Report
Town of Hamilton, MA

Fall 2013
Semiannual Environmental
Monitoring Report

Hamilton Sanitary Landfill

November 2013

Weston & Sampson

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Town of Hamilton, Massachusetts
Weston & Sampson Project No. 2130476

November 25, 2013

Mr. John Carrigan, Section Chief
Division of Solid Waste Management
Department of Environmental Protection
Northeast Regional Office
205B Lowell Street
Wilmington, Massachusetts 01887

Re: Hamilton Sanitary Landfill
Fall 2013 Semiannual Environmental Monitoring

Dear Mr. Carrigan:

Weston & Sampson is pleased to submit the results of the fall 2013 semiannual groundwater, surface water, sediment, and soil gas monitoring at the Hamilton Sanitary Landfill (landfill) located on Chebacco Road in Hamilton, Massachusetts. The purpose of this environmental monitoring program is to evaluate groundwater, surface water and sediment quality at the landfill and to measure the potential for landfill gas migration beyond the property boundary, as required by the Massachusetts Department of Environmental Protection (DEP).

A locus map (Figure 1) shows the location of the landfill, a site plan (Figure 2) shows the groundwater monitoring well and surface water locations, and groundwater flow direction. Groundwater elevations are summarized in Table 1 and groundwater elevations are contoured in Figure 2. The laboratory analytical results are summarized in Tables 2 through 4. Landfill gas monitoring results are summarized in Table 5. Historic data tables are included in Appendix A. The analytical laboratory report is presented in Appendix B.

METHODS

Groundwater, Surface Water, and Sediment Sampling

On September 30, 2013 Weston & Sampson collected water samples from six (6) groundwater monitoring wells (MW-1, MW-3, MW-4S, MW-4D, MW-6S, and MW-6D), two (2) surface water sampling locations (SW-2 and SW-3), and two sediment sampling locations (SED-1 and SED-3). Groundwater monitoring well MW-2 and surface water location SW-1 were dry and therefore not sampled. Groundwater monitoring well MW-5 was destroyed due to possible snow removal activities along Chebacco Road. For quality assurance purposes, a duplicate groundwater sample (DUP-1) was collected at well MW-4D, and a laboratory-supplied trip blank accompanied all volatile organic compound (VOC) samples.

Weston & Sampson first measured the depth to water and total well depths before purging or sampling. The standing volume of water at a well was calculated using these measurements. Five standing volumes of water were purged from each well prior to sampling. Weston & Sampson collected samples using dedicated disposable bailers or the Waterra Hydrolift® inertial pump system with dedicated polyethylene tubing. Weston & Sampson collected surface water samples using dedicated disposable bailers and placed the samples into pre-cleaned bottles provided by the laboratory.

If any non-dedicated sampling equipment was used between water sampling locations, Weston & Sampson decontaminated that non-dedicated equipment between wells using an Alconox wash followed by a rinse using distilled water.

Weston & Sampson measured water temperature, specific conductivity, pH, and dissolved oxygen in the field using water quality meters. Weston & Sampson submitted water samples to TestAmerica Laboratories, Inc. (TAL), a Massachusetts-certified laboratory, for laboratory analyses of the following parameters: metals (RCRA 8 plus calcium, copper, iron, manganese, sodium, and zinc), alkalinity, chemical oxygen demand (COD), chloride, physiologically available cyanide (PAC), nitrate, sulfate, total dissolved solids (TDS), volatile organic compounds (VOCs) by EPA Method 8260 including Tentatively Identified Compounds (TICs) having unknown peaks greater than five times the background intensity, and 1,4-dioxane by EPA Method 8260 SIM. Sediment samples were also submitted to TestAmerica Laboratories, Inc. for the analyses of total metals (RCRA 8 plus calcium, copper, iron, manganese, sodium, and zinc) and VOCs by EPA Method 8260 including Tentatively Identified Compounds (TICs) having unknown peaks greater than five times the background intensity. Groundwater and surface water samples were filtered in the field using a 0.45-micron disposable filter and analyzed for dissolved metals.

All samples were stored on ice after collection and during transport to the laboratory. All samples were handled and relinquished using standard quality assurance and chain-of-custody procedures.

Landfill Gas Monitoring

On November 1, 2013, Weston & Sampson conducted landfill gas monitoring at twenty-one (21) gas monitoring probes (SG-1 through SG-14, SG-16 through SG-19, SG-21, SG-22, and SG-24) for landfill gas parameters listed in 310 CMR 19.132. SG-15 could not be located, and SG-20 and SG-23 are destroyed. Figure 2 shows the location of each monitoring point.

A Landtec GEM 5000 (GEM-5000) was used to measure methane (CH_4) and oxygen (O_2) concentrations in percentages by volume (%). If any methane concentrations were present, they were converted to percent lower explosive limit (% LEL). The GEM-5000 is also equipped with an internal gas sensor that measures hydrogen sulfide (H_2S) concentrations in parts per million (ppm). An Ion Science Tiger photoionization air monitor was used to measure non-methane volatile organic compounds (NMVOCs) in ppm. Both instruments were calibrated prior to monitoring.

The landfill gas monitoring probes were sampled under initial conditions and steady state conditions. The initial condition concentrations were determined by sampling each probe prior to purging. This is representative of landfill gas parameters that might accumulate in a confined space over time. After the initial conditions were recorded, each probe was purged for two minutes using an SKC Model 224 PCXR8 universal air pump at a rate of five liters per minute. After purging, gas concentrations were measured a second time. These concentrations represent the steady state subsurface soil gas

concentration.

COMPARABLE STANDARDS

Groundwater monitoring well results were compared to Massachusetts Drinking Water Standards, published by the DEP in Spring 2012. These standards include Massachusetts Maximum Contaminant Level (MMCL), Secondary Maximum Contaminant Level (SMCL), and Office of Research and Standards Guideline (ORSG) concentrations. If one of these drinking water standards did not exist for an analyte, the result was compared to the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000, revised June 26, 2009) Method 1 standards for GW-1 and GW-3 category groundwater. 1,4-Dioxane was compared to the Method 1 GW-1 Standard. An Area Receptors Map is provided in Figure 3.

Surface water results were compared to Massachusetts Surface Water Standards (MSWS) (314 CMR 4.00). This regulation incorporates, by reference, additional surface water standards including the National Recommended Water Quality Criteria (NRWQC) published by the EPA in 2009. If no MSWS or NRWQC was listed, results were compared to the Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision (ES/ER/TM-96/R2) (Toxicological Benchmarks).

Sediment results were compared to the Threshold Effects Concentrations (TEC) adopted by DEP. TECs are intended to identify contaminant concentrations below which harmful effects on sediment-dwelling organisms are not expected.

Landfill gas results were compared to the reporting threshold requirements of 310 CMR 19.132(4)(h), which require notification to DEP within 24 hours if explosive gases exceed 25% LEL at the landfill property boundary.

Parameters that were detected at concentrations greater than these standards and guidelines are shown as shaded and bold in the results tables.

RESULTS AND DISCUSSION

Groundwater Flow

The fall 2013 groundwater elevation data presented in Table 1 indicates that groundwater flows northwest towards Gravelly Pond. Based on this flow pattern, well couplet MW-4S/4D and well MW-3 are hydraulically upgradient, MW-1 and MW-2 are hydraulically cross-gradient, and the rest of the monitoring wells are hydraulically downgradient. An upward vertical hydraulic gradient was observed at couplets MW-4S/MW-4D and MW-6S/6D.

Groundwater Quality/Trend Analysis/QAQC

Groundwater Quality

September 2013 groundwater results summarized in Table 2 indicated that the following parameters were detected at concentrations above Massachusetts Drinking Water Standards.

MMCL:

- There were no parameters above the MMCL during this monitoring event.

SMCL:

- Groundwater pH was below the lower limit of 6.5 in all wells sampled.
- Dissolved iron in all wells sampled, except MW-6S, at concentrations ranging from 1.4 milligrams per liter (mg/L) to 9.5 mg/L.
- Dissolved manganese in all wells sampled at concentrations ranging from 0.098 mg/L to 11 mg/L.

ORSG:

- Dissolved sodium in MW-4S and MW-6D at concentrations of 31 mg/L and 21 mg/l, respectively.

Two VOCs, 1,4-dichlorobenzene and chlorobenzene, were detected in site wells during the September 2013 monitoring round. 1,4-Dichlorobenzene was detected in MW-3, MW-4D, and DUP-1 at concentrations of 1.1 micrograms per liter (µg/L), 2.2 µg/L, and 2.4 µg/L, respectively. Chlorobenzene was detected in MW-3, MW-4D, DUP-1, and MW-6D at concentrations of 4.2 µg/L, 4.9 µg/L, 5.0 µg/L, and 1.5 µg/L, respectively. The detected concentrations were all below the applicable standards. 1,4-Dioxane was not detected in any groundwater monitoring wells during the September 2013 monitoring round.

Tentatively Identified Compounds (TICs) were detected in site wells during the September 2013 monitoring round. One TIC identified as tert-butyldimethylsilanol was detected in MW-1 at a concentration of 2.9 µg/L. Two TICs identified as chlorodifluormethane and silanol, trimethyl (1,1,2-trimethylpropyl) were detected at MW-3 at concentrations of 6.0 µg/L and 4.1 µg/L, respectively. One TIC identified as chlorodifluormethane was detected in MW-4S at a concentration of 1.3 µg/L. Three TICs identified as chlorodifluormethane, ethyl ether, and silanol, trimethyl were detected in MW-4D at concentrations of 20 µg/L, 5.1 µg/L, and 4.2 µg/L, respectively. One TIC identified as chlorodifluormethane was detected in MW-6D and DUP-1 at concentrations of 1.3 µg/L and 20 µg/L, respectively. One TIC identified as ethyl ether was also detected in MW-6D and DUP-1 at concentrations of 2.2 µg/L and 5.5 µg/L, respectively.

Trend Analysis

The September 2013 round is the fifth round in which groundwater quality has been analyzed by Weston & Sampson. Weston & Sampson has included the June 13, 2011 groundwater, surface water, and sediment results that were provided in the Kleinfelder/SEA Consultants Inc., Post-Comprehensive Site Assessment (Post-CSA) Round 3 Water Quality and Sediment Monitoring Results Report in Appendix A, as well as the four rounds of groundwater, surface water, and sediment results that were provided in the SEA Consultants, Inc., CSA Report. Additionally, trend tables for the fall 2011, spring 2012, fall 2012, spring 2013, and fall 2013 sampling rounds conducted by Weston & Sampson are included in Appendix A. Weston & Sampson compared the September 2013 results to the limited historic data during the Post- CSA time period.

The September 2013 groundwater results were consistent with historic results, with the following exceptions.

- COD was detected for the first time above the laboratory reporting limit (RL) in MW-1.
- TDS was detected at a historic high concentration in MW-1; however, the detected concentration was below the applicable standard.
- Dissolved zinc was detected for the first time above the laboratory reporting limit (RL) in MW-1; however, the RLs were higher during previous rounds and the detected concentration was below the applicable standard.
- Alkalinity, TDS, and dissolved barium were detected at historic high concentrations in MW-3; however, the detected concentrations were below the applicable standards.
- Dissolved iron and manganese were detected at historic high concentrations in MW-3.
- Dissolved zinc was detected for the first time above the laboratory RL in MW-3; however, the RLs were higher during previous rounds and the detected concentration was below the applicable standard.
- 1,4-Dichlorobenzene was detected for the first time above the laboratory RL in MW-3; however, the detected concentration was only marginally above the RL, and the detected concentration was below the applicable standard.
- The September 2013 round is the second time that chlorobenzene has been detected above the Drinking Water Standard in MW-3, and the detected concentration is higher than the first time in which it was detected above the standard in October 2012.
- Alkalinity, COD, TDS, and dissolved calcium were detected at historic high concentrations in MW-4S; however, the detected concentrations were below the applicable standards.
- A gradual increasing trend was observed in chloride concentrations in MW-4S.
- Dissolved iron and manganese were detected at historic high concentrations in MW-4S.
- Chloride, dissolved barium, calcium, and iron were detected at historic low concentrations in MW-4D.
- Dissolved cadmium was detected at a historic high concentration in MW-4D; however, the detected concentration was below the Drinking Water Standard and also was not significantly higher compared to previous results.
- Dissolved sodium, zinc, 1,4-dichlorobenzene, and chorobenzene were detected at historic low concentrations in MW-4D and the sodium concentrations in this well are showing a gradual decreasing trend over the past five monitoring rounds.
- Chloride was detected at a historic high concentration in MW-6S; however, the detected concentration was below the Drinking Water Standard and also was not significantly higher

compared to previous results.

- Physiologically Available Cyanide (PAC) was detected for the first time above the laboratory RL in MW-6S and MW-6D; however, the detected concentration was below the applicable standard.

QAQC

The September 2013 groundwater sampling and analytical program was performed with adequate QA/QC to support goals for precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) for laboratory analytical data. The QA/QC program provides an assessment of both field sample collection and handling methods and laboratory analysis method selection and analytical procedures. Field quality control includes measures undertaken during collection or handling of samples in the field (i.e., chains of custody, trip blanks, and field duplicates) to support collection of precise, accurate, and representative data. The analytical laboratory performs several internal quality controls to assess the accuracy, precision, and sensitivity of the sample data. These controls include surrogate spikes, matrix spike/matrix spike duplicates (MS/MSD), laboratory control spike and method blanks. QA/QC procedures as required by the analytical methods were achieved and the samples were received in a condition consistent with those described on the chain-of-custody. According to the laboratory results, the laboratory received all samples at approximately 2.7°C to 3.3°C and in good condition.

According to the laboratory narrative report, for Method 8260C, several compounds were outside control limits in the continuing calibration verification (CCV) associated with batch 142451 and 142636. Due to the large number of analytes contained in the CCV, the method allows for 20% analytes to be outside limits under 40%; therefore, the data have been reported. Also for Method 8260C, the laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) for batches 142636 and 142723 exceeded control limits for 2-butanone. Unlike the calibration standards, this is due to the coelution of Ethyl Acetate in the spiking solution. This does not indicate a performance issue with the spike recovery, but rather the laboratory's ability to measure the two analytes together in a combined spiking solution. Through the use of spectral analysis, the two compounds can be distinguished from one another if present in a client sample.

For Method 300.0 (chloride), samples MW-1, MW-3, and DUP-1 were diluted to bring the concentration of target analytes within the calibration range. Elevated reporting limits are provided.

For Method 6010C (metals), the Serial Dilution in batch 480-142205 exhibited results outside the quality control limits for dissolved barium and calcium. However, the Post Digestion Spike was compliant so no corrective action was necessary.

For Method 353.2 (nitrate), the matrix spike recovery for batch 142147 was outside the control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

The results for the duplicate sample (DUP-1) that were collected at well MW-4D were generally similar to the results from the original sample. The Relative Percent Difference (RPD) between the original sample and duplicate sample for all parameters ranged from zero percent (%) to 13.9%. Physiologically Available Cyanide (PAC) was detected in the duplicate sample but not in the original sample. A trip blank sample was submitted for VOC analysis by Method 8260, in which acetone was detected at a concentration of 13 µg/L.

Surface Water Quality/Trend Analysis

Surface Water Quality
September 2013 surface water results summarized in Table 3 indicate that the following parameters were detected at concentrations exceeding the MSWS.

- The pH concentration at SW-2 was below the lower limit of 6.5.
- Dissolved barium at SW-2 and SW-3 at concentrations of 0.031 mg/L and 0.014 mg/L, respectively.
- Dissolved iron at SW-2 at a concentration of 6.3 mg/L.
- Dissolved manganese at SW-2 at a concentration of 1.6 mg/L.

VOCs and 1,4-dioxane were not detected at either surface water location sampled during the September 2013 monitoring round. One TIC identified as silanol, trimethyl was detected at SW-2 at an estimated concentration of 2.8 µg/L.

Trend Analysis
The September 2013 round is the fifth round in which surface water quality has been analyzed by Weston & Sampson. Weston & Sampson has included the June 13, 2011 groundwater, surface water, and sediment results that were provided in the Kleinfelder/SEA Consultants Inc., Post-Comprehensive Site Assessment (Post-CSA) Round 3 Water Quality and Sediment Monitoring Results Report in Appendix A, as well as the four rounds of groundwater, surface water, and sediment results that were provided in the SEA Consultants, Inc., CSA Report. Additionally, trend tables for the fall 2011, spring 2012, fall 2012, spring 2013, and fall 2013 sampling rounds conducted by Weston & Sampson are included in Appendix A. Weston & Sampson compared the September 2013 results to the limited historic data during the Post- CSA time period.

The September 2013 surface water results were consistent with historic results, with the following exceptions.

- Sulfate was detected at a historic low concentration in SW-2.
- Dissolved barium was detected at a historic high concentration in SW-2; however, the detected concentration was not significantly higher compared to previous results.
- The September 2013 round is the first round that dissolved zinc was not detected above the laboratory RL in SW-2.
- Dissolved arsenic was detected for the first time above the laboratory reporting limit (RL) in SW-3; however, the detected concentration was below the applicable standard.
- Dissolved manganese was detected at a historic low concentration in SW-3.

Sediment Quality/Trend Analysis

Sediment Quality
The September 2013 sediment sampling results are summarized in Table 4. There were no parameters detected at concentrations above the TECs.

VOCs and TICs were not detected at either sediment sampling location during the September 2013 round.

Trend Analysis
The September 2013 round is the fifth round in which sediment quality has been analyzed by Weston & Sampson. Weston & Sampson has included the June 13, 2011 groundwater, surface water, and sediment results that were provided in the Kleinfelder/SEA Consultants Inc., Post-Comprehensive Site Assessment (Post-CSA) Round 3 Water Quality and Sediment Monitoring Results Report in Appendix A, as well as the four rounds of groundwater, surface water, and sediment results that were provided in the SEA Consultants, Inc., CSA Report. Additionally, trend tables for the fall 2011, spring 2012, fall 2012, spring 2013, and fall 2013 sampling rounds conducted by Weston & Sampson are included in Appendix A. Weston & Sampson compared the September 2013 results to the limited historic data during the Post- CSA time period.

The September 2013 sediment results were generally consistent with historic results.

Landfill Soil Gas

The soil gas results are summarized in Table 5. Methane was not detected in any soil gas monitoring probes sampled during the fall 2013 soil gas monitoring round under either initial or steady state conditions. The ambient methane concentration was recorded at less than 0.1%.

Oxygen was detected at all gas monitoring probes sampled under initial conditions at concentrations ranging from 20.5% to 20.8%. Oxygen was detected at all gas monitoring probes sampled under steady state conditions at concentrations ranging from 20.6% to 20.8%. The ambient oxygen concentration was recorded at 20.8%.

Hydrogen sulfide was not detected at any of the monitoring probes sampled under initial or steady state conditions. The ambient hydrogen sulfide concentration was recorded at less than 1 ppm.

NMVOCs were not detected at any of the monitoring probes sampled under initial or steady state conditions. The ambient NMVOC concentration was recorded at less than 0.1 ppm.

RECOMMENDATIONS

Weston & Sampson recommends that the Town of Hamilton continue to collect and analyze groundwater, surface water, and sediment samples from the locations and for the parameters listed in this report. Weston & Sampson also recommends the Town continue semiannual soil gas monitoring in accordance with the Environmental Monitoring Plan.

Please contact Weston & Sampson if you have any questions regarding the analyses or to discuss the recommendations provided.

Very truly yours,

WESTON & SAMPSON

Duane C. Himes

Duane C. Himes, P.E., P.L.S.
Associate

cc: Mr. Dave Hanlon, Town of Hamilton
File

LEM

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FIGURES

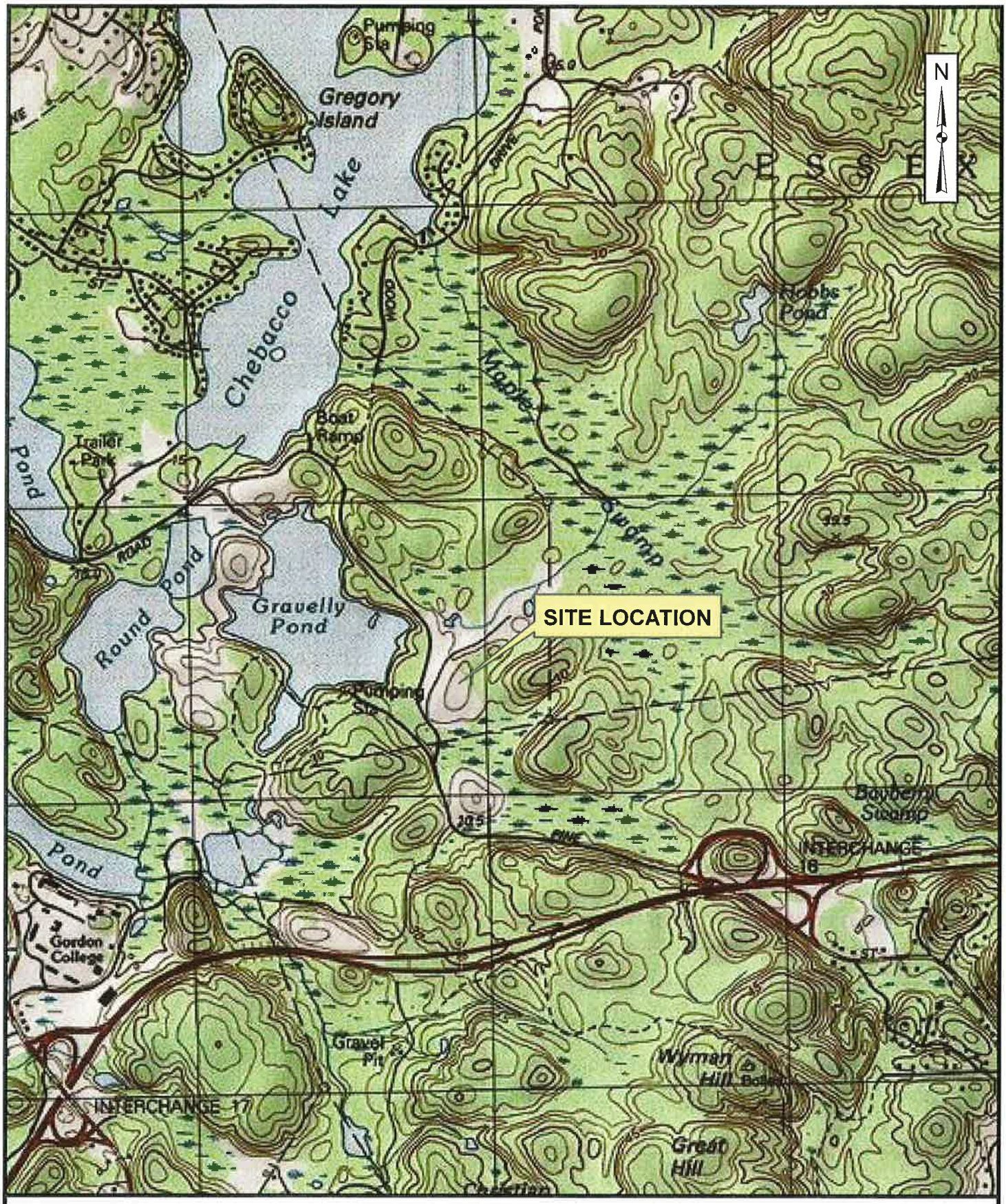


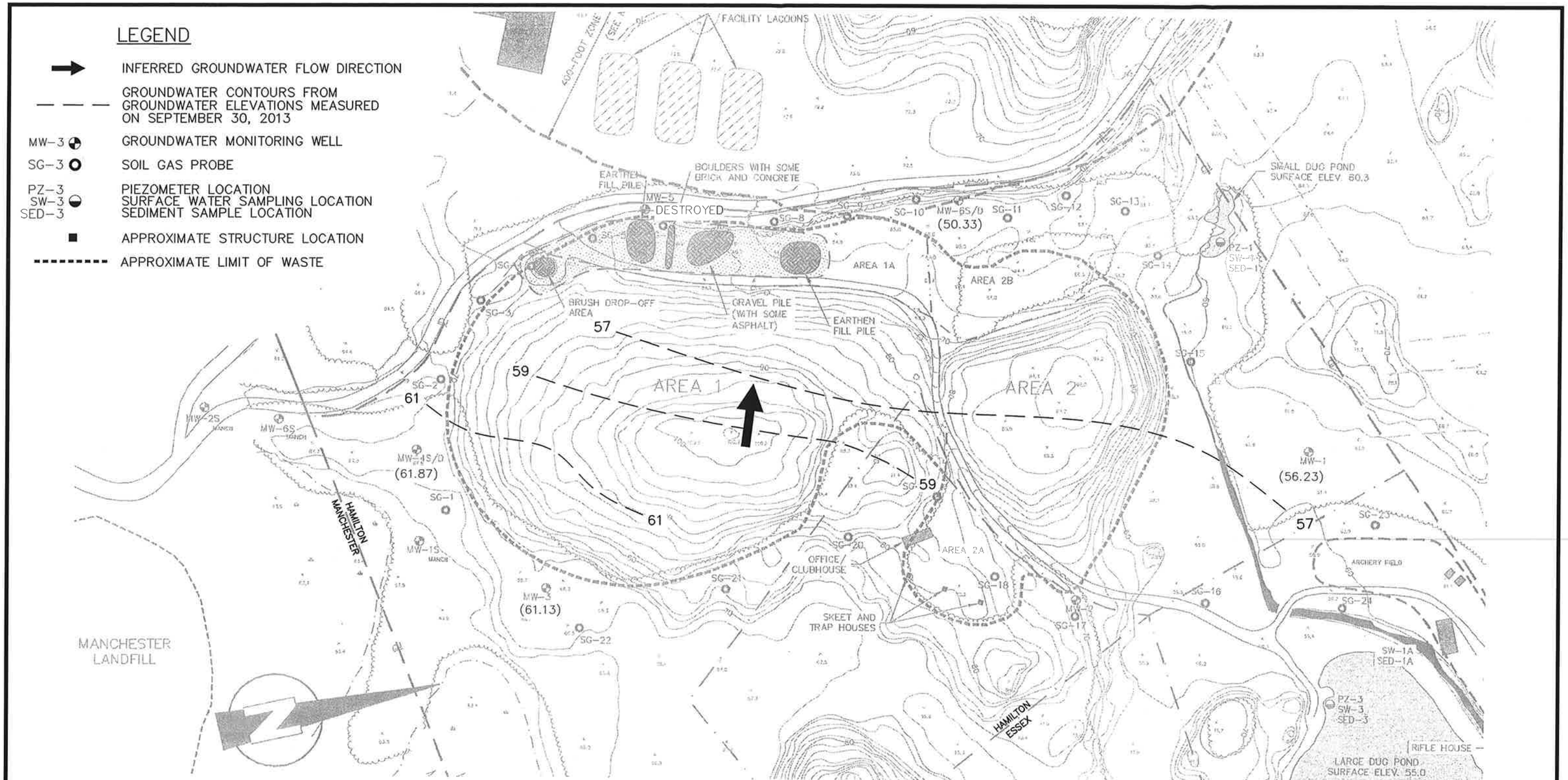
FIGURE 1
TOWN OF HAMILTON, MASSACHUSETTS
HAMILTON SANITARY LANDFILL

LOCUS MAP

0 2,000 4,000 Feet

Weston&Sampson®

O:\Hamilton, MA\FY 2012 Landfill Environmental Monitoring\CADD\Figure 1 - Locus Map.mxd 1/4/2012 11:25:29 AM ccmcnuse



GENERAL NOTES

1. AERIAL PHOTOGRAMMETRY CONDUCTED AND COMPILED BY EASTERN TOPOGRAPHICS OF WOLFBORO, NH. PHOTO DATE: APRIL 2, 1989. SOME FEATURES DIGITIZED FROM MASSGIS ORTHOPHOTOS TAKEN APRIL 2001.
2. VERTICAL DATUM: NGVD 1929 (SUBJECT TO CONFIRMATION).
3. PROPERTY LINES ARE APPROXIMATE AND BASED UPON TOWN OF HAMILTON GIS DATA (2005).
4. LIMIT OF LANDFILL IS BASED UPON TEST PITS ADVANCED BY SEA IN SEPTEMBER 2007.
5. MANCHESTER WELLS MW-1S, MW-2S, MW-5S, AND MW-6S WERE INCLUDED IN THE HAMILTON CSA NETWORK AND USED FOR WATER LEVEL GAUGING ONLY.
6. THE ZONE A PROTECTION AREA FOR GRAVELLY POND IS APPROXIMATE AND BASED ON A 400-FOOT OFFSET FROM THE EDGE OF WATER.

160 80 0 160 320

SCALE: 1"=160'

FIGURE 2

HAMILTON SANITARY LANDFILL
TOWN OF HAMILTON, MASSACHUSETTS

ENVIRONMENTAL MONITORING LOCATIONS
SITE PLAN

DESIGNED BY: LEM	CHECKED BY: DCH	DATE: SEPTEMBER 2013

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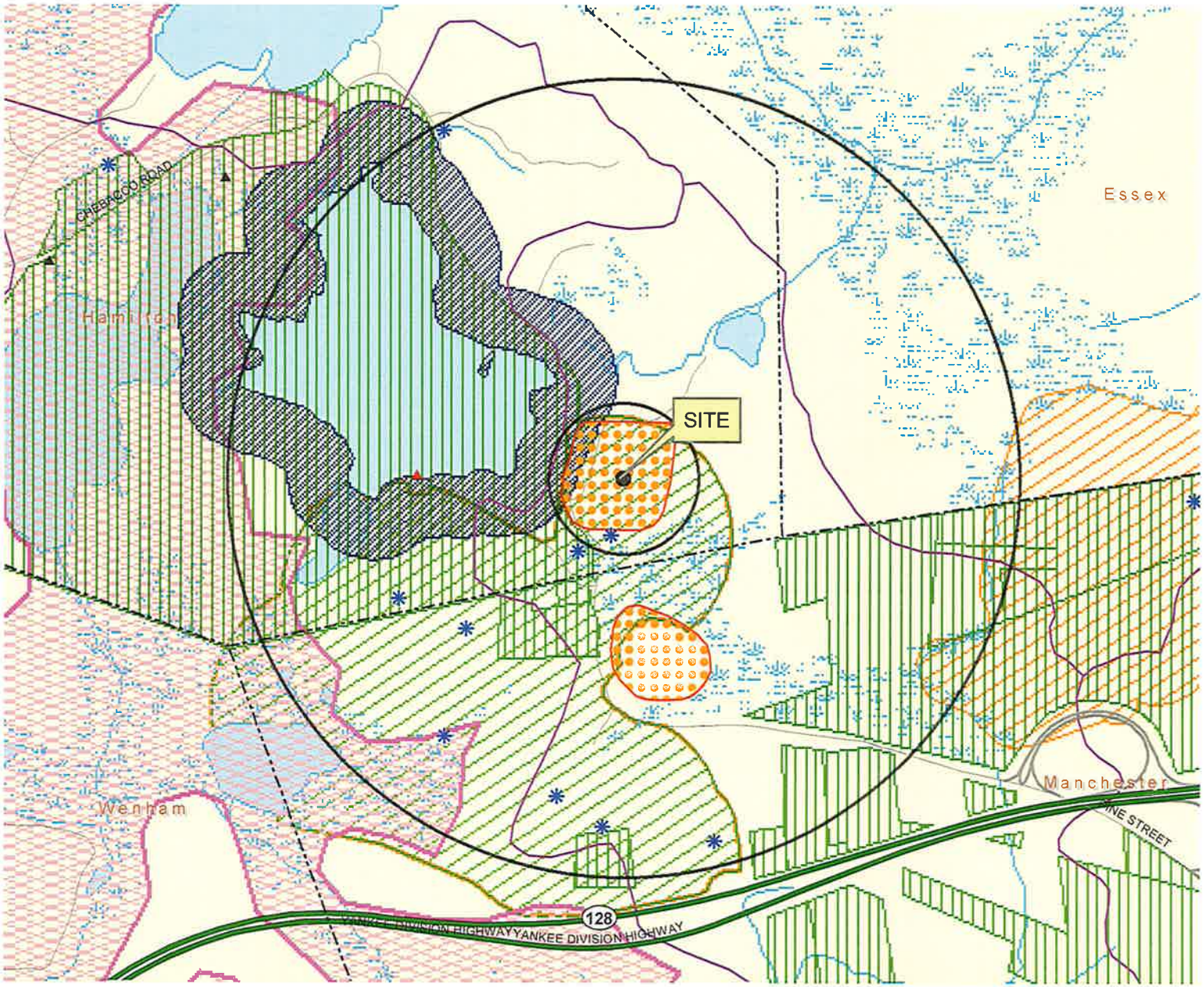
O:\Hamilton, MA\LF Mon FY14 2130476\CADD\October 2013 GW Contour Map.dwg



N
W E
S

1,000 500 0 1,000 Feet

0.25 0.125 0 0.25 Miles

Data Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs

Radii shown are approximately 500-feet and 1/2-mile from center of Site.

Legend

- Town Boundaries
- State Boundary
- Ground Water
- Surface Water
- Non-Community
- NHESP Certified Vernal Pools
- Railroads by Ownership
- Pipeline
- Pipeline Arbitrary Extension
- Powerline
- Powerline Arbitrary Extension
- Ski Lift/Tramway
- Substation
- Landing Strip/Airport
- Highway Exit Locations

All Roads

Road Classification

- Limited Access Highway
- Multi-lane Hwy, not limited access
- Other Numbered Highway
- Major Road, Collector
- Minor Road, Arterial
- Sub-basins
- Major Basins
- Solid Waste Facilities
- Protected Open Space
- ACECs
- Zone A
- IWPAs
- DEP Approved Zone IIs
- River, Stream, Shoreline
- Water
- Wetland
- Sole Source Aquifers
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Priority Habitats of Rare Species

Non Potential Drinking Water Source Area

- High Yield
- Medium Yield

Aquifers

- High Yield
- Medium Yield

MA Towns (from Survey Points)

- MA Towns (from Survey Points)

FIGURE 3

Area Receptors Map
Hamilton Sanitary Landfill
Hamilton, Massachusetts

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TABLES

Table 1
Groundwater Elevation Data
Hamilton Sanitary Landfill
Hamilton, Massachusetts

Monitoring Well Number	Top of PVC Well Casing Elevation (1,3)	Depth to Groundwater (1,2,4)											
		3/5/07	7/5/07	10/25/07	1/23/08	12/14/09	3/17/11	6/13/11	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
MW-1	62.91	4.38	5.07	7.43	4.58	4.38	4.43	5.02	4.70	5.14	6.70	4.85	6.68
MW-2	68.43	8.34	NA	NA	NA	7.23	5.65	Dry	8.68	Dry	-	7.44	---
MW-3	70.2	6.38	7.87	9.55	6.55	5.32	5.57	6.60	6.21	7.09	8.31	6.35	9.07
MW-4S	69.7	5.93	6.75	8.52	5.95	5.10	4.95	5.72	5.25	6.22	7.37	5.45	7.83
MW-4D	69.80	6.07	6.71	8.46	6.13	5.30	5.22	5.81	5.35	6.30	7.33	5.70	7.83
MW-5	73.80	12.16	12.88	15.79	11.82	11.18	10.94	12.09	11.51	12.54	--	--	--
MW-6S	74.43	19.45	21.22	24.58	21.24	19.79	18.75	21.53	20.73	21.61	24.44	19.81	24.10
MW-6D	74.21	18.83	20.02	23.44	20.00	18.77	18.26	20.48	19.73	20.55	23.20	18.98	22.94

Monitoring Well Number	Top of PVC Well Casing Elevation (1,3)	Groundwater Elevation (1)											
		3/5/07	7/5/07	10/25/07	1/23/08	12/14/09	3/17/11	6/13/11	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
MW-1	62.91	58.53	57.84	55.48	58.33	58.53	58.48	57.89	58.21	57.77	56.21	58.06	56.23
MW-2	68.43	60.09	NA	NA	NA	61.20	62.78	Dry	59.75	Dry	-	60.99	---
MW-3	70.2	63.82	62.33	60.65	63.65	64.88	64.63	63.60	63.99	63.11	61.89	63.85	61.13
MW-4S	69.7	63.77	62.95	61.18	63.75	64.60	64.75	63.98	64.45	63.48	62.33	64.25	61.87
MW-4D	69.80	63.73	63.09	61.34	63.67	64.50	64.58	63.99	64.45	63.50	62.47	64.10	61.97
MW-5	73.80	61.64	60.92	58.01	61.98	62.62	62.86	61.71	62.29	61.26	--	--	--
MW-6S	74.43	54.98	53.21	49.85	53.19	54.64	55.68	52.90	53.70	52.82	49.99	54.62	50.33
MW-6D	74.21	55.38	54.19	50.77	54.21	55.44	55.95	53.73	54.48	53.66	51.01	55.23	51.27

QC by LEM 11/13/13

O:\Hamilton, MA\LF Mon FY14 2130476\Tables\GWSW\[GW Elev through 0913.xls]a

Note:
(1) All elevations are in feet relative to mean sea level.
(2) Depth to groundwater elevations measured from top of PVC riser.
(3) S E A surveyed well casing elevations on December 4 and 5, 2007.
(4) Groundwater elevation surveys completed prior to 11/14/11 were done by S E A.
- = unable to locate well
-- = well destroyed
--- = well dry
NA = Not Analyzed

Table 2
Groundwater Sampling Results
Hamilton Landfill
Hamilton, Massachusetts
September 30, 2013

Parameter	Units	Comparable Standard (1)	Method 1 GW-1 Standard (2)	Method 1 GW-3 Standard (2)	Monitoring Wells								
					MW-1	MW-2	MW-3	MW-4S	MW-4D	DUP-1 (MW-4D)	MW-5	MW-6S	MW-6D
Field Parameters													
Temperature	°C	NS	NS	NS	**10.34**	-	**10.93**	**11.94**	**9.86**	--	---	**9.80**	**9.23**
Specific Conductivity	mS/cm	NS	NS	NS	**0.097**	-	**0.123**	**0.194**	**0.240**	--	---	**0.229**	**0.312**
pH	unitless	6.5-8.5*	NS	NS	**5.99**	-	**5.29**	**5.68**	**4.90**	--	---	**4.48**	**4.73**
Dissolved Oxygen	mg/L	NS	NS	NS	**1.79**	-	**3.75**	**1.88**	**2.15**	--	---	**5.62**	**5.37**
Inorganics						-							
Alkalinity	mg/L	NS	NS	NS	**29**	-	**67**	**51**	**170**	**170**	---	**50**	**140**
Chemical Oxygen Demand	mg/L	NS	NS	NS	<10	-	<10	**18**	<10	<10	---	**12**	<10
Chloride	mg/L	250*	NS	NS	**16**	-	**8.8**	**53**	**15**	**14**	---	**35**	**35**
Physiologically Available Cyanide	mg/L	0.2 (3)	NS	NS	<0.010	-	<0.010	<0.010	<0.010	**0.022**	---	**0.014**	**0.092**
Nitrate	mg/L	10	NS	NS	<0.050	-	**0.083**	<0.050	<0.050	<0.050	---	**0.72**	<0.050
Sulfate	mg/L	250*	NS	NS	**9.9**	-	**15**	**6.7**	**10**	**8.7**	---	**62**	**61**
Total Dissolved Solids	mg/L	500*	NS	NS	**120**	-	**120**	**190**	**220**	**210**	---	**250**	**320**
Dissolved Metals													
Arsenic	mg/L	0.01	0.01	0.9	<0.010	-	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010
Barium	mg/L	2	2	50	**0.019**	-	**0.076**	**0.072**	**0.040**	**0.039**	---	**0.037**	**0.050**
Cadmium	mg/L	0.005	0.005	0.004	<0.0010	-	<0.0010	<0.0010	**0.0015**	**0.0014**	---	<0.0010	**0.0013**
Calcium	mg/L	NS	NS	NS	**5.8**	-	**17**	**18**	**31**	**30**	---	**43**	**43**
Chromium	mg/L	0.1	0.1	0.3	<0.0040	-	<0.0040	<0.0040	<0.0040	<0.0040	---	<0.0040	<0.0040
Copper	mg/L	1.3	NS	NS	<0.010	-	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010
Iron	mg/L	0.3*	NS	NS	**9.5**	-	**2.3**	**3.1**	**1.5**	**1.4**	---	<0.050	**7.4**
Lead	mg/L	0.015	0.015	0.01	<0.0050	-	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050
Manganese	mg/L	0.05*	NS	NS	**0.50**	-	**6.30**	**0.79**	**11**	**11**	---	**0.098**	**11**
Mercury	mg/L	0.002	0.002	0.02	<0.00020	-	<0.00020	<0.00020	<0.00020	<0.00020	---	<0.00020	<0.00020
Selenium	mg/L	0.05	0.05	0.1	<0.015	-	<0.015	<0.015	<0.015	<0.015	---	<0.015	<0.015
Silver	mg/L	0.10*	0.100	0.007	<0.0030	-	<0.0030	<0.0030	<0.0030	<0.0030	---	<0.0030	<0.0030
Sodium	mg/L	20 **	NS	NS	**12**	-	**6.0**	**31**	**19**	**18**	---	**12**	**21**
Zinc	mg/L	5*	5	0.9	**0.018**	-	**0.023**	<0.010	**0.049**	**0.049**	---	**0.10**	**0.041**
VOCs (EPA Method 8260 SIM)													
1,4-Dioxane	mg/L	0.3**	3 (4)	50,000	<1.6	-	<1.6	<1.6	<1.6	<1.6	---	<1.6	<1.6
VOCs (EPA Method 8260C)													
1,4-Dichlorobenzene	µg/L	5	5	8,000	<1.0	-	**1.1**	<1.0	**2.2**	**2.4**	---	<1.0	<1.0
Methyl tert butyl ether (MTBE)	µg/L	70**	70	50,000	<1.0	-	<1.0	<1.0	<1.0	<1.0	---	<1.0	<1.0
Chlorobenzene	µg/L	100	100	1,000	<1.0	-	**4.2**	<1.0	**4.9**	**5.0**	---	<1.0	**1.5**

QC by LEM 11/13/13

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Notes:

(1) The Comparable Standard is from "Drinking Water Standards & Guidelines for Chemicals in Massachusetts Drinking Water," dated Spring 2012.

