00020	<0.000200
Nickel		<0.010	<0.0100	<0.010	<0.0100	<0.010	<0.0100	<0.010	<0.0100
Potassium		**0.87**	**0.920**	**0.92**	**0.870**	**0.91**	**0.830**	**0.87**	**0.910**
Selenium		<0.015	<0.0150	<0.015	<0.0150	<0.015	<0.0150	<0.015	<0.0150
Silver		<0.0030	<0.00300	<0.0030	<0.00300	<0.0030	<0.00300	<0.0030	<0.00300
Sodium		**5.1**	**6.20**	**4.9**	**6.10**	**5.0**	**6.20**	**5.0**	**6.00**
Thallium		<0.020	<0.0200	<0.020	<0.0200	<0.020	<0.0200	<0.020	<0.0200
Vanadium		<0.0050	<0.00500	<0.0050	<0.00500	<0.0050	<0.00500	<0.0050	<0.00500
Zinc		<0.010	<0.0100	**0.0016 J**	<0.0100	<0.010	<0.0100	<0.010	<0.0100

Notes and Abbreviations:

Bold constituent detected above method detection limit.

J	Estimated value.
mg/L	Milligrams per liter.
NA	Not applicable.
ug/L	Micrograms per liter.
<	Analyte below detection limit.
--	Not analyzed or collected.

Table 5. Concentrations of Volatile Organic Compounds and Selected Metals Detected in Spring Water, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	NYSDEC Part 703 WQS	SP-2 7/13/2012	SP-2 3/28/2013	SP-2 6/19/2013	SP-2 9/19/2013
1,1,1-Trichloroethane		5	<5.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		5	<5.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		5	<5.0 Q	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		1	<5.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		5	<5.0	<1.0	<1.0	<1.0
1,1-Dichloroethene		5	<5.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		5	<5.0 Q	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		0.04	<5.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		0.0006	<5.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		3	<5.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		0.6	<5.0	<1.0	<1.0	<1.0
1,2-Dichloropropane		1	<5.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		3	<5.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		3	<5.0	<1.0	<1.0	<1.0
2-Butanone		50	<10	<10	<10	<10
2-Hexanone		50	<10	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		NA	<10	<5.0	<5.0	<5.0
Acetone		50	<10	<10	<10	<10
Benzene		10	<5.0	<1.0	<1.0	<1.0
Bromodichloromethane		50	<5.0	<1.0	<1.0	<1.0
Bromoform		50	<5.0	<1.0	<1.0	<1.0
Bromomethane		5	<5.0	<1.0	<1.0	<1.0
Carbon Disulfide		60	<5.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		5	<5.0 Q	<1.0	<1.0	<1.0
Chlorobenzene		5	<5.0	<1.0	<1.0	<1.0
Chloroethane		5	<5.0	<1.0	<1.0	<1.0
Chloroform		7	<5.0	<1.0	<1.0	<1.0
Chloromethane		5	<5.0 Q	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		5	<5.0 Q	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene		0.4	<5.0 Q	<1.0	<1.0	<1.0
Cyclohexane		NA	<5.0 Q	<1.0	<1.0	<1.0
Dibromochloromethane		50	<5.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		5	<5.0	<1.0	<1.0	<1.0
Ethylbenzene		5	<5.0	<1.0	<1.0	<1.0
Isopropylbenzene		5	<5.0	<1.0	<1.0	<1.0
Methyl acetate		NA	<5.0 Q	<1.0	<1.0	<1.0
Methyl tert-butyl ether		10	<5.0 Q	<1.0	<1.0	<1.0
Methylcyclohexane		NA	<5.0 Q	<1.0	<1.0	<1.0
Methylene Chloride		5	<5.0	<1.0	<1.0	<1.0
Styrene		50	<5.0	<1.0	<1.0	<1.0
Tetrachloroethene		5	<5.0 Q	<1.0	<1.0	<1.0
Toluene		6000	**12**	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		5	<5.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		0.4	<5.0 Q	<1.0	<1.0	<1.0
Trichloroethene		5	<5.0	<1.0	<1.0	<1.0
Trichlorofluoromethane		0.4	<5.0 Q	<1.0	<1.0	<1.0
Vinyl Chloride		2	<5.0	<1.0	<1.0	<1.0
Xylenes (total)		5	<5.0	<2.0	<2.0	<2.0
Total VOCs		NA	**12**	NA	NA	NA

See notes on last page.

Table 5. Concentrations of Volatile Organic Compounds and Selected Metals Detected in Spring Water, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	NYSDEC Part 703 WQS	SP-2 7/13/2012	SP-2 3/28/2013	SP-2 6/19/2013	SP-2 9/19/2013
Metals (Units in mg/L)						
Aluminum		0.100	NA	**0.39**	**0.720**	**1.50**
Antimony		0.003	NA	<0.020	<0.0200	<0.0200
Arsenic		0.15	NA	<0.010	<0.0100	<0.0100
Barium		1	NA	**0.0087**	**0.0130**	**0.0190**
Beryllium		0.003	NA	<0.0020	<0.00200	<0.00200
Cadmium		0.01	NA	<0.0010	<0.00100	<0.00100
Calcium		NA	NA	**7.20**	**7.30**	**7.70**
Chromium		0.05	NA	<0.0040	<0.00400	**0.00180 J**
Cobalt		0.005	NA	<0.0040	**0.000640 J**	**0.00110 J**
Copper		NA	NA	<0.010	<0.0100	**0.00240 J**
Iron		0.3	NA	**0.51**	**0.930**	**2.30**
Lead		0.025	NA	<0.0050	<0.00500	<0.00500
Magnesium		35	NA	**2.0**	**1.80**	**2.20**
Manganese		0.3	NA	**0.12**	**0.200**	**0.580**
Mercury		0.0000007	NA	<0.00020	<0.000200	<0.000200
Nickel		0.1	NA	<0.010	<0.0100	**0.00350 J**
Potassium		NA	NA	**0.75**	**0.410 J**	**1.30**
Selenium		0.0046	NA	<0.015	<0.0150	<0.0150
Silver		0.0001	NA	<0.0030	<0.00300	<0.00300
Sodium		20	NA	**4.5**	**5.00**	**4.20**
Thallium		0.008	NA	<0.020	<0.0200	<0.0200
Vanadium		0.014	NA	<0.0050	<0.00500	**0.00200 J**
Zinc		0.066	NA	**0.0023 J**	**0.00630 J**	**0.00820 J**

See notes on last page.

Table 5. Concentrations of Volatile Organic Compounds and Selected Metals Detected in Spring Water, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	NYSDEC Part 703 WQS	SP-3 7/13/2012	SP-3 3/28/2013	SP-3 6/19/2013	SP-3 9/19/2013
1,1,1-Trichloroethane		5	<5.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		5	<5.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		5	<5.0 Q	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		1	<5.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		5	**76**	**41**	**23**	**22**
1,1-Dichloroethene		5	<5.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		5	<5.0 Q	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		0.04	<5.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		0.0006	<5.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		3	<5.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		0.6	<5.0	<1.0	<1.0	<1.0
1,2-Dichloropropane		1	<5.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		3	<5.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		3	<5.0	<1.0	<1.0	<1.0
2-Butanone		50	<10	<10	<10	<10
2-Hexanone		50	<10	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		NA	<10	<5.0	<5.0	<5.0
Acetone		50	<10	<10	<10	<10
Benzene		10	<5.0	<1.0	<1.0	<1.0
Bromodichloromethane		50	<5.0	<1.0	<1.0	<1.0
Bromoform		50	<5.0	<1.0	<1.0	<1.0
Bromomethane		5	<5.0	<1.0	<1.0	<1.0
Carbon Disulfide		60	<5.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		5	<5.0 Q	<1.0	<1.0	<1.0
Chlorobenzene		5	**42**	**3.5**	**1.7**	**3.1**
Chloroethane		5	**18**	**7.0**	**2.4**	**5.0**
Chloroform		7	<5.0	<1.0	<1.0	<1.0
Chloromethane		5	<5.0 Q	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		5	**24 Q**	**14**	**7.8**	**6.5**
cis-1,3-Dichloropropene		0.4	<5.0 Q	<1.0	<1.0	<1.0
Cyclohexane		NA	<5.0 Q	<1.0	<1.0	<1.0
Dibromochloromethane		50	<5.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		5	<5.0	<1.0	<1.0	<1.0
Ethylbenzene		5	<5.0	<1.0	<1.0	<1.0
Isopropylbenzene		5	<5.0	<1.0	<1.0	<1.0
Methyl acetate		NA	<5.0 Q	<1.0	<1.0	<1.0
Methyl tert-butyl ether		10	<5.0 Q	<1.0	<1.0	<1.0
Methylcyclohexane		NA	<5.0 Q	<1.0	<1.0	<1.0
Methylene Chloride		5	<5.0	<1.0	<1.0	<1.0
Styrene		50	<5.0	<1.0	<1.0	<1.0
Tetrachloroethene		5	<5.0 Q	<1.0	<1.0	<1.0
Toluene		6000	<5.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		5	<5.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		0.4	<5.0 Q	<1.0	<1.0	<1.0
Trichloroethene		5	**7.0**	**4.8**	**4.2**	**3.5**
Trichlorofluoromethane		0.4	<5.0 Q	<1.0	<1.0	<1.0
Vinyl Chloride		2	**21**	**2.1**	<1.0	**1.5**
Xylenes (total)		5	<5.0	<2.0	<2.0	<2.0
Total VOCs		NA	**188**	**72**	**39**	**42**

See notes on last page.

Table 5. Concentrations of Volatile Organic Compounds and Selected Metals Detected in Spring Water, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	NYSDEC Part 703 WQS	SP-3 7/13/2012	SP-3 3/28/2013	SP-3 6/19/2013	SP-3 9/19/2013
Metals (Units in mg/L)						
Aluminum		0.100	NA	<0.20	<0.200	<0.200
Antimony		0.003	NA	<0.020	<0.0200	<0.0200
Arsenic		0.15	NA	<0.010	<0.0100	<0.0100
Barium		1	NA	**0.015**	**0.0140**	**0.0170**
Beryllium		0.003	NA	<0.0020	<0.00200	<0.00200
Cadmium		0.01	NA	<0.0010	<0.00100	<0.00100
Calcium		NA	NA	**21.3**	**22.6**	**24.0**
Chromium		0.05	<0.0500	<0.0040	<0.00400	<0.00400
Cobalt		0.005	<0.0500	**0.0013 J**	**0.000650 J**	**0.000870 J**
Copper		NA	NA	<0.010	<0.0100	<0.0100
Iron		0.3	**16.0**	**0.84**	**0.570**	**1.80**
Lead		0.025	NA	<0.0050	<0.00500	<0.00500
Magnesium		35	**7.00**	**5.0**	**5.10**	**5.40**
Manganese		0.3	**4.40**	**1.4**	**0.920**	**1.60**
Mercury		0.0000007	NA	<0.00020	<0.000200	<0.000200
Nickel		0.1	NA	**0.0019 J**	<0.0100	**0.00160 J**
Potassium		NA	NA	**1.1**	**1.40**	**1.20**
Selenium		0.0046	NA	<0.015	<0.0150	<0.0150
Silver		0.0001	<0.0500	<0.0030	<0.00300	<0.00300
Sodium		20	NA	**3.8**	**4.40**	**3.90**
Thallium		0.008	NA	<0.020	<0.0200	<0.0200
Vanadium		0.014	<0.300	<0.0050	<0.00500	<0.00500
Zinc		0.066	NA	**0.0020 J**	**0.00490 J**	**0.00330 J**

See notes on last page.

Table 5. Concentrations of Volatile Organic Compounds and Selected Metals Detected in Spring Water, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	NYSDEC Part 703 WQS	SP-4 9/20/2012	SP-4 3/28/2013	SP-4 6/19/2013	SP-4 9/19/2013
1,1,1-Trichloroethane		5	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		5	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane		5	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		1	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		5	**1.8**	**14**	**4.7**	**3.6**
1,1-Dichloroethene		5	<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		5	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane		0.04	<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane		0.0006	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		3	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		0.6	<1.0	**0.51 J**	**0.46 J**	<1.0
1,2-Dichloropropane		1	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene		3	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		3	<1.0	<1.0	<1.0	<1.0
2-Butanone		50	<10	<10	<10	<10
2-Hexanone		50	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone		NA	<5.0	<5.0	<5.0	<5.0
Acetone		50	<10	<10	**4.5 J**	<10
Benzene		10	<1.0	<1.0	**0.45 J**	**0.85 J**
Bromodichloromethane		50	<1.0	<1.0	<1.0	<1.0
Bromoform		50	<1.0	<1.0	<1.0	<1.0
Bromomethane		5	<1.0	<1.0	<1.0	<1.0
Carbon Disulfide		60	<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride		5	<1.0	<1.0	<1.0	<1.0
Chlorobenzene		5	<1.0	**4.0**	**3.6**	**6.9**
Chloroethane		5	<1.0	**55**	**35**	**76**
Chloroform		7	<1.0	<1.0	<1.0	<1.0
Chloromethane		5	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		5	<1.0	**0.88 J**	<1.0	<1.0
cis-1,3-Dichloropropene		0.4	<1.0	<1.0	<1.0	<1.0
Cyclohexane		NA	<1.0	<1.0	<1.0	<1.0
Dibromochloromethane		50	<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		5	<1.0	<1.0	<1.0	<1.0
Ethylbenzene		5	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		5	<1.0	<1.0	<1.0	<1.0
Methyl acetate		NA	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether		10	<1.0	<1.0	<1.0	<1.0
Methylcyclohexane		NA	<1.0	<1.0	<1.0	<1.0
Methylene Chloride		5	<1.0	<1.0	<1.0	<1.0
Styrene		50	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		5	<1.0	<1.0	<1.0	<1.0
Toluene		6000	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene		5	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		0.4	<1.0	<1.0	<1.0	<1.0
Trichloroethene		5	<1.0	**0.78 J**	<1.0	<1.0
Trichlorofluoromethane		0.4	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride		2	<1.0	<1.0	<1.0	<1.0
Xylenes (total)		5	<2.0	<2.0	<2.0	<2.0
Total VOCs		NA	**1.8**	**75 J**	**49 J**	**87 J**

See notes on last page.

