

July 30, 2013

Mr. F. Thomas Lubozynski, P.E.
Waste & Air Resource Programs Administrator
Florida Department of Environmental Protection
Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Subject: Status Report – Soil Vapor Extraction Pilot Test Study
JED Solid Waste Management Facility
Osceola County, Florida
Permit Nos. 0197726-023-SC-MM and SO49-0199726-022

Dear Mr. Lubozynski:

On behalf of Omni Waste of Osceola County, LLC (Omni), HDR is submitting this status report for the Soil Vapor Extraction (SVE) pilot test study at the JED Solid Waste Management Facility (Facility) in accordance with the Pilot Test Work Plan for Soil Vapor Extraction System dated January 27, 2012. Implementation of the work plan was approved by Ms. Kim Rush of the Florida Department of Environmental Protection (FDEP) through e-mail correspondence dated February 6, 2012.

Background

During the course of routine monitoring, the Facility detected elevated levels of methane gas in the headspace of site groundwater wells and nearby methane gas monitoring probes. Water quality samples from select groundwater wells also exhibit low concentrations of volatile organic compounds (VOCs) in groundwater. To proactively address these detections, Omni conducted investigations and completed repairs of the base and closure cap liner terminations in the anchor trench areas and installed enhancements to the Landfill Gas Collection and Control System (GCCS). A variety of VOCs (including benzene) are known to be present in landfill gas. VOC impacts to groundwater from landfill gas is well documented in the literature.¹ The presence of elevated levels of methane gas and carbon dioxide and decreased oxygen and nitrogen concentrations in monitoring well headspace gases is evidence of landfill gas effects on the headspace gases.² Landfill gas in the vadose zone may diffuse into the groundwater through gas-vapor adsorption into the groundwater as wells as through diurnal water table elevation fluctuations that absorb condensed landfill gas on soil particles.³ Based on this analysis, Omni developed the aforementioned work plan to evaluate a SVE Pilot Test to mitigate these detections.

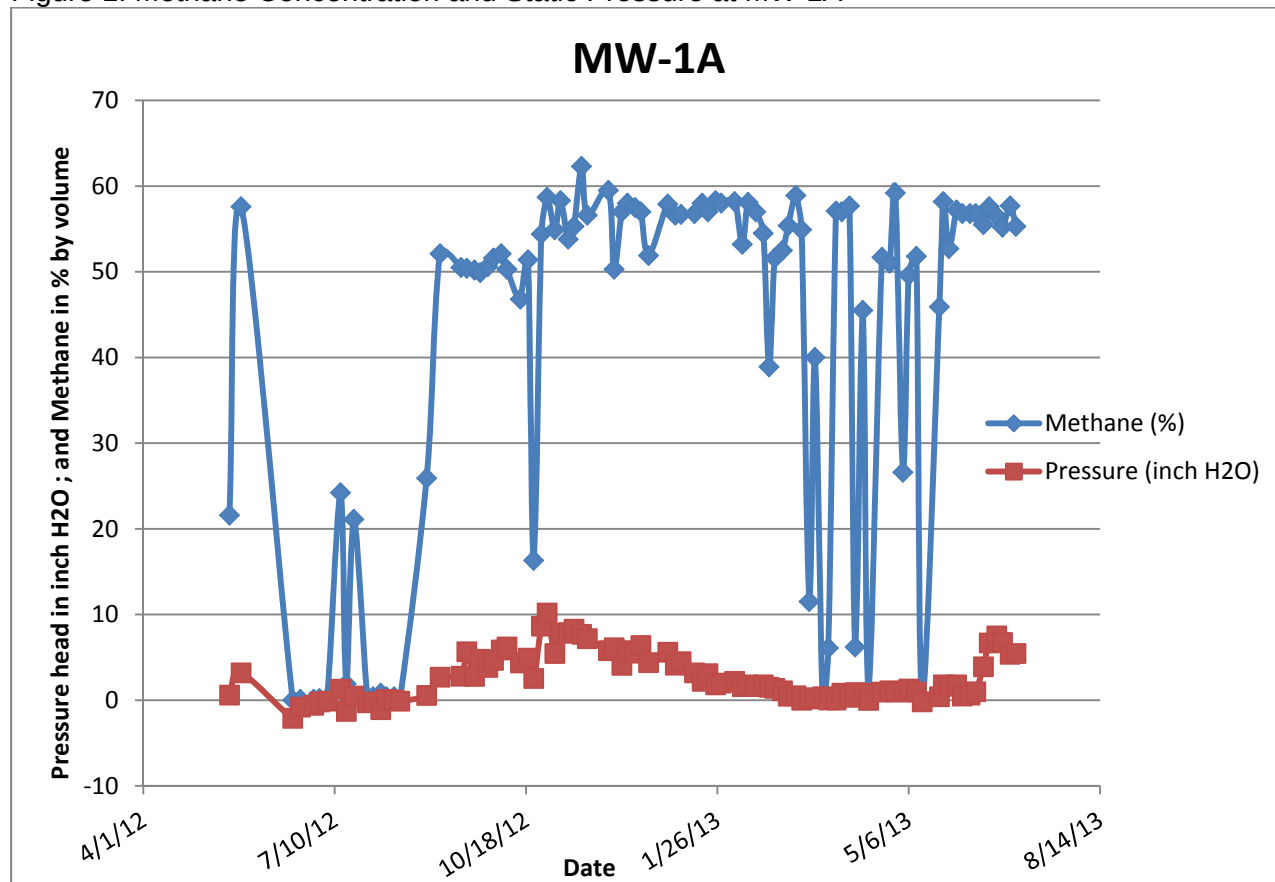
In accordance with the work plan, the SVE Pilot Test system consists of a vertical SVE system located at the Cell 5 sump area near groundwater monitoring wells MW-1A/B/C and a horizontal SVE system located along the west side of Cell 1 near groundwater monitoring wells MW-4A/B/C. The Installation and Progress Report dated October 17, 2012 provided the details of the Pilot SVE system construction and initial monitoring data. As discussed in the October 17, 2012 report, the horizontal SVE system was experiencing subsurface water issues at the perforated pipe section from surface storm water infiltration during wet weather conditions. Omni has since

discontinued monitoring of the horizontal SVE system and terminated that portion of the pilot test. The piping system has been removed by Omni operations.

Quarterly Gas and Groundwater Monitoring

Gas and groundwater monitoring continued at the vertical SVE pilot system, adjacent gas probes and groundwater wells during the past quarterly period. Updated gas monitoring data is summarized and presented in Attachment A. An overall decreasing trend has been observed in the perimeter gas probes in the past year which is attributed to completion of the second phase of partial closure and installation of several new vertical and horizontal gas collection wells in Cells 4, 5, 6, 7 & 8. It was reported that two perimeter probes exceeded 25% of the LEL (regulatory limit) in October 2012, no perimeter probes exceeded the regulatory limit in January and April 2013, and two probes exceeded the limit in the most recent monitoring period in July 2013. The gas monitoring data indicates limited correlation between operation of the SVE system and reduction of methane gas detected in the headspace of MW-1A as the methane gas spikes in the well headspace are very sporadic (see Figure 1 below).

Figure 1: Methane Concentration and Static Pressure at MW-1A



“Cell 5 2” SW.” The two additional gas extraction wells were connected to the GCCS and are operational as shown in the monitoring data. A total of five 2-inch gas extraction wells have been installed in the vicinity of the sump since installation of the SVE pilot test study. Although the addition of the five gas extraction wells appear to have had some impact in reducing the well headspace static pressures observed at MW-1A, the extraction wells have not reduced the overall methane concentration on a consistent basis. Note that the SVE wells were closed May 22, 2013 through the end of June 2013 to determine if the sump extraction wells would be sufficient in reducing the methane concentration at MW-1A. The methane concentration in MW-1A did not decrease during this timeframe. It should be noted that gas collected and combusted at the flare station has increased from approximately 1,500 standard cubic feet per minute (scfm) prior to the pilot SVE system installation to as high as 3,300 scfm after expansion of the gas collection system and installation of the structural fill wells adjacent to the Cell 5 sump. The average flow rate for the past six months has been approximately 2,500 scfm. The significant increase in gas collection efficiency has alleviated the extent of landfill gas migration as supported by the monitoring results for the perimeter probes. It is hopeful that longer term results will be similar for the resulting groundwater impacts.

In accordance with the workplan, supplemental groundwater sampling was initially conducted at wells MW-1A and MW-4A and leachate sumps LS-4 and LS-5. Initial background groundwater sampling was conducted on May 8, 2012 followed by quarterly sampling conducted in August 2012, November 2012, and February 2013. Sampling associated with this study for MW-4A and LS-4 was discontinued during the recent May 2013 event since the horizontal SVE system approach was discontinued. Future water quality monitoring data for MW-4A will still be available from the routine water quality monitoring performed on a semi-annual basis at the Facility.

Supplemental groundwater analysis has continued to be conducted to evaluate potential efficacy of the pilot scale SVE system in reducing the low level groundwater impacts and provide supplemental confirmatory source determination. Data from previous groundwater sampling events has been submitted to the FDEP with previous status reports. The laboratory results from the May 2013 sampling event are provided in Attachment B. The results are summarized in Summary of Pilot SVE System Groundwater Data in Attachment C.

Benzene concentrations in groundwater samples collected from groundwater well MW-1A have initially decreased since initiation of the pilot test, but slightly increased during the Feb 2013 event. In the most recent event, benzene concentration decreased slightly. Over the duration of the pilot test no substantial changes in benzene concentrations are noted. The table below summarizes benzene concentrations in groundwater at MW-1A and MW-4A and in the primary leachate sumps (LS-4 and 5) and in the secondary leachate sumps (LS-4S and 5S).

Table 1: Summary of Benzene in Groundwater and Leachate Samples

Benzene (ug/L)	May 2012	Aug. 2012	Nov. 2012	Feb 2013	May 2013	June 2013
MW-1A	3.25	2.5	2.1	6.0	5.4	-
LS-5	8.4U	-	5.2I	-	6.4I	6.3I
LS-5S	-	-	-	-	-	6.8I
MW-4A	Dry	4.04	3.4	4.1	4.0	-
LS-4	8.4U	-	5.4I	-	-	6.3I
LS-4S	-	-	-	-	-	4.8I

I = The reported value is between the laboratory method detection limit and the laboratory PQL.

U = Indicates that the compound was analyzed for but not detected at the listed detection limit.

As indicated above, benzene is detected at comparable concentrations in the leachate and in the groundwater. However, the VOCs detected in the highest concentrations in leachate are not detected in groundwater at MW-1A which suggests an alternate origin of the benzene in MW-1A. The VOCs detected in groundwater are different than the VOCs detected in leachate. For example: in leachate (collected June 2013) at Sump 5, 2-butanone (540 ug/L), acetone (380 ug/L), xylene (42 ug/L) and toluene (40 ug/L) were the VOCs detected at the highest concentrations, whereas the VOC fingerprint (VOCs detected above the method reporting limit) at MW-1A consisted of benzene (5.1 ug/L), xylene (2.11 ug/L), and 1,4-Dichlorobenzene (2 ug/L). This illustrates that the VOCs detected in leachate are proportionally different than the VOCs detected in groundwater and suggests the source of the VOCs in groundwater are from landfill gas.^{4,5}

The relative proportions of cations and anions are diagnostic of water quality origin. Plotting these data on piper and stiff diagrams helps illustrate the relative similarity (or dis-similarity) and can be used to assist in determination of the source of VOCs. Piper and Stiff diagrams are attached in Attachment D.

Piper diagrams provide a graphical representation of the chemistry of a water sample or samples. The apexes of the cation plot are calcium, magnesium and sodium plus potassium cations. The apexes of the anion plot are sulfate, chloride and carbonate plus hydrogen carbonate anions. Samples from the same source of groundwater will typically have similar plots. These plots diverge significantly in the upper diamond graph using laboratory data from the primary leachate sumps. Based on these plots it does not appear leachate is the primary source contributor of the VOCs detected in the groundwater near MW-1A. Piper and Stiff diagrams for June 2013 leachate samples collected at the secondary sumps (leak detect) could not be prepared since the necessary parameters were not included in the laboratory analysis. Omni is resampling the secondary sumps for the necessary parameters and will submit diagrams to the FDEP under separate letter.

Stiff diagrams provide a graphical representation of the major ion composition of water samples. Cations are plotted in milliequivalents per liter on the left side of the zero axis, one to each horizontal axis, and anions are plotted on the right side. Stiff patterns are useful in making a rapid visual comparison between water from different sources. Calcium, magnesium and

sulfate concentrations are similar between the leachate and groundwater samples, but the chloride, sodium/potassium and bicarbonate concentrations are very dissimilar. Comparison of these plots indicates that leachate is not the primary source contributor to the VOCs detected in groundwater near MW-1A. We note that a recent slight increase in the sodium and chloride concentration have been observed at MW-1A. This is explained further in the next section.

The analytical data (including VOC, cation and anion) as a whole continue to indicate the source of the benzene in groundwater is predominately from landfill gas and not from a release of liquids from the lined landfill.

Field measured parameters are summarized in Attachment E. This data also supports that landfill gas is the predominate source of the groundwater impacts rather than leachate. Conductivity ranged from 0.18-1.99 mS/cm in the groundwater samples while a range of 17.55-23.5 mS/cm was observed for leachate samples. Groundwater samples have a acidic pH (4.15-4.89 S.U.) whereas the pH of leachate samples are neutral – base and many orders of magnitude higher (pH range of 7.13-7.72 S.U.) than groundwater. The low pHs characteristic of groundwater impacted by landfill gas are attributed to the formation of carbonic acid from carbon dioxide in landfill gas. Based on these results, the field data supports landfill gas as the probable source of these groundwater impacts.

Increased Levels Sodium and Chloride MW-1A

As mentioned above, results from the November 2012 and May 2013 semi-annual groundwater sampling events noted an order of magnitude increase in chloride and sodium concentrations at MW-1A, both exceeding their respective standards. Prior to each groundwater sampling event, facility personnel noted sideslope washouts above the Cell 5 sump area. Prior to the November 2012 sampling event, 1.33 inches of rainfall was documented on October 26, 2012. Prior to the May 2013 sampling event, 1.5 inches of rain was documented on May 1st through the 2nd and heavy rainfall continued through June 6th with 2 inches observed (associated with Tropical Storm Andrea). These and other rain events have caused significant erosion of daily and intermediate cover soils at the sideslopes above the Cell 5 sump. Stormwater and soil erosion runoff from the sideslopes had washed down and partially filled the stormwater retention swale near MW-1A. The eroded soils were removed each time washouts occurred. Omni has reviewed the grading and drainage design in this area and found that the distance between the stormwater downpipe drainage structures in nearby Cells 4 and 7 are too far apart to allow proper drainage of the bench terraces above the Cell 5 sump area. Omni plans to install an additional stormwater downpipe drainage structure near the Cell 5 sump during construction of Cell 9. The work is expected to be complete by early August. We anticipate this will help reduce the impact potential future washouts could have on the groundwater quality in the MW-1A area.

Conclusions

Based on the SVE monitoring data collected over the past year and the shallow vadose zone radius of influence (ROI) testing conducted at start-up of the SVE pilot system, a full-scale SVE system would not appear to be an effective approach in substantially reducing landfill gas migration and benzene concentrations in the perimeter berm soils and groundwater. SVE monitoring data indicated sporadic decreases in methane gas concentrations at MW-1A regardless of whether the SVE wells were operational or not, even with installation and operation of the additional sump area gas extraction wells. Testing does indicate that the SVE system reduced the positive pressure at MW-1A, but did not sufficiently eliminate the positive

pressure. The ROI testing indicated influence ranges that are typical of similar systems observed by HDR; however the limited depth of the wells, high vacuums necessary during operation of the SVE system, and the sandy conditions of the perimeter berm soils results in a higher chance that air intrusion will occur rather than subsurface gas extraction. These conditions would limit the overall effectiveness of a full scale SVE system. Therefore, continued source control of landfill gas inside the waste limits appears to be the preferred control mechanism rather than extraction of landfill gas beyond the liner limits.

Recommendations

Despite implementation of the SVE pilot test, methane gas concentrations in the headspace at groundwater well MW-1A have remained elevated during most monitoring events. As noted in previous sections of this report, decreases at MW-1A have been inconsistent regardless of higher vacuums applied to the SVE pilot system. Therefore it is recommended that the SVE system approach and the pilot study be discontinued. It is recommended that Omni continue to be proactive in expanding and monitoring the gas collection and control system to improve the effectiveness of the system within the waste limits. Longer term reductions in groundwater impacts may be seen through continued control and collection of methane gas within the perimeter area of the disposal limits.

The meeting scheduled for July 23, 2013 would be an excellent opportunity to discuss the observations and recommendations presented in this status report and future remediation approaches. In the meantime, please feel free to contact either of the undersigned at (904) 598-8900 or Mr. Mike Kaiser at (904) 673-0446 if should you have any questions.

Sincerely,



Brad M Stone, P.E.
Sr. Project Manager



Cliff Koenig, P.E.
Environmental Engineer

Attachments: A: Gas Monitoring Data
B: May 2013 Groundwater Monitoring Data
C: Summary of Pilot SVE System Groundwater Data
D: Piper and Stiff Diagrams
E: Summary of Field Parameters



Reference Sources

1. Morris H. "The Potential for Landfill Gas to Impact Ground Water Quality" National Ground Water Association pg. 587-601, 1994.
2. Kerfoot H.B. "Landfill Gas Effects on Groundwater Samples at a Municipal Solid Waste Facility" Air & Waste Management Association 44: 1293-1298, 1994.

3. Lappala E. and Thompson G. "Detection of Ground Water Contamination by Shallow Soil Gas Sampling in the Vadose Zone" Proc. Characterization and Monitoring of the Vadose Zone National Water Well Association, 1983.
4. Prosser R. and Janecek A. "Landfill Gas and Groundwater Contamination". American Society of Environmental Engineers October 1995.
5. Prosser R. and Wainio D. "Proposed Solutions to Landfill Gas Contamination of Groundwater". GC Environmental Inc. October 1999.

Attachment A
Gas Monitoring Data

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	5/16/12		5/22/12		6/18/12		6/22/12		6/29/12		7/2/12		7/6/12		7/13/12		7/16/12	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	1.3	-12.1	0.8	-25.1	0.8	-10.1	1.3	-10.4	1.2	-9.6	1.6	-11.5	1.4	-10.0	0.0	-14.5	0.1	-14.5
SVE-2	0.0	-26.3	0.0	-0.3	0.0	-10.1	0.1	-11.8	0.1	-12.1	0.1	-9.9	0.1	-10.2	5.8	0.2	0.0	-14.6
SVE-3	0.0	-18.3	0.0	-1.0	0.0	-10.3	0.0	-9.4	0.1	-12.6	0.1	-10.1	0.1	-10.3	17.3	-14.8	0.0	-15.1
SVE-4	4.4	-4.3	0.5	-6.2	0.0	-9.2	0.1	-10.3	0.2	-10.9	0.2	-10.7	0.1	-12.0	0.2	-15.0	0.0	-15.0
VZA	16.6	-43.1			0.0	0.4	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1
GPR-10					8.7	0.5	15.3	0.3	0.1	0.4	0.1	0.2	0.1	0.3	0.0	0.2	0.1	0.2
TGP-1					0.0	1.0	0.0	0.8	0.1	0.2	0.1	0.3	0.1	1.0	0.1	0.2	0.0	0.2
MW-1A	21.6	0.6	57.6	3.2	0.0	-2.1	0.1	-0.8	0.1	-0.6	0.2	-0.2	0.2	-0.1	24.2	1.3	1.9	-1.3
SVE Main	0	-32.3	0	-43.3	0	-41.3	0.1	-41.1	0.2	-40.3	0.2	-41.1	0.2	-46.7	0.6	-42.2	0.3	-42.1
Cell 5 Sump					21.5	-23.5	56.8	8.1	25.6	-24.5	58.8	-14.5	26.6	-9.7	42.1	-4.7	0.7	-10.7
Cell 5 2" GW	58.0	13.9			57.6	-12.6	59.0	1.3	58.1	-22.1	55.3	-5.5	59.4	-9.0	55.0	-2.2	60.0	-9.1
Flare			54.6	1.4	51.3	3.1	51.5	2.5	50.4	3.0	53.6	2.6	54.1	2.9	57.6	2.9	55.2	2.4

SVE-1 – Soil Vapor Extraction Well

VZA – Vadose Zone Aeration Well

GPR – Perimeter Gas Monitoring Probe

TGP – Temporary Perimeter Gas Monitoring Probe

MW – Water Quality Monitoring Well

GW – Landfill Gas Extraction Well

SP – Set Pressure

SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	7/20/12		7/27/12		7/30/12		8/3/12		8/6/12		8/10/12		8/13/12		8/27/12		9/3/12	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	0.3	-8.0	0.6	-15.8	0.5	-14.6	0.6	-16.5	0.7	-15.6	0.5	-23.4	3.3	-24.15	1.1	-37.75	0.5	-25.70
SVE-2	0.0	-12.8	0.4	-14.7	0.3	-15.5	0.4	-16.9	0.3	-16.8	0.6	-23.8	0.4	-24.75	0.0	-35.82	0.1	-24.92
SVE-3	0.0	-14.2	0.5	-15.1	0.3	-16.1	0.4	-15.6	0.3	-14.1	0.0	-26.1	0.7	-24.49	0.0	-35.20	0.4	-25.55
SVE-4	0.5	-22.9	2.9	-15.5	1.9	-14.5	0.8	-14.7	2.8	-14.8	3.3	-24.1	2.1	-24.17	41.5	-35.89	12.7	-25.82
VZA	0.0	0.1	1.7	-0.1	0.3	0.1	0.3	0.1	0.3	0.3	0.0	0.0	0.0	0.00	0.0	-0.01	0.0	-0.01
GPR-10	0.3	0.2	3.2	0.0	0.3	0.0	0.6	0.3	0.3	0.3	0.1	0.02	0.8	-0.10	0.0	0.00	0.0	0.00
TGP-1	4.2	0.2	0.5	0.0	0.3	0.0	0.4	0.3	0.3	0.3	0.1	0.02	0.0	-0.10	0.0	0.04	0.0	0.00
MW-1A	21.1	0.5	0.4	-0.3	0.4	-0.2	0.8	-1.1	0.4	0.1	0.4	0.0	0.0	-0.10	25.9	0.56	52.1	2.69
SVE Main	27.2	-41.7	1.1	-14.1	0.4	-39.8	1.9	-40.3	0.4	-39.1	0.4	-39.0	10.6	-38.83	6.3	-42.73	0.9	-40.26
Cell 5 Sump	31.1	-3.6	23.5	-18.2	56.1	-9.9	23.9	-26.0	56.9	-9.3	58.5	-5.0	57.1	-10.50	36.8	-24.56	37.2	-27.82
Cell 5 2" GW	54.7	-3.3	29.4	-14.5	57.6	-2.8	12.4	-21.8	56.6	-3.6	59.9	-0.08	56.3	-2.99	59.2	-20.76	57.4	-24.45
Flare	53.7	2.7	51.0	2.7	51.0	3.1	46.9	3.2			51.3	3.6	55.2	3.00	53.3	3.24	51.6	2.85

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JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	9/14/12		9/17/12		9/21/12		9/24/12		9/28/12		10/1/12		10/5/12		10/8/12	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	0.5	-36.87	0.0	-33.85	7.9	-33.69	2.4	-30.32	2.7	-34.56	0.1	-30.19	2.6	-30.15	0.0	-43.07
SVE-2	0.0	-34.40	0.0	-34.77	0.6	-37.19	0.4	-35.03	0.0	-34.99	0.1	-31.23	0.3	-27.65	0.0	-42.63
SVE-3	0.0	-34.99	0.0	-34.13	0.3	-37.49	2.1	-34.77	0.0	-34.00	0.4	-33.35	0.1	-29.72	0.0	-41.60
SVE-4	28.7	-35.50	36.4	-35.68	30.2	-39.61	25.9	-34.64	28.0	-38.44	38.2	-35.42	17.3	-29.03	34.6	-42.38
VZA	4.9	0.00	4.4	-0.02	0.1	-0.02	1.3	-0.01	0.0	-0.01	8.8	-0.02	0.3	0.59	0.0	-0.02
GPR-10	0.0	-0.01	0.0	-0.02	0.5	-0.01	2.6	0.00	0.0	0.00	0.4	-0.02	0.1	0.59	0.0	0.00
TGP-1	0.0	0.00	0.0	0.00	0.8	-0.01	1.6	0.00	0.0	-0.01	6.2	-0.01	1.0	0.59	0.0	0.00
MW-1A	50.5	2.81	50.4	5.66	50.2	2.78	49.9	4.79	50.6	3.84	51.6	4.65	52.1	5.87	50.3	6.22
SVE Main	10.5	-39.61	8.5	-36.86	8.0	-41.64	55.4	-37.06	2.2	-42.98	3.9	-40.99	2.8	-41.25	0.4	-42.07
Cell 5 Sump	31.4	-24.28	34.0	-19.20	37.1	-24.79	49.3	-17.80	21.1	-23.24	30.0	-26.48	29.4	-25.92	27.9	-26.70
Cell 5 2" GW	57.3	-19.87	57.6	-21.30	56.8	-20.91	56.0	-15.98	56.2	-23.93	57.8	-22.51	55.7	-21.99	57.5	-25.05
Flare	50.2	2.84	53.3	3.55	49.0	2.94	47.5	3.37	49.3	3.36	51.1	2.79	50.1	3.61	49.9	2.81

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Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	10/15/12		10/19/12		10/22/12		10/26/12		10/29/12		11/2/12		11/5/12	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	0.4	-27.43	5.1	-35.77	1.5	-33.67	4.5	-35.12	7.7	-42.86	8.6	-43.89	7.5	-31.92
SVE-2	0.2	-20.77	0.8	-37.41	0.7	-35.12	1.2	-34.9	44.9	0.01	50.0	0	0.8	-37.02
SVE-3	0.0	-18.73	0.3	-34.38	0.3	-34.44	1.2	-34.9	39.2	0	6.0	0	0.4	-30.68
SVE-4	23.2	-22.40	18.8	-37.22	19.4	-33.74	38.4	-35.66	40.5	-41.78	39.7	-37.68	35.5	-31.28
VZA	0.1	-0.16	0.4	0.00	0.4	0.00	3.1	0.01	4.5	0	2.5	0	7.6	0
GPR-10	1.1	-0.14	1.0	0.10	0.4	0.00	1.9	0	1.4	0.01	4.9	0	0.9	0
TGP-1	1.9	-0.14	2.2	0.00	1.6	0.00	5.1	0.02	8.1	0	4.4	0.01	7.7	0
MW-1A	46.8	4.35	51.4	4.91	16.3	2.54	54.4	8.66	58.7	10.19	54.9	5.45	58.3	7.82
SVE Main	0.3	-43.20	2.0	-41.68	5.3	-42.25	4.2	-42.81	31.3	-43.71	5.2	-40.83	8	-43.28
Cell 5 Sump	38.3	-14.51	18.3	-27.74	24.7	-18.25	24.9	-39.44	40.7	-38.53	36.9	-8.89	51.6	-7.08
Cell 5 2" GW	54.1	-17.02	55.2	-28.44	58.0	-23.28	60.4	-35.94	57.3	-36.56	58.8	-8.25	57.7	-5.98
Flare	50.9	2.86	52.8	3.46	50.9	2.98	53.8	2.77	53.6	2.77	53.9	2.38	53.4	2.46

SVE-1 – Soil Vapor Extraction Well

VZA – Vadose Zone Aeration Well

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TGP – Temporary Perimeter Gas Monitoring Probe

MW – Water Quality Monitoring Well

GW – Landfill Gas Extraction Well

SP – Set Pressure

SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	11/9/12		11/12/12		11/16/12		11/19/12		11/30/12		12/3/12		12/7/12	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	7.9	-37.4	5.9	-30.9	23.5	-38.6	0.0	-38.2	0.4	-42.10	1.3	-0.01	3.6	0.0
SVE-2	1.2	-36.6	0.7	-29.2	0.3	-39.4	0.6	-39.4	0.4	-41.78	0.9	-42.64	1.3	-43.03
SVE-3	1.8	-37.5	1.8	-24.3	10.0	-39.7	0.2	-38.2	3.7	-42.30	0.2	-42.64	58.2	-41.66
SVE-4	56.7	-38.2	62.2	-26.4	53.7	-37.6	51.3	-37.8	31.9	-32.25	59.0	6.42	58.4	4.28
VZA	1.3	0	10.4	0.3	2.2	0.1	6.9	0.0	9.9	0.0	16.3	0.0	12.7	0.0
GPR-10	0.5	0	0	0.3	0.9	0.1	0.2	0.0	0.2	-0.01	0.0	-0.02	0.2	0.0
TGP-1	5	0	0.4	0.3	0.7	0.1	0.0	0.0	0.0	-0.01	0.0	-0.02	0.0	0.0
MW-1A	53.8	7.9	55.3	8.3	62.3	7.7	56.6	7.2	59.5	5.80	50.3	6.14	57.0	4.08
SVE Main	2.4	-42.2	4.1	-42.8	32.6	-42.4	1.3	-41.8	1.8	-42.69	0.9	-43.03	44.6	-42.69
Cell 5 Sump	55.8	-18.5	20.9	-18.3	27.7	-19.0	47.3	-10.0	34.9	-7.59	41.6	-7.98	27.1	-4.45
Cell 5 2" GW	34.3	-19.8	61.3	-16.9	59.0	-17.6	55.2	-8.8	56.8	-7.9	45.2	-7.85	58.2	-4.04
Flare	52.6	2.0	54.9	2.8	54.3	2.3	54.9	2.0	53.1	2.14	53.6	1.73	55.0	1.87

SVE-1 – Soil Vapor Extraction Well

VZA – Vadose Zone Aeration Well

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SP – Set Pressure

SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	12/10/12		12/14/12		12/17/12		12/21/12		12/31/12		1/4/13	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	3.2	1.56	4.1	2.45	3.0	0.06	3.1	2	7.6	0.2	8.6	0
SVE-2	0.4	-41.62	0.3	-42.60	1.9	-42.30	0	-41.4	2.2	-40.4	3.9	-36.8
SVE-3	56.9	-39.74	9.5	-41.96	0.5	-42.10	0	-41.8	0.4	-38.3	0.2	-36.9
SVE-4	56.8	4.70	58.4	5.82	56.6	11.8	52.9	9.4	57.9	9.8	56.1	7.7
VZA	7.7	0.0	8.9	-0.01	13.4	0.03	3.7	0	18.4	0.2	14.9	0
GPR-10	0.1	0.0	0.2	-0.01	0.1	0.03	0	0	0.1	0.3		
TGP-1	0.0	0.0	0.1	0.0	0.0	0.02	0	0	0	0.1	0	0.1
MW-1A	58.0	5.80	57.5	5.50	57.0	6.40	51.9	4.4	57.9	5.6	56.6	4.1
SVE Main	53.9	-42.69	2.0	-42.30	1.0	-42.6	1.1	-43.4	0.9	0.3		
Cell 5 Sump	42.9	-2.55	36.9	-4.88	41.3	-3.1	33.8	-4.5	37.8	-5.0		
Cell 5 2" GW	57.5	-2.01	57.1	-4.07	56.1	-1.6	50.7	-4.1	57.3	-4.5		
Flare	55.1	1.92	56.5	2.09	53.5	2.1	46.9	2	52.2	2.01	55.2	2.0
Cell 5 2" South												
Cell 5 2" North												