MMCL	Massachusetts Maximum Contaminant Level
* SMCL	Secondary Maximum Contaminant Level
** ORSG	Office of Research Standards Guideline

(2) Method 1 GW-1 and GW-3 standards taken from the Massachusetts Contingency Plan 310 CMR 40.0000 (June 26, 2009)
(3) Standard is for free cyanide. Massachusetts does not publish a standard for physiologically available cyanide to total cyanide.
(4) 1,4-Dioxane compared to Method 1 GW-1 Standard.

<	The resulting concentration was below the laboratory detection limit shown.
BOLD	The resulting concentration was greater than the laboratory method detection limit.
BOLD	The resulting concentration was greater than the comparable standard.

- = Well was dry
— = Parameters not recorded
— = Monitoring well is destroyed.

Abbreviations:
EPA - Environmental Protection Agency
mS/cm - millisiemens per centimeter
mg/L - milligrams per liter
µg/L - micrograms per liter
NS - No Standard

NA - Not Analyzed
VOCs - Volatile Organic Compounds

Table 3
Surface Water Sampling Results
Hamilton, Massachusetts
September 30, 2013

Parameter	Units	Massachusetts Surface Water Quality Standards (1)	Method 1 GW-3 Standard	Sample ID		
				SW-1	SW-2	SW-3
Field Parameters						
Temperature	degrees C	NS	NS	Dry	**10.79**	**17.3**
pH	unitless	6.5 - 8.3 (2)	NS	Dry	**5.43**	**7.59**
Specific Conductivity	mS/cm	NS	NS	Dry	**0.150**	**0.200**
Dissolved Oxygen	mg/L	NS	NS	Dry	**0.44**	**3.22**
Inorganics						
Alkalinity as $CaCO_3$	mg/L	20 (3)	NS	Dry	**71**	**67**
Chemical Oxygen Demand	mg/L	NS	NS	Dry	**41**	<10
Chloride	mg/L	230	NS	Dry	**16**	**9.8**
Physiologically Available Cyanide	mg/L	0.0052 (4)	0.03	Dry	<0.010	<0.010
Nitrate as Nitrogen	mg/L	NS	NS	Dry	<0.050	<0.050
Sulfate	mg/L	NS	NS	Dry	**12**	**43**
Total Dissolved Solids	mg/L	NS	NS	Dry	**150**	**170**
Dissolved Metals						
Arsenic	mg/L	0.15	0.9	Dry	**0.0031**	**0.0012**
Barium	mg/L	0.004 (5)	50	Dry	**0.031**	**0.014**
Cadmium	mg/L	0.00025	0.004	Dry	<0.00050	<0.00050
Calcium	mg/L	116 (5)	NS	Dry	**20**	**31**
Chromium	mg/L	0.011 (6)	0.3	Dry	<0.0015	<0.0015
Copper	mg/L	0.009	NS	Dry	<0.0010	<0.0010
Iron	mg/L	1.0	NS	Dry	**6.3**	<0.050
Lead	mg/L	0.0025	0.01	Dry	<0.0010	<0.0010
Manganese	mg/L	0.12 (5)	NS	Dry	**1.6**	**0.046**
Mercury	mg/L	0.00077	0.02	Dry	<0.00020	<0.00020
Selenium	mg/L	0.00461	0.1	Dry	<0.0010	<0.0010
Silver	mg/L	0.00036 (5)	0.007	Dry	<0.00050	<0.00050
Sodium	mg/L	680 (5)	NS	Dry	**11**	**6.8**
Zinc	mg/L	0.12	0.9	Dry	<0.010	<0.010
VOCs (EPA Method 8260 SIM)						
1,4-Dioxane	µg/L	NS	50,000	Dry	<1.6	<1.6
VOCs (EPA Method 8260C)						
Toluene	µg/L	9.8 (5)	40,000	Dry	<1.0	<1.0

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Notes

(1) Criteria are taken from the "National Recommended Water Quality Criteria,"(USEPA Office of Water, Office of Science and Technology, 2009) unless otherwise specified, are Criteria Continuous (chronic) Concentrations.

(2) The pH standard listed in 314 CMR 4.05(3)(b)(3) is the range of 6.5 through 8.3 standard units and not more then 0.5 units outside of the background range. Surface waters at the site, namely wetlands, are considered Unlisted waters, and are classified as Class B, High Quality Waters.

(3) The derivation of this value is presented in the Red Book (EPA 440/9-76-023, July, 1976). The CCC of 20 mg/L is a minimum value except where alkalinity is naturally lower, in which case the criterion cannot be lower than 25% of the natural level.

(4) No standard exists for physiologically available cyanide. The cyanide standard listed is the criterion continuous concentration for dissolved cyanide.

(5) The listed standard is published in the "Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision," (ES/ER/TM-96/R2).

(6) No standard exists for unspeciated chromium. The chromium standard listed is the criterion continuous concentration for hexavalent chromium (Cr+6).

BOLD The resulting concentration was greater than the laboratory method detection limit

BOLD The resulting concentration is greater than the MA Surface Water Standards

Abbreviations

<	not detected above method detection limit, shown
mS/cm	milliSiemens per centimeter
mg/L	milligrams per liter
µg/L	micrograms per liter
mS/cm	microSiemens per centimeter
NA	Not Analyzed
NS	No Standard
ND	Not Detected
VOCs	Volatile Organic Compounds
-	Well was dry

Table 4
Sediment Sampling Results
Hamilton Landfill
Hamilton, Massachusetts
September 30, 2013

Parameter	Units	Concentration (1)	Sample ID	
			SED-1	SED-3
Total Metals				
Arsenic	mg/kg	9.79	<2.1	**6.1**
Barium	mg/kg	NS	**8.9**	**32**
Cadmium	mg/kg	0.99	**0.31**	<0.23
Calcium	mg/kg	NS	**1,300**	**1,700**
Chromium	mg/kg	43.4	**13**	**14**
Copper	mg/kg	31.6	**11**	**8.4**
Iron	mg/kg	NS	**8,500**	**11,000**
Lead	mg/kg	35.8	**10.0**	**7.2**
Manganese	mg/kg	NS	**96**	**320**
Mercury	mg/kg	0.18	<0.023	<0.025
Selenium	mg/kg	NS	<4.3	<4.7
Silver	mg/kg	NS	<0.53	<0.59
Sodium	mg/kg	NS	<150	<160
Zinc	mg/kg	121	**46**	**41**
VOCs (EPA Method 8260C)				
Acetone	µg/kg	NS	<25	<21

QC by LEM 11/13/13 O:\Hamilton, MA\LF Mon FY14 2130476\Tables\GWSW\[SED0913.xls]Sed

Notes:
(1) Threshold Effects Concentrations (TECs) : DEP adopted the consensus-based TECs for use in screening freshwater sediment for risk to benthic organisms. The threshold effect concentrations are intended to identify contaminant concentrations below which harmful effects on sediment-dwelling organisms are not expected.

mg/kg	milligrams per kilogram
µg/kg	micrograms per kilogram
NA	Not Analyzed
NS	No Standard
BOLD	The concentration exceeded the laboratory method detection limits.
BOLD	The concentration exceeded the comparable standard.

Table 5
Soil Gas Well Monitoring Results
November 1, 2013
Hamilton Landfill
Hamilton, Massachusetts

Soil Gas Well Number	Initial Condition					Steady State Condition				
	Methane		Oxygen	Hydrogen Sulfide	NMVOCs	Methane		Oxygen	Hydrogen Sulfide	NMVOCs
	(%)	(%LEL)	(%)	(ppm)	(ppm)	(%)	(%LEL)	(%)	(ppm)	(ppm)
SG-1	<0.1	0%	**20.8**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-2	<0.1	0%	**20.5**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-3	<0.1	0%	**20.6**	<1	<0.1	<0.1	0%	**20.7**	<1	<0.1
SG-4	<0.1	0%	**20.8**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-5	<0.1	0%	**20.8**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-6	<0.1	0%	**20.7**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-7	<0.1	0%	**20.8**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-8	<0.1	0%	**20.8**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-9	<0.1	0%	**20.7**	<1	<0.1	<0.1	0%	**20.7**	<1	<0.1
SG-10	<0.1	0%	**20.5**	<1	<0.1	<0.1	0%	**20.7**	<1	<0.1
SG-11	<0.1	0%	**20.6**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-12	<0.1	0%	**20.8**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-13	<0.1	0%	**20.7**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-14	<0.1	0%	**20.8**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-15	*	*	*	*	*	*	*	*	*	*
SG-16	<0.1	0%	**20.6**	<1	<0.1	<0.1	0%	**20.6**	<1	<0.1
SG-17	<0.1	0%	**20.7**	<1	<0.1	<0.1	0%	**20.7**	<1	<0.1
SG-18	<0.1	0%	**20.6**	<1	<0.1	<0.1	0%	**20.7**	<1	<0.1
SG-19	<0.1	0%	**20.6**	<1	<0.1	<0.1	0%	**20.6**	<1	<0.1
SG-20	**	**	**	**	**	**	**	**	**	**
SG-21	<0.1	0%	**20.5**	<1	<0.1	<0.1	0%	**20.7**	<1	<0.1
SG-22	<0.1	0%	**20.8**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
SG-23	**	**	**	**	**	**	**	**	**	**
SG-24	<0.1	0%	**20.5**	<1	<0.1	<0.1	0%	**20.8**	<1	<0.1
Ambient	<0.1	0%	**20.8**	<1	<0.1					

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QC by LEM 11/13/13

Notes:

BOLD = Parameter detected above instrument detection limit.

BOLD = Property boundary well greater than 25% LEL, requires 24-hour DEP notification.

* Well could not be located. Could not collect parameters.

** Well destroyed. Could not collect parameters.

Abbreviations:

< = Parameter not detected above instrument detection limit, noted.

% LEL = percent lower explosive limit

% = percent by volume

ppm = parts per million

NMVOCs = non-methane volatile organic compounds

Onsite Weather Conditions: Windy, 60 degrees F

0730: 67.7 degrees F; relative humidity = 57.4%; barometric pressure = 29.55" Hg.
0830: 70.1 degrees F; relative humidity = 59.5%; barometric pressure = 29.54" Hg.
0930: 70.2 degrees F; relative humidity = 59.8%; barometric pressure = 29.53" Hg.
1030: 70.5 degrees F; relative humidity = 63.4%; barometric pressure = 29.52" Hg.
1130: 70.5 degrees F; relative humidity = 67.9%; barometric pressure = 29.50" Hg.
1230: 71.0 degrees F; relative humidity = 68.4%; barometric pressure = 29.49" Hg.

Ground conditions: Damp and Dry

APPENDIX A

Historic Data Tables

Table 1a
Groundwater Sampling Results, Monitoring Well MW-1
Hamilton Landfill
Hamilton, MA
November 2011 through September 2013

Parameter	Units	Comparable Standard (1)	Method 1 GW-1 (2)	Method 1 GW-3 (2)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Field Parameters									
Temperature	degrees C	NS	NS	NS	**11.68**	**7.84**	**11.43**	**7.76**	**10.34**
Specific Conductivity	umhos/cm	NS	NS	NS	**0.140**	**0.126**	**0.107**	**0.090**	**0.097**
pH	unitless	6.5-8.5*	NS	NS	**3.34**	**6.41**	**6.22**	**6.40**	**5.99**
Dissolved Oxygen	mg/L	NS	NS	NS	**2.90**	**3.37**	**1.20**	**10.34**	**1.79**
Inorganics									
Alkalinity as $CaCO_3$	mg/L	NS	NS	NS	**18**	**31**	**33**	**22**	**29**
Chemical Oxygen Demand	mg/L	NS	NS	NS	**23**	**37**	**21**	**10**	<10
Chloride	mg/L	250 *	NS	NS	**25**	**22**	**14**	**16**	**16**
Physiologically Available Cyanide (PAC)	mg/L	0.2 (3)	0.2	0.03	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate as Nitrogen	mg/L	10	NS	NS	<0.050	<0.050	**0.072**	<0.050	<0.050
Sulfate	mg/L	250 *	NS	NS	**17**	**12**	**13**	**8.7**	**9.9**
Total Dissolved Solids	mg/L	500 *	NS	NS	**110**	**46**	**73**	**95**	**120**
Dissolved Metals:									
Arsenic	mg/L	0.01	0.01	0.9	<0.010	<0.010	<0.010	<0.010	<0.010
Barium	mg/L	2	2	50	**0.022**	**0.018**	**0.018**	**0.016**	**0.019**
Cadmium	mg/L	0.005	0.005	0.004	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Calcium	mg/L	NS	NS	NS	**8.4**	**7.1**	**6.6**	**6.8**	**5.8**
Chromium	mg/L	0.1	0.1	0.3	<0.0050	<0.0050	<0.0050	<0.0040	<0.0040
Copper	mg/L	1.3	NS	NS	<0.010	<0.010	<0.010	<0.010	<0.010
Iron	mg/L	0.3 *	NS	NS	**13**	**13**	**10**	**10**	**9.5**
Lead	mg/L	0.015	0.015	0.01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Manganese	mg/L	0.05 *	NS	NS	**0.64**	**0.72**	**0.62**	**0.56**	**0.50**
Mercury	mg/L	0.002	0.002	0.02	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Selenium	mg/L	0.05	0.05	0.1	<0.010	<0.010	<0.010	<0.015	<0.015
Silver	mg/L	0.1 *	0.1	0.007	<0.0050	<0.0050	<0.0050	<0.0030	<0.0030
Sodium	mg/L	20 **	NS	NS	**18**	**16**	**11**	**12**	**12**
Zinc	mg/L	5 *	5	0.9	<0.050	<0.050	<0.050	<0.010	**0.018**
VOCs (EPA Method 8260 SIM)									
1,4-Dioxane	µg/L	0.3**	3 (4)	50,000	<3.0	<3.0	<3.0	<1.6	<1.6
VOCs (EPA Method 8260B)									
1,4-Dichlorobenzene	µg/L	5	5	8,000	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	100	100	1,000	<1.0	<1.0	<1.0	<1.0	<1.0

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Notes:

(1) The Standard is from "Drinking Water Standards & Guidelines for Chemicals in Massachusetts Drinking Water," dated Spring 2012.

MMCL	Massachusetts Maximum Contaminant Level concentration
*SMCL	Secondary Maximum Contaminant Level concentration
** ORSG	Office of Research and Standard Drinking Water Guideline

(2) Method 1 GW-1 and GW-3 standards taken from the Massachusetts Contingency Plan 310 CMR 40.0000 (June 26, 2009)

(3) Standard is for free cyanide. Massachusetts does not publish a standard for physiologically available cyanide or total cyanide.

(4) 1,4-Dioxane compared to Method 1 GW-1 Standard.

< = The resulting concentration was below the laboratory detection limit, shown.

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard (exceedances

shown are for the existing standards at the time of sampling).

Abbreviations:

µg/L	micrograms per liter (parts per billion)
mg/L	milligrams per liter (parts per million)
mS/cm	milliSiemens per centimeter
VOCs	Volatile Organic Compounds
NS	No Standard
ND	Not Detected
NA	Not Analyzed
B	Compound detected in method blank
J	Estimated concentration

Table 1a
Groundwater Sampling Results, Monitoring Well MW-2
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Comparable Standard (1)	Method 1 GW-1 (2)	Method 1 GW-3 (2)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Field Parameters									
Temperature	degrees C	NS	NS	NS	***	Dry	Dry	-	Dry
Specific Conductivity	umhos/cm	NS	NS	NS	***	Dry	Dry	-	Dry
pH	unitless	6.5-8.5*	NS	NS	***	Dry	Dry	-	Dry
Dissolved Oxygen	mg/L	NS	NS	NS	***	Dry	Dry	-	Dry
Inorganics						Dry	Dry		
Alkalinity as $CaCO_3$	mg/L	NS	NS	NS	***	Dry	Dry	**9.5**	Dry
Chemical Oxygen Demand	mg/L	NS	NS	NS	***	Dry	Dry	**24**	Dry
Chloride	mg/L	250 *	NS	NS	***	Dry	Dry	**13**	Dry
Physiologically Available Cyanide (PAC	mg/L	0.2 (3)	0.2	0.03	<0.010	Dry	Dry	<0.010	Dry
Nitrate as Nitrogen	mg/L	10	NS	NS	***	Dry	Dry	**0.14**	Dry
Sulfate	mg/L	250 *	NS	NS	***	Dry	Dry	**21**	Dry
Total Dissolved Solids	mg/L	500 *	NS	NS	***	Dry	Dry	**79**	Dry
Dissolved Metals:						Dry	Dry		
Arsenic	mg/L	0.01	0.01	0.9	***	Dry	Dry	<0.010	Dry
Barium	mg/L	2	2	50	***	Dry	Dry	**0.057**	Dry
Cadmium	mg/L	0.005	0.005	0.004	***	Dry	Dry	<0.0010	Dry
Calcium	mg/L	NS	NS	NS	***	Dry	Dry	**11**	Dry
Chromium	mg/L	0.1	0.1	0.3	***	Dry	Dry	<0.0040	Dry
Copper	mg/L	1.3	NS	NS	***	Dry	Dry	**0.017**	Dry
Iron	mg/L	0.3 *	NS	NS	***	Dry	Dry	**0.09**	Dry
Lead	mg/L	0.015	0.015	0.01	***	Dry	Dry	<0.0050	Dry
Manganese	mg/L	0.05 *	NS	NS	***	Dry	Dry	**0.34**	Dry
Mercury	mg/L	0.002	0.002	0.02	***	Dry	Dry	<0.00020	Dry
Selenium	mg/L	0.05	0.05	0.1	***	Dry	Dry	<0.015	Dry
Silver	mg/L	0.1 *	0.1	0.007	***	Dry	Dry	<0.0030	Dry
Sodium	mg/L	20 **	NS	NS	***	Dry	Dry	**6.0**	Dry
Zinc	mg/L	5 *	5	0.9	***	Dry	Dry	**0.095**	Dry
VOCs (EPA Method 8260 SIM)									
1,4-Dioxane	µg/L	0.3**	3 (4)	50,000	<3.0	Dry	Dry	<1.6	Dry
VOCs (EPA Method 8260B)									
1,4-Dichlorobenzene	µg/L	5	5	8,000	<1.0	Dry	Dry	<1.0	Dry
Chlorobenzene	µg/L	100	100	1,000	<1.0	Dry	Dry	<1.0	Dry

O:\Hamilton, MA\Hamilton LF Historic Data\[Hamilton LF Historic GW thru 0913.xls]MW-6S

Notes:

(1) The Standard is from "Drinking Water Standards & Guidelines for Chemicals in Massachusetts Drinking Water," dated Spring 2012.

MMCL	Massachusetts Maximum Contaminant Level concentration
*SMCL	Secondary Maximum Contaminant Level concentration
** ORSG	Office of Research and Standard Drinking Water Guideline

(2) Method 1 GW-1 and GW-3 standards taken from the Massachusetts Contingency Plan 310 CMR 40.0000 (June 26, 2009)

(3) Standard is for free cyanide. Massachusetts does not publish a standard for physiologically available cyanide or total cyanide.

(4) 1,4-Dioxane compared to Method 1 GW-1 Standard.

*** Field parameters, dissolved metals, and inorganics (except physiologically available cyanide) were not obtained due to insufficient well recharge.

- Insufficient recharge to measure field parameters.

< = The resulting concentration was below the laboratory detection limit, shown.

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard (exceedances

shown are for the existing standards at the time of sampling).

Abbreviations:

µg/L	micrograms per liter (parts per billion)
mg/L	milligrams per liter (parts per million)
mS/cm	milliSiemens per centimeter
VOCs	Volatile Organic Compounds
NS	No Standard
ND	Not Detected
NA	Not Analyzed
B	Compound detected in method blank
J	Estimated concentration

Table 1a
Groundwater Sampling Results, Monitoring Well MW-3
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Comparable Standard (1)	Method 1 GW-1 (2)	Method 1 GW-3 (2)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Field Parameters									
Temperature	degrees C	NS	NS	NS	**11.12**	**7.41**	**11.89**	**4.72**	**10.93**
Specific Conductivity	umhos/cm	NS	NS	NS	**0.061**	**0.072**	**0.133**	**0.039**	**0.123**
pH	unitless	6.5-8.5*	NS	NS	**1.95**	**6.05**	**5.56**	**5.26**	**5.29**
Dissolved Oxygen	mg/L	NS	NS	NS	**9.85**	**4.75**	**2.69**	**6.40**	**3.75**
Inorganics									
Alkalinity as $CaCO_3$	mg/L	NS	NS	NS	**9.6**	**20**	**64**	<5.0	**67**
Chemical Oxygen Demand	mg/L	NS	NS	NS	<20	<20	<20	<10	<10
Chloride	mg/L	250 *	NS	NS	**8.4**	**7.3**	**7.1**	**10**	**8.8**
Physiologically Available Cyanide (PAC)	mg/L	0.2 (3)	0.2	0.03	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate as Nitrogen	mg/L	10	NS	NS	<0.050	<0.050	<0.050	**0.11**	**0.083**
Sulfate	mg/L	250 *	NS	NS	**8.4**	**10**	**15**	**9.3**	**15**
Total Dissolved Solids	mg/L	500 *	NS	NS	**47**	<10	**100**	**33**	**120**
Dissolved Metals:									
Arsenic	mg/L	0.01	0.01	0.9	<0.010	<0.010	<0.010	<0.010	<0.010
Barium	mg/L	2	2	50	**0.042**	**0.035**	**0.048**	**0.032**	**0.076**
Cadmium	mg/L	0.005	0.005	0.004	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Calcium	mg/L	NS	NS	NS	**6.3**	**9.0**	**17**	**3.6**	**17**
Chromium	mg/L	0.1	0.1	0.3	<0.0050	<0.0050	<0.0050	<0.0040	<0.0040
Copper	mg/L	1.3	NS	NS	<0.010	<0.010	<0.010	<0.010	<0.010
Iron	mg/L	0.3 *	NS	NS	<0.10	<0.10	**0.38**	<0.050	**2.3**
Lead	mg/L	0.015	0.015	0.01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Manganese	mg/L	0.05 *	NS	NS	**0.41**	**1.20**	**3.1**	**0.064**	**6.30**
Mercury	mg/L	0.002	0.002	0.02	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Selenium	mg/L	0.05	0.05	0.1	<0.010	<0.010	<0.010	<0.015	<0.015
Silver	mg/L	0.1 *	0.1	0.007	<0.0050	<0.0050	<0.0050	<0.0030	<0.0030
Sodium	mg/L	20 **	NS	NS	**6.2**	**6.4**	**6.9**	**5.9**	**6.0**
Zinc	mg/L	5 *	5	0.9	<0.050	<0.050	<0.050	<0.010	**0.023**
VOCs (EPA Method 8260 SIM)									
1,4-Dioxane	µg/L	0.3**	3 (4)	50,000	<3.0	<3.0	<3.0	<1.6	<1.6
VOCs (EPA Method 8260B)									
1,4-Dichlorobenzene	µg/L	5	5	8,000	<1.0	<1.0	<1.0	<1.0	**1.1**
Chlorobenzene	µg/L	100	100	1,000	<1.0	<1.0	**3.4**	<1.0	**4.2**

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Notes:

(1) The Standard is from "Drinking Water Standards & Guidelines for Chemicals in Massachusetts Drinking Water," dated Spring 2012.

MMCL	Massachusetts Maximum Contaminant Level concentration
*SMCL	Secondary Maximum Contaminant Level concentration
** ORSG	Office of Research and Standard Drinking Water Guideline

(2) Method 1 GW-1 and GW-3 standards taken from the Massachusetts Contingency Plan 310 CMR 40.0000 (June 26, 2009)

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(4) 1,4-Dioxane compared to Method 1 GW-1 Standard.

< = The resulting concentration was below the laboratory detection limit, shown.

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard (exceedances

shown are for the existing standards at the time of sampling).

Abbreviations:

µg/L	micrograms per liter (parts per billion)
mg/L	milligrams per liter (parts per million)
mS/cm	milliSiemens per centimeter
VOCs	Volatile Organic Compounds
NS	No Standard
ND	Not Detected
NA	Not Analyzed
B	Compound detected in method blank
J	Estimated concentration

Table 1a
Groundwater Sampling Results, Monitoring Well MW-4S
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Comparable Standard (1)	Method 1 GW-1 (2)	Method 1 GW-3 (2)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Field Parameters									
Temperature	degrees C	NS	NS	NS	**11.75**	**8.45**	**12.89**	**6.29**	**11.94**
Specific Conductivity	umhos/cm	NS	NS	NS	**0.132**	**0.133**	**0.182**	**0.122**	**0.194**
pH	unitless	6.5-8.5*	NS	NS	**2.05**	**5.84**	**5.67**	**5.38**	**5.68**
Dissolved Oxygen	mg/L	NS	NS	NS	**2.78**	**11.64**	**3.80**	**5.89**	**1.88**
Inorganics									
Alkalinity as $CaCO_3$	mg/L	NS	NS	NS	**15**	**12**	**34**	<5.0	**51**
Chemical Oxygen Demand	mg/L	NS	NS	NS	<20	<20	<20	<10	**18**
Chloride	mg/L	250 *	NS	NS	**30**	**33**	**47**	**48**	**53**
Physiologically Available Cyanide (PAC)	mg/L	0.2 (3)	0.2	0.03	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate as Nitrogen	mg/L	10	NS	NS	<0.050	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	250 *	NS	NS	**6.9**	**9.7**	**8.7**	**14**	**6.7**
Total Dissolved Solids	mg/L	500 *	NS	NS	**85**	**78**	**130**	**83**	**190**
Dissolved Metals:									
Arsenic	mg/L	0.01	0.01	0.9	<0.010	<0.010	<0.010	<0.010	<0.010
Barium	mg/L	2	2	50	**0.068**	**0.071**	**0.051**	**0.099**	**0.072**
Cadmium	mg/L	0.005	0.005	0.004	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Calcium	mg/L	NS	NS	NS	**11**	**17**	**14**	**6.1**	**18**
Chromium	mg/L	0.1	0.1	0.3	<0.0050	<0.0050	<0.0050	<0.0040	<0.0040
Copper	mg/L	1.3	NS	NS	<0.010	<0.010	<0.010	<0.010	<0.010
Iron	mg/L	0.3 *	NS	NS	**1.1**	**0.30**	**1.4**	<0.050	**3.1**
Lead	mg/L	0.015	0.015	0.01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Manganese	mg/L	0.05 *	NS	NS	**0.19**	**0.37**	**0.61**	**0.24**	**0.79**
Mercury	mg/L	0.002	0.002	0.02	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Selenium	mg/L	0.05	0.05	0.1	<0.010	<0.010	<0.010	<0.015	<0.015
Silver	mg/L	0.1 *	0.1	0.007	<0.0050	<0.0050	<0.0050	<0.0030	<0.0030
Sodium	mg/L	20 **	NS	NS	**18**	**21**	**28**	**27**	**31**
Zinc	mg/L	5 *	5	0.9	<0.050	<0.050	<0.050	<0.010	<0.010
VOCs (EPA Method 8260 SIM)									
1,4-Dioxane	µg/L	0.3**	3 (4)	50,000	<3.0	<3.0	<3.0	<1.6	<1.6
VOCs (EPA Method 8260B)									
1,4-Dichlorobenzene	µg/L	5	5	8,000	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	100	100	1,000	<1.0	<1.0	<1.0	<1.0	<1.0

O:\Hamilton, MA\Hamilton LF Historic Data\[Hamilton LF Historic GW thru 0913.xls]MW-6S

Notes:

(1) The Standard is from "Drinking Water Standards & Guidelines for Chemicals in Massachusetts Drinking Water," dated Spring 2012.

MMCL	Massachusetts Maximum Contaminant Level concentration
*SMCL	Secondary Maximum Contaminant Level concentration
** ORSG	Office of Research and Standard Drinking Water Guideline

(2) Method 1 GW-1 and GW-3 standards taken from the Massachusetts Contingency Plan 310 CMR 40.0000 (June 26, 2009)

(3) Standard is for free cyanide. Massachusetts does not publish a standard for physiologically available cyanide or total cyanide.

(4) 1,4-Dioxane compared to Method 1 GW-1 Standard.

< = The resulting concentration was below the laboratory detection limit, shown.

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard (exceedances shown are for the existing standards at the time of sampling).

Abbreviations:

µg/L	micrograms per liter (parts per billion)
mg/L	milligrams per liter (parts per million)
mS/cm	milliSiemens per centimeter
VOCs	Volatile Organic Compounds
NS	No Standard
ND	Not Detected
NA	Not Analyzed
B	Compound detected in method blank
J	Estimated concentration

Table 1a
Groundwater Sampling Results, Monitoring Well MW-4D
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Comparable Standard (1)	Method 1 GW-1 (2)	Method 1 GW-3 (2)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Field Parameters									
Temperature	degrees C	NS	NS	NS	**9.96**	**9.84**	**10.68**	**9.11**	**9.86**
Specific Conductivity	umhos/cm	NS	NS	NS	**0.315**	**0.307**	**0.275**	0.262	**0.240**
pH	unitless	6.5-8.5*	NS	NS	**2.91**	**6.40**	**6.04**	6.62	**4.90**
Dissolved Oxygen	mg/L	NS	NS	NS	**9.50**	**3.98**	**4.21**	2.42	**2.15**
Inorganics									
Alkalinity as $CaCO_3$	mg/L	NS	NS	NS	**190**	**180**	**170**	**180**	**170**
Chemical Oxygen Demand	mg/L	NS	NS	NS	**28**	**28**	**25**	<10	<10
Chloride	mg/L	250 *	NS	NS	**19**	**20**	**18**	**17**	**15**
Physiologically Available Cyanide (PAC	mg/L	0.2 (3)	0.2	0.03	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate as Nitrogen	mg/L	10	NS	NS	<0.050	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	250 *	NS	NS	**9.8**	**10**	**10**	**11**	**10**
Total Dissolved Solids	mg/L	500 *	NS	NS	**250**	**200**	**220**	**200**	**220**
Dissolved Metals:									
Arsenic	mg/L	0.01	0.01	0.9	<0.010	<0.010	<0.010	<0.010	<0.010
Barium	mg/L	2	2	50	**0.048**	**0.046**	**0.069**	**0.042**	**0.040**
Cadmium	mg/L	0.005	0.005	0.004	**0.0012**	**0.0011**	**0.0010**	**0.0011**	**0.0015**
Calcium	mg/L	NS	NS	NS	**42**	**38**	**32**	**34**	**31**
Chromium	mg/L	0.1	0.1	0.3	<0.0050	<0.0050	<0.0050	<0.0040	<0.0040
Copper	mg/L	1.3	NS	NS	<0.010	<0.010	<0.010	<0.010	<0.010
Iron	mg/L	0.3 *	NS	NS	**2.7**	**2.4**	**1.8**	**1.9**	**1.5**
Lead	mg/L	0.015	0.015	0.01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Manganese	mg/L	0.05 *	NS	NS	**11**	**11**	**10**	**12**	**11**
Mercury	mg/L	0.002	0.002	0.02	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Selenium	mg/L	0.05	0.05	0.1	<0.010	<0.010	<0.010	<0.015	<0.015
Silver	mg/L	0.1 *	0.1	0.007	<0.0050	<0.0050	<0.0050	<0.0030	<0.0030
Sodium	mg/L	20 **	NS	NS	**26**	**23**	**20**	**20**	**19**
Zinc	mg/L	5 *	5	0.9	**0.061**	**0.056**	**0.054**	**0.055**	**0.049**
VOCs (EPA Method 8260 SIM)									
1,4-Dioxane	µg/L	0.3**	3 (4)	50,000	<3.0	<3.0	<3.0	<1.6	<1.6
VOCs (EPA Method 8260B)									
1,4-Dichlorobenzene	µg/L	5	5	8,000	**2.9**	**2.8**	**2.6**	**2.1**	**2.2**
Chlorobenzene	µg/L	100	100	1,000	**5.7**	**5.7**	**5.2**	**4.9**	**4.9**

O:\Hamilton, MA\Hamilton LF Historic Data\[Hamilton LF Historic GW thru 0913.xls]MW-6S

Notes:

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MMCL	Massachusetts Maximum Contaminant Level concentration
*SMCL	Secondary Maximum Contaminant Level concentration
** ORSG	Office of Research and Standard Drinking Water Guideline

(2) Method 1 GW-1 and GW-3 standards taken from the Massachusetts Contingency Plan 310 CMR 40.0000 (June 26, 2009)

(3) Standard is for free cyanide. Massachusetts does not publish a standard for physiologically available cyanide or total cyanide.

(4) 1,4-Dioxane compared to Method 1 GW-1 Standard.

< = The resulting concentration was below the laboratory detection limit, shown.

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard (exceedances

shown are for the existing standards at the time of sampling).

Abbreviations:

µg/L	micrograms per liter (parts per billion)
mg/L	milligrams per liter (parts per million)
mS/cm	milliSiemens per centimeter
VOCs	Volatile Organic Compounds
NS	No Standard
ND	Not Detected
NA	Not Analyzed
B	Compound detected in method blank
J	Estimated concentration

Table 1a
Groundwater Sampling Results, Monitoring Well MW-5
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Comparable Standard (1)	Method 1 GW-1 (2)	Method 1 GW-3 (2)	11/14/11	4/4/12	10/5/12	3/18/13	9/13/2013
Field Parameters									
Temperature	degrees C	NS	NS	NS	**13.98**	**9.38**	*	*	*
Specific Conductivity	umhos/cm	NS	NS	NS	**0.606**	**0.518**	*	*	*
pH	unitless	6.5-8.5*	NS	NS	**4.51**	**6.74**	*	*	*
Dissolved Oxygen	mg/L	NS	NS	NS	**5.41**	**3.03**	*	*	*
Inorganics									
Alkalinity as $CaCO_3$	mg/L	NS	NS	NS	**300**	**290**	*	*	*
Chemical Oxygen Demand	mg/L	NS	NS	NS	**30**	**39**	*	*	*
Chloride	mg/L	250 *	NS	NS	**54**	**45**	*	*	*
Physiologically Available Cyanide (PAC)	mg/L	0.2 (3)	0.2	0.03	<0.010	<0.010	*	*	*
Nitrate as Nitrogen	mg/L	10	NS	NS	<0.050	**1.70**	*	*	*
Sulfate	mg/L	250 *	NS	NS	<2.0	<2.0	*	*	*
Total Dissolved Solids	mg/L	500 *	NS	NS	**370**	**310**	*	*	*
Dissolved Metals:									
Arsenic	mg/L	0.01	0.01	0.9	<0.010	<0.010	*	*	*
Barium	mg/L	2	2	50	**0.76**	**0.80**	*	*	*
Cadmium	mg/L	0.005	0.005	0.004	<0.0010	<0.0010	*	*	*
Calcium	mg/L	NS	NS	NS	**100**	**100**	*	*	*
Chromium	mg/L	0.1	0.1	0.3	<0.0050	<0.0050	*	*	*
Copper	mg/L	1.3	NS	NS	<0.010	<0.010	*	*	*
Iron	mg/L	0.3 *	NS	NS	**10**	**5.8**	*	*	*
Lead	mg/L	0.015	0.015	0.01	<0.0050	<0.0050	*	*	*
Manganese	mg/L	0.05 *	NS	NS	**5.3**	**6.6**	*	*	*
Mercury	mg/L	0.002	0.002	0.02	<0.00020	<0.00020	*	*	*
Selenium	mg/L	0.05	0.05	0.1	<0.010	<0.010	*	*	*
Silver	mg/L	0.1 *	0.1	0.007	<0.0050	<0.0050	*	*	*
Sodium	mg/L	20 **	NS	NS	**4.7**	**28**	*	*	*
Zinc	mg/L	5 *	5	0.9	<0.050	<0.050	*	*	*
VOCs (EPA Method 8260 SIM)									
1,4-Dioxane	µg/L	0.3**	3 (4)	50,000	<3.0	<3.0	*	*	*
VOCs (EPA Method 8260B)									
1,4-Dichlorobenzene	µg/L	5	5	8,000	<1.0	<1.0	*	*	*
Chlorobenzene	µg/L	100	100	1,000	<1.0	<1.0	*	*	*

O:\Hamilton, MA\Hamilton LF Historic Data\[Hamilton LF Historic GW thru 0913.xls]MW-6S

Notes:

(1) The Standard is from "Drinking Water Standards & Guidelines for Chemicals in Massachusetts Drinking Water," dated Spring 2012.

MMCL	Massachusetts Maximum Contaminant Level concentration
*SMCL	Secondary Maximum Contaminant Level concentration
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(3) Standard is for free cyanide. Massachusetts does not publish a standard for physiologically available cyanide or total cyanide.

(4) 1,4-Dioxane compared to Method 1 GW-1 Standard.

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BOLD	The resulting concentration was greater than the Comparable Standard (exceedances s

shown are for the existing standards at the time of sampling).