Table 5. Concentrations of Volatile Organic Compounds and Selected Metals Detected in Spring Water, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Sample ID: / Date:	NYSDEC Part 703 WQS	SP-4 9/20/2012	SP-4 3/28/2013	SP-4 6/19/2013	SP-4 9/19/2013
Metals (Units in mg/L)						
Aluminum		0.100	--	<0.20	**1.50**	**0.0970 J**
Antimony		0.003	--	<0.020	<0.0200	<0.0200
Arsenic		0.15	--	**0.023**	**0.0470**	**0.120**
Barium		1	--	**0.065**	**0.120**	**0.100**
Beryllium		0.003	--	<0.0020	<0.00200	<0.00200
Cadmium		0.01	--	<0.0010	<0.00100	<0.00100
Calcium		NA	--	**61.8**	**70.0**	**66.5**
Chromium		0.05	--	<0.0040	**0.00290 J**	**0.00120 J**
Cobalt		0.005	--	**0.0012 J**	**0.00250 J**	**0.00110 J**
Copper		NA	--	<0.010	**0.00170 J**	<0.0100
Iron		0.3	--	**7.1**	**32.7**	**25.6**
Lead		0.025	--	<0.0050	<0.00500	<0.00500
Magnesium		35	--	**14.7**	**16.6**	**15.0**
Manganese		0.3	--	**4.7**	**6.20**	**5.70**
Mercury		0.0000007	--	<0.00020	<0.000200	<0.000200
Nickel		0.1	--	<0.010	**0.00320 J**	<0.0100
Potassium		NA	--	**1.3**	**2.60**	**1.50**
Selenium		0.0046	--	<0.015	<0.0150	<0.0150
Silver		0.0001	--	<0.0030	<0.00300	**0.00190 J**
Sodium		20	--	**9.4**	**9.70**	**9.40**
Thallium		0.008	--	<0.020	<0.0200	<0.0200
Vanadium		0.014	--	<0.0050	**0.00270 J**	<0.00500
Zinc		0.066	--	<0.010	**0.0210**	<0.0100

See notes on last page.

Table 5. Concentrations of Volatile Organic Compounds and Selected Metals Detected in Spring Water, Operational Year 11, Colesville Landfill, Broome County, New York.

Notes and Abbreviations:

Bold constituent detected above method detection limit.

	Exceeds WQS.
J	Estimated value.
mg/L	Milligrams per liter.
NA	Not applicable.
VOCs	Volatile organic compounds.
ug/L	Micrograms per liter.
<	Analyte below detection limit.
--	Not analyzed or collected.
Q	Outlying QC recoveries were associated with this parameter, as noted in the Upstate Laboratories, Inc. analytical report.

Table 6. Concentrations of Metals Detected in Sediment Samples Associated with Springs, Operational Year 11, Colesville Landfill, Broome County, New York.

	NYSDEC Freshwater Sediment Screening Values[a]									
Location ID:				SED-1	SED-2	SED-2	SED-3	SED-3	SED-3	SED-3	SED-3
Sample ID:				SP-1-SED (Background)	SP-2-SED (Opposite Bank)	SP-2-SED	SP-3-SED	SP-3-SED (Outlet)	SP-3-SED (Stream Sediment)	SP-3C-SED	SP-3-SED
Date:				9/19/2013 (1)	7/13/2012 (2)	7/13/2012	7/13/2012 (3)	8/8/2012 (4)	8/8/2012 (5)	3/28/2013 (6)	9/19/2013 (6)
Constituents	**Lowest Effects Level (LEL)**	**Severe Effects Level (SEL)**	**NOAA SQuiRT values[b]**								
Metals (Units in mg/kg)											
Aluminum	NA	NA	NA	**12,900**	--	--	--	**9,000**	**8,100**	**9,360**	**6,580**
Antimony	2	25	NA	<19.2	--	--	--	<6.50	<5.60	<19.4	<93.1
Arsenic	6	33	NA	**18.2**	--	--	--	**16.0**	**14.0**	**10.2**	**132**
Barium	NA	NA	NA	**68.2**	--	--	--	<190 Q	<170 Q	**44.3**	**673**
Beryllium	NA	NA	NA	**0.680**	--	--	--	<3.20	<2.80	**0.39**	**0.550 J**
Cadmium	0.6	9	NA	**0.160 J**	--	--	--	<3.20	<2.80	**0.19 J**	**1.50**
Calcium	NA	NA	NA	**1,040**	--	--	--	**810**	**630**	**917**	**5,970**
Chromium	26	110	NA	**16.2**	**15.0 J**	**18.0 J**	**34.0 J**	**18.0 J**	**15.0 J**	**13.2**	**24.4**
Cobalt	NA	NA	50+[c]	**16.3**	<32.0	<32.0	<83.0	<32.0	<28.0	**10.3**	**93.2**
Copper	16	110	NA	**24.4**	--	--	--	**21.0**	**19.0**	**18.9**	**19.4**
Iron	20,000	40,000	NA	**35,200**	**19,000 B**	**23,000 B**	**55,000 B**	**24,000**	**19,000**	**23,100**	**204,000**
Lead	31	110	NA	**19.9**	--	--	--	**12.0**	**19.0**	**14.1**	**32.2**
Magnesium	NA	NA	NA	**3,790**	**2,700**	**2,800**	**4,600**	**2,900**	**2,500**	**3,260**	**1,720**
Manganese	460	1100	NA	**1,670**	**300**	**1,200**	**10,000**	**640**	**490**	**1,140**	**88,800**
Mercury	0.15	1.3	NA	<0.0270	--	--	--	<0.112	<0.0911	<0.026	<0.110
Nickel	16	50	NA	**28.0**	--	--	--	**17.0 QJ**	**15.0 QJ**	**23.0**	**68.2**
Potassium	NA	NA	NA	**819**	--	--	--	**730**	**490**	**793**	**1,340**
Selenium	NA	NA	NA	<5.10	--	--	--	<3.90 Q	<3.40 Q	**0.60 J**	**31.6**
Silver	1	2.2	NA	<0.640	<32.0 Q	<32.0 Q	<83.0 Q	<32.0	<28.0	<0.65	**15.4**
Sodium	NA	NA	NA	**37.1 J**	--	--	--	<320	<280	**30.0 J**	<869
Thallium	NA	NA	NA	**0.430 J**	--	--	--	<3.90	<3.40	<7.8	**30.8 J**
Vanadium	NA	NA	NA	**16.8**	<190	<190	<500	<190	<170	13.0	**12.0**
Zinc	120	270	NA	**74.6**	--	--	--	**47.0**	**45.0**	**59.6**	**108**
Miscellaneous											
Percent Moisture (% by wt	NA	NA	NA	**25.0**	**20.8**	**21.1**	**70**	**27.7**	**18.4**	**27.0**	**82.1**

See acronyms and notes on the last page.

Table 6. Concentrations of Metals Detected in Sediment Samples Associated with Springs, Operational Year 11, Colesville Landfill, Broome County, New York.

Notes and Abbreviations:

a	Values obtained from NYSDEC 1999. Technical Guidance for Screening Contaminated Sediments.
b	Values obtained from NOAAs Screening Quick Reference Tables (Buchman, MF. 2008. NOAA Screening Quick Reference Tables, NOAA OR&R Report 08-1, Seattle, WA. Office of Response and Restoration Division, NOAA, 34 pp.)
c	Value from Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario, Canada. Aug 1993. Value is Lowest Effects Level (LEL) from Canadian Sediment Guidelines.
1.	Background sediment sample collected by ARCADIS from SP-1 spring sample location upstream of the SP-2 spring sample location (see Figure 1).
2.	Background sediment sample collected by Broome County upstream and on the opposite bank from SP-2 spring sample location.
3.	Sediment/iron oxide film composite sample collected by Broome County from the SP-3 spring sample location.
4.	Sample collected by Broome County from the SP-3 spring outlet area in close proximity to the North Stream.
5.	Sample collected by Broome County from North Stream sediment at the SP-3 spring area.
6.	Sediment composite sample collected by ARCADIS from SP-3 spring sample location as part of the spring water and sediment monitoring program of the In-Situ Reactive Zone Discontinuation Pilot Test.

Bold constituent detected above method detection limit.

B	Analyte detected in the associated Method Blank.
J	Analyte detected below quantitation limit.
mg/kg	Milligrams per kilogram.
NA	Not applicable.
Q	Outlying QC recoveries were associates with this parameter.
	Exceeds Lowest Effects Level.
	Exceeds Severe Effects Level.
<	Analyte below detection limit.
--	Constituent not analyzed.

Table 7. Concentrations of Volatile Organic Compounds Detected in Aqueous Samples Collected from the SP-5 Spring Water Remediation System, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Model Technology BPJ Limits[1,2]	Sample ID: Date:	SP-5 INF. 12/19/2012	SP-5 INF. 3/28/2013	SP-5 INF. 6/19/2013	SP-5 INF. 9/20/2013
VOCs						
1,1,1-Trichloroethane	10		<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	50		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane	NA		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	100		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	10		**12**	**12**	**11**	**9.5**
1,1-Dichloroethene	10-100		<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene	NA		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane	NA		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane	NA		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	10-50		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	10-100		**0.32 J**	<1.0	<1.0	<1.0
1,2-Dichloropropane	10		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	10		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	10		<1.0	<1.0	<1.0	<1.0
2-Butanone	NA		<10	<10	<10	<10
2-Hexanone	NA		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	NA		<5.0	<5.0	<5.0	<5.0
Acetone	NA		<10	<10	<10	<10
Benzene	5		**1.4**	**1.4**	**1.4**	**1.5**
Bromodichloromethane	NA		<1.0	<1.0	<1.0	<1.0
Bromoform	50		<1.0	<1.0	<1.0	<1.0
Bromomethane	10		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide	NA		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride	10-50		<1.0	<1.0	<1.0	<1.0
Chlorobenzene	10-25		**17**	**19**	**20**	**19**
Chloroethane	10		**2.0**	**0.65 J**	**1.9**	**2.5**
Chloroform	100		<1.0	<1.0	<1.0	<1.0
Chloromethane	10		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	10		**1.5**	**0.97 J**	**1.1**	<1.0
cis-1,3-Dichloropropene	NA		<1.0	<1.0	<1.0	<1.0
Cyclohexane	NA		<1.0	<1.0	<1.0	<1.0
Dibromochloromethane	NA		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane	10		<1.0	<1.0	<1.0	<1.0
Ethylbenzene	5		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	NA		<1.0	<1.0	<1.0	<1.0
Methyl acetate	NA		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	NA		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane	NA		<1.0	<1.0	<1.0	<1.0
Methylene Chloride	10-100		<1.0	<1.0	<1.0	<1.0
Styrene	NA		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	10-50		<1.0	<1.0	<1.0	<1.0
Toluene	5		<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	10-100		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	NA		<1.0	<1.0	<1.0	<1.0
Trichloroethene	10		**2.5**	**2.7**	**2.7**	**2.7**
Trichlorofluoromethane	10		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	10		<1.0	<1.0	<1.0	<1.0
Xylenes (total)	NA		<2.0	<2.0	<2.0	<2.0
Total VOCs			**37 J**	**37 J**	**38**	**35**

Notes and Abbreviations:

1. Model Technology Best Professional Judgment (BPJ) Limits recommended for carbon adsorption with appropriate pretreatment from Attachment C of TOGS 1.2.1.
2. When a range is listed for the BPJ limit, a variation in available references was found. Recommended daily maximum limits should be in this range.

Bold constituent detected above method detection limit.

<	Analyte below detection limit.
EFF.	Effluent.
INF.	Influent.
J	Estimated value.
NA	Not applicable.
ug/L	Micrograms per liter.
VOCs	Volatile organic compounds.

Table 7. Concentrations of Volatile Organic Compounds Detected in Aqueous Samples Collected from the SP-5 Spring Water Remediation System, Operational Year 11, Colesville Landfill, Broome County, New York.