SVE-1 – Soil Vapor Extraction Well

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SP – Set Pressure

SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	1/7/13		1/14/13		1/18/13		1/21/13		1/25/13		1/28/13	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	4.1	0.2	5.6	0.3	8	15.5	0.1	-35.7	0	0	0.2	-0.6
SVE-2	4.1	-34.3	3.2	-34.8	3.7	-33.1	4.4	-35.7	20.4	0	36.8	0
SVE-3	0	-34.1	.2	-34.7	0.5	-32.9	0.2	-35.6	29.2	0	33.5	0.1
SVE-4	56.6	9.4	57.1	8.2	58.1	-16.8	56.2	-35.9	57.1	5.3	41.5	5.7
VZA	13.4	0.1	22	0.2	6.8	0.1	18.5	0.2	20	0	17.7	0.1
GPR-10	0	0.2	0	0.3	0.3	0.1	0.1	0	0	0	0	0.1
TGP-1	0	0.1	0	0.2	0	0	0	0.1	0	0	0	0.2
MW-1A	56.7	4.5	56.8	3.2	58	2.2	57	3.1	58.3	1.8	58	2.0
SVE Main	0.6	-37.6	1.1	3.8	1.9	-34.9	2.5	35.8	0.1	-34.7	14.5	-35.1
Cell 5 Sump	36.8	-3.7	36.2	-11.6	24.3	-16.8	36.4	-6.5	21.3	-23.3	23.9	-24.1
Cell 5 2" GW	56.2	-2.9	56.5	-10.7	56.9	-15.1	56.9	-6.1	57.6	-19.2	57.1	-21.1
Flare	54.4	3.5	54	3.8	49.1	3.9	51	3.7	50.4	3.6	51.2	3.6
Cell 5 2" South			56.5	-1.9	56.7	-7.1	56.6	-1.6	57.5	-19.8	57	-20
Cell 5 2" North			56.5	-4	57.4	-7.9	56.6	-1.6	57.1	-19.8	56.7	-21.1

SVE-1 – Soil Vapor Extraction Well

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SP – Set Pressure

SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	2/4/13		2/8/13		2/11/13		2/15/13		2/19/13		2/22/13	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	36.8	-0.4	41.3	6.6	55.0	6.1	60.3	6.3	59.1	5.1	55.9	1.77
SVE-2	38.3	0.1	43.1	0	40.4	0.2	44.7	-0.1	43.1	0.1	40.7	0.06
SVE-3	58.2	0.1	56.7	0.1	25.9	0.2	56.9	0	39.2	0.1	46.1	0.02
SVE-4	48.2	5.1	44.4	5.5	40.7	4.5	58.0	4.3	31.2	4.2	48.5	2.54
VZA	19.7	0.1	8.8	0	7.7	0.1	18.8	-0.1	4.4	0.1	6.9	0
GPR-10	0	0.1	0	0.1	0	0.1	0	0	0	0.1	0	0
TGP-1	0.1	0.1	0.1	0	0.1	0.1	0.1	-0.1	0.1	0	0	0
MW-1A	58.2	2.2	53.2	1.6	58.1	1.8	57.0	1.6	54.5	1.8	38.9	1.52
SVE Main	11.5	-35.6	14.5	-34.4	17.0	-35.9	15.2	-30.4	3.9	-35.4	2.4	-34.8
Cell 5 Sump	17.4	-22.1	22.2	-30.1	23.5	-31.1	21.5	-26.0	18.7	-29.4	19.3	-30.36
Cell 5 2" GW	57.5	-17.8	57.5	-24.7	57.8	-26.5	59.4	-21.9	57.4	-25.2	54.7	-25.42
Flare	52.4	4.2	53.4	4.0	49.8	3.9	49.7	3.9	51.4	4.0	50.3	3.91
Cell 5 2" South	57.2	-17.9	57.2	-24.3	57.6	-26.1	59.3	-21.8	57.2	-24.4	55.4	-24.95
Cell 5 2" North	57.2	-18	56.7	-24.9	57.3	-26.3	59.1	-21.7	57.4	-24.4	54.7	-25.59

SVE-1 – Soil Vapor Extraction Well

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SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	2/25/13		3/1/13		3/4/13		3/8/13		3/11/13		3/15/13	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	57.6	3.83	36.8	-14.03	21.2	-14.33	40.5	-15.99	47.6	-36.16	38.2	-35.22
SVE-2	44.1	0.11	3.9	-14.71	4.0	-14.37	4.1	-14.67	4.2	-35.52	2.7	-35.18
SVE-3	38.2	0	0.7	-15.39	0.7	-15.01	0.4	-15.69	1.4	-35.51	0	-34.54
SVE-4	46.8	3.85	41.6	-14.67	31.8	-15.39	21.7	-14.93	45.3	-35.7	24.5	-34.51
VZA	8.7	0	11.6	0.01	0	0.02	0	-0.01	3.3	-0.03	0.6	0.01
GPR-10	0	-0.04	0.1	0.01	0	-0.01	0	-0.02	0	-0.01	0	0
TGP-1	0	0	0.1	0.01	0	0.02	0.1	0	0	-0.02	0	0
MW-1A	51.6	1.38	52.5	1.11	55.4	0.47	58.9	0.53	54.9	0	11.5	0.15
SVE Main	4.7	-35.52	5.4	-32.79	4.6	-34.84	5.1	-36.46	4.8	-35.86	4.6	-35.82
Cell 5 Sump	25.1	-31.51	21.3	-30.49	23.3	-30.53	20.2	-30.66	18.9	-36.16	24.3	-32.45
Cell 5 2" GW	59.6	-26.57	58.3	-25.93	58.3	-25.84	56.8	-25.25	58.1	-26.97	58.8	-28.4
Flare	50.4	4.15	51.9	3.13	49.6	3.72	49.2	3.76	53.5	4.44	48.4	3.44
Cell 5 2" South	56.6	-26.18	58.2	-25.59	59.5	-24.95	58.1	-24.78	55.4	-27.14	58.9	-28.04
Cell 5 2" North	57.2	-26.82	56.5	-25.59	56.5	-25.59	53.7	-25.46	54	-26.93	55.9	-28.4

SVE-1 – Soil Vapor Extraction Well

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SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	3/18/13		3/22/13		3/25/13		3/29/13		4/1/13		4/5/13	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	48.6	-14.88	42.2	-35.48	45.1	-38.21	49.8	-35.44	50.7	-36.55	49.1	-36.2
SVE-2	3.3	-33.9	3.8	-35.82	3.6	-37.91	4.1	-35.14	4.3	-36.5	4.6	-36.5
SVE-3	0.3	-33.48	0	-34.8	0	-37.23	0.9	-35.14	1.1	-36.16	0.3	-36.2
SVE-4	31.6	-34.33	23.6	-35.86	21.9	-37.91	30.7	-35.48	29.4	-36.55	35.5	-36.2
VZA	5.9	0	0.5	0	0.3	0.03	2.8	-0.02	8.8	0.02	15.4	0.01
GPR-10	0	0.01	0	-0.02	0	-0.04	0	-0.05	0	0	0.1	0.01
TGP-1	0	0	0	0	0	0	0	0	0	0	0.1	0.02
MW-1A	40	0.3	0	0.41	6.1	0.04	57.1	0.03	57	0.82	57.7	0.34
SVE Main	6.9	-34.46	5.9	-35.52	6.1	-38.55	7.2	-35.27	8.3	-36.84	8.6	-36.5
Cell 5 Sump	21.4	-31.17	27.2	-33.09	22.3	-34.16	24.3	-32.67	22.7	-32.11	24.5	-32.79
Cell 5 2" GW	57	-27.63	58.1	-29.94	57.9	-30.7	55.2	-29	57.7	-22.29	57.5	-28.32
Flare	51.7	3.71	49.6	3.22	48.5	3.06	47.4	3.9	49.5	3.57	49.4	3.99
Cell 5 2" South	58	-27.04	57.6	-28.66	57.2	-29.72	56.7	-28.44	56.7	-26.91	58	-28.32
Cell 5 2" North	54.8	-27.93	55.6	-29.38	54.9	-31.04	55	-28.96	55.4	-27.25	56.8	-28.32

SVE-1 – Soil Vapor Extraction Well

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SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	4/8/13		4/12/13		4/15/13		4/22/13		4/26/13		4/29/13	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	57.9	-34.6	54	-35.2	1.6	-34.8	0.4	-36.5	1.5	-34.8	0.3	-34.5
SVE-2	6	-34.4	6.6	-35.2	3.3	-35.14	2.4	-36.5	1.0	-34.8	2.4	-34.58
SVE-3	0.2	-34.5	0.2	-35.5	0.1	-35.14	0.3	-36.5	0.6	-34.8	0.5	-34.8
SVE-4	33	-34.5	32.8	-35.9	19.6	-35.14	22.8	-36.5	31.6	-34.8	30.8	-34.8
VZA	6.3	0.2	0.5	0.2	0.1	-0.02	10.9	0.02	13.5	-0.04	16.0	-0.01
GPR-10	0.1	0.3	0	0.3	0.1	-0.02	0.1	0.0			0.1	0.0
TGP-1	0.1	0.1	0.1	0.2	0.1	-0.01	0.0	0.01	0.1	-0.03	0.0	-0.01
MW-1A	6.2	0.9	45.5	0.8	1.2	-0.01	51.7	0.95	51.0	1.1	59.2	0.98
SVE Main	8.2	-34.6	7.3	-35.4	3.8	-35.4	2.5	-36.20	2.0	-35.05	3.5	-34.46
Cell 5 Sump	26.2	-32.2	33.4	-33.2	19.3	-32.92	24.2	-33.77	0.1	-0.03	15.7	-31.43
Cell 5 2" GW	57.2	-26.2	58.6	-30.5	56.7	-30.22	56.9	-30.36	44.0	-23.08	49.5	-28.27
Flare	46.5	3.5	48.3	4.0	48.8	3.38	51.2	3.69	45.4	3.64	45.3	3.74
Cell 5 2" South	57	-27.0	57.6	-30.0	56.8	-31.04	56.6	-30.49	45.4	-23.54	34.2	-27.97
Cell 5 2" North	56.7	-26.7	57.5	-30.4	56.1	-30.36	53.2	-30.7	53.6	-24.26	34.3	-27.97
Cell 5 2" NW									58.6	-1.76	53.1	-5.5
Cell 5 2" SW									54.9	-6.18	54.7	-7.85

SVE-1 – Soil Vapor Extraction Well

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SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	5/3/13		5/6/13		5/10/13		5/13/13		5/22/13		5/24/13	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	0.1	-33.77	0.0	-28.23	2.6	-33.82	0.2	-28.68	23.8	0	9.2	0.1
SVE-2	0.9	-34.33	4.3	-31.39	3.7	-33.86	0.7	-31.0	32.4	0	3.4	-0.01
SVE-3	0.1	-34.46	2.7	-25.59	0.2	-33.86	0.0	-28.36	0.2	0	3.4	-0.02
SVE-4	14.6	-34.46	25.8	-29.36	15.8	-33.83	8.9	-29.72	51.1	0.21	56.9	0.19
VZA	9.3	-0.01	6.7	0.02	8.7	0.01	0.0	-0.02	12.3	0.01	10.0	0.0
GPR-10	0.1	-0.03	0.0	0.0	0.1	0.0	0.1	-0.01			0.0	-0.03
TGP-1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	-0.02	0.0	0	0.1	0.0
MW-1A	26.6	0.98	49.6	1.31	51.8	0.95	0.1	-0.19	45.9	0.42	58.2	1.79
SVE Main	2.8	-34.5			2.6	-33.60	0.9	-31.07	26.3	-17.06	7.7	-39.49
Cell 5 Sump	20.3	-31.43	23.5	-29.3	26.1	-28.87	16.1	-29.29			0.1	-35.99
Cell 5 2" GW	51.2	-26.61	56.4	-23.5	32.0	-24.9	57.6	-24.56			0.0	-32.75
Flare	47.6	3.86			45.6	3.99	44.2	3.62	50.0	2.16	51.8	2.6
Cell 5 2" South	35.7	-27.29	56.8	-22.17	54.8	-24.61	55.7	-22.9			0.0	-34.41
Cell 5 2" North	50.7	-26.18	54.5	-23.58	48.7	-24.99	55.4	-20.83			0.0	-32.79
Cell 5 2" NW	56.8	-5.8	53.2	-7.85	53.4	-5.63	51.4	-13.94	55.8	-10.58	0.0	-10.23
Cell 5 2" SW	52.7	-5.16	57.0	-6.87	55.5	-4.3	51.0	-13.3	56.6	-9.64	0.0	-13.73

SVE-1 – Soil Vapor Extraction Well

VZA – Vadose Zone Aeration Well

GPR – Perimeter Gas Monitoring Probe

TGP – Temporary Perimeter Gas Monitoring Probe

MW – Water Quality Monitoring Well

GW – Landfill Gas Extraction Well

SP – Set Pressure

SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	5/27/13		5/31/13		6/3/13		6/7/13		6/10/13		6/14/13	
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	13.4	0.04	34.5	0.1	23.6	0.1	24.3	0.7	23.6	0.1	19.6	0.0
SVE-2	24.4	-0.01	47.3	0.1	57.6	0.1	56.0	1.7	54.3	0.1	49.8	0.0
SVE-3	2.6	0.0	0.2	0.0	0.2	0.2	1.2	0.0	0.7	0.6	0.7	0.0
SVE-4	33.0	0.08	56.8	2.8	56.6	0.5	25.8	0.7	35.4	0.1	52.7	0.0
VZA	12.5	0.0	1.3	0.1	0.2	0.0	0.3	0.2	0.0	0.1	0.1	-29.3
GPR-10	0.0	0.0	0.1	0.2	0.1	0.2	0.4	0.1	0.0	0.1	30.1	-34.3
TGP-1	0.2	0.01	0.0	0.1	0.1	0.1	0.4	0.1	0.0	0.1	0.1	-0.1
MW-1A	52.7	1.63	57.2	1.8	56.8	0.5	56.8	0.6	56.8	1.0	55.5	3.9
SVE Main	0.0	-39.91	0.1	-39.5	6.9	-40.9	32.1	-20.1	0.9	-33.8	0.0	-33.6
Cell 5 Sump	0.0	-35.35	33.1	-37.1	36.0	-38.5	18.1	-20.6	26.7	-33.2	0.1	0.0
Cell 5 2" GW	0.0	-30.70	56.7	-34.2	57.1	-36.6	57.9	-17.8	57.8	-32.2	58.3	-34.1
Flare	51.5	2.73	51.2	2.8	50.7	-2.6	51.1	3.1	49.7	3.0	50.6	2.7
Cell 5 2" South	0.0	-30.72	56.6	-34.1	56.6	-36.5	58.3	-17.3	58.4	-32.2	58.9	-33.6
Cell 5 2" North	0.0	-30.92	57.0	-34.1	57.3	-36.4	57.6	-18.2	57.4	-32.0	58.4	-33.6
Cell 5 2" NW	0.1	-9.3	57.0	-11.6	57.1	-20.1	57.7	-9.1	57.7	-21.1	58.2	-34.1
Cell 5 2" SW	1.5	-4.93	57.1	-8.0	56.4	-17.3	57.6	-8.5	57.7	-19.3	57.8	-31.6

SVE-1 – Soil Vapor Extraction Well

VZA – Vadose Zone Aeration Well

GPR – Perimeter Gas Monitoring Probe

TGP – Temporary Perimeter Gas Monitoring Probe

MW – Water Quality Monitoring Well

GW – Landfill Gas Extraction Well

SP – Set Pressure

SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

JED Solid Waste Management Facility

Monitoring Data - Soil Vapor Extraction System Pilot Test Study

ID Point	6/17/13		6/21/13		6/24/13		6/28/13		7/1/13			
	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)	CH ₄ (%)	SP (In.)
SVE-1	17.3	0.2	26.3	-0.03	27.5	-0.01	29.1	0.0	26.8	-0.01		
SVE-2	35.1	0.2	35.9	-0.03	33.2	-0.02	31.7	-0.01	20.1	0.01		
SVE-3	0.2	0.2	1.8	-0.02	1.0	0.0	2.3	0.0	1.5	0.0		
SVE-4	41.1	0.2	30.4	-0.02	23.3	-0.01	26.3	0.0	25.8	0.0		
VZA	0.2	-2.8	5.9	-34.12	0.5	-32.75	0.0	-35.39	2.0	-33.09		
GPR-10	0.1	0.2	0.0	-0.01	0.0	0.0	0.0	-0.03	0.3	0.0		
TGP-1	0.0	0.2	0.1	-0.02	0.0	-0.01	0.2	0.0	0.0	0.0		
MW-1A	57.6	6.7	56.5	7.51	55.2	6.74	57.7	5.37	55.3	5.46		
SVE Main	0.0	-13.8	5.9	-34.07	2.7	-34.07	7.3	-34.46	2.7	-33.09		
Cell 5 Sump	27.5	-18.6	14.8	-30.19	15.0	-29.17	20.2	-31.0	22.4	-30.15		
Cell 5 2" GW	59.3	-7.6	56.1	-26.23	56.3	-19.45	57.1	-24.90	57.7	-22.17		
Flare	47.6	3.2	50.6	2.9	49.9	3.17	50.7	3.08	52.0	3.05		
Cell 5 2" South	58.9	-9.5	54.7	-26.27	56.3	-19.79	55.8	-25.07	55.6	-20.09		
Cell 5 2" North	58.8	-8.5	57.4	-26.23	56.8	-18.34	56.8	-25.59	57.1	-21.66		
Cell 5 2" NW	58.9	-6.0	59.1	-25.54	59.3	-16.08	60.0	-24.90	63.3	-23.92		
Cell 5 2" SW	59.5	-6.1	56.1	-25.56	56.9	-17.10	57.3	-24.22	58.5	-22.69		

SVE-1 – Soil Vapor Extraction Well

VZA – Vadose Zone Aeration Well

GPR – Perimeter Gas Monitoring Probe

TGP – Temporary Perimeter Gas Monitoring Probe

MW – Water Quality Monitoring Well

GW – Landfill Gas Extraction Well

SP – Set Pressure

SVE Main – Soil Vapor Extraction System Main Header Pipe Connection at GW-85

Cell 5 Sump – Vacuum Connection at Cell 5 Leachate Sump Manholes

Cell 5 2" GW – 2-inch Dia. Gas Extraction Well at Sump Area

Attachment B

May 2013 Groundwater Monitoring Data



May 20, 2013

Service Request No:J1302475

Kirk Wills
Waste Services of Florida, Inc.
11500 43rd Street North
Clearwater, FL 33762

Laboratory Results for: JED SWDF Pilot Study

Dear Kirk,

Enclosed are the results of the sample(s) submitted to our laboratory May 07, 2013
For your reference, these analyses have been assigned our service request number **J1302475**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 4409. You may also contact me via email at Craig.Myers@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Craig Myers
Project Manager

ADDRESS 9143 Philips Highway, Suite 200, Jacksonville, FL 32256
PHONE +1 904 739 2277 | FAX +1 904 739 2011
ALS Group USA, Corp.
dba ALS Environmental

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475
Date Received: 5/7/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. When appropriate to the procedure, method blank results have been reported with each analytical test. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Parameters that are included in the NELAC Fields of Testing but are not included in the lab's NELAC accreditation are identified in the discussion of each analytical procedure.

Sample Receipt

Two water samples and one trip blank were received for analysis at ALS Environmental on 5/7/13. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at $\leq 6^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260B: Sample LS-5 required dilution due to the foaming nature of the matrix. The reporting limits are adjusted to reflect the dilution.

Metals Analyses:

Method 6010B: The Method Blank contained a low level of Calcium above the Method Reporting Limit (MRL). The associated samples J1302475-001 and -002 contained this compound at a concentration of at least twenty times that found in the Method Blank. In accordance with our QA/QC policy, blank contamination less than twenty times that found in the associated samples is deemed insignificant and the data is reported with no further corrective action required.

General Chemistry Analyses:

No significant data anomalies were noted with this analysis.

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Florida Department of Health	E82502	6/30/2013
North Carolina Department of Environment and Natural Resources	527	12/31/2013
Virginia Environmental Accreditation Program	460191	12/14/2013
Louisiana Department of Environmental Quality	02086	6/30/2013
Georgia Department of Natural Resources	958	6/30/2013
Kentucky Division of Waste Management	63	7/5/2013
South Carolina Department of Health and Environmental Control	96021001	6/30/2013
Texas Commision on Environmental Quality	T104704197-09-TX	5/31/2013
Maine Department of Health and Human Services	2011006	2/3/2015
Department of Defense	66206	5/31/2013
Pennsylvania Department of Environmental Protection	68-04835	8/31/2013

Data Qualifiers

Florida-DEP

- ! Data deviates from historically established concentration ranges
- * Not reported due to interference
- ? Data is rejected and should not be used
- A Value reported is the arithmetic mean of two or more determinations
- B Results based upon colony counts outside the acceptable range.
- D Measurement was made in the field.
- E Extra samples were taken at composite stations
- H Value based on field kit determination; results may not be accurate.
- I The reported value is between the laboratory method detection limit and the laboratory PQL.
- J Estimated value.
- K Off scale low. The value is less than the lowest calibration standard.
- L Off scale high. The analyte is above the acceptable level of quantitation.
- M The MDL/MRL has been elevated because the analyte could not be accurately quantified.
- N Presumptive evidence of presence of material.
- O Sampled, but analysis lost or not performed
- Q Sample held beyond the acceptable holding time.
- R Significant rain in the past 48 hours (typically in excess of 0.5 inches)
- T Estimated value, less than the MDL
- U Indicates that the compound was analyzed for but not detected.
- V Indicates that the analyte was detected in both the sample and the associated method blank.
- X Insufficient individuals were present in the sample to achieve a minimum of 280 organisms for identification (Stream Condition Index Analysis only)
- Y The laboratory analysis was from an unpreserved or improperly preserved sample.
- Z Too many colonies were present, the numeric value represents the filtration volume

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study

Service Request:J1302475

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
J1302475-001	MW-1A	5/6/2013	1520
J1302475-002	LS-5	5/6/2013	1430
J1302475-003	Trip Blank	5/6/2013	0000

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475
Date Collected: 05/06/13 15:20
Date Received: 05/07/13 09:15

Sample Name: MW-1A
Lab Code: J1302475-001

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Benzene	5.4	1.0	0.21	1	05/10/13 17:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	93	72 - 121	05/10/13 17:53	
4-Bromofluorobenzene	104	86 - 113	05/10/13 17:53	
Dibromofluoromethane	96	86 - 112	05/10/13 17:53	
Toluene-d8	104	88 - 115	05/10/13 17:53	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475
Date Collected: 05/06/13 15:20
Date Received: 05/07/13 09:15

Sample Name: MW-1A
Lab Code: J1302475-001

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium, Total Recoverable	6010B	130	mg/L	0.10	0.02	1	05/09/13 07:17	5/8/13	
Iron, Total Recoverable	6010B	8450	ug/L	100	3	1	05/09/13 07:17	5/8/13	
Magnesium, Total Recoverable	6010B	11.1	mg/L	0.10	0.02	1	05/09/13 07:17	5/8/13	
Manganese, Total Recoverable	6010B	100	ug/L	10	3	1	05/09/13 07:18	5/8/13	
Potassium, Total Recoverable	6010B	27.9	mg/L	2.0	0.09	1	05/09/13 07:17	5/8/13	
Sodium, Total Recoverable	6010B	201	mg/L	0.50	0.03	1	05/09/13 07:17	5/8/13	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475
Date Collected: 05/06/13 15:20
Date Received: 05/07/13 09:15

Sample Name: MW-1A
Lab Code: J1302475-001

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Alkalinity as CaCO ₃ , Total	SM 2320 B	23.5	mg/L	5.0	5.0	1	05/07/13 16:08	
Ammonia as Nitrogen	350.1	8.16	mg/L	0.010	0.007	1	05/10/13 12:00	
Bicarbonate Alkalinity as CaCO ₃	SM 2320 B	23.5	mg/L	5.0	5.0	1	05/07/13 16:08	
Carbon, Total Organic (TOC)	SM 5310 B	32.9	mg/L	1.0	0.09	1	05/07/13 18:34	
Carbonate Alkalinity as CaCO ₃	SM 2320 B	5.0 U	mg/L	5.0	5.0	1	05/07/13 16:08	
Chloride	300.0	408	mg/L	5.0	1.1	10	05/07/13 23:05	
Sulfate	300.0	253	mg/L	5.0	1.8	10	05/07/13 23:05	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475
Date Collected: 05/06/13 14:30
Date Received: 05/07/13 09:15

Sample Name: LS-5
Lab Code: J1302475-002

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Benzene	6.4 I	10	2.1	10	05/10/13 18:52	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	95	72 - 121	05/10/13 18:52	
4-Bromofluorobenzene	103	86 - 113	05/10/13 18:52	
Dibromofluoromethane	98	86 - 112	05/10/13 18:52	
Toluene-d8	102	88 - 115	05/10/13 18:52	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475
Date Collected: 05/06/13 14:30
Date Received: 05/07/13 09:15

Sample Name: LS-5
Lab Code: J1302475-002

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium, Total Recoverable	6010B	178	mg/L	0.10	0.02	1	05/09/13 07:26	5/8/13	
Iron, Total Recoverable	6010B	5860	ug/L	100	3	1	05/09/13 07:26	5/8/13	
Magnesium, Total Recoverable	6010B	44.1	mg/L	0.10	0.02	1	05/09/13 07:26	5/8/13	
Manganese, Total Recoverable	6010B	480	ug/L	10	3	1	05/09/13 07:27	5/8/13	
Potassium, Total Recoverable	6010B	864	mg/L	2.0	0.09	1	05/09/13 07:26	5/8/13	
Sodium, Total Recoverable	6010B	2370	mg/L	10	0.6	20	05/09/13 11:58	5/8/13	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water
Sample Name: LS-5
Lab Code: J1302475-002

Service Request: J1302475
Date Collected: 05/06/13 14:30
Date Received: 05/07/13 09:15
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Alkalinity as CaCO ₃ , Total	SM 2320 B	4740	mg/L	38	38	7.5	05/07/13 16:26	
Ammonia as Nitrogen	350.1	1170	mg/L	2.0	1.5	200	05/10/13 13:41	
Bicarbonate Alkalinity as CaCO ₃	SM 2320 B	4740	mg/L	38	38	7.5	05/07/13 16:26	
Carbon, Total Organic (TOC)	SM 5310 B	3430	mg/L	100	9	100	05/08/13 08:59	
Carbonate Alkalinity as CaCO ₃	SM 2320 B	38 U	mg/L	38	38	7.5	05/07/13 16:26	
Chloride	300.0	4080	mg/L	50	11	100	05/07/13 23:23	
Sulfate	300.0	15	mg/L	10	4	20	05/09/13 10:27	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475
Date Collected: 05/06/13 00:00
Date Received: 05/07/13 09:15

Sample Name: Trip Blank
Lab Code: J1302475-003

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Benzene	0.21 U	1.0	0.21	1	05/10/13 17:23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	93	72 - 121	05/10/13 17:23	
4-Bromofluorobenzene	105	86 - 113	05/10/13 17:23	
Dibromofluoromethane	96	86 - 112	05/10/13 17:23	
Toluene-d8	103	88 - 115	05/10/13 17:23	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: JQ1303306-04

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Benzene	0.21 U	1.0	0.21	1	05/10/13 10:57	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	94	72 - 121	05/10/13 10:57	
4-Bromofluorobenzene	106	86 - 113	05/10/13 10:57	
Dibromofluoromethane	98	86 - 112	05/10/13 10:57	
Toluene-d8	104	88 - 115	05/10/13 10:57	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: J1302475-MB

Service Request: J1302475
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Calcium, Total Recoverable	6010B	0.48	mg/L	0.10	0.02	1	05/09/13 07:09	5/8/13	
Iron, Total Recoverable	6010B	20 I	ug/L	100	3	1	05/09/13 07:09	5/8/13	
Magnesium, Total Recoverable	6010B	0.03 I	mg/L	0.10	0.02	1	05/09/13 07:09	5/8/13	
Manganese, Total Recoverable	6010B	3 U	ug/L	10	3	1	05/09/13 07:10	5/8/13	
Potassium, Total Recoverable	6010B	0.09 U	mg/L	2.0	0.09	1	05/09/13 07:08	5/8/13	
Sodium, Total Recoverable	6010B	0.04 I	mg/L	0.50	0.03	1	05/09/13 07:08	5/8/13	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: J1302475-MB1

Service Request: J1302475
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Alkalinity as CaCO ₃ , Total	SM 2320 B	5.0 U	mg/L	5.0	5.0	1	05/07/13 13:52	
Ammonia as Nitrogen	350.1	0.007 U	mg/L	0.010	0.007	1	05/10/13 11:32	
Bicarbonate Alkalinity as CaCO ₃	SM 2320 B	5.0 U	mg/L	5.0	5.0	1	05/07/13 13:52	
Carbon, Total Organic (TOC)	SM 5310 B	0.2 I	mg/L	1.0	0.09	1	05/07/13 13:49	
Carbonate Alkalinity as CaCO ₃	SM 2320 B	5.0 U	mg/L	5.0	5.0	1	05/07/13 13:52	
Chloride	300.0	0.11 U	mg/L	0.50	0.11	1	05/07/13 14:05	
Sulfate	300.0	0.18 U	mg/L	0.50	0.18	1	05/07/13 14:05	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: J1302475-MB2

Service Request: J1302475
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Sulfate	300.0	0.18 U	mg/L	0.50	0.18	1	05/09/13 04:28	

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QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	1,2-Dichloroethane-d4	4-Bromofluorobenzene	Dibromofluoromethane
		72 - 121	86 - 113	86 - 112
MW-1A	J1302475-001	93	104	96
LS-5	J1302475-002	95	103	98
Trip Blank	J1302475-003	93	105	96
Lab Control Sample	JQ1303306-03	93	99	97
Method Blank	JQ1303306-04	94	106	98

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QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	Toluene-d8
		88 - 115
MW-1A	J1302475-001	104
LS-5	J1302475-002	102
Trip Blank	J1302475-003	103
Lab Control Sample	JQ1303306-03	104
Method Blank	JQ1303306-04	104

ALS Group USA, Corp.
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QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request:J1302475
Date Analyzed:05/10/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Units:ug/L
Basis:NA
Analysis Lot:340206

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	JQ1303306-03	20.4	20.0	102	80-117

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QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request:J1302475
Date Analyzed:5/9/13

Lab Control Sample Summary
Inorganic Parameters

Units:mg/L
Basis:NA

Lab Control Sample
J1302475-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Calcium, Total Recoverable	6010B	5.14	5.00	103	80-120
Magnesium, Total Recoverable	6010B	5.02	5.00	100	80-120
Potassium, Total Recoverable	6010B	103	100	103	80-120
Sodium, Total Recoverable	6010B	25.8	25.0	103	80-120