Abbreviations:

µg/L	micrograms per liter (parts per billion)
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mS/cm	milliSiemens per centimeter
VOCs	Volatile Organic Compounds
NS	No Standard
ND	Not Detected
NA	Not Analyzed
B	Compound detected in method blank
J	Estimated concentration

Table 1a
Groundwater Sampling Results, Monitoring Well MW-6S
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Comparable Standard (1)	Method 1 GW-1 (2)	Method 1 GW-3 (2)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Field Parameters									
Temperature	degrees C	NS	NS	NS	**12.39**	**8.02**	**11.15**	**3.77**	**9.80**
Specific Conductivity	umhos/cm	NS	NS	NS	**0.328**	**0.265**	**0.233**	**0.173**	**0.229**
pH	unitless	6.5-8.5*	NS	NS	**3.52**	**6.47**	**7.25**	**6.01**	**4.48**
Dissolved Oxygen	mg/L	NS	NS	NS	**9.85**	**7.13**	**4.46**	**7.33**	**5.62**
Inorganics									
Alkalinity as $CaCO_3$	mg/L	NS	NS	NS	**86**	**70**	**45**	**58**	**50**
Chemical Oxygen Demand	mg/L	NS	NS	NS	<20	**30**	<20	<10	**12**
Chloride	mg/L	250 *	NS	NS	**32**	**18**	**33**	**19**	**35**
Physiologically Available Cyanide (PAC	mg/L	0.2 (3)	0.2	0.03	<0.010	<0.010	<0.010	<0.010	**0.014**
Nitrate as Nitrogen	mg/L	10	NS	NS	**7.2**	**5.0**	**0.17**	**5.6**	**0.72**
Sulfate	mg/L	250 *	NS	NS	**56**	**61**	**67**	**39**	**62**
Total Dissolved Solids	mg/L	500 *	NS	NS	**280**	**200**	**200**	**170**	**250**
Dissolved Metals:									
Arsenic	mg/L	0.01	0.01	0.9	<0.010	<0.010	<0.010	<0.010	<0.010
Barium	mg/L	2	2	50	**0.061**	**0.040**	**0.033**	**0.036**	**0.037**
Cadmium	mg/L	0.005	0.005	0.004	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Calcium	mg/L	NS	NS	NS	**71**	**61**	**34**	**46**	**43**
Chromium	mg/L	0.1	0.1	0.3	<0.0050	<0.0050	<0.0050	<0.0040	<0.0040
Copper	mg/L	1.3	NS	NS	<0.010	<0.010	<0.010	<0.010	<0.010
Iron	mg/L	0.3 *	NS	NS	<0.10	<0.10	<0.10	<0.050	<0.050
Lead	mg/L	0.015	0.015	0.01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Manganese	mg/L	0.05 *	NS	NS	<0.010	<0.010	**0.15**	**0.0036**	**0.098**
Mercury	mg/L	0.002	0.002	0.02	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Selenium	mg/L	0.05	0.05	0.1	<0.010	<0.010	<0.010	<0.015	<0.015
Silver	mg/L	0.1 *	0.1	0.007	<0.0050	<0.0050	<0.0050	<0.0030	<0.0030
Sodium	mg/L	20 **	NS	NS	**16**	**10**	**16**	**7.1**	**12**
Zinc	mg/L	5 *	5	0.9	**0.27**	**0.13**	**0.097**	**0.260**	**0.10**
VOCs (EPA Method 8260 SIM)									
1,4-Dioxane	µg/L	0.3**	3 (4)	50,000	<3.0	<3.0	<3.0	<1.6	<1.6
VOCs (EPA Method 8260B)									
1,4-Dichlorobenzene	µg/L	5	5	8,000	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	100	100	1,000	<1.0	<1.0	<1.0	<1.0	<1.0

O:\Hamilton, MA\Hamilton LF Historic Data\[Hamilton LF Historic GW thru 0913.xls]MW-6S

Notes:

(1) The Standard is from "Drinking Water Standards & Guidelines for Chemicals in Massachusetts Drinking Water," dated Spring 2012.

MMCL	Massachusetts Maximum Contaminant Level concentration
*SMCL	Secondary Maximum Contaminant Level concentration
** ORSG	Office of Research and Standard Drinking Water Guideline

(2) Method 1 GW-1 and GW-3 standards taken from the Massachusetts Contingency Plan 310 CMR 40.0000 (June 26, 2009)

(3) Standard is for free cyanide. Massachusetts does not publish a standard for physiologically available cyanide or total cyanide.

(4) 1,4-Dioxane compared to Method 1 GW-1 Standard.

< = The resulting concentration was below the laboratory detection limit, shown.

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard (exceedances

shown are for the existing standards at the time of sampling).

Abbreviations:

µg/L	micrograms per liter (parts per billion)
mg/L	milligrams per liter (parts per million)
mS/cm	milliSiemens per centimeter
VOCs	Volatile Organic Compounds
NS	No Standard
ND	Not Detected
NA	Not Analyzed
B	Compound detected in method blank
J	Estimated concentration

Table 1a
Groundwater Sampling Results, Monitoring Well MW-6D
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Comparable Standard (1)	Method 1 GW-1 (2)	Method 1 GW-3 (2)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Field Parameters									
Temperature	degrees C	NS	NS	NS	**9.61**	**9.69**	**10.20**	**7.51**	**9.23**
Specific Conductivity	umhos/cm	NS	NS	NS	**0.395**	**0.360**	**0.291**	**0.372**	**0.312**
pH	unitless	6.5-8.5*	NS	NS	**3.19**	**6.43**	**6.17**	**6.35**	**4.73**
Dissolved Oxygen	mg/L	NS	NS	NS	**3.24**	**3.35**	**3.86**	**4.94**	**5.37**
Inorganics									
Alkalinity as $CaCO_3$	mg/L	NS	NS	NS	**180**	**140**	**100**	**210**	**140**
Chemical Oxygen Demand	mg/L	NS	NS	NS	**23**	**26**	<20	<10	<10
Chloride	mg/L	250 *	NS	NS	**17**	**36**	**45**	**20**	**35**
Physiologically Available Cyanide (PAC)	mg/L	0.2 (3)	0.2	0.03	<0.010	<0.010	<0.010	<0.010	**0.092**
Nitrate as Nitrogen	mg/L	10	NS	NS	<0.050	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	250 *	NS	NS	**69**	**55**	**42**	**83**	**61**
Total Dissolved Solids	mg/L	500 *	NS	NS	**320**	**290**	**250**	**330**	**320**
Dissolved Metals:									
Arsenic	mg/L	0.01	0.01	0.9	<0.010	<0.010	<0.010	<0.010	<0.010
Barium	mg/L	2	2	50	**0.055**	**0.050**	**0.045**	**0.063**	**0.050**
Cadmium	mg/L	0.005	0.005	0.004	**0.0016**	**0.0010**	<0.0010	**0.0019**	**0.0013**
Calcium	mg/L	NS	NS	NS	**63**	**48**	**33**	**63**	**43**
Chromium	mg/L	0.1	0.1	0.3	<0.0050	<0.0050	<0.0050	<0.0040	<0.0040
Copper	mg/L	1.3	NS	NS	<0.010	<0.010	<0.010	<0.010	<0.010
Iron	mg/L	0.3 *	NS	NS	**3.9**	**7.2**	**11**	**2.9**	**7.4**
Lead	mg/L	0.015	0.015	0.01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Manganese	mg/L	0.05 *	NS	NS	**15**	**11**	**6.7**	**20**	**11**
Mercury	mg/L	0.002	0.002	0.02	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Selenium	mg/L	0.05	0.05	0.1	<0.010	<0.010	<0.010	<0.015	<0.015
Silver	mg/L	0.1 *	0.1	0.007	<0.0050	<0.0050	<0.0050	**0.0038**	<0.0030
Sodium	mg/L	20 **	NS	NS	**23**	**22**	**21**	**19**	**21**
Zinc	mg/L	5 *	5	0.9	**0.054**	<0.050	<0.050	**0.062**	**0.041**
VOCs (EPA Method 8260 SIM)									
1,4-Dioxane	µg/L	0.3**	3 (4)	50,000	<3.0	<3.0	<3.0	<1.6	<1.6
VOCs (EPA Method 8260B)									
1,4-Dichlorobenzene	µg/L	5	5	8,000	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert butyl ether (MTBE)	µg/L	70	70	50,000	<1.0	<1.0	**1.0**	<1.0	<1.0
Chlorobenzene	µg/L	100	100	1,000	**3.0**	<1.0	<1.0	**3.2**	**1.5**

O:\Hamilton, MA\Hamilton LF Historic Data\[Hamilton LF Historic GW thru 0913.xls]MW-6S

Notes:

(1) The Standard is from "Drinking Water Standards & Guidelines for Chemicals in Massachusetts Drinking Water," dated Spring 2012.

MMCL	Massachusetts Maximum Contaminant Level concentration
*SMCL	Secondary Maximum Contaminant Level concentration
** ORSG	Office of Research and Standard Drinking Water Guideline

(2) Method 1 GW-1 and GW-3 standards taken from the Massachusetts Contingency Plan 310 CMR 40.0000 (June 26, 2009)

(3) Standard is for free cyanide. Massachusetts does not publish a standard for physiologically available cyanide or total cyanide.

(4) 1,4-Dioxane compared to Method 1 GW-1 Standard.

< = The resulting concentration was below the laboratory detection limit, shown.

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard (exceedances shown are for the existing standards at the time of sampling).

Abbreviations:

µg/L	micrograms per liter (parts per billion)
mg/L	milligrams per liter (parts per million)
mS/cm	milliSiemens per centimeter
VOCs	Volatile Organic Compounds
NS	No Standard
ND	Not Detected
NA	Not Analyzed
B	Compound detected in method blank
J	Estimated concentration

Table 1b
Surface Water Sampling Results, Surface Water Location SW-1
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Massachusetts Surface Water Quality Standards (1)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Field Parameters							
Temperature	degrees C	NS	**9.68**	**10.14**	DRY	**3.14**	DRY
pH	unitless	6.5-8.3 (2)	**1.54**	**5.60**	DRY	**3.86**	DRY
Specific Conductivity	umhos/cm	mS/cm	**0.119**	**0.111**	DRY	**0.072**	DRY
Dissolved Oxygen	mg/L	NS	**7.27**	**4.11**	DRY	**7.58**	DRY
Inorganics							
Alkalinity as $CaCO_3$	mg/L	20 (3)	**3.2**	**3.7**	DRY	<5.0	DRY
Chemical Oxygen Demand	mg/L	NS	**38**	**45**	DRY	**37**	DRY
Chloride	mg/L	230	**28**	**25**	DRY	**21**	DRY
Physiologically Avalable Cyanide (PAC)	mg/L	0.0052 (4)	<0.010	<0.010	DRY	<0.010	DRY
Nitrate as Nitrogen	mg/L	NS	<0.050	<0.050	DRY	**0.27**	DRY
Sulfate	mg/L	NS	**15**	**15**	DRY	**16**	DRY
Total Dissolved Solids	mg/L	NS	**100**	**93**	DRY	**100**	DRY
Dissolved Metals:							
Arsenic	mg/L	0.15	<0.0010	<0.0010	DRY	<0.0010	DRY
Barium	mg/L	0.004 (5)	**0.022**	**0.020**	DRY	**0.013**	DRY
Cadmium	mg/L	0.00025	<0.0010	<0.0010	DRY	<0.00050	DRY
Calcium	mg/L	116 (5)	**5.2**	**4.8**	DRY	**3.60**	DRY
Chromium	mg/L	0.011 (6)	**0.0038**	**0.0037**	DRY	<0.0015	DRY
Copper	mg/L	0.0090	<0.0010	<0.0010	DRY	**0.0012**	DRY
Iron	mg/L	1.0	**3.7**	**0.2**	DRY	**0.22**	DRY
Lead	mg/L	0.0025	<0.0010	<0.0010	DRY	**0.0014**	DRY
Manganese	mg/L	0.12 (5)	**0.16**	**0.083**	DRY	**0.061**	DRY
Mercury	mg/L	0.00077	<0.00020	<0.00020	DRY	<0.00020	DRY
Selenium	mg/L	0.0046	<0.0010	<0.0010	DRY	<0.0010	DRY
Silver	mg/L	0.00036 (5)	<0.0010	<0.0010	DRY	<0.00050	DRY
Sodium	mg/L	680 (5)	**20**	**18**	DRY	**11**	DRY
Zinc	mg/L	0.12	**0.023**	**0.030**	DRY	**0.021**	DRY
VOCs (EPA Method 8260 SIM)							
1,4-Dioxane	µg/L	NS	<3.0	<3.0	DRY	<1.6	DRY
VOCs (EPA Method 8260B)							
Toluene	µg/L	varies	ND	ND	DRY	<1.0	DRY

O:\Hamilton, MA\Hamilton LF Historic Data\[Hamilton LF Historic SW thru 0913xls.xls]SW-1

Notes:

(1) The standard listed is defined in 314 CMR 4.00. Surface waters at the site, namely wetlands, are considered Unlisted waters, and are classified as Class B, High Quality Waters. Criteria taken from the National Recommended Water Quality Criteria (USEPA, 2004) unless otherwise specified, are Criteria Continuous (chronic) Concentrations.

(2) The pH standard listed in 314 CMR 4.05(3)(b)(3.) is the range of 6.5 through 8.3 standard units and not more than 0.5 units outside of the background range.

(3) The derivation of this value is presented in the Red Book (EPA 440/9-76-023, July, 1976). The CCC of 20 mg/L is a minimum value except where alkalinity is naturally lower, in which case the criterion cannot be lower than 25% of the natural level.

(4) No standard exists for physiologically available cyanide. The cyanide standard standard listed is the criterion continous concentration for dissolved cyanide.

(5) The listed standard is published in the "Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision," (ES/ER/TM-96/R2).

(6) No standard exists for unspeciated chromium. The chromium standard listed is the criterion continuous concentration for hexavalent chromium (Cr+6).

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard

(exceedances shown are for the existing standards at the time of sampling).

Abbreviations:

mS/cm	milliSiemens per centimeter
mg/L	milligrams per liter (parts per million)
µg/L	micrograms per liter (parts per billion)
VOCs	Volatile Organic Compounds
EPA	Environmental Protection Agency
NS	No Standard
ND	Not Detected
NA	Not Analyzed

Table 1b
Surface Water Sampling Results, Surface Water Location SW-2
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Massachusetts Surface Water Quality Standards (1)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Field Parameters							
Temperature	degrees C	NS	**11.55**	**9.45**	**15.44**	**3.73**	**10.79**
pH	unitless	6.5-8.3 (2)	**3.70**	**6.82**	**8.12**	**5.80**	**5.43**
Specific Conductivity	umhos/cm	mS/cm	**0.144**	**0.168**	**0.249**	**0.103**	**0.150**
Dissolved Oxygen	mg/L	NS	**6.24**	**6.71**	**0.17**	**7.11**	**0.44**
Inorganics							
Alkalinity as $CaCO_3$	mg/L	20 (3)	**39**	**51**	**62**	**26**	**71**
Chemical Oxygen Demand	mg/L	NS	**45**	**21**	**34**	**16**	**41**
Chloride	mg/L	230	**17**	**16**	**18**	**18**	**16**
Physiologically Avalable Cyanide (PAC	mg/L	0.0052 (4)	<0.010	<0.010	<0.0050	<0.010	<0.010
Nitrate as Nitrogen	mg/L	NS	<0.050	<0.050	<0.050	**0.20**	<0.050
Sulfate	mg/L	NS	**27**	**25**	**13**	**28**	**12**
Total Dissolved Solids	mg/L	NS	**140**	**120**	**150**	**130**	**150**
Dissolved Metals:							
Arsenic	mg/L	0.15	**0.0034**	**0.0037**	**0.0029**	**0.0026**	**0.0031**
Barium	mg/L	0.004 (5)	**0.027**	**0.027**	**0.028**	**0.024**	**0.031**
Cadmium	mg/L	0.00025	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Calcium	mg/L	116 (5)	**19**	**20**	**18**	**13**	**20**
Chromium	mg/L	0.011 (6)	**0.0053**	**0.0076**	**0.0026**	<0.0015	<0.0015
Copper	mg/L	0.0090	<0.0010	<0.0010	<0.0010	**0.0010**	<0.0010
Iron	mg/L	1.0	**4.8**	**4.8**	**3.1**	**3.6**	**6.3**
Lead	mg/L	0.0025	<0.0010	<0.0010	<0.0010	**0.0016**	<0.0010
Manganese	mg/L	0.12 (5)	**0.62**	**0.93**	**1.6**	**0.57**	**1.6**
Mercury	mg/L	0.00077	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Selenium	mg/L	0.0046	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silver	mg/L	0.00036 (5)	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Sodium	mg/L	680 (5)	**13**	**13**	**13**	**10**	**11**
Zinc	mg/L	0.12	**0.010**	**0.0040**	**0.0027**	**0.022**	<0.010
VOCs (EPA Method 8260 SIM)							
1,4-Dioxane	µg/L	NS	<3.0	<3.0	<3.0	<1.6	<1.6
VOCs (EPA Method 8260B)							
Toluene	µg/L	9.8 (5)	ND	ND	**1.3**	<1.0	<1.0

O:\Hamilton, MA\Hamilton LF Historic Data\[Hamilton LF Historic SW thru 0913xls.xls]SW-1

Notes:

(1) The standard listed is defined in 314 CMR 4.00. Surface waters at the site, namely wetlands, are considered Unlisted waters, and are classified as Class B, High Quality Waters. Criteria taken from the National Recommended Water Quality Criteria (USEPA, 2004) unless otherwise specified, are Criteria Continuous (chronic) Concentrations.

(2) The pH standard listed in 314 CMR 4.05(3)(b)(3.) is the range of 6.5 through 8.3 standard units and not more than 0.5 units outside of the background range.

(3) The derivation of this value is presented in the Red Book (EPA 440/9-76-023, July, 1976). The CCC of 20 mg/L is a minimum value except where alkalinity is naturally lower, in which case the criterion cannot be lower than 25% of the natural level.

(4) No standard exists for physiologically available cyanide. The cyanide standard standard listed is the criterion continous concentration for dissolved cyanide.

(5) The listed standard is published in the "Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision," (ES/ER/TM-96/R2).

(6) No standard exists for unspeciated chromium. The chromium standard listed is the criterion continuous concentration for hexavalent chromium (Cr+6).

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard

(exceedances shown are for the existing standards at the time of sampling).

Abbreviations:

mS/cm	milliSiemens per centimeter
mg/L	milligrams per liter (parts per million)
µg/L	micrograms per liter (parts per billion)
VOCs	Volatile Organic Compounds
EPA	Environmental Protection Agency
NS	No Standard
ND	Not Detected
NA	Not Analyzed

Table 1b
Surface Water Sampling Results, Surface Water Location SW-3
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Massachusetts Surface Water Quality Standards (1)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Field Parameters							
Temperature	degrees C	NS	**9.04**	**9.94**	**16.89**	**4.83**	**17.3**
pH	unitless	6.5-8.3 (2)	**1.58**	**7.50**	**7.48**	**6.88**	**7.59**
Specific Conductivity	umhos/cm	mS/cm	**0.188**	**0.171**	**0.195**	**0.168**	**0.200**
Dissolved Oxygen	mg/L	NS	**9.21**	**7.59**	**4.51**	**7.99**	**3.22**
Inorganics							
Alkalinity as $CaCO_3$	mg/L	20 (3)	**37**	**38**	**71**	**35**	**67**
Chemical Oxygen Demand	mg/L	NS	<20	<20	<20	<10	<10
Chloride	mg/L	230	**8.0**	**7.1**	**9.3**	**9.9**	**9.8**
Physiologically Avalable Cyanide (PAC	mg/L	0.0052 (4)	<0.010	<0.010	<0.0050	<0.010	<0.010
Nitrate as Nitrogen	mg/L	NS	<0.050	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	NS	**72**	**54**	**33**	**87**	**43**
Total Dissolved Solids	mg/L	NS	**170**	**130**	**140**	**180**	**170**
Dissolved Metals:							
Arsenic	mg/L	0.15	<0.0010	<0.0010	<0.0010	<0.0010	**0.0012**
Barium	mg/L	0.004 (5)	**0.025**	**0.018**	**0.013**	**0.029**	**0.014**
Cadmium	mg/L	0.00025	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Calcium	mg/L	116 (5)	**35**	**28**	**27**	**35**	**31**
Chromium	mg/L	0.011 (6)	**0.0024**	**0.0028**	**0.0029**	<0.0015	<0.0015
Copper	mg/L	0.0090	**0.0013**	<0.0010	<0.0010	**0.0019**	<0.0010
Iron	mg/L	1.0	<0.10	**0.29**	<0.10	**0.050**	<0.050
Lead	mg/L	0.0025	**0.0024**	**0.0038**	<0.0010	**0.0038**	<0.0010
Manganese	mg/L	0.12 (5)	**0.15**	**0.17**	**0.090**	**1.1**	**0.046**
Mercury	mg/L	0.00077	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Selenium	mg/L	0.0046	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silver	mg/L	0.00036 (5)	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Sodium	mg/L	680 (5)	**7.1**	**7.1**	**6.4**	**6.4**	**6.8**
Zinc	mg/L	0.12	**0.012**	**0.0044**	**0.0034**	**0.032**	<0.010
VOCs (EPA Method 8260 SIM)							
1,4-Dioxane	µg/L	NS	<3.0	<3.0	<3.0	<1.6	<1.6
VOCs (EPA Method 8260B)	µg/L	varies	ND	ND	<1.0	<1.0	<1.0

Notes:

(1) The standard listed is defined in 314 CMR 4.00. Surface waters at the site, namely wetlands, are considered Unlisted waters, and are classified as Class B, High Quality Waters. Criteria taken from the National Recommended Water Quality Criteria (USEPA, 2004) unless otherwise specified, are Criteria Continuous (chronic) Concentrations.

(2) The pH standard listed in 314 CMR 4.05(3)(b)(3.) is the range of 6.5 through 8.3 standard units and not more than 0.5 units outside of the background range.

(3) The derivation of this value is presented in the Red Book (EPA 440/9-76-023, July, 1976). The CCC of 20 mg/L is a minimum value except where alkalinity is naturally lower, in which case the criterion cannot be lower than 25% of the natural level.

(4) No standard exists for physiologically available cyanide. The cyanide standard standard listed is the criterion continous concentration for dissolved cyanide.

(5) The listed standard is published in the "Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision," (ES/ER/TM-96/R2).

(6) No standard exists for unspeciated chromium. The chromium standard listed is the criterion continuous concentration for hexavalent chromium (Cr+6).

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard

(exceedances shown are for the existing standards at the time of sampling).

Abbreviations:

mS/cm	milliSiemens per centimeter
mg/L	milligrams per liter (parts per million)
µg/L	micrograms per liter (parts per billion)
VOCs	Volatile Organic Compounds
EPA	Environmental Protection Agency
NS	No Standard
ND	Not Detected
NA	Not Analyzed

Table 1c
Sediment Sampling Results, Sediment Location SED-1
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Threshold effect Concentration (1)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Total Metals:							
Arsenic	mg/kg	9.79	**2.2**	**1.9**	**2.3**	<2.7	<2.1
Barium	mg/kg	NS	**7.0**	**7.8**	**8.4**	**7.9**	**8.9**
Cadmium	mg/kg	0.99	<0.29	<0.33	**0.43**	<0.27	**0.31**
Calcium	mg/kg	NS	**1,300**	**600**	**1,300**	**1,400**	**1,300**
Chromium	mg/kg	43.4	**9.6**	**6.8**	**13**	**8.3**	**13**
Copper	mg/kg	31.6	**14**	**9.9**	**9.9**	**12**	**11**
Iron	mg/kg	NS	**11000**	**7400**	**7,900**	**9,000**	**8,500**
Lead	mg/kg	35.8	**6.4**	**9.7**	**7.0**	**6.3**	**10.0**
Manganese	mg/kg	NS	**160**	**72**	**110**	**120**	**96**
Mercury	mg/kg	0.18	<0.11	<0.095	<0.10	<0.022	<0.023
Nickel	mg/kg	22.7	<0.11	<0.095	**8.9**	NA	NA
Selenium	mg/kg	NS	<0.73	<0.82	<0.75	<5.5	<4.3
Silver	mg/kg	NS	<0.73	<0.82	<0.75	<0.69	<0.53
Sodium	mg/kg	NS	<150	<160	<150	<190	<150
Zinc	mg/kg	121	**44**	**58**	**60**	**42**	**46**
VOCs (EPA Method 8260B)							
Acetone	mg/kg	NS	<270	<180	<320	<25	<25
2-Butanone (MEK)	mg/kg	NS	<27	<18	<32	ND	ND
Toluene	mg/kg	NS	<2.7	<1.80	<3.2	ND	ND
4-Isopropyltoluene	mg/kg	NS	<2.7	<1.80	<3.2	ND	ND

O:\Hamilton, MA\Hamilton LF Historic Data\[Hamilton LF Historic SED thru 0313.xls]SED-3

Notes:
(1) Threshold Effects Concentrations (TECs) : DEP adopted the consensus-based TECs for use in screening freshwater sediment for risk to benthic organisms. The threshold effect concentrations are intended to identify contaminant concentrations below which harmful effects on sediment-dwelling organisms are not expected.

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard

(exceedances shown are for the existing standards at the time of sampling).

Abbreviations:

µg/l	micrograms per liter (parts per billion)
mg/l	milligrams per liter (parts per million)
mS/cm	milliSiemens per centimeter
VOCs	Volatile Organic Compounds
SVOCs	Semi-Volatile Organic Compounds
NS	No Standard
ND	Not Detected
NA	Not Analyzed

Table 1c
Sediment Sampling Results, Sediment Location SED-3
Hamilton Landfill
Hamilton, Massachusetts
November 2011 through September 2013

Parameter	Units	Threshold effect Concentration (1)	11/14/11	4/4/12	10/5/12	3/18/13	9/30/13
Total Metals:							
Arsenic	mg/kg	9.79	**13**	**19**	**7.1**	**4.4**	**6.1**
Barium	mg/kg	NS	**69**	**70**	**31**	**30**	**32**
Cadmium	mg/kg	0.99	<0.70	<0.69	<0.27	<0.25	<0.23
Calcium	mg/kg	NS	**2,300**	**3,000**	**2,300**	**1,600**	**1,700**
Chromium	mg/kg	43.4	**15**	**14**	**12**	**12**	**14**
Copper	mg/kg	31.6	**16**	**18**	**9.9**	**11**	**8.4**
Iron	mg/kg	NS	**20000**	**21000**	**14,000**	**11,000**	**11,000**
Lead	mg/kg	35.8	**76**	**180**	**5.1**	**10**	**7.2**
Manganese	mg/kg	NS	**660**	**520**	**380**	**210**	**320**
Mercury	mg/kg	0.18	<0.25	<0.22	<0.085	<0.020	<0.025
Nickel	mg/kg	22.7	<0.25	<0.22	**10**	NA	NA
Selenium	mg/kg	NS	<1.8	<1.7	<0.68	<4.9	<4.7
Silver	mg/kg	NS	<1.8	<1.7	<0.68	<0.62	<0.59
Sodium	mg/kg	NS	<350	<340	**170**	<170	<160
Zinc	mg/kg	121	**58**	**59**	**45**	**42**	**41**
VOCs (EPA Method 8260B)							
Acetone	mg/kg	NS	**870**	<570	<240	**110**	<21
2-Butanone (MEK)	mg/kg	NS	**160**	**78**	<24	ND	ND
Toluene	mg/kg	NS	**50**	**220**	<2.4	ND	ND
4-Isopropyltoluene	mg/kg	NS	**15**	<5.7	<2.4	ND	ND

O:\Hamilton, MA\Hamilton LF Historic Data\[Hamilton LF Historic SED thru 0313.xls]SED-3

Notes:

(1) Threshold Effects Concentrations (TECs) : DEP adopted the consensus-based TECs for use in screening freshwater sediment for risk to benthic organisms. The threshold effect concentrations are intended to identify contaminant concentrations below which harmful effects on sediment-dwelling organisms are not expected.

BOLD	The resulting concentration was greater than the laboratory detection limit.
BOLD	The resulting concentration was greater than the Comparable Standard

(exceedances shown are for the existing standards at the time of sampling).

Abbreviations:

µg/l	micrograms per liter (parts per billion)
mg/l	milligrams per liter (parts per million)
mS/cm	milliSiemens per centimeter
VOCs	Volatile Organic Compounds
SVOCs	Semi-Volatile Organic Compounds
NS	No Standard
ND	Not Detected
NA	Not Analyzed

Table 3
Summary of Groundwater Analytical Results
Hamilton Sanitary Landfill
Post-CSA Round 3

LOCATION	WATER QUALITY STANDARDS GUIDELINES				MW-1	MW-3	MW-4S	MW-4D	MW-5	MW-6S	MW-6D	MW-2
SAMPLING DATE					13-Jun-11	13-Jun-11	13-Jun-11	13-Jun-11	13-Jun-11	13-Jun-11	13-Jun-11	
LAB SAMPLE ID	MMCL	RCGW-1	SMCL	Units	L1108474.01	L1108474.02	L1108474.03	L1108474.04	L1108474.05	L1108474.06	L1108474.07	
General Chemistry												
Alkalinity, Total				mg CaCO3/L	25	7.8	3	200	340	80	120	WELL DRY
Solids, Total Dissolved			500	mg/l	83	18	36	260	360	260	270	
Cyanide, Physiologically Available	0.2	0.03		mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Chloride			250	mg/l	16	7.7	15	19	13	20	39	
Nitrogen, Nitrate	10			mg/l	0.12	0.14	< 0.1	< 0.1	0.3	3.4	< 0.1	
Sulfate			250	mg/l	12	< 10	< 10	< 10	< 10	74	48	
Chemical Oxygen Demand				mg/l	33	< 20	< 20	< 20	21	< 20	< 20	
Dissolved Metals by MCP 6000/7000 series												
Arsenic, Dissolved	0.01	0.01		mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Barium, Dissolved	2	2		mg/l	0.015	0.032	0.048	0.051	0.743	0.045	0.046	
Cadmium, Dissolved	0.005	0.004		mg/l	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	
Calcium, Dissolved				mg/l	6.4	4.1	2	39	89	59	37	
Chromium, Dissolved	0.1	0.1		mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Copper, Dissolved	1.3	10	1	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Iron, Dissolved			0.3	mg/l	9.5	< 0.05	0.18	5.7	2.5	< 0.05	8	
Lead, Dissolved	0.015	0.01		mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Manganese, Dissolved			0.05	mg/l	0.471	0.176	0.034	10.9	7.46	< 0.01	7.99	
Mercury, Dissolved	0.002	0.002		mg/l	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	
Selenium, Dissolved	0.05	0.05		mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	
Silver, Dissolved		0.007	0.1	mg/l	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	
Sodium, Dissolved	20*			mg/l	13	5.1	8.9	24	17	9.4	21	
Zinc, Dissolved		0.9	5	mg/l	< 0.05	< 0.05	< 0.05	0.062	< 0.05	0.175	< 0.05	
Volatile Organics by MCP 8260B (Results Above Detection Limits Only)												
1,4-Dichlorobenzene	5	5		ug/l	< 1	< 1	< 1	2.4	< 1	< 1	< 1	
Chlorobenzene	100	100		ug/l	< 1	< 1	< 1	5	< 1	< 1	< 1	
Chloroform		50		ug/l	< 1	< 1	3.7	< 1	< 1	< 1	< 1	
Ethyl ether		1000		ug/l	< 2	< 2	< 2	17	11	< 2	3.2	

Notes:
1. MMCL = Massachusetts DEP Maximum Contaminant Level for Drinking Water (Spring 2007).
2. RCGW-1 = Massachusetts Groundwater Category RCGW-1 Standards--310 CMR 40.1600 (MCP). Enforceable in GW-1 areas.
3. SMCL = Massachusetts DEP Secondary Maximum Contaminant Level for Drinking Water (Spring 2007). SMCLs are non-enforceable standards; however, these limits have been developed to protect the aesthetic quality of drinking water (i.e. odor and taste).

Bolded and shaded values indicate analytical results which meet or exceed Water Quality Standards.
Bolded values indicate analytical results which exceed the laboratory detection limit.
Bold and italic detection limits denote detection limits that exceed the water quality standards.
* Sodium water quality standard based

Table 4
Summary of Surface Water Analytical Results
Hamilton Sanitary Landfill

LOCATION	EPA WATER QUALITY CRITERIA (1)			SW-1	SW-2	SW-3
SAMPLING DATE				17-Mar-11	13-Jun-11	13-Jun-11
LAB SAMPLE ID	ACUTE (CMC)*	CHRONIC (CCC)**	Units	L1103524-09	L1108474-08	L1108474-09
General Chemistry						
Alkalinity, Total		20	mg CaCO3/L	DRY	50	37
Solids, Total Dissolved			mg/l		110	130
Cyanide, Physiologically Available	0.022	0.0052	mg/l		< 0.005	< 0.005
Chloride	860	230	mg/l		14	7.6
Nitrogen, Nitrate			mg/l		< 0.1	< 0.1
Sulfate			mg/l		27	63
Chemical Oxygen Demand			mg/l		2000	< 20
Dissolved Metals by MCP 6000/7000 series						
Arsenic, Dissolved	0.34	0.15	mg/l		< 0.005	< 0.005
Barium, Dissolved			mg/l		0.025	0.02
Cadmium, Dissolved	0.002	0.00025	mg/l		< 0.0005	< 0.0005
Calcium, Dissolved			mg/l		16	28
Chromium, Dissolved	0.57	0.074	mg/l		< 0.01	< 0.01
Copper, Dissolved	0.013	0.009	mg/l		*< 0.01*	*< 0.01*
Iron, Dissolved		1	mg/l		8.4	0.07
Lead, Dissolved	0.065	0.0025	mg/l		< 0.0005	0.0008
Manganese, Dissolved			mg/l		1.04	0.062
Mercury, Dissolved	0.0014	0.00077	mg/l		< 0.0002	< 0.0002
Selenium, Dissolved		0.005	mg/l		< 0.01	< 0.01
Silver, Dissolved	0.0032		mg/l		< 0.0005	< 0.0005
Sodium, Dissolved			mg/l		9.9	6.4
Zinc, Dissolved	0.12	0.12	mg/l		0.0117	0.0144
Volatile Organics by MCP 8260B (Results Above Detection Limits Only)						
TOTAL VOCs			ug/l	ND	ND	ND

Notes:

1. In accordance with DEP requirements, surface water quality analytical results are to be compared to the most recent version of the EPA National Recommended Water Quality Criteria.

*- Criteria Maximum Concentration (CMC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect.

**- Criterion Continuous Concentration (CCC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed indefinetly without resulting in an unacceptable effect.

3. CCC(FW) = Criterion Continuous Concentration in Freshwater (Chronic Ambient Water Quality Criterion)
4. CCC(SW) = Criterion Continuous Concentration in Saltwater (Chronic Ambient Water Quality Criterion)
5. CMC(FW)/10 = Criterion Maximum Chronic Concentration in Freshwater (Acute Ambient Water Quality Criterion)
6. C-LOEC = Lowest Observed Effects Level for Chronic Exposure
7. A-LOEC/10 = Lowest Observed Effects Level for Acute Exposure divided by 10 to estimate a Chronic LOEC
8. A-LC50/10 = Lethal Concentration for 50 percent of the population following an acute exposure, divided by 10 to estimate a Chronic
9. A-EC50/10 = Concentration at which 50 percent of a population would experience effects following a chronic exposure.
10. The detection limits for total cyanide and dissolved cadmium, copper, lead, silver and zinc were above the MCP or EPA standards.

ND - No analyte detected above laboratory detection limit.

Bolded and shaded values indicate analytical results which exceed the EPA Water Quality Criteria.

Bolded values indicate analytical results which exceed the laboratory detection limit.

Bold and italic detection limits denote detection limits that exceed the water quality standards.

Table 5
Summary of Sediment Analytical Results
Hamilton Sanitary Landfill

LOCATION	RECOMMENDED FRESHWATER SEDIMENT SCREENING VALUES*			SED-1	SED-2	SED-3
SAMPLING DATE				13-Jun-11	13-Jun-11	13-Jun-11
LAB SAMPLE ID	TEC	PEC	Units	L1108516-01	L1108516-02	L1108516-03
MCP Total Metals						
Arsenic, Total		33	mg/kg	2.5	**120**	**12**
Barium, Total			mg/kg	12	**64**	74
Cadmium, Total		5	mg/kg	< 0.65	< 2.8	< 1.7
Calcium, Total			mg/kg	720	**3800**	**3900**
Chromium, Total		**110**	mg/kg	5.3	**10**	**20**
Copper, Total		**150**	mg/kg	2.5	**17**	**18**
Iron, Total			mg/kg	**3400**	**100000**	**18000**
Lead, Total		**130**	mg/kg	**12**	77	47
Manganese, Total			mg/kg	42	**520**	**720**
Mercury, Total	**0.18**		mg/kg	< 0.12	< 0.26	< 0.14
Selenium, Total			mg/kg	< 3.2	< 14	< 8.5
Silver, Total			mg/kg	< 0.65	< 2.8	< 1.7
Sodium, Total			mg/kg	< 130	< 570	< 340
Zinc, Total		**460**	mg/kg	**14**	**95**	**80**
MCP Volatile Organics by 5035 High (Results Above Detection Limits Only)						
2-Butanone			mg/kg	< 0.012	**0.16**	**0.062**
Acetone			mg/kg	< 0.042	**0.46**	**0.16**
Toluene			mg/kg	< 0.0017	< 0.0046	**0.13**

Notes:
TEC = Threshold Effect Concentration (i.e. concentrations below which harmful effects are unlikely to be observed)
PEC = Probable Effect Concentration (i.e. concentrations above which adverse effects are expected to occur more often than not)
TEC and PEC sediment screening criteria are from DEP's January 2006 Technical Update entitled: "Revised Sediment Screening Values"
ND - no analyte detected above detection limit.
Bolded values indicate analytical results which exceed the laboratory detection limit.
Bolded and Shaded values indicate analytical results which exceed the TEC or PEC.