Constituents (units in ug/L)	Model Technology BPJ Limits[1,2]	Sample ID: Date:	SP-5 EFF. 12/19/2012	SP-5 EFF. 3/28/2013	SP-5 EFF. 6/19/2013	SP-5 EFF. 9/20/2013
VOCs						
1,1,1-Trichloroethane	10		<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	50		<1.0	<1.0	<1.0	<1.0
1,1,2-trichloro-1,2,2-trifluoroethane	NA		<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	100		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	10		**1.1**	**8.5**	**2.2**	<1.0
1,1-Dichloroethene	10-100		<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene	NA		<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane	NA		<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane	NA		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	10-50		<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	10-100		<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	10		<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	10		<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	10		<1.0	<1.0	<1.0	<1.0
2-Butanone	NA		<10	<10	<10	<10
2-Hexanone	NA		<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	NA		<5.0	<5.0	<5.0	<5.0
Acetone	NA		<10	<10	<10	<10
Benzene	5		<1.0	**0.97 J**	<1.0	<1.0
Bromodichloromethane	NA		<1.0	<1.0	<1.0	<1.0
Bromoform	50		<1.0	<1.0	<1.0	<1.0
Bromomethane	10		<1.0	<1.0	<1.0	<1.0
Carbon Disulfide	NA		<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride	10-50		<1.0	<1.0	<1.0	<1.0
Chlorobenzene	10-25		<1.0	**15**	<1.0	<1.0
Chloroethane	10		**5.3**	<1.0	**1.8**	<1.0
Chloroform	100		<1.0	<1.0	<1.0	<1.0
Chloromethane	10		<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	10		<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	NA		<1.0	<1.0	<1.0	<1.0
Cyclohexane	NA		<1.0	<1.0	<1.0	<1.0
Dibromochloromethane	NA		<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane	10		<1.0	<1.0	<1.0	<1.0
Ethylbenzene	5		<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	NA		<1.0	<1.0	<1.0	<1.0
Methyl acetate	NA		<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	NA		<1.0	<1.0	<1.0	<1.0
Methylcyclohexane	NA		<1.0	<1.0	<1.0	<1.0
Methylene Chloride	10-100		<1.0	<1.0	<1.0	<1.0
Styrene	NA		<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	10-50		<1.0	<1.0	<1.0	<1.0
Toluene	5		<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	10-100		<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	NA		<1.0	<1.0	<1.0	<1.0
Trichloroethene	10		<1.0	**2.1**	<1.0	<1.0
Trichlorofluoromethane	10		<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	10		<1.0	<1.0	<1.0	<1.0
Xylenes (total)	NA		<2.0	<2.0	<2.0	<2.0
Total VOCs			**6.4**	**27 J**	**4.0**	NA

Notes and Abbreviations:

1. Model Technology Best Professional Judgment (BPJ) Limits recommended for carbon adsorption with appropriate pretreatment from Attachment C of TOGS 1.2.1.
2. When a range is listed for the BPJ limit, a variation in available references was found. Recommended daily maximum limits should be in this range.

Bold constituent detected above method detection limit.

<	Analyte below detection limit.
EFF.	Effluent.
INF.	Influent.
J	Estimated value.
NA	Not applicable.
ug/L	Micrograms per liter.
VOCs	Volatile organic compounds.

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Table 8. SP-5 Spring Water Remediation System Mass Removal Rate of Volatile Organic Compounds, Operational Year 11, Colesville Landfill, Broome County, New York.

Date Sampled	Total VOC Influent Concentration (ug/L)	Effluent Flowrate (gpm)	Depth to Water (feet btc)	Total Spring Water Treated [1] Between Sampling Intervals (gal)	Influent Concentration [2] Geometric Mean (ug/L)	Total Estimated Mass [3] Removed (lbs)
9/20/2012	48	0.29	NM	NA	NA	NA
12/19/2012	37	1.1	0.00	71,823	42	0.025
3/28/2013	37	1.6	0.30	184,517	37	0.057
6/19/2013	38	1.2	NM	170,000	37	0.053
9/20/2013	35	1.0	NM	150,000	36	0.046

Total Estimated Mass Removed During Reporting Period (lbs) = 0.099

Total Estimated Mass Removed Since System Startup (lbs) = 2.1

Total Effluent Treated During Reporting Period (gallons) = 320,000

Total Effluent Treated Since System Startup (gallons) = 4,260,000

Notes and Abbreviations:

1. Total Spring Water Treated Between Sampling Intervals = Effluent Flowrate Geometric Mean x 1440 min/day x days between sampling events.
2. Influent Concentration Geometric Mean = (Influent Concentration for prior sampling event x Influent Concentration for current sampling event)^(1/2).
3. Total Mass Removed = (Total Groundwater Treated Between Sampling Intervals) x Influent Concentration Geometric Mean x 3.7854 L/gal x (1 lbs / 453,592,370 ug).

btc Below top of casing.
gal Gallons.
gpm Gallons per minute.
lbs Pounds.
NA Not applicable.
NM Not measured.
ug/L Micrograms per liter.
VOC Volatile organic compound.

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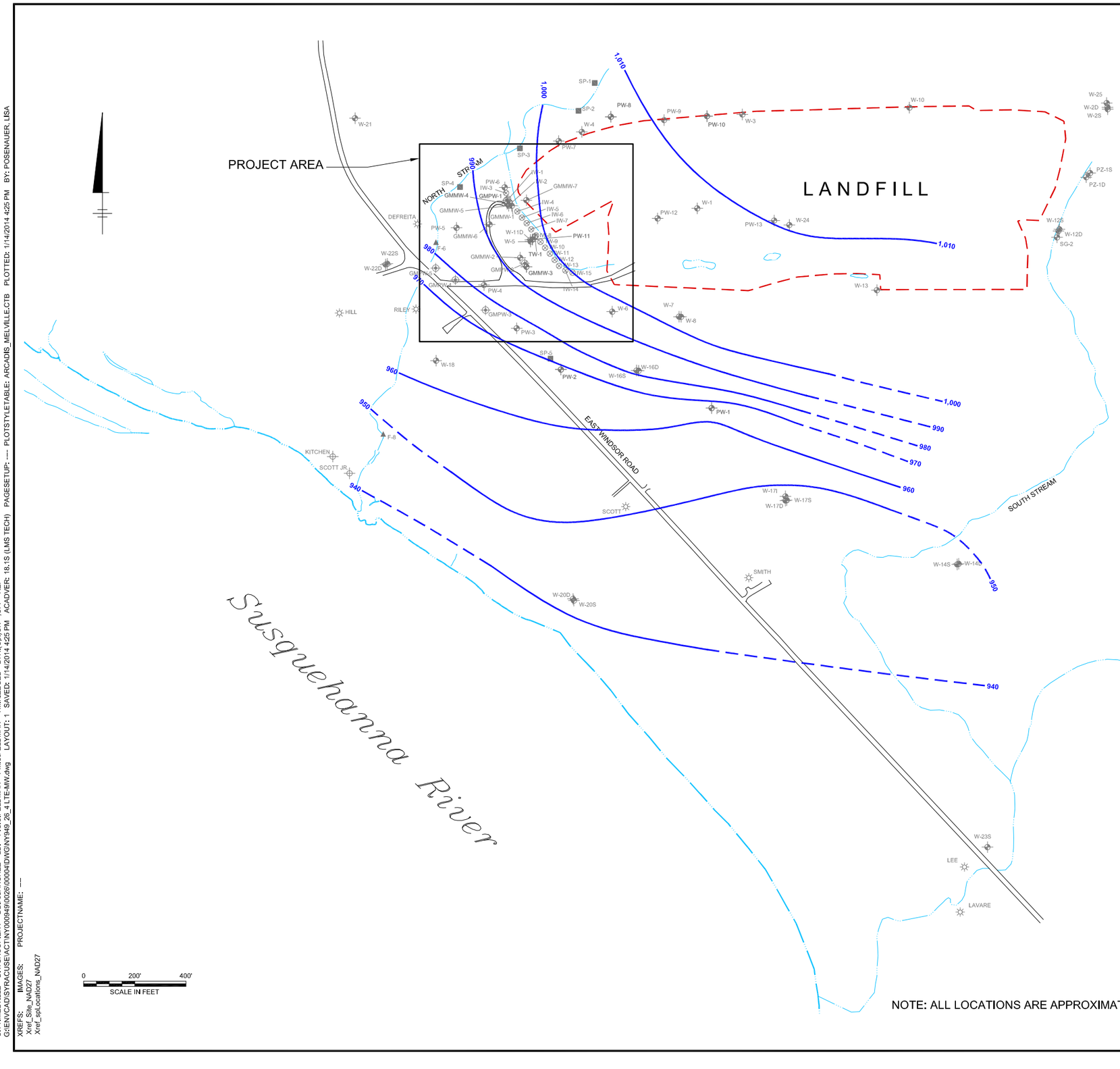
Figures



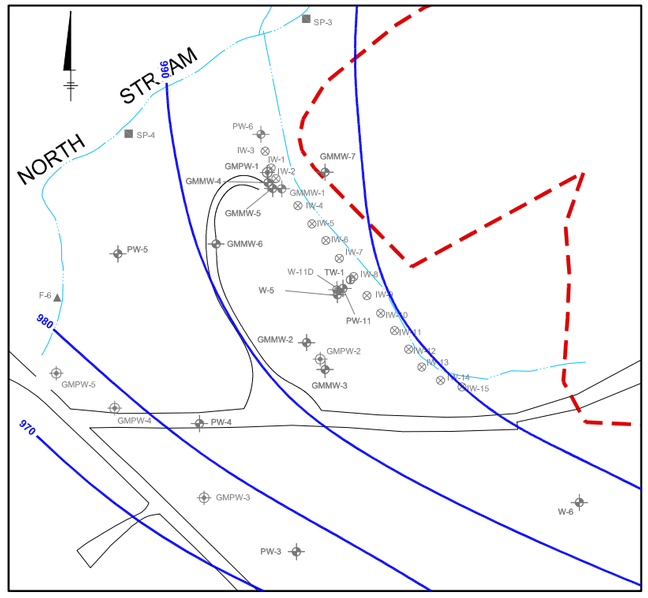
0 200' 400'
SCALE IN FEET

NOTE: ALL LOCATIONS ARE APPROXIMATE

EXPLANATION

LONG-TERM MONITORING PLAN DESIGNATIONS

- W-24 — LOCATION AND DESIGNATION OF MONITORING WELL
- SCOTT — LOCATION AND DESIGNATION OF EXISTING HOMEOWNER WELL
- HILL — LOCATION AND DESIGNATION OF FORMER HOMEOWNER WELL
- IW-2 — LOCATION AND DESIGNATION OF INJECTION WELL
- GMPW-3 — LOCATION AND DESIGNATION OF PRODUCTION WELL
- TW-1 — LOCATION AND DESIGNATION OF TEST MONITORING WELL
- F-6 — LOCATION AND DESIGNATION OF SURFACE WATER SAMPLE
- SP-2 — LOCATION AND DESIGNATION OF SPRING SAMPLE AND CO-LOCATED SEDIMENT SAMPLE
- GMMW-5 — LOCATION AND DESIGNATION OF QUARTERLY MONITORING WELL
- PW-3 — LOCATION AND DESIGNATION OF ANNUAL MONITORING WELL



SITE PLAN SHOWING PROJECT AREA

0 100' 200'
SCALE IN FEET

COLESVILLE LANDFILL
COLESVILLE, NEW YORK
ANNUAL MONITORING REPORT

SITE PLAN SHOWING WATER-LEVEL ELEVATIONS ON SEPTEMBER 17, 2013

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FIGURE
1

CITY:MELVILLE DIV/GROUP:ENV DB:A.SANCHEZ LD: PIC:S.FELDMAN PM:S.FELDMAN TM:K.ZEGEL LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACTINY\0009491\0026\000041\DWG\NY949_26_4 LTE-MW.dwg LAYOUT: 1 SAVED: 1/14/2014 4:25 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS_MELVILLE.CTB PLOTTED: 1/14/2014 4:25 PM BY: POSENAUER, LISA
XREFS: IMAGES: PROJECTNAME: ----
Xref_Site_NAD27
Xref_spLocations_NAD27