ALS Group USA, Corp.
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QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request:J1302475
Date Analyzed:5/9/13

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L
Basis:NA

Lab Control Sample
J1302475-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Total Recoverable	6010B	5010	5000	100	80-120
Manganese, Total Recoverable	6010B	523	500	105	80-120

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QA/QC Report

Client: Waste Services of Florida, Inc.
Project JED SWDF Pilot Study
Sample Matrix: Water

Service Request: J1302475**Date Collected:** 05/06/13**Date Received:** 05/07/13**Date Analyzed:** 05/10/13

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MW-1A**Units:** mg/L**Lab Code:** J1302475-001**Basis:** NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample J1302475-001DUP	Average	RPD	RPD Limit
					Result			
Ammonia as Nitrogen	350.1	0.010	0.007	8.16	8.23	8.20	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

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QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request:J1302475**Date Collected:**05/06/13**Date Received:**05/07/13**Date Analyzed:**05/10/13**Matrix Spike Summary****Ammonia as Nitrogen**

Sample Name: MW-1A
Lab Code: J1302475-001
Analysis Method: 350.1

Units:mg/L**Basis:**NA**Matrix Spike**

J1302475-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	8.16	9.04	1.00	88 #	90-110

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request:J1302475
Date Analyzed:05/07/13 - 05/10/13

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
J1302475-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity as CaCO3, Total	SM 2320 B	240	250	96	85-115
Ammonia as Nitrogen	350.1	0.974	1.00	97	90-110
Carbon, Total Organic (TOC)	SM 5310 B	50.1	50.0	100	90-110
Chloride	300.0	50.6	50.0	101	90-110
Sulfate	300.0	51.9	50.0	104	90-110

ALS Group USA, Corp.
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QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Pilot Study
Sample Matrix: Water

Service Request:J1302475
Date Analyzed:05/09/13

Lab Control Sample Summary
Sulfate

Analysis Method: 300.0

Units:mg/L
Basis:NA
Analysis Lot:339672

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	J1302475-LCS2	51.0	50.0	102	90-110

Cooler Receipt Form

Client: WSI Service Request #: 51302475
 Project: JED SNDF
 Cooler received on 5/7/13 and opened on 5/7/13 by JA
 COURIER: ALS UPS FEDEX Client Other _____ Airbill # 80247811805

- 1 Were custody seals on outside of cooler? ☒ Yes ☐ No
 If yes, how many and where? # 1 on lid other _____
- 2 Were seals intact and signature and date correct? ☒ Yes ☐ No N/A
- 3 Were custody papers properly filled out? ☒ Yes ☐ No N/A
- 4 Temperature of cooler(s) upon receipt (Should be > 0°C and < 6°C) 3.7°
- 5 Thermometer ID T81
- 6 Temperature Blank Present? ☒ Yes ☐ No
- 7 Were Ice or Ice Packs present ☒ Ice ☐ Ice Packs ☐ No
- 8 Did all bottles arrive in good condition (unbroken, etc....)? ☒ Yes ☐ No N/A
- 9 Type of packing material present
 Netting ☐ Vial Holder ☒ Bubble Wrap
 Paper ☐ Styrofoam ☐ Other ☐ N/A
- 10 Were all bottle labels complete (sample ID, preservation, etc....)? ☒ Yes ☐ No N/A
- 11 Did all bottle labels and tags agree with custody papers? ☒ Yes ☐ No N/A
- 12 Were the correct bottles used for the tests indicated? ☒ Yes ☐ No N/A
- 13 Were all of the preserved bottles received with the appropriate preservative?
 HNO₃ pH<2 H₂SO₄ pH<2 ZnAc₂/NaOH pH>9 NaOH pH>12 HCl pH<2
 Preservative additions noted below
- 14 Were all samples received within analysis holding times? ☒ Yes ☐ No N/A
- 15 Were all VOA vials free of air bubbles? If present, note below ☒ Yes ☐ No N/A
- 16 Where did the bottles originate? ☒ ALS ☐ Client

Sample ID	Reagent	Lot #	ml added	Initials Date/Time
LS-5	H ₂ SO ₄	Gen 746-940	1 mL	JA 5/7/13 10:15
LS-5	HNO ₃	MET 1346L	3 mL	JA 5/7/13 10:20
LS-5	HCl	Gen 746-26E	1 mL	+

Additional comments and/or explanation of all discrepancies noted above:

Head space in 1 out of 5 vials in sample LS-5

Client approval to run samples if discrepancies noted:

Date:



#SR#

5/302475

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CAS Contract

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July 07, 2013

Service Request No:J1303489

Kirk Wills
Waste Services of Florida, Inc.
11500 43rd Street North
Clearwater, FL 33762

Laboratory Results for: JED SWDF (Leachates)

Dear Kirk,

Enclosed are the results of the sample(s) submitted to our laboratory June 20, 2013
For your reference, these analyses have been assigned our service request number **J1303489**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 4409. You may also contact me via email at Craig.Myers@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Craig Myers
Project Manager

ADDRESS 9143 Philips Highway, Suite 200, Jacksonville, FL 32256
PHONE +1 904 739 2277 | FAX +1 904 739 2011
ALS Group USA, Corp.
dba ALS Environmental

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Received: 6/20/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. When appropriate to the procedure, method blank results have been reported with each analytical test. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Parameters that are included in the NELAC Fields of Testing but are not included in the lab's NELAC accreditation are identified in the discussion of each analytical procedure.

Sample Receipt

Four water samples and one trip blank were received for analysis at ALS Environmental on 6/20/13. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at $\leq 6^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260B: Samples J1303489-001, -002, -003, and -004 required dilution due to the foaming nature of the matrix. The reporting limits are adjusted to reflect the dilution.

Semi-Volatile Organic Analyses:

No significant data anomalies were noted with this analysis.

Metals Analyses:

Methods 6010B/6020: The Method Reporting Limit (MRL) for all analytes in samples J1303489-001, -002, -003, and -004 was elevated due to the nature of the matrix. The samples were received in the lab unpreserved and had a thick dark brown color. In addition, these samples contained high concentrations of dissolved solids that preclude their analysis without prior dilution via this technique.

Method 747A: The reporting limit is elevated for Mercury in samples J1303489-001, -002, -003, and -004. The sample matrix contained excessive amounts of organic matter that subsequently reduced the potassium permanganate added during sample preparation. An excess of oxidized permanganate must be maintained throughout the prep process in order to ensure no loss of mercury as vapor. As a result, a lesser amount of sample was utilized and the resulting reporting limits adjusted accordingly.

General Chemistry Analyses:

No significant data anomalies were noted with this analysis.

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
North Carolina Department of Environment and Natural Resources	527	12/31/2013
Virginia Environmental Accreditation Program	460191	12/14/2013
Texas Commision on Environmental Quality	T104704197-13-5	5/31/2014
Maine Department of Health and Human Services	2011006	2/3/2015
Department of Defense	66206	5/31/2014
Pennsylvania Department of Environmental Protection	68-04835	8/31/2013

Data Qualifiers

Florida-DEP

- ! Data deviates from historically established concentration ranges
- * Not reported due to interference
- ? Data is rejected and should not be used
- A Value reported is the arithmetic mean of two or more determinations
- B Results based upon colony counts outside the acceptable range.
- D Measurement was made in the field.
- E Extra samples were taken at composite stations
- H Value based on field kit determination; results may not be accurate.
- I The reported value is between the laboratory method detection limit and the laboratory PQL.
- J Estimated value.
- K Off scale low. The value is less than the lowest calibration standard.
- L Off scale high. The analyte is above the acceptable level of quantitation.
- M The MDL/MRL has been elevated because the analyte could not be accurately quantified.
- N Presumptive evidence of presence of material.
- O Sampled, but analysis lost or not performed
- Q Sample held beyond the acceptable holding time.
- R Significant rain in the past 48 hours (typically in excess of 0.5 inches)
- T Estimated value, less than the MDL
- U Indicates that the compound was analyzed for but not detected.
- V Indicates that the analyte was detected in both the sample and the associated method blank.
- X Insufficient individuals were present in the sample to achieve a minimum of 280 organisms for identification (Stream Condition Index Analysis only)
- Y The laboratory analysis was from an unpreserved or improperly preserved sample.
- Z Too many colonies were present, the numeric value represents the filtration volume

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)

Service Request:J1303489

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
J1303489-001	LS-4P	6/18/2013	1415
J1303489-002	LS-4S	6/18/2013	1345
J1303489-003	LS-5P	6/18/2013	1510
J1303489-004	LS-5S	6/18/2013	1445
J1303489-005	Trip Blank	6/18/2013	0000

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:15
Date Received: 06/20/13 09:37

Sample Name: LS-4P
Lab Code: J1303489-001

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	1.9 U	10	1.9	10	06/27/13 03:29	
1,1,1-Trichloroethane (TCA)	1.8 U	10	1.8	10	06/27/13 03:29	
1,1,2,2-Tetrachloroethane	2.9 U	10	2.9	10	06/27/13 03:29	
1,1,2-Trichloroethane	4.0 U	10	4.0	10	06/27/13 03:29	
1,1-Dichloroethane (1,1-DCA)	3.0 U	10	3.0	10	06/27/13 03:29	
1,1-Dichloroethene (1,1-DCE)	1.6 U	10	1.6	10	06/27/13 03:29	
1,2,3-Trichloropropane	4.2 U	20	4.2	10	06/27/13 03:29	
1,2-Dibromo-3-chloropropane (DBCP)	23 U	50	23	10	06/27/13 03:29	
1,2-Dibromoethane (EDB)	4.7 U	10	4.7	10	06/27/13 03:29	
1,2-Dichlorobenzene	4.8 U	10	4.8	10	06/27/13 03:29	
1,2-Dichloroethane	2.2 U	10	2.2	10	06/27/13 03:29	
1,2-Dichloropropane	1.9 U	10	1.9	10	06/27/13 03:29	
1,4-Dichlorobenzene	4.3 I	10	1.6	10	06/27/13 03:29	
2-Butanone (MEK)	830	100	38	10	06/27/13 03:29	
2-Hexanone	22 U	250	22	10	06/27/13 03:29	
4-Methyl-2-pentanone (MIBK)	11 U	250	11	10	06/27/13 03:29	
Acetone	850	500	56	10	06/27/13 03:29	
Acrylonitrile	15 U	100	15	10	06/27/13 03:29	
Benzene	6.3 I	10	2.1	10	06/27/13 03:29	
Bromochloromethane	2.7 U	50	2.7	10	06/27/13 03:29	
Bromodichloromethane	2.2 U	10	2.2	10	06/27/13 03:29	
Bromoform	4.2 U	20	4.2	10	06/27/13 03:29	
Bromomethane	2.4 U	50	2.4	10	06/27/13 03:29	
Carbon Disulfide	24 U	100	24	10	06/27/13 03:29	
Carbon Tetrachloride	3.5 U	10	3.5	10	06/27/13 03:29	
Chlorobenzene	1.6 U	10	1.6	10	06/27/13 03:29	
Chloroethane	5.2 U	50	5.2	10	06/27/13 03:29	
Chloroform	3.5 U	10	3.5	10	06/27/13 03:29	
Chloromethane	3.6 U	10	3.6	10	06/27/13 03:29	
cis-1,2-Dichloroethene	3.6 U	10	3.6	10	06/27/13 03:29	
cis-1,3-Dichloropropene	2.0 U	10	2.0	10	06/27/13 03:29	
Dibromochloromethane	2.1 U	10	2.1	10	06/27/13 03:29	
Dibromomethane	3.6 U	50	3.6	10	06/27/13 03:29	
Ethylbenzene	19	10	2.1	10	06/27/13 03:29	
Iodomethane	27 U	50	27	10	06/27/13 03:29	
m,p-Xylenes	19 I	20	3.1	10	06/27/13 03:29	
Methylene Chloride	2.4 I	50	2.1	10	06/27/13 03:29	
o-Xylene	12	10	1.5	10	06/27/13 03:29	
Styrene	2.9 U	10	2.9	10	06/27/13 03:29	
Tetrachloroethene (PCE)	2.2 U	10	2.2	10	06/27/13 03:29	
Toluene	20	10	1.9	10	06/27/13 03:29	
trans-1,2-Dichloroethene	1.9 U	10	1.9	10	06/27/13 03:29	
trans-1,3-Dichloropropene	2.4 U	10	2.4	10	06/27/13 03:29	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:15
Date Received: 06/20/13 09:37

Sample Name: LS-4P
Lab Code: J1303489-001

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	22 U	200	22	10	06/27/13 03:29	
Trichloroethene (TCE)	3.6 U	10	3.6	10	06/27/13 03:29	
Trichlorofluoromethane	2.4 U	200	2.4	10	06/27/13 03:29	
Vinyl Acetate	19 U	100	19	10	06/27/13 03:29	
Vinyl Chloride	3.6 U	10	3.6	10	06/27/13 03:29	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	98	72 - 121	06/27/13 03:29	
4-Bromofluorobenzene	94	86 - 113	06/27/13 03:29	
Dibromofluoromethane	101	86 - 112	06/27/13 03:29	
Toluene-d8	105	88 - 115	06/27/13 03:29	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:15
Date Received: 06/20/13 09:37

Sample Name: LS-4P
Lab Code: J1303489-001

Units: ug/L
Basis: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2-Dibromo-3-chloropropane (DBCP)	0.00700 U	0.0195	0.00700	1	07/01/13 19:35	7/1/13	
1,2-Dibromoethane (EDB)	0.00700 U	0.0195	0.00700	1	07/01/13 19:35	7/1/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	74	70 - 130	07/01/13 19:35	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:15
Date Received: 06/20/13 09:37

Sample Name: LS-4P
Lab Code: J1303489-001

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total Recoverable	6020	38.6	ug/L	4.0	0.7	2	06/28/13 20:27	6/24/13	
Arsenic, Total Recoverable	6020	70	ug/L	10	5	5	07/01/13 21:20	6/24/13	
Barium, Total Recoverable	6020	278	ug/L	8.0	1.7	2	06/28/13 20:27	6/24/13	
Beryllium, Total Recoverable	6020	0.8 I	ug/L	5.0	0.4	5	07/01/13 21:20	6/24/13	
Cadmium, Total Recoverable	6020	0.4 U	ug/L	1.6	0.4	2	06/28/13 20:27	6/24/13	
Chromium, Total Recoverable	6020	810	ug/L	4.0	0.7	2	06/28/13 20:27	6/24/13	
Cobalt, Total Recoverable	6020	57.7	ug/L	4.0	0.2	2	06/28/13 20:27	6/24/13	
Copper, Total Recoverable	6020	30.3	ug/L	4.0	0.9	2	06/28/13 20:27	6/24/13	
Lead, Total Recoverable	6020	19.7	ug/L	2.0	0.5	2	06/28/13 20:27	6/24/13	
Mercury, Total	7470A	0.6 I	ug/L	1.0	0.2	1	06/25/13 19:59	6/24/13	
Nickel, Total Recoverable	6020	328	ug/L	8.0	1.9	2	06/28/13 20:27	6/24/13	
Selenium, Total Recoverable	6020	152	ug/L	20	11	5	07/01/13 21:20	6/24/13	
Silver, Total Recoverable	6020	0.3 U	ug/L	2.0	0.3	2	06/28/13 20:27	6/24/13	
Sodium, Total Recoverable	6010B	2010	mg/L	20	2	20	06/27/13 15:35	6/24/13	
Thallium, Total Recoverable	6020	0.20 U	ug/L	0.80	0.20	2	06/28/13 20:27	6/24/13	
Vanadium, Total Recoverable	6020	608	ug/L	8.0	0.9	2	06/28/13 20:27	6/24/13	
Zinc, Total Recoverable	6020	19 I	ug/L	20	7	2	06/28/13 20:27	6/24/13	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Sample Name: LS-4P
Lab Code: J1303489-001

Service Request: J1303489
Date Collected: 06/18/13 14:15
Date Received: 06/20/13 09:37

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	300.0	3430	mg/L	50	11	100	06/21/13 22:45	NA	
Phenolics, Total Recoverable	420.4	1.6	mg/L	1.0	0.1	1	07/01/13 16:05	7/1/13	
Solids, Total Dissolved	SM 2540 C	11800	mg/L	200	200	20	06/25/13 12:54	NA	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 13:45
Date Received: 06/20/13 09:37

Sample Name: LS-4S
Lab Code: J1303489-002

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	1.9 U	10	1.9	10	06/27/13 03:54	
1,1,1-Trichloroethane (TCA)	1.8 U	10	1.8	10	06/27/13 03:54	
1,1,2,2-Tetrachloroethane	2.9 U	10	2.9	10	06/27/13 03:54	
1,1,2-Trichloroethane	4.0 U	10	4.0	10	06/27/13 03:54	
1,1-Dichloroethane (1,1-DCA)	3.0 U	10	3.0	10	06/27/13 03:54	
1,1-Dichloroethene (1,1-DCE)	1.6 U	10	1.6	10	06/27/13 03:54	
1,2,3-Trichloropropane	4.2 U	20	4.2	10	06/27/13 03:54	
1,2-Dibromo-3-chloropropane (DBCP)	23 U	50	23	10	06/27/13 03:54	
1,2-Dibromoethane (EDB)	4.7 U	10	4.7	10	06/27/13 03:54	
1,2-Dichlorobenzene	4.8 U	10	4.8	10	06/27/13 03:54	
1,2-Dichloroethane	2.2 U	10	2.2	10	06/27/13 03:54	
1,2-Dichloropropane	1.9 U	10	1.9	10	06/27/13 03:54	
1,4-Dichlorobenzene	5.1 I	10	1.6	10	06/27/13 03:54	
2-Butanone (MEK)	38 U	100	38	10	06/27/13 03:54	
2-Hexanone	22 U	250	22	10	06/27/13 03:54	
4-Methyl-2-pentanone (MIBK)	11 U	250	11	10	06/27/13 03:54	
Acetone	56 U	500	56	10	06/27/13 03:54	
Acrylonitrile	15 U	100	15	10	06/27/13 03:54	
Benzene	4.8 I	10	2.1	10	06/27/13 03:54	
Bromochloromethane	2.7 U	50	2.7	10	06/27/13 03:54	
Bromodichloromethane	2.2 U	10	2.2	10	06/27/13 03:54	
Bromoform	4.2 U	20	4.2	10	06/27/13 03:54	
Bromomethane	2.4 U	50	2.4	10	06/27/13 03:54	
Carbon Disulfide	24 U	100	24	10	06/27/13 03:54	
Carbon Tetrachloride	3.5 U	10	3.5	10	06/27/13 03:54	
Chlorobenzene	1.6 U	10	1.6	10	06/27/13 03:54	
Chloroethane	5.2 U	50	5.2	10	06/27/13 03:54	
Chloroform	3.5 U	10	3.5	10	06/27/13 03:54	
Chloromethane	3.6 U	10	3.6	10	06/27/13 03:54	
cis-1,2-Dichloroethene	3.6 U	10	3.6	10	06/27/13 03:54	
cis-1,3-Dichloropropene	2.0 U	10	2.0	10	06/27/13 03:54	
Dibromochloromethane	2.1 U	10	2.1	10	06/27/13 03:54	
Dibromomethane	3.6 U	50	3.6	10	06/27/13 03:54	
Ethylbenzene	8.6 I	10	2.1	10	06/27/13 03:54	
Iodomethane	27 U	50	27	10	06/27/13 03:54	
m,p-Xylenes	3.2 I	20	3.1	10	06/27/13 03:54	
Methylene Chloride	2.5 I	50	2.1	10	06/27/13 03:54	
o-Xylene	2.2 I	10	1.5	10	06/27/13 03:54	
Styrene	2.9 U	10	2.9	10	06/27/13 03:54	
Tetrachloroethene (PCE)	2.2 U	10	2.2	10	06/27/13 03:54	
Toluene	1.9 U	10	1.9	10	06/27/13 03:54	
trans-1,2-Dichloroethene	1.9 U	10	1.9	10	06/27/13 03:54	
trans-1,3-Dichloropropene	2.4 U	10	2.4	10	06/27/13 03:54	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 13:45
Date Received: 06/20/13 09:37

Sample Name: LS-4S
Lab Code: J1303489-002

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	22 U	200	22	10	06/27/13 03:54	
Trichloroethene (TCE)	3.6 U	10	3.6	10	06/27/13 03:54	
Trichlorofluoromethane	2.4 U	200	2.4	10	06/27/13 03:54	
Vinyl Acetate	19 U	100	19	10	06/27/13 03:54	
Vinyl Chloride	3.6 U	10	3.6	10	06/27/13 03:54	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	101	72 - 121	06/27/13 03:54	
4-Bromofluorobenzene	93	86 - 113	06/27/13 03:54	
Dibromofluoromethane	100	86 - 112	06/27/13 03:54	
Toluene-d8	104	88 - 115	06/27/13 03:54	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 13:45
Date Received: 06/20/13 09:37

Sample Name: LS-4S
Lab Code: J1303489-002

Units: ug/L
Basis: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2-Dibromo-3-chloropropane (DBCP)	0.00700 U	0.0196	0.00700	1	07/01/13 19:56	7/1/13	
1,2-Dibromoethane (EDB)	0.00700 U	0.0196	0.00700	1	07/01/13 19:56	7/1/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	74	70 - 130	07/01/13 19:56	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 13:45
Date Received: 06/20/13 09:37

Sample Name: LS-4S
Lab Code: J1303489-002

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total Recoverable	6020	3.8 I	ug/L	5.0	0.8	5	06/28/13 20:52	6/24/13	
Arsenic, Total Recoverable	6020	20	ug/L	10	5	10	07/01/13 21:36	6/24/13	
Barium, Total Recoverable	6020	1300	ug/L	10	3	5	06/28/13 20:52	6/24/13	
Beryllium, Total Recoverable	6020	9.0	ug/L	5.0	0.4	10	07/01/13 21:36	6/24/13	
Cadmium, Total Recoverable	6020	0.5 U	ug/L	2.0	0.5	5	06/28/13 20:52	6/24/13	
Chromium, Total Recoverable	6020	403	ug/L	5.0	0.9	5	06/28/13 20:52	6/24/13	
Cobalt, Total Recoverable	6020	35.5	ug/L	5.0	0.2	5	06/28/13 20:52	6/24/13	
Copper, Total Recoverable	6020	6.8	ug/L	5.0	1.2	5	06/28/13 20:52	6/24/13	
Lead, Total Recoverable	6020	7.2	ug/L	2.5	0.6	5	06/28/13 20:52	6/24/13	
Mercury, Total	7470A	0.02 U	ug/L	0.10	0.02	1	06/25/13 20:00	6/24/13	
Nickel, Total Recoverable	6020	202	ug/L	10	3	5	06/28/13 20:52	6/24/13	
Selenium, Total Recoverable	6020	55	ug/L	20	11	10	07/01/13 21:36	6/24/13	
Silver, Total Recoverable	6020	0.3 U	ug/L	2.5	0.3	5	06/28/13 20:52	6/24/13	
Sodium, Total Recoverable	6010B	1620	mg/L	10	0.6	20	06/27/13 15:40	6/24/13	
Thallium, Total Recoverable	6020	0.3 U	ug/L	1.0	0.3	5	06/28/13 20:52	6/24/13	
Vanadium, Total Recoverable	6020	361	ug/L	10	2	5	06/28/13 20:52	6/24/13	
Zinc, Total Recoverable	6020	17 I	ug/L	25	8	5	06/28/13 20:52	6/24/13	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Sample Name: LS-4S
Lab Code: J1303489-002

Service Request: J1303489
Date Collected: 06/18/13 13:45
Date Received: 06/20/13 09:37

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	300.0	1990	mg/L	50	11	100	06/21/13 23:03	NA	
Phenolics, Total Recoverable	420.4	0.32	mg/L	0.25	0.03	1	07/01/13 16:06	7/1/13	
Solids, Total Dissolved	SM 2540 C	7540	mg/L	200	200	20	06/25/13 12:54	NA	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 15:10
Date Received: 06/20/13 09:37

Sample Name: LS-5P
Lab Code: J1303489-003

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	1.9 U	10	1.9	10	06/27/13 04:20	
1,1,1-Trichloroethane (TCA)	1.8 U	10	1.8	10	06/27/13 04:20	
1,1,2,2-Tetrachloroethane	2.9 U	10	2.9	10	06/27/13 04:20	
1,1,2-Trichloroethane	4.0 U	10	4.0	10	06/27/13 04:20	
1,1-Dichloroethane (1,1-DCA)	3.0 U	10	3.0	10	06/27/13 04:20	
1,1-Dichloroethene (1,1-DCE)	1.6 U	10	1.6	10	06/27/13 04:20	
1,2,3-Trichloropropane	4.2 U	20	4.2	10	06/27/13 04:20	
1,2-Dibromo-3-chloropropane (DBCP)	23 U	50	23	10	06/27/13 04:20	
1,2-Dibromoethane (EDB)	4.7 U	10	4.7	10	06/27/13 04:20	
1,2-Dichlorobenzene	4.8 U	10	4.8	10	06/27/13 04:20	
1,2-Dichloroethane	2.2 U	10	2.2	10	06/27/13 04:20	
1,2-Dichloropropane	1.9 U	10	1.9	10	06/27/13 04:20	
1,4-Dichlorobenzene	9.1 I	10	1.6	10	06/27/13 04:20	
2-Butanone (MEK)	540	100	38	10	06/27/13 04:20	
2-Hexanone	22 U	250	22	10	06/27/13 04:20	
4-Methyl-2-pentanone (MIBK)	11 U	250	11	10	06/27/13 04:20	
Acetone	380 I	500	56	10	06/27/13 04:20	
Acrylonitrile	15 U	100	15	10	06/27/13 04:20	
Benzene	6.3 I	10	2.1	10	06/27/13 04:20	
Bromochloromethane	2.7 U	50	2.7	10	06/27/13 04:20	
Bromodichloromethane	2.2 U	10	2.2	10	06/27/13 04:20	
Bromoform	4.2 U	20	4.2	10	06/27/13 04:20	
Bromomethane	2.4 U	50	2.4	10	06/27/13 04:20	
Carbon Disulfide	24 U	100	24	10	06/27/13 04:20	
Carbon Tetrachloride	3.5 U	10	3.5	10	06/27/13 04:20	
Chlorobenzene	1.6 U	10	1.6	10	06/27/13 04:20	
Chloroethane	5.2 U	50	5.2	10	06/27/13 04:20	
Chloroform	3.5 U	10	3.5	10	06/27/13 04:20	
Chloromethane	3.6 U	10	3.6	10	06/27/13 04:20	
cis-1,2-Dichloroethene	3.6 U	10	3.6	10	06/27/13 04:20	
cis-1,3-Dichloropropene	2.0 U	10	2.0	10	06/27/13 04:20	
Dibromochloromethane	2.1 U	10	2.1	10	06/27/13 04:20	
Dibromomethane	3.6 U	50	3.6	10	06/27/13 04:20	
Ethylbenzene	31	10	2.1	10	06/27/13 04:20	
Iodomethane	27 U	50	27	10	06/27/13 04:20	
m,p-Xylenes	42	20	3.1	10	06/27/13 04:20	
Methylene Chloride	2.3 I	50	2.1	10	06/27/13 04:20	
o-Xylene	22	10	1.5	10	06/27/13 04:20	
Styrene	2.9 U	10	2.9	10	06/27/13 04:20	
Tetrachloroethene (PCE)	2.2 U	10	2.2	10	06/27/13 04:20	
Toluene	40	10	1.9	10	06/27/13 04:20	
trans-1,2-Dichloroethene	1.9 U	10	1.9	10	06/27/13 04:20	
trans-1,3-Dichloropropene	2.4 U	10	2.4	10	06/27/13 04:20	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 15:10
Date Received: 06/20/13 09:37

Sample Name: LS-5P
Lab Code: J1303489-003

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	22 U	200	22	10	06/27/13 04:20	
Trichloroethene (TCE)	3.6 U	10	3.6	10	06/27/13 04:20	
Trichlorofluoromethane	2.4 U	200	2.4	10	06/27/13 04:20	
Vinyl Acetate	19 U	100	19	10	06/27/13 04:20	
Vinyl Chloride	3.6 U	10	3.6	10	06/27/13 04:20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	97	72 - 121	06/27/13 04:20	
4-Bromofluorobenzene	94	86 - 113	06/27/13 04:20	
Dibromofluoromethane	101	86 - 112	06/27/13 04:20	
Toluene-d8	104	88 - 115	06/27/13 04:20	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 15:10
Date Received: 06/20/13 09:37

Sample Name: LS-5P
Lab Code: J1303489-003

Units: ug/L
Basis: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2-Dibromo-3-chloropropane (DBCP)	0.00709 U	0.0202	0.00709	1	07/01/13 20:18	7/1/13	
1,2-Dibromoethane (EDB)	0.00709 U	0.0202	0.00709	1	07/01/13 20:18	7/1/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	76	70 - 130	07/01/13 20:18	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 15:10
Date Received: 06/20/13 09:37

Sample Name: LS-5P
Lab Code: J1303489-003

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total Recoverable	6020	76.1	ug/L	4.0	0.7	2	06/28/13 20:57	6/24/13	
Arsenic, Total Recoverable	6020	107	ug/L	10	5	5	07/01/13 21:41	6/24/13	
Barium, Total Recoverable	6020	444	ug/L	8.0	1.7	2	06/28/13 20:57	6/24/13	
Beryllium, Total Recoverable	6020	1.5 I	ug/L	5.0	0.4	5	07/01/13 21:41	6/24/13	
Cadmium, Total Recoverable	6020	0.4 U	ug/L	1.6	0.4	2	06/28/13 20:57	6/24/13	
Chromium, Total Recoverable	6020	972	ug/L	4.0	0.7	2	06/28/13 20:57	6/24/13	
Cobalt, Total Recoverable	6020	50.4	ug/L	4.0	0.2	2	06/28/13 20:57	6/24/13	
Copper, Total Recoverable	6020	64.8	ug/L	4.0	0.9	2	06/28/13 20:57	6/24/13	
Lead, Total Recoverable	6020	31.0	ug/L	2.0	0.5	2	06/28/13 20:57	6/24/13	
Mercury, Total	7470A	0.09 I	ug/L	0.20	0.03	1	06/25/13 20:01	6/24/13	
Nickel, Total Recoverable	6020	449	ug/L	8.0	1.9	2	06/28/13 20:57	6/24/13	
Selenium, Total Recoverable	6020	183	ug/L	20	11	5	07/01/13 21:41	6/24/13	
Silver, Total Recoverable	6020	0.3 U	ug/L	2.0	0.3	2	06/28/13 20:57	6/24/13	
Sodium, Total Recoverable	6010B	2540	mg/L	20	2	20	06/27/13 15:45	6/24/13	
Thallium, Total Recoverable	6020	0.20 U	ug/L	0.80	0.20	2	06/28/13 20:57	6/24/13	
Vanadium, Total Recoverable	6020	704	ug/L	8.0	0.9	2	06/28/13 20:57	6/24/13	
Zinc, Total Recoverable	6020	70	ug/L	20	7	2	06/28/13 20:57	6/24/13	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Sample Name: LS-5P
Lab Code: J1303489-003