Table 5.2
Summary of Groundwater Analytical Results
Hamilton Landfill Comprehensive Site Assessment

PARAMETER	WATER QUALITY STANDARDS GUIDELINES			Units	MW-1				MW-2				MW-3			
	MMCL	RCGW-1	SMCL		05-MAR-07	05-JUL-07	25-OCT-07	23-JAN-08	06-MAR-07	5-Jul-07	25-OCT-07	23-JAN-08	06-MAR-07	05-JUL-07	25-OCT-07	23-JAN-08
					L0703070-01	L0709578-01	L0716044-01	L0801067-01	L0703115-01				L0703115-02	L0709578-02	L0716044-02	L0801067-02
pH			6.5-8.5	S.U.	6.75	5.48	6.38	6.26	6.83				7.12	5.71	5.62	5.51
Specific Conductence				mS/cm	0.173	0.132	0.144	0.163	0.179				0.031	0.174	0.219	0.083
Temperature				°C	7.3	9.71	9.63	7.95	4.57				1.63	10.49	10.36	4.67
Dissolved Oxygen				mg/l	1.21	0.76	0.24	0.4	3.51				8.89	0.73	0.2	10.6
Alkalinity, Total				mg CaCO3/L	16	30	26	13	83				8.8	62	82	96
Solids, Total Dissolved			500	mg/l	130	140	82	52	160				55	91	120	230
Cyanide, Total	0.2	0.03		mg/l	< 0.005	< 0.005	<0.005	<0.005	< 0.005				< 0.005	< 0.005	0.007	<0.005
Chloride			250	mg/l	21	19	12	8.8	7.6				7	6	6.3	40
Nitrogen, Nitrate	10			mg/l	< 0.1	< 0.1	<0.1	0.52	0.86				0.14	0.17	0.1	<0.5
Sulfate			250	mg/l	20	38	18	<10	34				< 10	12	16	44
Chemical Oxygen Demand				mg/l	< 20	30	<20	<20	45				< 20	< 20	41	<20
Dissolved Metals by MCP 6000/7000 series																
Arsenic, Dissolved	0.01	0.01		mg/l	< 0.005	< 0.005	<0.005	<0.005	< 0.005				< 0.005	< 0.005	<0.005	<0.005
Barium, Dissolved	2	2		mg/l	0.02	0.018	0.014	0.032	0.033				0.027	0.062	0.069	0.038
Cadmium, Dissolved	0.005	0.004		mg/l	< 0.0005	< 0.004	<0.004	<0.004	< 0.004				< 0.004	< 0.004	<0.004	<0.004
Calcium, Dissolved				mg/l	7.6	6.8	6.3	6.2	18				4.8	15	19	30
Chromium, Dissolved	0.1	0.1		mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01				< 0.01	< 0.01	<0.01	<0.01
Copper, Dissolved	1.3	1.0	1	mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01				< 0.01	< 0.01	0.024	<0.01
Iron, Dissolved			0.3	mg/l	12	12	11	<0.05	1.5		D		< 0.05	2	1.6	9.9
Lead, Dissolved	0.015	0.02		mg/l	< 0.0005	< 0.01	<0.01	<0.01	< 0.01				< 0.01	< 0.01	<0.01	<0.01
Manganese, Dissolved			0.05	mg/l	0.749	0.645	0.676	0.069	2.22				0.385	5.87	7.33	5.44
Mercury, Dissolved	0.002	0.002		mg/l	< 0.0002	< 0.0002	<0.0002	<0.0002	< 0.0002				< 0.0002	< 0.0002	<0.0002	<0.0002
Selenium, Dissolved	0.05	0.05		mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01				< 0.01	< 0.01	<0.01	<0.01
Silver, Dissolved		0.007	0.1	mg/l	< 0.0005	< 0.0005	<0.007	<0.007	< 0.007		R		< 0.007	< 0.007	<0.007	<0.007
Sodium, Dissolved	20*			mg/l	11	14	11	6.1	7.2				5.1	5	6.6	20
Zinc, Dissolved		0.9	5	mg/l	0.0088	< 0.05	<0.05	<0.05	< 0.05				< 0.05	< 0.05	<0.05	<0.05
Volatile Organics by MCP 8260B (Results Above Detection Limits Only)																
1,2,4-Trimethylbenzene		10		mg/l	< 0.0025	<0.0025	<0.0025	<0.0025	0.022				< 0.0025	< 0.0025	< 0.0025	< 0.0025
1,3,5-Trimethylbenzene		0.1		mg/l	< 0.0025	<0.0025	<0.0025	<.006	0.0084		Y		< 0.0025	< 0.0025	< 0.0025	<0.006
Benzene	0.005	0.005		mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005				<0.0005	<0.0005	<0.0005	<0.0005
Chlorobenzene	0.1	0.1		mg/l	< 0.0005	< 0.0005	<0.0005	<.0005	< 0.0005				< 0.0005	0.0034	0.0029	<0.0005
Chloroform		0.005		mg/l	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075				< 0.00075	< 0.00075	< 0.00075	< 0.00075
cis-1,2-Dichloroethene	0.07	0.07		mg/l	< 0.0005	< 0.0005	<0.0005	<0.0005	< 0.0005				< 0.0005	< 0.0005	<0.0005	<0.0005
Ethyl ether		1		mg/l	< 0.0025	< 0.0025	<0.0025	< .0025	< 0.0025				< 0.0025	< 0.0025	<0.0025	<0.0025
Ethylbenzene	0.7	0.7		mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.002				< 0.0005	< 0.0005	< 0.0005	< 0.0005
Isopropylbenzene		10		mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.00067				< 0.0005	< 0.0005	< 0.0005	< 0.0005
Methyl tert butyl ether		0.07	20	mg/l	< 0.001	< 0.001	<0.001	<.001	< 0.001				< 0.001	< 0.001	<0.001	<0.001
n-Butylbenzene				mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0042				< 0.0005	< 0.0005	< 0.0005	< 0.0005
n-Propylbenzene		0.1		mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0028				< 0.0005	< 0.0005	< 0.0005	< 0.0005
Naphthalene		0.14		mg/l	< 0.0025	< 0.0025	< 0.0025	< 0.0025	0.0031				< 0.0025	< 0.0025	< 0.0025	< 0.0025
o-Xylene	10	6		mg/l	< 0.001	< 0.001	< 0.001	< 0.001	0.0045				< 0.001	< 0.001	< 0.001	< 0.001
p-Isopropyltoluene				mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0014				< 0.0005	< 0.0005	< 0.0005	< 0.0005
m/m-Xylene	10	6		mg/l	< 0.001	< 0.001	< 0.001	< 0.001	0.0096				< 0.001	< 0.001	< 0.001	< 0.001
sec-Butylbenzene				mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0014				< 0.0005	< 0.0005	< 0.0005	< 0.0005
Semivolatile Organics by MCP 8270C (Results Above Detection Limits Only)																
SVOCs				mg/l	ND	NA	ND	NA	ND				ND	NA	ND	NA
Polychlorinated Biphenyls by MCP 8082 (Results Above Detection Limits Only)																
PCBs				mg/l	ND	NA	ND	NA	ND				ND	NA	ND	NA
Organochlorine Pesticides by MCP 8081A (Results Above Detection Limits Only)																
Pesticides				mg/l	ND	NA	ND	NA	ND				ND	NA	ND	NA

Notes:
1. MMCL = Massachusetts DEP Maximum Contaminant Level for Drinking Water (Spring 2006).
2. RCGW-1 = Massachusetts Groundwater Category RCGW-1 Standards--310 CMR 40.1600 (MCP). Enforceable in GW-1 areas.
3. SMCL = Massachusetts DEP Secondary Maximum Contaminant Level for Drinking Water (Spring 2006). SMCLs are non-enforceable standards; however, these limits have been developed to protect the aesthetic quality of drinking water (i.e. odor and taste).
ND - no analyte detected above detection limit.
Bolded and shaded values indicate analytical results which exceed Water Quality Standards.
Bolded values indicate analytical results which exceed the laboratory detection limit.
Bold and italic detection limits denote detection limits that exceed the water quality standards.
* Sodium water quality standard based on Office of Research and Standards Guidelines (ORSG). The ORS guideline of 20 ppm in drinking water represents a level of sodium in water that physicians and sodium-sensitive individuals should be aware of in cases where sodium exposures are carefully controlled. People who have difficulty regulating fluid volume as a result of several diseases such as hypertension and kidney failure are particularly affected by elevated levels of sodium (MDPH 2007).

Table 5.2
Summary of Groundwater Analytical Results
Hamilton Landfill Comprehensive Site Assessment

PARAMETER	WATER QUALITY STANDARDS GUIDELINES			Units	MW-4S				MW-4D				MW-5			
	MMCL	RCGW-1	SMCL		06-MAR-07	05-JUL-07	25-OCT-07	23-JAN-08	06-MAR-07	05-JUL-07	25-OCT-07	23-JAN-08	05-MAR-07	05-JUL-07	25-OCT-07	23-JAN-08
					L0703115-03	L0709578-03	L0716044-03	L0801067-03	L0703115-04	L0709578-04	L0716044-04	L0801067-04	L0703070-02	L0709578-05	L0716044-05	L0801067-05
pH			6.5-8.5	S.U.	5.67	4.93	6.29	5.19	7.06	5.68	5.81	6.05	7.12	5.36	6.6	6.18
Specific Conductence				mS/cm	0.029	0.053	0.209	0.077	0.552	0.342	0.571	0.572	0.75	0.532	0.654	0.67
Temperature				°C	4.38	9.94	10.89	6.63	6.35	10.51	9.62	7.87	8.3	12.98	12.48	8.76
Dissolved Oxygen				mg/l	8.91	1.09	1.29	4.85	13.95	1.13	0.27	0.24	2.05	1.28	0.25	6.16
Alkalinity, Total				mg CaCO3/L	<2	2.1	220	3.7	100	200	70	240	270	280	240	210
Solids, Total Dissolved			500	mg/l	31	47	310	36	140	250	94	310	420	360	340	370
Cyanide, Total	0.2	0.03		mg/l	< 0.005	< 0.005	0.009	<0.005	< 0.005	< 0.005	0.006	<0.005	< 0.005	< 0.005	0.015	<0.005
Chloride			250	mg/l	7.9	6.4	42	10	15	20	16	34	57	48	55	67
Nitrogen, Nitrate	10			mg/l	< 0.1	0.1	<0.1	<0.1	< 0.1	< 0.1	<0.1	<0.5	4.1	1.7	1.3	7.5
Sulfate			250	mg/l	< 10	< 10	13	11	< 10	< 10	<10	10	12	< 10	12	<10
Chemical Oxygen Demand				mg/l	< 20	< 20	34	<20	< 20	32	<20	23	< 20	30	20	<20
Dissolved Metals by MCP 6000/7000 series																
Arsenic, Dissolved	0.01	0.01		mg/l	< 0.005	< 0.005	0.005	<0.005	0.015	0.024	<0.005	<0.005	< 0.005	< 0.005	<0.005	<0.005
Barium, Dissolved	2	2		mg/l	0.029	0.026	0.051	0.03	0.065	0.043	0.043	0.05	0.311	0.32	0.447	0.183
Cadmium, Dissolved	0.005	0.004		mg/l	< 0.004	< 0.004	<0.004	<0.004	< 0.004	< 0.004	<0.004	<0.004	< 0.0005	< 0.004	<0.004	<0.004
Calcium, Dissolved				mg/l	1.2	1.2	42	3.6	36	36	20	44	80	73	63	74
Chromium, Dissolved	0.1	0.1		mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01
Copper, Dissolved	1.3	10	1	mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01
Iron, Dissolved			0.3	mg/l	< 0.15	0.11	4.5	0.05	39	25	0.53	4.6	4.2	1.4	3.5	0.3
Lead, Dissolved	0.015	0.02		mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01	< 0.0005	< 0.01	<0.01	<0.01
Manganese, Dissolved			0.05	mg/l	0.037	0.021	8.3	0.156	6.23	1.24	0.446	9.11	0.545	1.04	4.77	2.8
Mercury, Dissolved	0.002	0.002		mg/l	< 0.0002	< 0.0002	<0.0002	<0.0002	< 0.0002	< 0.0002	<0.0002	<0.0002	< 0.0002	< 0.0002	<0.0002	<0.0002
Selenium, Dissolved	0.05	0.05		mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01
Silver, Dissolved		0.007	0.1	mg/l	< 0.007	< 0.007	<0.007	<0.007	< 0.007	< 0.007	<0.007	<0.007	< 0.0005	< 0.0005	<0.007	<0.007
Sodium, Dissolved	20*			mg/l	5.1	4.2	41	8	27	19	14	33	40	43	42	36
Zinc, Dissolved		0.9	5	mg/l	< 0.05	< 0.05	<0.05	<0.05	< 0.05	< 0.05	<0.05	0.067	< 0.05	< 0.05	<0.05	<0.05
Volatile Organics by MCP 8260B (Results Above Detection Limits Only)																
1,2,4-Trimethylbenzene		10		mg/l	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	<0.0025	<0.0025	< 0.0025	< 0.0025	<0.0025	<0.0025
1,3,5-Trimethylbenzene		0.2		mg/l	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	<0.0025	<0.0025	< 0.0025	< 0.0025	<0.0025	<0.0025
Benzene	0.005	0.005		mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00056	0.00064	<0.0005	<0.0005	<0.0005	<0.0005
Chlorobenzene	0.1	0.1		mg/l	< 0.0005	< 0.0005	0.00055	<0.0005	0.0014	< 0.0005	0.0029	0.004	< 0.0005	< 0.0005	<0.0005	<0.0005
Chloroform		0.005		mg/l	< 0.00075	< 0.00075	< 0.00075	< 0.00075	0.0016	<0.00075	<0.00075	<0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075
cis-1,2-Dichloroethene	0.07	0.07		mg/l	< 0.0005	< 0.0005	<0.0005	<0.0005	0.0005	<0.0005	0.00063	<0.0005	< 0.0005	< 0.0005	<0.0005	<0.0005
Ethyl ether		1		mg/l	< 0.0075	< 0.0025	0.0055	<0.0025	0.018	0.0057	0.026	0.028	0.0046	0.0044	<0.0025	0.0028
Ethylbenzene	0.7	0.7		mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	<0.0005	<0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Isopropylbenzene		10		mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	<0.0005	<0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Methyl tert butyl ether		0.07	20	mg/l	< 0.001	< 0.001	<0.0001	<0.001	< 0.001	< 0.001	<0.0001	<0.001	< 0.001	< 0.001	<0.001	<0.001
n-Butylbenzene				mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
n-Propylbenzene		1		mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Naphthalene		0.14		mg/l	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025
o-Xylene	10	6		mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
p-Isopropyltoluene				mg/l	0.00073	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
p/m-Xylene	10	6		mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
sec-Butylbenzene				mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Semivolatile Organics by MCP 8270C (Results Above Detection Limits Only)																
SVOCs				mg/l	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA
Polychlorinated Biphenyls by MCP 8082 (Results Above Detection Limits Only)																
PCBs				mg/l	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA
Organochlorine Pesticides by MCP 8081A (Results Above Detection Limits Only)																
Pesticides				mg/l	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA

Notes:

1. MMCL = Massachusetts DEP Maximum Contaminant Level for Drinking Water (Spring 2008).
2. RCGW-1 = Massachusetts Groundwater Category RCGW-1 Standards–310 CMR 40.1600 (MCP). Enforceable in GW-1 areas.
3. SMCL = Massachusetts DEP Secondary Maximum Contaminant Level for Drinking Water (Spring 2006). SMCLs are non-enforceable standards; however, these limits have been developed to protect the aesthetic quality of drinking water (i.e. odor and taste).

ND - no analyte detected above detection limit.

Bolded and shaded values indicate analytical results which exceed Water Quality Standards.

Bolded values indicate analytical results which exceed the laboratory detection limit.

Bold and italic detection limits denote detection limits that exceed the water quality standards.

* Sodium water quality standard based on Office of Research and Standards Guidelines (ORSG). The ORS guideline of 20 ppm in drinking water represents a level of sodium in water that physicians and sodium-sensitive individuals should be aware of in cases where sodium exposures are carefully controlled. People who have difficulty regulating fluid volume as a result of several diseases such as hypertension and kidney failure are particularly affected by elevated levels of sodium (MDPH 2007).

Table 5.2
Summary of Groundwater Analytical Results
Hamilton Landfill Comprehensive Site Assessment

PARAMETER	WATER QUALITY STANDARDS GUIDELINES			Units	MW-6S				MW-6D			
	MMCL	RCGW-1	SMCL		06-MAR-07	05-JUL-07	25-OCT-07	23-JAN-08	06-MAR-07	05-JUL-07	25-OCT-07	23-JAN-08
					L0703115-05	L0709578-05	L0716044-06	L0801067-06	L0703115-06	L0709578-07	L0716044-07	L0801067-07
pH			6.5-8.5	S.U.	6.71	5.38	5.61	6.22	6.26	6.23	6.51	6.12
Specific Conductance				mS/cm	1.145	0.239	0.353	0.511	0.165	0.352	0.347	0.401
Temperature				°C	1.57	9.85	9.78	7.38	6.47	10.19	10.09	8.38
Dissolved Oxygen				mg/l	17.33	1.02	0.48	10.19	0.79	1.32	0.45	1.14
Alkalinity, Total				mg CaCO3/L	38	44	43	75	79	76	66	96
Solids, Total Dissolved			500	mg/l	130	240	210	280	220	230	210	230
Cyanide, Total	0.2	0.03		mg/l	< 0.005	< 0.005	0.007	<0.005	< 0.005	< 0.005	0.007	<0.005
Chloride			250	mg/l	9.8	32	33	57	40	43	46	40
Nitrogen, Nitrate	10			mg/l	1.4	0.27	<0.1	0.87	< 0.1	< 0.1	<0.1	<0.5
Sulfate			250	mg/l	31	69	84	60	35	34	35	44
Chemical Oxygen Demand				mg/l	< 20	< 20	<20	<20	< 20	20	<20	<20
Dissolved Metals by MCP 6000/7000 series												
Arsenic, Dissolved	0.01	0.01		mg/l	< 0.005	< 0.005	<0.005	<0.005	< 0.005	< 0.005	<0.005	<0.005
Barium, Dissolved	2	2		mg/l	0.018	0.038	0.034	0.051	0.031	0.029	0.032	0.038
Cadmium, Dissolved	0.005	0.004		mg/l	< 0.004	< 0.004	<0.004	<0.004	< 0.004	< 0.004	<0.004	<0.004
Calcium, Dissolved				mg/l	21	34	32	49	28	25	26	30
Chromium, Dissolved	0.1	0.1		mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01
Copper, Dissolved	1.3	10	1	mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01
Iron, Dissolved			0.3	mg/l	< 0.05	2.7	3.4	<0.05	6.4	9.6	11	9.9
Lead, Dissolved	0.015	0.02		mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01
Manganese, Dissolved			0.05	mg/l	< 0.01	0.536	0.769	<0.01	5	3.88	3.36	5.44
Mercury, Dissolved	0.002	0.002		mg/l	< 0.0002	< 0.0002	<0.0002	<0.0002	0.0002	0.0002	<0.0002	<0.0002
Selenium, Dissolved	0.05	0.05		mg/l	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01
Silver, Dissolved		0.007	0.1	mg/l	< 0.007	< 0.007	<0.007	<0.007	< 0.007	< 0.007	<0.007	<0.007
Sodium, Dissolved	20*			mg/l	12	15	16	35	19	20	20	20
Zinc, Dissolved		0.9	5	mg/l	0.09	0.116	0.068	0.103	< 0.05	< 0.05	<0.05	<0.05
Volatile Organics by MCP 8260B (Results Above Detection Limits Only)												
1,2,4-Trimethylbenzene		10		mg/l	< 0.0025	< 0.0025	<0.0025	<0.0025	< 0.0025	< 0.0025	<0.0025	<0.0025
1,3,5-Trimethylbenzene		0.1		mg/l	< 0.0025	< 0.0025	<0.0025	<0.0025	< 0.0025	< 0.0025	<0.0025	<0.0025
Benzene	0.005	0.005		mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chlorobenzene	0.1	0.1		mg/l	< 0.0005	< 0.0005	<0.0005	<0.0005	< 0.0005	< 0.0005	<0.0005	0.00073
Chloroform		0.005		mg/l	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075
cis-1,2-Dichloroethene	0.07	0.07		mg/l	< 0.0005	< 0.0005	<0.0005	<0.0005	< 0.0005	< 0.0005	<0.0005	<0.0005
Ethyl ether		1		mg/l	< 0.0025	< 0.0025	<0.0025	<0.0025	< 0.0025	< 0.0025	<0.0025	0.0027
Ethylbenzene	0.7	0.7		mg/l	< 0.0005	< 0.0005	<0.0005	<0.0005	< 0.0005	< 0.0005	<0.0005	<0.0005
Isopropylbenzene		10		mg/l	< 0.0005	< 0.0005	<0.0005	<0.0005	< 0.0005	< 0.0005	<0.0005	<0.0005
Methyl tert butyl ether		0.07	20	mg/l	< 0.001	< 0.001	<0.0001	<0.001	0.0019	0.0021	0.0023	0.0018
n-Butylbenzene				mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
n-Propylbenzene		1		mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Naphthalene		0.14		mg/l	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025
o-Xylene	10	6		mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
p-Isopropyltoluene				mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
p/m-Xylene	10	6		mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
sec-Butylbenzene				mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Semivolatile Organics by MCP 8270C (Results Above Detection Limits Only)												
SVOCs				mg/l	ND	NA	ND	NA	ND	NA	ND	NA
Polychlorinated Biphenyls by MCP 8082 (Results Above Detection Limits Only)												
PCBs				mg/l	ND	NA	ND	NA	ND	NA	ND	NA
Organochlorine Pesticides by MCP 8081A (Results Above Detection Limits Only)												
Pesticides				mg/l	ND	NA	ND	NA	ND	NA	ND	NA

Notes:

1. MMCL = Massachusetts DEP Maximum Contaminant Level for Drinking Water (Spring 2006).
2. RCGW-1 = Massachusetts Groundwater Category RCGW-1 Standards--310 CMR 40.1600 (MCP). Enforceable in GW-1 areas.
3. SMCL = Massachusetts DEP Secondary Maximum Contaminant Level for Drinking Water (Spring 2006). SMCLs are non-enforceable standards; however, these limits have been developed to protect the aesthetic quality of drinking water (i.e. odor and taste).

ND - no analyte detected above detection limit.

Bolded and shaded values indicate analytical results which exceed Water Quality Standards.

Bolded values indicate analytical results which exceed the laboratory detection limit.

Bold and italic detection limits denote detection limits that exceed the water quality standards.

* Sodium water quality standard based on Office of Research and Standards Guidelines (ORSG). The ORS guideline of 20 ppm in drinking water represents a level of sodium in water that physicians and sodium-sensitive individuals should be aware of in cases where sodium exposures are carefully controlled. People who have difficulty regulating fluid volume as a result of several diseases such as hypertension and kidney failure are particularly affected by elevated levels of sodium (MDPH 2007).

Table 5.3
Summary of Surface Water Analytical Results
Hamilton Landfill Comprehensive Site Assessment

PARAMETER	EPA AMBIENT WATER QUALITY CRITERIA			SW-1		SW-2		SW-3	
				05-MAR-07	25-OCT-07	05-MAR-07	25-OCT-07	05-MAR-07	25-OCT-07
	ACUTE (CMC)	CHRONIC (CCC)	Units	L0703070-03		L0703070-04	L0716044-08	L0703070-05	L0716044-09
pH				5.33		6.2	6.04	8.87	6.73
Specific Conductence				0.145		0.17	0.29	0.114	0.219
Temperature				1.73		3.57	13.81	1.18	15.32
Dissolved Oxygen				3.91		3.96	5.24	9.77	5.73
Alkalinity, Total		20	mg CaCO3/L	< 2		18	62	21	75
Solids, Total Dissolved			mg/l	120		120	130	82	120
Cyanide, Total	0.022	0.0052	mg/l	< 0.005		< 0.005	0.006	< 0.005	<0.005
Chloride	860	230	mg/l	24		22	15	6.6	10
Nitrogen, Nitrate			mg/l	0.28		0.17	0.1	0.1	<0.1
Sulfate			mg/l	11		20	21	18	30
Chemical Oxygen Demand			mg/l	< 20		< 20	23	< 20	<20
Dissolved Metals by MCP 6000/7000 series									
Arsenic, Dissolved	0.34	0.15	mg/l	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005
Barium, Dissolved			mg/l	0.014		0.053	0.019	0.014	0.017
Cadmium, Dissolved	0.002	0.00025	mg/l	< 0.005	D	*< 0.005*	*< 0.0002*	*< 0.0005*	*< 0.0002*
Calcium, Dissolved			mg/l	3.5		16	22	10	26
Chromium, Dissolved	0.57	0.074	mg/l	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Copper, Dissolved	0.013	0.009	mg/l	< 0.01		< 0.01	***< 0.01***	< 0.01	***< 0.01***
Iron, Dissolved		1	mg/l	0.64		3.5	0.28	0.36	0.16
Lead, Dissolved	0.065	0.0025	mg/l	0.0011	R	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Manganese, Dissolved			mg/l	0.135		0.53	0.366	0.462	0.293
Mercury, Dissolved	0.0014	0.00077	mg/l	< 0.0002		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium, Dissolved		0.005	mg/l	< 0.005		< 0.005	*< 0.01*	< 0.005	*< 0.01*
Silver, Dissolved	0.0032		mg/l	< 0.0005		< 0.0005	*< 0.0005*	< 0.0005	*< 0.0005*
Sodium, Dissolved			mg/l	12	Y	15	10	4.6	7.6
Zinc, Dissolved	0.12	0.12	mg/l	0.0148		0.0137	0.0076	0.0086	< 0.005
Volatile Organics by MCP 8260B (Results Above Detection Limits Only)									
VOCs			mg/l	ND		ND	ND	ND	ND
Semivolatile Organics by MCP 8270C (Results Above Detection Limits Only)									
SVOCs			mg/l	ND		ND	ND	ND	ND
Polychlorinated Biphenyls by MCP 8082 (Results Above Detection Limits Only)									
PCBs			mg/l	ND		ND	ND	ND	ND
Organochlorine Pesticides by MCP 8081A (Results Above Detection Limits Only)									
Pesticides			mg/l	ND		ND	ND	ND	ND

Notes:
CCC = Criterion Continuous Concentration in Freshwater is estimate of highest concentration an aquatic community can be exposed to indefiniticly without resulting in an unacceptable effect (Chronic Ambient Water Quality Criterion).
CMC = Criterion Maximum Concentration in Freshwater is estimate of highest concentration an aquatic community can be exposed to briefly without resulting in an unacceptable effect (Acute Ambient Water Quality Criterion).
ND - no analyte detected above detection limit.
Bolded and shaded values indicate analytical results which exceed the EPA Water Quality Criteria.
Bolded values indicate analytical results which exceed the laboratory detection limit.
Italics denotes detection limits that exceed the water quality standards.

Table 5.4
Summary of Sediment Analytical Results
Hamilton Landfill Comprehensive Site Assessment

PARAMETER	RECOMMENDED FRESHWATER SEDIMENT SCREENING VALUES*			SED-1		SED-2		SED-3	
				5-Mar-07	25-OCT-07	5-Mar-07	25-OCT-07	5-Mar-07	25-OCT-07
	TEC	PEC	Units	0703022-01	L0716044-10	0703022-02	L0716044-11	0703022-03	L0716044-12
Metals									
Arsenic	*9.79*	33	mg/Kg	**0.97**	**1.6**	**40**	**22**	**6.2**	**3.7**
Barium			mg/Kg	**8.6**	**7.3**	**23**	**33**	**34**	**28**
Cadmium	*0.99*	5	mg/Kg	**0.12**	<0.46	**0.26**	<0.76	**0.10**	<0.53
Calcium			mg/Kg	**920**	**600**	**1300**	**2100**	**1700**	**1600**
Chromium	*43.4*	110	mg/Kg	**13**	**9.1**	10	**11**	12	**15**
Copper	*31.6*	150	mg/Kg	**8.8**	**11**	**10**	**14**	**16**	**7.1**
Iron			mg/Kg	**8100**	**6900**	**24000**	26000	17000	**10000**
Lead	*35.8*	130	mg/Kg	**6.0**	**6.1**	**33**	**43**	**8.6**	**18**
Manganese			mg/Kg	**130**	**120**	**210**	**310**	**310**	**400**
Mercury	**0.18**		mg/Kg	**0.014**	<0.085	**0.025**	<0.16	**0.0088**	<0.11
Selenium			mg/Kg	< 0.44	<2.3	< 0.52	<3.8	< 0.41	<2.6
Silver			mg/Kg	**< 0.043**	<0.46	< 0.052	<0.76	< 0.039	<0.53
Sodium			mg/Kg	**31**	**450**	**88**	**820**	**60**	**560**
Zinc	*121*	460	mg/Kg	**36**	**41**	**54**	**100**	**54**	**40**
Pesticides by 8081 (Results Above Detection Limits Only)									
4,4'-DDD	**4.9**		µg/Kg	< 0.13	<19.2	**0.25**	<32	< 0.12	<4.44
4,4'-DDE	**3.2**		µg/Kg	< 0.13	<19.2	**0.53**	<32	< 0.12	<4.44
4,4'-DDT	**4.2**		µg/Kg	< 0.13	<19.2	**0.95**	<32	< 0.12	<4.44
Polychlorinated Biphenyls by 8082 (Results Above Detection Limits Only)									
PCBs	**60**		µg/Kg	ND	ND	ND	ND	ND	ND
Volatile Organics by 8260 (Results Above Detection Limits Only)									
Acetone			µg/Kg	< 510	<1200	**1200**	<2800	**830**	<1300
Methylene chloride			µg/Kg	**580**	<1200	**1300**	<2800	< 720	<1300
Semi-Volatile Organics by 8270 (Results Above Detection Limits Only)									
SVOCs	compound specific		µg/Kg	ND	ND	ND	ND	ND	ND

Notes:
Italicized TECs are values from DEP's May 2002 Technical Update entitled *Freshwater Sediment Screening Benchmarks for Use Under the MCP*. All other values are from DEP's January 2006 Technical Update entitled *Revised Sediment Screening Values*. The May 2002 values are provided to contrast the TEC metals standards with the presently recommended PEC metals standards.
TEC = Threshold Effect Concentration (i.e. concentrations below which harmful effects are unlikely to be observed)
PEC = Probable Effect Concentration (i.e. concentrations above which adverse effects are expected to occur more often than not)
ND - no analyte detected above detection limit.
Bolded values indicate analytical results which exceed the laboratory detection limit.
Bolded and Shaded values indicate analytical results which exceed the TEC or PEC.

APPENDIX B

Laboratory Analytical Results

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-46836-1
Client Project/Site: Hamilton Landfill
Sampling Event: Hamilton Landfill
Revision: 1

For:
Weston & Sampson Engineers
Attn: Accounts Payable
5 Centennial Drive
Peabody, Massachusetts 01960

Attn: Duane Himes

Authorized for release by:
11/22/2013 11:24:00 AM

Steve Hartmann, Service Center Manager
(413)572-4000
steve.hartmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

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

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

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

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Definitions/Glossary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

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

Job ID: 480-46836-1

Laboratory: TestAmerica Buffalo

Narrative

Revision 1: This report was revised on 11/22/13 to remove case narrative text that not applicable to the sample set related to this report. This final report replaces the final report issued on 10/9/13.

Receipt
The samples were received on 10/1/2013 at 2:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.7° C, 3.0° C and 3.3° C.

Receipt Exceptions
The following samples were preserved via freezing on 10/1/2013 at 0605: SED-1 (480-46836-10) and SED-3 (480-46836-11) . This is within the 48 hour timeframe required by the method.

The Chain of Custody form has several cross-outs that were made without accompanying date and initials of the person making the cross-outs.

GC/MS VOA
Method 8260C: Several compounds were outside control limits in the continuing calibration verification (CCV) associated with batch 142451 and 142636. Due to the large number of analytes contained in the CCV, the method allows for 20% analytes to be outside limits under 40%; therefore, the data have been reported.

Method 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batches 142636 and 142723 exceeded control limits for the following analyte: 2-Butanone. Unlike the calibration standards, this is due to the coelution with Ethyl Acetate in the spiking solution. This does not indicate a performance issue with the spike recovery, but rather the laboratory's ability to measure the two analytes together in a combined spiking solution. Through the use of spectral analysis, the two compounds can be distinguished from one another if present in a client sample.

No other analytical or quality issues were noted.

HPLC
Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: DUP-1 (480-46836-7), MW-1 (480-46836-1) and MW-3 (480-46836-2). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Metals
Method 6010C: The Serial Dilution (480-46836-1 SD) in batch 480-142205, exhibited results outside the quality control limits for dissolved barium and calcium. However, the Post Digestion Spike was compliant so no corrective action was necessary

No other analytical or quality issues were noted.

General Chemistry
Method 353.2: The matrix spike (480-46836-7 MS) recovery for batch 142147 was outside the control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Detection Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: MW-1 — Lab Sample ID: 480-46836-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.019		0.0020		mg/L	1		6010C	Dissolved
Calcium	5.8		0.50		mg/L	1		6010C	Dissolved
Iron	9.5		0.050		mg/L	1		6010C	Dissolved
Manganese	0.50		0.0030		mg/L	1		6010C	Dissolved
Sodium	12		1.0		mg/L	1		6010C	Dissolved
Zinc	0.018		0.010		mg/L	1		6010C	Dissolved
Chloride	16		2.5		mg/L	5		300.0	Total/NA
Sulfate	9.9		2.0		mg/L	1		300.0	Total/NA
Alkalinity, Total	29		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	120		10		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 480-46836-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dichlorobenzene	1.1		1.0		ug/L	1		8260C	Total/NA
Chlorobenzene	4.2		1.0		ug/L	1		8260C	Total/NA
Barium	0.076		0.0020		mg/L	1		6010C	Dissolved
Calcium	17		0.50		mg/L	1		6010C	Dissolved
Iron	2.3		0.050		mg/L	1		6010C	Dissolved
Manganese	6.3		0.0030		mg/L	1		6010C	Dissolved
Sodium	6.0		1.0		mg/L	1		6010C	Dissolved
Zinc	0.023		0.010		mg/L	1		6010C	Dissolved
Chloride	8.8		1.0		mg/L	2		300.0	Total/NA
Sulfate	15		2.0		mg/L	1		300.0	Total/NA
Nitrate as N	0.083		0.050		mg/L	1		353.2	Total/NA
Alkalinity, Total	67		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	120		10		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-4S — Lab Sample ID: 480-46836-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.072		0.0020		mg/L	1		6010C	Dissolved
Calcium	18		0.50		mg/L	1		6010C	Dissolved
Iron	3.1		0.050		mg/L	1		6010C	Dissolved
Manganese	0.79		0.0030		mg/L	1		6010C	Dissolved
Sodium	31		1.0		mg/L	1		6010C	Dissolved
Chloride	53		0.50		mg/L	1		300.0	Total/NA
Sulfate	6.7		2.0		mg/L	1		300.0	Total/NA
Chemical Oxygen Demand	18		10		mg/L	1		410.4	Total/NA
Alkalinity, Total	51		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	190		10		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-4D — Lab Sample ID: 480-46836-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dichlorobenzene	2.2		1.0		ug/L	1		8260C	Total/NA
Chlorobenzene	4.9		1.0		ug/L	1		8260C	Total/NA
Barium	0.040		0.0020		mg/L	1		6010C	Dissolved
Cadmium	0.0015		0.0010		mg/L	1		6010C	Dissolved
Calcium	31		0.50		mg/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: MW-4D (Continued) — Lab Sample ID: 480-46836-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.5		0.050		mg/L	1		6010C	Dissolved
Manganese	11		0.0030		mg/L	1		6010C	Dissolved
Sodium	19		1.0		mg/L	1		6010C	Dissolved
Zinc	0.049		0.010		mg/L	1		6010C	Dissolved
Chloride	15		0.50		mg/L	1		300.0	Total/NA
Sulfate	10		2.0		mg/L	1		300.0	Total/NA
Alkalinity, Total	170		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	220		10		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-6S — Lab Sample ID: 480-46836-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.037		0.0020		mg/L	1		6010C	Dissolved
Calcium	43		0.50		mg/L	1		6010C	Dissolved
Manganese	0.098		0.0030		mg/L	1		6010C	Dissolved
Sodium	12		1.0		mg/L	1		6010C	Dissolved
Zinc	0.10		0.010		mg/L	1		6010C	Dissolved
Chloride	35		0.50		mg/L	1		300.0	Total/NA
Sulfate	62		2.0		mg/L	1		300.0	Total/NA
Nitrate as N	0.72		0.050		mg/L	1		353.2	Total/NA
Chemical Oxygen Demand	12		10		mg/L	1		410.4	Total/NA
Physiologically Available Cyanide	0.014		0.010		mg/L	1		9012	Total/NA
Alkalinity, Total	50		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	250		10		mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-6D — Lab Sample ID: 480-46836-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	1.5		1.0		ug/L	1		8260C	Total/NA
Barium	0.050		0.0020		mg/L	1		6010C	Dissolved
Cadmium	0.0013		0.0010		mg/L	1		6010C	Dissolved
Calcium	43		0.50		mg/L	1		6010C	Dissolved
Iron	7.4		0.050		mg/L	1		6010C	Dissolved
Manganese	11		0.0030		mg/L	1		6010C	Dissolved
Sodium	21		1.0		mg/L	1		6010C	Dissolved
Zinc	0.041		0.010		mg/L	1		6010C	Dissolved
Chloride	35		0.50		mg/L	1		300.0	Total/NA
Sulfate	61		2.0		mg/L	1		300.0	Total/NA
Physiologically Available Cyanide	0.092		0.010		mg/L	1		9012	Total/NA
Alkalinity, Total	140		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	320		10		mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-1 — Lab Sample ID: 480-46836-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dichlorobenzene	2.4		1.0		ug/L	1		8260C	Total/NA
Chlorobenzene	5.0		1.0		ug/L	1		8260C	Total/NA
Barium	0.039		0.0020		mg/L	1		6010C	Dissolved
Cadmium	0.0014		0.0010		mg/L	1		6010C	Dissolved
Calcium	30		0.50		mg/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: DUP-1 (Continued) — Lab Sample ID: 480-46836-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.4		0.050		mg/L	1		6010C	Dissolved
Manganese	11		0.0030		mg/L	1		6010C	Dissolved
Sodium	18		1.0		mg/L	1		6010C	Dissolved
Zinc	0.049		0.010		mg/L	1		6010C	Dissolved
Chloride	14		2.5		mg/L	5		300.0	Total/NA
Sulfate	8.7		2.0		mg/L	1		300.0	Total/NA
Physiologically Available Cyanide	0.022		0.010		mg/L	1		9012	Total/NA
Alkalinity, Total	170		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	210		10		mg/L	1		SM 2540C	Total/NA

Client Sample ID: SW-2 — Lab Sample ID: 480-46836-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	20		0.50		mg/L	1		6010C	Dissolved
Iron	6.3		0.050		mg/L	1		6010C	Dissolved
Manganese	1.6		0.0030		mg/L	1		6010C	Dissolved
Sodium	11		1.0		mg/L	1		6010C	Dissolved
Arsenic	3.1		1.0		ug/L	1		6020A	Dissolved
Barium	31		1.0		ug/L	1		6020A	Dissolved
Chloride	16		0.50		mg/L	1		300.0	Total/NA
Sulfate	12		2.0		mg/L	1		300.0	Total/NA
Chemical Oxygen Demand	41		10		mg/L	1		410.4	Total/NA
Alkalinity, Total	71		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	150		10		mg/L	1		SM 2540C	Total/NA

Client Sample ID: SW-3 — Lab Sample ID: 480-46836-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	31		0.50		mg/L	1		6010C	Dissolved
Manganese	0.046		0.0030		mg/L	1		6010C	Dissolved
Sodium	6.8		1.0		mg/L	1		6010C	Dissolved
Arsenic	1.2		1.0		ug/L	1		6020A	Dissolved
Barium	14		1.0		ug/L	1		6020A	Dissolved
Chloride	9.8		0.50		mg/L	1		300.0	Total/NA
Sulfate	43		2.0		mg/L	1		300.0	Total/NA
Alkalinity, Total	67		5.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	170		10		mg/L	1		SM 2540C	Total/NA