Appendix A

Degradation Trend Figures

Figure A-1. Concentrations of PCE Daughter Products Versus Time in GMMW-5

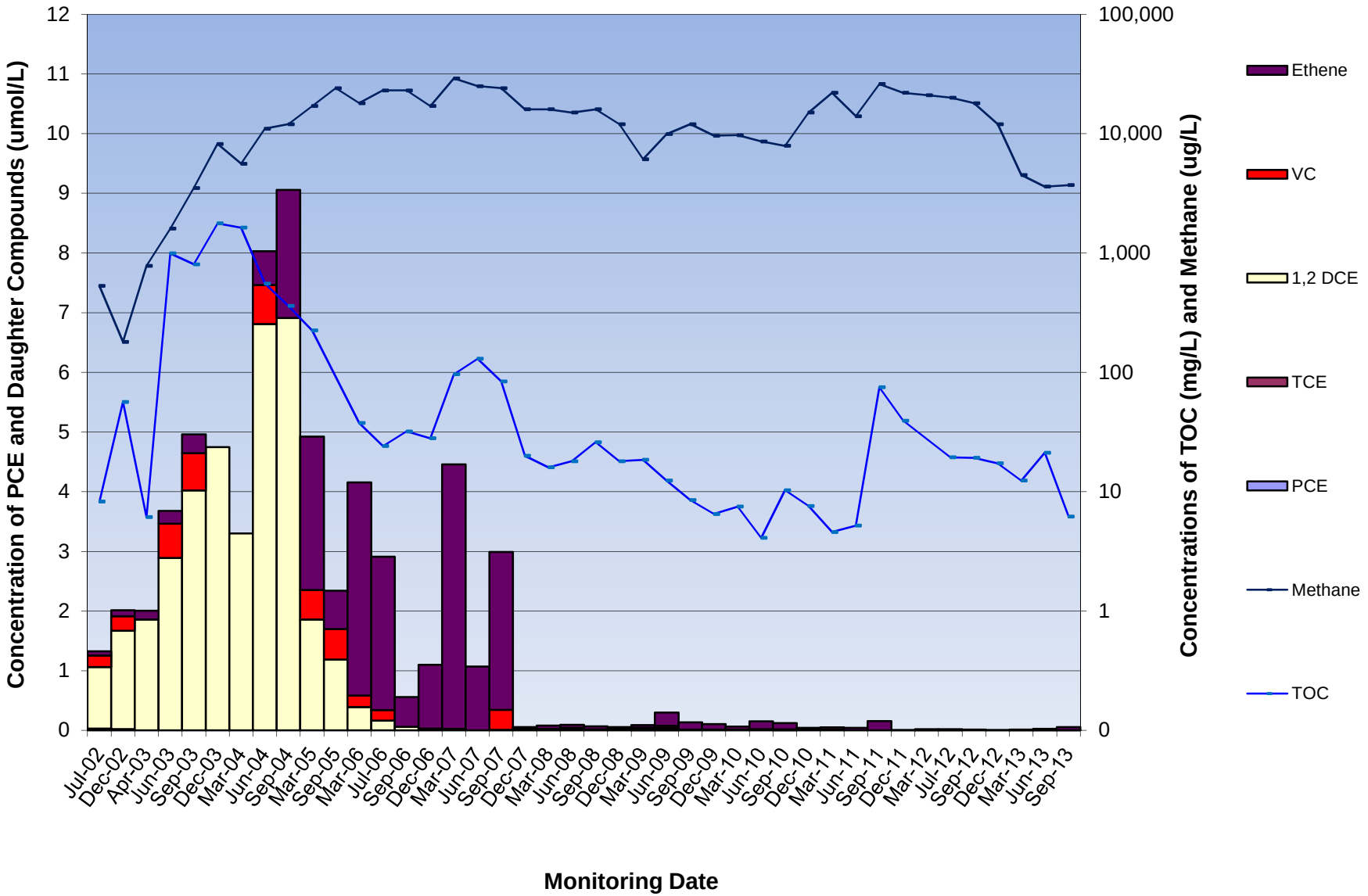


Figure A-2. Concentrations of PCE Daughter Products Versus Time in GMMW-6

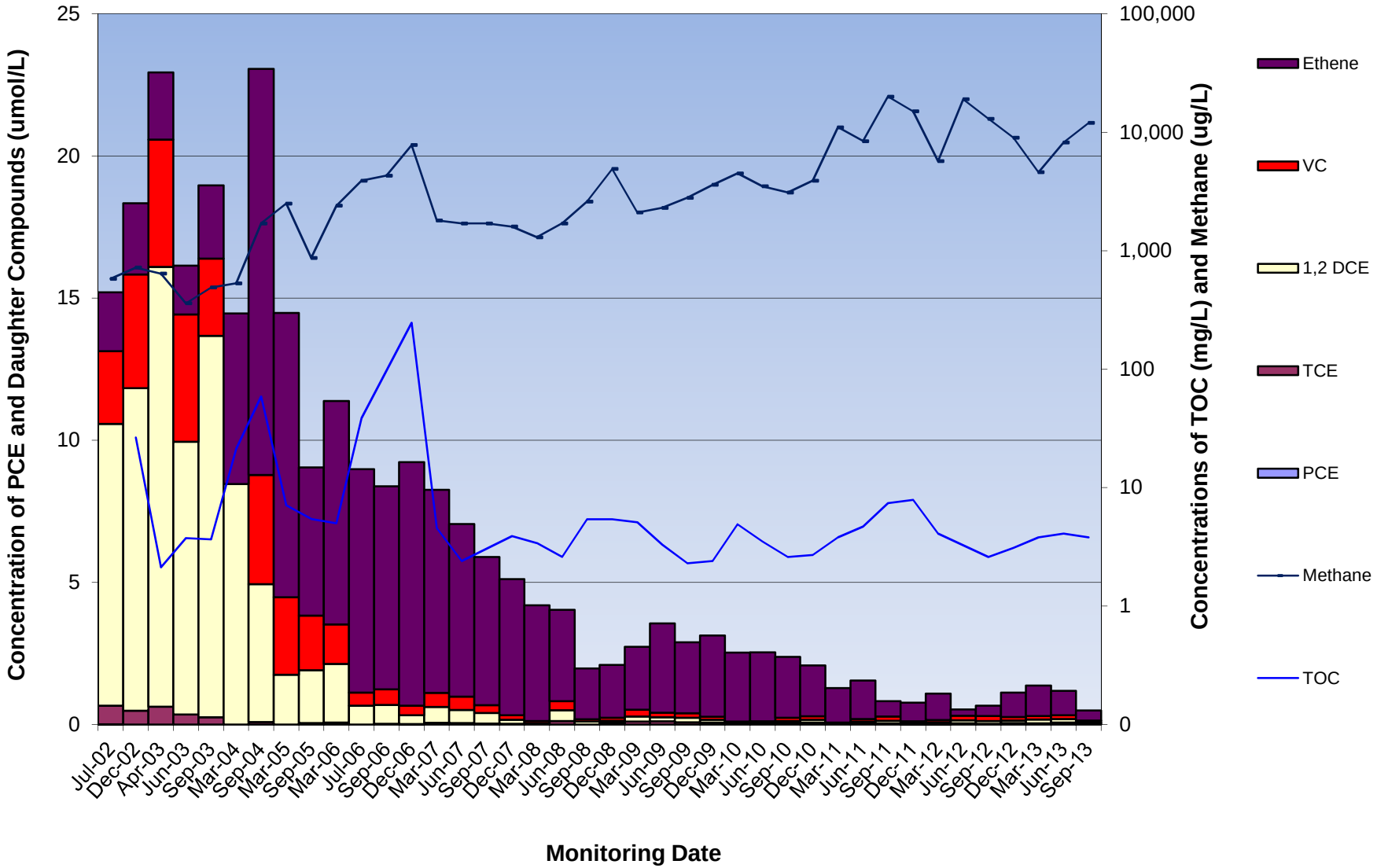


Figure A-3. Concentrations of PCE Daughter Products Versus Time in GMMW-2

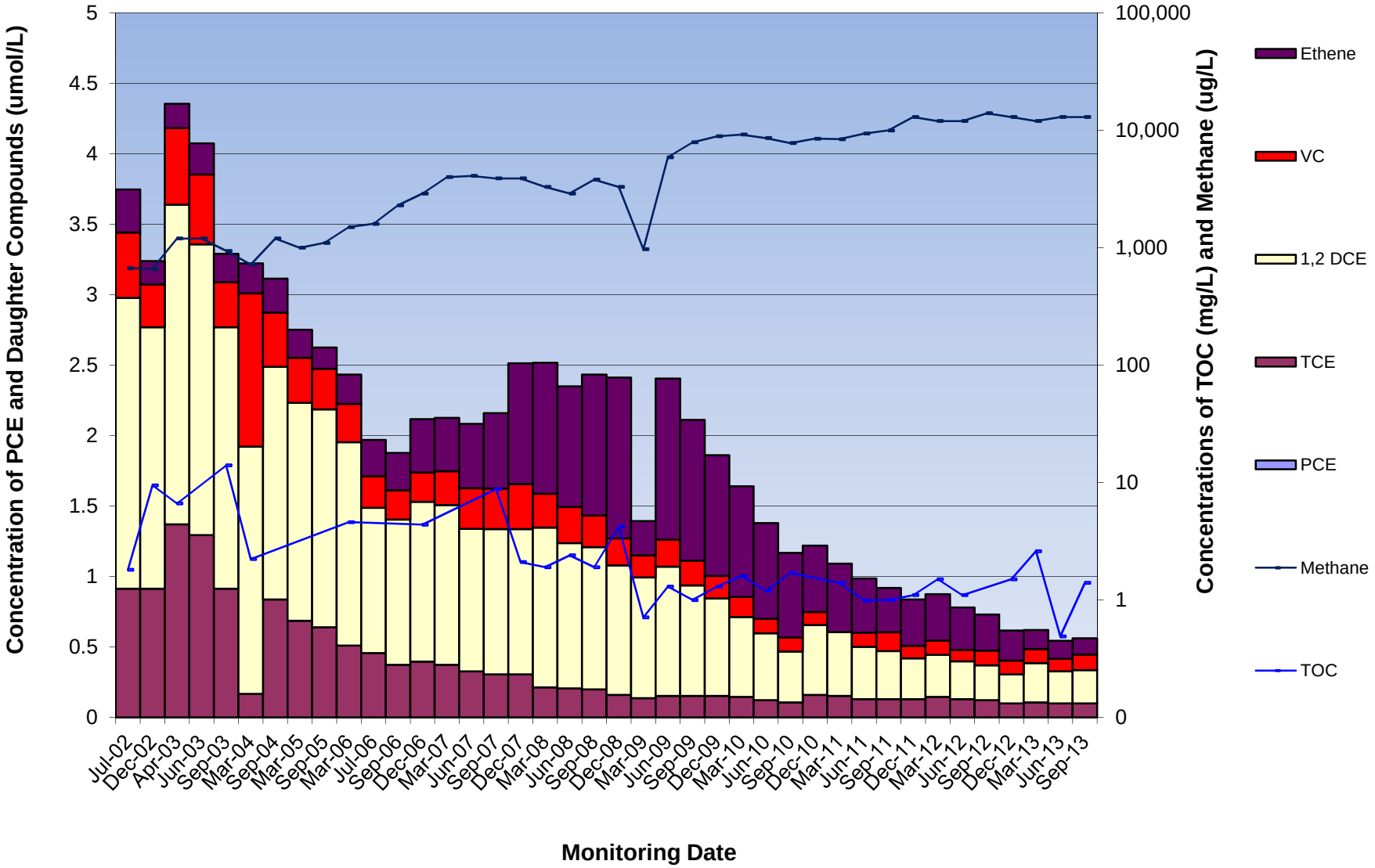


Figure A-4. Concentrations of PCE Daughter Products Versus Time in W-5

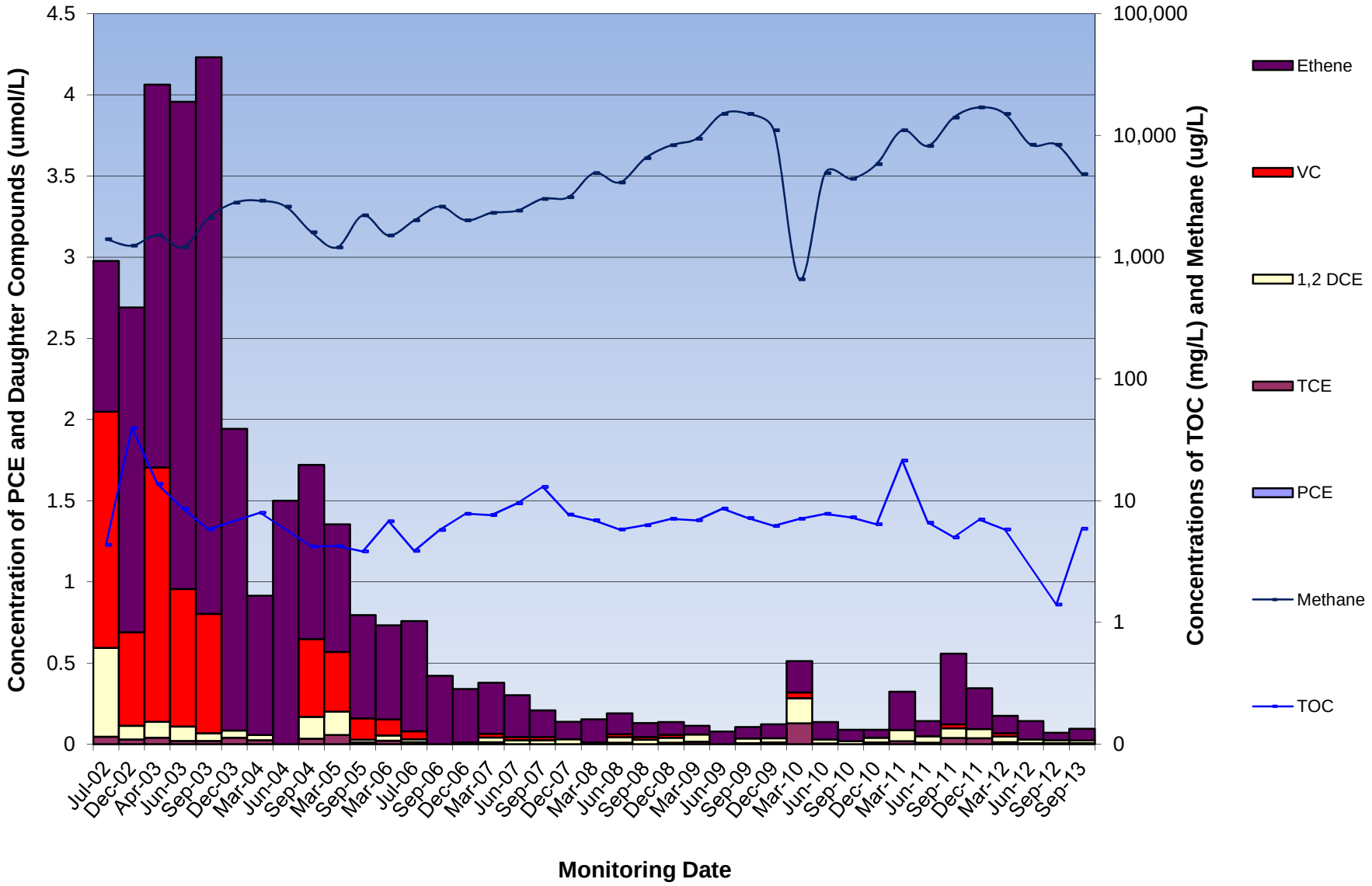


Figure A-5. Concentrations of PCE Daughter Products Versus Time in TW-1

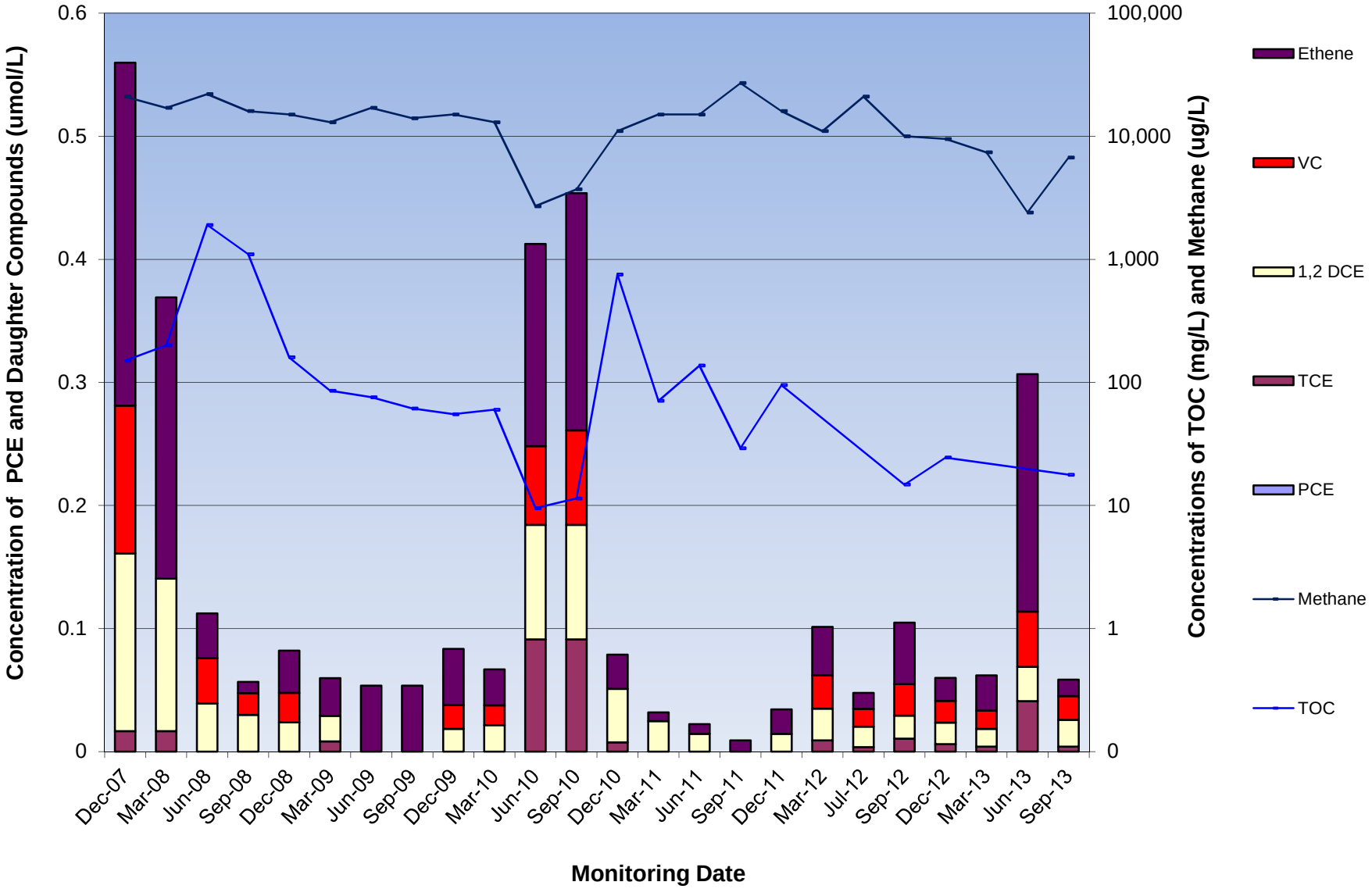


Figure A-6. Concentrations of 1,1,1-TCA Daughter Products Versus Time in GMMW-5

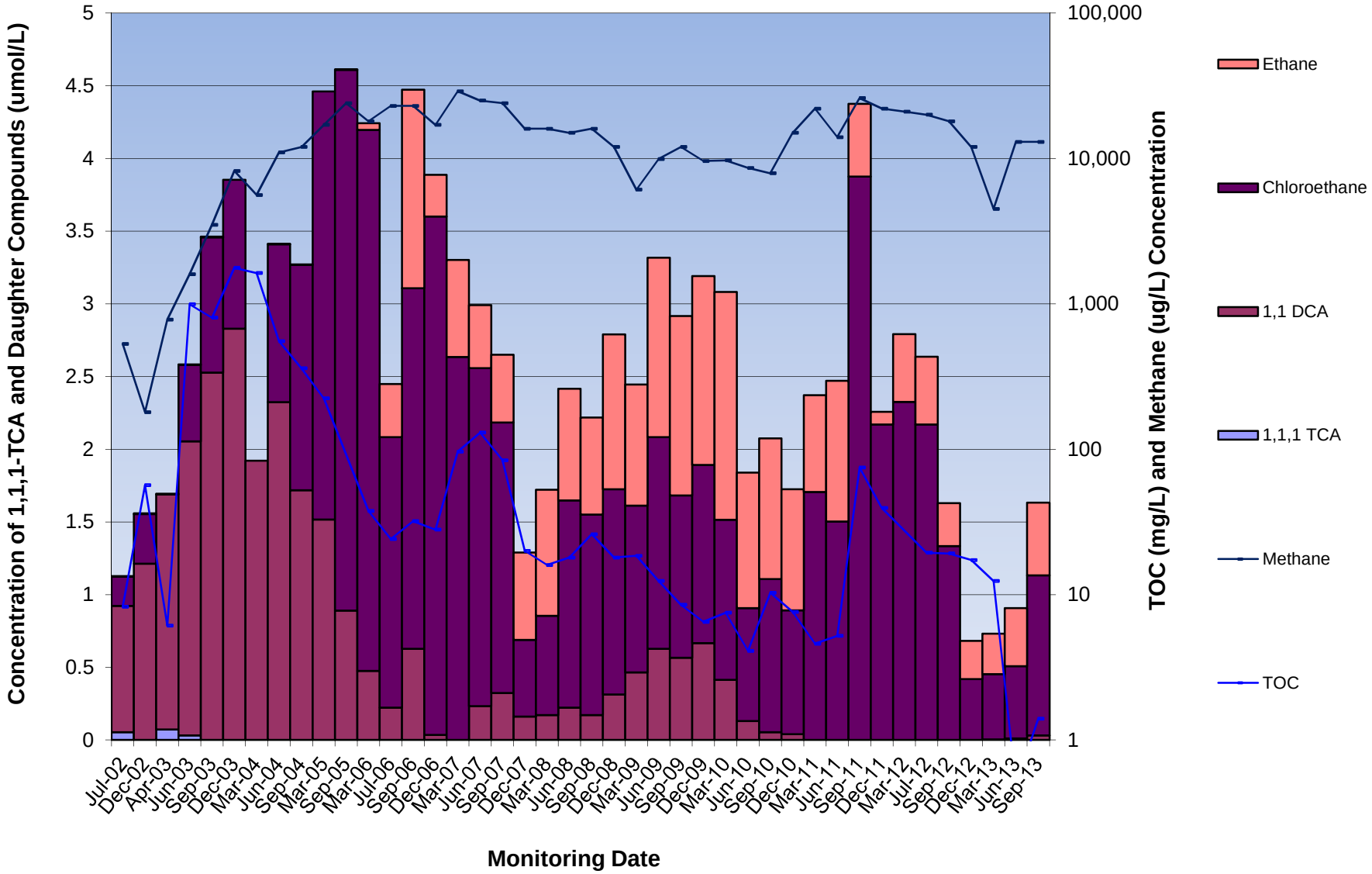


Figure A-7. Concentrations of 1,1,1-TCA Daughter Products Versus Time in GMMW-6

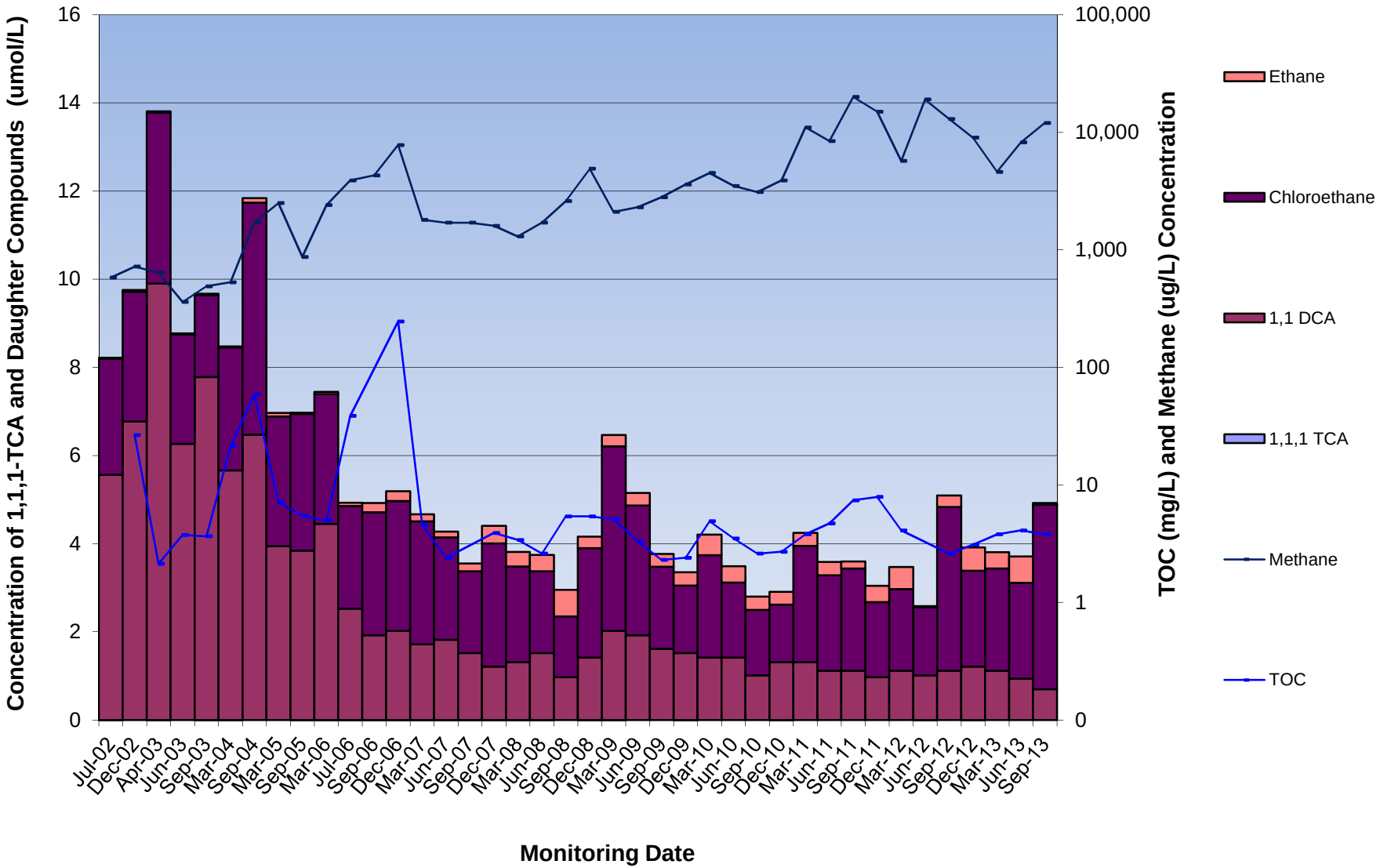


Figure A-8. Concentrations of 1,1,1-TCA Daughter Products Versus Time in GMMW-2

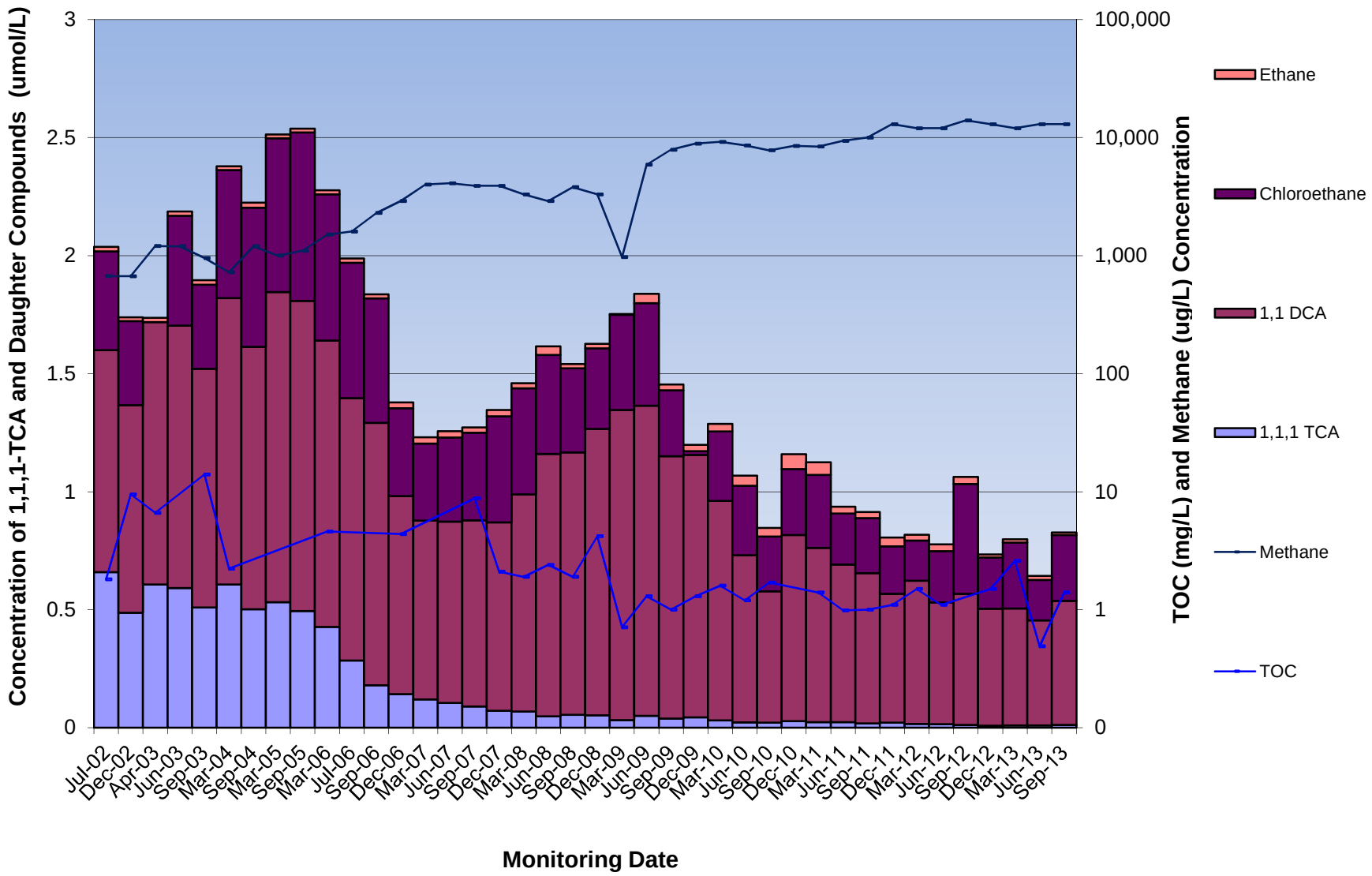


Figure A-9. Concentrations of 1,1,1-TCA Daughter Products Versus Time in W-5

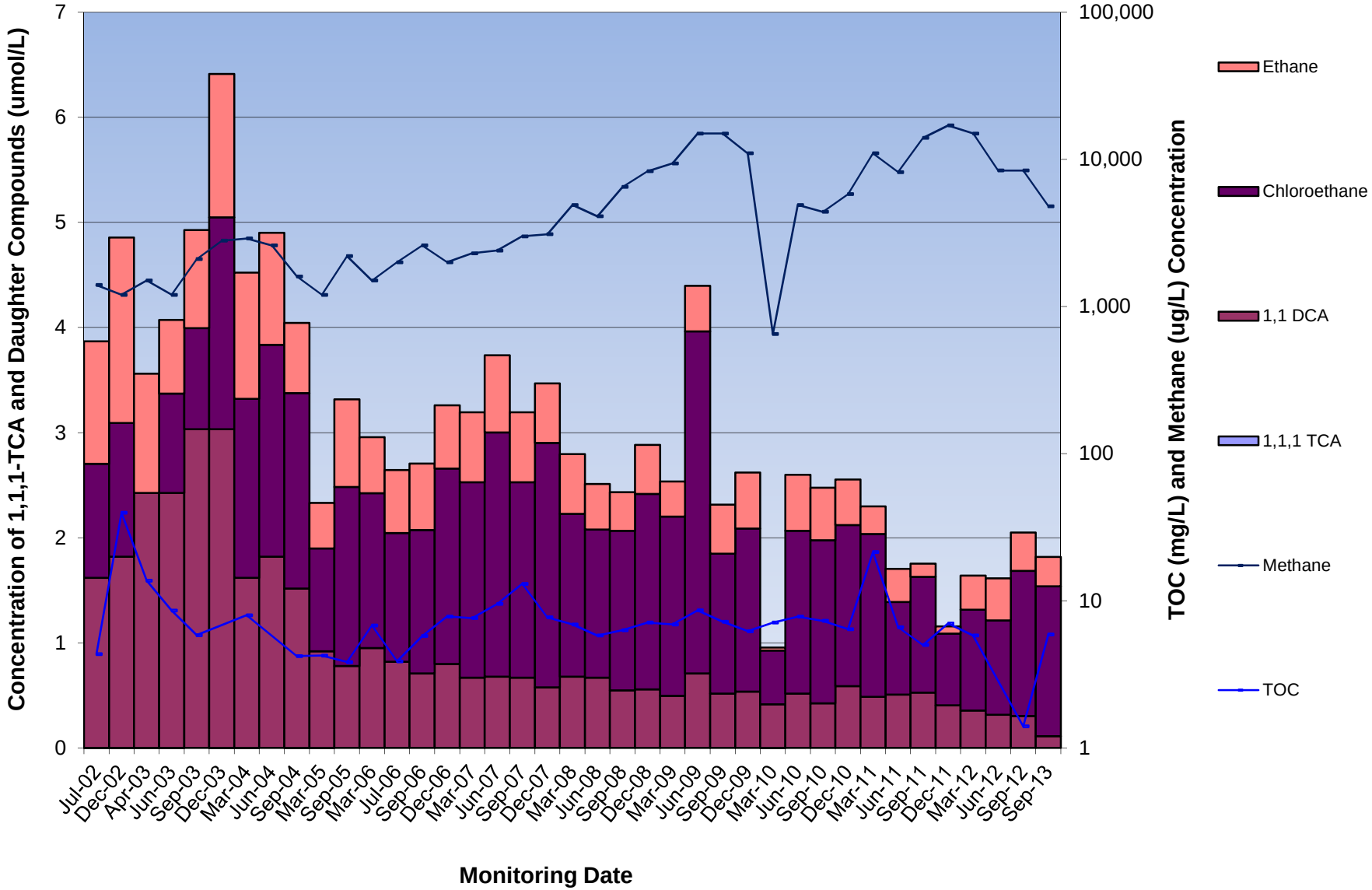
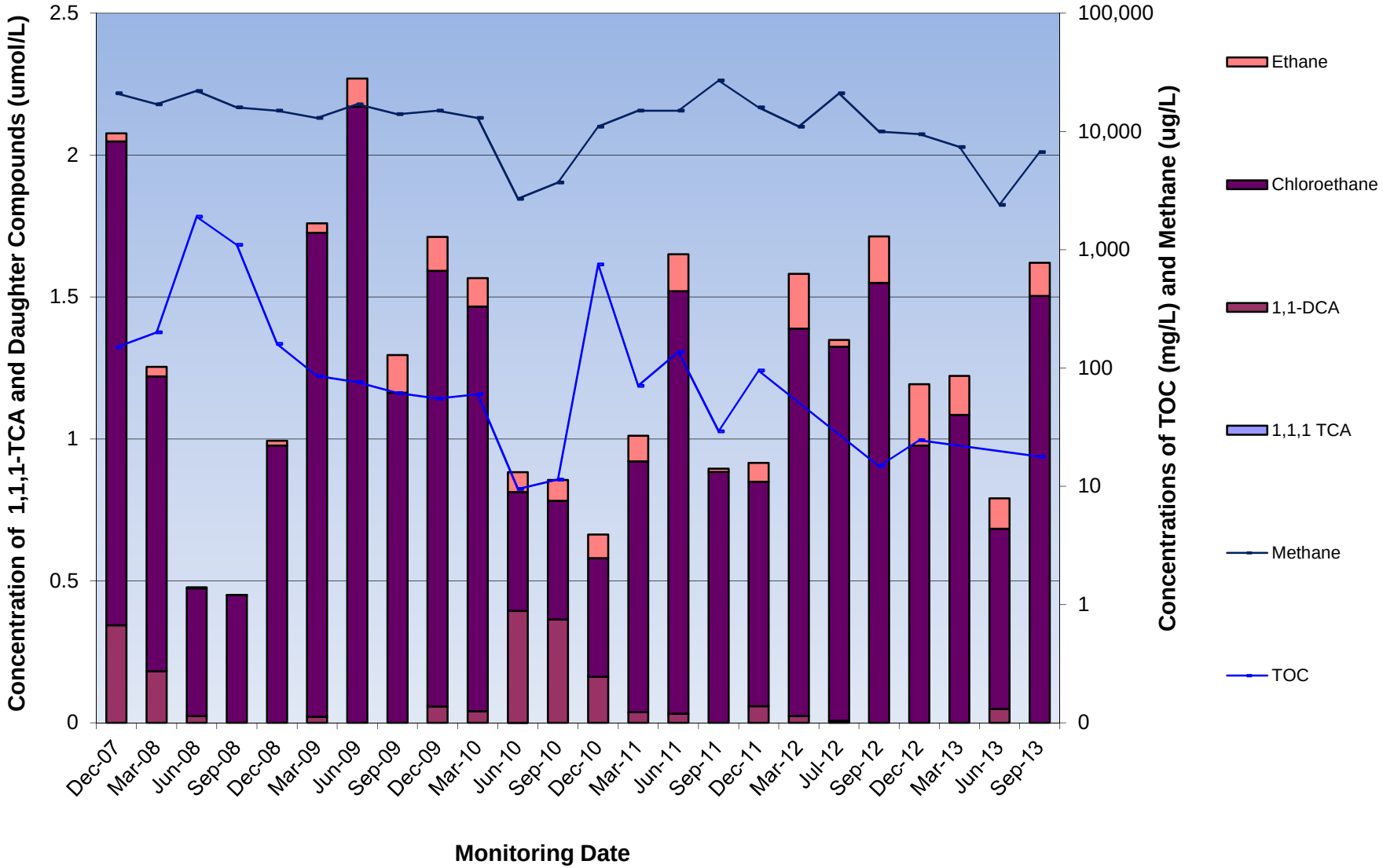


Figure A-10. Concentrations of 1,1,1-TCA Daughter Products Versus Time in TW-1



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Appendix B

Groundwater Sampling Logs

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Surface Water Sampling Form

Project Colesville Landfill Project No. NY000949.0026 Page 1 of 1

Site Location Colesville, NY Date 9/19/13

Site/Well No. F-6 Replicate No. —

Weather Overcast 65° Sampling Time: Begin 943 End 945

Site Conditions

Water Quality Meter: YSI

Location Condition: Cobble to stone

Vegetation: Little growth in stream. Side banks are heavily vegetated grassy / bamboo

Depth of Water: 26"

Estimated Flow Rate: 10 Sec / 5'

Collection Method: Direct collection

Field Parameters

Color	Colorless
Odor	None
Appearance	Clear
pH (s.u.)	7.18
Conductivity (mS/cm)	0.185
Temperature (°C)	10.70
DO (mg/L)	—
Turbidity (NTU)	—
ORP	—
Time	—

Remarks:

Constituents Sampled: See COC Sampling Personnel: KB