Service Request: J1303489
Date Collected: 06/18/13 15:10
Date Received: 06/20/13 09:37

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	300.0	4410	mg/L	50	11	100	06/21/13 23:21	NA	
Phenolics, Total Recoverable	420.4	0.78	mg/L	0.25	0.03	1	07/01/13 16:07	7/1/13	
Solids, Total Dissolved	SM 2540 C	12700	mg/L	200	200	20	06/25/13 12:54	NA	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:45
Date Received: 06/20/13 09:37

Sample Name: LS-5S
Lab Code: J1303489-004

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	1.9 U	10	1.9	10	06/27/13 04:45	
1,1,1-Trichloroethane (TCA)	1.8 U	10	1.8	10	06/27/13 04:45	
1,1,2,2-Tetrachloroethane	2.9 U	10	2.9	10	06/27/13 04:45	
1,1,2-Trichloroethane	4.0 U	10	4.0	10	06/27/13 04:45	
1,1-Dichloroethane (1,1-DCA)	3.0 U	10	3.0	10	06/27/13 04:45	
1,1-Dichloroethene (1,1-DCE)	1.6 U	10	1.6	10	06/27/13 04:45	
1,2,3-Trichloropropane	4.2 U	20	4.2	10	06/27/13 04:45	
1,2-Dibromo-3-chloropropane (DBCP)	23 U	50	23	10	06/27/13 04:45	
1,2-Dibromoethane (EDB)	4.7 U	10	4.7	10	06/27/13 04:45	
1,2-Dichlorobenzene	4.8 U	10	4.8	10	06/27/13 04:45	
1,2-Dichloroethane	2.2 U	10	2.2	10	06/27/13 04:45	
1,2-Dichloropropane	1.9 U	10	1.9	10	06/27/13 04:45	
1,4-Dichlorobenzene	7.2 I	10	1.6	10	06/27/13 04:45	
2-Butanone (MEK)	38 U	100	38	10	06/27/13 04:45	
2-Hexanone	22 U	250	22	10	06/27/13 04:45	
4-Methyl-2-pentanone (MIBK)	11 U	250	11	10	06/27/13 04:45	
Acetone	56 U	500	56	10	06/27/13 04:45	
Acrylonitrile	15 U	100	15	10	06/27/13 04:45	
Benzene	6.8 I	10	2.1	10	06/27/13 04:45	
Bromochloromethane	2.7 U	50	2.7	10	06/27/13 04:45	
Bromodichloromethane	2.2 U	10	2.2	10	06/27/13 04:45	
Bromoform	4.2 U	20	4.2	10	06/27/13 04:45	
Bromomethane	2.4 U	50	2.4	10	06/27/13 04:45	
Carbon Disulfide	24 U	100	24	10	06/27/13 04:45	
Carbon Tetrachloride	3.5 U	10	3.5	10	06/27/13 04:45	
Chlorobenzene	1.6 U	10	1.6	10	06/27/13 04:45	
Chloroethane	5.2 U	50	5.2	10	06/27/13 04:45	
Chloroform	3.5 U	10	3.5	10	06/27/13 04:45	
Chloromethane	3.6 U	10	3.6	10	06/27/13 04:45	
cis-1,2-Dichloroethene	3.6 U	10	3.6	10	06/27/13 04:45	
cis-1,3-Dichloropropene	2.0 U	10	2.0	10	06/27/13 04:45	
Dibromochloromethane	2.1 U	10	2.1	10	06/27/13 04:45	
Dibromomethane	3.6 U	50	3.6	10	06/27/13 04:45	
Ethylbenzene	5.2 I	10	2.1	10	06/27/13 04:45	
Iodomethane	27 U	50	27	10	06/27/13 04:45	
m,p-Xylenes	3.1 U	20	3.1	10	06/27/13 04:45	
Methylene Chloride	2.1 U	50	2.1	10	06/27/13 04:45	
o-Xylene	1.9 I	10	1.5	10	06/27/13 04:45	
Styrene	2.9 U	10	2.9	10	06/27/13 04:45	
Tetrachloroethene (PCE)	2.2 U	10	2.2	10	06/27/13 04:45	
Toluene	1.9 U	10	1.9	10	06/27/13 04:45	
trans-1,2-Dichloroethene	1.9 U	10	1.9	10	06/27/13 04:45	
trans-1,3-Dichloropropene	2.4 U	10	2.4	10	06/27/13 04:45	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:45
Date Received: 06/20/13 09:37

Sample Name: LS-5S
Lab Code: J1303489-004

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	22 U	200	22	10	06/27/13 04:45	
Trichloroethene (TCE)	3.6 U	10	3.6	10	06/27/13 04:45	
Trichlorofluoromethane	2.4 U	200	2.4	10	06/27/13 04:45	
Vinyl Acetate	19 U	100	19	10	06/27/13 04:45	
Vinyl Chloride	3.6 U	10	3.6	10	06/27/13 04:45	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	100	72 - 121	06/27/13 04:45	
4-Bromofluorobenzene	95	86 - 113	06/27/13 04:45	
Dibromofluoromethane	101	86 - 112	06/27/13 04:45	
Toluene-d8	107	88 - 115	06/27/13 04:45	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:45
Date Received: 06/20/13 09:37

Sample Name: LS-5S
Lab Code: J1303489-004

Units: ug/L
Basis: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2-Dibromo-3-chloropropane (DBCP)	0.00707 U	0.0202	0.00707	1	07/01/13 20:39	7/1/13	
1,2-Dibromoethane (EDB)	0.00707 U	0.0202	0.00707	1	07/01/13 20:39	7/1/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	75	70 - 130	07/01/13 20:39	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:45
Date Received: 06/20/13 09:37

Sample Name: LS-5S
Lab Code: J1303489-004

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total Recoverable	6020	19.3	ug/L	2.0	0.4	2	06/28/13 21:02	6/24/13	
Arsenic, Total Recoverable	6020	25.9	ug/L	5.0	2.1	5	07/01/13 21:46	6/24/13	
Barium, Total Recoverable	6020	1030	ug/L	4.0	0.9	2	06/28/13 21:02	6/24/13	
Beryllium, Total Recoverable	6020	1.0 I	ug/L	2.5	0.2	5	07/01/13 21:46	6/24/13	
Cadmium, Total Recoverable	6020	0.25 I	ug/L	0.80	0.19	2	06/28/13 21:02	6/24/13	
Chromium, Total Recoverable	6020	183	ug/L	2.0	0.4	2	06/28/13 21:02	6/24/13	
Cobalt, Total Recoverable	6020	26.8	ug/L	2.0	0.06	2	06/28/13 21:02	6/24/13	
Copper, Total Recoverable	6020	41.6	ug/L	2.0	0.5	2	06/28/13 21:02	6/24/13	
Lead, Total Recoverable	6020	4.8	ug/L	1.0	0.3	2	06/28/13 21:02	6/24/13	
Mercury, Total	7470A	0.03 U	ug/L	0.20	0.03	1	06/25/13 20:02	6/24/13	
Nickel, Total Recoverable	6020	211	ug/L	4.0	1.0	2	06/28/13 21:02	6/24/13	
Selenium, Total Recoverable	6020	24	ug/L	10	6	5	07/01/13 21:46	6/24/13	
Silver, Total Recoverable	6020	0.2 U	ug/L	1.0	0.2	2	06/28/13 21:02	6/24/13	
Sodium, Total Recoverable	6010B	1290	mg/L	10	0.6	20	06/27/13 15:50	6/24/13	
Thallium, Total Recoverable	6020	0.10 U	ug/L	0.40	0.10	2	06/28/13 21:02	6/24/13	
Vanadium, Total Recoverable	6020	133	ug/L	4.0	0.5	2	06/28/13 21:02	6/24/13	
Zinc, Total Recoverable	6020	133	ug/L	10	4	2	06/28/13 21:02	6/24/13	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Sample Name: LS-5S
Lab Code: J1303489-004

Service Request: J1303489
Date Collected: 06/18/13 14:45
Date Received: 06/20/13 09:37

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	300.0	1440	mg/L	50	11	100	06/21/13 23:39	NA	
Phenolics, Total Recoverable	420.4	0.19 I	mg/L	0.25	0.03	1	07/01/13 16:07	7/1/13	
Solids, Total Dissolved	SM 2540 C	4840	mg/L	100	100	10	06/25/13 12:54	NA	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 00:00
Date Received: 06/20/13 09:37

Sample Name: Trip Blank
Lab Code: J1303489-005

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19 U	1.0	0.19	1	06/27/13 03:04	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	06/27/13 03:04	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	06/27/13 03:04	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	06/27/13 03:04	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	06/27/13 03:04	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	06/27/13 03:04	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	06/27/13 03:04	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	06/27/13 03:04	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	06/27/13 03:04	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	06/27/13 03:04	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	06/27/13 03:04	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	06/27/13 03:04	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	06/27/13 03:04	
2-Butanone (MEK)	3.8 U	10	3.8	1	06/27/13 03:04	
2-Hexanone	2.2 U	25	2.2	1	06/27/13 03:04	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	06/27/13 03:04	
Acetone	5.6 U	50	5.6	1	06/27/13 03:04	
Acrylonitrile	1.5 U	10	1.5	1	06/27/13 03:04	
Benzene	0.21 U	1.0	0.21	1	06/27/13 03:04	
Bromochloromethane	0.27 U	5.0	0.27	1	06/27/13 03:04	
Bromodichloromethane	0.22 U	1.0	0.22	1	06/27/13 03:04	
Bromoform	0.42 U	2.0	0.42	1	06/27/13 03:04	
Bromomethane	0.23 U	5.0	0.23	1	06/27/13 03:04	
Carbon Disulfide	2.4 U	10	2.4	1	06/27/13 03:04	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	06/27/13 03:04	
Chlorobenzene	0.16 U	1.0	0.16	1	06/27/13 03:04	
Chloroethane	0.52 U	5.0	0.52	1	06/27/13 03:04	
Chloroform	0.35 U	1.0	0.35	1	06/27/13 03:04	
Chloromethane	0.36 U	1.0	0.36	1	06/27/13 03:04	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	06/27/13 03:04	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	06/27/13 03:04	
Dibromochloromethane	0.21 U	1.0	0.21	1	06/27/13 03:04	
Dibromomethane	0.36 U	5.0	0.36	1	06/27/13 03:04	
Ethylbenzene	0.21 U	1.0	0.21	1	06/27/13 03:04	
Iodomethane	2.7 U	5.0	2.7	1	06/27/13 03:04	
m,p-Xylenes	0.31 U	2.0	0.31	1	06/27/13 03:04	
Methylene Chloride	0.29 I	5.0	0.21	1	06/27/13 03:04	
o-Xylene	0.14 U	1.0	0.14	1	06/27/13 03:04	
Styrene	0.29 U	1.0	0.29	1	06/27/13 03:04	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	06/27/13 03:04	
Toluene	0.19 U	1.0	0.19	1	06/27/13 03:04	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	06/27/13 03:04	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	06/27/13 03:04	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 00:00
Date Received: 06/20/13 09:37

Sample Name: Trip Blank
Lab Code: J1303489-005

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	2.2 U	20	2.2	1	06/27/13 03:04	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	06/27/13 03:04	
Trichlorofluoromethane	0.24 U	20	0.24	1	06/27/13 03:04	
Vinyl Acetate	1.9 U	10	1.9	1	06/27/13 03:04	
Vinyl Chloride	0.36 U	1.0	0.36	1	06/27/13 03:04	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	100	72 - 121	06/27/13 03:04	
4-Bromofluorobenzene	94	86 - 113	06/27/13 03:04	
Dibromofluoromethane	102	86 - 112	06/27/13 03:04	
Toluene-d8	104	88 - 115	06/27/13 03:04	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: JQ1304466-01

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19 U	1.0	0.19	1	06/27/13 02:39	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	06/27/13 02:39	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	06/27/13 02:39	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	06/27/13 02:39	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	06/27/13 02:39	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	06/27/13 02:39	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	06/27/13 02:39	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	06/27/13 02:39	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	06/27/13 02:39	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	06/27/13 02:39	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	06/27/13 02:39	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	06/27/13 02:39	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	06/27/13 02:39	
2-Butanone (MEK)	3.8 U	10	3.8	1	06/27/13 02:39	
2-Hexanone	2.2 U	25	2.2	1	06/27/13 02:39	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	06/27/13 02:39	
Acetone	5.6 U	50	5.6	1	06/27/13 02:39	
Acrylonitrile	1.5 U	10	1.5	1	06/27/13 02:39	
Benzene	0.21 U	1.0	0.21	1	06/27/13 02:39	
Bromochloromethane	0.27 U	5.0	0.27	1	06/27/13 02:39	
Bromodichloromethane	0.22 U	1.0	0.22	1	06/27/13 02:39	
Bromoform	0.42 U	2.0	0.42	1	06/27/13 02:39	
Bromomethane	0.23 U	5.0	0.23	1	06/27/13 02:39	
Carbon Disulfide	2.4 U	10	2.4	1	06/27/13 02:39	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	06/27/13 02:39	
Chlorobenzene	0.16 U	1.0	0.16	1	06/27/13 02:39	
Chloroethane	0.52 U	5.0	0.52	1	06/27/13 02:39	
Chloroform	0.35 U	1.0	0.35	1	06/27/13 02:39	
Chloromethane	0.36 U	1.0	0.36	1	06/27/13 02:39	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	06/27/13 02:39	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	06/27/13 02:39	
Dibromochloromethane	0.21 U	1.0	0.21	1	06/27/13 02:39	
Dibromomethane	0.36 U	5.0	0.36	1	06/27/13 02:39	
Ethylbenzene	0.21 U	1.0	0.21	1	06/27/13 02:39	
Iodomethane	2.7 U	5.0	2.7	1	06/27/13 02:39	
m,p-Xylenes	0.31 U	2.0	0.31	1	06/27/13 02:39	
Methylene Chloride	0.21 U	5.0	0.21	1	06/27/13 02:39	
o-Xylene	0.14 U	1.0	0.14	1	06/27/13 02:39	
Styrene	0.29 U	1.0	0.29	1	06/27/13 02:39	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	06/27/13 02:39	
Toluene	0.19 U	1.0	0.19	1	06/27/13 02:39	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	06/27/13 02:39	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	06/27/13 02:39	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: JQ1304466-01

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	2.2 U	20	2.2	1	06/27/13 02:39	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	06/27/13 02:39	
Trichlorofluoromethane	0.24 U	20	0.24	1	06/27/13 02:39	
Vinyl Acetate	1.9 U	10	1.9	1	06/27/13 02:39	
Vinyl Chloride	0.36 U	1.0	0.36	1	06/27/13 02:39	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	100	72 - 121	06/27/13 02:39	
4-Bromofluorobenzene	94	86 - 113	06/27/13 02:39	
Dibromofluoromethane	100	86 - 112	06/27/13 02:39	
Toluene-d8	103	88 - 115	06/27/13 02:39	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: JQ1304566-01

Units: ug/L
Basis: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2-Dibromo-3-chloropropane (DBCP)	0.00700 U	0.0200	0.00700	1	07/01/13 18:52	7/1/13	
1,2-Dibromoethane (EDB)	0.00700 U	0.0200	0.00700	1	07/01/13 18:52	7/1/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	79	70 - 130	07/01/13 18:52	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: J1303489-MB

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total Recoverable	6020	0.2 U	ug/L	1.0	0.2	1	06/28/13 20:02	6/24/13	
Arsenic, Total Recoverable	6020	0.5 U	ug/L	1.0	0.5	1	06/28/13 20:02	6/24/13	
Barium, Total Recoverable	6020	0.5 U	ug/L	2.0	0.5	1	06/28/13 20:02	6/24/13	
Beryllium, Total Recoverable	6020	0.04 U	ug/L	0.50	0.04	1	06/28/13 20:02	6/24/13	
Cadmium, Total Recoverable	6020	0.10 U	ug/L	0.40	0.10	1	06/28/13 20:02	6/24/13	
Chromium, Total Recoverable	6020	0.2 U	ug/L	1.0	0.2	1	06/28/13 20:02	6/24/13	
Cobalt, Total Recoverable	6020	0.03 U	ug/L	1.0	0.03	1	06/28/13 20:02	6/24/13	
Copper, Total Recoverable	6020	0.3 U	ug/L	1.0	0.3	1	06/28/13 20:02	6/24/13	
Lead, Total Recoverable	6020	0.12 U	ug/L	0.50	0.12	1	06/28/13 20:02	6/24/13	
Mercury, Total	7470A	0.02 U	ug/L	0.10	0.02	1	06/25/13 16:40	6/24/13	
Nickel, Total Recoverable	6020	0.5 U	ug/L	2.0	0.5	1	06/28/13 20:02	6/24/13	
Selenium, Total Recoverable	6020	1.1 U	ug/L	2.0	1.1	1	06/28/13 20:02	6/24/13	
Silver, Total Recoverable	6020	0.06 U	ug/L	0.50	0.06	1	06/28/13 20:02	6/24/13	
Sodium, Total Recoverable	6010B	0.03 U	mg/L	0.50	0.03	1	06/25/13 18:01	6/24/13	
Thallium, Total Recoverable	6020	0.05 U	ug/L	0.20	0.05	1	06/28/13 20:02	6/24/13	
Vanadium, Total Recoverable	6020	0.3 U	ug/L	2.0	0.3	1	06/28/13 20:02	6/24/13	
Zinc, Total Recoverable	6020	1.6 U	ug/L	5.0	1.6	1	06/28/13 20:02	6/24/13	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: J1303489-MB

Service Request: J1303489
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	300.0	0.11 U	mg/L	0.50	0.11	1	06/21/13 18:15	NA	
Phenolics, Total Recoverable	420.4	0.018 I	mg/L	0.050	0.005	1	07/01/13 16:04	7/1/13	
Solids, Total Dissolved	SM 2540 C	10 U	mg/L	10	10	1	06/25/13 12:54	NA	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	1,2-Dichloroethane-d4	4-Bromofluorobenzene	Dibromofluoromethane
		72 - 121	86 - 113	86 - 112
LS-4P	J1303489-001	98	94	101
LS-4S	J1303489-002	101	93	100
LS-5P	J1303489-003	97	94	101
LS-5S	J1303489-004	100	95	101
Trip Blank	J1303489-005	100	94	102
Method Blank	JQ1304466-01	100	94	100
Lab Control Sample	JQ1304466-02	97	96	101

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	Toluene-d8
		88 - 115
LS-4P	J1303489-001	105
LS-4S	J1303489-002	104
LS-5P	J1303489-003	104
LS-5S	J1303489-004	107
Trip Blank	J1303489-005	104
Method Blank	JQ1304466-01	103
Lab Control Sample	JQ1304466-02	103

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Analyzed: 06/27/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Units: ug/L
Basis: NA
Analysis Lot: 346515

Lab Control Sample
JQ1304466-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	19.3	20.0	96	77-118
1,1,1-Trichloroethane (TCA)	18.6	20.0	93	70-122
1,1,2,2-Tetrachloroethane	19.4	20.0	97	66-135
1,1,2-Trichloroethane	19.2	20.0	96	75-122
1,1-Dichloroethane (1,1-DCA)	18.6	20.0	93	79-117
1,1-Dichloroethene (1,1-DCE)	18.4	20.0	92	72-128
1,2,3-Trichloropropane	19.8	20.0	99	70-123
1,2-Dibromo-3-chloropropane (DBCP)	19.2	20.0	96	60-122
1,2-Dibromoethane (EDB)	19.2	20.0	96	76-118
1,2-Dichlorobenzene	18.4	20.0	92	81-115
1,2-Dichloroethane	17.7	20.0	88	70-117
1,2-Dichloropropane	18.0	20.0	90	79-117
1,4-Dichlorobenzene	17.9	20.0	90	82-115
2-Butanone (MEK)	89.6	100	90	62-138
2-Hexanone	92.5	100	93	74-127
4-Methyl-2-pentanone (MIBK)	91.5	100	91	77-120
Acetone	89.2	100	89	42-161
Acrylonitrile	90.4	100	90	63-132
Benzene	18.0	20.0	90	80-117
Bromochloromethane	19.7	20.0	98	78-118
Bromodichloromethane	19.0	20.0	95	75-118
Bromoform	19.5	20.0	97	63-121
Bromomethane	15.0	20.0	75	31-153
Carbon Disulfide	91.0	100	91	72-128
Carbon Tetrachloride	18.7	20.0	93	67-124
Chlorobenzene	18.9	20.0	94	83-118
Chloroethane	17.9	20.0	89	68-132
Chloroform	18.0	20.0	90	77-116
Chloromethane	15.9	20.0	80	60-128
cis-1,2-Dichloroethene	18.2	20.0	91	78-117
cis-1,3-Dichloropropene	18.2	20.0	91	80-119
Dibromochloromethane	20.3	20.0	102	74-121
Dibromomethane	18.4	20.0	92	76-117
Ethylbenzene	18.6	20.0	93	82-119
Iodomethane	61.3	100	61	51-137
m,p-Xylenes	36.8	40.0	92	79-122
Methylene Chloride	18.7	20.0	93	75-123
o-Xylene	18.3	20.0	92	80-119
Styrene	19.3	20.0	96	80-121
Tetrachloroethene (PCE)	18.9	20.0	94	75-126
Toluene	18.9	20.0	95	52-152

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request:J1303489
Date Analyzed:06/27/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Units:ug/L
Basis:NA
Analysis Lot:346515

Lab Control Sample
JQ1304466-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	17.7	20.0	88	75-121
trans-1,3-Dichloropropene	17.6	20.0	88	76-118
trans-1,4-Dichloro-2-butene	16.8	20.0	84	10-198
Trichloroethene (TCE)	18.6	20.0	93	78-122
Trichlorofluoromethane	15.2	20.0	76	58-134
Vinyl Acetate	86.2	100	86	36-169
Vinyl Chloride	18.7	20.0	94	69-138

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489

SURROGATE RECOVERY SUMMARY

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Extraction Method: Method

1,1,1,2-Tetrachloroethane		
Sample Name	Lab Code	70 - 130
LS-4P	J1303489-001	74
LS-4S	J1303489-002	74
LS-5P	J1303489-003	76
LS-5S	J1303489-004	75
Method Blank	JQ1304566-01	79
Lab Control Sample	JQ1304566-02	83

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request:J1303489
Date Analyzed:07/01/13
Date Extracted:07/01/13

Lab Control Sample Summary

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Units:ug/L
Basis:NA
Analysis Lot:347324

**Lab Control Sample
JQ1304566-02**

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,2-Dibromo-3-chloropropane (DBCP)	0.237	0.250	95	70-130
1,2-Dibromoethane (EDB)	0.229	0.250	92	70-130

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13
Date Received: 06/20/13
Date Analyzed: 06/28/13 - 07/01/13

Duplicate Matrix Spike Summary
Inorganic Parameters

Sample Name: LS-4P
Lab Code: J1303489-001

Units: ug/L
Basis: NA

Matrix Spike
J1303489-001MS

Duplicate Matrix Spike
J1303489-001DMS

Analyte Name	Method	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Antimony, Total Recoverable	6020	38.6	127	100	89	132	100	93	75-125	3	20
Arsenic, Total Recoverable	6020	70	171	100	101	172	100	102	75-125	<1	20
Barium, Total Recoverable	6020	278	532	200	127 *	544	200	133 *	75-125	2	20
Beryllium, Total Recoverable	6020	0.8	41.3	50.0	81	42.4	50.0	83	75-125	3	20
Cadmium, Total Recoverable	6020	0.4	31.9	40.0	80	32.3	40.0	81	75-125	1	20
Chromium, Total Recoverable	6020	810	892	100	82 #	906	100	96 #	75-125	2	20
Cobalt, Total Recoverable	6020	57.7	149	100	91	149	100	92	75-125	<1	20
Copper, Total Recoverable	6020	30.3	112	100	82	113	100	82	75-125	<1	20
Lead, Total Recoverable	6020	19.7	69.9	50.0	100	70.7	50.0	102	75-125	1	20
Nickel, Total Recoverable	6020	328	492	200	82	502	200	87	75-125	2	20
Selenium, Total Recoverable	6020	152	350	200	99	360	200	104	75-125	3	20
Silver, Total Recoverable	6020	0.3	41.1	50.0	82	41.4	50.0	83	75-125	<1	20
Thallium, Total Recoverable	6020	0.20	18.2	20.0	91	18.7	20.0	93	75-125	3	20
Vanadium, Total Recoverable	6020	608	767	200	80	777	200	85	75-125	1	20
Zinc, Total Recoverable	6020	19	422	500	81	426	500	81	75-125	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Analyzed: 06/25/13 - 07/01/13

Lab Control Sample Summary
Inorganic Parameters

Units: ug/L
Basis: NA

Lab Control Sample
J1303489-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Antimony, Total Recoverable	6020	51.8	50.0	104	80-120
Arsenic, Total Recoverable	6020	51.2	50.0	102	80-120
Barium, Total Recoverable	6020	100	100	100	80-120
Beryllium, Total Recoverable	6020	23.9	25.0	96	80-120
Cadmium, Total Recoverable	6020	19.5	20.0	97	80-120
Chromium, Total Recoverable	6020	50.2	50.0	100	80-120
Cobalt, Total Recoverable	6020	49.6	50.0	99	80-120
Copper, Total Recoverable	6020	50.4	50.0	101	80-120
Lead, Total Recoverable	6020	25.6	25.0	102	80-120
Mercury, Total	7470A	1.27	1.25	101	80-120
Nickel, Total Recoverable	6020	98.1	100	98	80-120
Selenium, Total Recoverable	6020	101	100	101	80-120
Silver, Total Recoverable	6020	25.5	25.0	102	80-120
Thallium, Total Recoverable	6020	10.1	10.0	101	80-120
Vanadium, Total Recoverable	6020	102	100	102	80-120
Zinc, Total Recoverable	6020	248	250	99	80-120

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Analyzed: 6/25/13

Lab Control Sample Summary
Inorganic Parameters

Units: mg/L
Basis: NA

Lab Control Sample
J1303489-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Sodium, Total Recoverable	6010B	25.8	25.0	103	80-120

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Analyzed: 06/21/13 - 07/01/13

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
J1303489-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	50.5	50.0	101	90-110
Phenolics, Total Recoverable	420.4	0.960	1.00	96	90-110
Solids, Total Dissolved	SM 2540 C	313	300	104	85-115

Cooler Receipt Form

Client: WST

Service Request #: 5/303489

Project: JED SWDF

Cooler received on 6/20/13

and opened on 6/20/13 by SL

COURIER: ALS UPS FEDEX Client Other _____ Airbill # 8024781 2/24

- 1 Were custody seals on outside of cooler? Yes No
If yes, how many and where? #: 1 on lid other _____
- 2 Were seals intact and signature and date correct? Yes No N/A
- 3 Were custody papers properly filled out? Yes No N/A
- 4 Temperature of cooler(s) upon receipt (Should be > 0°C and < 6°C) 1.2 °C
- 5 Thermometer ID 781
- 6 Temperature Blank Present? Yes No
- 7 Were Ice or Ice Packs present Ice Ice Packs No
- 8 Did all bottles arrive in good condition (unbroken, etc....)? Yes No N/A
- 9 Type of packing material present
Netting Vial Holder Bubble Wrap
Paper Styrofoam Other N/A
- 10 Were all bottle labels complete (sample ID, preservation, etc....)? Yes No N/A
- 11 Did all bottle labels and tags agree with custody papers? Yes No N/A
- 12 Were the correct bottles used for the tests indicated? Yes No N/A
- 13 Were all of the preserved bottles received with the appropriate preservative?
HNO3 pH<2 H2SO4 pH<2 ZnAc2/NaOH pH>9 NaOH pH>12 HCl pH<2
Preservative additions noted below
- 14 Were all samples received within analysis holding times? Yes No N/A
- 15 Were all VOA vials free of air bubbles? If present, note below Yes No N/A
- 16 Where did the bottles originate? ALS Client

Sample ID	Reagent	Lot #	ml added	Initials Date/Time
<u>LS-4P</u>	<u>HNO3</u>	<u>met 13466</u>	<u>5.0</u>	<u>SL 6/20/13 1100</u>
<u>LS-4S</u>	<u>↓</u>	<u>↓</u>	<u>4.0</u>	<u>↓</u>
<u>LS-5P</u>	<u>↓</u>	<u>↓</u>	<u>5.0</u>	<u>↓</u>
<u>LS-5S</u>	<u>↓</u>	<u>↓</u>	<u>4.0</u>	<u>↓</u>
<u>LS-4P</u>	<u>H2SO4</u>	<u>Gen 746-94-J</u>	<u>1.0</u>	<u>↓</u>
<u>LS-4S</u>	<u>↓</u>	<u>↓</u>	<u>2.0</u>	<u>↓</u>
<u>LS-5P</u>	<u>↓</u>	<u>↓</u>	<u>1.0</u>	<u>↓</u>
<u>LS-5S</u>	<u>↓</u>	<u>↓</u>	<u>1.0</u>	<u>↓</u>

Additional comments and/or explanation of all discrepancies noted above:

Unable to preserve
vials contain headspace

Client approval to run samples if discrepancies noted:

Date:



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

9143 Philips Highway, Ste 200 • Jacksonville, FL 32256 (904) 739-2277 • 800-696-7222 x06 • FAX (904) 739-2011

PAGE 1 OF 1

SR# J1303489
CAS Contract

Project Name JED SWDF (Leachates)		Project Number	
Project Manager Joe Terry		Email Address jterry@als.com	
Company/Address WSI		11457 C.R. 672	
Riverview, FL 33569		FAX #	
Phone # 813-943-8633		Sampler's Printed Name Joe Terry	
Sampler's Signature <i>Joe Terry</i>		LAB ID	
CLIENT SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX
LS-4P	6-18-13	1415	Leachate
LS-4S	6-18-13	1345	Leachate
LS-5P	6-18-13	1510	Leachate
LS-5S	6-18-13	1445	Leachate
Trip Blank	6-18-13	0000	Blank
ANALYSIS REQUESTED (Include Method Num)			
PRESERVATIVE	1	0	3
NUMBER OF CONTAINERS	9	3	1
REMARKS/ALTERNATE DESCRIPTION			
1. HCl 2. HNO ₃ 3. H ₂ SO ₄ 4. NaOH 5. Zn Acetate 6. MeOH 7. NaHSO ₄ 8. Other			
J1303489 Waste Services of Florida, Inc. JED SWDF (Leachates)			
INVOICE INFORMATION			
REPORT REQUIREMENTS			
TURNAROUND REQUIREMENTS			
SPECIAL INSTRUCTIONS/COMMENTS			
RECEIVED BY			
RELINQUISHED BY			
Signature			
Printed Name			
Firm			
Date/Time			



July 07, 2013

Service Request No:J1303489

Kirk Wills
Waste Services of Florida, Inc.
11500 43rd Street North
Clearwater, FL 33762

Laboratory Results for: JED SWDF (Leachates)

Dear Kirk,

Enclosed are the results of the sample(s) submitted to our laboratory June 20, 2013
For your reference, these analyses have been assigned our service request number **J1303489**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 4409. You may also contact me via email at Craig.Myers@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Craig Myers
Project Manager

ADDRESS 9143 Philips Highway, Suite 200, Jacksonville, FL 32256
PHONE +1 904 739 2277 | FAX +1 904 739 2011
ALS Group USA, Corp.
dba ALS Environmental

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Received: 6/20/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. When appropriate to the procedure, method blank results have been reported with each analytical test. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Parameters that are included in the NELAC Fields of Testing but are not included in the lab's NELAC accreditation are identified in the discussion of each analytical procedure.