Client Sample ID: SED-1 — Lab Sample ID: 480-46836-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	8.9		0.53		mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.31		0.21		mg/Kg	1	☼	6010C	Total/NA
Calcium	1300		53		mg/Kg	1	☼	6010C	Total/NA
Chromium	13		0.53		mg/Kg	1	☼	6010C	Total/NA
Copper	11		1.1		mg/Kg	1	☼	6010C	Total/NA
Iron	8500		11		mg/Kg	1	☼	6010C	Total/NA
Lead	10		1.1		mg/Kg	1	☼	6010C	Total/NA
Manganese	96		0.21		mg/Kg	1	☼	6010C	Total/NA
Zinc	46		2.1		mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: SED-3 — Lab Sample ID: 480-46836-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.1		2.3		mg/Kg	1	☼	6010C	Total/NA
Barium	32		0.59		mg/Kg	1	☼	6010C	Total/NA
Calcium	1700		59		mg/Kg	1	☼	6010C	Total/NA
Chromium	14		0.59		mg/Kg	1	☼	6010C	Total/NA
Copper	8.4		1.2		mg/Kg	1	☼	6010C	Total/NA
Iron	11000		12		mg/Kg	1	☼	6010C	Total/NA
Lead	7.2		1.2		mg/Kg	1	☼	6010C	Total/NA
Manganese	320		0.23		mg/Kg	1	☼	6010C	Total/NA
Zinc	41		2.3		mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 480-46836-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	13		10		ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: MW-1

Date Collected: 09/30/13 11:35
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-1

Matrix: Water

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.6		ug/L			10/02/13 10:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
TBA-d9 (Surr)	*88*		*50 - 150*		*10/02/13 10:51*	*1*
Dibromofluoromethane (Surr)	*101*		*50 - 150*		*10/02/13 10:51*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 16:16	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/03/13 16:16	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 16:16	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/03/13 16:16	1
1,1-Dichloroethane	ND		1.0		ug/L			10/03/13 16:16	1
1,1-Dichloroethene	ND		1.0		ug/L			10/03/13 16:16	1
1,1-Dichloropropene	ND		1.0		ug/L			10/03/13 16:16	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/03/13 16:16	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/03/13 16:16	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/03/13 16:16	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/03/13 16:16	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/03/13 16:16	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/03/13 16:16	1
1,2-Dichloroethane	ND		1.0		ug/L			10/03/13 16:16	1
1,2-Dichloropropane	ND		1.0		ug/L			10/03/13 16:16	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/03/13 16:16	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/03/13 16:16	1
1,3-Dichloropropane	ND		1.0		ug/L			10/03/13 16:16	1
1,4-Dichlorobenzene	ND		1.0		ug/L			10/03/13 16:16	1
2,2-Dichloropropane	ND		1.0		ug/L			10/03/13 16:16	1
2-Chlorotoluene	ND		1.0		ug/L			10/03/13 16:16	1
2-Hexanone	ND		5.0		ug/L			10/03/13 16:16	1
4-Chlorotoluene	ND		1.0		ug/L			10/03/13 16:16	1
4-Isopropyltoluene	ND		1.0		ug/L			10/03/13 16:16	1
Acetone	ND		10		ug/L			10/03/13 16:16	1
Benzene	ND		1.0		ug/L			10/03/13 16:16	1
Bromobenzene	ND		1.0		ug/L			10/03/13 16:16	1
Bromoform	ND		1.0		ug/L			10/03/13 16:16	1
Bromomethane	ND		1.0		ug/L			10/03/13 16:16	1
Carbon tetrachloride	ND		1.0		ug/L			10/03/13 16:16	1
Chlorobenzene	ND		1.0		ug/L			10/03/13 16:16	1
Bromochloromethane	ND		1.0		ug/L			10/03/13 16:16	1
Dibromochloromethane	ND		1.0		ug/L			10/03/13 16:16	1
Chloroethane	ND		1.0		ug/L			10/03/13 16:16	1
Chloroform	ND		1.0		ug/L			10/03/13 16:16	1
Chloromethane	ND		1.0		ug/L			10/03/13 16:16	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 16:16	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 16:16	1
Dibromomethane	ND		1.0		ug/L			10/03/13 16:16	1
Bromodichloromethane	ND		1.0		ug/L			10/03/13 16:16	1
Ethylbenzene	ND		1.0		ug/L			10/03/13 16:16	1
1,2-Dibromoethane	ND		1.0		ug/L			10/03/13 16:16	1

Client Sample Results

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: MW-1

Date Collected: 09/30/13 11:35
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		1.0		ug/L			10/03/13 16:16	1
Isopropylbenzene	ND		1.0		ug/L			10/03/13 16:16	1
2-Butanone (MEK)	ND		10		ug/L			10/03/13 16:16	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/03/13 16:16	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/03/13 16:16	1
Methylene Chloride	ND		1.0		ug/L			10/03/13 16:16	1
m,p-Xylene	ND		2.0		ug/L			10/03/13 16:16	1
Naphthalene	ND		1.0		ug/L			10/03/13 16:16	1
n-Butylbenzene	ND		1.0		ug/L			10/03/13 16:16	1
N-Propylbenzene	ND		1.0		ug/L			10/03/13 16:16	1
o-Xylene	ND		1.0		ug/L			10/03/13 16:16	1
sec-Butylbenzene	ND		1.0		ug/L			10/03/13 16:16	1
Styrene	ND		1.0		ug/L			10/03/13 16:16	1
tert-Butylbenzene	ND		1.0		ug/L			10/03/13 16:16	1
Tetrachloroethene	ND		1.0		ug/L			10/03/13 16:16	1
Toluene	ND		1.0		ug/L			10/03/13 16:16	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 16:16	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 16:16	1
Trichloroethene	ND		1.0		ug/L			10/03/13 16:16	1
Trichlorofluoromethane	ND		1.0		ug/L			10/03/13 16:16	1
Vinyl chloride	ND		1.0		ug/L			10/03/13 16:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
tert-Butyldimethylsilanol	*2.9*	*T J N*	*ug/L*		*3.59*	*18173-64-3*		*10/03/13 16:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*66 - 137*		*10/03/13 16:16*	*1*
Toluene-d8 (Surr)	*95*		*71 - 126*		*10/03/13 16:16*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*10/03/13 16:16*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		10/02/13 08:35	10/02/13 16:54	1
Barium	**0.019**		0.0020		mg/L		10/02/13 08:35	10/02/13 16:54	1
Cadmium	ND		0.0010		mg/L		10/02/13 08:35	10/02/13 16:54	1
Calcium	**5.8**		0.50		mg/L		10/02/13 08:35	10/02/13 16:54	1
Chromium	ND		0.0040		mg/L		10/02/13 08:35	10/02/13 16:54	1
Copper	ND		0.010		mg/L		10/02/13 08:35	10/02/13 16:54	1
Iron	**9.5**		0.050		mg/L		10/02/13 08:35	10/02/13 16:54	1
Lead	ND		0.0050		mg/L		10/02/13 08:35	10/02/13 16:54	1
Manganese	**0.50**		0.0030		mg/L		10/02/13 08:35	10/02/13 16:54	1
Selenium	ND		0.015		mg/L		10/02/13 08:35	10/02/13 16:54	1
Silver	ND		0.0030		mg/L		10/02/13 08:35	10/02/13 16:54	1
Sodium	**12**		1.0		mg/L		10/02/13 08:35	10/02/13 16:54	1
Zinc	**0.018**		0.010		mg/L		10/02/13 08:35	10/02/13 16:54	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		10/02/13 08:50	10/02/13 14:34	1

Client Sample Results

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: MW-1

Date Collected: 09/30/13 11:35
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16**		2.5		mg/L			10/02/13 17:31	5
Sulfate	**9.9**		2.0		mg/L			10/03/13 14:17	1
Nitrate as N	ND		0.050		mg/L			10/01/13 17:05	1
Chemical Oxygen Demand	ND		10		mg/L			10/03/13 11:55	1
Physiologically Available Cyanide	ND		0.010		mg/L		10/04/13 06:08	10/04/13 12:23	1
Alkalinity, Total	**29**		5.0		mg/L			10/01/13 18:42	1
Total Dissolved Solids	**120**		10		mg/L			10/01/13 17:13	1

Client Sample ID: MW-3

Date Collected: 09/30/13 13:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-2
Matrix: Water

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.6		ug/L			10/02/13 11:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
TBA-d9 (Surr)	*92*		*50 - 150*		*10/02/13 11:15*	*1*
Dibromofluoromethane (Surr)	*99*		*50 - 150*		*10/02/13 11:15*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 16:39	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/03/13 16:39	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 16:39	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/03/13 16:39	1
1,1-Dichloroethane	ND		1.0		ug/L			10/03/13 16:39	1
1,1-Dichloroethene	ND		1.0		ug/L			10/03/13 16:39	1
1,1-Dichloropropene	ND		1.0		ug/L			10/03/13 16:39	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/03/13 16:39	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/03/13 16:39	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/03/13 16:39	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/03/13 16:39	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/03/13 16:39	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/03/13 16:39	1
1,2-Dichloroethane	ND		1.0		ug/L			10/03/13 16:39	1
1,2-Dichloropropane	ND		1.0		ug/L			10/03/13 16:39	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/03/13 16:39	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/03/13 16:39	1
1,3-Dichloropropane	ND		1.0		ug/L			10/03/13 16:39	1
1,4-Dichlorobenzene	**1.1**		1.0		ug/L			10/03/13 16:39	1
2,2-Dichloropropane	ND		1.0		ug/L			10/03/13 16:39	1
2-Chlorotoluene	ND		1.0		ug/L			10/03/13 16:39	1
2-Hexanone	ND		5.0		ug/L			10/03/13 16:39	1
4-Chlorotoluene	ND		1.0		ug/L			10/03/13 16:39	1
4-Isopropyltoluene	ND		1.0		ug/L			10/03/13 16:39	1
Acetone	ND		10		ug/L			10/03/13 16:39	1
Benzene	ND		1.0		ug/L			10/03/13 16:39	1
Bromobenzene	ND		1.0		ug/L			10/03/13 16:39	1
Bromoform	ND		1.0		ug/L			10/03/13 16:39	1

Client Sample ID: MW-3

Date Collected: 09/30/13 13:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0		ug/L			10/03/13 16:39	1
Carbon tetrachloride	ND		1.0		ug/L			10/03/13 16:39	1
Chlorobenzene	**4.2**		1.0		ug/L			10/03/13 16:39	1
Bromochloromethane	ND		1.0		ug/L			10/03/13 16:39	1
Dibromochloromethane	ND		1.0		ug/L			10/03/13 16:39	1
Chloroethane	ND		1.0		ug/L			10/03/13 16:39	1
Chloroform	ND		1.0		ug/L			10/03/13 16:39	1
Chloromethane	ND		1.0		ug/L			10/03/13 16:39	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 16:39	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 16:39	1
Dibromomethane	ND		1.0		ug/L			10/03/13 16:39	1
Bromodichloromethane	ND		1.0		ug/L			10/03/13 16:39	1
Ethylbenzene	ND		1.0		ug/L			10/03/13 16:39	1
1,2-Dibromoethane	ND		1.0		ug/L			10/03/13 16:39	1
Hexachlorobutadiene	ND		1.0		ug/L			10/03/13 16:39	1
Isopropylbenzene	ND		1.0		ug/L			10/03/13 16:39	1
2-Butanone (MEK)	ND		10		ug/L			10/03/13 16:39	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/03/13 16:39	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/03/13 16:39	1
Methylene Chloride	ND		1.0		ug/L			10/03/13 16:39	1
m,p-Xylene	ND		2.0		ug/L			10/03/13 16:39	1
Naphthalene	ND		1.0		ug/L			10/03/13 16:39	1
n-Butylbenzene	ND		1.0		ug/L			10/03/13 16:39	1
N-Propylbenzene	ND		1.0		ug/L			10/03/13 16:39	1
o-Xylene	ND		1.0		ug/L			10/03/13 16:39	1
sec-Butylbenzene	ND		1.0		ug/L			10/03/13 16:39	1
Styrene	ND		1.0		ug/L			10/03/13 16:39	1
tert-Butylbenzene	ND		1.0		ug/L			10/03/13 16:39	1
Tetrachloroethene	ND		1.0		ug/L			10/03/13 16:39	1
Toluene	ND		1.0		ug/L			10/03/13 16:39	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 16:39	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 16:39	1
Trichloroethene	ND		1.0		ug/L			10/03/13 16:39	1
Trichlorofluoromethane	ND		1.0		ug/L			10/03/13 16:39	1
Vinyl chloride	ND		1.0		ug/L			10/03/13 16:39	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Chlorodifluoromethane	*6.0*		*ug/L*		*0.95*	*75-45-6*		*10/03/13 16:39*	*1*
Silanol, dimethyl(1,1,2-trimethylpropyl)	*4.1*	*T J N*	*ug/L*		*3.59*	*55644-10-5*		*10/03/13 16:39*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*66 - 137*		*10/03/13 16:39*	*1*
Toluene-d8 (Surr)	*93*		*71 - 126*		*10/03/13 16:39*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*10/03/13 16:39*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:06	1
Barium	**0.076**		0.0020		mg/L		10/02/13 08:35	10/02/13 17:06	1

Client Sample ID: MW-3

Date Collected: 09/30/13 13:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-2
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0010		mg/L		10/02/13 08:35	10/02/13 17:06	1
Calcium	**17**		0.50		mg/L		10/02/13 08:35	10/02/13 17:06	1
Chromium	ND		0.0040		mg/L		10/02/13 08:35	10/02/13 17:06	1
Copper	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:06	1
Iron	**2.3**		0.050		mg/L		10/02/13 08:35	10/02/13 17:06	1
Lead	ND		0.0050		mg/L		10/02/13 08:35	10/02/13 17:06	1
Manganese	**6.3**		0.0030		mg/L		10/02/13 08:35	10/02/13 17:06	1
Selenium	ND		0.015		mg/L		10/02/13 08:35	10/02/13 17:06	1
Silver	ND		0.0030		mg/L		10/02/13 08:35	10/02/13 17:06	1
Sodium	**6.0**		1.0		mg/L		10/02/13 08:35	10/02/13 17:06	1
Zinc	**0.023**		0.010		mg/L		10/02/13 08:35	10/02/13 17:06	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		10/02/13 08:50	10/02/13 14:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.8**		1.0		mg/L			10/02/13 17:41	2
Sulfate	**15**		2.0		mg/L			10/03/13 14:27	1
Nitrate as N	**0.083**		0.050		mg/L			10/01/13 18:39	1
Chemical Oxygen Demand	ND		10		mg/L			10/03/13 11:55	1
Physiologically Available Cyanide	ND		0.010		mg/L		10/04/13 06:08	10/04/13 12:25	1
Alkalinity, Total	**67**		5.0		mg/L			10/01/13 18:53	1
Total Dissolved Solids	**120**		10		mg/L			10/01/13 17:15	1

Client Sample ID: MW-4S

Date Collected: 09/30/13 13:15
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-3
Matrix: Water

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.6		ug/L			10/02/13 11:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
TBA-d9 (Surr)	*93*		*50 - 150*		*10/02/13 11:39*	*1*
Dibromofluoromethane (Surr)	*98*		*50 - 150*		*10/02/13 11:39*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 17:02	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/03/13 17:02	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 17:02	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/03/13 17:02	1
1,1-Dichloroethane	ND		1.0		ug/L			10/03/13 17:02	1
1,1-Dichloroethene	ND		1.0		ug/L			10/03/13 17:02	1
1,1-Dichloropropene	ND		1.0		ug/L			10/03/13 17:02	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/03/13 17:02	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/03/13 17:02	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/03/13 17:02	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/03/13 17:02	1

Client Sample ID: MW-4S

Date Collected: 09/30/13 13:15
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/03/13 17:02	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/03/13 17:02	1
1,2-Dichloroethane	ND		1.0		ug/L			10/03/13 17:02	1
1,2-Dichloropropane	ND		1.0		ug/L			10/03/13 17:02	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/03/13 17:02	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/03/13 17:02	1
1,3-Dichloropropane	ND		1.0		ug/L			10/03/13 17:02	1
1,4-Dichlorobenzene	ND		1.0		ug/L			10/03/13 17:02	1
2,2-Dichloropropane	ND		1.0		ug/L			10/03/13 17:02	1
2-Chlorotoluene	ND		1.0		ug/L			10/03/13 17:02	1
2-Hexanone	ND		5.0		ug/L			10/03/13 17:02	1
4-Chlorotoluene	ND		1.0		ug/L			10/03/13 17:02	1
4-Isopropyltoluene	ND		1.0		ug/L			10/03/13 17:02	1
Acetone	ND		10		ug/L			10/03/13 17:02	1
Benzene	ND		1.0		ug/L			10/03/13 17:02	1
Bromobenzene	ND		1.0		ug/L			10/03/13 17:02	1
Bromoform	ND		1.0		ug/L			10/03/13 17:02	1
Bromomethane	ND		1.0		ug/L			10/03/13 17:02	1
Carbon tetrachloride	ND		1.0		ug/L			10/03/13 17:02	1
Chlorobenzene	ND		1.0		ug/L			10/03/13 17:02	1
Bromochloromethane	ND		1.0		ug/L			10/03/13 17:02	1
Dibromochloromethane	ND		1.0		ug/L			10/03/13 17:02	1
Chloroethane	ND		1.0		ug/L			10/03/13 17:02	1
Chloroform	ND		1.0		ug/L			10/03/13 17:02	1
Chloromethane	ND		1.0		ug/L			10/03/13 17:02	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 17:02	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 17:02	1
Dibromomethane	ND		1.0		ug/L			10/03/13 17:02	1
Bromodichloromethane	ND		1.0		ug/L			10/03/13 17:02	1
Ethylbenzene	ND		1.0		ug/L			10/03/13 17:02	1
1,2-Dibromoethane	ND		1.0		ug/L			10/03/13 17:02	1
Hexachlorobutadiene	ND		1.0		ug/L			10/03/13 17:02	1
Isopropylbenzene	ND		1.0		ug/L			10/03/13 17:02	1
2-Butanone (MEK)	ND		10		ug/L			10/03/13 17:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/03/13 17:02	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/03/13 17:02	1
Methylene Chloride	ND		1.0		ug/L			10/03/13 17:02	1
m,p-Xylene	ND		2.0		ug/L			10/03/13 17:02	1
Naphthalene	ND		1.0		ug/L			10/03/13 17:02	1
n-Butylbenzene	ND		1.0		ug/L			10/03/13 17:02	1
N-Propylbenzene	ND		1.0		ug/L			10/03/13 17:02	1
o-Xylene	ND		1.0		ug/L			10/03/13 17:02	1
sec-Butylbenzene	ND		1.0		ug/L			10/03/13 17:02	1
Styrene	ND		1.0		ug/L			10/03/13 17:02	1
tert-Butylbenzene	ND		1.0		ug/L			10/03/13 17:02	1
Tetrachloroethene	ND		1.0		ug/L			10/03/13 17:02	1
Toluene	ND		1.0		ug/L			10/03/13 17:02	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 17:02	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 17:02	1

Client Sample ID: MW-4S

Date Collected: 09/30/13 13:15
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		1.0		ug/L			10/03/13 17:02	1
Trichlorofluoromethane	ND		1.0		ug/L			10/03/13 17:02	1
Vinyl chloride	ND		1.0		ug/L			10/03/13 17:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Chlorodifluoromethane	*1.3*		*ug/L*		*0.96*	*75-45-6*		*10/03/13 17:02*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*10/03/13 17:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*66 - 137*		*10/03/13 17:02*	*1*
Toluene-d8 (Surr)	*92*		*71 - 126*		*10/03/13 17:02*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*10/03/13 17:02*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:08	1
Barium	**0.072**		0.0020		mg/L		10/02/13 08:35	10/02/13 17:08	1
Cadmium	ND		0.0010		mg/L		10/02/13 08:35	10/02/13 17:08	1
Calcium	**18**		0.50		mg/L		10/02/13 08:35	10/02/13 17:08	1
Chromium	ND		0.0040		mg/L		10/02/13 08:35	10/02/13 17:08	1
Copper	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:08	1
Iron	**3.1**		0.050		mg/L		10/02/13 08:35	10/02/13 17:08	1
Lead	ND		0.0050		mg/L		10/02/13 08:35	10/02/13 17:08	1
Manganese	**0.79**		0.0030		mg/L		10/02/13 08:35	10/02/13 17:08	1
Selenium	ND		0.015		mg/L		10/02/13 08:35	10/02/13 17:08	1
Silver	ND		0.0030		mg/L		10/02/13 08:35	10/02/13 17:08	1
Sodium	**31**		1.0		mg/L		10/02/13 08:35	10/02/13 17:08	1
Zinc	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:08	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		10/02/13 08:50	10/02/13 14:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**53**		0.50		mg/L			10/02/13 17:51	1
Sulfate	**6.7**		2.0		mg/L			10/03/13 15:07	1
Nitrate as N	ND		0.050		mg/L			10/01/13 17:07	1
Chemical Oxygen Demand	**18**		10		mg/L			10/03/13 19:10	1
Physiologically Available Cyanide	ND		0.010		mg/L		10/04/13 06:08	10/04/13 12:27	1
Alkalinity, Total	**51**		5.0		mg/L			10/01/13 19:21	1
Total Dissolved Solids	**190**		10		mg/L			10/01/13 17:16	1

Client Sample ID: MW-4D

Date Collected: 09/30/13 13:10
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-4
Matrix: Water

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.6		ug/L			10/02/13 12:03	1

Client Sample Results

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: MW-4D

Date Collected: 09/30/13 13:10
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-4

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
TBA-d9 (Surr)	*97*		*50 - 150*		*10/02/13 12:03*	*1*
Dibromofluoromethane (Surr)	*101*		*50 - 150*		*10/02/13 12:03*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 17:27	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/03/13 17:27	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 17:27	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/03/13 17:27	1
1,1-Dichloroethane	ND		1.0		ug/L			10/03/13 17:27	1
1,1-Dichloroethene	ND		1.0		ug/L			10/03/13 17:27	1
1,1-Dichloropropene	ND		1.0		ug/L			10/03/13 17:27	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/03/13 17:27	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/03/13 17:27	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/03/13 17:27	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/03/13 17:27	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/03/13 17:27	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/03/13 17:27	1
1,2-Dichloroethane	ND		1.0		ug/L			10/03/13 17:27	1
1,2-Dichloropropane	ND		1.0		ug/L			10/03/13 17:27	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/03/13 17:27	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/03/13 17:27	1
1,3-Dichloropropane	ND		1.0		ug/L			10/03/13 17:27	1
1,4-Dichlorobenzene	**2.2**		1.0		ug/L			10/03/13 17:27	1
2,2-Dichloropropane	ND		1.0		ug/L			10/03/13 17:27	1
2-Chlorotoluene	ND		1.0		ug/L			10/03/13 17:27	1
2-Hexanone	ND		5.0		ug/L			10/03/13 17:27	1
4-Chlorotoluene	ND		1.0		ug/L			10/03/13 17:27	1
4-Isopropyltoluene	ND		1.0		ug/L			10/03/13 17:27	1
Acetone	ND		10		ug/L			10/03/13 17:27	1
Benzene	ND		1.0		ug/L			10/03/13 17:27	1
Bromobenzene	ND		1.0		ug/L			10/03/13 17:27	1
Bromoform	ND		1.0		ug/L			10/03/13 17:27	1
Bromomethane	ND		1.0		ug/L			10/03/13 17:27	1
Carbon tetrachloride	ND		1.0		ug/L			10/03/13 17:27	1
Chlorobenzene	**4.9**		1.0		ug/L			10/03/13 17:27	1
Bromochloromethane	ND		1.0		ug/L			10/03/13 17:27	1
Dibromochloromethane	ND		1.0		ug/L			10/03/13 17:27	1
Chloroethane	ND		1.0		ug/L			10/03/13 17:27	1
Chloroform	ND		1.0		ug/L			10/03/13 17:27	1
Chloromethane	ND		1.0		ug/L			10/03/13 17:27	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 17:27	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 17:27	1
Dibromomethane	ND		1.0		ug/L			10/03/13 17:27	1
Bromodichloromethane	ND		1.0		ug/L			10/03/13 17:27	1
Ethylbenzene	ND		1.0		ug/L			10/03/13 17:27	1
1,2-Dibromoethane	ND		1.0		ug/L			10/03/13 17:27	1
Hexachlorobutadiene	ND		1.0		ug/L			10/03/13 17:27	1
Isopropylbenzene	ND		1.0		ug/L			10/03/13 17:27	1
2-Butanone (MEK)	ND		10		ug/L			10/03/13 17:27	1

Client Sample ID: MW-4D

Date Collected: 09/30/13 13:10
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/03/13 17:27	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/03/13 17:27	1
Methylene Chloride	ND		1.0		ug/L			10/03/13 17:27	1
m,p-Xylene	ND		2.0		ug/L			10/03/13 17:27	1
Naphthalene	ND		1.0		ug/L			10/03/13 17:27	1
n-Butylbenzene	ND		1.0		ug/L			10/03/13 17:27	1
N-Propylbenzene	ND		1.0		ug/L			10/03/13 17:27	1
o-Xylene	ND		1.0		ug/L			10/03/13 17:27	1
sec-Butylbenzene	ND		1.0		ug/L			10/03/13 17:27	1
Styrene	ND		1.0		ug/L			10/03/13 17:27	1
tert-Butylbenzene	ND		1.0		ug/L			10/03/13 17:27	1
Tetrachloroethene	ND		1.0		ug/L			10/03/13 17:27	1
Toluene	ND		1.0		ug/L			10/03/13 17:27	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 17:27	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 17:27	1
Trichloroethene	ND		1.0		ug/L			10/03/13 17:27	1
Trichlorofluoromethane	ND		1.0		ug/L			10/03/13 17:27	1
Vinyl chloride	ND		1.0		ug/L			10/03/13 17:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Chlorodifluoromethane	*20*		*ug/L*		*0.95*	*75-45-6*		*10/03/13 17:27*	*1*
Ethyl ether	*5.1*		*ug/L*		*1.84*	*60-29-7*		*10/03/13 17:27*	*1*
Silanol, trimethyl-	*4.2*	*T J N*	*ug/L*		*3.59*	*1066-40-6*		*10/03/13 17:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*66 - 137*		*10/03/13 17:27*	*1*
Toluene-d8 (Surr)	*94*		*71 - 126*		*10/03/13 17:27*	*1*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*10/03/13 17:27*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:18	1
Barium	**0.040**		0.0020		mg/L		10/02/13 08:35	10/02/13 17:18	1
Cadmium	**0.0015**		0.0010		mg/L		10/02/13 08:35	10/02/13 17:18	1
Calcium	**31**		0.50		mg/L		10/02/13 08:35	10/02/13 17:18	1
Chromium	ND		0.0040		mg/L		10/02/13 08:35	10/02/13 17:18	1
Copper	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:18	1
Iron	**1.5**		0.050		mg/L		10/02/13 08:35	10/02/13 17:18	1
Lead	ND		0.0050		mg/L		10/02/13 08:35	10/02/13 17:18	1
Manganese	**11**		0.0030		mg/L		10/02/13 08:35	10/02/13 17:18	1
Selenium	ND		0.015		mg/L		10/02/13 08:35	10/02/13 17:18	1
Silver	ND		0.0030		mg/L		10/02/13 08:35	10/02/13 17:18	1
Sodium	**19**		1.0		mg/L		10/02/13 08:35	10/02/13 17:18	1
Zinc	**0.049**		0.010		mg/L		10/02/13 08:35	10/02/13 17:18	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		10/02/13 08:50	10/02/13 14:44	1

Client Sample Results

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: MW-4D

Lab Sample ID: 480-46836-4
Matrix: Water

Date Collected: 09/30/13 13:10
Date Received: 10/01/13 02:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**15**		0.50		mg/L			10/02/13 18:01	1
Sulfate	**10**		2.0		mg/L			10/03/13 15:17	1
Nitrate as N	ND		0.050		mg/L			10/01/13 17:08	1
Chemical Oxygen Demand	ND		10		mg/L			10/03/13 11:55	1
Physiologically Available Cyanide	ND		0.010		mg/L		10/04/13 06:08	10/04/13 12:28	1
Alkalinity, Total	**170**		5.0		mg/L			10/01/13 19:26	1
Total Dissolved Solids	**220**		10		mg/L			10/01/13 17:17	1

Client Sample ID: MW-6S

Lab Sample ID: 480-46836-5
Matrix: Water

Date Collected: 09/30/13 08:30
Date Received: 10/01/13 02:00

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.6		ug/L			10/02/13 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
TBA-d9 (Surr)	*99*		*50 - 150*		*10/02/13 12:27*	*1*
Dibromofluoromethane (Surr)	*101*		*50 - 150*		*10/02/13 12:27*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 17:50	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/03/13 17:50	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 17:50	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/03/13 17:50	1
1,1-Dichloroethane	ND		1.0		ug/L			10/03/13 17:50	1
1,1-Dichloroethene	ND		1.0		ug/L			10/03/13 17:50	1
1,1-Dichloropropene	ND		1.0		ug/L			10/03/13 17:50	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/03/13 17:50	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/03/13 17:50	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/03/13 17:50	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/03/13 17:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/03/13 17:50	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/03/13 17:50	1
1,2-Dichloroethane	ND		1.0		ug/L			10/03/13 17:50	1
1,2-Dichloropropane	ND		1.0		ug/L			10/03/13 17:50	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/03/13 17:50	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/03/13 17:50	1
1,3-Dichloropropane	ND		1.0		ug/L			10/03/13 17:50	1
1,4-Dichlorobenzene	ND		1.0		ug/L			10/03/13 17:50	1
2,2-Dichloropropane	ND		1.0		ug/L			10/03/13 17:50	1
2-Chlorotoluene	ND		1.0		ug/L			10/03/13 17:50	1
2-Hexanone	ND		5.0		ug/L			10/03/13 17:50	1
4-Chlorotoluene	ND		1.0		ug/L			10/03/13 17:50	1
4-Isopropyltoluene	ND		1.0		ug/L			10/03/13 17:50	1
Acetone	ND		10		ug/L			10/03/13 17:50	1
Benzene	ND		1.0		ug/L			10/03/13 17:50	1
Bromobenzene	ND		1.0		ug/L			10/03/13 17:50	1
Bromoform	ND		1.0		ug/L			10/03/13 17:50	1

Client Sample ID: MW-6S

Date Collected: 09/30/13 08:30
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0		ug/L			10/03/13 17:50	1
Carbon tetrachloride	ND		1.0		ug/L			10/03/13 17:50	1
Chlorobenzene	ND		1.0		ug/L			10/03/13 17:50	1
Bromochloromethane	ND		1.0		ug/L			10/03/13 17:50	1
Dibromochloromethane	ND		1.0		ug/L			10/03/13 17:50	1
Chloroethane	ND		1.0		ug/L			10/03/13 17:50	1
Chloroform	ND		1.0		ug/L			10/03/13 17:50	1
Chloromethane	ND		1.0		ug/L			10/03/13 17:50	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 17:50	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 17:50	1
Dibromomethane	ND		1.0		ug/L			10/03/13 17:50	1
Bromodichloromethane	ND		1.0		ug/L			10/03/13 17:50	1
Ethylbenzene	ND		1.0		ug/L			10/03/13 17:50	1
1,2-Dibromoethane	ND		1.0		ug/L			10/03/13 17:50	1
Hexachlorobutadiene	ND		1.0		ug/L			10/03/13 17:50	1
Isopropylbenzene	ND		1.0		ug/L			10/03/13 17:50	1
2-Butanone (MEK)	ND		10		ug/L			10/03/13 17:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/03/13 17:50	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/03/13 17:50	1
Methylene Chloride	ND		1.0		ug/L			10/03/13 17:50	1
m,p-Xylene	ND		2.0		ug/L			10/03/13 17:50	1
Naphthalene	ND		1.0		ug/L			10/03/13 17:50	1
n-Butylbenzene	ND		1.0		ug/L			10/03/13 17:50	1
N-Propylbenzene	ND		1.0		ug/L			10/03/13 17:50	1
o-Xylene	ND		1.0		ug/L			10/03/13 17:50	1
sec-Butylbenzene	ND		1.0		ug/L			10/03/13 17:50	1
Styrene	ND		1.0		ug/L			10/03/13 17:50	1
tert-Butylbenzene	ND		1.0		ug/L			10/03/13 17:50	1
Tetrachloroethene	ND		1.0		ug/L			10/03/13 17:50	1
Toluene	ND		1.0		ug/L			10/03/13 17:50	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 17:50	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 17:50	1
Trichloroethene	ND		1.0		ug/L			10/03/13 17:50	1
Trichlorofluoromethane	ND		1.0		ug/L			10/03/13 17:50	1
Vinyl chloride	ND		1.0		ug/L			10/03/13 17:50	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*10/03/13 17:50*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*66 - 137*		*10/03/13 17:50*	*1*
Toluene-d8 (Surr)	*94*		*71 - 126*		*10/03/13 17:50*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*10/03/13 17:50*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:20	1
Barium	**0.037**		0.0020		mg/L		10/02/13 08:35	10/02/13 17:20	1
Cadmium	ND		0.0010		mg/L		10/02/13 08:35	10/02/13 17:20	1
Calcium	**43**		0.50		mg/L		10/02/13 08:35	10/02/13 17:20	1

Client Sample ID: MW-6S

Date Collected: 09/30/13 08:30
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-5
Matrix: Water

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.0040		mg/L		10/02/13 08:35	10/02/13 17:20	1
Copper	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:20	1
Iron	ND		0.050		mg/L		10/02/13 08:35	10/02/13 17:20	1
Lead	ND		0.0050		mg/L		10/02/13 08:35	10/02/13 17:20	1
Manganese	**0.098**		0.0030		mg/L		10/02/13 08:35	10/02/13 17:20	1
Selenium	ND		0.015		mg/L		10/02/13 08:35	10/02/13 17:20	1
Silver	ND		0.0030		mg/L		10/02/13 08:35	10/02/13 17:20	1
Sodium	**12**		1.0		mg/L		10/02/13 08:35	10/02/13 17:20	1
Zinc	**0.10**		0.010		mg/L		10/02/13 08:35	10/02/13 17:20	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		10/02/13 08:50	10/02/13 14:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**35**		0.50		mg/L			10/03/13 19:20	1
Sulfate	**62**		2.0		mg/L			10/04/13 12:59	1
Nitrate as N	**0.72**		0.050		mg/L			10/01/13 18:40	1
Chemical Oxygen Demand	**12**		10		mg/L			10/03/13 11:55	1
Physiologically Available Cyanide	**0.014**		0.010		mg/L		10/04/13 06:08	10/04/13 12:30	1
Alkalinity, Total	**50**		5.0		mg/L			10/02/13 17:10	1
Total Dissolved Solids	**250**		10		mg/L			10/03/13 00:37	1

Client Sample ID: MW-6D

Date Collected: 09/30/13 08:45
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-6
Matrix: Water

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.6		ug/L			10/02/13 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
TBA-d9 (Surr)	*105*		*50 - 150*		*10/02/13 12:51*	*1*
Dibromofluoromethane (Surr)	*101*		*50 - 150*		*10/02/13 12:51*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 18:14	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/03/13 18:14	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 18:14	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/03/13 18:14	1
1,1-Dichloroethane	ND		1.0		ug/L			10/03/13 18:14	1
1,1-Dichloroethene	ND		1.0		ug/L			10/03/13 18:14	1
1,1-Dichloropropene	ND		1.0		ug/L			10/03/13 18:14	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/03/13 18:14	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/03/13 18:14	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/03/13 18:14	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/03/13 18:14	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/03/13 18:14	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/03/13 18:14	1

Client Sample ID: MW-6D

Date Collected: 09/30/13 08:45
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0		ug/L			10/03/13 18:14	1
1,2-Dichloropropane	ND		1.0		ug/L			10/03/13 18:14	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/03/13 18:14	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/03/13 18:14	1
1,3-Dichloropropane	ND		1.0		ug/L			10/03/13 18:14	1
1,4-Dichlorobenzene	ND		1.0		ug/L			10/03/13 18:14	1
2,2-Dichloropropane	ND		1.0		ug/L			10/03/13 18:14	1
2-Chlorotoluene	ND		1.0		ug/L			10/03/13 18:14	1
2-Hexanone	ND		5.0		ug/L			10/03/13 18:14	1
4-Chlorotoluene	ND		1.0		ug/L			10/03/13 18:14	1
4-Isopropyltoluene	ND		1.0		ug/L			10/03/13 18:14	1
Acetone	ND		10		ug/L			10/03/13 18:14	1
Benzene	ND		1.0		ug/L			10/03/13 18:14	1
Bromobenzene	ND		1.0		ug/L			10/03/13 18:14	1
Bromoform	ND		1.0		ug/L			10/03/13 18:14	1
Bromomethane	ND		1.0		ug/L			10/03/13 18:14	1
Carbon tetrachloride	ND		1.0		ug/L			10/03/13 18:14	1
Chlorobenzene	**1.5**		1.0		ug/L			10/03/13 18:14	1
Bromochloromethane	ND		1.0		ug/L			10/03/13 18:14	1
Dibromochloromethane	ND		1.0		ug/L			10/03/13 18:14	1
Chloroethane	ND		1.0		ug/L			10/03/13 18:14	1
Chloroform	ND		1.0		ug/L			10/03/13 18:14	1
Chloromethane	ND		1.0		ug/L			10/03/13 18:14	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 18:14	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 18:14	1
Dibromomethane	ND		1.0		ug/L			10/03/13 18:14	1
Bromodichloromethane	ND		1.0		ug/L			10/03/13 18:14	1
Ethylbenzene	ND		1.0		ug/L			10/03/13 18:14	1
1,2-Dibromoethane	ND		1.0		ug/L			10/03/13 18:14	1
Hexachlorobutadiene	ND		1.0		ug/L			10/03/13 18:14	1
Isopropylbenzene	ND		1.0		ug/L			10/03/13 18:14	1
2-Butanone (MEK)	ND		10		ug/L			10/03/13 18:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/03/13 18:14	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/03/13 18:14	1
Methylene Chloride	ND		1.0		ug/L			10/03/13 18:14	1
m,p-Xylene	ND		2.0		ug/L			10/03/13 18:14	1
Naphthalene	ND		1.0		ug/L			10/03/13 18:14	1
n-Butylbenzene	ND		1.0		ug/L			10/03/13 18:14	1
N-Propylbenzene	ND		1.0		ug/L			10/03/13 18:14	1
o-Xylene	ND		1.0		ug/L			10/03/13 18:14	1
sec-Butylbenzene	ND		1.0		ug/L			10/03/13 18:14	1
Styrene	ND		1.0		ug/L			10/03/13 18:14	1
tert-Butylbenzene	ND		1.0		ug/L			10/03/13 18:14	1
Tetrachloroethene	ND		1.0		ug/L			10/03/13 18:14	1
Toluene	ND		1.0		ug/L			10/03/13 18:14	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 18:14	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 18:14	1
Trichloroethene	ND		1.0		ug/L			10/03/13 18:14	1
Trichlorofluoromethane	ND		1.0		ug/L			10/03/13 18:14	1