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Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 6/19/13

Site/Well No.: GMMW-2 | Replicate No.: — | Code No.: —

Weather: SW 70°S | Sampling Time: Begin 1134 End 1140

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin — end —
Pumping Rate (gpm)	PDB / Bailer
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	Slight
Appearance	Clear
pH (s.u.)	6.61
Conductivity (mS/cm)	0.544
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	11.77
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	PDB / Bailer
Remarks	Redeployed a PDB

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 9/18/13

Site/Well No.: GMMW-2 | Replicate No.: — | Code No.: ____

Weather: Sun 75° | Sampling Time: Begin 1445 End 1510

Evacuation Data

Measuring Point	____
MP Elevation (ft)	____
Land Surface Elevation (ft)	____
Sounded Well Depth (ft bmp)	55.95
Depth to Water (ft bmp)	38.76*
Water-Level Elevation (ft)	____
Water Column in Well (ft)	17.19
Casing Diameter/Type	2"
Gallons in Well	2.80
Gallons Pumped/Bailed Prior to Sampling	2.00
Sample Pump Intake Setting (ft bmp)	Bailer 51'
Purge Time	begin 1455 end 1505
Pumping Rate (gpm)	____
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	colorless
Odor	none
Appearance	clear
pH (s.u.)	6.44
Conductivity (mS/cm)c	0.596
(µmhos/cm)	____
Turbidity (NTU)	—
Temperature (°C)	11.78
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	Bailer / PDB / whale pump
Remarks	Deploy a PDB

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		4	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 6/19/13

Site/Well No.: GMMW-5 | Replicate No.: REPV061913 | Code No.:

Weather: Sun 75° | Sampling Time: Begin 1230 End 1252

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	Recirculated 1240 - 1250
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Slight yellow tint
Odor	Slight
Appearance	Clear
pH (s.u.)	6.71
Conductivity (mS/cm)	0.379
(µmhos/cm)	–
Turbidity (NTU)	–
Temperature (°C)	15.21
Dissolved Oxygen (mg/L)	–
ORP	–
Sampling Method	PDB / Whale pump
Remarks	Deployed a PDB