Sample Receipt

Four water samples and one trip blank were received for analysis at ALS Environmental on 6/20/13. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at $\leq 6^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260B: Samples J1303489-001, -002, -003, and -004 required dilution due to the foaming nature of the matrix. The reporting limits are adjusted to reflect the dilution.

Semi-Volatile Organic Analyses:

No significant data anomalies were noted with this analysis.

Metals Analyses:

Methods 6010B/6020: The Method Reporting Limit (MRL) for all analytes in samples J1303489-001, -002, -003, and -004 was elevated due to the nature of the matrix. The samples were received in the lab unpreserved and had a thick dark brown color. In addition, these samples contained high concentrations of dissolved solids that preclude their analysis without prior dilution via this technique.

Method 747A: The reporting limit is elevated for Mercury in samples J1303489-001, -002, -003, and -004. The sample matrix contained excessive amounts of organic matter that subsequently reduced the potassium permanganate added during sample preparation. An excess of oxidized permanganate must be maintained throughout the prep process in order to ensure no loss of mercury as vapor. As a result, a lesser amount of sample was utilized and the resulting reporting limits adjusted accordingly.

General Chemistry Analyses:

No significant data anomalies were noted with this analysis.

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
North Carolina Department of Environment and Natural Resources	527	12/31/2013
Virginia Environmental Accreditation Program	460191	12/14/2013
Texas Commision on Environmental Quality	T104704197-13-5	5/31/2014
Maine Department of Health and Human Services	2011006	2/3/2015
Department of Defense	66206	5/31/2014
Pennsylvania Department of Environmental Protection	68-04835	8/31/2013

Data Qualifiers

Florida-DEP

- ! Data deviates from historically established concentration ranges
- * Not reported due to interference
- ? Data is rejected and should not be used
- A Value reported is the arithmetic mean of two or more determinations
- B Results based upon colony counts outside the acceptable range.
- D Measurement was made in the field.
- E Extra samples were taken at composite stations
- H Value based on field kit determination; results may not be accurate.
- I The reported value is between the laboratory method detection limit and the laboratory PQL.
- J Estimated value.
- K Off scale low. The value is less than the lowest calibration standard.
- L Off scale high. The analyte is above the acceptable level of quantitation.
- M The MDL/MRL has been elevated because the analyte could not be accurately quantified.
- N Presumptive evidence of presence of material.
- O Sampled, but analysis lost or not performed
- Q Sample held beyond the acceptable holding time.
- R Significant rain in the past 48 hours (typically in excess of 0.5 inches)
- T Estimated value, less than the MDL
- U Indicates that the compound was analyzed for but not detected.
- V Indicates that the analyte was detected in both the sample and the associated method blank.
- X Insufficient individuals were present in the sample to achieve a minimum of 280 organisms for identification (Stream Condition Index Analysis only)
- Y The laboratory analysis was from an unpreserved or improperly preserved sample.
- Z Too many colonies were present, the numeric value represents the filtration volume

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)

Service Request:J1303489

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
J1303489-001	LS-4P	6/18/2013	1415
J1303489-002	LS-4S	6/18/2013	1345
J1303489-003	LS-5P	6/18/2013	1510
J1303489-004	LS-5S	6/18/2013	1445
J1303489-005	Trip Blank	6/18/2013	0000

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dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:15
Date Received: 06/20/13 09:37

Sample Name: LS-4P
Lab Code: J1303489-001

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	1.9 U	10	1.9	10	06/27/13 03:29	
1,1,1-Trichloroethane (TCA)	1.8 U	10	1.8	10	06/27/13 03:29	
1,1,2,2-Tetrachloroethane	2.9 U	10	2.9	10	06/27/13 03:29	
1,1,2-Trichloroethane	4.0 U	10	4.0	10	06/27/13 03:29	
1,1-Dichloroethane (1,1-DCA)	3.0 U	10	3.0	10	06/27/13 03:29	
1,1-Dichloroethene (1,1-DCE)	1.6 U	10	1.6	10	06/27/13 03:29	
1,2,3-Trichloropropane	4.2 U	20	4.2	10	06/27/13 03:29	
1,2-Dibromo-3-chloropropane (DBCP)	23 U	50	23	10	06/27/13 03:29	
1,2-Dibromoethane (EDB)	4.7 U	10	4.7	10	06/27/13 03:29	
1,2-Dichlorobenzene	4.8 U	10	4.8	10	06/27/13 03:29	
1,2-Dichloroethane	2.2 U	10	2.2	10	06/27/13 03:29	
1,2-Dichloropropane	1.9 U	10	1.9	10	06/27/13 03:29	
1,4-Dichlorobenzene	4.3 I	10	1.6	10	06/27/13 03:29	
2-Butanone (MEK)	830	100	38	10	06/27/13 03:29	
2-Hexanone	22 U	250	22	10	06/27/13 03:29	
4-Methyl-2-pentanone (MIBK)	11 U	250	11	10	06/27/13 03:29	
Acetone	850	500	56	10	06/27/13 03:29	
Acrylonitrile	15 U	100	15	10	06/27/13 03:29	
Benzene	6.3 I	10	2.1	10	06/27/13 03:29	
Bromochloromethane	2.7 U	50	2.7	10	06/27/13 03:29	
Bromodichloromethane	2.2 U	10	2.2	10	06/27/13 03:29	
Bromoform	4.2 U	20	4.2	10	06/27/13 03:29	
Bromomethane	2.4 U	50	2.4	10	06/27/13 03:29	
Carbon Disulfide	24 U	100	24	10	06/27/13 03:29	
Carbon Tetrachloride	3.5 U	10	3.5	10	06/27/13 03:29	
Chlorobenzene	1.6 U	10	1.6	10	06/27/13 03:29	
Chloroethane	5.2 U	50	5.2	10	06/27/13 03:29	
Chloroform	3.5 U	10	3.5	10	06/27/13 03:29	
Chloromethane	3.6 U	10	3.6	10	06/27/13 03:29	
cis-1,2-Dichloroethene	3.6 U	10	3.6	10	06/27/13 03:29	
cis-1,3-Dichloropropene	2.0 U	10	2.0	10	06/27/13 03:29	
Dibromochloromethane	2.1 U	10	2.1	10	06/27/13 03:29	
Dibromomethane	3.6 U	50	3.6	10	06/27/13 03:29	
Ethylbenzene	19	10	2.1	10	06/27/13 03:29	
Iodomethane	27 U	50	27	10	06/27/13 03:29	
m,p-Xylenes	19 I	20	3.1	10	06/27/13 03:29	
Methylene Chloride	2.4 I	50	2.1	10	06/27/13 03:29	
o-Xylene	12	10	1.5	10	06/27/13 03:29	
Styrene	2.9 U	10	2.9	10	06/27/13 03:29	
Tetrachloroethene (PCE)	2.2 U	10	2.2	10	06/27/13 03:29	
Toluene	20	10	1.9	10	06/27/13 03:29	
trans-1,2-Dichloroethene	1.9 U	10	1.9	10	06/27/13 03:29	
trans-1,3-Dichloropropene	2.4 U	10	2.4	10	06/27/13 03:29	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:15
Date Received: 06/20/13 09:37

Sample Name: LS-4P
Lab Code: J1303489-001

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	22 U	200	22	10	06/27/13 03:29	
Trichloroethene (TCE)	3.6 U	10	3.6	10	06/27/13 03:29	
Trichlorofluoromethane	2.4 U	200	2.4	10	06/27/13 03:29	
Vinyl Acetate	19 U	100	19	10	06/27/13 03:29	
Vinyl Chloride	3.6 U	10	3.6	10	06/27/13 03:29	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	98	72 - 121	06/27/13 03:29	
4-Bromofluorobenzene	94	86 - 113	06/27/13 03:29	
Dibromofluoromethane	101	86 - 112	06/27/13 03:29	
Toluene-d8	105	88 - 115	06/27/13 03:29	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:15
Date Received: 06/20/13 09:37

Sample Name: LS-4P
Lab Code: J1303489-001

Units: ug/L
Basis: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2-Dibromo-3-chloropropane (DBCP)	0.00700 U	0.0195	0.00700	1	07/01/13 19:35	7/1/13	
1,2-Dibromoethane (EDB)	0.00700 U	0.0195	0.00700	1	07/01/13 19:35	7/1/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	74	70 - 130	07/01/13 19:35	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:15
Date Received: 06/20/13 09:37

Sample Name: LS-4P
Lab Code: J1303489-001

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total Recoverable	6020	38.6	ug/L	4.0	0.7	2	06/28/13 20:27	6/24/13	
Arsenic, Total Recoverable	6020	70	ug/L	10	5	5	07/01/13 21:20	6/24/13	
Barium, Total Recoverable	6020	278	ug/L	8.0	1.7	2	06/28/13 20:27	6/24/13	
Beryllium, Total Recoverable	6020	0.8 I	ug/L	5.0	0.4	5	07/01/13 21:20	6/24/13	
Cadmium, Total Recoverable	6020	0.4 U	ug/L	1.6	0.4	2	06/28/13 20:27	6/24/13	
Chromium, Total Recoverable	6020	810	ug/L	4.0	0.7	2	06/28/13 20:27	6/24/13	
Cobalt, Total Recoverable	6020	57.7	ug/L	4.0	0.2	2	06/28/13 20:27	6/24/13	
Copper, Total Recoverable	6020	30.3	ug/L	4.0	0.9	2	06/28/13 20:27	6/24/13	
Lead, Total Recoverable	6020	19.7	ug/L	2.0	0.5	2	06/28/13 20:27	6/24/13	
Mercury, Total	7470A	0.6 I	ug/L	1.0	0.2	1	06/25/13 19:59	6/24/13	
Nickel, Total Recoverable	6020	328	ug/L	8.0	1.9	2	06/28/13 20:27	6/24/13	
Selenium, Total Recoverable	6020	152	ug/L	20	11	5	07/01/13 21:20	6/24/13	
Silver, Total Recoverable	6020	0.3 U	ug/L	2.0	0.3	2	06/28/13 20:27	6/24/13	
Sodium, Total Recoverable	6010B	2010	mg/L	20	2	20	06/27/13 15:35	6/24/13	
Thallium, Total Recoverable	6020	0.20 U	ug/L	0.80	0.20	2	06/28/13 20:27	6/24/13	
Vanadium, Total Recoverable	6020	608	ug/L	8.0	0.9	2	06/28/13 20:27	6/24/13	
Zinc, Total Recoverable	6020	19 I	ug/L	20	7	2	06/28/13 20:27	6/24/13	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Sample Name: LS-4P
Lab Code: J1303489-001

Service Request: J1303489
Date Collected: 06/18/13 14:15
Date Received: 06/20/13 09:37

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	300.0	3430	mg/L	50	11	100	06/21/13 22:45	NA	
Phenolics, Total Recoverable	420.4	1.6	mg/L	1.0	0.1	1	07/01/13 16:05	7/1/13	
Solids, Total Dissolved	SM 2540 C	11800	mg/L	200	200	20	06/25/13 12:54	NA	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 13:45
Date Received: 06/20/13 09:37

Sample Name: LS-4S
Lab Code: J1303489-002

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	1.9 U	10	1.9	10	06/27/13 03:54	
1,1,1-Trichloroethane (TCA)	1.8 U	10	1.8	10	06/27/13 03:54	
1,1,2,2-Tetrachloroethane	2.9 U	10	2.9	10	06/27/13 03:54	
1,1,2-Trichloroethane	4.0 U	10	4.0	10	06/27/13 03:54	
1,1-Dichloroethane (1,1-DCA)	3.0 U	10	3.0	10	06/27/13 03:54	
1,1-Dichloroethene (1,1-DCE)	1.6 U	10	1.6	10	06/27/13 03:54	
1,2,3-Trichloropropane	4.2 U	20	4.2	10	06/27/13 03:54	
1,2-Dibromo-3-chloropropane (DBCP)	23 U	50	23	10	06/27/13 03:54	
1,2-Dibromoethane (EDB)	4.7 U	10	4.7	10	06/27/13 03:54	
1,2-Dichlorobenzene	4.8 U	10	4.8	10	06/27/13 03:54	
1,2-Dichloroethane	2.2 U	10	2.2	10	06/27/13 03:54	
1,2-Dichloropropane	1.9 U	10	1.9	10	06/27/13 03:54	
1,4-Dichlorobenzene	5.1 I	10	1.6	10	06/27/13 03:54	
2-Butanone (MEK)	38 U	100	38	10	06/27/13 03:54	
2-Hexanone	22 U	250	22	10	06/27/13 03:54	
4-Methyl-2-pentanone (MIBK)	11 U	250	11	10	06/27/13 03:54	
Acetone	56 U	500	56	10	06/27/13 03:54	
Acrylonitrile	15 U	100	15	10	06/27/13 03:54	
Benzene	4.8 I	10	2.1	10	06/27/13 03:54	
Bromochloromethane	2.7 U	50	2.7	10	06/27/13 03:54	
Bromodichloromethane	2.2 U	10	2.2	10	06/27/13 03:54	
Bromoform	4.2 U	20	4.2	10	06/27/13 03:54	
Bromomethane	2.4 U	50	2.4	10	06/27/13 03:54	
Carbon Disulfide	24 U	100	24	10	06/27/13 03:54	
Carbon Tetrachloride	3.5 U	10	3.5	10	06/27/13 03:54	
Chlorobenzene	1.6 U	10	1.6	10	06/27/13 03:54	
Chloroethane	5.2 U	50	5.2	10	06/27/13 03:54	
Chloroform	3.5 U	10	3.5	10	06/27/13 03:54	
Chloromethane	3.6 U	10	3.6	10	06/27/13 03:54	
cis-1,2-Dichloroethene	3.6 U	10	3.6	10	06/27/13 03:54	
cis-1,3-Dichloropropene	2.0 U	10	2.0	10	06/27/13 03:54	
Dibromochloromethane	2.1 U	10	2.1	10	06/27/13 03:54	
Dibromomethane	3.6 U	50	3.6	10	06/27/13 03:54	
Ethylbenzene	8.6 I	10	2.1	10	06/27/13 03:54	
Iodomethane	27 U	50	27	10	06/27/13 03:54	
m,p-Xylenes	3.2 I	20	3.1	10	06/27/13 03:54	
Methylene Chloride	2.5 I	50	2.1	10	06/27/13 03:54	
o-Xylene	2.2 I	10	1.5	10	06/27/13 03:54	
Styrene	2.9 U	10	2.9	10	06/27/13 03:54	
Tetrachloroethene (PCE)	2.2 U	10	2.2	10	06/27/13 03:54	
Toluene	1.9 U	10	1.9	10	06/27/13 03:54	
trans-1,2-Dichloroethene	1.9 U	10	1.9	10	06/27/13 03:54	
trans-1,3-Dichloropropene	2.4 U	10	2.4	10	06/27/13 03:54	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 13:45
Date Received: 06/20/13 09:37

Sample Name: LS-4S
Lab Code: J1303489-002

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	22 U	200	22	10	06/27/13 03:54	
Trichloroethene (TCE)	3.6 U	10	3.6	10	06/27/13 03:54	
Trichlorofluoromethane	2.4 U	200	2.4	10	06/27/13 03:54	
Vinyl Acetate	19 U	100	19	10	06/27/13 03:54	
Vinyl Chloride	3.6 U	10	3.6	10	06/27/13 03:54	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	101	72 - 121	06/27/13 03:54	
4-Bromofluorobenzene	93	86 - 113	06/27/13 03:54	
Dibromofluoromethane	100	86 - 112	06/27/13 03:54	
Toluene-d8	104	88 - 115	06/27/13 03:54	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 13:45
Date Received: 06/20/13 09:37

Sample Name: LS-4S
Lab Code: J1303489-002

Units: ug/L
Basis: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2-Dibromo-3-chloropropane (DBCP)	0.00700 U	0.0196	0.00700	1	07/01/13 19:56	7/1/13	
1,2-Dibromoethane (EDB)	0.00700 U	0.0196	0.00700	1	07/01/13 19:56	7/1/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	74	70 - 130	07/01/13 19:56	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 13:45
Date Received: 06/20/13 09:37

Sample Name: LS-4S
Lab Code: J1303489-002

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total Recoverable	6020	3.8 I	ug/L	5.0	0.8	5	06/28/13 20:52	6/24/13	
Arsenic, Total Recoverable	6020	20	ug/L	10	5	10	07/01/13 21:36	6/24/13	
Barium, Total Recoverable	6020	1300	ug/L	10	3	5	06/28/13 20:52	6/24/13	
Beryllium, Total Recoverable	6020	9.0	ug/L	5.0	0.4	10	07/01/13 21:36	6/24/13	
Cadmium, Total Recoverable	6020	0.5 U	ug/L	2.0	0.5	5	06/28/13 20:52	6/24/13	
Chromium, Total Recoverable	6020	403	ug/L	5.0	0.9	5	06/28/13 20:52	6/24/13	
Cobalt, Total Recoverable	6020	35.5	ug/L	5.0	0.2	5	06/28/13 20:52	6/24/13	
Copper, Total Recoverable	6020	6.8	ug/L	5.0	1.2	5	06/28/13 20:52	6/24/13	
Lead, Total Recoverable	6020	7.2	ug/L	2.5	0.6	5	06/28/13 20:52	6/24/13	
Mercury, Total	7470A	0.02 U	ug/L	0.10	0.02	1	06/25/13 20:00	6/24/13	
Nickel, Total Recoverable	6020	202	ug/L	10	3	5	06/28/13 20:52	6/24/13	
Selenium, Total Recoverable	6020	55	ug/L	20	11	10	07/01/13 21:36	6/24/13	
Silver, Total Recoverable	6020	0.3 U	ug/L	2.5	0.3	5	06/28/13 20:52	6/24/13	
Sodium, Total Recoverable	6010B	1620	mg/L	10	0.6	20	06/27/13 15:40	6/24/13	
Thallium, Total Recoverable	6020	0.3 U	ug/L	1.0	0.3	5	06/28/13 20:52	6/24/13	
Vanadium, Total Recoverable	6020	361	ug/L	10	2	5	06/28/13 20:52	6/24/13	
Zinc, Total Recoverable	6020	17 I	ug/L	25	8	5	06/28/13 20:52	6/24/13	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Sample Name: LS-4S
Lab Code: J1303489-002

Service Request: J1303489
Date Collected: 06/18/13 13:45
Date Received: 06/20/13 09:37

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	300.0	1990	mg/L	50	11	100	06/21/13 23:03	NA	
Phenolics, Total Recoverable	420.4	0.32	mg/L	0.25	0.03	1	07/01/13 16:06	7/1/13	
Solids, Total Dissolved	SM 2540 C	7540	mg/L	200	200	20	06/25/13 12:54	NA	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 15:10
Date Received: 06/20/13 09:37

Sample Name: LS-5P
Lab Code: J1303489-003

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	1.9 U	10	1.9	10	06/27/13 04:20	
1,1,1-Trichloroethane (TCA)	1.8 U	10	1.8	10	06/27/13 04:20	
1,1,2,2-Tetrachloroethane	2.9 U	10	2.9	10	06/27/13 04:20	
1,1,2-Trichloroethane	4.0 U	10	4.0	10	06/27/13 04:20	
1,1-Dichloroethane (1,1-DCA)	3.0 U	10	3.0	10	06/27/13 04:20	
1,1-Dichloroethene (1,1-DCE)	1.6 U	10	1.6	10	06/27/13 04:20	
1,2,3-Trichloropropane	4.2 U	20	4.2	10	06/27/13 04:20	
1,2-Dibromo-3-chloropropane (DBCP)	23 U	50	23	10	06/27/13 04:20	
1,2-Dibromoethane (EDB)	4.7 U	10	4.7	10	06/27/13 04:20	
1,2-Dichlorobenzene	4.8 U	10	4.8	10	06/27/13 04:20	
1,2-Dichloroethane	2.2 U	10	2.2	10	06/27/13 04:20	
1,2-Dichloropropane	1.9 U	10	1.9	10	06/27/13 04:20	
1,4-Dichlorobenzene	9.1 I	10	1.6	10	06/27/13 04:20	
2-Butanone (MEK)	540	100	38	10	06/27/13 04:20	
2-Hexanone	22 U	250	22	10	06/27/13 04:20	
4-Methyl-2-pentanone (MIBK)	11 U	250	11	10	06/27/13 04:20	
Acetone	380 I	500	56	10	06/27/13 04:20	
Acrylonitrile	15 U	100	15	10	06/27/13 04:20	
Benzene	6.3 I	10	2.1	10	06/27/13 04:20	
Bromochloromethane	2.7 U	50	2.7	10	06/27/13 04:20	
Bromodichloromethane	2.2 U	10	2.2	10	06/27/13 04:20	
Bromoform	4.2 U	20	4.2	10	06/27/13 04:20	
Bromomethane	2.4 U	50	2.4	10	06/27/13 04:20	
Carbon Disulfide	24 U	100	24	10	06/27/13 04:20	
Carbon Tetrachloride	3.5 U	10	3.5	10	06/27/13 04:20	
Chlorobenzene	1.6 U	10	1.6	10	06/27/13 04:20	
Chloroethane	5.2 U	50	5.2	10	06/27/13 04:20	
Chloroform	3.5 U	10	3.5	10	06/27/13 04:20	
Chloromethane	3.6 U	10	3.6	10	06/27/13 04:20	
cis-1,2-Dichloroethene	3.6 U	10	3.6	10	06/27/13 04:20	
cis-1,3-Dichloropropene	2.0 U	10	2.0	10	06/27/13 04:20	
Dibromochloromethane	2.1 U	10	2.1	10	06/27/13 04:20	
Dibromomethane	3.6 U	50	3.6	10	06/27/13 04:20	
Ethylbenzene	31	10	2.1	10	06/27/13 04:20	
Iodomethane	27 U	50	27	10	06/27/13 04:20	
m,p-Xylenes	42	20	3.1	10	06/27/13 04:20	
Methylene Chloride	2.3 I	50	2.1	10	06/27/13 04:20	
o-Xylene	22	10	1.5	10	06/27/13 04:20	
Styrene	2.9 U	10	2.9	10	06/27/13 04:20	
Tetrachloroethene (PCE)	2.2 U	10	2.2	10	06/27/13 04:20	
Toluene	40	10	1.9	10	06/27/13 04:20	
trans-1,2-Dichloroethene	1.9 U	10	1.9	10	06/27/13 04:20	
trans-1,3-Dichloropropene	2.4 U	10	2.4	10	06/27/13 04:20	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 15:10
Date Received: 06/20/13 09:37

Sample Name: LS-5P
Lab Code: J1303489-003

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	22 U	200	22	10	06/27/13 04:20	
Trichloroethene (TCE)	3.6 U	10	3.6	10	06/27/13 04:20	
Trichlorofluoromethane	2.4 U	200	2.4	10	06/27/13 04:20	
Vinyl Acetate	19 U	100	19	10	06/27/13 04:20	
Vinyl Chloride	3.6 U	10	3.6	10	06/27/13 04:20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	97	72 - 121	06/27/13 04:20	
4-Bromofluorobenzene	94	86 - 113	06/27/13 04:20	
Dibromofluoromethane	101	86 - 112	06/27/13 04:20	
Toluene-d8	104	88 - 115	06/27/13 04:20	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 15:10
Date Received: 06/20/13 09:37

Sample Name: LS-5P
Lab Code: J1303489-003

Units: ug/L
Basis: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2-Dibromo-3-chloropropane (DBCP)	0.00709 U	0.0202	0.00709	1	07/01/13 20:18	7/1/13	
1,2-Dibromoethane (EDB)	0.00709 U	0.0202	0.00709	1	07/01/13 20:18	7/1/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	76	70 - 130	07/01/13 20:18	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 15:10
Date Received: 06/20/13 09:37

Sample Name: LS-5P
Lab Code: J1303489-003

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total Recoverable	6020	76.1	ug/L	4.0	0.7	2	06/28/13 20:57	6/24/13	
Arsenic, Total Recoverable	6020	107	ug/L	10	5	5	07/01/13 21:41	6/24/13	
Barium, Total Recoverable	6020	444	ug/L	8.0	1.7	2	06/28/13 20:57	6/24/13	
Beryllium, Total Recoverable	6020	1.5 I	ug/L	5.0	0.4	5	07/01/13 21:41	6/24/13	
Cadmium, Total Recoverable	6020	0.4 U	ug/L	1.6	0.4	2	06/28/13 20:57	6/24/13	
Chromium, Total Recoverable	6020	972	ug/L	4.0	0.7	2	06/28/13 20:57	6/24/13	
Cobalt, Total Recoverable	6020	50.4	ug/L	4.0	0.2	2	06/28/13 20:57	6/24/13	
Copper, Total Recoverable	6020	64.8	ug/L	4.0	0.9	2	06/28/13 20:57	6/24/13	
Lead, Total Recoverable	6020	31.0	ug/L	2.0	0.5	2	06/28/13 20:57	6/24/13	
Mercury, Total	7470A	0.09 I	ug/L	0.20	0.03	1	06/25/13 20:01	6/24/13	
Nickel, Total Recoverable	6020	449	ug/L	8.0	1.9	2	06/28/13 20:57	6/24/13	
Selenium, Total Recoverable	6020	183	ug/L	20	11	5	07/01/13 21:41	6/24/13	
Silver, Total Recoverable	6020	0.3 U	ug/L	2.0	0.3	2	06/28/13 20:57	6/24/13	
Sodium, Total Recoverable	6010B	2540	mg/L	20	2	20	06/27/13 15:45	6/24/13	
Thallium, Total Recoverable	6020	0.20 U	ug/L	0.80	0.20	2	06/28/13 20:57	6/24/13	
Vanadium, Total Recoverable	6020	704	ug/L	8.0	0.9	2	06/28/13 20:57	6/24/13	
Zinc, Total Recoverable	6020	70	ug/L	20	7	2	06/28/13 20:57	6/24/13	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Sample Name: LS-5P
Lab Code: J1303489-003

Service Request: J1303489
Date Collected: 06/18/13 15:10
Date Received: 06/20/13 09:37

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	300.0	4410	mg/L	50	11	100	06/21/13 23:21	NA	
Phenolics, Total Recoverable	420.4	0.78	mg/L	0.25	0.03	1	07/01/13 16:07	7/1/13	
Solids, Total Dissolved	SM 2540 C	12700	mg/L	200	200	20	06/25/13 12:54	NA	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:45
Date Received: 06/20/13 09:37

Sample Name: LS-5S
Lab Code: J1303489-004

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	1.9 U	10	1.9	10	06/27/13 04:45	
1,1,1-Trichloroethane (TCA)	1.8 U	10	1.8	10	06/27/13 04:45	
1,1,2,2-Tetrachloroethane	2.9 U	10	2.9	10	06/27/13 04:45	
1,1,2-Trichloroethane	4.0 U	10	4.0	10	06/27/13 04:45	
1,1-Dichloroethane (1,1-DCA)	3.0 U	10	3.0	10	06/27/13 04:45	
1,1-Dichloroethene (1,1-DCE)	1.6 U	10	1.6	10	06/27/13 04:45	
1,2,3-Trichloropropane	4.2 U	20	4.2	10	06/27/13 04:45	
1,2-Dibromo-3-chloropropane (DBCP)	23 U	50	23	10	06/27/13 04:45	
1,2-Dibromoethane (EDB)	4.7 U	10	4.7	10	06/27/13 04:45	
1,2-Dichlorobenzene	4.8 U	10	4.8	10	06/27/13 04:45	
1,2-Dichloroethane	2.2 U	10	2.2	10	06/27/13 04:45	
1,2-Dichloropropane	1.9 U	10	1.9	10	06/27/13 04:45	
1,4-Dichlorobenzene	7.2 I	10	1.6	10	06/27/13 04:45	
2-Butanone (MEK)	38 U	100	38	10	06/27/13 04:45	
2-Hexanone	22 U	250	22	10	06/27/13 04:45	
4-Methyl-2-pentanone (MIBK)	11 U	250	11	10	06/27/13 04:45	
Acetone	56 U	500	56	10	06/27/13 04:45	
Acrylonitrile	15 U	100	15	10	06/27/13 04:45	
Benzene	6.8 I	10	2.1	10	06/27/13 04:45	
Bromochloromethane	2.7 U	50	2.7	10	06/27/13 04:45	
Bromodichloromethane	2.2 U	10	2.2	10	06/27/13 04:45	
Bromoform	4.2 U	20	4.2	10	06/27/13 04:45	
Bromomethane	2.4 U	50	2.4	10	06/27/13 04:45	
Carbon Disulfide	24 U	100	24	10	06/27/13 04:45	
Carbon Tetrachloride	3.5 U	10	3.5	10	06/27/13 04:45	
Chlorobenzene	1.6 U	10	1.6	10	06/27/13 04:45	
Chloroethane	5.2 U	50	5.2	10	06/27/13 04:45	
Chloroform	3.5 U	10	3.5	10	06/27/13 04:45	
Chloromethane	3.6 U	10	3.6	10	06/27/13 04:45	
cis-1,2-Dichloroethene	3.6 U	10	3.6	10	06/27/13 04:45	
cis-1,3-Dichloropropene	2.0 U	10	2.0	10	06/27/13 04:45	
Dibromochloromethane	2.1 U	10	2.1	10	06/27/13 04:45	
Dibromomethane	3.6 U	50	3.6	10	06/27/13 04:45	
Ethylbenzene	5.2 I	10	2.1	10	06/27/13 04:45	
Iodomethane	27 U	50	27	10	06/27/13 04:45	
m,p-Xylenes	3.1 U	20	3.1	10	06/27/13 04:45	
Methylene Chloride	2.1 U	50	2.1	10	06/27/13 04:45	
o-Xylene	1.9 I	10	1.5	10	06/27/13 04:45	
Styrene	2.9 U	10	2.9	10	06/27/13 04:45	
Tetrachloroethene (PCE)	2.2 U	10	2.2	10	06/27/13 04:45	
Toluene	1.9 U	10	1.9	10	06/27/13 04:45	
trans-1,2-Dichloroethene	1.9 U	10	1.9	10	06/27/13 04:45	
trans-1,3-Dichloropropene	2.4 U	10	2.4	10	06/27/13 04:45	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:45
Date Received: 06/20/13 09:37

Sample Name: LS-5S
Lab Code: J1303489-004

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	22 U	200	22	10	06/27/13 04:45	
Trichloroethene (TCE)	3.6 U	10	3.6	10	06/27/13 04:45	
Trichlorofluoromethane	2.4 U	200	2.4	10	06/27/13 04:45	
Vinyl Acetate	19 U	100	19	10	06/27/13 04:45	
Vinyl Chloride	3.6 U	10	3.6	10	06/27/13 04:45	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	100	72 - 121	06/27/13 04:45	
4-Bromofluorobenzene	95	86 - 113	06/27/13 04:45	
Dibromofluoromethane	101	86 - 112	06/27/13 04:45	
Toluene-d8	107	88 - 115	06/27/13 04:45	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:45
Date Received: 06/20/13 09:37

Sample Name: LS-5S
Lab Code: J1303489-004

Units: ug/L
Basis: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2-Dibromo-3-chloropropane (DBCP)	0.00707 U	0.0202	0.00707	1	07/01/13 20:39	7/1/13	
1,2-Dibromoethane (EDB)	0.00707 U	0.0202	0.00707	1	07/01/13 20:39	7/1/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	75	70 - 130	07/01/13 20:39	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 14:45
Date Received: 06/20/13 09:37

Sample Name: LS-5S
Lab Code: J1303489-004

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total Recoverable	6020	19.3	ug/L	2.0	0.4	2	06/28/13 21:02	6/24/13	
Arsenic, Total Recoverable	6020	25.9	ug/L	5.0	2.1	5	07/01/13 21:46	6/24/13	
Barium, Total Recoverable	6020	1030	ug/L	4.0	0.9	2	06/28/13 21:02	6/24/13	
Beryllium, Total Recoverable	6020	1.0 I	ug/L	2.5	0.2	5	07/01/13 21:46	6/24/13	
Cadmium, Total Recoverable	6020	0.25 I	ug/L	0.80	0.19	2	06/28/13 21:02	6/24/13	
Chromium, Total Recoverable	6020	183	ug/L	2.0	0.4	2	06/28/13 21:02	6/24/13	
Cobalt, Total Recoverable	6020	26.8	ug/L	2.0	0.06	2	06/28/13 21:02	6/24/13	
Copper, Total Recoverable	6020	41.6	ug/L	2.0	0.5	2	06/28/13 21:02	6/24/13	
Lead, Total Recoverable	6020	4.8	ug/L	1.0	0.3	2	06/28/13 21:02	6/24/13	
Mercury, Total	7470A	0.03 U	ug/L	0.20	0.03	1	06/25/13 20:02	6/24/13	
Nickel, Total Recoverable	6020	211	ug/L	4.0	1.0	2	06/28/13 21:02	6/24/13	
Selenium, Total Recoverable	6020	24	ug/L	10	6	5	07/01/13 21:46	6/24/13	
Silver, Total Recoverable	6020	0.2 U	ug/L	1.0	0.2	2	06/28/13 21:02	6/24/13	
Sodium, Total Recoverable	6010B	1290	mg/L	10	0.6	20	06/27/13 15:50	6/24/13	
Thallium, Total Recoverable	6020	0.10 U	ug/L	0.40	0.10	2	06/28/13 21:02	6/24/13	
Vanadium, Total Recoverable	6020	133	ug/L	4.0	0.5	2	06/28/13 21:02	6/24/13	
Zinc, Total Recoverable	6020	133	ug/L	10	4	2	06/28/13 21:02	6/24/13	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Sample Name: LS-5S
Lab Code: J1303489-004

Service Request: J1303489
Date Collected: 06/18/13 14:45
Date Received: 06/20/13 09:37

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	300.0	1440	mg/L	50	11	100	06/21/13 23:39	NA	
Phenolics, Total Recoverable	420.4	0.19 I	mg/L	0.25	0.03	1	07/01/13 16:07	7/1/13	
Solids, Total Dissolved	SM 2540 C	4840	mg/L	100	100	10	06/25/13 12:54	NA	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 00:00
Date Received: 06/20/13 09:37

Sample Name: Trip Blank
Lab Code: J1303489-005

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19 U	1.0	0.19	1	06/27/13 03:04	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	06/27/13 03:04	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	06/27/13 03:04	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	06/27/13 03:04	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	06/27/13 03:04	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	06/27/13 03:04	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	06/27/13 03:04	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	06/27/13 03:04	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	06/27/13 03:04	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	06/27/13 03:04	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	06/27/13 03:04	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	06/27/13 03:04	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	06/27/13 03:04	
2-Butanone (MEK)	3.8 U	10	3.8	1	06/27/13 03:04	
2-Hexanone	2.2 U	25	2.2	1	06/27/13 03:04	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	06/27/13 03:04	
Acetone	5.6 U	50	5.6	1	06/27/13 03:04	
Acrylonitrile	1.5 U	10	1.5	1	06/27/13 03:04	
Benzene	0.21 U	1.0	0.21	1	06/27/13 03:04	
Bromochloromethane	0.27 U	5.0	0.27	1	06/27/13 03:04	
Bromodichloromethane	0.22 U	1.0	0.22	1	06/27/13 03:04	
Bromoform	0.42 U	2.0	0.42	1	06/27/13 03:04	
Bromomethane	0.23 U	5.0	0.23	1	06/27/13 03:04	
Carbon Disulfide	2.4 U	10	2.4	1	06/27/13 03:04	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	06/27/13 03:04	
Chlorobenzene	0.16 U	1.0	0.16	1	06/27/13 03:04	
Chloroethane	0.52 U	5.0	0.52	1	06/27/13 03:04	
Chloroform	0.35 U	1.0	0.35	1	06/27/13 03:04	
Chloromethane	0.36 U	1.0	0.36	1	06/27/13 03:04	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	06/27/13 03:04	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	06/27/13 03:04	
Dibromochloromethane	0.21 U	1.0	0.21	1	06/27/13 03:04	
Dibromomethane	0.36 U	5.0	0.36	1	06/27/13 03:04	
Ethylbenzene	0.21 U	1.0	0.21	1	06/27/13 03:04	
Iodomethane	2.7 U	5.0	2.7	1	06/27/13 03:04	
m,p-Xylenes	0.31 U	2.0	0.31	1	06/27/13 03:04	
Methylene Chloride	0.29 I	5.0	0.21	1	06/27/13 03:04	
o-Xylene	0.14 U	1.0	0.14	1	06/27/13 03:04	
Styrene	0.29 U	1.0	0.29	1	06/27/13 03:04	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	06/27/13 03:04	
Toluene	0.19 U	1.0	0.19	1	06/27/13 03:04	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	06/27/13 03:04	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	06/27/13 03:04	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13 00:00
Date Received: 06/20/13 09:37

Sample Name: Trip Blank
Lab Code: J1303489-005

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	2.2 U	20	2.2	1	06/27/13 03:04	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	06/27/13 03:04	
Trichlorofluoromethane	0.24 U	20	0.24	1	06/27/13 03:04	
Vinyl Acetate	1.9 U	10	1.9	1	06/27/13 03:04	
Vinyl Chloride	0.36 U	1.0	0.36	1	06/27/13 03:04	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	100	72 - 121	06/27/13 03:04	
4-Bromofluorobenzene	94	86 - 113	06/27/13 03:04	
Dibromofluoromethane	102	86 - 112	06/27/13 03:04	
Toluene-d8	104	88 - 115	06/27/13 03:04	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: JQ1304466-01

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19 U	1.0	0.19	1	06/27/13 02:39	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	06/27/13 02:39	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	06/27/13 02:39	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	06/27/13 02:39	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	06/27/13 02:39	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	06/27/13 02:39	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	06/27/13 02:39	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	06/27/13 02:39	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	06/27/13 02:39	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	06/27/13 02:39	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	06/27/13 02:39	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	06/27/13 02:39	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	06/27/13 02:39	
2-Butanone (MEK)	3.8 U	10	3.8	1	06/27/13 02:39	
2-Hexanone	2.2 U	25	2.2	1	06/27/13 02:39	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	06/27/13 02:39	
Acetone	5.6 U	50	5.6	1	06/27/13 02:39	
Acrylonitrile	1.5 U	10	1.5	1	06/27/13 02:39	
Benzene	0.21 U	1.0	0.21	1	06/27/13 02:39	
Bromochloromethane	0.27 U	5.0	0.27	1	06/27/13 02:39	
Bromodichloromethane	0.22 U	1.0	0.22	1	06/27/13 02:39	
Bromoform	0.42 U	2.0	0.42	1	06/27/13 02:39	
Bromomethane	0.23 U	5.0	0.23	1	06/27/13 02:39	
Carbon Disulfide	2.4 U	10	2.4	1	06/27/13 02:39	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	06/27/13 02:39	
Chlorobenzene	0.16 U	1.0	0.16	1	06/27/13 02:39	
Chloroethane	0.52 U	5.0	0.52	1	06/27/13 02:39	
Chloroform	0.35 U	1.0	0.35	1	06/27/13 02:39	
Chloromethane	0.36 U	1.0	0.36	1	06/27/13 02:39	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	06/27/13 02:39	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	06/27/13 02:39	
Dibromochloromethane	0.21 U	1.0	0.21	1	06/27/13 02:39	
Dibromomethane	0.36 U	5.0	0.36	1	06/27/13 02:39	
Ethylbenzene	0.21 U	1.0	0.21	1	06/27/13 02:39	
Iodomethane	2.7 U	5.0	2.7	1	06/27/13 02:39	
m,p-Xylenes	0.31 U	2.0	0.31	1	06/27/13 02:39	
Methylene Chloride	0.21 U	5.0	0.21	1	06/27/13 02:39	
o-Xylene	0.14 U	1.0	0.14	1	06/27/13 02:39	
Styrene	0.29 U	1.0	0.29	1	06/27/13 02:39	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	06/27/13 02:39	
Toluene	0.19 U	1.0	0.19	1	06/27/13 02:39	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	06/27/13 02:39	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	06/27/13 02:39	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: JQ1304466-01

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,4-Dichloro-2-butene	2.2 U	20	2.2	1	06/27/13 02:39	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	06/27/13 02:39	
Trichlorofluoromethane	0.24 U	20	0.24	1	06/27/13 02:39	
Vinyl Acetate	1.9 U	10	1.9	1	06/27/13 02:39	
Vinyl Chloride	0.36 U	1.0	0.36	1	06/27/13 02:39	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	100	72 - 121	06/27/13 02:39	
4-Bromofluorobenzene	94	86 - 113	06/27/13 02:39	
Dibromofluoromethane	100	86 - 112	06/27/13 02:39	
Toluene-d8	103	88 - 115	06/27/13 02:39	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: JQ1304566-01

Units: ug/L
Basis: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2-Dibromo-3-chloropropane (DBCP)	0.00700 U	0.0200	0.00700	1	07/01/13 18:52	7/1/13	
1,2-Dibromoethane (EDB)	0.00700 U	0.0200	0.00700	1	07/01/13 18:52	7/1/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	79	70 - 130	07/01/13 18:52	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: J1303489-MB

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total Recoverable	6020	0.2 U	ug/L	1.0	0.2	1	06/28/13 20:02	6/24/13	
Arsenic, Total Recoverable	6020	0.5 U	ug/L	1.0	0.5	1	06/28/13 20:02	6/24/13	
Barium, Total Recoverable	6020	0.5 U	ug/L	2.0	0.5	1	06/28/13 20:02	6/24/13	
Beryllium, Total Recoverable	6020	0.04 U	ug/L	0.50	0.04	1	06/28/13 20:02	6/24/13	
Cadmium, Total Recoverable	6020	0.10 U	ug/L	0.40	0.10	1	06/28/13 20:02	6/24/13	
Chromium, Total Recoverable	6020	0.2 U	ug/L	1.0	0.2	1	06/28/13 20:02	6/24/13	
Cobalt, Total Recoverable	6020	0.03 U	ug/L	1.0	0.03	1	06/28/13 20:02	6/24/13	
Copper, Total Recoverable	6020	0.3 U	ug/L	1.0	0.3	1	06/28/13 20:02	6/24/13	
Lead, Total Recoverable	6020	0.12 U	ug/L	0.50	0.12	1	06/28/13 20:02	6/24/13	
Mercury, Total	7470A	0.02 U	ug/L	0.10	0.02	1	06/25/13 16:40	6/24/13	
Nickel, Total Recoverable	6020	0.5 U	ug/L	2.0	0.5	1	06/28/13 20:02	6/24/13	
Selenium, Total Recoverable	6020	1.1 U	ug/L	2.0	1.1	1	06/28/13 20:02	6/24/13	
Silver, Total Recoverable	6020	0.06 U	ug/L	0.50	0.06	1	06/28/13 20:02	6/24/13	
Sodium, Total Recoverable	6010B	0.03 U	mg/L	0.50	0.03	1	06/25/13 18:01	6/24/13	
Thallium, Total Recoverable	6020	0.05 U	ug/L	0.20	0.05	1	06/28/13 20:02	6/24/13	
Vanadium, Total Recoverable	6020	0.3 U	ug/L	2.0	0.3	1	06/28/13 20:02	6/24/13	
Zinc, Total Recoverable	6020	1.6 U	ug/L	5.0	1.6	1	06/28/13 20:02	6/24/13	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: J1303489-MB

Service Request: J1303489
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	300.0	0.11 U	mg/L	0.50	0.11	1	06/21/13 18:15	NA	
Phenolics, Total Recoverable	420.4	0.018 I	mg/L	0.050	0.005	1	07/01/13 16:04	7/1/13	
Solids, Total Dissolved	SM 2540 C	10 U	mg/L	10	10	1	06/25/13 12:54	NA	

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QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	1,2-Dichloroethane-d4	4-Bromofluorobenzene	Dibromofluoromethane
		72 - 121	86 - 113	86 - 112
LS-4P	J1303489-001	98	94	101
LS-4S	J1303489-002	101	93	100
LS-5P	J1303489-003	97	94	101
LS-5S	J1303489-004	100	95	101
Trip Blank	J1303489-005	100	94	102
Method Blank	JQ1304466-01	100	94	100
Lab Control Sample	JQ1304466-02	97	96	101

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QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	Toluene-d8
		88 - 115
LS-4P	J1303489-001	105
LS-4S	J1303489-002	104
LS-5P	J1303489-003	104
LS-5S	J1303489-004	107
Trip Blank	J1303489-005	104
Method Blank	JQ1304466-01	103
Lab Control Sample	JQ1304466-02	103

ALS Group USA, Corp.
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QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Analyzed: 06/27/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Units: ug/L
Basis: NA
Analysis Lot: 346515

Lab Control Sample
JQ1304466-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	19.3	20.0	96	77-118
1,1,1-Trichloroethane (TCA)	18.6	20.0	93	70-122
1,1,2,2-Tetrachloroethane	19.4	20.0	97	66-135
1,1,2-Trichloroethane	19.2	20.0	96	75-122
1,1-Dichloroethane (1,1-DCA)	18.6	20.0	93	79-117
1,1-Dichloroethene (1,1-DCE)	18.4	20.0	92	72-128
1,2,3-Trichloropropane	19.8	20.0	99	70-123
1,2-Dibromo-3-chloropropane (DBCP)	19.2	20.0	96	60-122
1,2-Dibromoethane (EDB)	19.2	20.0	96	76-118
1,2-Dichlorobenzene	18.4	20.0	92	81-115
1,2-Dichloroethane	17.7	20.0	88	70-117
1,2-Dichloropropane	18.0	20.0	90	79-117
1,4-Dichlorobenzene	17.9	20.0	90	82-115
2-Butanone (MEK)	89.6	100	90	62-138
2-Hexanone	92.5	100	93	74-127
4-Methyl-2-pentanone (MIBK)	91.5	100	91	77-120
Acetone	89.2	100	89	42-161
Acrylonitrile	90.4	100	90	63-132
Benzene	18.0	20.0	90	80-117
Bromochloromethane	19.7	20.0	98	78-118
Bromodichloromethane	19.0	20.0	95	75-118
Bromoform	19.5	20.0	97	63-121
Bromomethane	15.0	20.0	75	31-153
Carbon Disulfide	91.0	100	91	72-128
Carbon Tetrachloride	18.7	20.0	93	67-124
Chlorobenzene	18.9	20.0	94	83-118
Chloroethane	17.9	20.0	89	68-132
Chloroform	18.0	20.0	90	77-116
Chloromethane	15.9	20.0	80	60-128
cis-1,2-Dichloroethene	18.2	20.0	91	78-117
cis-1,3-Dichloropropene	18.2	20.0	91	80-119
Dibromochloromethane	20.3	20.0	102	74-121
Dibromomethane	18.4	20.0	92	76-117
Ethylbenzene	18.6	20.0	93	82-119
Iodomethane	61.3	100	61	51-137
m,p-Xylenes	36.8	40.0	92	79-122
Methylene Chloride	18.7	20.0	93	75-123
o-Xylene	18.3	20.0	92	80-119
Styrene	19.3	20.0	96	80-121
Tetrachloroethene (PCE)	18.9	20.0	94	75-126
Toluene	18.9	20.0	95	52-152

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request:J1303489
Date Analyzed:06/27/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Units:ug/L
Basis:NA
Analysis Lot:346515

Lab Control Sample
JQ1304466-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	17.7	20.0	88	75-121
trans-1,3-Dichloropropene	17.6	20.0	88	76-118
trans-1,4-Dichloro-2-butene	16.8	20.0	84	10-198
Trichloroethene (TCE)	18.6	20.0	93	78-122
Trichlorofluoromethane	15.2	20.0	76	58-134
Vinyl Acetate	86.2	100	86	36-169
Vinyl Chloride	18.7	20.0	94	69-138

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489

SURROGATE RECOVERY SUMMARY

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Extraction Method: Method

1,1,1,2-Tetrachloroethane		
Sample Name	Lab Code	70 - 130
LS-4P	J1303489-001	74
LS-4S	J1303489-002	74
LS-5P	J1303489-003	76
LS-5S	J1303489-004	75
Method Blank	JQ1304566-01	79
Lab Control Sample	JQ1304566-02	83

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request:J1303489
Date Analyzed:07/01/13
Date Extracted:07/01/13

Lab Control Sample Summary

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method: 8011
Prep Method: Method

Units:ug/L
Basis:NA
Analysis Lot:347324

**Lab Control Sample
JQ1304566-02**

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,2-Dibromo-3-chloropropane (DBCP)	0.237	0.250	95	70-130
1,2-Dibromoethane (EDB)	0.229	0.250	92	70-130

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Collected: 06/18/13
Date Received: 06/20/13
Date Analyzed: 06/28/13 - 07/01/13

Duplicate Matrix Spike Summary
Inorganic Parameters

Sample Name: LS-4P
Lab Code: J1303489-001

Units: ug/L
Basis: NA

Matrix Spike
J1303489-001MS

Duplicate Matrix Spike
J1303489-001DMS

Analyte Name	Method	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Antimony, Total Recoverable	6020	38.6	127	100	89	132	100	93	75-125	3	20
Arsenic, Total Recoverable	6020	70	171	100	101	172	100	102	75-125	<1	20
Barium, Total Recoverable	6020	278	532	200	127 *	544	200	133 *	75-125	2	20
Beryllium, Total Recoverable	6020	0.8	41.3	50.0	81	42.4	50.0	83	75-125	3	20
Cadmium, Total Recoverable	6020	0.4	31.9	40.0	80	32.3	40.0	81	75-125	1	20
Chromium, Total Recoverable	6020	810	892	100	82 #	906	100	96 #	75-125	2	20
Cobalt, Total Recoverable	6020	57.7	149	100	91	149	100	92	75-125	<1	20
Copper, Total Recoverable	6020	30.3	112	100	82	113	100	82	75-125	<1	20
Lead, Total Recoverable	6020	19.7	69.9	50.0	100	70.7	50.0	102	75-125	1	20
Nickel, Total Recoverable	6020	328	492	200	82	502	200	87	75-125	2	20
Selenium, Total Recoverable	6020	152	350	200	99	360	200	104	75-125	3	20
Silver, Total Recoverable	6020	0.3	41.1	50.0	82	41.4	50.0	83	75-125	<1	20
Thallium, Total Recoverable	6020	0.20	18.2	20.0	91	18.7	20.0	93	75-125	3	20
Vanadium, Total Recoverable	6020	608	767	200	80	777	200	85	75-125	1	20
Zinc, Total Recoverable	6020	19	422	500	81	426	500	81	75-125	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Analyzed: 06/25/13 - 07/01/13

Lab Control Sample Summary
Inorganic Parameters

Units: ug/L
Basis: NA

Lab Control Sample
J1303489-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Antimony, Total Recoverable	6020	51.8	50.0	104	80-120
Arsenic, Total Recoverable	6020	51.2	50.0	102	80-120
Barium, Total Recoverable	6020	100	100	100	80-120
Beryllium, Total Recoverable	6020	23.9	25.0	96	80-120
Cadmium, Total Recoverable	6020	19.5	20.0	97	80-120
Chromium, Total Recoverable	6020	50.2	50.0	100	80-120
Cobalt, Total Recoverable	6020	49.6	50.0	99	80-120
Copper, Total Recoverable	6020	50.4	50.0	101	80-120
Lead, Total Recoverable	6020	25.6	25.0	102	80-120
Mercury, Total	7470A	1.27	1.25	101	80-120
Nickel, Total Recoverable	6020	98.1	100	98	80-120
Selenium, Total Recoverable	6020	101	100	101	80-120
Silver, Total Recoverable	6020	25.5	25.0	102	80-120
Thallium, Total Recoverable	6020	10.1	10.0	101	80-120
Vanadium, Total Recoverable	6020	102	100	102	80-120
Zinc, Total Recoverable	6020	248	250	99	80-120

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Analyzed: 6/25/13

Lab Control Sample Summary
Inorganic Parameters

Units: mg/L
Basis: NA

Lab Control Sample
J1303489-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Sodium, Total Recoverable	6010B	25.8	25.0	103	80-120

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF (Leachates)
Sample Matrix: Water

Service Request: J1303489
Date Analyzed: 06/21/13 - 07/01/13

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
J1303489-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	50.5	50.0	101	90-110
Phenolics, Total Recoverable	420.4	0.960	1.00	96	90-110
Solids, Total Dissolved	SM 2540 C	313	300	104	85-115

Cooler Receipt Form

Client: WST

Service Request #: 51303489

Project: JED SWDF

Cooler received on 6/20/13

and opened on 6/20/13 by SL

COURIER: ALS UPS FEDEX Client Other _____ Airbill # 80247812124

- 1 Were custody seals on outside of cooler? Yes No
If yes, how many and where? #: 1 on lid other
- 2 Were seals intact and signature and date correct? Yes No N/A
- 3 Were custody papers properly filled out? Yes No N/A
- 4 Temperature of cooler(s) upon receipt (Should be > 0°C and < 6°C) 1.2
- 5 Thermometer ID 781
- 6 Temperature Blank Present? Yes No
- 7 Were Ice or Ice Packs present Ice Ice Packs No
- 8 Did all bottles arrive in good condition (unbroken, etc....)? Yes No N/A
- 9 Type of packing material present
Netting Vial Holder Bubble Wrap
Paper Styrofoam Other N/A
- 10 Were all bottle labels complete (sample ID, preservation, etc....)? Yes No N/A
- 11 Did all bottle labels and tags agree with custody papers? Yes No N/A
- 12 Were the correct bottles used for the tests indicated? Yes No N/A
- 13 Were all of the preserved bottles received with the appropriate preservative?
HNO3 pH<2 H2SO4 pH<2 ZnAc2/NaOH pH>9 NaOH pH>12 HCl pH<2
Preservative additions noted below
- 14 Were all samples received within analysis holding times? Yes No N/A
- 15 Were all VOA vials free of air bubbles? If present, note below Yes No N/A
- 16 Where did the bottles originate? ALS Client

Sample ID	Reagent	Lot #	ml added	Initials Date/Time
<u>LS-4P</u>	<u>HNO3</u>	<u>met 13466</u>	<u>5.0</u>	<u>SL 6/20/13 1100</u>
<u>LS-4S</u>	<u>↓</u>	<u>↓</u>	<u>4.0</u>	<u>↓</u>
<u>LS-5P</u>	<u>↓</u>	<u>↓</u>	<u>5.0</u>	<u>↓</u>
<u>LS-5S</u>	<u>↓</u>	<u>↓</u>	<u>4.0</u>	<u>↓</u>
<u>LS-4P</u>	<u>H2SO4</u>	<u>Gen 746-94-J</u>	<u>1.0</u>	<u>↓</u>
<u>LS-4S</u>	<u>↓</u>	<u>↓</u>	<u>2.0</u>	<u>↓</u>
<u>LS-5P</u>	<u>↓</u>	<u>↓</u>	<u>1.0</u>	<u>↓</u>
<u>LS-5S</u>	<u>↓</u>	<u>↓</u>	<u>1.0</u>	<u>↓</u>

Additional comments and/or explanation of all discrepancies noted above:

Unable to preserve
vials contain headspace

Client approval to run samples if discrepancies noted:

Date:

Attachment C

Summary of Pilot SVE System Groundwater Data

Summary of Pilot SVE System Groundwater Data

Sample Name	Date Collected	Analyte Name	Analysis Method	Result	Lab Qualifier	Unit	MRL	MDL	Dil.	Date Analyzed
MW-1A	5/8/2012	Calcium, Total Recoverable	6010B	2.73		mg/L	0.1	0.02	1	5/11/2012
MW-1A	5/8/2012	Iron, Total Recoverable	6010B	2050		ug/L	100	3	1	5/11/2012
MW-1A	5/8/2012	Magnesium, Total Recoverable	6010B	2.02		mg/L	0.1	0.02	1	5/11/2012
MW-1A	5/8/2012	Manganese, Total Recoverable	6010B	5	I	ug/L	10	3	1	5/11/2012
MW-1A	5/8/2012	Potassium, Total Recoverable	6010B	3		mg/L	2	0.09	1	5/11/2012
MW-1A	5/8/2012	Sodium, Total Recoverable	6010B	12		mg/L	0.5	0.03	1	5/11/2012
MW-1A	5/8/2012	Alkalinity as CaCO3, Total	SM2320B	15.7		mg/L	5	5	1	5/16/2012
MW-1A	5/8/2012	Ammonia as Nitrogen	350.1	4.45		mg/L	0.01	0.007	1	5/14/2012
MW-1A	5/8/2012	Bicarbonate Alkalinity as CaCO3	SM2320B	15.7		mg/L	5	5	1	5/16/2012
MW-1A	5/8/2012	Carbon, Total Organic (TOC)	SM5310B	9.9		mg/L	1	0.09	1	5/16/2012
MW-1A	5/8/2012	Carbonate Alkalinity as CaCO3	SM2320B	5	U	mg/L	5	5	1	5/16/2012
MW-1A	5/8/2012	Chloride	300.0	30.7		mg/L	0.5	0.11	1	5/10/2012
MW-1A	5/8/2012	Sulfate	300.0	0.68		mg/L	0.5	0.18	1	5/10/2012
LS-5	5/8/2012	Calcium, Total Recoverable	6010B	145		mg/L	0.1	0.02	1	5/11/2012
LS-5	5/8/2012	Iron, Total Recoverable	6010B	4070		ug/L	100	3	1	5/11/2012
LS-5	5/8/2012	Magnesium, Total Recoverable	6010B	36.2		mg/L	0.1	0.02	1	5/11/2012
LS-5	5/8/2012	Manganese, Total Recoverable	6010B	304		ug/L	10	3	1	5/11/2012
LS-5	5/8/2012	Potassium, Total Recoverable	6010B	586		mg/L	2	0.09	1	5/11/2012
LS-5	5/8/2012	Sodium, Total Recoverable	6010B	1750		mg/L	10	0.6	20	5/14/2012
LS-5	5/8/2012	Alkalinity as CaCO3, Total	SM2320B	3370		mg/L	500	500	100	5/16/2012
LS-5	5/8/2012	Ammonia as Nitrogen	350.1	927		mg/L	1	0.8	100	5/14/2012
LS-5	5/8/2012	Bicarbonate Alkalinity as CaCO3	SM2320B	3370		mg/L	500	500	100	5/16/2012
LS-5	5/8/2012	Carbon, Total Organic (TOC)	SM5310B	2460		mg/L	100	9	100	5/16/2012
LS-5	5/8/2012	Carbonate Alkalinity as CaCO3	SM2320B	500	U	mg/L	500	500	100	5/16/2012
LS-5	5/8/2012	Chloride	300.0	3150		mg/L	25	6	50	5/10/2012
LS-5	5/8/2012	Sulfate	300.0	24	I	mg/L	25	9	50	5/10/2012
LS-4	5/8/2012	Calcium, Total Recoverable	6010B	138		mg/L	0.1	0.02	1	5/11/2012
LS-4	5/8/2012	Iron, Total Recoverable	6010B	3400		ug/L	100	3	1	5/11/2012
LS-4	5/8/2012	Magnesium, Total Recoverable	6010B	26		mg/L	0.1	0.02	1	5/11/2012
LS-4	5/8/2012	Manganese, Total Recoverable	6010B	238		ug/L	10	3	1	5/11/2012
LS-4	5/8/2012	Potassium, Total Recoverable	6010B	886		mg/L	2	0.09	1	5/11/2012

Summary of Pilot SVE System Groundwater Data

Sample Name	Date Collected	Analyte Name	Analysis Method	Result	Lab Qualifier	Unit	MRL	MDL	Dil.	Date Analyzed
LS-4	5/8/2012	Sodium, Total Recoverable	6010B	2290		mg/L	10	0.6	20	5/14/2012
LS-4	5/8/2012	Alkalinity as CaCO3, Total	SM2320B	4660		mg/L	500	500	100	5/16/2012
LS-4	5/8/2012	Ammonia as Nitrogen	350.1	1490		mg/L	2	1.5	200	5/14/2012
LS-4	5/8/2012	Bicarbonate Alkalinity as CaCO3	SM2320B	4660		mg/L	500	500	100	5/16/2012
LS-4	5/8/2012	Carbon, Total Organic (TOC)	SM5310B	5790		mg/L	100	9	100	5/16/2012
LS-4	5/8/2012	Carbonate Alkalinity as CaCO3	SM2320B	500	U	mg/L	500	500	100	5/16/2012
LS-4	5/8/2012	Chloride	300.0	4070		mg/L	25	6	50	5/10/2012
LS-4	5/8/2012	Sulfate	300.0	27		mg/L	25	9	50	5/10/2012
MW-1A	8/6/2012	Iron, Total Recoverable	6010B	1790		ug/L	100	3	1	8/8/2012
MW-1A	8/6/2012	Alkalinity as CaCO3, Total	SM2320B	5	U	mg/L	5	5	1	8/13/2012
MW-1A	8/6/2012	Ammonia as Nitrogen	350.1	12.5		mg/L	0.02	0.014	2	8/8/2012
MW-1A	8/6/2012	Bicarbonate Alkalinity as CaCO3	SM2320B	5	U	mg/L	5	5	1	8/13/2012
MW-1A	8/6/2012	Carbonate Alkalinity as CaCO3	SM2320B	5	U	mg/L	5	5	1	8/13/2012
MW-4A	8/6/2012	Iron, Total Recoverable	6010B	3090		ug/L	100	3	1	8/8/2012
MW-4A	8/6/2012	Alkalinity as CaCO3, Total	SM2320B	15.4		mg/L	5	5	1	8/13/2012
MW-4A	8/6/2012	Ammonia as Nitrogen	350.1	4.56		mg/L	0.01	0.007	1	8/8/2012
MW-4A	8/6/2012	Bicarbonate Alkalinity as CaCO3	SM2320B	15.4		mg/L	5	5	1	8/13/2012
MW-4A	8/6/2012	Carbonate Alkalinity as CaCO3	SM2320B	5	U	mg/L	5	5	1	8/13/2012
LS-4	11/5/2012	Calcium, Total Recoverable	6010B	157		mg/L	0.1	0.02	1	11/8/2012
LS-4	11/5/2012	Iron, Total Recoverable	6010B	3010		ug/L	100	3	1	11/8/2012
LS-4	11/5/2012	Magnesium, Total Recoverable	6010B	43.5		mg/L	0.1	0.02	1	11/8/2012
LS-4	11/5/2012	Manganese, Total Recoverable	6010B	266		ug/L	10	3	1	11/8/2012
LS-4	11/5/2012	Potassium, Total Recoverable	6010B	721		mg/L	2	0.09	1	11/8/2012
LS-4	11/5/2012	Sodium, Total Recoverable	6010B	1780		mg/L	10	0.6	20	11/12/2012
LS-4	11/5/2012	Alkalinity as CaCO3, Total	SM2320B	4540		mg/L	38	38	7.5	11/6/2012
LS-4	11/5/2012	Ammonia as Nitrogen	350.1	1220		mg/L	2	1.5	200	11/6/2012
LS-4	11/5/2012	Bicarbonate Alkalinity as CaCO3	SM2320B	4540		mg/L	38	38	7.5	11/6/2012
LS-4	11/5/2012	Carbon, Total Organic (TOC)	SM5310B	2990		mg/L	100	9	100	11/7/2012
LS-4	11/5/2012	Carbonate Alkalinity as CaCO3	SM2320B	38	U	mg/L	38	38	7.5	11/6/2012
LS-4	11/5/2012	Chloride	300.0	2790		mg/L	25	6	50	11/6/2012
LS-4	11/5/2012	Sulfate	300.0	30		mg/L	25	9	50	11/6/2012

Summary of Pilot SVE System Groundwater Data

Sample Name	Date Collected	Analyte Name	Analysis Method	Result	Lab Qualifier	Unit	MRL	MDL	Dil.	Date Analyzed
LS-5	11/5/2012	Calcium, Total Recoverable	6010B	164		mg/L	0.1	0.02	1	11/8/2012
LS-5	11/5/2012	Iron, Total Recoverable	6010B	6920		ug/L	100	3	1	11/8/2012
LS-5	11/5/2012	Magnesium, Total Recoverable	6010B	49.3		mg/L	0.1	0.02	1	11/8/2012
LS-5	11/5/2012	Manganese, Total Recoverable	6010B	471		ug/L	10	3	1	11/8/2012
LS-5	11/5/2012	Potassium, Total Recoverable	6010B	766		mg/L	2	0.09	1	11/8/2012
LS-5	11/5/2012	Sodium, Total Recoverable	6010B	2130		mg/L	10	0.6	20	11/12/2012
LS-5	11/5/2012	Alkalinity as CaCO3, Total	SM2320B	4210		mg/L	38	38	7.5	11/6/2012
LS-5	11/5/2012	Ammonia as Nitrogen	350.1	1110		mg/L	2	1.5	200	11/6/2012
LS-5	11/5/2012	Bicarbonate Alkalinity as CaCO3	SM2320B	4210		mg/L	38	38	7.5	11/6/2012
LS-5	11/5/2012	Carbon, Total Organic (TOC)	SM5310B	2810		mg/L	100	9	100	11/7/2012
LS-5	11/5/2012	Carbonate Alkalinity as CaCO3	SM2320B	38	U	mg/L	38	38	7.5	11/6/2012
LS-5	11/5/2012	Chloride	300.0	3460		mg/L	25	6	50	11/7/2012
LS-5	11/5/2012	Sulfate	300.0	40		mg/L	25	9	50	11/7/2012
MW-1A	11/5/2012	Calcium, Total Recoverable	6010B	120		mg/L	0.1	0.02	1	11/8/2012
MW-1A	11/5/2012	Iron, Total Recoverable	6010B	8300		ug/L	100	3	1	11/8/2012
MW-1A	11/5/2012	Magnesium, Total Recoverable	6010B	10		mg/L	0.1	0.02	1	11/8/2012
MW-1A	11/5/2012	Manganese, Total Recoverable	6010B	112		ug/L	10	3	1	11/8/2012
MW-1A	11/5/2012	Potassium, Total Recoverable	6010B	28		mg/L	2	0.09	1	11/8/2012
MW-1A	11/5/2012	Sodium, Total Recoverable	6010B	176		mg/L	0.5	0.03	1	11/8/2012
MW-1A	11/5/2012	Alkalinity as CaCO3, Total	SM2320B	11.2		mg/L	5	5	1	11/6/2012
MW-1A	11/5/2012	Ammonia as Nitrogen	350.1	8.65		mg/L	0.05	0.035	5	11/6/2012
MW-1A	11/5/2012	Bicarbonate Alkalinity as CaCO3	SM2320B	11.2		mg/L	5	5	1	11/6/2012
MW-1A	11/5/2012	Carbon, Total Organic (TOC)	SM5310B	65.8		mg/L	2	0.2	2	11/14/2012
MW-1A	11/5/2012	Carbonate Alkalinity as CaCO3	SM2320B	5	U	mg/L	5	5	1	11/6/2012
MW-1A	11/5/2012	Chloride	300.0	317		mg/L	2.5	0.6	5	11/7/2012
MW-1A	11/5/2012	Sulfate	300.0	325		mg/L	2.5	0.9	5	11/7/2012
MW-4A	11/5/2012	Calcium, Total Recoverable	6010B	7.36		mg/L	0.1	0.02	1	11/8/2012
MW-4A	11/5/2012	Iron, Total Recoverable	6010B	2800		ug/L	100	3	1	11/8/2012
MW-4A	11/5/2012	Magnesium, Total Recoverable	6010B	3.49		mg/L	0.1	0.02	1	11/8/2012
MW-4A	11/5/2012	Manganese, Total Recoverable	6010B	11		ug/L	10	3	1	11/8/2012
MW-4A	11/5/2012	Potassium, Total Recoverable	6010B	10.2		mg/L	2	0.09	1	11/8/2012

Summary of Pilot SVE System Groundwater Data

Sample Name	Date Collected	Analyte Name	Analysis Method	Result	Lab Qualifier	Unit	MRL	MDL	Dil.	Date Analyzed
MW-4A	11/5/2012	Sodium, Total Recoverable	6010B	22.2		mg/L	0.5	0.03	1	11/8/2012
MW-4A	11/5/2012	Alkalinity as CaCO3, Total	SM2320B	20.1		mg/L	5	5	1	11/6/2012
MW-4A	11/5/2012	Ammonia as Nitrogen	350.1	9		mg/L	0.05	0.035	5	11/6/2012
MW-4A	11/5/2012	Bicarbonate Alkalinity as CaCO3	SM2320B	20.1		mg/L	5	5	1	11/6/2012
MW-4A	11/5/2012	Carbon, Total Organic (TOC)	SM5310B	60.9		mg/L	2	0.2	2	11/14/2012
MW-4A	11/5/2012	Carbonate Alkalinity as CaCO3	SM2320B	5	U	mg/L	5	5	1	11/6/2012
MW-1A	2/12/2013	Iron, Total Recoverable	6010B	10100		ug/L	100	3	1	2/15/2013
MW-1A	2/12/2013	Alkalinity as CaCO3, Total	SM2320B	13.5		mg/L	5	5	1	2/21/2013
MW-1A	2/12/2013	Ammonia as Nitrogen	350.1	9.23		mg/L	0.05	0.035	5	2/14/2013
MW-1A	2/12/2013	Bicarbonate Alkalinity as CaCO3	SM2320B	13.5		mg/L	5	5	1	2/21/2013
MW-1A	2/12/2013	Carbonate Alkalinity as CaCO3	SM2320B	5	U	mg/L	5	5	1	2/21/2013
MW-4A	2/12/2013	Iron, Total Recoverable	6010B	2980		ug/L	100	3	1	2/15/2013
MW-4A	2/12/2013	Alkalinity as CaCO3, Total	SM2320B	7.6		mg/L	5	5	1	2/21/2013
MW-4A	2/12/2013	Ammonia as Nitrogen	350.1	12.1		mg/L	0.05	0.035	5	2/14/2013
MW-4A	2/12/2013	Bicarbonate Alkalinity as CaCO3	SM2320B	7.6		mg/L	5	5	1	2/21/2013
MW-4A	2/12/2013	Carbonate Alkalinity as CaCO3	SM2320B	5	U	mg/L	5	5	1	2/21/2013
MW-1A	5/6/2013	Calcium, Total Recoverable	6010B	130		mg/L	0.1	0.02	1	5/8/2013
MW-1A	5/6/2013	Iron, Total Recoverable	6010B	8450		ug/L	100	3	1	5/8/2013
MW-1A	5/6/2013	Magnesium, Total Recoverable	6010B	11.1		mg/L	0.1	0.02	1	5/8/2013
MW-1A	5/6/2013	Manganese, Total Recoverable	6010B	100		ug/L	10	3	1	5/8/2013
MW-1A	5/6/2013	Potassium, Total Recoverable	6010B	27.9		mg/L	2	0.09	1	5/8/2013
MW-1A	5/6/2013	Sodium, Total Recoverable	6010B	201		mg/L	0.5	0.03	1	5/8/2013
MW-1A	5/6/2013	Alkalinity as CaCO3, Total	SM2320B	23.5		mg/L	5	5	1	5/8/2013
MW-1A	5/6/2013	Ammonia as Nitrogen	350.1	8.16		mg/L	0.05	0.035	5	5/8/2013
MW-1A	5/6/2013	Bicarbonate Alkalinity as CaCO3	SM2320B	23.5		mg/L	5	5	1	5/8/2013
MW-1A	5/6/2013	Carbon, Total Organic (TOC)	SM5310B	32.9		mg/L	2	0.2	2	5/8/2013
MW-1A	5/6/2013	Carbonate Alkalinity as CaCO3	SM2320B	5	U	mg/L	5	5	1	5/8/2013
MW-1A	5/6/2013	Chloride	300.0	408		mg/L	2.5	0.6	5	5/8/2013
MW-1A	5/6/2013	Sulfate	300.0	253		mg/L	2.5	0.9	5	5/8/2013
LS-5	5/6/2013	Calcium, Total Recoverable	6010B	178		mg/L	0.1	0.02	1	5/8/2013
LS-5	5/6/2013	Iron, Total Recoverable	6010B	5860		ug/L	100	3	1	5/8/2013

Summary of Pilot SVE System Groundwater Data

Sample Name	Date Collected	Analyte Name	Analysis Method	Result	Lab Qualifier	Unit	MRL	MDL	Dil.	Date Analyzed
LS-5	5/6/2013	Magnesium, Total Recoverable	6010B	44.1		mg/L	0.1	0.02	1	5/8/2013
LS-5	5/6/2013	Manganese, Total Recoverable	6010B	480		ug/L	10	3	1	5/8/2013
LS-5	5/6/2013	Potassium, Total Recoverable	6010B	864		mg/L	2	0.09	1	5/8/2013
LS-5	5/6/2013	Sodium, Total Recoverable	6010B	2370		mg/L	10	0.6	20	5/8/2013
LS-5	5/6/2013	Alkalinity as CaCO3, Total	SM2320B	4740		mg/L	38	38	7.5	5/8/2013
LS-5	5/6/2013	Ammonia as Nitrogen	350.1	1170		mg/L	2	1.5	200	5/8/2013
LS-5	5/6/2013	Bicarbonate Alkalinity as CaCO3	SM2320B	4740		mg/L	38	38	7.5	5/8/2013
LS-5	5/6/2013	Carbon, Total Organic (TOC)	SM5310B	3430		mg/L	100	9	100	5/8/2013
LS-5	5/6/2013	Carbonate Alkalinity as CaCO3	SM2320B	38	U	mg/L	38	38	7.5	5/8/2013
LS-5	5/6/2013	Chloride	300.0	4080		mg/L	25	6	50	5/8/2013
LS-5	5/6/2013	Sulfate	300.0	15		mg/L	25	9	50	5/8/2013

Benzene Concentrations in Monitoring Wells
J.E.D. Solid Waste Management Facility

Well ID	Type	PH 1 Baseline	1st Event	2nd Event	3rd Event	4th Event	5th Event	6th Event	7th Event	8th Event	9th Event	10th Event	11th Event	12th Event	13th Event	14th Event	15th Event	16th Event	17th Event	18th Event
		Jan-04	Jul-04	Jan-05	Jul-05	Feb-06	Jul-06	Feb-07	Jul-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	May-12	Nov-12	May-13
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1A	B	0.27	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.5	0.52 U	0.56 I	5.6	6.1	7.78	11.1	3.35	2.3	5.1
MW-3A	B	0.27	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.9 I	0.52 U	0.75 I	1.2	6.65	0.21 U	4.46	0.21 U	7.7	8.8
MW-4A	B	0.27	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.5 U	0.52 U	0.52 U	0.066 U	0.21 U	0.21 U	1.11	0.21 U	3.8	4
MW-5A	B	0.27	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.3	0.8 I	0.65 I	0.52 U	0.33 U	0.21 U	0.21 U	0.21 U	0.21 U	1.3	2
MW-6A	B	0.27	0.27	0.27	0.5	0.088	0.088	0.088	0.088	NA	NA	0.52 U	0.58 I	0.41 I	0.94 I	0.37 I	0.75 I	0.21 U	1.3	3.1
MW-8A	D	0.27	0.27	0.27	0.5	0.088	0.088	0.088	0.310	0.2	0.5 U	0.52 U	1.3	1.6	1.3	1	4.96	1.62	6	2.2
MW-9A	D	0.27	0.27	0.27	0.5	0.088	0.088	3.9	1.4	2.8	7.7	2.5	9.6	11	11.5	9.44	10.3	5.24	1.4	2.3
MW-10A	D	0.27	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.4	1.3	0.96 I	2.9	3.3	2.74	0.79 I	0.89 I	0.21 U	6.5	4.7
MW-11A	D	0.27	0.27	0.27	0.5	0.088	0.088	0.088	0.700	3.3	1.8	0.62 I	2.9	8	5.65	0.73 I	2.95	3.84	8.6	8.1
MW-12A	D	0.27	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.5 U	0.52 U	0.52 U	2	2.19	2.69	3.5	2.83	4.7	3.8
MW-13A	D	0.27	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.5 U	0.65 I	0.9 I	1.2	1.31	1.28	1.14	1.98	2.1	3.4
MW-1B	B	1.0	0.27	0.27	0.5	0.088	0.088	0.088	NA	NA	NA	NA	NA	0.066 U	0.21 U	0.21 U	NA	NA	NA	NA
MW-6B	B	1.0	0.27	0.27	0.5	0.088	0.088	0.088	NA	NA	NA	0.52 U	NA	0.066 U	0.21 U	0.21 U	NA	NA	NA	NA
MW-9B	D	1.0	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.5 U	0.52 U	NA	0.066 U	0.21 U	0.21 U	NA	NA	NA	NA
MW-11B	D	1.0	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.5 U	0.52 U	NA	0.066 U	0.21 U	0.21 U	NA	NA	NA	NA
MW-13B	D	1.0	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.5 U	0.52 U	NA	0.066 U	0.21 U	0.21 U	NA	NA	NA	NA
MW-1C	B	1.0	0.27	0.27	0.5	0.088	0.088	0.088	NA	NA	NA	NA	0.52 U	NA	0.21 U	NA	NA	NA	NA	NA
MW-6C	B	1.0	0.27	0.27	0.5	0.088	0.088	0.088	NA	NA	NA	NA	0.52 U	NA	0.21 U	NA	NA	NA	NA	NA
MW-9C	D	1.0	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.5 U	NA	0.52 U	NA	0.21 U	NA	NA	NA	NA	NA
MW-11C	D	1.0	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.5 U	NA	0.52 U	NA	0.21 U	NA	NA	NA	NA	NA
MW-13C	D	1.0	0.27	0.27	0.5	0.088	0.088	0.088	0.088	0.2	0.5 U	NA	0.52 U	NA	0.21 U	NA	NA	NA	NA	NA

Notes:
1. Values in bold indicate that Benzene exceeded threshold value of 1 ug/L.

Attachment D

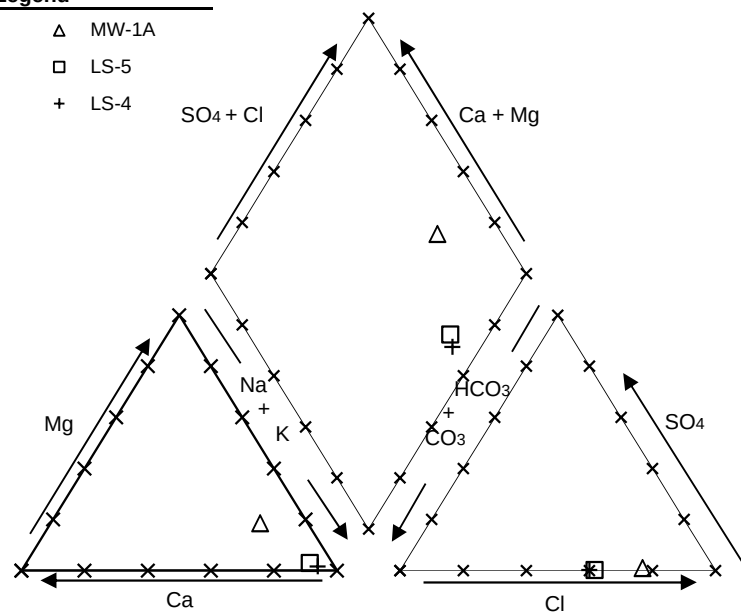
Piper and Stiff Diagrams

Legend

△ MW-1A

□ LS-5

+ LS-4



Notes:

Monitoring Event May 8, 2012 Comparison of Primary Leachate Sump to Groundwater Wells

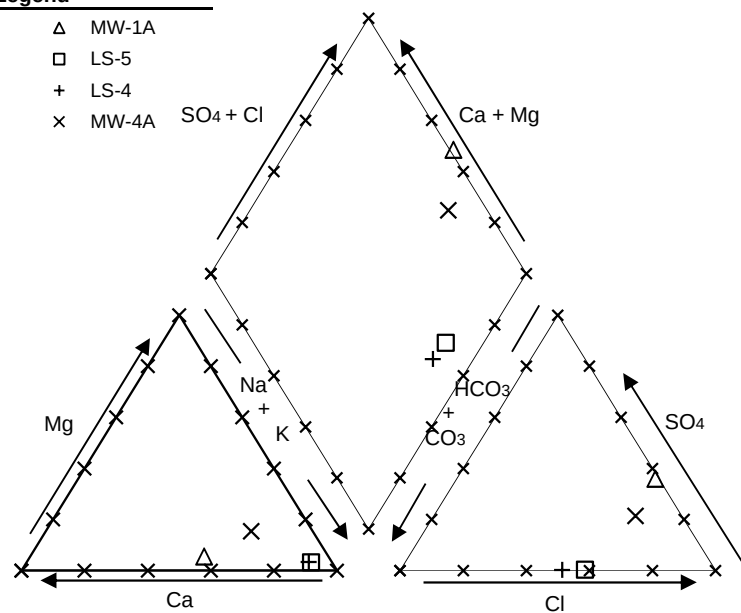
Legend

Δ MW-1A

□ LS-5

+ LS-4

x MW-4A

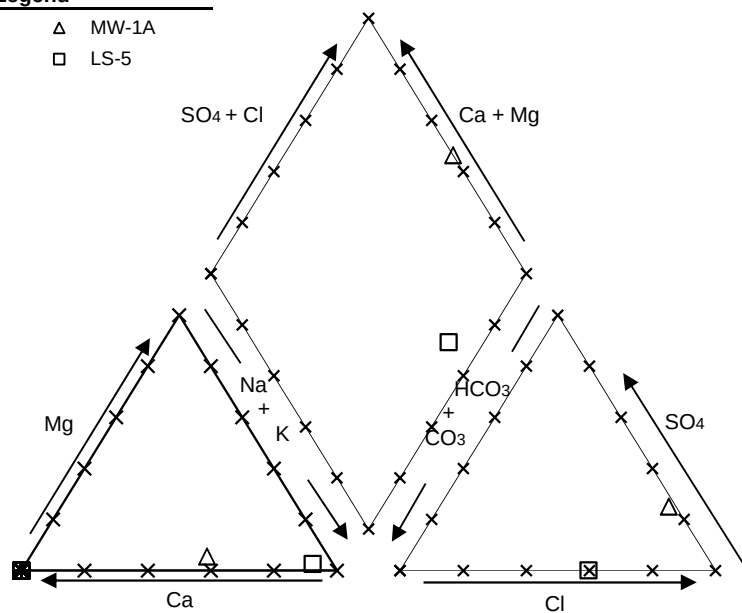


Notes:

Monitoring Event November 5, 2012 Comparison of Primary Leachate Samples to Groundwater Wells

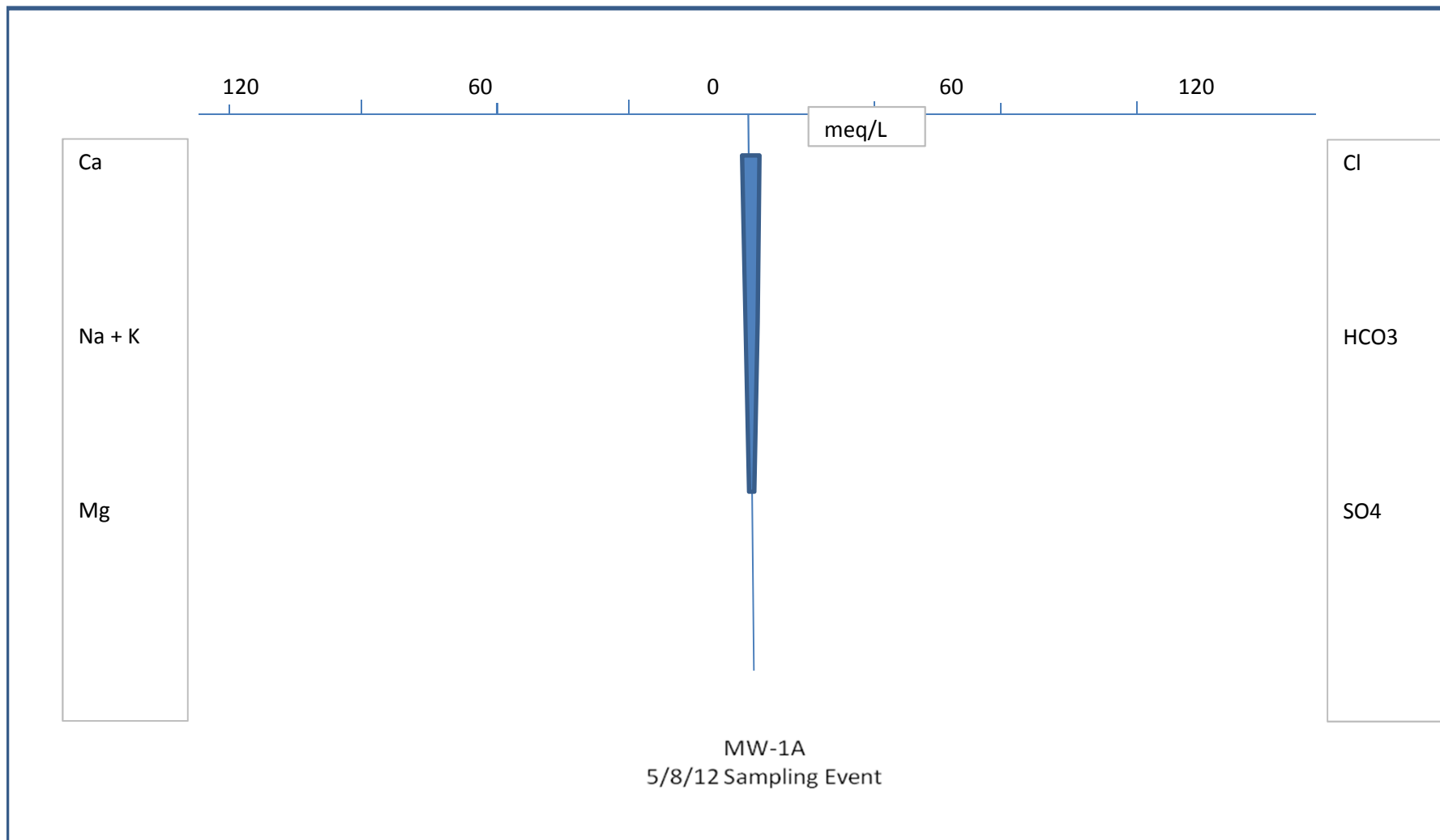
Legend

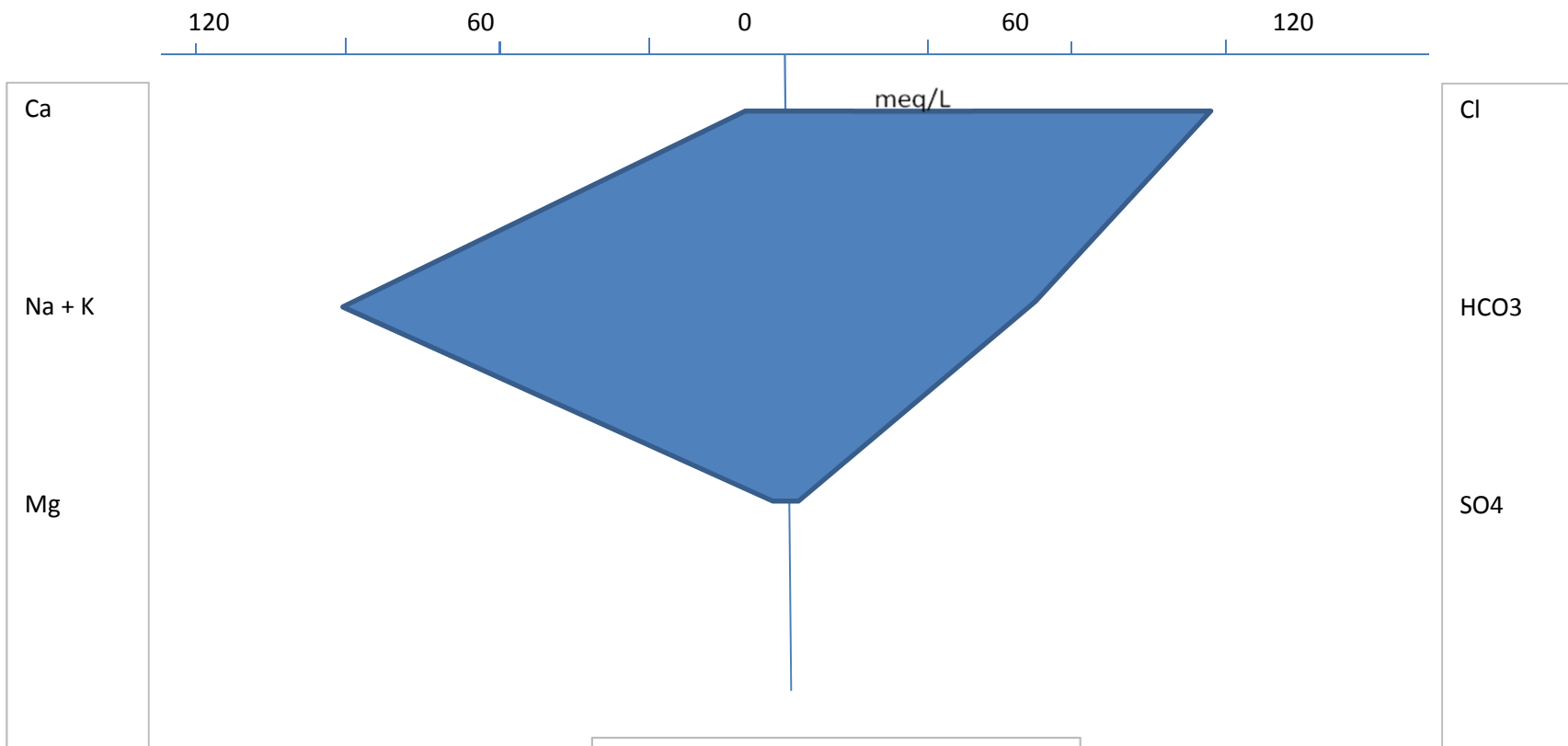
- △ MW-1A
- LS-5



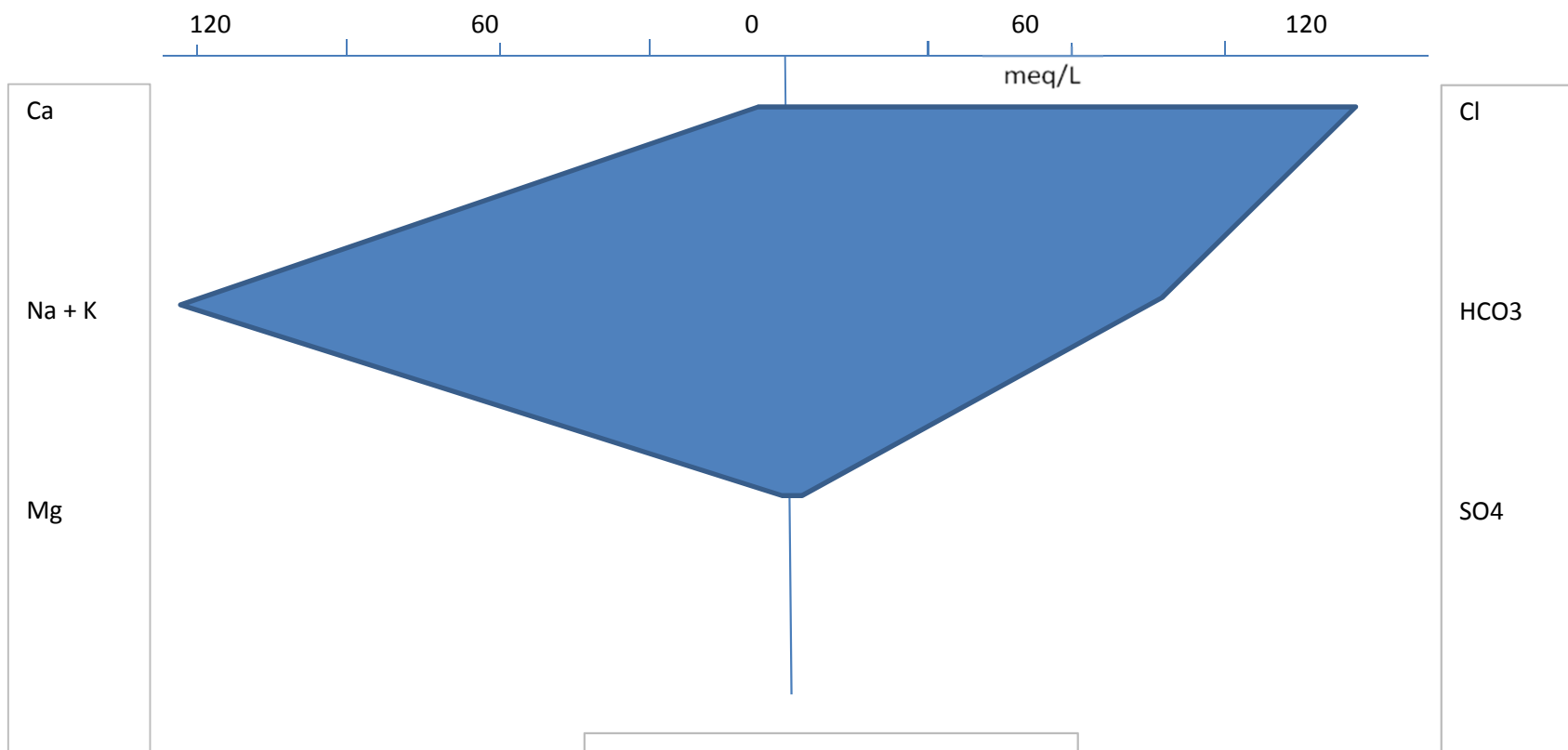
Notes:

Monitoring Event May 6, 2013 Comparison of Primary Leachate Sample to Groundwater Well

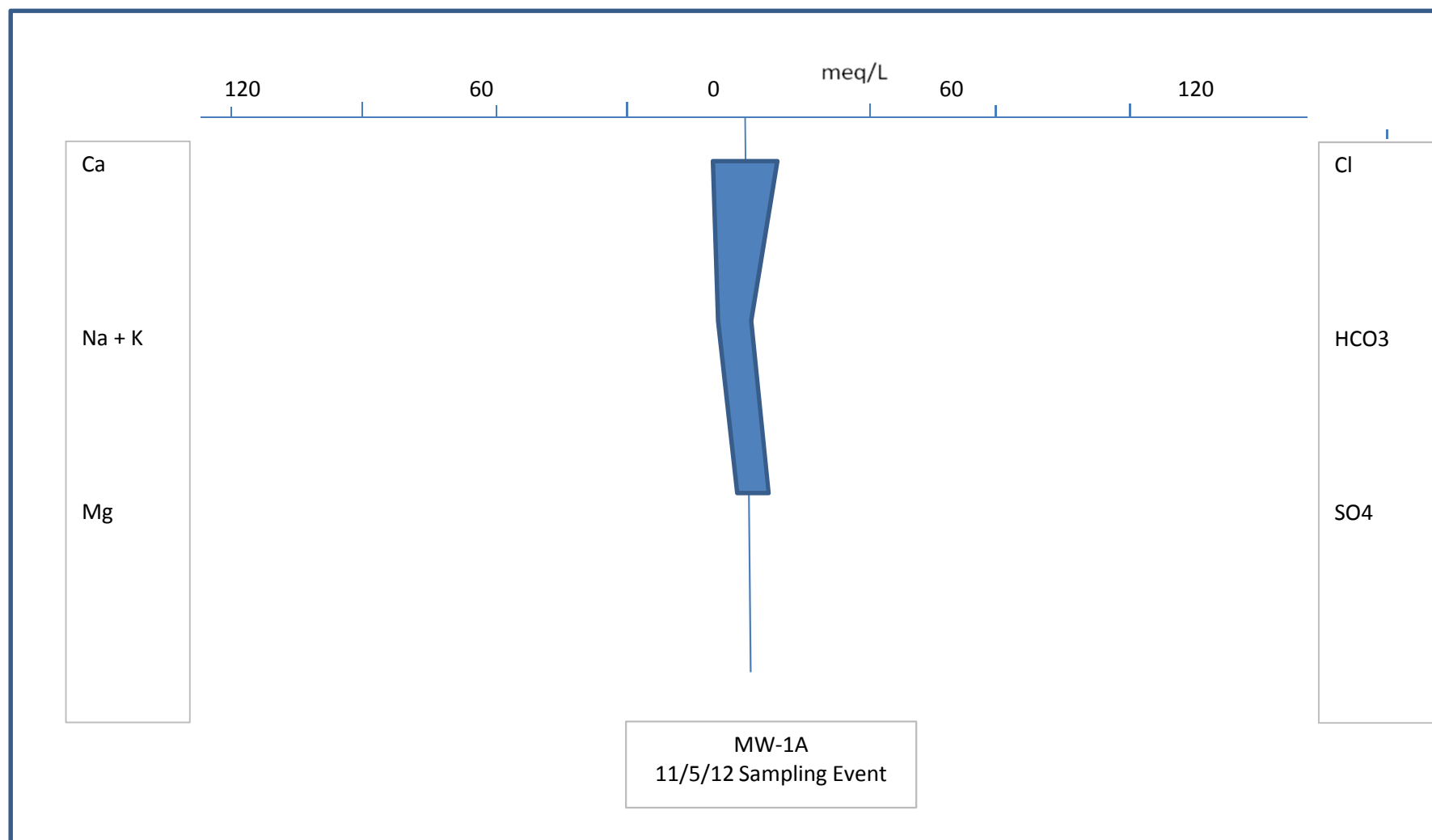




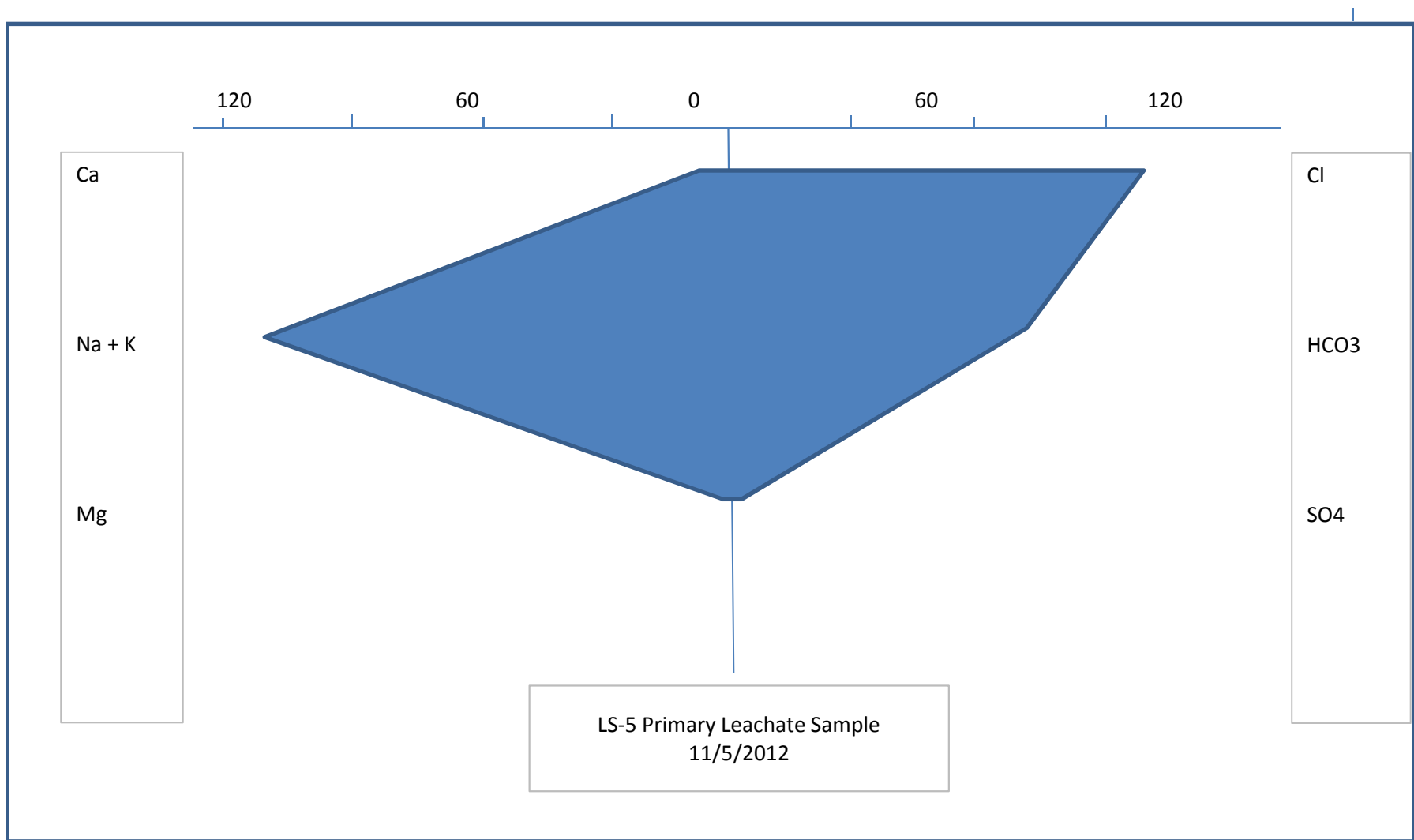
LS-5 Primary Leachate Sample
5/8/2012

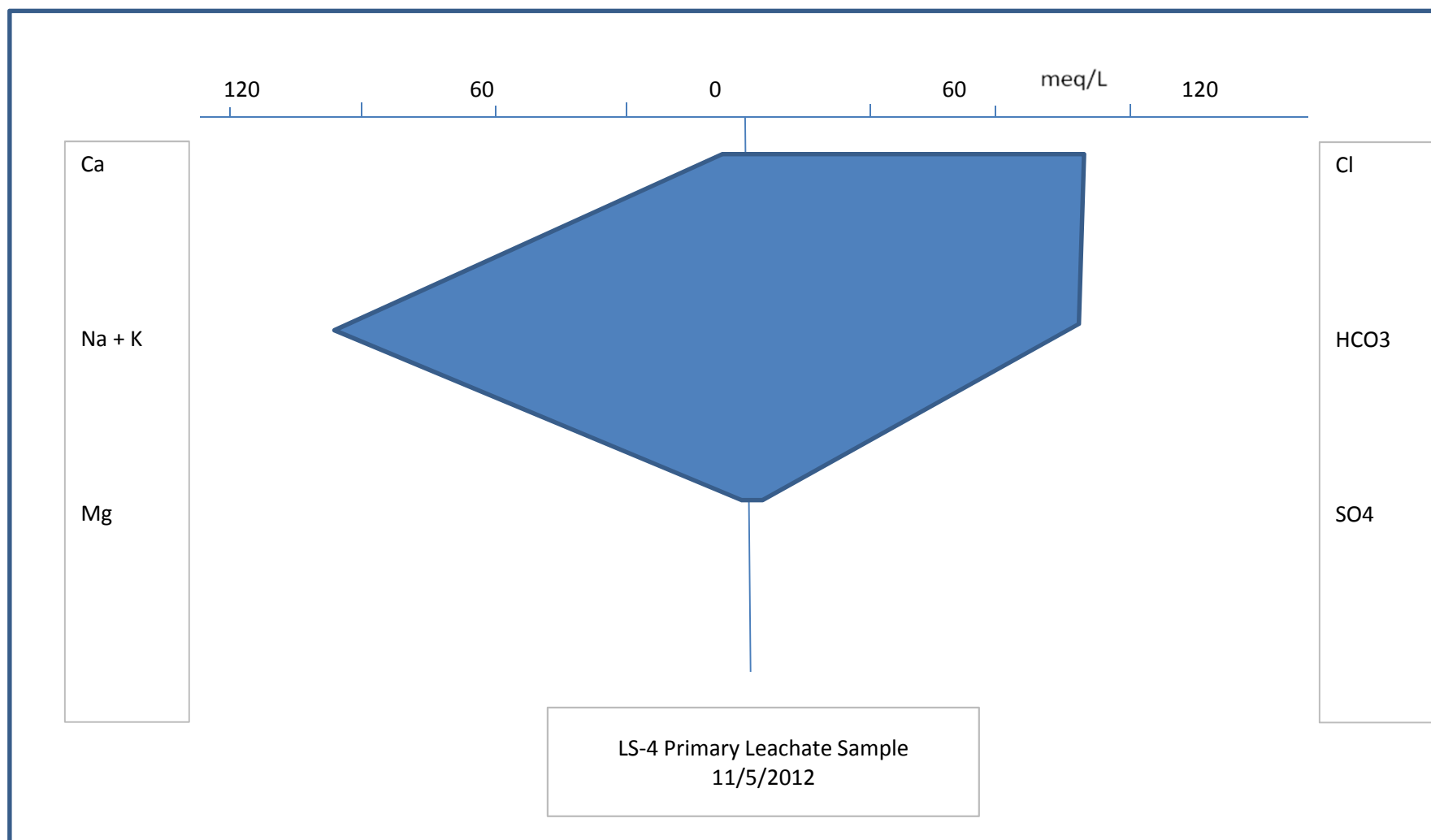


LS-4 Primary Leachate Sample
5/8/2012

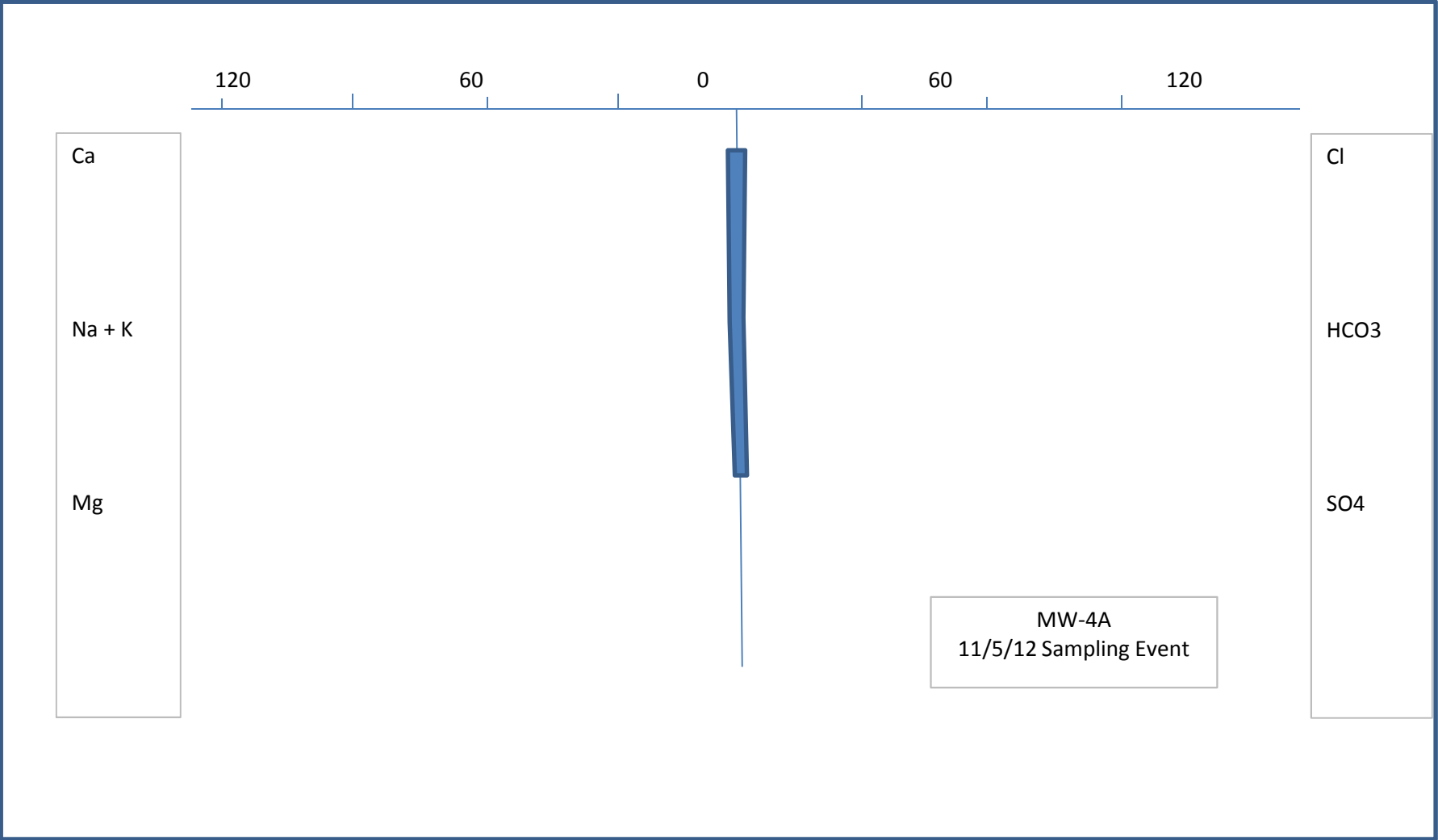


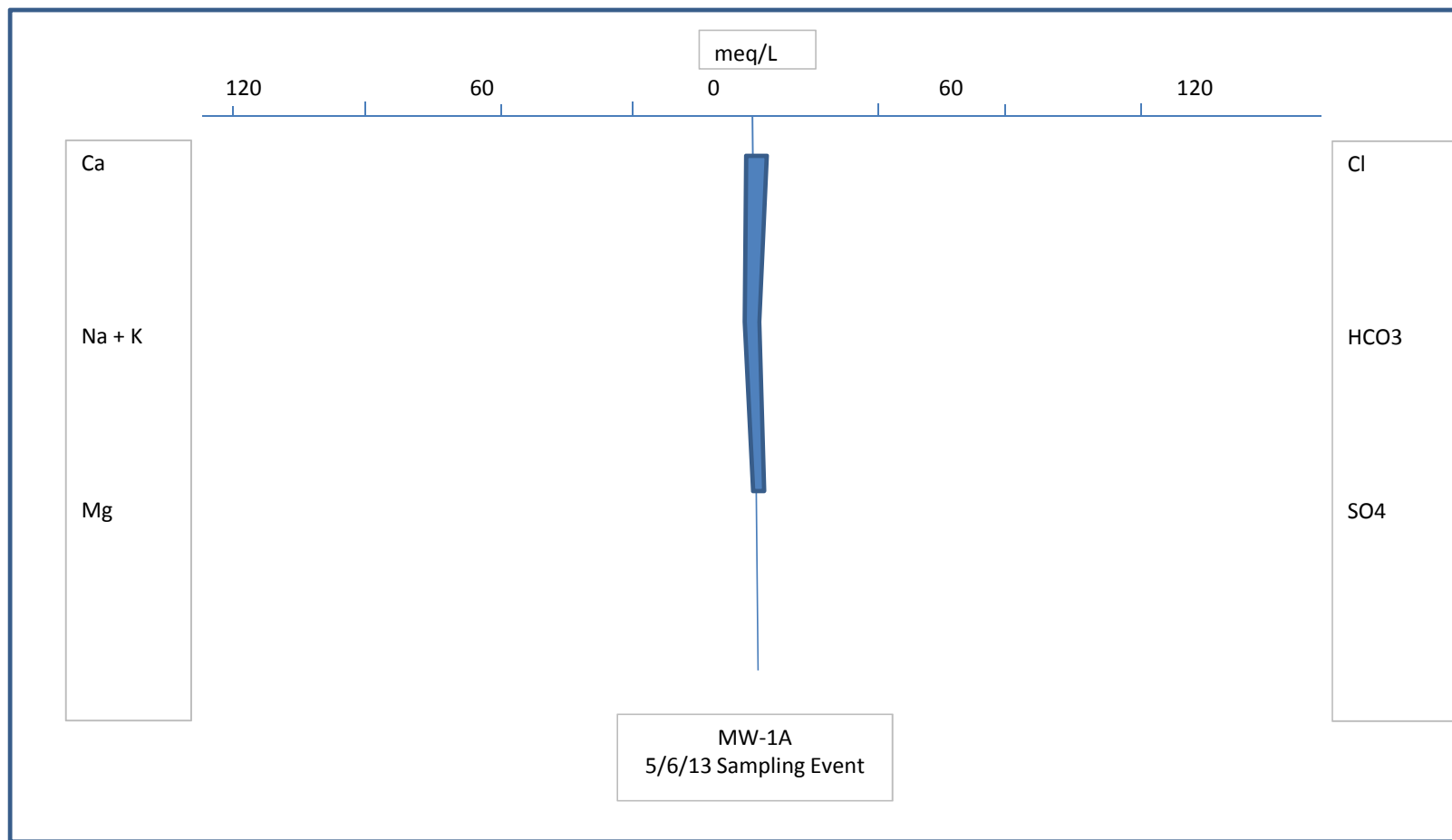
meq/L

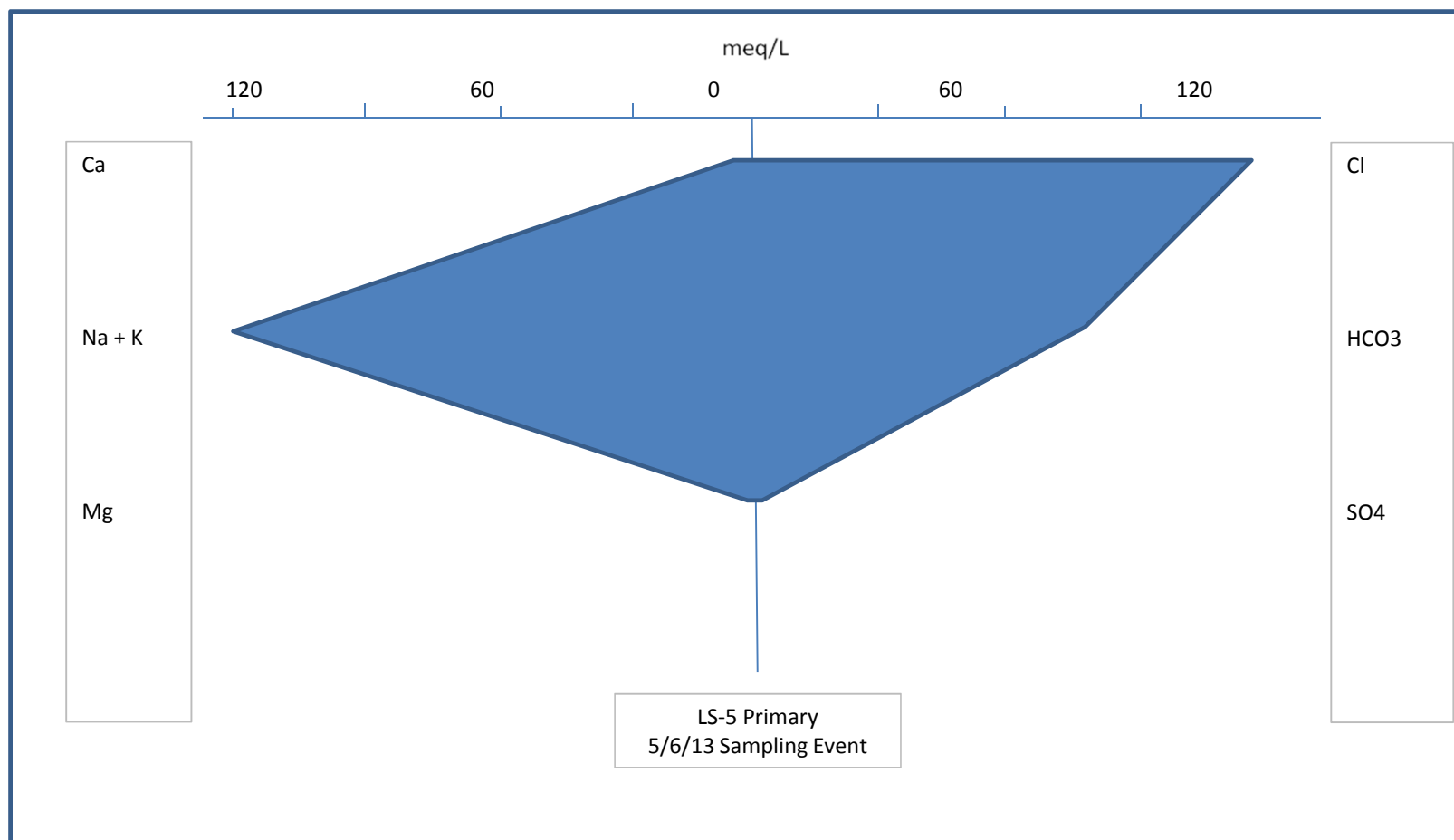




meq/L







Attachment E

Summary of Field Parameters

Data				
Sample ID	Date Collected	Parameter	Result	Unit
LS-4	5/8/2012	Color	Dark Brown	
LS-4	11/5/2012	Color	Dark Brown	
LS-5	5/8/2012	Color	Dark Brown	
LS-5	11/5/2012	Color	Dark Brown	
LS-5	5/6/2013	Color	Dark Brown	
MW-1A	5/8/2012	Color	Clear	
MW-1A	8/6/2012	Color	Clear	
MW-1A	11/5/2012	Color	Clear	
MW-1A	2/12/2013	Color	Clear	
MW-1A	5/6/2013	Color	Clear	
MW-4A	8/6/2012	Color	Clear	
MW-4A	11/5/2012	Color	Clear	
MW-4A	2/12/2013	Color	Clear	
LS-4	5/8/2012	Conductivity	23.50	mS/cm
LS-4	11/5/2012	Conductivity	19.12	mS/cm
LS-5	5/8/2012	Conductivity	17.55	mS/cm
LS-5	11/5/2012	Conductivity	21.37	mS/cm
LS-5	5/6/2013	Conductivity	22.16	mS/cm
MW-1A	5/8/2012	Conductivity	0.18	mS/cm
MW-1A	8/6/2012	Conductivity	1.94	mS/cm
MW-1A	11/5/2012	Conductivity	1.82	mS/cm
MW-1A	2/12/2013	Conductivity	1.99	mS/cm
MW-1A	5/6/2013	Conductivity	1.93	mS/cm
MW-4A	8/6/2012	Conductivity	0.42	mS/cm
MW-4A	11/5/2012	Conductivity	0.39	mS/cm
MW-4A	2/12/2013	Conductivity	0.42	mS/cm
MW-1A	5/8/2012	Depth to Water	20.84	ft
MW-1A	8/6/2012	Depth to Water	18.51	ft
MW-1A	11/5/2012	Depth to Water	17.75	ft
MW-1A	2/12/2013	Depth to Water	18.65	ft
MW-1A	5/6/2013	Depth to Water	18.40	ft
MW-4A	8/6/2012	Depth to Water	19.41	ft
MW-4A	11/5/2012	Depth to Water	18.15	ft
MW-4A	2/12/2013	Depth to Water	18.88	ft
LS-4	5/8/2012	Dissolved Oxygen (DO)	0.11	mg/L
LS-4	11/5/2012	Dissolved Oxygen (DO)	5.22	mg/L
LS-5	5/8/2012	Dissolved Oxygen (DO)	2.80	mg/L
LS-5	11/5/2012	Dissolved Oxygen (DO)	5.45	mg/L
LS-5	5/6/2013	Dissolved Oxygen (DO)	1.32	mg/L
MW-1A	5/8/2012	Dissolved Oxygen (DO)	0.26	mg/L
MW-1A	8/6/2012	Dissolved Oxygen (DO)	0.79	mg/L
MW-1A	11/5/2012	Dissolved Oxygen (DO)	0.42	mg/L
MW-1A	2/12/2013	Dissolved Oxygen (DO)	0.97	mg/L

Data				
Sample ID	Date Collected	Parameter	Result	Unit
MW-1A	5/6/2013	Dissolved Oxygen (DO)	0.54	mg/L
MW-4A	8/6/2012	Dissolved Oxygen (DO)	0.39	mg/L
MW-4A	11/5/2012	Dissolved Oxygen (DO)	0.56	mg/L
MW-4A	2/12/2013	Dissolved Oxygen (DO)	1.57	mg/L
LS-4	5/8/2012	Oxygen Reduction Potential (ORP)	-187.10	mV
LS-4	11/5/2012	Oxygen Reduction Potential (ORP)	-22.30	mV
LS-5	5/8/2012	Oxygen Reduction Potential (ORP)	-89.90	mV
LS-5	11/5/2012	Oxygen Reduction Potential (ORP)	-23.00	mV
LS-5	5/6/2013	Oxygen Reduction Potential (ORP)	-0.60	mV
MW-1A	5/8/2012	Oxygen Reduction Potential (ORP)	-40.08	mV
MW-1A	8/6/2012	Oxygen Reduction Potential (ORP)	-36.70	mV
MW-1A	11/5/2012	Oxygen Reduction Potential (ORP)	-10.33	mV
MW-1A	2/12/2013	Oxygen Reduction Potential (ORP)	-43.82	mV
MW-1A	5/6/2013	Oxygen Reduction Potential (ORP)	-12.37	mV
MW-4A	8/6/2012	Oxygen Reduction Potential (ORP)	-16.40	mV
MW-4A	11/5/2012	Oxygen Reduction Potential (ORP)	-46.27	mV
MW-4A	2/12/2013	Oxygen Reduction Potential (ORP)	-97.23	mV
LS-4	5/8/2012	pH	7.23	Std Unit
LS-4	11/5/2012	pH	7.72	Std Unit
LS-5	5/8/2012	pH	7.13	Std Unit
LS-5	11/5/2012	pH	7.68	Std Unit
LS-5	5/6/2013	pH	7.51	Std Unit
MW-1A	5/8/2012	pH	4.60	Std Unit
MW-1A	8/6/2012	pH	4.69	Std Unit
MW-1A	11/5/2012	pH	4.81	Std Unit
MW-1A	2/12/2013	pH	4.15	Std Unit
MW-1A	5/6/2013	pH	4.88	Std Unit
MW-4A	8/6/2012	pH	4.85	Std Unit
MW-4A	11/5/2012	pH	4.89	Std Unit
MW-4A	2/12/2013	pH	4.27	Std Unit
LS-4	5/8/2012	Temperature	33.25	deg C
LS-4	11/5/2012	Temperature	32.73	deg C
LS-5	5/8/2012	Temperature	32.13	deg C
LS-5	11/5/2012	Temperature	34.46	deg C
LS-5	5/6/2013	Temperature	31.25	deg C
MW-1A	5/8/2012	Temperature	26.83	deg C
MW-1A	8/6/2012	Temperature	26.89	deg C
MW-1A	11/5/2012	Temperature	27.25	deg C
MW-1A	2/12/2013	Temperature	26.20	deg C
MW-1A	5/6/2013	Temperature	26.35	deg C
MW-4A	8/6/2012	Temperature	30.70	deg C
MW-4A	11/5/2012	Temperature	30.70	deg C
MW-4A	2/12/2013	Temperature	27.88	deg C

Data				
Sample ID	Date Collected	Parameter	Result	Unit
LS-4	5/8/2012	Turbidity	0.60	NTU
LS-4	11/5/2012	Turbidity	2.40	NTU
LS-5	5/8/2012	Turbidity	3.00	NTU
LS-5	11/5/2012	Turbidity	0.20	NTU
LS-5	5/6/2013	Turbidity	0.00	NTU
MW-1A	5/8/2012	Turbidity	3.98	NTU
MW-1A	8/6/2012	Turbidity	0.80	NTU
MW-1A	11/5/2012	Turbidity	1.10	NTU
MW-1A	2/12/2013	Turbidity	0.50	NTU
MW-1A	5/6/2013	Turbidity	0.90	NTU
MW-4A	8/6/2012	Turbidity	1.80	NTU
MW-4A	11/5/2012	Turbidity	0.80	NTU
MW-4A	2/12/2013	Turbidity	1.00	NTU