Client Sample ID: MW-6D

Date Collected: 09/30/13 08:45
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		1.0		ug/L			10/03/13 18:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Chlorodifluoromethane	*1.3*		*ug/L*		*0.95*	*75-45-6*		*10/03/13 18:14*	*1*
Ethyl ether	*2.2*		*ug/L*		*1.84*	*60-29-7*		*10/03/13 18:14*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*10/03/13 18:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*66 - 137*		*10/03/13 18:14*	*1*
Toluene-d8 (Surr)	*97*		*71 - 126*		*10/03/13 18:14*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*10/03/13 18:14*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:23	1
Barium	**0.050**		0.0020		mg/L		10/02/13 08:35	10/02/13 17:23	1
Cadmium	**0.0013**		0.0010		mg/L		10/02/13 08:35	10/02/13 17:23	1
Calcium	**43**		0.50		mg/L		10/02/13 08:35	10/02/13 17:23	1
Chromium	ND		0.0040		mg/L		10/02/13 08:35	10/02/13 17:23	1
Copper	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:23	1
Iron	**7.4**		0.050		mg/L		10/02/13 08:35	10/02/13 17:23	1
Lead	ND		0.0050		mg/L		10/02/13 08:35	10/02/13 17:23	1
Manganese	**11**		0.0030		mg/L		10/02/13 08:35	10/02/13 17:23	1
Selenium	ND		0.015		mg/L		10/02/13 08:35	10/02/13 17:23	1
Silver	ND		0.0030		mg/L		10/02/13 08:35	10/02/13 17:23	1
Sodium	**21**		1.0		mg/L		10/02/13 08:35	10/02/13 17:23	1
Zinc	**0.041**		0.010		mg/L		10/02/13 08:35	10/02/13 17:23	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		10/02/13 08:50	10/02/13 14:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**35**		0.50		mg/L			10/03/13 19:30	1
Sulfate	**61**		2.0		mg/L			10/03/13 19:30	1
Nitrate as N	ND		0.050		mg/L			10/01/13 17:11	1
Chemical Oxygen Demand	ND		10		mg/L			10/03/13 11:55	1
Physiologically Available Cyanide	**0.092**		0.010		mg/L		10/04/13 06:08	10/04/13 12:31	1
Alkalinity, Total	**140**		5.0		mg/L			10/02/13 17:15	1
Total Dissolved Solids	**320**		10		mg/L			10/01/13 17:20	1

Client Sample ID: DUP-1

Date Collected: 09/30/13 00:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-7

Matrix: Water

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.6		ug/L			10/02/13 13:15	1

Client Sample Results

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: DUP-1

Date Collected: 09/30/13 00:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-7

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
TBA-d9 (Surr)	*92*		*50 - 150*		*10/02/13 13:15*	*1*
Dibromofluoromethane (Surr)	*101*		*50 - 150*		*10/02/13 13:15*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 18:37	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/03/13 18:37	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 18:37	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/03/13 18:37	1
1,1-Dichloroethane	ND		1.0		ug/L			10/03/13 18:37	1
1,1-Dichloroethene	ND		1.0		ug/L			10/03/13 18:37	1
1,1-Dichloropropene	ND		1.0		ug/L			10/03/13 18:37	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/03/13 18:37	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/03/13 18:37	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/03/13 18:37	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/03/13 18:37	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/03/13 18:37	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/03/13 18:37	1
1,2-Dichloroethane	ND		1.0		ug/L			10/03/13 18:37	1
1,2-Dichloropropane	ND		1.0		ug/L			10/03/13 18:37	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/03/13 18:37	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/03/13 18:37	1
1,3-Dichloropropane	ND		1.0		ug/L			10/03/13 18:37	1
1,4-Dichlorobenzene	**2.4**		1.0		ug/L			10/03/13 18:37	1
2,2-Dichloropropane	ND		1.0		ug/L			10/03/13 18:37	1
2-Chlorotoluene	ND		1.0		ug/L			10/03/13 18:37	1
2-Hexanone	ND		5.0		ug/L			10/03/13 18:37	1
4-Chlorotoluene	ND		1.0		ug/L			10/03/13 18:37	1
4-Isopropyltoluene	ND		1.0		ug/L			10/03/13 18:37	1
Acetone	ND		10		ug/L			10/03/13 18:37	1
Benzene	ND		1.0		ug/L			10/03/13 18:37	1
Bromobenzene	ND		1.0		ug/L			10/03/13 18:37	1
Bromoform	ND		1.0		ug/L			10/03/13 18:37	1
Bromomethane	ND		1.0		ug/L			10/03/13 18:37	1
Carbon tetrachloride	ND		1.0		ug/L			10/03/13 18:37	1
Chlorobenzene	**5.0**		1.0		ug/L			10/03/13 18:37	1
Bromochloromethane	ND		1.0		ug/L			10/03/13 18:37	1
Dibromochloromethane	ND		1.0		ug/L			10/03/13 18:37	1
Chloroethane	ND		1.0		ug/L			10/03/13 18:37	1
Chloroform	ND		1.0		ug/L			10/03/13 18:37	1
Chloromethane	ND		1.0		ug/L			10/03/13 18:37	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 18:37	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 18:37	1
Dibromomethane	ND		1.0		ug/L			10/03/13 18:37	1
Bromodichloromethane	ND		1.0		ug/L			10/03/13 18:37	1
Ethylbenzene	ND		1.0		ug/L			10/03/13 18:37	1
1,2-Dibromoethane	ND		1.0		ug/L			10/03/13 18:37	1
Hexachlorobutadiene	ND		1.0		ug/L			10/03/13 18:37	1
Isopropylbenzene	ND		1.0		ug/L			10/03/13 18:37	1
2-Butanone (MEK)	ND		10		ug/L			10/03/13 18:37	1

Client Sample ID: DUP-1

Date Collected: 09/30/13 00:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/03/13 18:37	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/03/13 18:37	1
Methylene Chloride	ND		1.0		ug/L			10/03/13 18:37	1
m,p-Xylene	ND		2.0		ug/L			10/03/13 18:37	1
Naphthalene	ND		1.0		ug/L			10/03/13 18:37	1
n-Butylbenzene	ND		1.0		ug/L			10/03/13 18:37	1
N-Propylbenzene	ND		1.0		ug/L			10/03/13 18:37	1
o-Xylene	ND		1.0		ug/L			10/03/13 18:37	1
sec-Butylbenzene	ND		1.0		ug/L			10/03/13 18:37	1
Styrene	ND		1.0		ug/L			10/03/13 18:37	1
tert-Butylbenzene	ND		1.0		ug/L			10/03/13 18:37	1
Tetrachloroethene	ND		1.0		ug/L			10/03/13 18:37	1
Toluene	ND		1.0		ug/L			10/03/13 18:37	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 18:37	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 18:37	1
Trichloroethene	ND		1.0		ug/L			10/03/13 18:37	1
Trichlorofluoromethane	ND		1.0		ug/L			10/03/13 18:37	1
Vinyl chloride	ND		1.0		ug/L			10/03/13 18:37	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Chlorodifluoromethane	*20*		*ug/L*		*0.95*	*75-45-6*		*10/03/13 18:37*	*1*
Ethyl ether	*5.5*		*ug/L*		*1.84*	*60-29-7*		*10/03/13 18:37*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*10/03/13 18:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*66 - 137*		*10/03/13 18:37*	*1*
Toluene-d8 (Surr)	*94*		*71 - 126*		*10/03/13 18:37*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*10/03/13 18:37*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:25	1
Barium	**0.039**		0.0020		mg/L		10/02/13 08:35	10/02/13 17:25	1
Cadmium	**0.0014**		0.0010		mg/L		10/02/13 08:35	10/02/13 17:25	1
Calcium	**30**		0.50		mg/L		10/02/13 08:35	10/02/13 17:25	1
Chromium	ND		0.0040		mg/L		10/02/13 08:35	10/02/13 17:25	1
Copper	ND		0.010		mg/L		10/02/13 08:35	10/02/13 17:25	1
Iron	**1.4**		0.050		mg/L		10/02/13 08:35	10/02/13 17:25	1
Lead	ND		0.0050		mg/L		10/02/13 08:35	10/02/13 17:25	1
Manganese	**11**		0.0030		mg/L		10/02/13 08:35	10/02/13 17:25	1
Selenium	ND		0.015		mg/L		10/02/13 08:35	10/02/13 17:25	1
Silver	ND		0.0030		mg/L		10/02/13 08:35	10/02/13 17:25	1
Sodium	**18**		1.0		mg/L		10/02/13 08:35	10/02/13 17:25	1
Zinc	**0.049**		0.010		mg/L		10/02/13 08:35	10/02/13 17:25	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		10/02/13 08:50	10/02/13 14:54	1

Client Sample Results

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: DUP-1

Lab Sample ID: 480-46836-7
Matrix: Water

Date Collected: 09/30/13 00:00
Date Received: 10/01/13 02:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14**		2.5		mg/L			10/03/13 19:40	5
Sulfate	**8.7**		2.0		mg/L			10/04/13 13:08	1
Nitrate as N	ND		0.050		mg/L			10/01/13 17:14	1
Chemical Oxygen Demand	ND		10		mg/L			10/03/13 11:55	1
Physiologically Available Cyanide	**0.022**		0.010		mg/L		10/04/13 06:08	10/04/13 12:32	1
Alkalinity, Total	**170**		5.0		mg/L			10/02/13 17:21	1
Total Dissolved Solids	**210**		10		mg/L			10/01/13 17:22	1

Client Sample ID: SW-2

Lab Sample ID: 480-46836-8
Matrix: Water

Date Collected: 09/30/13 10:45
Date Received: 10/01/13 02:00

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.6		ug/L			10/02/13 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
TBA-d9 (Surr)	*101*		*50 - 150*		*10/02/13 13:39*	*1*
Dibromofluoromethane (Surr)	*102*		*50 - 150*		*10/02/13 13:39*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 19:01	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/03/13 19:01	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 19:01	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/03/13 19:01	1
1,1-Dichloroethane	ND		1.0		ug/L			10/03/13 19:01	1
1,1-Dichloroethene	ND		1.0		ug/L			10/03/13 19:01	1
1,1-Dichloropropene	ND		1.0		ug/L			10/03/13 19:01	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/03/13 19:01	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/03/13 19:01	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/03/13 19:01	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/03/13 19:01	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/03/13 19:01	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/03/13 19:01	1
1,2-Dichloroethane	ND		1.0		ug/L			10/03/13 19:01	1
1,2-Dichloropropane	ND		1.0		ug/L			10/03/13 19:01	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/03/13 19:01	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/03/13 19:01	1
1,3-Dichloropropane	ND		1.0		ug/L			10/03/13 19:01	1
1,4-Dichlorobenzene	ND		1.0		ug/L			10/03/13 19:01	1
2,2-Dichloropropane	ND		1.0		ug/L			10/03/13 19:01	1
2-Chlorotoluene	ND		1.0		ug/L			10/03/13 19:01	1
2-Hexanone	ND		5.0		ug/L			10/03/13 19:01	1
4-Chlorotoluene	ND		1.0		ug/L			10/03/13 19:01	1
4-Isopropyltoluene	ND		1.0		ug/L			10/03/13 19:01	1
Acetone	ND		10		ug/L			10/03/13 19:01	1
Benzene	ND		1.0		ug/L			10/03/13 19:01	1
Bromobenzene	ND		1.0		ug/L			10/03/13 19:01	1
Bromoform	ND		1.0		ug/L			10/03/13 19:01	1

Client Sample ID: SW-2

Date Collected: 09/30/13 10:45
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0		ug/L			10/03/13 19:01	1
Carbon tetrachloride	ND		1.0		ug/L			10/03/13 19:01	1
Chlorobenzene	ND		1.0		ug/L			10/03/13 19:01	1
Bromochloromethane	ND		1.0		ug/L			10/03/13 19:01	1
Dibromochloromethane	ND		1.0		ug/L			10/03/13 19:01	1
Chloroethane	ND		1.0		ug/L			10/03/13 19:01	1
Chloroform	ND		1.0		ug/L			10/03/13 19:01	1
Chloromethane	ND		1.0		ug/L			10/03/13 19:01	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 19:01	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 19:01	1
Dibromomethane	ND		1.0		ug/L			10/03/13 19:01	1
Bromodichloromethane	ND		1.0		ug/L			10/03/13 19:01	1
Ethylbenzene	ND		1.0		ug/L			10/03/13 19:01	1
1,2-Dibromoethane	ND		1.0		ug/L			10/03/13 19:01	1
Hexachlorobutadiene	ND		1.0		ug/L			10/03/13 19:01	1
Isopropylbenzene	ND		1.0		ug/L			10/03/13 19:01	1
2-Butanone (MEK)	ND		10		ug/L			10/03/13 19:01	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/03/13 19:01	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/03/13 19:01	1
Methylene Chloride	ND		1.0		ug/L			10/03/13 19:01	1
m,p-Xylene	ND		2.0		ug/L			10/03/13 19:01	1
Naphthalene	ND		1.0		ug/L			10/03/13 19:01	1
n-Butylbenzene	ND		1.0		ug/L			10/03/13 19:01	1
N-Propylbenzene	ND		1.0		ug/L			10/03/13 19:01	1
o-Xylene	ND		1.0		ug/L			10/03/13 19:01	1
sec-Butylbenzene	ND		1.0		ug/L			10/03/13 19:01	1
Styrene	ND		1.0		ug/L			10/03/13 19:01	1
tert-Butylbenzene	ND		1.0		ug/L			10/03/13 19:01	1
Tetrachloroethene	ND		1.0		ug/L			10/03/13 19:01	1
Toluene	ND		1.0		ug/L			10/03/13 19:01	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 19:01	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 19:01	1
Trichloroethene	ND		1.0		ug/L			10/03/13 19:01	1
Trichlorofluoromethane	ND		1.0		ug/L			10/03/13 19:01	1
Vinyl chloride	ND		1.0		ug/L			10/03/13 19:01	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Silanol, trimethyl-	*2.8*	*T J N*	*ug/L*		*3.59*	*1066-40-6*		*10/03/13 19:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*66 - 137*		*10/03/13 19:01*	*1*
Toluene-d8 (Surr)	*95*		*71 - 126*		*10/03/13 19:01*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*10/03/13 19:01*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**20**		0.50		mg/L		10/02/13 08:35	10/02/13 17:27	1
Iron	**6.3**		0.050		mg/L		10/02/13 08:35	10/02/13 17:27	1
Manganese	**1.6**		0.0030		mg/L		10/02/13 08:35	10/02/13 17:27	1
Sodium	**11**		1.0		mg/L		10/02/13 08:35	10/02/13 17:27	1

Client Sample Results

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: SW-2

Lab Sample ID: 480-46836-8

Date Collected: 09/30/13 10:45
Date Received: 10/01/13 02:00

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.1**		1.0		ug/L		10/02/13 11:55	10/02/13 21:24	1
Barium	**31**		1.0		ug/L		10/02/13 11:55	10/02/13 21:24	1
Cadmium	ND		0.50		ug/L		10/02/13 11:55	10/02/13 21:24	1
Chromium	ND		1.5		ug/L		10/02/13 11:55	10/02/13 21:24	1
Copper	ND		1.0		ug/L		10/02/13 11:55	10/02/13 21:24	1
Lead	ND		1.0		ug/L		10/02/13 11:55	10/02/13 21:24	1
Selenium	ND		1.0		ug/L		10/02/13 11:55	10/03/13 19:22	1
Silver	ND		0.50		ug/L		10/02/13 11:55	10/02/13 21:24	1
Zinc	ND		10		ug/L		10/02/13 11:55	10/03/13 19:22	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		10/02/13 08:50	10/02/13 14:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16**		0.50		mg/L			10/03/13 19:51	1
Sulfate	**12**		2.0		mg/L			10/03/13 19:51	1
Nitrate as N	ND		0.050		mg/L			10/01/13 17:18	1
Chemical Oxygen Demand	**41**		10		mg/L			10/03/13 19:10	1
Physiologically Available Cyanide	ND		0.010		mg/L		10/04/13 06:08	10/04/13 12:33	1
Alkalinity, Total	**71**		5.0		mg/L			10/02/13 17:27	1
Total Dissolved Solids	**150**		10		mg/L			10/01/13 17:23	1

Client Sample ID: SW-3

Lab Sample ID: 480-46836-9

Date Collected: 09/30/13 09:50
Date Received: 10/01/13 02:00

Matrix: Water

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.6		ug/L			10/02/13 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
TBA-d9 (Surr)	*98*		*50 - 150*		*10/02/13 14:03*	*1*
Dibromofluoromethane (Surr)	*101*		*50 - 150*		*10/02/13 14:03*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/04/13 05:27	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/04/13 05:27	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/04/13 05:27	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/04/13 05:27	1
1,1-Dichloroethane	ND		1.0		ug/L			10/04/13 05:27	1
1,1-Dichloroethene	ND		1.0		ug/L			10/04/13 05:27	1
1,1-Dichloropropene	ND		1.0		ug/L			10/04/13 05:27	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/04/13 05:27	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/04/13 05:27	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/04/13 05:27	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/04/13 05:27	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/04/13 05:27	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/04/13 05:27	1

Client Sample ID: SW-3

Date Collected: 09/30/13 09:50
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-9

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0		ug/L			10/04/13 05:27	1
1,2-Dichloropropane	ND		1.0		ug/L			10/04/13 05:27	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/04/13 05:27	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/04/13 05:27	1
1,3-Dichloropropane	ND		1.0		ug/L			10/04/13 05:27	1
1,4-Dichlorobenzene	ND		1.0		ug/L			10/04/13 05:27	1
2,2-Dichloropropane	ND		1.0		ug/L			10/04/13 05:27	1
2-Chlorotoluene	ND		1.0		ug/L			10/04/13 05:27	1
2-Hexanone	ND		5.0		ug/L			10/04/13 05:27	1
4-Chlorotoluene	ND		1.0		ug/L			10/04/13 05:27	1
4-Isopropyltoluene	ND		1.0		ug/L			10/04/13 05:27	1
Acetone	ND		10		ug/L			10/04/13 05:27	1
Benzene	ND		1.0		ug/L			10/04/13 05:27	1
Bromobenzene	ND		1.0		ug/L			10/04/13 05:27	1
Bromoform	ND		1.0		ug/L			10/04/13 05:27	1
Bromomethane	ND		1.0		ug/L			10/04/13 05:27	1
Carbon tetrachloride	ND		1.0		ug/L			10/04/13 05:27	1
Chlorobenzene	ND		1.0		ug/L			10/04/13 05:27	1
Bromochloromethane	ND		1.0		ug/L			10/04/13 05:27	1
Dibromochloromethane	ND		1.0		ug/L			10/04/13 05:27	1
Chloroethane	ND		1.0		ug/L			10/04/13 05:27	1
Chloroform	ND		1.0		ug/L			10/04/13 05:27	1
Chloromethane	ND		1.0		ug/L			10/04/13 05:27	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/04/13 05:27	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/04/13 05:27	1
Dibromomethane	ND		1.0		ug/L			10/04/13 05:27	1
Bromodichloromethane	ND		1.0		ug/L			10/04/13 05:27	1
Ethylbenzene	ND		1.0		ug/L			10/04/13 05:27	1
1,2-Dibromoethane	ND		1.0		ug/L			10/04/13 05:27	1
Hexachlorobutadiene	ND		1.0		ug/L			10/04/13 05:27	1
Isopropylbenzene	ND		1.0		ug/L			10/04/13 05:27	1
2-Butanone (MEK)	ND	*	10		ug/L			10/04/13 05:27	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/04/13 05:27	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/04/13 05:27	1
Methylene Chloride	ND		1.0		ug/L			10/04/13 05:27	1
m,p-Xylene	ND		2.0		ug/L			10/04/13 05:27	1
Naphthalene	ND		1.0		ug/L			10/04/13 05:27	1
n-Butylbenzene	ND		1.0		ug/L			10/04/13 05:27	1
N-Propylbenzene	ND		1.0		ug/L			10/04/13 05:27	1
o-Xylene	ND		1.0		ug/L			10/04/13 05:27	1
sec-Butylbenzene	ND		1.0		ug/L			10/04/13 05:27	1
Styrene	ND		1.0		ug/L			10/04/13 05:27	1
tert-Butylbenzene	ND		1.0		ug/L			10/04/13 05:27	1
Tetrachloroethene	ND		1.0		ug/L			10/04/13 05:27	1
Toluene	ND		1.0		ug/L			10/04/13 05:27	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/04/13 05:27	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/04/13 05:27	1
Trichloroethene	ND		1.0		ug/L			10/04/13 05:27	1
Trichlorofluoromethane	ND		1.0		ug/L			10/04/13 05:27	1

Client Sample Results

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: SW-3

Date Collected: 09/30/13 09:50
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		1.0		ug/L			10/04/13 05:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*10/04/13 05:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*66 - 137*		*10/04/13 05:27*	*1*
Toluene-d8 (Surr)	*94*		*71 - 126*		*10/04/13 05:27*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*10/04/13 05:27*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**31**		0.50		mg/L		10/02/13 08:35	10/02/13 17:30	1
Iron	ND		0.050		mg/L		10/02/13 08:35	10/02/13 17:30	1
Manganese	**0.046**		0.0030		mg/L		10/02/13 08:35	10/02/13 17:30	1
Sodium	**6.8**		1.0		mg/L		10/02/13 08:35	10/02/13 17:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.2**		1.0		ug/L		10/02/13 11:55	10/02/13 21:30	1
Barium	**14**		1.0		ug/L		10/02/13 11:55	10/02/13 21:30	1
Cadmium	ND		0.50		ug/L		10/02/13 11:55	10/02/13 21:30	1
Chromium	ND		1.5		ug/L		10/02/13 11:55	10/02/13 21:30	1
Copper	ND		1.0		ug/L		10/02/13 11:55	10/02/13 21:30	1
Lead	ND		1.0		ug/L		10/02/13 11:55	10/02/13 21:30	1
Selenium	ND		1.0		ug/L		10/02/13 11:55	10/03/13 19:27	1
Silver	ND		0.50		ug/L		10/02/13 11:55	10/02/13 21:30	1
Zinc	ND		10		ug/L		10/02/13 11:55	10/03/13 19:27	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		10/02/13 08:50	10/02/13 14:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.8**		0.50		mg/L			10/03/13 20:01	1
Sulfate	**43**		2.0		mg/L			10/03/13 20:01	1
Nitrate as N	ND		0.050		mg/L			10/01/13 17:19	1
Chemical Oxygen Demand	ND		10		mg/L			10/05/13 12:40	1
Physiologically Available Cyanide	ND		0.010		mg/L		10/04/13 06:08	10/04/13 12:34	1
Alkalinity, Total	**67**		5.0		mg/L			10/02/13 17:33	1
Total Dissolved Solids	**170**		10		mg/L			10/01/13 18:03	1

Client Sample ID: SED-1

Date Collected: 09/30/13 12:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-10
Matrix: Solid
Percent Solids: 89.3

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,1,1-Trichloroethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1

Client Sample ID: SED-1

Date Collected: 09/30/13 12:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-10

Matrix: Solid
Percent Solids: 89.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,1,2-Trichloroethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,1-Dichloroethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,1-Dichloroethene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,1-Dichloropropene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,2,3-Trichlorobenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,2,3-Trichloropropane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,2,4-Trichlorobenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,2,4-Trimethylbenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,2-Dibromo-3-Chloropropane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,2-Dichlorobenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,2-Dichloroethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,2-Dichloropropane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,3,5-Trimethylbenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,3-Dichlorobenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,3-Dichloropropane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,4-Dichlorobenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
2,2-Dichloropropane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
2-Chlorotoluene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
2-Hexanone	ND		25		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
4-Chlorotoluene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
4-Isopropyltoluene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Acetone	ND		25		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Benzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Bromobenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Bromoform	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Bromomethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Carbon tetrachloride	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Chlorobenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Bromochloromethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Dibromochloromethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Chloroethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Chloroform	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Chloromethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
cis-1,2-Dichloroethene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
cis-1,3-Dichloropropene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Dibromomethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Bromodichloromethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Ethylbenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
1,2-Dibromoethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Hexachlorobutadiene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Isopropylbenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
2-Butanone (MEK)	ND		25		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
4-Methyl-2-pentanone (MIBK)	ND		25		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Methyl tert-butyl ether	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Methylene Chloride	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
m,p-Xylene	ND		10		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Naphthalene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
n-Butylbenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1

Client Sample ID: SED-1

Date Collected: 09/30/13 12:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-10
Matrix: Solid
Percent Solids: 89.3

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
o-Xylene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
sec-Butylbenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Styrene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
tert-Butylbenzene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Tetrachloroethene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Toluene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
trans-1,2-Dichloroethene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
trans-1,3-Dichloropropene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Trichloroethene	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Trichlorofluoromethane	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1
Vinyl chloride	ND		5.1		ug/Kg	☼	10/03/13 11:23	10/03/13 16:17	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*10/03/13 11:23*	*10/03/13 16:17*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*64 - 126*	*10/03/13 11:23*	*10/03/13 16:17*	*1*
Toluene-d8 (Surr)	*100*		*71 - 125*	*10/03/13 11:23*	*10/03/13 16:17*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*	*10/03/13 11:23*	*10/03/13 16:17*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.1		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Barium	**8.9**		0.53		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Cadmium	**0.31**		0.21		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Calcium	**1300**		53		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Chromium	**13**		0.53		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Copper	**11**		1.1		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Iron	**8500**		11		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Lead	**10**		1.1		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Manganese	**96**		0.21		mg/Kg	☼	10/02/13 12:30	10/03/13 21:13	1
Selenium	ND		4.3		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Silver	ND		0.53		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Sodium	ND		150		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1
Zinc	**46**		2.1		mg/Kg	☼	10/02/13 12:30	10/02/13 23:47	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023		mg/Kg	☼	10/02/13 11:00	10/02/13 14:19	1

Client Sample ID: SED-3

Date Collected: 09/30/13 10:15
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-11
Matrix: Solid
Percent Solids: 79.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,1,1-Trichloroethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,1,2,2-Tetrachloroethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,1,2-Trichloroethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1

Client Sample ID: SED-3

Date Collected: 09/30/13 10:15
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-11

Matrix: Solid
Percent Solids: 79.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,1-Dichloroethene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,1-Dichloropropene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,2,3-Trichlorobenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,2,3-Trichloropropane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,2,4-Trichlorobenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,2,4-Trimethylbenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,2-Dibromo-3-Chloropropane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,2-Dichlorobenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,2-Dichloroethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,2-Dichloropropane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,3,5-Trimethylbenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,3-Dichlorobenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,3-Dichloropropane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,4-Dichlorobenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
2,2-Dichloropropane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
2-Chlorotoluene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
2-Hexanone	ND		21		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
4-Chlorotoluene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
4-Isopropyltoluene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Acetone	ND		21		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Benzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Bromobenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Bromoform	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Bromomethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Carbon tetrachloride	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Chlorobenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Bromochloromethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Dibromochloromethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Chloroethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Chloroform	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Chloromethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
cis-1,2-Dichloroethene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
cis-1,3-Dichloropropene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Dibromomethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Bromodichloromethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Ethylbenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
1,2-Dibromoethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Hexachlorobutadiene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Isopropylbenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
2-Butanone (MEK)	ND		21		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
4-Methyl-2-pentanone (MIBK)	ND		21		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Methyl tert-butyl ether	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Methylene Chloride	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
m,p-Xylene	ND		8.4		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Naphthalene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
n-Butylbenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
N-Propylbenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
o-Xylene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1

Client Sample ID: SED-3

Date Collected: 09/30/13 10:15
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-11
Matrix: Solid
Percent Solids: 79.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Styrene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
tert-Butylbenzene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Tetrachloroethene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Toluene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
trans-1,2-Dichloroethene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
trans-1,3-Dichloropropene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Trichloroethene	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Trichlorofluoromethane	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1
Vinyl chloride	ND		4.2		ug/Kg	☼	10/03/13 11:23	10/03/13 16:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*10/03/13 11:23*	*10/03/13 16:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*64 - 126*	*10/03/13 11:23*	*10/03/13 16:42*	*1*
Toluene-d8 (Surr)	*98*		*71 - 125*	*10/03/13 11:23*	*10/03/13 16:42*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 126*	*10/03/13 11:23*	*10/03/13 16:42*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.1**		2.3		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Barium	**32**		0.59		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Cadmium	ND		0.23		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Calcium	**1700**		59		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Chromium	**14**		0.59		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Copper	**8.4**		1.2		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Iron	**11000**		12		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Lead	**7.2**		1.2		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Manganese	**320**		0.23		mg/Kg	☼	10/02/13 12:30	10/03/13 21:15	1
Selenium	ND		4.7		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Silver	ND		0.59		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Sodium	ND		160		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1
Zinc	**41**		2.3		mg/Kg	☼	10/02/13 12:30	10/02/13 23:50	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.025		mg/Kg	☼	10/02/13 11:00	10/02/13 14:20	1

Client Sample ID: TRIP BLANK

Date Collected: 09/30/13 00:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-12
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/04/13 13:21	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/04/13 13:21	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/04/13 13:21	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/04/13 13:21	1
1,1-Dichloroethane	ND		1.0		ug/L			10/04/13 13:21	1
1,1-Dichloroethene	ND		1.0		ug/L			10/04/13 13:21	1

Client Sample ID: TRIP BLANK

Date Collected: 09/30/13 00:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-12

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		1.0		ug/L			10/04/13 13:21	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/04/13 13:21	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/04/13 13:21	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/04/13 13:21	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/04/13 13:21	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/04/13 13:21	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/04/13 13:21	1
1,2-Dichloroethane	ND		1.0		ug/L			10/04/13 13:21	1
1,2-Dichloropropane	ND		1.0		ug/L			10/04/13 13:21	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/04/13 13:21	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/04/13 13:21	1
1,3-Dichloropropane	ND		1.0		ug/L			10/04/13 13:21	1
1,4-Dichlorobenzene	ND		1.0		ug/L			10/04/13 13:21	1
2,2-Dichloropropane	ND		1.0		ug/L			10/04/13 13:21	1
2-Chlorotoluene	ND		1.0		ug/L			10/04/13 13:21	1
2-Hexanone	ND		5.0		ug/L			10/04/13 13:21	1
4-Chlorotoluene	ND		1.0		ug/L			10/04/13 13:21	1
4-Isopropyltoluene	ND		1.0		ug/L			10/04/13 13:21	1
Acetone	**13**		10		ug/L			10/04/13 13:21	1
Benzene	ND		1.0		ug/L			10/04/13 13:21	1
Bromobenzene	ND		1.0		ug/L			10/04/13 13:21	1
Bromoform	ND		1.0		ug/L			10/04/13 13:21	1
Bromomethane	ND		1.0		ug/L			10/04/13 13:21	1
Carbon tetrachloride	ND		1.0		ug/L			10/04/13 13:21	1
Chlorobenzene	ND		1.0		ug/L			10/04/13 13:21	1
Bromochloromethane	ND		1.0		ug/L			10/04/13 13:21	1
Dibromochloromethane	ND		1.0		ug/L			10/04/13 13:21	1
Chloroethane	ND		1.0		ug/L			10/04/13 13:21	1
Chloroform	ND		1.0		ug/L			10/04/13 13:21	1
Chloromethane	ND		1.0		ug/L			10/04/13 13:21	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/04/13 13:21	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/04/13 13:21	1
Dibromomethane	ND		1.0		ug/L			10/04/13 13:21	1
Bromodichloromethane	ND		1.0		ug/L			10/04/13 13:21	1
Ethylbenzene	ND		1.0		ug/L			10/04/13 13:21	1
1,2-Dibromoethane	ND		1.0		ug/L			10/04/13 13:21	1
Hexachlorobutadiene	ND		1.0		ug/L			10/04/13 13:21	1
Isopropylbenzene	ND		1.0		ug/L			10/04/13 13:21	1
2-Butanone (MEK)	ND	*	10		ug/L			10/04/13 13:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/04/13 13:21	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/04/13 13:21	1
Methylene Chloride	ND		1.0		ug/L			10/04/13 13:21	1
m,p-Xylene	ND		2.0		ug/L			10/04/13 13:21	1
Naphthalene	ND		1.0		ug/L			10/04/13 13:21	1
n-Butylbenzene	ND		1.0		ug/L			10/04/13 13:21	1
N-Propylbenzene	ND		1.0		ug/L			10/04/13 13:21	1
o-Xylene	ND		1.0		ug/L			10/04/13 13:21	1
sec-Butylbenzene	ND		1.0		ug/L			10/04/13 13:21	1
Styrene	ND		1.0		ug/L			10/04/13 13:21	1

Client Sample ID: TRIP BLANK

Date Collected: 09/30/13 00:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-12

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		1.0		ug/L			10/04/13 13:21	1
Tetrachloroethene	ND		1.0		ug/L			10/04/13 13:21	1
Toluene	ND		1.0		ug/L			10/04/13 13:21	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/04/13 13:21	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/04/13 13:21	1
Trichloroethene	ND		1.0		ug/L			10/04/13 13:21	1
Trichlorofluoromethane	ND		1.0		ug/L			10/04/13 13:21	1
Vinyl chloride	ND		1.0		ug/L			10/04/13 13:21	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Silanol, trimethyl-	*4.5*	*T J N*	*ug/L*		*3.59*	*1066-40-6*		*10/04/13 13:21*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*66 - 137*		*10/04/13 13:21*	*1*
Toluene-d8 (Surr)	*97*		*71 - 126*		*10/04/13 13:21*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/04/13 13:21*	*1*

Surrogate Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	12DCE (64-126)	TOL (71-125)	BFB (72-126)
480-46836-10	SED-1	100	100	99
480-46836-11	SED-3	99	98	99
LCS 480-142541/5	Lab Control Sample	98	101	100
LCSD 480-142541/6	Lab Control Sample Dup	96	100	102
MB 480-142541/7	Method Blank	95	99	98

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	12DCE (66-137)	TOL (71-126)	BFB (73-120)
480-46836-1	MW-1	96	95	106
480-46836-2	MW-3	111	93	107
480-46836-3	MW-4S	92	92	99
480-46836-4	MW-4D	91	94	98
480-46836-5	MW-6S	90	94	105
480-46836-6	MW-6D	107	97	103
480-46836-7	DUP-1	94	94	105
480-46836-8	SW-2	93	95	103
480-46836-9	SW-3	114	94	103
480-46836-12	TRIP BLANK	108	97	101
LCS 480-142444/5	Lab Control Sample	102	99	109
LCS 480-142636/5	Lab Control Sample	107	99	105
LCS 480-142723/5	Lab Control Sample	108	96	110
MB 480-142444/8	Method Blank	112	97	100
MB 480-142636/7	Method Blank	112	96	101
MB 480-142723/7	Method Blank	107	96	101

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BA-d9 (Sur (50-150)	DBFM (50-150)
480-46836-1	MW-1	88	101
480-46836-2	MW-3	92	99
480-46836-3	MW-4S	93	98
480-46836-4	MW-4D	97	101
480-46836-5	MW-6S	99	101

Surrogate Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Method: 8260C SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	**Client Sample ID**	**BA-d9 (Sur (50-150)**	**DBFM (50-150)**
480-46836-6	MW-6D	105	101
480-46836-7	DUP-1	92	101
480-46836-8	SW-2	101	102
480-46836-9	SW-3	98	101
LCS 480-142226/4	Lab Control Sample	92	104
MB 480-142226/5	Method Blank	95	98

Surrogate Legend

TBA-d9 (Surr) = TBA-d9 (Surr)

DBFM = Dibromofluoromethane (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-142444/8
Matrix: Water
Analysis Batch: 142444

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 10:55	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/03/13 10:55	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 10:55	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/03/13 10:55	1
1,1-Dichloroethane	ND		1.0		ug/L			10/03/13 10:55	1
1,1-Dichloroethene	ND		1.0		ug/L			10/03/13 10:55	1
1,1-Dichloropropene	ND		1.0		ug/L			10/03/13 10:55	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/03/13 10:55	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/03/13 10:55	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/03/13 10:55	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/03/13 10:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/03/13 10:55	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/03/13 10:55	1
1,2-Dichloroethane	ND		1.0		ug/L			10/03/13 10:55	1
1,2-Dichloropropane	ND		1.0		ug/L			10/03/13 10:55	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/03/13 10:55	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/03/13 10:55	1
1,3-Dichloropropane	ND		1.0		ug/L			10/03/13 10:55	1
1,4-Dichlorobenzene	ND		1.0		ug/L			10/03/13 10:55	1
2,2-Dichloropropane	ND		1.0		ug/L			10/03/13 10:55	1
2-Chlorotoluene	ND		1.0		ug/L			10/03/13 10:55	1
2-Hexanone	ND		5.0		ug/L			10/03/13 10:55	1
4-Chlorotoluene	ND		1.0		ug/L			10/03/13 10:55	1
4-Isopropyltoluene	ND		1.0		ug/L			10/03/13 10:55	1
Acetone	ND		10		ug/L			10/03/13 10:55	1
Benzene	ND		1.0		ug/L			10/03/13 10:55	1
Bromobenzene	ND		1.0		ug/L			10/03/13 10:55	1
Bromoform	ND		1.0		ug/L			10/03/13 10:55	1
Bromomethane	ND		1.0		ug/L			10/03/13 10:55	1
Carbon tetrachloride	ND		1.0		ug/L			10/03/13 10:55	1
Chlorobenzene	ND		1.0		ug/L			10/03/13 10:55	1
Bromochloromethane	ND		1.0		ug/L			10/03/13 10:55	1
Dibromochloromethane	ND		1.0		ug/L			10/03/13 10:55	1
Chloroethane	ND		1.0		ug/L			10/03/13 10:55	1
Chloroform	ND		1.0		ug/L			10/03/13 10:55	1
Chloromethane	ND		1.0		ug/L			10/03/13 10:55	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 10:55	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 10:55	1
Dibromomethane	ND		1.0		ug/L			10/03/13 10:55	1
Bromodichloromethane	ND		1.0		ug/L			10/03/13 10:55	1
Ethylbenzene	ND		1.0		ug/L			10/03/13 10:55	1
1,2-Dibromoethane	ND		1.0		ug/L			10/03/13 10:55	1
Hexachlorobutadiene	ND		1.0		ug/L			10/03/13 10:55	1
Isopropylbenzene	ND		1.0		ug/L			10/03/13 10:55	1
2-Butanone (MEK)	ND		10		ug/L			10/03/13 10:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/03/13 10:55	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/03/13 10:55	1
Methylene Chloride	ND		1.0		ug/L			10/03/13 10:55	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-142444/8
Matrix: Water
Analysis Batch: 142444

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		2.0		ug/L			10/03/13 10:55	1
Naphthalene	ND		1.0		ug/L			10/03/13 10:55	1
n-Butylbenzene	ND		1.0		ug/L			10/03/13 10:55	1
N-Propylbenzene	ND		1.0		ug/L			10/03/13 10:55	1
o-Xylene	ND		1.0		ug/L			10/03/13 10:55	1
sec-Butylbenzene	ND		1.0		ug/L			10/03/13 10:55	1
Styrene	ND		1.0		ug/L			10/03/13 10:55	1
tert-Butylbenzene	ND		1.0		ug/L			10/03/13 10:55	1
Tetrachloroethene	ND		1.0		ug/L			10/03/13 10:55	1
Toluene	ND		1.0		ug/L			10/03/13 10:55	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 10:55	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 10:55	1
Trichloroethene	ND		1.0		ug/L			10/03/13 10:55	1
Trichlorofluoromethane	ND		1.0		ug/L			10/03/13 10:55	1
Vinyl chloride	ND		1.0		ug/L			10/03/13 10:55	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*10/03/13 10:55*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*66 - 137*		*10/03/13 10:55*	*1*
Toluene-d8 (Surr)	*97*		*71 - 126*		*10/03/13 10:55*	*1*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*10/03/13 10:55*	*1*

Lab Sample ID: LCS 480-142444/5
Matrix: Water
Analysis Batch: 142444

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	25.0	24.9		ug/L		99	71 - 129
1,1-Dichloroethene	25.0	26.5		ug/L		106	58 - 121
1,2,4-Trimethylbenzene	25.0	25.1		ug/L		100	76 - 121
1,2-Dichlorobenzene	25.0	25.4		ug/L		102	80 - 124
1,2-Dichloroethane	25.0	26.8		ug/L		107	75 - 127
Benzene	25.0	27.3		ug/L		109	71 - 124
Chlorobenzene	25.0	25.6		ug/L		102	72 - 120
cis-1,2-Dichloroethene	25.0	25.7		ug/L		103	74 - 124
Ethylbenzene	25.0	25.8		ug/L		103	77 - 123
Methyl tert-butyl ether	25.0	26.9		ug/L		108	64 - 127
m,p-Xylene	50.0	53.0		ug/L		106	76 - 122
o-Xylene	25.0	25.9		ug/L		104	76 - 122
Tetrachloroethene	25.0	30.0		ug/L		120	74 - 122
Toluene	25.0	26.3		ug/L		105	80 - 122
trans-1,2-Dichloroethene	25.0	26.3		ug/L		105	73 - 127
Trichloroethene	25.0	26.1		ug/L		104	74 - 123

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-142444/5
Matrix: Water
Analysis Batch: 142444

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		66 - 137
Toluene-d8 (Surr)	99		71 - 126
4-Bromofluorobenzene (Surr)	109		73 - 120

Lab Sample ID: MB 480-142541/7
Matrix: Solid
Analysis Batch: 142541

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/Kg			10/03/13 13:31	1
1,1,1-Trichloroethane	ND		5.0		ug/Kg			10/03/13 13:31	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/Kg			10/03/13 13:31	1
1,1,2-Trichloroethane	ND		5.0		ug/Kg			10/03/13 13:31	1
1,1-Dichloroethane	ND		5.0		ug/Kg			10/03/13 13:31	1
1,1-Dichloroethene	ND		5.0		ug/Kg			10/03/13 13:31	1
1,1-Dichloropropene	ND		5.0		ug/Kg			10/03/13 13:31	1
1,2,3-Trichlorobenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg			10/03/13 13:31	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/Kg			10/03/13 13:31	1
1,2-Dichlorobenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
1,2-Dichloroethane	ND		5.0		ug/Kg			10/03/13 13:31	1
1,2-Dichloropropane	ND		5.0		ug/Kg			10/03/13 13:31	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
1,3-Dichlorobenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
1,3-Dichloropropane	ND		5.0		ug/Kg			10/03/13 13:31	1
1,4-Dichlorobenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
2,2-Dichloropropane	ND		5.0		ug/Kg			10/03/13 13:31	1
2-Chlorotoluene	ND		5.0		ug/Kg			10/03/13 13:31	1
2-Hexanone	ND		25		ug/Kg			10/03/13 13:31	1
4-Chlorotoluene	ND		5.0		ug/Kg			10/03/13 13:31	1
4-Isopropyltoluene	ND		5.0		ug/Kg			10/03/13 13:31	1
Acetone	ND		25		ug/Kg			10/03/13 13:31	1
Benzene	ND		5.0		ug/Kg			10/03/13 13:31	1
Bromobenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
Bromoform	ND		5.0		ug/Kg			10/03/13 13:31	1
Bromomethane	ND		5.0		ug/Kg			10/03/13 13:31	1
Carbon tetrachloride	ND		5.0		ug/Kg			10/03/13 13:31	1
Chlorobenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
Bromochloromethane	ND		5.0		ug/Kg			10/03/13 13:31	1
Dibromochloromethane	ND		5.0		ug/Kg			10/03/13 13:31	1
Chloroethane	ND		5.0		ug/Kg			10/03/13 13:31	1
Chloroform	ND		5.0		ug/Kg			10/03/13 13:31	1
Chloromethane	ND		5.0		ug/Kg			10/03/13 13:31	1
cis-1,2-Dichloroethene	ND		5.0		ug/Kg			10/03/13 13:31	1
cis-1,3-Dichloropropene	ND		5.0		ug/Kg			10/03/13 13:31	1
Dibromomethane	ND		5.0		ug/Kg			10/03/13 13:31	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-142541/7
Matrix: Solid
Analysis Batch: 142541

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		5.0		ug/Kg			10/03/13 13:31	1
Ethylbenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
1,2-Dibromoethane	ND		5.0		ug/Kg			10/03/13 13:31	1
Hexachlorobutadiene	ND		5.0		ug/Kg			10/03/13 13:31	1
Isopropylbenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
2-Butanone (MEK)	ND		25		ug/Kg			10/03/13 13:31	1
4-Methyl-2-pentanone (MIBK)	ND		25		ug/Kg			10/03/13 13:31	1
Methyl tert-butyl ether	ND		5.0		ug/Kg			10/03/13 13:31	1
Methylene Chloride	ND		5.0		ug/Kg			10/03/13 13:31	1
m,p-Xylene	ND		10		ug/Kg			10/03/13 13:31	1
Naphthalene	ND		5.0		ug/Kg			10/03/13 13:31	1
n-Butylbenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
N-Propylbenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
o-Xylene	ND		5.0		ug/Kg			10/03/13 13:31	1
sec-Butylbenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
Styrene	ND		5.0		ug/Kg			10/03/13 13:31	1
tert-Butylbenzene	ND		5.0		ug/Kg			10/03/13 13:31	1
Tetrachloroethene	ND		5.0		ug/Kg			10/03/13 13:31	1
Toluene	ND		5.0		ug/Kg			10/03/13 13:31	1
trans-1,2-Dichloroethene	ND		5.0		ug/Kg			10/03/13 13:31	1
trans-1,3-Dichloropropene	ND		5.0		ug/Kg			10/03/13 13:31	1
Trichloroethene	ND		5.0		ug/Kg			10/03/13 13:31	1
Trichlorofluoromethane	ND		5.0		ug/Kg			10/03/13 13:31	1
Vinyl chloride	ND		5.0		ug/Kg			10/03/13 13:31	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*					*10/03/13 13:31*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*64 - 126*		*10/03/13 13:31*	*1*
Toluene-d8 (Surr)	*99*		*71 - 125*		*10/03/13 13:31*	*1*
4-Bromofluorobenzene (Surr)	*98*		*72 - 126*		*10/03/13 13:31*	*1*

Lab Sample ID: LCS 480-142541/5
Matrix: Solid
Analysis Batch: 142541

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	50.0	47.7		ug/Kg		95	73 - 126
1,1-Dichloroethene	50.0	46.2		ug/Kg		92	59 - 125
1,2,4-Trimethylbenzene	50.0	49.0		ug/Kg		98	74 - 120
1,2-Dichlorobenzene	50.0	47.7		ug/Kg		95	75 - 120
1,2-Dichloroethane	50.0	47.2		ug/Kg		94	77 - 122
Benzene	50.0	44.9		ug/Kg		90	79 - 127
Chlorobenzene	50.0	44.7		ug/Kg		89	76 - 124
cis-1,2-Dichloroethene	50.0	46.6		ug/Kg		93	81 - 117
Ethylbenzene	50.0	48.4		ug/Kg		97	80 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-142541/5
Matrix: Solid
Analysis Batch: 142541

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	50.0	47.1		ug/Kg		94	63 - 125
m,p-Xylene	100	95.7		ug/Kg		96	70 - 130
o-Xylene	50.0	48.5		ug/Kg		97	70 - 130
Tetrachloroethene	50.0	56.2		ug/Kg		112	74 - 122
Toluene	50.0	47.3		ug/Kg		95	74 - 128
trans-1,2-Dichloroethene	50.0	46.1		ug/Kg		92	78 - 126
Trichloroethene	50.0	46.8		ug/Kg		94	77 - 129

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*64 - 126*
Toluene-d8 (Surr)	*101*		*71 - 125*
4-Bromofluorobenzene (Surr)	*100*		*72 - 126*

Lab Sample ID: LCSD 480-142541/6
Matrix: Solid
Analysis Batch: 142541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	50.0	46.1		ug/Kg		92	73 - 126	3	20
1,1-Dichloroethene	50.0	43.7		ug/Kg		87	59 - 125	6	20
1,2,4-Trimethylbenzene	50.0	48.3		ug/Kg		97	74 - 120	1	20
1,2-Dichlorobenzene	50.0	47.5		ug/Kg		95	75 - 120	1	20
1,2-Dichloroethane	50.0	46.7		ug/Kg		93	77 - 122	1	20
Benzene	50.0	43.4		ug/Kg		87	79 - 127	3	20
Chlorobenzene	50.0	43.8		ug/Kg		88	76 - 124	2	20
cis-1,2-Dichloroethene	50.0	44.6		ug/Kg		89	81 - 117	4	20
Ethylbenzene	50.0	46.8		ug/Kg		94	80 - 120	3	20
Methyl tert-butyl ether	50.0	46.0		ug/Kg		92	63 - 125	2	20
m,p-Xylene	100	93.2		ug/Kg		93	70 - 130	3	20
o-Xylene	50.0	47.1		ug/Kg		94	70 - 130	3	20
Tetrachloroethene	50.0	55.1		ug/Kg		110	74 - 122	2	20
Toluene	50.0	46.1		ug/Kg		92	74 - 128	3	20
trans-1,2-Dichloroethene	50.0	43.9		ug/Kg		88	78 - 126	5	20
Trichloroethene	50.0	45.1		ug/Kg		90	77 - 129	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*64 - 126*
Toluene-d8 (Surr)	*100*		*71 - 125*
4-Bromofluorobenzene (Surr)	*102*		*72 - 126*

Lab Sample ID: MB 480-142636/7
Matrix: Water
Analysis Batch: 142636

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 23:34	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/03/13 23:34	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/03/13 23:34	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-142636/7
Matrix: Water
Analysis Batch: 142636

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0		ug/L			10/03/13 23:34	1
1,1-Dichloroethane	ND		1.0		ug/L			10/03/13 23:34	1
1,1-Dichloroethene	ND		1.0		ug/L			10/03/13 23:34	1
1,1-Dichloropropene	ND		1.0		ug/L			10/03/13 23:34	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/03/13 23:34	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/03/13 23:34	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/03/13 23:34	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/03/13 23:34	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/03/13 23:34	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/03/13 23:34	1
1,2-Dichloroethane	ND		1.0		ug/L			10/03/13 23:34	1
1,2-Dichloropropane	ND		1.0		ug/L			10/03/13 23:34	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/03/13 23:34	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/03/13 23:34	1
1,3-Dichloropropane	ND		1.0		ug/L			10/03/13 23:34	1
1,4-Dichlorobenzene	ND		1.0		ug/L			10/03/13 23:34	1
2,2-Dichloropropane	ND		1.0		ug/L			10/03/13 23:34	1
2-Chlorotoluene	ND		1.0		ug/L			10/03/13 23:34	1
2-Hexanone	ND		5.0		ug/L			10/03/13 23:34	1
4-Chlorotoluene	ND		1.0		ug/L			10/03/13 23:34	1
4-Isopropyltoluene	ND		1.0		ug/L			10/03/13 23:34	1
Acetone	ND		10		ug/L			10/03/13 23:34	1
Benzene	ND		1.0		ug/L			10/03/13 23:34	1
Bromobenzene	ND		1.0		ug/L			10/03/13 23:34	1
Bromoform	ND		1.0		ug/L			10/03/13 23:34	1
Bromomethane	ND		1.0		ug/L			10/03/13 23:34	1
Carbon tetrachloride	ND		1.0		ug/L			10/03/13 23:34	1
Chlorobenzene	ND		1.0		ug/L			10/03/13 23:34	1
Bromochloromethane	ND		1.0		ug/L			10/03/13 23:34	1
Dibromochloromethane	ND		1.0		ug/L			10/03/13 23:34	1
Chloroethane	ND		1.0		ug/L			10/03/13 23:34	1
Chloroform	ND		1.0		ug/L			10/03/13 23:34	1
Chloromethane	ND		1.0		ug/L			10/03/13 23:34	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 23:34	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 23:34	1
Dibromomethane	ND		1.0		ug/L			10/03/13 23:34	1
Bromodichloromethane	ND		1.0		ug/L			10/03/13 23:34	1
Ethylbenzene	ND		1.0		ug/L			10/03/13 23:34	1
1,2-Dibromoethane	ND		1.0		ug/L			10/03/13 23:34	1
Hexachlorobutadiene	ND		1.0		ug/L			10/03/13 23:34	1
Isopropylbenzene	ND		1.0		ug/L			10/03/13 23:34	1
2-Butanone (MEK)	ND		10		ug/L			10/03/13 23:34	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/03/13 23:34	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/03/13 23:34	1
Methylene Chloride	ND		1.0		ug/L			10/03/13 23:34	1
m,p-Xylene	ND		2.0		ug/L			10/03/13 23:34	1
Naphthalene	ND		1.0		ug/L			10/03/13 23:34	1
n-Butylbenzene	ND		1.0		ug/L			10/03/13 23:34	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-142636/7
Matrix: Water
Analysis Batch: 142636

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0		ug/L			10/03/13 23:34	1
o-Xylene	ND		1.0		ug/L			10/03/13 23:34	1
sec-Butylbenzene	ND		1.0		ug/L			10/03/13 23:34	1
Styrene	ND		1.0		ug/L			10/03/13 23:34	1
tert-Butylbenzene	ND		1.0		ug/L			10/03/13 23:34	1
Tetrachloroethene	ND		1.0		ug/L			10/03/13 23:34	1
Toluene	ND		1.0		ug/L			10/03/13 23:34	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/03/13 23:34	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/03/13 23:34	1
Trichloroethene	ND		1.0		ug/L			10/03/13 23:34	1
Trichlorofluoromethane	ND		1.0		ug/L			10/03/13 23:34	1
Vinyl chloride	ND		1.0		ug/L			10/03/13 23:34	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*10/03/13 23:34*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*66 - 137*		*10/03/13 23:34*	*1*
Toluene-d8 (Surr)	*96*		*71 - 126*		*10/03/13 23:34*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/03/13 23:34*	*1*

Lab Sample ID: LCS 480-142636/5
Matrix: Water
Analysis Batch: 142636

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	25.0	25.7		ug/L		103	71 - 129
1,1-Dichloroethene	25.0	26.1		ug/L		104	58 - 121
1,2,4-Trimethylbenzene	25.0	25.8		ug/L		103	76 - 121
1,2-Dichlorobenzene	25.0	25.0		ug/L		100	80 - 124
1,2-Dichloroethane	25.0	27.5		ug/L		110	75 - 127
Benzene	25.0	25.6		ug/L		102	71 - 124
Chlorobenzene	25.0	24.7		ug/L		99	72 - 120
cis-1,2-Dichloroethene	25.0	24.6		ug/L		98	74 - 124
Ethylbenzene	25.0	25.7		ug/L		103	77 - 123
Methyl tert-butyl ether	25.0	26.9		ug/L		108	64 - 127
m,p-Xylene	50.0	51.1		ug/L		102	76 - 122
o-Xylene	25.0	25.6		ug/L		102	76 - 122
Tetrachloroethene	25.0	29.2		ug/L		117	74 - 122
Toluene	25.0	24.8		ug/L		99	80 - 122
trans-1,2-Dichloroethene	25.0	24.3		ug/L		97	73 - 127
Trichloroethene	25.0	25.3		ug/L		101	74 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*66 - 137*
Toluene-d8 (Surr)	*99*		*71 - 126*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-142723/7
Matrix: Water
Analysis Batch: 142723

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			10/04/13 12:49	1
1,1,1-Trichloroethane	ND		1.0		ug/L			10/04/13 12:49	1
1,1,2,2-Tetrachloroethane	ND		1.0		ug/L			10/04/13 12:49	1
1,1,2-Trichloroethane	ND		1.0		ug/L			10/04/13 12:49	1
1,1-Dichloroethane	ND		1.0		ug/L			10/04/13 12:49	1
1,1-Dichloroethene	ND		1.0		ug/L			10/04/13 12:49	1
1,1-Dichloropropene	ND		1.0		ug/L			10/04/13 12:49	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			10/04/13 12:49	1
1,2,3-Trichloropropane	ND		1.0		ug/L			10/04/13 12:49	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			10/04/13 12:49	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			10/04/13 12:49	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			10/04/13 12:49	1
1,2-Dichlorobenzene	ND		1.0		ug/L			10/04/13 12:49	1
1,2-Dichloroethane	ND		1.0		ug/L			10/04/13 12:49	1
1,2-Dichloropropane	ND		1.0		ug/L			10/04/13 12:49	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			10/04/13 12:49	1
1,3-Dichlorobenzene	ND		1.0		ug/L			10/04/13 12:49	1
1,3-Dichloropropane	ND		1.0		ug/L			10/04/13 12:49	1
1,4-Dichlorobenzene	ND		1.0		ug/L			10/04/13 12:49	1
2,2-Dichloropropane	ND		1.0		ug/L			10/04/13 12:49	1
2-Chlorotoluene	ND		1.0		ug/L			10/04/13 12:49	1
2-Hexanone	ND		5.0		ug/L			10/04/13 12:49	1
4-Chlorotoluene	ND		1.0		ug/L			10/04/13 12:49	1
4-Isopropyltoluene	ND		1.0		ug/L			10/04/13 12:49	1
Acetone	ND		10		ug/L			10/04/13 12:49	1
Benzene	ND		1.0		ug/L			10/04/13 12:49	1
Bromobenzene	ND		1.0		ug/L			10/04/13 12:49	1
Bromoform	ND		1.0		ug/L			10/04/13 12:49	1
Bromomethane	ND		1.0		ug/L			10/04/13 12:49	1
Carbon tetrachloride	ND		1.0		ug/L			10/04/13 12:49	1
Chlorobenzene	ND		1.0		ug/L			10/04/13 12:49	1
Bromochloromethane	ND		1.0		ug/L			10/04/13 12:49	1
Dibromochloromethane	ND		1.0		ug/L			10/04/13 12:49	1
Chloroethane	ND		1.0		ug/L			10/04/13 12:49	1
Chloroform	ND		1.0		ug/L			10/04/13 12:49	1
Chloromethane	ND		1.0		ug/L			10/04/13 12:49	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			10/04/13 12:49	1
cis-1,3-Dichloropropene	ND		1.0		ug/L			10/04/13 12:49	1
Dibromomethane	ND		1.0		ug/L			10/04/13 12:49	1
Bromodichloromethane	ND		1.0		ug/L			10/04/13 12:49	1
Ethylbenzene	ND		1.0		ug/L			10/04/13 12:49	1
1,2-Dibromoethane	ND		1.0		ug/L			10/04/13 12:49	1
Hexachlorobutadiene	ND		1.0		ug/L			10/04/13 12:49	1
Isopropylbenzene	ND		1.0		ug/L			10/04/13 12:49	1
2-Butanone (MEK)	ND		10		ug/L			10/04/13 12:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ug/L			10/04/13 12:49	1
Methyl tert-butyl ether	ND		1.0		ug/L			10/04/13 12:49	1
Methylene Chloride	ND		1.0		ug/L			10/04/13 12:49	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-142723/7
Matrix: Water
Analysis Batch: 142723

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		2.0		ug/L			10/04/13 12:49	1
Naphthalene	ND		1.0		ug/L			10/04/13 12:49	1
n-Butylbenzene	ND		1.0		ug/L			10/04/13 12:49	1
N-Propylbenzene	ND		1.0		ug/L			10/04/13 12:49	1
o-Xylene	ND		1.0		ug/L			10/04/13 12:49	1
sec-Butylbenzene	ND		1.0		ug/L			10/04/13 12:49	1
Styrene	ND		1.0		ug/L			10/04/13 12:49	1
tert-Butylbenzene	ND		1.0		ug/L			10/04/13 12:49	1
Tetrachloroethene	ND		1.0		ug/L			10/04/13 12:49	1
Toluene	ND		1.0		ug/L			10/04/13 12:49	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			10/04/13 12:49	1
trans-1,3-Dichloropropene	ND		1.0		ug/L			10/04/13 12:49	1
Trichloroethene	ND		1.0		ug/L			10/04/13 12:49	1
Trichlorofluoromethane	ND		1.0		ug/L			10/04/13 12:49	1
Vinyl chloride	ND		1.0		ug/L			10/04/13 12:49	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*10/04/13 12:49*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*66 - 137*		*10/04/13 12:49*	*1*
Toluene-d8 (Surr)	*96*		*71 - 126*		*10/04/13 12:49*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*10/04/13 12:49*	*1*

Lab Sample ID: LCS 480-142723/5
Matrix: Water
Analysis Batch: 142723

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	25.0	26.2		ug/L		105	71 - 129
1,1-Dichloroethene	25.0	25.9		ug/L		104	58 - 121
1,2,4-Trimethylbenzene	25.0	26.1		ug/L		104	76 - 121
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	80 - 124
1,2-Dichloroethane	25.0	28.3		ug/L		113	75 - 127
Benzene	25.0	26.4		ug/L		106	71 - 124
Chlorobenzene	25.0	25.3		ug/L		101	72 - 120
cis-1,2-Dichloroethene	25.0	25.3		ug/L		101	74 - 124
Ethylbenzene	25.0	26.6		ug/L		106	77 - 123
Methyl tert-butyl ether	25.0	28.5		ug/L		114	64 - 127
m,p-Xylene	50.0	53.2		ug/L		106	76 - 122
o-Xylene	25.0	26.5		ug/L		106	76 - 122
Tetrachloroethene	25.0	29.6		ug/L		118	74 - 122
Toluene	25.0	25.9		ug/L		104	80 - 122
trans-1,2-Dichloroethene	25.0	25.6		ug/L		102	73 - 127
Trichloroethene	25.0	26.8		ug/L		107	74 - 123

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-142723/5
Matrix: Water
Analysis Batch: 142723

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		66 - 137
Toluene-d8 (Surr)	96		71 - 126
4-Bromofluorobenzene (Surr)	110		73 - 120

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-142226/5
Matrix: Water
Analysis Batch: 142226

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.6		ug/L			10/02/13 10:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
TBA-d9 (Surr)	95		50 - 150		10/02/13 10:24	1
Dibromofluoromethane (Surr)	98		50 - 150		10/02/13 10:24	1

Lab Sample ID: LCS 480-142226/4
Matrix: Water
Analysis Batch: 142226

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	16.0	20.3		ug/L		127	50 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
TBA-d9 (Surr)	92		50 - 150
Dibromofluoromethane (Surr)	104		50 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-142293/1-A
Matrix: Solid
Analysis Batch: 142470

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 142293

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.9		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Barium	ND		0.48		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Cadmium	ND		0.19		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Calcium	ND		48		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Chromium	ND		0.48		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Copper	ND		0.97		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Iron	ND		9.7		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Lead	ND		0.97		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Selenium	ND		3.9		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Silver	ND		0.48		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Sodium	ND		140		mg/Kg		10/02/13 12:30	10/02/13 23:43	1
Zinc	ND		1.9		mg/Kg		10/02/13 12:30	10/02/13 23:43	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-142293/1-A
Matrix: Solid
Analysis Batch: 142747

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 142293

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.19		mg/Kg		10/02/13 12:30	10/03/13 21:08	1

Lab Sample ID: LCSSRM 480-142293/2-A
Matrix: Solid
Analysis Batch: 142470

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 142293

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	182	168		mg/Kg		92.1	70.9 - 129.7
Barium	143	128		mg/Kg		89.5	72.7 - 128.0
Cadmium	60.4	54.9		mg/Kg		90.8	73.2 - 129.3
Calcium	6040	5290		mg/Kg		87.5	73.7 - 126.2
Chromium	125	111		mg/Kg		89.0	69.8 - 129.6
Copper	80.1	73.4		mg/Kg		91.6	73.7 - 129.8
Iron	12900	8850		mg/Kg		68.6	32.3 - 168.2
Lead	136	128		mg/Kg		94.2	73.1 - 127.2
Selenium	85.9	79.6		mg/Kg		92.7	63.9 - 136.2
Silver	61.3	54.4		mg/Kg		88.8	66.9 - 133.1
Sodium	439	391		mg/Kg		89.1	48.3 - 151.7
Zinc	204	183		mg/Kg		89.6	69.6 - 129.9

Lab Sample ID: LCSSRM 480-142293/2-A
Matrix: Solid
Analysis Batch: 142747

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 142293

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	279	240		mg/Kg		86.2	74.2 - 126.2

Lab Sample ID: MB 480-142091/1-B
Matrix: Water
Analysis Batch: 142462

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 142205

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		10/02/13 08:35	10/02/13 16:37	1
Barium	ND		0.0020		mg/L		10/02/13 08:35	10/02/13 16:37	1
Cadmium	ND		0.0010		mg/L		10/02/13 08:35	10/02/13 16:37	1
Calcium	ND		0.50		mg/L		10/02/13 08:35	10/02/13 16:37	1
Chromium	ND		0.0040		mg/L		10/02/13 08:35	10/02/13 16:37	1
Copper	ND		0.010		mg/L		10/02/13 08:35	10/02/13 16:37	1
Iron	ND		0.050		mg/L		10/02/13 08:35	10/02/13 16:37	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-142091/1-B
Matrix: Water
Analysis Batch: 142462

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 142205

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050		mg/L		10/02/13 08:35	10/02/13 16:37	1
Manganese	ND		0.0030		mg/L		10/02/13 08:35	10/02/13 16:37	1
Selenium	ND		0.015		mg/L		10/02/13 08:35	10/02/13 16:37	1
Silver	ND		0.0030		mg/L		10/02/13 08:35	10/02/13 16:37	1
Sodium	ND		1.0		mg/L		10/02/13 08:35	10/02/13 16:37	1
Zinc	ND		0.010		mg/L		10/02/13 08:35	10/02/13 16:37	1

Lab Sample ID: LCS 480-142091/2-B
Matrix: Water
Analysis Batch: 142462

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 142205

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.198		mg/L		99	80 - 120
Barium	0.200	0.210		mg/L		105	80 - 120
Cadmium	0.200	0.196		mg/L		98	80 - 120
Calcium	10.0	9.75		mg/L		97	80 - 120
Chromium	0.200	0.200		mg/L		100	80 - 120
Copper	0.200	0.197		mg/L		99	80 - 120
Iron	10.0	9.76		mg/L		98	80 - 120
Lead	0.200	0.192		mg/L		96	80 - 120
Manganese	0.200	0.199		mg/L		100	80 - 120
Selenium	0.200	0.198		mg/L		99	80 - 120
Silver	0.0500	0.0498		mg/L		100	80 - 120
Sodium	10.0	9.93		mg/L		99	80 - 120
Zinc	0.200	0.195		mg/L		97	80 - 120

Lab Sample ID: 480-46836-1 MS
Matrix: Water
Analysis Batch: 142462

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 142205

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.200	0.204		mg/L		102	75 - 125
Barium	0.019		0.200	0.229		mg/L		105	75 - 125
Cadmium	ND		0.200	0.198		mg/L		99	75 - 125
Calcium	5.8		10.0	15.8		mg/L		100	75 - 125
Chromium	ND		0.200	0.203		mg/L		100	75 - 125
Copper	ND		0.200	0.203		mg/L		99	75 - 125
Iron	9.5		10.0	19.3		mg/L		98	75 - 125
Lead	ND		0.200	0.193		mg/L		96	75 - 125
Manganese	0.50		0.200	0.719		mg/L		107	75 - 125
Selenium	ND		0.200	0.201		mg/L		100	75 - 125
Silver	ND		0.0500	0.0498		mg/L		100	75 - 125
Sodium	12		10.0	22.4		mg/L		101	75 - 125
Zinc	0.018		0.200	0.213		mg/L		98	75 - 125

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-46836-1 MSD
Matrix: Water
Analysis Batch: 142462

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 142205

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.200	0.207		mg/L		104	75 - 125	2	20
Barium	0.019		0.200	0.232		mg/L		106	75 - 125	1	20
Cadmium	ND		0.200	0.203		mg/L		102	75 - 125	2	20
Calcium	5.8		10.0	16.0		mg/L		102	75 - 125	1	20
Chromium	ND		0.200	0.208		mg/L		102	75 - 125	2	20
Copper	ND		0.200	0.207		mg/L		102	75 - 125	2	20
Iron	9.5		10.0	19.5		mg/L		100	75 - 125	1	20
Lead	ND		0.200	0.197		mg/L		99	75 - 125	2	20
Manganese	0.50		0.200	0.713		mg/L		104	75 - 125	1	20
Selenium	ND		0.200	0.205		mg/L		102	75 - 125	2	20
Silver	ND		0.0500	0.0505		mg/L		101	75 - 125	1	20
Sodium	12		10.0	22.5		mg/L		102	75 - 125	1	20
Zinc	0.018		0.200	0.219		mg/L		101	75 - 125	3	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 480-142091/11-B
Matrix: Water
Analysis Batch: 142585

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 142250

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0		ug/L		10/02/13 11:55	10/02/13 20:40	1
Barium	ND		1.0		ug/L		10/02/13 11:55	10/02/13 20:40	1
Cadmium	ND		0.50		ug/L		10/02/13 11:55	10/02/13 20:40	1
Chromium	ND		1.5		ug/L		10/02/13 11:55	10/02/13 20:40	1
Copper	ND		1.0		ug/L		10/02/13 11:55	10/02/13 20:40	1
Lead	ND		1.0		ug/L		10/02/13 11:55	10/02/13 20:40	1
Silver	ND		0.50		ug/L		10/02/13 11:55	10/02/13 20:40	1

Lab Sample ID: MB 480-142091/11-B
Matrix: Water
Analysis Batch: 142856

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 142250

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.0		ug/L		10/02/13 11:55	10/03/13 19:11	1
Zinc	ND		10		ug/L		10/02/13 11:55	10/03/13 19:11	1

Lab Sample ID: LCS 480-142091/12-B
Matrix: Water
Analysis Batch: 142585

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 142250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	20.0	20.6		ug/L		103	80 - 120
Barium	20.0	20.3		ug/L		101	80 - 120
Cadmium	20.0	20.3		ug/L		101	80 - 120
Chromium	20.0	21.1		ug/L		106	80 - 120
Copper	20.0	20.9		ug/L		104	80 - 120
Lead	20.0	20.4		ug/L		102	80 - 120

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

Lab Sample ID: LCS 480-142091/12-B
Matrix: Water
Analysis Batch: 142585

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 142250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	20.0	18.3		ug/L		91	80 - 120

Lab Sample ID: LCS 480-142091/12-B
Matrix: Water
Analysis Batch: 142856

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 142250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	20.0	20.3		ug/L		101	80 - 120
Zinc	50.0	54.3		ug/L		109	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-142091/7-B
Matrix: Water
Analysis Batch: 142352

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 142231

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		10/02/13 08:50	10/02/13 14:30	1

Lab Sample ID: LCS 480-142091/8-B
Matrix: Water
Analysis Batch: 142352

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 142231

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0133	0.0121		mg/L		91	80 - 120

Lab Sample ID: 480-46836-2 MS
Matrix: Water
Analysis Batch: 142352

Client Sample ID: MW-3
Prep Type: Dissolved
Prep Batch: 142231

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.0133	0.0120		mg/L		90	75 - 125

Lab Sample ID: 480-46836-2 MSD
Matrix: Water
Analysis Batch: 142352

Client Sample ID: MW-3
Prep Type: Dissolved
Prep Batch: 142231

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0133	0.0119		mg/L		89	75 - 125	1	20

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Lab Sample ID: MB 480-142286/1-A
Matrix: Solid
Analysis Batch: 142338

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 142286

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.019		mg/Kg		10/02/13 11:00	10/02/13 14:07	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique) (Continued)

Lab Sample ID: LCSSRM 480-142286/2-A
Matrix: Solid
Analysis Batch: 142338

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 142286

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	3.77	3.46		mg/Kg		91.8	50.9 - 149.1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-142313/4
Matrix: Water
Analysis Batch: 142313

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			10/02/13 15:09	1
Sulfate	ND		2.0		mg/L			10/02/13 15:09	1

Lab Sample ID: LCS 480-142313/3
Matrix: Water
Analysis Batch: 142313

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.8		mg/L		99	90 - 110
Sulfate	20.0	20.2		mg/L		101	90 - 110

Lab Sample ID: MB 480-142536/4
Matrix: Water
Analysis Batch: 142536

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			10/03/13 13:16	1
Sulfate	ND		2.0		mg/L			10/03/13 13:16	1

Lab Sample ID: LCS 480-142536/3
Matrix: Water
Analysis Batch: 142536

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.8		mg/L		99	90 - 110
Sulfate	20.0	19.9		mg/L		99	90 - 110

Lab Sample ID: 480-46836-2 MS
Matrix: Water
Analysis Batch: 142536

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	8.8		25.0	33.5		mg/L		99	90 - 110
Sulfate	15		25.0	39.6		mg/L		99	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 480-142549/28
Matrix: Water
Analysis Batch: 142549

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			10/03/13 17:19	1
Sulfate	ND		2.0		mg/L			10/03/13 17:19	1

Lab Sample ID: LCS 480-142549/27
Matrix: Water
Analysis Batch: 142549

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.0		mg/L		100	90 - 110
Sulfate	20.0	20.5		mg/L		102	90 - 110

Lab Sample ID: MB 480-142790/4
Matrix: Water
Analysis Batch: 142790

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			10/04/13 12:19	1
Sulfate	ND		2.0		mg/L			10/04/13 12:19	1

Lab Sample ID: LCS 480-142790/3
Matrix: Water
Analysis Batch: 142790

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.9		mg/L		100	90 - 110
Sulfate	20.0	18.5		mg/L		93	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 480-142560/27
Matrix: Water
Analysis Batch: 142560

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10		mg/L			10/03/13 11:55	1

Lab Sample ID: MB 480-142560/51
Matrix: Water
Analysis Batch: 142560

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10		mg/L			10/03/13 11:55	1

Lab Sample ID: LCS 480-142560/28
Matrix: Water
Analysis Batch: 142560

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	23.5		mg/L		94	90 - 110

Method: 410.4 - COD (Continued)

Lab Sample ID: LCS 480-142560/52
Matrix: Water
Analysis Batch: 142560

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	27.2		mg/L		109	90 - 110

Lab Sample ID: MB 480-142660/3
Matrix: Water
Analysis Batch: 142660

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10		mg/L			10/03/13 19:10	1

Lab Sample ID: MB 480-142660/51
Matrix: Water
Analysis Batch: 142660

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10		mg/L			10/03/13 19:10	1

Lab Sample ID: LCS 480-142660/4
Matrix: Water
Analysis Batch: 142660

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	25.4		mg/L		101	90 - 110

Lab Sample ID: LCS 480-142660/52
Matrix: Water
Analysis Batch: 142660

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	26.9		mg/L		108	90 - 110

Lab Sample ID: MB 480-143003/27
Matrix: Water
Analysis Batch: 143003

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10		mg/L			10/05/13 12:40	1

Lab Sample ID: MB 480-143003/51
Matrix: Water
Analysis Batch: 143003

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10		mg/L			10/05/13 12:40	1

Lab Sample ID: LCS 480-143003/28
Matrix: Water
Analysis Batch: 143003

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	27.2		mg/L		109	90 - 110

Lab Sample ID: LCS 480-143003/52
Matrix: Water
Analysis Batch: 143003

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	24.1		mg/L		96	90 - 110

Method: 9012 - Cyanide, Physiologically Available

Lab Sample ID: MB 480-142687/4-A
Matrix: Water
Analysis Batch: 142908

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 142687

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Physiologically Available Cyanide	ND		0.010		mg/L		10/04/13 06:08	10/04/13 12:22	1

Lab Sample ID: LCS 480-142687/1-A
Matrix: Water
Analysis Batch: 142908

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 142687

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Physiologically Available Cyanide	0.250	0.277		mg/L		111	80 - 120

Lab Sample ID: LCSD 480-142687/2-A
Matrix: Water
Analysis Batch: 142908

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 142687

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Physiologically Available Cyanide	0.250	0.259		mg/L		104	80 - 120	7	20

Lab Sample ID: LCSN 480-142687/3-A
Matrix: Water
Analysis Batch: 142908

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 142687

Analyte	Spike Added	LCSN Result	LCSN Qualifier	Unit	D	%Rec	%Rec. Limits
Physiologically Available Cyanide	2.18	0.0264		mg/L		1	0 - 10

Lab Sample ID: 480-46836-2 MS
Matrix: Water
Analysis Batch: 142908

Client Sample ID: MW-3
Prep Type: Total/NA
Prep Batch: 142687

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Physiologically Available Cyanide	ND		0.100	0.101		mg/L		101	75 - 125

Lab Sample ID: 480-46836-9 MS
Matrix: Water
Analysis Batch: 142908

Client Sample ID: SW-3
Prep Type: Total/NA
Prep Batch: 142687

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Physiologically Available Cyanide	ND		0.100	0.108		mg/L		108	75 - 125

Method: 9012 - Cyanide, Physiologically Available (Continued)

Lab Sample ID: 480-46836-1 DU
Matrix: Water
Analysis Batch: 142908

Client Sample ID: MW-1
Prep Type: Total/NA
Prep Batch: 142687

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Physiologically Available Cyanide	ND		ND		mg/L		NC	

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-142170/30
Matrix: Water
Analysis Batch: 142170

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			10/01/13 17:38	1

Lab Sample ID: MB 480-142170/6
Matrix: Water
Analysis Batch: 142170

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			10/01/13 14:38	1

Lab Sample ID: LCS 480-142170/31
Matrix: Water
Analysis Batch: 142170

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	95.8		mg/L		96	90 - 110

Lab Sample ID: LCS 480-142170/7
Matrix: Water
Analysis Batch: 142170

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	95.0		mg/L		95	90 - 110

Lab Sample ID: 480-46836-2 MS
Matrix: Water
Analysis Batch: 142170

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	67		100	155		mg/L		88	42 - 116

Lab Sample ID: 480-46836-1 DU
Matrix: Water
Analysis Batch: 142170

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity, Total	29		29.7		mg/L		2	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 480-142420/6
Matrix: Water
Analysis Batch: 142420

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			10/02/13 15:29	1

Lab Sample ID: LCS 480-142420/7
Matrix: Water
Analysis Batch: 142420

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity, Total	100	94.8		mg/L		95	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 480-142142/1
Matrix: Water
Analysis Batch: 142142

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10		mg/L			10/01/13 16:58	1

Lab Sample ID: LCS 480-142142/2
Matrix: Water
Analysis Batch: 142142

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	501	487		mg/L		97	85 - 115

Lab Sample ID: LCSD 480-142142/3
Matrix: Water
Analysis Batch: 142142

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	501	487		mg/L		97	85 - 115	0	20

Lab Sample ID: MB 480-142143/1
Matrix: Water
Analysis Batch: 142143

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10		mg/L			10/01/13 17:47	1

Lab Sample ID: LCS 480-142143/2
Matrix: Water
Analysis Batch: 142143

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	501	463		mg/L		92	85 - 115

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 480-46836-9 DU
Matrix: Water
Analysis Batch: 142143

Client Sample ID: SW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	170		174		mg/L		0	20

Lab Sample ID: MB 480-142400/1
Matrix: Water
Analysis Batch: 142400

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10		mg/L			10/02/13 23:03	1

Lab Sample ID: LCS 480-142400/2
Matrix: Water
Analysis Batch: 142400

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	501	505		mg/L		101	85 - 115

QC Association Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

GC/MS VOA

Analysis Batch: 142226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Total/NA	Water	8260C SIM	
480-46836-2	MW-3	Total/NA	Water	8260C SIM	
480-46836-3	MW-4S	Total/NA	Water	8260C SIM	
480-46836-4	MW-4D	Total/NA	Water	8260C SIM	
480-46836-5	MW-6S	Total/NA	Water	8260C SIM	
480-46836-6	MW-6D	Total/NA	Water	8260C SIM	
480-46836-7	DUP-1	Total/NA	Water	8260C SIM	
480-46836-8	SW-2	Total/NA	Water	8260C SIM	
480-46836-9	SW-3	Total/NA	Water	8260C SIM	
LCS 480-142226/4	Lab Control Sample	Total/NA	Water	8260C SIM	
MB 480-142226/5	Method Blank	Total/NA	Water	8260C SIM	

Analysis Batch: 142444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Total/NA	Water	8260C	
480-46836-2	MW-3	Total/NA	Water	8260C	
480-46836-3	MW-4S	Total/NA	Water	8260C	
480-46836-4	MW-4D	Total/NA	Water	8260C	
480-46836-5	MW-6S	Total/NA	Water	8260C	
480-46836-6	MW-6D	Total/NA	Water	8260C	
480-46836-7	DUP-1	Total/NA	Water	8260C	
480-46836-8	SW-2	Total/NA	Water	8260C	
LCS 480-142444/5	Lab Control Sample	Total/NA	Water	8260C	
MB 480-142444/8	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 142541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-10	SED-1	Total/NA	Solid	8260C	142545
480-46836-11	SED-3	Total/NA	Solid	8260C	142545
LCS 480-142541/5	Lab Control Sample	Total/NA	Solid	8260C	
LCSD 480-142541/6	Lab Control Sample Dup	Total/NA	Solid	8260C	
MB 480-142541/7	Method Blank	Total/NA	Solid	8260C	

Prep Batch: 142545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-10	SED-1	Total/NA	Solid	5035	
480-46836-11	SED-3	Total/NA	Solid	5035	

Analysis Batch: 142636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-9	SW-3	Total/NA	Water	8260C	
LCS 480-142636/5	Lab Control Sample	Total/NA	Water	8260C	
MB 480-142636/7	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 142723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-12	TRIP BLANK	Total/NA	Water	8260C	
LCS 480-142723/5	Lab Control Sample	Total/NA	Water	8260C	
MB 480-142723/7	Method Blank	Total/NA	Water	8260C	

QC Association Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Metals

Filtration Batch: 142091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-142091/12-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 480-142091/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 480-142091/8-B	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 480-142091/11-B	Method Blank	Dissolved	Water	FILTRATION	
MB 480-142091/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 480-142091/7-B	Method Blank	Dissolved	Water	FILTRATION	

Prep Batch: 142205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Dissolved	Water	3005A	
480-46836-1 MS	MW-1	Dissolved	Water	3005A	
480-46836-1 MSD	MW-1	Dissolved	Water	3005A	
480-46836-2	MW-3	Dissolved	Water	3005A	
480-46836-3	MW-4S	Dissolved	Water	3005A	
480-46836-4	MW-4D	Dissolved	Water	3005A	
480-46836-5	MW-6S	Dissolved	Water	3005A	
480-46836-6	MW-6D	Dissolved	Water	3005A	
480-46836-7	DUP-1	Dissolved	Water	3005A	
480-46836-8	SW-2	Dissolved	Water	3005A	
480-46836-9	SW-3	Dissolved	Water	3005A	
LCS 480-142091/2-B	Lab Control Sample	Dissolved	Water	3005A	142091
MB 480-142091/1-B	Method Blank	Dissolved	Water	3005A	142091

Prep Batch: 142231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Dissolved	Water	7470A	
480-46836-2	MW-3	Dissolved	Water	7470A	
480-46836-2 MS	MW-3	Dissolved	Water	7470A	
480-46836-2 MSD	MW-3	Dissolved	Water	7470A	
480-46836-3	MW-4S	Dissolved	Water	7470A	
480-46836-4	MW-4D	Dissolved	Water	7470A	
480-46836-5	MW-6S	Dissolved	Water	7470A	
480-46836-6	MW-6D	Dissolved	Water	7470A	
480-46836-7	DUP-1	Dissolved	Water	7470A	
480-46836-8	SW-2	Dissolved	Water	7470A	
480-46836-9	SW-3	Dissolved	Water	7470A	
LCS 480-142091/8-B	Lab Control Sample	Dissolved	Water	7470A	142091
MB 480-142091/7-B	Method Blank	Dissolved	Water	7470A	142091

Prep Batch: 142250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-8	SW-2	Dissolved	Water	3020A	
480-46836-9	SW-3	Dissolved	Water	3020A	
LCS 480-142091/12-B	Lab Control Sample	Dissolved	Water	3020A	142091
MB 480-142091/11-B	Method Blank	Dissolved	Water	3020A	142091

Prep Batch: 142286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-10	SED-1	Total/NA	Solid	7471B	
480-46836-11	SED-3	Total/NA	Solid	7471B	
LCSSRM 480-142286/2-A	Lab Control Sample	Total/NA	Solid	7471B	

Metals (Continued)

Prep Batch: 142286 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-142286/1-A	Method Blank	Total/NA	Solid	7471B	

Prep Batch: 142293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-10	SED-1	Total/NA	Solid	3050B	
480-46836-11	SED-3	Total/NA	Solid	3050B	
LCSSRM 480-142293/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 480-142293/1-A	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 142338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-10	SED-1	Total/NA	Solid	7471B	142286
480-46836-11	SED-3	Total/NA	Solid	7471B	142286
LCSSRM 480-142286/2-A	Lab Control Sample	Total/NA	Solid	7471B	142286
MB 480-142286/1-A	Method Blank	Total/NA	Solid	7471B	142286

Analysis Batch: 142352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Dissolved	Water	7470A	142231
480-46836-2	MW-3	Dissolved	Water	7470A	142231
480-46836-2 MS	MW-3	Dissolved	Water	7470A	142231
480-46836-2 MSD	MW-3	Dissolved	Water	7470A	142231
480-46836-3	MW-4S	Dissolved	Water	7470A	142231
480-46836-4	MW-4D	Dissolved	Water	7470A	142231
480-46836-5	MW-6S	Dissolved	Water	7470A	142231
480-46836-6	MW-6D	Dissolved	Water	7470A	142231
480-46836-7	DUP-1	Dissolved	Water	7470A	142231
480-46836-8	SW-2	Dissolved	Water	7470A	142231
480-46836-9	SW-3	Dissolved	Water	7470A	142231
LCS 480-142091/8-B	Lab Control Sample	Dissolved	Water	7470A	142231
MB 480-142091/7-B	Method Blank	Dissolved	Water	7470A	142231

Analysis Batch: 142462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Dissolved	Water	6010C	142205
480-46836-1 MS	MW-1	Dissolved	Water	6010C	142205
480-46836-1 MSD	MW-1	Dissolved	Water	6010C	142205
480-46836-2	MW-3	Dissolved	Water	6010C	142205
480-46836-3	MW-4S	Dissolved	Water	6010C	142205
480-46836-4	MW-4D	Dissolved	Water	6010C	142205
480-46836-5	MW-6S	Dissolved	Water	6010C	142205
480-46836-6	MW-6D	Dissolved	Water	6010C	142205
480-46836-7	DUP-1	Dissolved	Water	6010C	142205
480-46836-8	SW-2	Dissolved	Water	6010C	142205
480-46836-9	SW-3	Dissolved	Water	6010C	142205
LCS 480-142091/2-B	Lab Control Sample	Dissolved	Water	6010C	142205
MB 480-142091/1-B	Method Blank	Dissolved	Water	6010C	142205

Analysis Batch: 142470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-10	SED-1	Total/NA	Solid	6010C	142293

Metals (Continued)

Analysis Batch: 142470 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-11	SED-3	Total/NA	Solid	6010C	142293
LCSSRM 480-142293/2-A	Lab Control Sample	Total/NA	Solid	6010C	142293
MB 480-142293/1-A	Method Blank	Total/NA	Solid	6010C	142293

Analysis Batch: 142585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-8	SW-2	Dissolved	Water	6020A	142250
480-46836-9	SW-3	Dissolved	Water	6020A	142250
LCS 480-142091/12-B	Lab Control Sample	Dissolved	Water	6020A	142250
MB 480-142091/11-B	Method Blank	Dissolved	Water	6020A	142250

Analysis Batch: 142747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-10	SED-1	Total/NA	Solid	6010C	142293
480-46836-11	SED-3	Total/NA	Solid	6010C	142293
LCSSRM 480-142293/2-A	Lab Control Sample	Total/NA	Solid	6010C	142293
MB 480-142293/1-A	Method Blank	Total/NA	Solid	6010C	142293

Analysis Batch: 142856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-8	SW-2	Dissolved	Water	6020A	142250
480-46836-9	SW-3	Dissolved	Water	6020A	142250
LCS 480-142091/12-B	Lab Control Sample	Dissolved	Water	6020A	142250
MB 480-142091/11-B	Method Blank	Dissolved	Water	6020A	142250

General Chemistry

Analysis Batch: 142142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Total/NA	Water	SM 2540C	
480-46836-2	MW-3	Total/NA	Water	SM 2540C	
480-46836-3	MW-4S	Total/NA	Water	SM 2540C	
480-46836-4	MW-4D	Total/NA	Water	SM 2540C	
480-46836-6	MW-6D	Total/NA	Water	SM 2540C	
480-46836-7	DUP-1	Total/NA	Water	SM 2540C	
480-46836-8	SW-2	Total/NA	Water	SM 2540C	
LCS 480-142142/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 480-142142/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
MB 480-142142/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 142143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-9	SW-3	Total/NA	Water	SM 2540C	
480-46836-9 DU	SW-3	Total/NA	Water	SM 2540C	
LCS 480-142143/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 480-142143/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 142160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-10	SED-1	Total/NA	Solid	Moisture	

General Chemistry (Continued)

Analysis Batch: 142160 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-11	SED-3	Total/NA	Solid	Moisture	

Analysis Batch: 142170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Total/NA	Water	SM 2320B	
480-46836-1 DU	MW-1	Total/NA	Water	SM 2320B	
480-46836-2	MW-3	Total/NA	Water	SM 2320B	
480-46836-2 MS	MW-3	Total/NA	Water	SM 2320B	
480-46836-3	MW-4S	Total/NA	Water	SM 2320B	
480-46836-4	MW-4D	Total/NA	Water	SM 2320B	
LCS 480-142170/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 480-142170/7	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 480-142170/30	Method Blank	Total/NA	Water	SM 2320B	
MB 480-142170/6	Method Blank	Total/NA	Water	SM 2320B	

Analysis Batch: 142313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Total/NA	Water	300.0	
480-46836-2	MW-3	Total/NA	Water	300.0	
480-46836-3	MW-4S	Total/NA	Water	300.0	
480-46836-4	MW-4D	Total/NA	Water	300.0	
LCS 480-142313/3	Lab Control Sample	Total/NA	Water	300.0	
MB 480-142313/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 142354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Total/NA	Water	353.2	
480-46836-2	MW-3	Total/NA	Water	353.2	
480-46836-3	MW-4S	Total/NA	Water	353.2	
480-46836-4	MW-4D	Total/NA	Water	353.2	
480-46836-5	MW-6S	Total/NA	Water	353.2	
480-46836-6	MW-6D	Total/NA	Water	353.2	
480-46836-7	DUP-1	Total/NA	Water	353.2	
480-46836-8	SW-2	Total/NA	Water	353.2	
480-46836-9	SW-3	Total/NA	Water	353.2	

Analysis Batch: 142400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-5	MW-6S	Total/NA	Water	SM 2540C	
LCS 480-142400/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 480-142400/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 142420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-5	MW-6S	Total/NA	Water	SM 2320B	
480-46836-6	MW-6D	Total/NA	Water	SM 2320B	
480-46836-7	DUP-1	Total/NA	Water	SM 2320B	
480-46836-8	SW-2	Total/NA	Water	SM 2320B	
480-46836-9	SW-3	Total/NA	Water	SM 2320B	
LCS 480-142420/7	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 480-142420/6	Method Blank	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 142536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Total/NA	Water	300.0	
480-46836-2	MW-3	Total/NA	Water	300.0	
480-46836-2 MS	MW-3	Total/NA	Water	300.0	
480-46836-3	MW-4S	Total/NA	Water	300.0	
480-46836-4	MW-4D	Total/NA	Water	300.0	
LCS 480-142536/3	Lab Control Sample	Total/NA	Water	300.0	
MB 480-142536/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 142549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-5	MW-6S	Total/NA	Water	300.0	
480-46836-6	MW-6D	Total/NA	Water	300.0	
480-46836-7	DUP-1	Total/NA	Water	300.0	
480-46836-8	SW-2	Total/NA	Water	300.0	
480-46836-9	SW-3	Total/NA	Water	300.0	
LCS 480-142549/27	Lab Control Sample	Total/NA	Water	300.0	
MB 480-142549/28	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 142560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Total/NA	Water	410.4	
480-46836-2	MW-3	Total/NA	Water	410.4	
480-46836-4	MW-4D	Total/NA	Water	410.4	
480-46836-5	MW-6S	Total/NA	Water	410.4	
480-46836-6	MW-6D	Total/NA	Water	410.4	
480-46836-7	DUP-1	Total/NA	Water	410.4	
LCS 480-142560/28	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-142560/52	Lab Control Sample	Total/NA	Water	410.4	
MB 480-142560/27	Method Blank	Total/NA	Water	410.4	
MB 480-142560/51	Method Blank	Total/NA	Water	410.4	

Analysis Batch: 142660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-3	MW-4S	Total/NA	Water	410.4	
480-46836-8	SW-2	Total/NA	Water	410.4	
LCS 480-142660/4	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-142660/52	Lab Control Sample	Total/NA	Water	410.4	
MB 480-142660/3	Method Blank	Total/NA	Water	410.4	
MB 480-142660/51	Method Blank	Total/NA	Water	410.4	

Prep Batch: 142687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Total/NA	Water	PAC	
480-46836-1 DU	MW-1	Total/NA	Water	PAC	
480-46836-2	MW-3	Total/NA	Water	PAC	
480-46836-2 MS	MW-3	Total/NA	Water	PAC	
480-46836-3	MW-4S	Total/NA	Water	PAC	
480-46836-4	MW-4D	Total/NA	Water	PAC	
480-46836-5	MW-6S	Total/NA	Water	PAC	
480-46836-6	MW-6D	Total/NA	Water	PAC	
480-46836-7	DUP-1	Total/NA	Water	PAC	

General Chemistry (Continued)

Prep Batch: 142687 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-8	SW-2	Total/NA	Water	PAC	
480-46836-9	SW-3	Total/NA	Water	PAC	
480-46836-9 MS	SW-3	Total/NA	Water	PAC	
LCS 480-142687/1-A	Lab Control Sample	Total/NA	Water	PAC	
LCSD 480-142687/2-A	Lab Control Sample Dup	Total/NA	Water	PAC	
LCSN 480-142687/3-A	Lab Control Sample	Total/NA	Water	PAC	
MB 480-142687/4-A	Method Blank	Total/NA	Water	PAC	

Analysis Batch: 142790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-5	MW-6S	Total/NA	Water	300.0	
480-46836-7	DUP-1	Total/NA	Water	300.0	
LCS 480-142790/3	Lab Control Sample	Total/NA	Water	300.0	
MB 480-142790/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 142908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-1	MW-1	Total/NA	Water	9012	142687
480-46836-1 DU	MW-1	Total/NA	Water	9012	142687
480-46836-2	MW-3	Total/NA	Water	9012	142687
480-46836-2 MS	MW-3	Total/NA	Water	9012	142687
480-46836-3	MW-4S	Total/NA	Water	9012	142687
480-46836-4	MW-4D	Total/NA	Water	9012	142687
480-46836-5	MW-6S	Total/NA	Water	9012	142687
480-46836-6	MW-6D	Total/NA	Water	9012	142687
480-46836-7	DUP-1	Total/NA	Water	9012	142687
480-46836-8	SW-2	Total/NA	Water	9012	142687
480-46836-9	SW-3	Total/NA	Water	9012	142687
480-46836-9 MS	SW-3	Total/NA	Water	9012	142687
LCS 480-142687/1-A	Lab Control Sample	Total/NA	Water	9012	142687
LCSD 480-142687/2-A	Lab Control Sample Dup	Total/NA	Water	9012	142687
LCSN 480-142687/3-A	Lab Control Sample	Total/NA	Water	9012	142687
MB 480-142687/4-A	Method Blank	Total/NA	Water	9012	142687

Analysis Batch: 143003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-46836-9	SW-3	Total/NA	Water	410.4	
LCS 480-143003/28	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-143003/52	Lab Control Sample	Total/NA	Water	410.4	
MB 480-143003/27	Method Blank	Total/NA	Water	410.4	
MB 480-143003/51	Method Blank	Total/NA	Water	410.4	

Lab Chronicle

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: MW-1

Lab Sample ID: 480-46836-1
Matrix: Water

Date Collected: 09/30/13 11:35
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	142226	10/02/13 10:51	CDC	TAL BUF
Total/NA	Analysis	8260C		1	142444	10/03/13 16:16	RAL	TAL BUF
Dissolved	Prep	7470A			142231	10/02/13 08:50	JRK	TAL BUF
Dissolved	Analysis	7470A		1	142352	10/02/13 14:34	JRK	TAL BUF
Dissolved	Prep	3005A			142205	10/02/13 08:35	NMD2	TAL BUF
Dissolved	Analysis	6010C		1	142462	10/02/13 16:54	LMH	TAL BUF
Total/NA	Analysis	SM 2540C		1	142142	10/01/13 17:13	KS	TAL BUF
Total/NA	Analysis	SM 2320B		1	142170	10/01/13 18:42	KWJ	TAL BUF
Total/NA	Analysis	300.0		5	142313	10/02/13 17:31	KAC	TAL BUF
Total/NA	Analysis	353.2		1	142354	10/01/13 17:05	CLT	TAL BUF
Total/NA	Analysis	300.0		1	142536	10/03/13 14:17	KRC	TAL BUF
Total/NA	Analysis	410.4		1	142560	10/03/13 11:55	KMF	TAL BUF
Total/NA	Prep	PAC			142687	10/04/13 06:08	LAW	TAL BUF
Total/NA	Analysis	9012		1	142908	10/04/13 12:23	EGN	TAL BUF

Client Sample ID: MW-3

Lab Sample ID: 480-46836-2
Matrix: Water

Date Collected: 09/30/13 13:00
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	142226	10/02/13 11:15	CDC	TAL BUF
Total/NA	Analysis	8260C		1	142444	10/03/13 16:39	RAL	TAL BUF
Dissolved	Prep	7470A			142231	10/02/13 08:50	JRK	TAL BUF
Dissolved	Analysis	7470A		1	142352	10/02/13 14:35	JRK	TAL BUF
Dissolved	Prep	3005A			142205	10/02/13 08:35	NMD2	TAL BUF
Dissolved	Analysis	6010C		1	142462	10/02/13 17:06	LMH	TAL BUF
Total/NA	Analysis	SM 2540C		1	142142	10/01/13 17:15	KS	TAL BUF
Total/NA	Analysis	SM 2320B		1	142170	10/01/13 18:53	KWJ	TAL BUF
Total/NA	Analysis	300.0		2	142313	10/02/13 17:41	KAC	TAL BUF
Total/NA	Analysis	353.2		1	142354	10/01/13 18:39	CLT	TAL BUF
Total/NA	Analysis	300.0		1	142536	10/03/13 14:27	KRC	TAL BUF
Total/NA	Analysis	410.4		1	142560	10/03/13 11:55	KMF	TAL BUF
Total/NA	Prep	PAC			142687	10/04/13 06:08	LAW	TAL BUF
Total/NA	Analysis	9012		1	142908	10/04/13 12:25	EGN	TAL BUF

Client Sample ID: MW-4S

Lab Sample ID: 480-46836-3
Matrix: Water

Date Collected: 09/30/13 13:15
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	142226	10/02/13 11:39	CDC	TAL BUF

Lab Chronicle

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: MW-4S

Lab Sample ID: 480-46836-3
Matrix: Water

Date Collected: 09/30/13 13:15
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	142444	10/03/13 17:02	RAL	TAL BUF
Dissolved	Prep	7470A			142231	10/02/13 08:50	JRK	TAL BUF
Dissolved	Analysis	7470A		1	142352	10/02/13 14:42	JRK	TAL BUF
Dissolved	Prep	3005A			142205	10/02/13 08:35	NMD2	TAL BUF
Dissolved	Analysis	6010C		1	142462	10/02/13 17:08	LMH	TAL BUF
Total/NA	Analysis	SM 2540C		1	142142	10/01/13 17:16	KS	TAL BUF
Total/NA	Analysis	SM 2320B		1	142170	10/01/13 19:21	KWJ	TAL BUF
Total/NA	Analysis	300.0		1	142313	10/02/13 17:51	KAC	TAL BUF
Total/NA	Analysis	353.2		1	142354	10/01/13 17:07	CLT	TAL BUF
Total/NA	Analysis	300.0		1	142536	10/03/13 15:07	KRC	TAL BUF
Total/NA	Analysis	410.4		1	142660	10/03/13 19:10	JMB	TAL BUF
Total/NA	Prep	PAC			142687	10/04/13 06:08	LAW	TAL BUF
Total/NA	Analysis	9012		1	142908	10/04/13 12:27	EGN	TAL BUF

Client Sample ID: MW-4D

Lab Sample ID: 480-46836-4
Matrix: Water

Date Collected: 09/30/13 13:10
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	142226	10/02/13 12:03	CDC	TAL BUF
Total/NA	Analysis	8260C		1	142444	10/03/13 17:27	RAL	TAL BUF
Dissolved	Prep	7470A			142231	10/02/13 08:50	JRK	TAL BUF
Dissolved	Analysis	7470A		1	142352	10/02/13 14:44	JRK	TAL BUF
Dissolved	Prep	3005A			142205	10/02/13 08:35	NMD2	TAL BUF
Dissolved	Analysis	6010C		1	142462	10/02/13 17:18	LMH	TAL BUF
Total/NA	Analysis	SM 2540C		1	142142	10/01/13 17:17	KS	TAL BUF
Total/NA	Analysis	SM 2320B		1	142170	10/01/13 19:26	KWJ	TAL BUF
Total/NA	Analysis	300.0		1	142313	10/02/13 18:01	KAC	TAL BUF
Total/NA	Analysis	353.2		1	142354	10/01/13 17:08	CLT	TAL BUF
Total/NA	Analysis	300.0		1	142536	10/03/13 15:17	KRC	TAL BUF
Total/NA	Analysis	410.4		1	142560	10/03/13 11:55	KMF	TAL BUF
Total/NA	Prep	PAC			142687	10/04/13 06:08	LAW	TAL BUF
Total/NA	Analysis	9012		1	142908	10/04/13 12:28	EGN	TAL BUF

Client Sample ID: MW-6S

Lab Sample ID: 480-46836-5
Matrix: Water

Date Collected: 09/30/13 08:30
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	142226	10/02/13 12:27	CDC	TAL BUF
Total/NA	Analysis	8260C		1	142444	10/03/13 17:50	RAL	TAL BUF

Lab Chronicle

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: MW-6S

Lab Sample ID: 480-46836-5
Matrix: Water

Date Collected: 09/30/13 08:30
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	7470A			142231	10/02/13 08:50	JRK	TAL BUF
Dissolved	Analysis	7470A		1	142352	10/02/13 14:46	JRK	TAL BUF
Dissolved	Prep	3005A			142205	10/02/13 08:35	NMD2	TAL BUF
Dissolved	Analysis	6010C		1	142462	10/02/13 17:20	LMH	TAL BUF
Total/NA	Analysis	353.2		1	142354	10/01/13 18:40	CLT	TAL BUF
Total/NA	Analysis	SM 2540C		1	142400	10/03/13 00:37	JMB	TAL BUF
Total/NA	Analysis	SM 2320B		1	142420	10/02/13 17:10	KWJ	TAL BUF
Total/NA	Analysis	300.0		1	142549	10/03/13 19:20	KRC	TAL BUF
Total/NA	Analysis	410.4		1	142560	10/03/13 11:55	KMF	TAL BUF
Total/NA	Analysis	300.0		1	142790	10/04/13 12:59	KAC	TAL BUF
Total/NA	Prep	PAC			142687	10/04/13 06:08	LAW	TAL BUF
Total/NA	Analysis	9012		1	142908	10/04/13 12:30	EGN	TAL BUF

Client Sample ID: MW-6D

Lab Sample ID: 480-46836-6
Matrix: Water

Date Collected: 09/30/13 08:45
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	142226	10/02/13 12:51	CDC	TAL BUF
Total/NA	Analysis	8260C		1	142444	10/03/13 18:14	RAL	TAL BUF
Dissolved	Prep	7470A			142231	10/02/13 08:50	JRK	TAL BUF
Dissolved	Analysis	7470A		1	142352	10/02/13 14:52	JRK	TAL BUF
Dissolved	Prep	3005A			142205	10/02/13 08:35	NMD2	TAL BUF
Dissolved	Analysis	6010C		1	142462	10/02/13 17:23	LMH	TAL BUF
Total/NA	Analysis	SM 2540C		1	142142	10/01/13 17:20	KS	TAL BUF
Total/NA	Analysis	353.2		1	142354	10/01/13 17:11	CLT	TAL BUF
Total/NA	Analysis	SM 2320B		1	142420	10/02/13 17:15	KWJ	TAL BUF
Total/NA	Analysis	300.0		1	142549	10/03/13 19:30	KRC	TAL BUF
Total/NA	Analysis	410.4		1	142560	10/03/13 11:55	KMF	TAL BUF
Total/NA	Prep	PAC			142687	10/04/13 06:08	LAW	TAL BUF
Total/NA	Analysis	9012		1	142908	10/04/13 12:31	EGN	TAL BUF

Client Sample ID: DUP-1

Lab Sample ID: 480-46836-7
Matrix: Water

Date Collected: 09/30/13 00:00
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	142226	10/02/13 13:15	CDC	TAL BUF
Total/NA	Analysis	8260C		1	142444	10/03/13 18:37	RAL	TAL BUF
Dissolved	Prep	7470A			142231	10/02/13 08:50	JRK	TAL BUF
Dissolved	Analysis	7470A		1	142352	10/02/13 14:54	JRK	TAL BUF
Dissolved	Prep	3005A			142205	10/02/13 08:35	NMD2	TAL BUF

Lab Chronicle

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: DUP-1

Lab Sample ID: 480-46836-7
Matrix: Water

Date Collected: 09/30/13 00:00
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	6010C		1	142462	10/02/13 17:25	LMH	TAL BUF
Total/NA	Analysis	SM 2540C		1	142142	10/01/13 17:22	KS	TAL BUF
Total/NA	Analysis	353.2		1	142354	10/01/13 17:14	CLT	TAL BUF
Total/NA	Analysis	SM 2320B		1	142420	10/02/13 17:21	KWJ	TAL BUF
Total/NA	Analysis	300.0		5	142549	10/03/13 19:40	KRC	TAL BUF
Total/NA	Analysis	410.4		1	142560	10/03/13 11:55	KMF	TAL BUF
Total/NA	Analysis	300.0		1	142790	10/04/13 13:08	KAC	TAL BUF
Total/NA	Prep	PAC			142687	10/04/13 06:08	LAW	TAL BUF
Total/NA	Analysis	9012		1	142908	10/04/13 12:32	EGN	TAL BUF

Client Sample ID: SW-2

Lab Sample ID: 480-46836-8
Matrix: Water

Date Collected: 09/30/13 10:45
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	142226	10/02/13 13:39	CDC	TAL BUF
Total/NA	Analysis	8260C		1	142444	10/03/13 19:01	RAL	TAL BUF
Dissolved	Prep	7470A			142231	10/02/13 08:50	JRK	TAL BUF
Dissolved	Analysis	7470A		1	142352	10/02/13 14:56	JRK	TAL BUF
Dissolved	Prep	3005A			142205	10/02/13 08:35	NMD2	TAL BUF
Dissolved	Analysis	6010C		1	142462	10/02/13 17:27	LMH	TAL BUF
Dissolved	Prep	3020A			142250	10/02/13 11:55	NMD2	TAL BUF
Dissolved	Analysis	6020A		1	142585	10/02/13 21:24	MTM2	TAL BUF
Dissolved	Analysis	6020A		1	142856	10/03/13 19:22	MTM2	TAL BUF
Total/NA	Analysis	SM 2540C		1	142142	10/01/13 17:23	KS	TAL BUF
Total/NA	Analysis	353.2		1	142354	10/01/13 17:18	CLT	TAL BUF
Total/NA	Analysis	SM 2320B		1	142420	10/02/13 17:27	KWJ	TAL BUF
Total/NA	Analysis	300.0		1	142549	10/03/13 19:51	KRC	TAL BUF
Total/NA	Analysis	410.4		1	142660	10/03/13 19:10	JMB	TAL BUF
Total/NA	Prep	PAC			142687	10/04/13 06:08	LAW	TAL BUF
Total/NA	Analysis	9012		1	142908	10/04/13 12:33	EGN	TAL BUF

Client Sample ID: SW-3

Lab Sample ID: 480-46836-9
Matrix: Water

Date Collected: 09/30/13 09:50
Date Received: 10/01/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	142226	10/02/13 14:03	CDC	TAL BUF
Total/NA	Analysis	8260C		1	142636	10/04/13 05:27	LCH	TAL BUF
Dissolved	Prep	7470A			142231	10/02/13 08:50	JRK	TAL BUF
Dissolved	Analysis	7470A		1	142352	10/02/13 14:58	JRK	TAL BUF

Lab Chronicle

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: SW-3

Date Collected: 09/30/13 09:50
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			142205	10/02/13 08:35	NMD2	TAL BUF
Dissolved	Analysis	6010C		1	142462	10/02/13 17:30	LMH	TAL BUF
Dissolved	Prep	3020A			142250	10/02/13 11:55	NMD2	TAL BUF
Dissolved	Analysis	6020A		1	142585	10/02/13 21:30	MTM2	TAL BUF
Dissolved	Analysis	6020A		1	142856	10/03/13 19:27	MTM2	TAL BUF
Total/NA	Analysis	SM 2540C		1	142143	10/01/13 18:03	KS	TAL BUF
Total/NA	Analysis	353.2		1	142354	10/01/13 17:19	CLT	TAL BUF
Total/NA	Analysis	SM 2320B		1	142420	10/02/13 17:33	KWJ	TAL BUF
Total/NA	Analysis	300.0		1	142549	10/03/13 20:01	KRC	TAL BUF
Total/NA	Prep	PAC			142687	10/04/13 06:08	LAW	TAL BUF
Total/NA	Analysis	9012		1	142908	10/04/13 12:34	EGN	TAL BUF
Total/NA	Analysis	410.4		1	143003	10/05/13 12:40	KMF	TAL BUF

Client Sample ID: SED-1

Date Collected: 09/30/13 12:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-10
Matrix: Solid
Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			142545	10/03/13 11:23	PJQ	TAL BUF
Total/NA	Analysis	8260C		1	142541	10/03/13 16:17	CDC	TAL BUF
Total/NA	Prep	7471B			142286	10/02/13 11:00	JRK	TAL BUF
Total/NA	Analysis	7471B		1	142338	10/02/13 14:19	JRK	TAL BUF
Total/NA	Prep	3050B			142293	10/02/13 12:30	NMD2	TAL BUF
Total/NA	Analysis	6010C		1	142470	10/02/13 23:47	LMH	TAL BUF
Total/NA	Analysis	6010C		1	142747	10/03/13 21:13	LMH	TAL BUF
Total/NA	Analysis	Moisture		1	142160	10/01/13 21:22	GTG	TAL BUF

Client Sample ID: SED-3

Date Collected: 09/30/13 10:15
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-11
Matrix: Solid
Percent Solids: 79.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			142545	10/03/13 11:23	PJQ	TAL BUF
Total/NA	Analysis	8260C		1	142541	10/03/13 16:42	CDC	TAL BUF
Total/NA	Prep	7471B			142286	10/02/13 11:00	JRK	TAL BUF
Total/NA	Analysis	7471B		1	142338	10/02/13 14:20	JRK	TAL BUF
Total/NA	Analysis	6010C		1	142470	10/02/13 23:50	LMH	TAL BUF
Total/NA	Prep	3050B			142293	10/02/13 12:30	NMD2	TAL BUF
Total/NA	Analysis	6010C		1	142747	10/03/13 21:15	LMH	TAL BUF
Total/NA	Analysis	Moisture		1	142160	10/01/13 21:22	GTG	TAL BUF

Lab Chronicle

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Client Sample ID: TRIP BLANK

Date Collected: 09/30/13 00:00
Date Received: 10/01/13 02:00

Lab Sample ID: 480-46836-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	142723	10/04/13 13:21	LCH	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Laboratory: TestAmerica Buffalo

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-14
California	NELAP	9	1169CA	09-30-14
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAP	4	E87672	06-30-14
Georgia	State Program	4	N/A	03-31-14
Illinois	NELAP	5	200003	09-30-14
Iowa	State Program	7	374	03-01-15
Kansas	NELAP	7	E-10187	01-31-14
Kentucky	State Program	4	90029	12-31-13 *
Kentucky (UST)	State Program	4	30	04-01-14
Louisiana	NELAP	6	02031	06-30-14
Maine	State Program	1	NY00044	12-04-14
Maryland	State Program	3	294	03-31-14
Massachusetts	State Program	1	M-NY044	06-30-14
Michigan	State Program	5	9937	04-01-14
Minnesota	NELAP	5	036-999-337	12-31-13 *
New Hampshire	NELAP	1	2337	11-17-14
New Jersey	NELAP	2	NY455	06-30-14
New York	NELAP	2	10026	04-01-14
North Dakota	State Program	8	R-176	03-31-14
Oklahoma	State Program	6	9421	08-31-14
Oregon	NELAP	10	NY200003	06-09-14
Pennsylvania	NELAP	3	68-00281	07-31-14
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-14
Texas	NELAP	6	T104704412-11-2	07-31-14
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAP	3	460185	09-14-14
Washington	State Program	10	C784	02-10-14
West Virginia DEP	State Program	3	252	12-31-13
Wisconsin	State Program	5	998310390	08-31-14

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
6020A	Metals (ICP/MS)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
7471B	Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)	SW846	TAL BUF
300.0	Anions, Ion Chromatography	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF
410.4	COD	MCAWW	TAL BUF
9012	Cyanide, Physiologically Available	MA DEP	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF
SM 2320B	Alkalinity	SM	TAL BUF
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MA DEP = Massachusetts Department Of Environmental Protection

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Weston & Sampson Engineers
Project/Site: Hamilton Landfill

TestAmerica Job ID: 480-46836-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-46836-1	MW-1	Water	09/30/13 11:35	10/01/13 02:00
480-46836-2	MW-3	Water	09/30/13 13:00	10/01/13 02:00
480-46836-3	MW-4S	Water	09/30/13 13:15	10/01/13 02:00
480-46836-4	MW-4D	Water	09/30/13 13:10	10/01/13 02:00
480-46836-5	MW-6S	Water	09/30/13 08:30	10/01/13 02:00
480-46836-6	MW-6D	Water	09/30/13 08:45	10/01/13 02:00
480-46836-7	DUP-1	Water	09/30/13 00:00	10/01/13 02:00
480-46836-8	SW-2	Water	09/30/13 10:45	10/01/13 02:00
480-46836-9	SW-3	Water	09/30/13 09:50	10/01/13 02:00
480-46836-10	SED-1	Solid	09/30/13 12:00	10/01/13 02:00
480-46836-11	SED-3	Solid	09/30/13 10:15	10/01/13 02:00
480-46836-12	TRIP BLANK	Water	09/30/13 00:00	10/01/13 02:00

TestAmerica Westfield
Westfield Executive Park 53 Southampton Road
Westfield, MA 01085
Phone (413) 572-4000 Fax (413) 572-3707

Chain of Custody Record

TestAmerica

Client Information	Sampler: Loren McGrath/Joe Pesce	Lab PM: Steve Hartmann	Carrier Tracking No(s):	COC No:
Client Contact: Loren McGrath	Phone: (781) 532-1900	E-Mail: steve.hartmann@testamericainc.com		Page: Page 1 of 2
Company: Weston & Sampson Engineers				Job #:
Address: 5 Centennial Drive	Due Date Requested:			
City: Peabody	TAT Requested (days): 5 - 7 days			
State, Zip: MA, 01960				
Phone:	PO #: Purchase Order not required			
Email: mcgrathl@wseinc.com	WO #:			
Project Name: MA Landfills	Project #: 48006597			
Site: Hamilton Landfill	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	410.4 - Chemical Oxygen Demand	Alkalinity/Chloride/Nitrate/Sulfate/TDS	9012_PAC - Physiologically Available Cyanide	6010B, 7470A(As/Ba/Cd/Ca/Cr/Cu/Fe/Pb/Mn/Hg/Se/Ag/Na/Zn)	8260B - with TICS	1,4 Dioxane--8260SIM	Hardness	9014 Total cyanide for SW	SWmetals As/Ba/Cd/Ca/Cr/Cu/Fe/Pb/Mn/Hg/Se/Ag/Na/					Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	N	B	D	A	A		B	D						
MW-1	9/30/13	1135	G	GW			X	X	X	X	X	X									All GW/SW metals are dissolved field filtered
~~MW-2~~				~~GW~~			~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~									
MW-3	9/30/13	1300	G	GW			X	X	X	X	X	X									
MW-4S	9/30/13	1315	G	GW			X	X	X	X	X	X									
MW-4D	9/30/13	1310	G	GW			X	X	X	X	X	X									
~~MW-5~~				~~GW~~			~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~									
MW-6S	9/30/13	0230	G	GW			X	X	X	X	X	X									
MW-6D	9/30/13	0245	G	GW			X	X	X	X	X	X									
DUP-1	9/30/13	—	G	GW			X	X	X	X	X	X									
~~SW-1~~				~~SW~~			~~X~~	~~X~~	~~X~~		~~X~~	~~X~~			~~X~~						
SW-2	9/30/13	1045	G	SW			X	X	X		X	X			X						

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Loren McGrath	9/30/13 1400			9/30/13 1400	TAL
	9/30/13 1630	TAL		10-1-13 0200	TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.7, 3.3, 3.0 #1

TestAmerica Westfield
Westfield Executive Park 53 Southampton Road
Westfield, MA 01085
Phone (413) 572-4000 Fax (413) 572-3707

Chain of Custody Record

TestAmerica

Client Information	Sampler: Loren McGrath / Joe Meaker	Lab PM: Steve Hartmann	Carrier Tracking No(s):	COC No:
Client Contact: Loren McGrath	Phone: (978) 532-1900	E-Mail: steve.hartmann@testamericainc.com		Page: Page 2 of 2
Company: Weston & Sampson Engineers				Job #:
Address: 5 Centennial Drive	Due Date Requested:			
City: Peabody	TAT Requested (days): 5 - 7 days			
State, Zip: MA, 01960				
Phone:	PO #: Purchase Order not required			
Email: mcgrathl@wseinc.com	WO #:			
Project Name: MA Landfills	Project #: 48006597			
Site: Hamilton Landfill	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	410.4 - Chemical Oxygen Demand	Alkalinity/Chloride/Nitrate/Sulfate/TDS	9012_PAC - Physiologically Available Cyanide	6010B, 7470A(As/Ba/Cd/Ca/Cr/Cu/Fe/Pb/Mn/Hg/Se/Ag/Na/Zn)	8260B - with TICS	1,4 Dioxane--8260SIM	Hardness	9014 Total cyanide for SW	SWmetals As/Ba/Cd/Ca/Cr/Cu/Fe/Pb/Mn/Hg/Se/Ag/Na/					Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	N	B	D	A	A		B	D						
SW-3	9/30/13	0950	G	SW			X	X	X		X	X			X						All GW/SW metals are dissolved field filtered
SED-1	9/30/13	1200	G	SOIL						X	X										
SED-3	9/30/13	1615	G	SOIL						X	X										
TRIP BLANK	—	—	—	WATER							X										

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	9/30/13 1400		[signature]	9/30/13 1400	TAC
[signature]	9/30/13 1630	TAC	[signature]	10/1/13 0200	TAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.7 3.3 3.0 #1

Login Sample Receipt Checklist

Client: Weston & Sampson Engineers

Job Number: 480-46836-1

Login Number: 46836
List Number: 1
Creator: Wienke, Robert K

List Source: TestAmerica Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	