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3|3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4
Total Iron	500 ml plastic	–	HNO3
alternate Electron Acceptors		–	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/18/13
Site/Well No.	GMMW-5	Replicate No.	REPV080913	Code No.	—
Weather	Sun 70°	Sampling Time: Begin	1230	End	~~1330~~ 1305

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	70.13
Depth to Water (ft bmp)	* 50.59
Water-Level Elevation (ft)	
Water Column in Well (ft)	19.56
Casing Diameter/Type	2"
Gallons in Well	3.1
Gallons Pumped/Bailed Prior to Sampling	2.25
Sample Pump Intake Setting (ft bmp)	65'
Purge Time	begin 1233 end 1243
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless /
Odor	None /
Appearance	Clear /
pH (s.u.)	~~6.488~~ 6.62
Conductivity (mS/cm)[c]	0.488
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	14.26
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB/ Whale pump
Remarks	Deployed a PDB
	Started to Run dry

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3/3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials		H2SO4 Whale pump
Total Iron	500 ml plastic	—	HNO3 —
alternate Electron Acceptors			Whale pump

Sampling Personnel: KB

* Please Lab filter D-metals

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

(53.63 Screen)
* after PDB was Removed

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Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 6/19/13

Site/Well No.: GMMW-6 | Replicate No.: MS/MSD | Code No.: —

Weather: Sun 70° | Sampling Time: Begin 1155 End 1208

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Yellow tint
Odor	Slight to none
Appearance	Slightly Cloudy
pH (s.u.)	6.74
Conductivity (mS/cm)	0.815
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	13.06
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	PDB / Bailer
Remarks	Deployed a PDB

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3/3/3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

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Site Location: Colesville, NY | Date: 9/18/13

Site/Well No.: GMMW-6 | Replicate No.: MS/MSD | Code No.:

Weather: Sun 75° | Sampling Time: Begin 1406 End 1440

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	55.75
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	2.25
Sample Pump Intake Setting (ft bmp)	~~45'~~ ~50'
Purge Time	begin 1420 end 1427
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless / cloudy Light Brown
Odor	None to Slight
Appearance	Clear / - Cloudy
pH (s.u.)	6.55
Conductivity (mS/cm)	0.989
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	12.90
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	Bailer / PDB / Whale pump
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3/3/2 (MSD)	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4 Bailer
Total Iron	500 ml plastic		HNO3
alternate Electron Acceptors			

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 9/18/13

Site/Well No.: GMMW-7 | Replicate No.: — | Code No.: ____

Weather: SW 75° | Sampling Time: Begin 1322 End 1343

Evacuation Data

Measuring Point	____
MP Elevation (ft)	____
Land Surface Elevation (ft)	____
Sounded Well Depth (ft bmp)	71.90
Depth to Water (ft bmp)	49.80
Water-Level Elevation (ft)	____
Water Column in Well (ft)	22.1
Casing Diameter/Type	2"
Gallons in Well	~~22~~ 3.60
Gallons Pumped/Bailed Prior to Sampling	2.5
Sample Pump Intake Setting (ft bmp)	65'
Purge Time	begin 1335 end 1345
Pumping Rate (gpm)	____
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Color Less
Odor	none
Appearance	Clear
pH (s.u.)	6.74
Conductivity (mS/cm)	0.295
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	12.2
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	Bailer ~~Bailer~~ PDB / whale pump
Remarks	____

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4 Bailer
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		4	whale pump

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 6/18/13

Site/Well No.: Iw-3 | Replicate No.: — | Code No.: ____

Weather: Cloudy 77° | Sampling Time: Begin 1528 End 1531

Evacuation Data

Measuring Point	____
MP Elevation (ft)	____
Land Surface Elevation (ft)	____
Sounded Well Depth (ft bmp)	____
Depth to Water (ft bmp)	____
Water-Level Elevation (ft)	____
Water Column in Well (ft)	____
Casing Diameter/Type	2"
Gallons in Well	____
Gallons Pumped/Bailed Prior to Sampling	____
Sample Pump Intake Setting (ft bmp)	1512 - 1527
Purge Time	begin ____ end ____
Pumping Rate (gpm)	____
Evacuation Method	Recirculation

Field Parameters

Color	Slightly Cloudy
Odor	Slight
Appearance	Cloudy
pH (s.u.)	6.73
Conductivity (mS/cm)	0.516
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	13.63
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	whale pump
Remarks	____

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	—	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	2	H2SO4
TAL Metals	500 ml plastic	—	HNO3

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/19/13
Site/Well No.	~~MW-13~~ MW-3	Replicate No.	—	Code No.	
Weather	Sunny 70°F	Sampling Time: Begin	1526	End	1528

Evacuation Data Sample Time: 1527

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin 1520 end 1525
Pumping Rate (gpm)	
Evacuation Method	Recirculation

Field Parameters

Color	Slightly Cloudy
Odor	Little
Appearance	Cloudy
pH (s.u.)	6.37
Conductivity (mS/cm)	0.539
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	—
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	whale pump
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	—	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	2	H2SO4
TAL Metals	500 ml plastic	—	HNO3
		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	mililiter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	6/18/13
Site/Well No.	IW-8	Replicate No.	—	Code No.	—
Weather	Cloudy 77	Sampling Time: Begin	1558	End	1600

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin 1542 end 1558
Pumping Rate (gpm)	
Evacuation Method	Recirculation

Field Parameters

Color	Brown
Odor	Medium
Appearance	Brown
pH (s.u.)	6.46
Conductivity (mS/cm)	0.973
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	13.37
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	whale pump
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	—	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	2	H2SO4
TAL Metals	500 ml plastic	—	HNO3

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/19/13
Site/Well No.	~~MW-3~~ MW-8	Replicate No.	—	Code No.	—
Weather	Sunny 70°F	Sampling Time: Begin	1612	End	1615

Evacuation Data Sample Time: 1613

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin 1555 end 1617
Pumping Rate (gpm)	
Evacuation Method	Recirculation

Field Parameters

Color	Brown
Odor	Slight
Appearance	Brown
pH (s.u.)	6.34
Conductivity (mS/cm)	0.926
(µmhos/cm)	
Turbidity (NTU)	—
Temperature (°C)	—
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	whale pump
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	—	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	2	H2SO4
TAL Metals	500 ml plastic	—	HNO3

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 6/18/13

Site/Well No.: Iw-13 | Replicate No.: — | Code No.: _____

Weather: Cloudy 77° | Sampling Time: Begin 1612 End 1615

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin 1353 end 1611
Pumping Rate (gpm)	
Evacuation Method	Recirculation

Field Parameters

Color	Cloudy Light Brown
Odor	medium
Appearance	Cloudy
pH (s.u.)	6.54
Conductivity (mS/cm)	0.784
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	12.86
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	whale pump
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	-	HCL
Ethene, Ethane, Methane	40 ML Vials	-	Na3PO4
TOC	40 ML Vials	2	H2SO4
TAL Metals	500 ml plastic	-	HNO3

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/19/13
Site/Well No.	~~MW-8~~ MW-13	Replicate No.	—	Code No.	
Weather	Sunny 70°F	Sampling Time: Begin	1656	End	1659

Sample Time 1657

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin 1636 end 1655
Pumping Rate (gpm)	
Evacuation Method	Recirculation

Field Parameters

Color	light Brown
Odor	Medium
Appearance	Cloudy
pH (s.u.)	6.99
Conductivity (mS/cm)	0.668
(µmhos/cm)	—
Turbidity (NTU)	-
Temperature (°C)	—
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	whale pump
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	—	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	2	H2SO4
TAL Metals	500 ml plastic	—	HNO3

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 9/17/13

Site/Well No.: PW-3 | Replicate No.: — | Code No.: —

Weather: 70°F Sunny | Sampling Time: Begin 1515 End 1518

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	None
Appearance	Clear
pH (s.u.)	6.43
Conductivity (mS/cm)	0.491
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	14.19
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	6/19/13
Site/Well No.	PW-4	Replicate No.	—	Code No.	—
Weather	Sun 70°	Sampling Time: Begin	1115	End	1120

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin — end —
Pumping Rate (gpm)	PDB / Bailer
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	None
Appearance	Clear
pH (s.u.)	6.07
Conductivity (mS/cm)	0.555
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	12.15
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	PDB / Bailer
Remarks	Redeployed as PDB

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 9/20/13

Site/Well No.: PW-4 | Replicate No.: — | Code No.: ____

Weather: Sun 70°F | Sampling Time: Begin 1055 End 1100

Evacuation Data

Measuring Point	____
MP Elevation (ft)	____
Land Surface Elevation (ft)	____
Sounded Well Depth (ft bmp)	____
Depth to Water (ft bmp)	18.34
Water-Level Elevation (ft)	____
Water Column in Well (ft)	____
Casing Diameter/Type	2"
Gallons in Well	____
Gallons Pumped/Bailed Prior to Sampling	____
Sample Pump Intake Setting (ft bmp)	____
Purge Time	begin ____ end ____
Pumping Rate (gpm)	____
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	none
Appearance	clear
pH (s.u.)	5.82
Conductivity (mS/cm)	0.678
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	12.60
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	Bailer / PDB
Remarks	Redeployed a PDB

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 9/11/13

Site/Well No.: PW-5 | Replicate No.: — | Code No.: _____

Weather: Sun 65°F | Sampling Time: Begin 1256 End 1300

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	0.79
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin _____ end _____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	None
Appearance	Clear
pH (s.u.)	7.83
Conductivity (mS/cm)	0.277
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	13.11
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/17/13
Site/Well No.	PW-7	Replicate No.	—	Code No.	
Weather	Sun 70°	Sampling Time: Begin	1646	End	1649

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	40.94
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	None
Appearance	Clear
pH (s.u.)	6.13
Conductivity (mS/cm)[c]	0.275
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	10.09
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	Cloudy Red Brown Orange build up on PDB

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/17/13
Site/Well No.	PW-13	Replicate No.	—	Code No.	
Weather	Sun 70°	Sampling Time: Begin	1610	End	1613

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	None
Appearance	Clear
pH (s.u.)	5.86
Conductivity (mS/cm)	0.150
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	10.50
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

~~Surface Water~~ Sampling Form
SED

Project: Colesville Landfill | Project No. NY000949.0025 | Page 1 of 1

Site Location: Colesville, NY | Date: 9/19/13

Site/Well No.: ~~SED-1~~ SP-1-SED | Replicate No.: —

Weather: Sun 75° | Sampling Time: Begin 1315 | End —

Site Conditions

Water Quality Meter: —

Location Condition:
mostly ~~m/c~~ sand
Some F silty sand

Vegetation:

Depth of Water: —

Estimated Flow Rate: —

Collection Method: Direct collection

Field Parameters

Color: ~~Br~~ Brown

Odor: none

Appearance: —

pH (s.u.): —

Conductivity (mS/cm): —

Temperature (°C): —

DO (mg/L): —

Turbidity (NTU): —

ORP: —

Time: —

Remarks: Collected near the current start of the North Stream

Constituents Sampled: See COC | Sampling Personnel: KB

ARCADIS

Spring Water Sample Log

Sample ID SP-2
Date 6/19/13
Time 1650
Weather

Project/No. Colesville Landfill/NY000949.0026
Sampling Personnel K.Bidwell

DESCRIPTION OF SAMPLE LOCATION:

Name of Water Body North Stream - springs
Depth of Water
Velocity
Other Comments
Substrate Description
Location heavily vegetated, roots + organic matter on ground
Description of Nearby Vegetation

FIELD PARAMETERS:

Sample Method peristaltic pump
Sample Description Colorless, little particles organic matter

Temperature (°C/°F) 19.01 °C
Dissolved Oxygen –
Salinity –

pH 6.63
SC 0.085 ms/cm³
ORP

CONTAINER DESCRIPTION: From Lab ARCADIS

Bottle Type	Analysis	Preservative
	VOC's	
	metals	

ARCADIS

Spring Water Sample Log

Sample ID SP-2 Project/No. Colesville Landfill / NY000949.0026

Date 9/19/13 Sampling Personnel K.Bidwell

Time 1235

Weather Sun 75°

DESCRIPTION OF SAMPLE LOCATION:

Name of Water Body (SP-2A Spring)

Depth of Water > 0.5" Velocity

Other Comments Very Little Flow

Substrate Description Roots / heavy vegetation

Location

Description of Nearby Vegetation

FIELD PARAMETERS:

Sample Method peristaltic

Sample Description Colorless w/ tiny plant debris

no odor Clear

Temperature (°C/°F) 12.12 pH 6.70

Dissolved Oxygen — SC 0.080 ms/cm

Salinity — ORP

CONTAINER DESCRIPTION: From Lab ARCADIS

Bottle Type	Analysis	Preservative
3	VOC's	
1	Metals	

ARCADIS

Spring Water Sample Log

Sample ID SP-3 Project/No. Colesville Landfill / NY000949.0026

Date 9/19/13 Sampling Personnel K.Bidwell

Time 1138

Weather Sun 70°s

DESCRIPTION OF SAMPLE LOCATION:

Name of Water Body —

Depth of Water — Velocity —

Other Comments —

Substrate Description Cobble + organic buildup

Location

Description of Nearby Vegetation grassy

FIELD PARAMETERS:

Sample Method peristaltic

Sample Description colorless / no odor / clear

Temperature (°C/°F) 12.54 pH 6.39

Dissolved Oxygen — SC 0.199 ms/cm

Salinity — ORP —

CONTAINER DESCRIPTION: From _____ Lab _____ ARCADIS

Bottle Type	Analysis	Preservative
VOC	3	
Metals	1	

ARCADIS

Spring Water Sample Log

Sample ID SP. 3C
Date 6/19/13
Time 1705
Weather

Project/No. Colesville Landfill/NY000949.0026
Sampling Personnel K.Bidwell

DESCRIPTION OF SAMPLE LOCATION:

Name of Water Body North Stream - springs
Depth of Water 1-1.5"
Velocity
Other Comments
Substrate Description Orange algae Build up
Location

Description of Nearby Vegetation grass

FIELD PARAMETERS:

Sample Method
Sample Description Colorless, none clear

Temperature (°C/°F) 14.37 °C
Dissolved Oxygen
Salinity

pH 6.37
SC 0.178 ms/cm³
ORP

CONTAINER DESCRIPTION: From Lab ARCADIS

Bottle Type	Analysis	Preservative
	VOCs	
	metals	

ARCADIS

Spring Water Sample Log

Sample ID Sp-4 Spring
Date 6/19/13 (A.BEGA)
Time 1725
Weather

Project/No. Colesville Landfill/NY000949.0026
Sampling Personnel K.Bidwell

DESCRIPTION OF SAMPLE LOCATION:

Name of Water Body North Stream - springs
Depth of Water
Velocity
Other Comments
Substrate Description
Location

Description of Nearby Vegetation

FIELD PARAMETERS:

Sample Method Peristaltic
Sample Description Colorless / orange particles

Temperature (°C/°F) 14.55 °C
Dissolved Oxygen —
Salinity —

pH 6.99
SC 0.477
ORP

CONTAINER DESCRIPTION: From Lab ARCADIS

Bottle Type	Analysis	Preservative
	VOC's	
	Metals	

ARCADIS

Surface Water Sampling Form

Project Colesville Landfill Project No. NY000949.0026 Page 1 of 1

Site Location Colesville, NY Date 9/19/13

Site/Well No. ~~SW-4~~ SP-4 Replicate No. —

Weather Sun 75° Sampling Time: Begin 1335 End 1338

Site Conditions

Water Quality Meter: YSI

Location Condition:

Vegetation:

Depth of Water: —

Estimated Flow Rate: —

Collection Method: Peristaltic ~~Direct collection~~

Field Parameters

Color: Colorless

Odor: None

Appearance: Clear. w/ Little orange particles

pH (s.u.): 6.80

Conductivity (mS/cm): 0.525

Temperature (°C): 14.19

DO (mg/L): —

Turbidity (NTU): —

ORP: —

Time: —

Remarks:

Constituents Sampled: See COC Sampling Personnel: KB

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	6/19/13
Site/Well No.	SP-5 influent	Replicate No.	—	Code No.	
Weather	Sun 70°S	Sampling Time: Begin	1520	End	1527

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	4.15
Depth to Water (ft bmp)	0.45
Water-Level Elevation (ft)	
Water Column in Well (ft)	3.70
Casing Diameter/Type	2"
Gallons in Well	0.6
Gallons Pumped/Bailed Prior to Sampling	2.00
Sample Pump Intake Setting (ft bmp)	—
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	None
Appearance	Clear
pH (s.u.)	6.55
Conductivity (mS/cm)	0.453
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	12.83
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	Bailer
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
~~Total Iron~~ TAL Metals	500 ml plastic	1	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0025	Page	1 of 1
Site Location	Colesville, NY			Date	9/20/13
Site/Well No.	SP-5 influent	Replicate No.	—	Code No.	
Weather	Sun 80°	Sampling Time: Begin	1428	End	1431

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	4.10
Depth to Water (ft bmp)	0.5
Water-Level Elevation (ft)	
Water Column in Well (ft)	3.60
Casing Diameter/Type	2"
Gallons in Well	0.58
Gallons Pumped/Bailed Prior to Sampling	1.76
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin 1420 end 1427
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	none
Appearance	Clear
pH (s.u.)	6.35
Conductivity (mS/cm)	0.469
(µmhos/cm)	~
Turbidity (NTU)	—
Temperature (°C)	14.98
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	Bailer
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total ~~Iron~~ metals	500 ml plastic	1	HNO3

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Spring Water Sample Log

Sample ID SP-5 effluent
Project/No. Colesville Landfill / NY000949.0026
Date 6/19/13
Sampling Personnel K.Bidwell
Time 1457
Weather Sun 70's

DESCRIPTION OF SAMPLE LOCATION:

Name of Water Body
Depth of Water
Velocity 1.30 Sec | 100 mL
Other Comments
Substrate Description
Location

Description of Nearby Vegetation

FIELD PARAMETERS:

Sample Method
Sample Description Colorless | no odor | clear

Temperature (°C/°F) 14.70
pH 6.57
Dissolved Oxygen 6 —
SC 0.435 ms/cm
Salinity —
ORP —

CONTAINER DESCRIPTION: From Lab ARCADIS

Bottle Type	Analysis	Preservative
	VOC's	
	Metals	

ARCADIS

Spring Water Sample Log

Sample ID SP-5 Effluent

Project/No. Colesville Landfill / NY000949.0026

Date ~~1420~~ 9/20/13

Sampling Personnel K.Bidwell

Time 1420

Weather Sun

DESCRIPTION OF SAMPLE LOCATION:

Name of Water Body —

Depth of Water —

Velocity 80 mL 1.25 Sec

Other Comments -

Substrate Description —

Location

Description of Nearby Vegetation

FIELD PARAMETERS:

Sample Method direct collection

Sample Description Colorless Clear no odor
Trace Carbon in Sample

Temperature (°C/°F) 14.86

pH 6.55

Dissolved Oxygen —

SC 0.400 ms/cm

Salinity —

ORP —

CONTAINER DESCRIPTION: From _____ Lab _____ ARCADIS

Bottle Type	Analysis	Preservative
3	VOC	
1	Metals	

ARCADIS

Surface Water Sampling Form

Project Colesville Landfill Project No. NY000949.0026 Page 1 of 1

Site Location Colesville, NY Date 9/9/13

Site/Well No. SW-2 Replicate No. —

Weather Sun 75° Sampling Time: Begin 1218 End 1220

Site Conditions

Water Quality Meter: YSI

Location Condition: Cobble to Stone covered in Brown/green growth

Vegetation: along banks

Depth of Water: 5 ft

Estimated Flow Rate: 15' Sec / 5'

Collection Method: Direct collection

Field Parameters

Color: Color Less

Odor: None

Appearance: Clear

pH (s.u.): 6.47

Conductivity (mS/cm): 0.145

Temperature (°C): 11.06

DO (mg/L): —

Turbidity (NTU): —

ORP: —

Time: —

Remarks:

Constituents Sampled: See COC Sampling Personnel: KB

ARCADIS

Surface Water Sampling Form

Project Colesville Landfill Project No. NY000949.0026 Page 1 of 1

Site Location Colesville, NY Date 9/19/13

Site/Well No. SW-3 Replicate No. —

Weather Sun 70° Sampling Time: Begin 1126 End 1127

Site Conditions

Water Quality Meter: YSI

Location Condition: Cobble to Stone

Vegetation: Golden Rod, Grasses

Depth of Water: 45"

Estimated Flow Rate: 46' & 5'

Collection Method: Direct collection

Field Parameters

Color: Colorless

Odor: none

Appearance: Clear

pH (s.u.): 6.86

Conductivity (mS/cm): 0.169

Temperature (°C): 12.05

DO (mg/L): —

Turbidity (NTU): —

ORP: —

Time: —

Remarks:

Constituents Sampled: See COC Sampling Personnel: KB

ARCADIS

Spring Water Sample Log

Sample ID ~~SP-4~~ SW-4 Project/No. Colesville Landfill / NY000949.0026

Date 9/19/13 Sampling Personnel K.Bidwell

Time 1035

Weather Sun 65°

DESCRIPTION OF SAMPLE LOCATION:

Name of Water Body North Stream

Depth of Water 4" Velocity 9 sec / 5'

Other Comments

Substrate Description Cobble to Rock + Sediment

Location

Description of Nearby Vegetation Grasses, Bamboo Golden Rod

FIELD PARAMETERS:

Sample Method direct Collection

Sample Description

Clear / no odor / colorless

Temperature (°C/°F) 10.92 pH 7.11

Dissolved Oxygen – SC – 0.178 ms/cm ε

Salinity – ORP –

CONTAINER DESCRIPTION: From _____ Lab ARCADIS

Bottle Type	Analysis	Preservative
3	VOCs	HCL
1	TAL metals	

ARCADIS

Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 6/19/13

Site/Well No.: TW-1 | Replicate No.: — | Code No.: ____

Weather: Sun 70°S | Sampling Time: Begin 1320 End 1340

Evacuation Data

Measuring Point	____
MP Elevation (ft)	____
Land Surface Elevation (ft)	____
Sounded Well Depth (ft bmp)	____
Depth to Water (ft bmp)	____
Water-Level Elevation (ft)	____
Water Column in Well (ft)	____
Casing Diameter/Type	2"
Gallons in Well	____
Gallons Pumped/Bailed Prior to Sampling	____
Sample Pump Intake Setting (ft bmp)	____
Purge Time	begin ____ end ____
Pumping Rate (gpm) Recirculated	1328 - 1338
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Gray tint
Odor	Slight
Appearance	Cloudy
pH (s.u.)	6.64
Conductivity (mS/cm)	0.695
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	14.22
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	PDB / Whale pump
Remarks	Deployed a PDB

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 9/18/13

Site/Well No.: TW-1 | Replicate No.: — | Code No.: ____

Weather: Sun 70° | Sampling Time: Begin 1125 End 1149

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	69.60
Depth to Water (ft bmp)	*52.98
Water-Level Elevation (ft)	
Water Column in Well (ft)	16.62
Casing Diameter/Type	2"
Gallons in Well	2.70
Gallons Pumped/Bailed Prior to Sampling	2.50
Sample Pump Intake Setting (ft bmp)	66' - Lowered to Bottom
Purge Time	begin 1135 end 1148
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Clear / Dark gray
Odor	~~Medium~~ / Same
Appearance	Clear / Cloudy
pH (s.u.)	6.53
Conductivity (mS/cm)	1.179
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	13.11
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ / PDB / Whale Pump
Remarks	~~Pump~~ Redeployed a PDB

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4 Whale
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		4	Whale Pump

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.			
1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

* POB Removed

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/18/13
Site/Well No.	W-5	Replicate No.	–	Code No.	
Weather	Sun 65°	Sampling Time: Begin	1020	End	1105

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	58.65
Depth to Water (ft bmp)	* 53.85
Water-Level Elevation (ft)	
Water Column in Well (ft)	4.80
Casing Diameter/Type	2"
Gallons in Well	0.80
Gallons Pumped/Bailed Prior to Sampling	1.0
Sample Pump Intake Setting (ft bmp)	58.0' moved to bottom
Purge Time	begin 1037 end 1044
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	colorless / cloudy gray
Odor	none / –
Appearance	clear cloudy
pH (s.u.)	6.34
Conductivity (mS/cm)	0.991
(µmhos/cm)	–
Turbidity (NTU)	–
Temperature (°C)	10.87
Dissolved Oxygen (mg/L)	–
ORP	–
Sampling Method	Bailer / PDB / whale pump
Remarks	well started to run dry w/ whale pump

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	2	Na3PO4
TOC	40 ML Vials	2	H2SO4 Bailer
Total Iron	500 ml plastic	–	HNO3
alternate Electron Acceptors		3 4	w pump

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

* bagged Removed

44.91'

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/17/13
Site/Well No.	W-6	Replicate No.	—	Code No.	
Weather	Sun 70°	Sampling Time: Begin	1554	End	1557

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	51.16
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	None
Appearance	Clear
pH (s.u.)	6.20
Conductivity (mS/cm)	0.495
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	10.71
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors			

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/17/13
Site/Well No.	W-7	Replicate No.	—	Code No.	
Weather	Sun 70°F	Sampling Time: Begin	1536	End	1540

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	none
Appearance	clear
pH (s.u.)	6.36
Conductivity (mS/cm)c	0.476
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	11.35
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	

Bailer water orange-cloudy

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/17/13
Site/Well No.	W-13	Replicate No.	—	Code No.	
Weather	Sun 70°	Sampling Time.	Begin 1624	End	1629

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	none
Appearance	Clear
pH (s.u.)	5.69
Conductivity (mS/cm)	0.280
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	10.65
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/17/13
Site/Well No.	W-14S	Replicate No.	—	Code No.	
Weather	Sun 65°F	Sampling Time: Begin	1125	End	1130

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	8.35
Water-Level Elevation (ft)	~~8.35~~
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	None
Appearance	Clear
pH (s.u.)	5.62
Conductivity (mS/cm)[c]	0.042
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	14.08
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/17/13
Site/Well No.	W-16S	Replicate No.	—	Code No.	
Weather	Sun 65°F	Sampling Time: Begin	1220	End	1224

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	none
Appearance	Clear
pH (s.u.)	5.79
Conductivity (mS/cm)[C]	0.318
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	13.22
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors			

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	mililiter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project: Colesville Landfill | Project No.: NY000949.0026 | Page 1 of 1

Site Location: Colesville, NY | Date: 9/17/13

Site/Well No.: W-17S | Replicate No.: — | Code No.: ____

Weather: Sun 65°F | Sampling Time: Begin 1152 End 1155

Evacuation Data

Measuring Point	____
MP Elevation (ft)	____
Land Surface Elevation (ft)	____
Sounded Well Depth (ft bmp)	____
Depth to Water (ft bmp)	10.33
Water-Level Elevation (ft)	____
Water Column in Well (ft)	____
Casing Diameter/Type	2"
Gallons in Well	____
Gallons Pumped/Bailed Prior to Sampling	____
Sample Pump Intake Setting (ft bmp)	____
Purge Time	begin ____ end ____
Pumping Rate (gpm)	____
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	none
Appearance	Clear
pH (s.u.)	6.37
Conductivity (mS/cm)[c]	0.241
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	13.22
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	____

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/17/13
Site/Well No.	W-18	Replicate No.	—	Code No.	
Weather	Sun 65°	Sampling Time: Begin	1240	End	1244

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	10.40
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Color Less
Odor	none
Appearance	clear
pH (s.u.)	6.20
Conductivity (mS/cm)	0.379
(µmhos/cm)	—
Turbidity (NTU)	—
Temperature (°C)	15.52
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

Well Casing Volumes

Gal./Ft.				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project	Colesville Landfill	Project No.	NY000949.0026	Page	1 of 1
Site Location	Colesville, NY			Date	9/17/13
Site/Well No.	W-20S	Replicate No.	—	Code No.	
Weather	Sun 60°	Sampling Time: Begin	1055	End	1057

Evacuation Data

Measuring Point	
MP Elevation (ft)	
Land Surface Elevation (ft)	
Sounded Well Depth (ft bmp)	
Depth to Water (ft bmp)	10.31
Water-Level Elevation (ft)	
Water Column in Well (ft)	
Casing Diameter/Type	2"
Gallons in Well	
Gallons Pumped/Bailed Prior to Sampling	
Sample Pump Intake Setting (ft bmp)	
Purge Time	begin ____ end ____
Pumping Rate (gpm)	
Evacuation Method	2" Disposable poly bailer

Field Parameters

Color	Colorless
Odor	none
Appearance	Clear
pH (s.u.)	6.08
Conductivity (mS/cm)	0.113
(µmhos/cm)	
Turbidity (NTU)	—
Temperature (°C)	13.57
Dissolved Oxygen (mg/L)	—
ORP	—
Sampling Method	~~Bailer~~ PDB
Remarks	

Constituents Sampled	Container Description	Number	Preservative
8260B VOLATILES	40 ML VOA Vials	3	HCL
Ethene, Ethane, Methane	40 ML Vials	—	Na3PO4
TOC	40 ML Vials	—	H2SO4
Total Iron	500 ml plastic	—	HNO3
alternate Electron Acceptors		—	

Sampling Personnel: KB

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bmp	below measuring point	ml	mililiter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds