

March 27, 2014

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: Groundwater Contamination Assessment
Quarter 2 Evaluation Monitoring Report
J.E.D. Solid Waste Management Facility
Osceola County, Florida
Permit Nos. 0199726-023-SC-MM and SO49-0199726-022

Dear Mr. Lubozynski:

On behalf of Omni Waste of Osceola County, LLC (Omni), HDR is submitting this sampling report for the three evaluation monitoring wells CW-1A, CW-2A and CW-3A installed in December 2013 at the J.E.D. Solid Waste Management Facility (facility). This is the second of four quarterly evaluation monitoring reports, as required by the Work Plan submitted on October 31, 2013. The wells were installed to address volatile organic compound (VOC) detections in groundwater samples collected from select groundwater monitoring wells at the facility. Routine groundwater monitoring has at times detected Benzene in groundwater at levels slightly above the Primary Drinking Water Standard (PDWS) in samples collected from eleven shallow groundwater monitoring wells and vinyl chloride from three shallow groundwater monitoring wells located along the disposal boundary of the northern portion of the landfill. To evaluate these detections, Omni conducted several investigations which indicated the probable source of these VOCs was landfill gas migration beyond the lined disposal boundary.

Omni subsequently implemented a Soil Vapor Extraction (SVE) pilot test study in March 2013. As discussed in a July 23, 2013 meeting with the Florida Department of Environmental Protection (Department) (and subsequent July 30, 2013 letter from Omni), based on the groundwater quality data collected since installation of the SVE pilot system Omni recommended that the SVE pilot test study be discontinued and instead focus continued efforts on proactively expanding the Landfill Gas Collection Control System (GCCS) within the landfill disposal footprint. Additionally, as summarized in an August 6, 2013 letter to the Department, Omni prepared a contamination evaluation Work Plan to delineate the extent of the impacts and predict the likelihood that water quality standards will be violated outside the zone of discharge (ZOD) (if any) and evaluate potential preventative methods. The Work Plan outlined the installation procedures for three new temporary delineation wells CW-1A, CW-2A and CW-3A. The three evaluation monitoring wells are shown in Attachment 1, Figure 1.

Well Sampling and Analysis

The Work Plan requires four quarterly compliance well sampling events/ reports as follows:

Quarter 1 – December 2013 (complete)

Quarter 2 – February 2014 /March 2014 (herein)

Quarter 3 – May 2014/June 2014

Quarter 4 – August 2014/September 2014

The samples collected in Quarter 1 were analyzed for parameters required for an initial sampling event as listed in Chapter 62-701.510(7)(a) and (c).

The required sample parameters collected for Quarters 2, 3, and 4 include those listed in Chapter 62-701.510(7)(a) only. The parameter lists have been provided below for reference.

Chapter 62-701.510(7)(a)

Field Parameters	Laboratory Parameters
Static water level before purge	Total ammonia – N
Specific conductivity	Chlorides
pH	Iron
Dissolved Oxygen	Mercury
Turbidity	Nitrate
Temperature	Sodium
Colors and sheens by observation	Total dissolved solids (TDS)
ALS Environmental	Those parameters listed in 40 CFR Part 258 Appendix I

Chapter 62-701.510(7)(c)

Those parameters listed in 40 CFR Part 258 Appendix II.

Results

The lab analysis results for the Quarter 2 sampling event are provided in Attachment 2 – Laboratory and Field Data. The detected parameters have been listed in Tables 1 – CW-1A, Table 2 – CW-2A, and Table 3 – CW-3A below.

Table 1 – Summary of Parameters detected during Lab Analysis CW-1A

Paramters	CW-1A Result				MCL	MDL	PQL	Units
	Q1	Q2	Q3	Q4				
Chloride	21.7	21.2			250**	0.11	0.5	mg/L
Ammonia as Nitrogen	1.05	0.783			2.8***	0.007	0.01	mg/L
Iron, Total Recoverable	11,900	9,870			300**	3	100	ug/L
Sodium, Total Recoverable	20.4	17.1			160*	0.03	0.5	mg/L
Arsenic, Total Recoverable	278	166			10*	0.5	1	ug/L
Barium, Total Recoverable	55.2	46.4			2000*	0.5	2	ug/L
Beryllium, Total Recoverable	0.15 l	0.06 l			4*	0.04	0.5	ug/L
Cadmium, Total Recoverable	0.87	ND			5*	0.1	0.4	ug/L
Cobalt, Total Recoverable	3.2	2.2			420	0.03	1	ug/L
Chromium, Total Recoverable	11.1	6.6			100*	0.2	1	ug/L
Copper, Total Recoverable	0.8 l	ND			1000**	0.3	1	ug/L
Nickel, Total Recoverable	6.1	1 l			100*	0.5	2	ug/L
Lead, Total Recoverable	1.05	0.16 l			15*	0.12	0.5	ug/L
Selenium, Total Recoverable	2.8	ND			50*	1.1	2	ug/L
Thallium, Total Recoverable	0.05 l	ND			2*	0.05	0.2	ug/L
Vanadium, Total Recoverable	12.3	3.5			49***	0.3	2	ug/L
Zinc, Total Recoverable	2.8 l	4.9 l			5000**	1.6	5	ug/L
Mercury, Total	ND	ND			2*	0.02	0.1	ug/L
Toluene	0.23 l	ND			1000**	0.19	1	ug/L
Solids, Total Dissolved	445	268			500**	10	10	mg/L

Notes:

ND = Not Detect

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

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

MCL = Maximum Contaminant Level (PDWS*, SDWS**, GCTL***)

PDWS = Primary Drinking Water Standard

SDWS = Secondary Drinking Water Standard

GCTL = Groundwater Cleanup Target Level

Table 2 – Summary of Parameters detected during Lab Analysis CW-2A

Paramters	CW-2A Result				MCL	MDL	PQL	Units
	Q1	Q2	Q3	Q4				
Chloride	76.3	92.1			250**	0.11	0.5	mg/L
Ammonia as Nitrogen	6.72	6.83			2.8***	0.007	0.01	mg/L
Iron, Total Recoverable	8,070	4,050			300**	3	100	ug/L
Sodium, Total Recoverable	50.4	59.4			160*	0.03	0.5	mg/L
Arsenic, Total Recoverable	1 I	2.2			10*	0.5	1	ug/L
Barium, Total Recoverable	54	54.1			2000*	0.5	2	ug/L
Beryllium, Total Recoverable	0.54	0.38			4*	0.04	0.5	ug/L
Cadmium, Total Recoverable	ND	ND			5*	0.1	0.4	ug/L
Cobalt, Total Recoverable	2.6	1.8			420	0.03	1	ug/L
Chromium, Total Recoverable	1.5	1.9			100*	0.2	1	ug/L
Copper, Total Recoverable	0.4 I	0.4			1000**	0.3	1	ug/L
Nickel, Total Recoverable	2.5	2.9			100*	0.5	2	ug/L
Lead, Total Recoverable	ND	ND			15*	0.12	0.5	ug/L
Selenium, Total Recoverable	ND	ND			50*	1.1	2	ug/L
Thallium, Total Recoverable	ND	ND			2*	0.05	0.2	ug/L
Vanadium, Total Recoverable	9.2	8.6			49***	0.3	2	ug/L
Zinc, Total Recoverable	3.7 I	3.8			5000**	1.6	5	ug/L
Mercury, Total	0.03 I	ND			2*	0.02	0.1	ug/L
Toluene	ND	ND			1000**	0.19	1	ug/L
Solids, Total Dissolved	918	952			500**	10	10	mg/L

Notes:

ND = Not Detect

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

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

MCL = Maximum Contaminant Level (PDWS*, SDWS**, GCTL***)

PDWS = Primary Drinking Water Standard

SDWS = Secondary Drinking Water Standard

GCTL = Groundwater Cleanup Target Level

Table 3 – Summary of Parameters detected during Lab Analysis CW-3A

Paramters	CW-3A Result				MCL	MDL	PQL	Units
	Q1	Q2	Q3	Q4				
Chloride	62	63			250**	0.11	0.5	mg/L
Ammonia as Nitrogen	11.1	8.17			2.8***	0.007	0.01	mg/L
Iron, Total Recoverable	126,000	115,000			300**	3	100	ug/L
Sodium, Total Recoverable	65.5	68.5			160*	0.03	0.5	mg/L
Arsenic, Total Recoverable	2.1	2			10*	0.5	1	ug/L
Barium, Total Recoverable	173	108			2000*	0.5	2	ug/L
Beryllium, Total Recoverable	0.63	0.67			4*	0.04	0.5	ug/L
Cadmium, Total Recoverable	ND	ND			5*	0.1	0.4	ug/L
Cobalt, Total Recoverable	12.9	13			420	0.03	1	ug/L
Chromium, Total Recoverable	12.5	8.3			100*	0.2	1	ug/L
Copper, Total Recoverable	0.6 I	.4 I			1000**	0.3	1	ug/L
Nickel, Total Recoverable	3.1	2.1			100*	0.5	2	ug/L
Lead, Total Recoverable	2.08	ND			15*	0.12	0.5	ug/L
Selenium, Total Recoverable	1.8 I	ND			50*	1.1	2	ug/L
Thallium, Total Recoverable	ND	ND			2*	0.05	0.2	ug/L
Vanadium, Total Recoverable	15	11.3			49***	0.3	2	ug/L
Zinc, Total Recoverable	3.7 I	6.5			5000**	1.6	5	ug/L
Mercury, Total	0.05 I	ND			2*	0.02	0.1	ug/L
Toluene	ND	ND			1000**	0.19	1	ug/L
Solids, Total Dissolved	1190	1230			500**	10	10	mg/L

Notes:

ND = Not Detect

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

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

MCL = Maximum Contaminant Level (PDWS*, SDWS**, GCTL***)

PDWS = Primary Drinking Water Standard

SDWS = Secondary Drinking Water Standard

GCTL = Groundwater Cleanup Target Level

VOCs were not detected during Quarter 1 or Quarter 2, with the exception of very low level toluene in CW-1A during Quarter 1. The Quarter 1 toluene concentration (0.23 ug/L) was between the MDL and the PQL and well below the SDWS of 1000 ug/L, and toluene was not confirmed during Quarter 2. Ammonia (N), iron, TDS, and arsenic were the only parameters detected above groundwater standards. Each of these parameters has been historically detected in the "A" Zone wells, and both arsenic and TDS levels are frequently associated with high iron concentrations. Iron exceeded the SDWS in each of the three evaluation monitoring wells, however with the exception of CW-3A, levels were within the historical range. Iron was reported in CW-3A at 126,000 ug/L (Quarter 1) and at 115,000 ug/L (Quarter 2). Laboratory error was suspected in the Quarter 1 analysis, but the Quarter 2 result confirmed high iron concentration. High turbidity and low Oxidation/Reduction Potential (ORP) can also result in high levels of dissolved iron, but the reported levels of turbidity and ORP in CW-3A do not support that conclusion. Turbidity in CW-3A in Quarter 1 (32 to 35 NTU) was higher than the other evaluation monitoring wells, but in Quarter 2, turbidity was very low (<0.4 NTU) as comparable to the other wells. The ORP level in CW-3A was also comparable to levels in CW-1A and CW-2A. ORP ranged from -12.8 to 11.7 mV in CW-1A, -2.2 to -9.2 mV in CW-2A, and -0.6 to -3.8 mV in CW-3A.

Arsenic was also reported above the PDWS of 10 ug/L in CW-1A at 278 ug/L in Quarter 1 and at 166 ug/L in Quarter 2. CW-1A was installed at a location west of the landfill to delineate MW-3A, however MW-3A rarely reports arsenic levels above 2 ug/L, and CW-2A and CW-3A reported arsenic at < 2.2 ug/L in both Quarter 1 and Quarter 2. The Quarter 2 sample confirmed arsenic above the PDWS. Based on low arsenic levels in the detection wells, there may be a secondary source, such as the nearby electrical power pole that may have been treated with an arsenic compound such as CCA.

Based on historical detections, arsenic, which has a geochemical association with iron, is frequently detected in "A" Zone monitoring wells. Arsenic is occasionally detected above the MCL, but when reported above the MCL the range is typically between 10 and 20 ug/L in two wells (MW-11A and MW-13A) on the east side of the landfill. However, arsenic was barely detected in the wells downgradient of MW-11A and MW-13A. TDS levels reported exceeding the SDWS in CW-2A and CW-3A and just below the MCL in CW-1A are attributable to the high iron levels in these wells.

In summary, the three evaluation monitoring wells were installed to delineate VOCs (primarily benzene and vinyl chloride) that have been reported from samples collected in the shallow ("A" Zone) wells. Neither of these VOCs has been detected in the evaluation monitoring wells. Additionally, chloride, which is an excellent conservative indicator of leachate in groundwater, was detected at low levels and well balanced with sodium. These findings support the suggestion that the VOCs which have been detected above groundwater standards in upgradient wells were likely associated with landfill gas.

Recommendations

The Work Plan submitted October 31, 2013 required installing the three evaluation monitoring wells described herein. The Work Plan requires sampling and analyzing groundwater from the three wells for the purpose of delineating VOCs, primarily benzene and vinyl chloride, within the landfill compliance zone. This report is the second of four quarterly reports required for submittal during the evaluation monitoring described in the Work Plan. Based on the results of this first and second quarterly sampling event, it is recommended to continue as outlined in the Work Plan. The Quarter 3 sampling event will be scheduled in May 2014, and the FDEP will be notified at least 14 days prior to sampling. The wells will be sampled for those parameters listed in Chapter 62-701.510(7)(a) during the next two quarterly sampling events (Quarter 3 and Quarter 4). It is also recommended to sample iron and arsenic during Quarter 3 and Quarter 4 since both parameters were confirmed in the Quarter 2 sampling event. It is also recommended that groundwater elevations be taken in all "A" zone wells to produce groundwater contour maps for each quarterly event that does not coincide with a semi-annual sampling event. The "A" zone groundwater contour map for Quarter 2 is included as Attachment 1, Figure 2.

Closing

HDR has prepared this report on behalf of Omni to maintain compliance with the Florida Water Quality Regulations. Thank you in advance for your review. If you have any questions or comments, please contact me at (904) 598-8900 or Mr. Mike Kaiser at (904) 673-0446.

Sincerely,



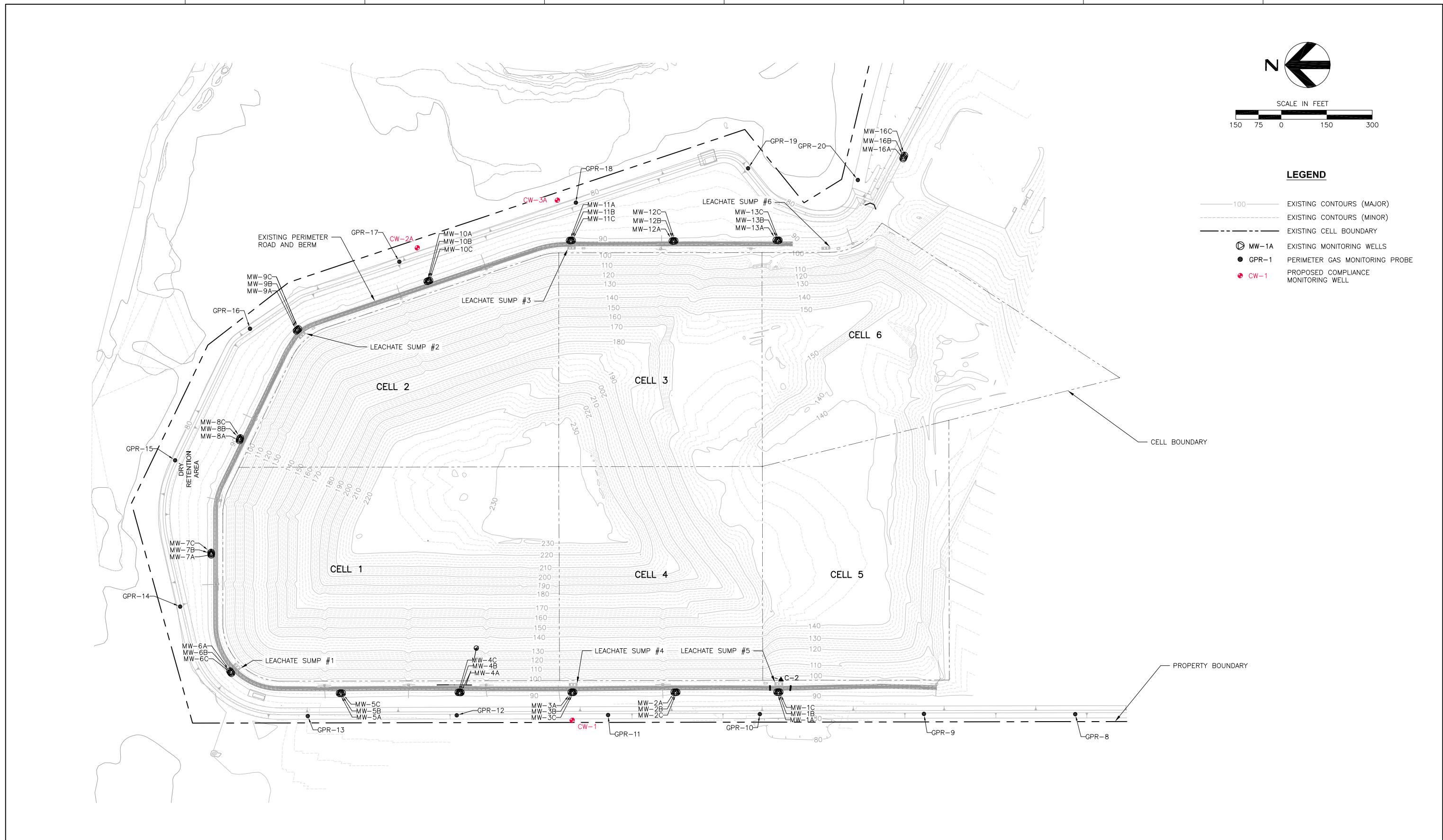
John S. Catches, P.G.
Sr. Project Manager

Attachments

Cc: Mike Kaiser, Progressive Waste Solutions, Inc.

ATTACHMENT 1

Figures and Water Table Elevations



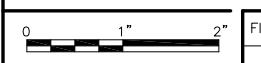
PROJECT MANAGER	B. STONE, P.E.
DESIGN BY	C. KOENIG, P.E.
DESIGN BY	
CHECKED BY	B. STONE, P.E.
DRAWN BY	C. BREWER
PROJECT NUMBER	174075



J.E.D. Solid Waste Management Facility
Omni Waste of Osceola County, LLC

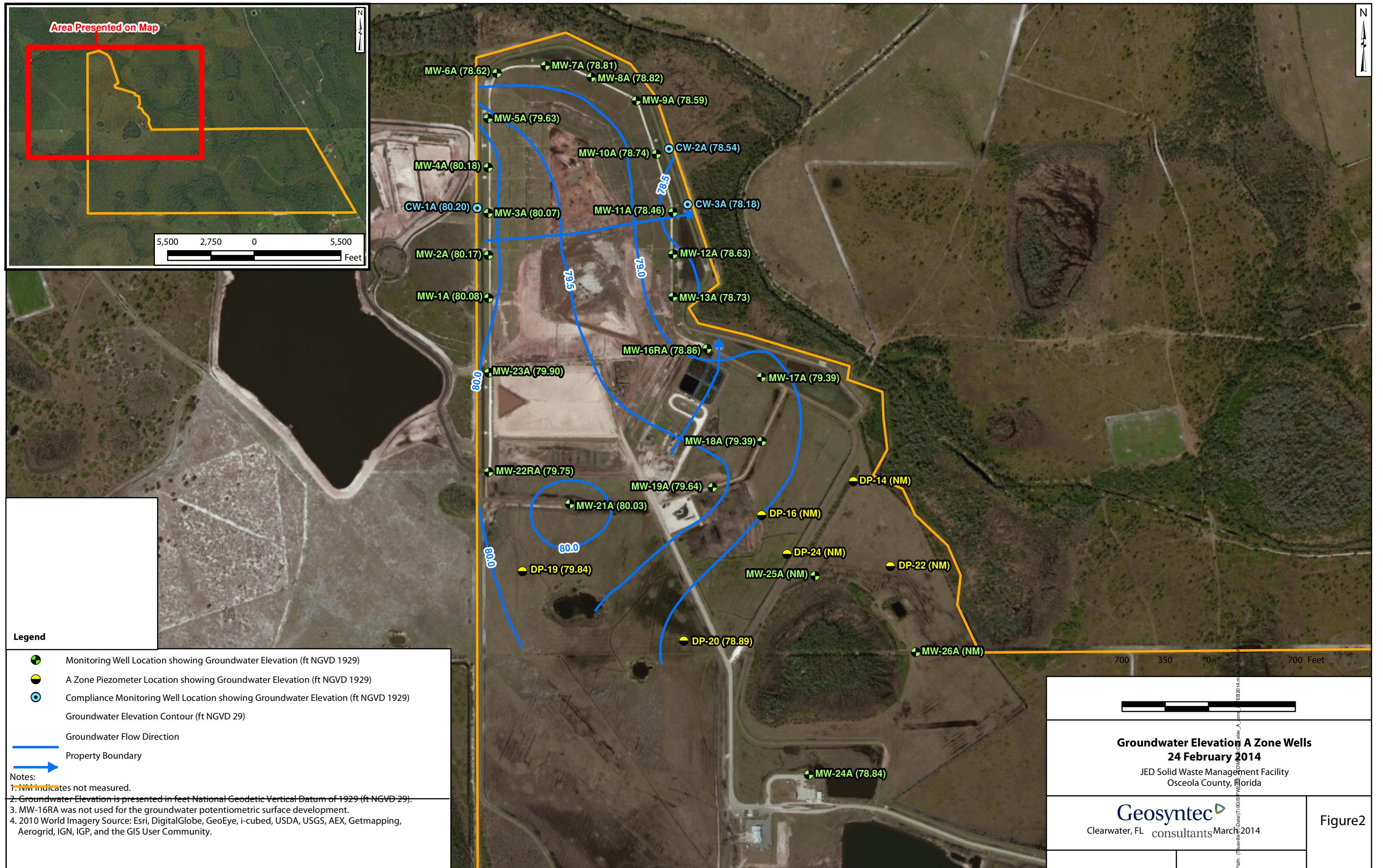
1501 Omni Way St. Cloud, FL. 34773
(407) 891-3720

2013 J.E.D. LANDFILL
GROUNDWATER ASSESSMENT STUDY PLAN



ENAME	00C-01.dwg
SCALE	AS SHOWN

SHEET



GROUNDWATER LEVEL MEASUREMENTS
QUARTERLY COMPLIANCE WELL SAMPLING EVENT
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Site Name:	JED Solid Waste Management Facility			
Location:	Osceola County, Florida			
Date:	24-Feb-2014			
Well ID	Time	TOC Elevation	Depth to Water (ft)	GW Elevation
CW-1A	11:15	84.53	4.33	80.20
CW-2A	10:45	82.81	4.27	78.54
CW-3A	10:20	81.89	3.71	78.18
DP-19	14:12	84.34	4.50	79.84
DP-20	15:55	83.07	4.18	78.89
DP-22	--	81.00	NM	*
MW-1A	15:45	95.12	15.04	80.08
MW-2A	15:38	95.21	15.04	80.17
MW-3A	15:35	94.64	14.57	80.07
MW-4A	15:30	95.48	15.30	80.18
MW-5A	15:25	95.32	15.69	79.63
MW-6A	15:20	94.72	16.10	78.62
MW-7A	15:15	95.48	16.67	78.81
MW-8A	15:13	94.67	15.85	78.82
MW-9A	15:10	94.66	16.07	78.59
MW-10A	15:05	96.25	17.51	78.74
MW-11A	15:02	93.56	15.10	78.46
MW-12A	14:58	95.10	16.47	78.63
MW-13A	14:55	95.19	16.46	78.73
MW-16RA	14:50	95.01	16.15	78.86
MW-17A	14:40	88.86	9.47	79.39
MW-18A	14:27	87.56	8.17	79.39
MW-19A	14:22	87.54	7.90	79.64
MW-21A	14:16	87.20	7.17	80.03
MW-22RA	13:58	95.00	15.25	79.75
MW-23A	14:05	97.90	18.00	79.90
MW-24A	16:10	86.97	8.13	78.84

* DP-22 inaccessible due to flooding.

ATTACHMENT 2

Laboratory and Field Data



March 11, 2014

Service Request No:J1401341

Mike Kaiser
Waste Services of Florida, Inc.
1501 Omni Way
St Cloud, FL 34773

Laboratory Results for: JED SWDF Compliance Wells

Dear Mike,

Enclosed are the results of the sample(s) submitted to our laboratory February 25, 2014
For your reference, these analyses have been assigned our service request number **J1401341**.

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 ALS Environmental 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

A handwritten signature in black ink, appearing to read "Craig Myers".

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



SAMPLE DETECTION SUMMARY

CLIENT ID: CW-1A	Lab ID: J1401341-001					
Analyte	Results	Flag	MDL	PQL	Units	Method
Chloride	21.2		0.11	0.50	mg/L	300.0
Ammonia as Nitrogen	0.783		0.007	0.010	mg/L	350.1
Iron, Total Recoverable	9870		3	100	ug/L	6010B
Sodium, Total Recoverable	17.1		0.03	0.50	mg/L	6010B
Arsenic, Total Recoverable	166		0.5	1.0	ug/L	6020
Barium, Total Recoverable	46.4		0.5	2.0	ug/L	6020
Beryllium, Total Recoverable	0.06	I	0.04	0.50	ug/L	6020
Cobalt, Total Recoverable	2.2		0.03	1.0	ug/L	6020
Chromium, Total Recoverable	6.6		0.2	1.0	ug/L	6020
Nickel, Total Recoverable	1.0	I	0.5	2.0	ug/L	6020
Lead, Total Recoverable	0.16	I	0.12	0.50	ug/L	6020
Vanadium, Total Recoverable	3.5		0.3	2.0	ug/L	6020
Zinc, Total Recoverable	4.9	I	1.6	5.0	ug/L	6020
Solids, Total Dissolved	268		10	10	mg/L	SM 2540 C

CLIENT ID: CW-2A	Lab ID: J1401341-002					
Analyte	Results	Flag	MDL	PQL	Units	Method
Chloride	92.1		0.11	0.50	mg/L	300.0
Ammonia as Nitrogen	6.83		0.007	0.010	mg/L	350.1
Iron, Total Recoverable	4050		3	100	ug/L	6010B
Sodium, Total Recoverable	59.4		0.03	0.50	mg/L	6010B
Arsenic, Total Recoverable	2.2		0.5	1.0	ug/L	6020
Barium, Total Recoverable	54.1		0.5	2.0	ug/L	6020
Beryllium, Total Recoverable	0.38	I	0.04	0.50	ug/L	6020
Cobalt, Total Recoverable	1.8		0.03	1.0	ug/L	6020
Chromium, Total Recoverable	1.9		0.2	1.0	ug/L	6020
Copper, Total Recoverable	0.4	I	0.3	1.0	ug/L	6020
Nickel, Total Recoverable	2.9		0.5	2.0	ug/L	6020
Vanadium, Total Recoverable	8.6		0.3	2.0	ug/L	6020
Zinc, Total Recoverable	3.8	I	1.6	5.0	ug/L	6020
Solids, Total Dissolved	952		20	20	mg/L	SM 2540 C

CLIENT ID: CW-3A	Lab ID: J1401341-003					
Analyte	Results	Flag	MDL	PQL	Units	Method
Chloride	63.0		0.11	0.50	mg/L	300.0
Ammonia as Nitrogen	8.17		0.007	0.010	mg/L	350.1
Iron, Total Recoverable	115000		3	100	ug/L	6010B
Sodium, Total Recoverable	68.5		0.03	0.50	mg/L	6010B
Arsenic, Total Recoverable	2.0		0.5	1.0	ug/L	6020
Barium, Total Recoverable	108		0.5	2.0	ug/L	6020
Beryllium, Total Recoverable	0.67		0.04	0.50	ug/L	6020
Cobalt, Total Recoverable	13.0		0.03	1.0	ug/L	6020



SAMPLE DETECTION SUMMARY

CLIENT ID: CW-3A	Lab ID: J1401341-003					
Analyte	Results	Flag	MDL	PQL	Units	Method
Chromium, Total Recoverable	8.3		0.2	1.0	ug/L	6020
Copper, Total Recoverable	0.4	I	0.3	1.0	ug/L	6020
Nickel, Total Recoverable	2.1		0.5	2.0	ug/L	6020
Vanadium, Total Recoverable	11.3		0.3	2.0	ug/L	6020
Zinc, Total Recoverable	6.5		1.6	5.0	ug/L	6020
Solids, Total Dissolved	1230		20	20	mg/L	SM 2540 C

CLIENT ID: Trip Blank	Lab ID: J1401341-004					
Analyte	Results	Flag	MDL	PQL	Units	Method
Methylene Chloride	0.23	IV	0.21	5.0	ug/L	8260B



Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Service Request: J1401341
Date Received: 2/25/14

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

Three water samples and one trip blank were received for analysis at ALS Environmental on 02/25/2014. 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: Method Blank JQ1401697-03 contained a low level of Methylene Chloride above the Method Detection Limit (MDL), but less than the Method Reporting Limit (MRL). Sample J1401341-004 (Trip Blank) exhibited this analyte in approximately the same concentration as the method blank. The data is flagged with a qualifier to indicate the results are estimated values. The method blank results may indicate the potential for a false positive.

Method 8260B: The upper control criterion was exceeded for the following analyte in Laboratory Control Sample (LCS) JQ1401697-01: Vinyl Chloride. The analyte in question was not detected in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected and no further corrective action was appropriate.

Semi-Volatile Organic Analyses:

Method 8011: The control criterion was exceeded for the following surrogate in MS JQ1401674-03: 1,1,1,2-Tetrachloroethane. The associated matrix spike recoveries of target compounds were in control, indicating the analysis was in control. The surrogate outlier is flagged accordingly and no further corrective action was appropriate.

Method 8011: Sample J1401341-03 required dilution due to the foaming nature of the matrix. The reporting limits are adjusted to reflect the dilution.

Metals Analyses:

No significant data anomalies were noted with this analysis.

General Chemistry Analyses:

No significant data anomalies were noted with this analysis.

Approved by

A handwritten signature in black ink, appearing to read "Amy R. Miller".

Date 3/11/2014



State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Florida Department of Health	E82502	6/30/2014
North Carolina Department of Environment and Natural Resources	527	12/31/2014
Virginia Environmental Accreditation Program	460191	12/14/2014
Louisiana Department of Environmental Quality	02086	6/30/2014
Georgia Department of Natural Resources	958	6/30/2014
Kentucky Division of Waste Management	63	6/30/2014
South Carolina Department of Health and Environmental Control	96021001	6/30/2014
Texas Commission 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	8/31/2014

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 Compliance Wells

Service Request:J1401341

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
J1401341-001	CW-1A	2/24/2014	1320
J1401341-002	CW-2A	2/24/2014	1235
J1401341-003	CW-3A	2/24/2014	1145
J1401341-004	Trip Blank	2/24/2014	0000

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water
Sample Name: CW-1A
Lab Code: J1401341-001

Service Request: J1401341
Date Collected: 02/24/14 13:20
Date Received: 02/25/14 09:05

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	03/07/14 21:31	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	03/07/14 21:31	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	03/07/14 21:31	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	03/07/14 21:31	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	03/07/14 21:31	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	03/07/14 21:31	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	03/07/14 21:31	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	03/07/14 21:31	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	03/07/14 21:31	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	03/07/14 21:31	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	03/07/14 21:31	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	03/07/14 21:31	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	03/07/14 21:31	
2-Butanone (MEK)	3.8 U	10	3.8	1	03/07/14 21:31	
2-Hexanone	2.2 U	25	2.2	1	03/07/14 21:31	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	03/07/14 21:31	
Acetone	5.6 U	50	5.6	1	03/07/14 21:31	
Acrylonitrile	1.5 U	10	1.5	1	03/07/14 21:31	
Benzene	0.21 U	1.0	0.21	1	03/07/14 21:31	
Bromochloromethane	0.27 U	5.0	0.27	1	03/07/14 21:31	
Bromodichloromethane	0.22 U	1.0	0.22	1	03/07/14 21:31	
Bromoform	0.42 U	2.0	0.42	1	03/07/14 21:31	
Bromomethane	0.23 U	5.0	0.23	1	03/07/14 21:31	
Carbon Disulfide	2.4 U	10	2.4	1	03/07/14 21:31	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	03/07/14 21:31	
Chlorobenzene	0.16 U	1.0	0.16	1	03/07/14 21:31	
Chloroethane	0.52 U	5.0	0.52	1	03/07/14 21:31	
Chloroform	0.35 U	1.0	0.35	1	03/07/14 21:31	
Chloromethane	0.36 U	1.0	0.36	1	03/07/14 21:31	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	03/07/14 21:31	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	03/07/14 21:31	
Dibromochloromethane	0.21 U	1.0	0.21	1	03/07/14 21:31	
Dibromomethane	0.36 U	5.0	0.36	1	03/07/14 21:31	
Ethylbenzene	0.21 U	1.0	0.21	1	03/07/14 21:31	
Iodomethane	2.7 U	5.0	2.7	1	03/07/14 21:31	
m,p-Xylenes	0.31 U	2.0	0.31	1	03/07/14 21:31	
Methylene Chloride	0.21 U	5.0	0.21	1	03/07/14 21:31	
o-Xylene	0.14 U	1.0	0.14	1	03/07/14 21:31	
Styrene	0.29 U	1.0	0.29	1	03/07/14 21:31	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	03/07/14 21:31	
Toluene	0.19 U	1.0	0.19	1	03/07/14 21:31	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	03/07/14 21:31	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	03/07/14 21:31	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Sample Name: CW-1A
Lab Code: J1401341-001

Service Request: J1401341
Date Collected: 02/24/14 13:20
Date Received: 02/25/14 09:05

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	03/07/14 21:31	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	03/07/14 21:31	
Trichlorofluoromethane	0.24 U	20	0.24	1	03/07/14 21:31	
Vinyl Acetate	1.9 U	10	1.9	1	03/07/14 21:31	
Vinyl Chloride	0.36 U	1.0	0.36	1	03/07/14 21:31	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	102	72 - 121	03/07/14 21:31	
4-Bromofluorobenzene	96	86 - 113	03/07/14 21:31	
Dibromofluoromethane	94	86 - 112	03/07/14 21:31	
Toluene-d8	102	88 - 115	03/07/14 21:31	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Sample Name: CW-1A
Lab Code: J1401341-001

Service Request: J1401341
Date Collected: 02/24/14 13:20
Date Received: 02/25/14 09:05

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	03/06/14 19:10	3/6/14	
1,2-Dibromoethane (EDB)	0.00700 U	0.0195	0.00700	1	03/06/14 19:10	3/6/14	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	92	70 - 130	03/06/14 19:10	

ALS Group USA, Corp.
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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water
Sample Name: CW-1A
Lab Code: J1401341-001

Service Request: J1401341
Date Collected: 02/24/14 13:20
Date Received: 02/25/14 09:05

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	02/28/14 20:54	02/27/14	
Arsenic, Total Recoverable	6020	166	ug/L	1.0	0.5	1	02/28/14 20:54	02/27/14	
Barium, Total Recoverable	6020	46.4	ug/L	2.0	0.5	1	02/28/14 20:54	02/27/14	
Beryllium, Total Recoverable	6020	0.06 I	ug/L	0.50	0.04	1	02/28/14 20:54	02/27/14	
Cadmium, Total Recoverable	6020	0.10 U	ug/L	0.40	0.10	1	02/28/14 20:54	02/27/14	
Chromium, Total Recoverable	6020	6.6	ug/L	1.0	0.2	1	02/28/14 20:54	02/27/14	
Cobalt, Total Recoverable	6020	2.2	ug/L	1.0	0.03	1	02/28/14 20:54	02/27/14	
Copper, Total Recoverable	6020	0.3 U	ug/L	1.0	0.3	1	02/28/14 20:54	02/27/14	
Iron, Total Recoverable	6010B	9870	ug/L	100	3	1	02/26/14 21:20	02/26/14	
Lead, Total Recoverable	6020	0.16 I	ug/L	0.50	0.12	1	02/28/14 20:54	02/27/14	
Mercury, Total	7470A	0.02 U	ug/L	0.10	0.02	1	02/27/14 15:48	02/26/14	
Nickel, Total Recoverable	6020	1.0 I	ug/L	2.0	0.5	1	02/28/14 20:54	02/27/14	
Selenium, Total Recoverable	6020	1.1 U	ug/L	2.0	1.1	1	02/28/14 20:54	02/27/14	
Silver, Total Recoverable	6020	0.06 U	ug/L	0.50	0.06	1	02/28/14 20:54	02/27/14	
Sodium, Total Recoverable	6010B	17.1	mg/L	0.50	0.03	1	02/26/14 21:20	02/26/14	
Thallium, Total Recoverable	6020	0.05 U	ug/L	0.20	0.05	1	02/28/14 20:54	02/27/14	
Vanadium, Total Recoverable	6020	3.5	ug/L	2.0	0.3	1	02/28/14 20:54	02/27/14	
Zinc, Total Recoverable	6020	4.9 I	ug/L	5.0	1.6	1	02/28/14 20:54	02/27/14	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Sample Name: CW-1A
Lab Code: J1401341-001

Service Request: J1401341
Date Collected: 02/24/14 13:20
Date Received: 02/25/14 09:05

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Ammonia as Nitrogen	350.1	0.783	mg/L	0.010	0.007	1	02/25/14 14:33	
Chloride	300.0	21.2	mg/L	0.50	0.11	1	02/26/14 01:12	
Nitrate as Nitrogen	300.0	0.03 U	mg/L	0.20	0.03	1	02/26/14 01:12	
Solids, Total Dissolved	SM 2540 C	268	mg/L	10	10	1	02/26/14 15:38	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water
Sample Name: CW-2A
Lab Code: J1401341-002

Service Request: J1401341
Date Collected: 02/24/14 12:35
Date Received: 02/25/14 09:05

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	03/07/14 21:53	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	03/07/14 21:53	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	03/07/14 21:53	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	03/07/14 21:53	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	03/07/14 21:53	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	03/07/14 21:53	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	03/07/14 21:53	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	03/07/14 21:53	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	03/07/14 21:53	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	03/07/14 21:53	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	03/07/14 21:53	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	03/07/14 21:53	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	03/07/14 21:53	
2-Butanone (MEK)	3.8 U	10	3.8	1	03/07/14 21:53	
2-Hexanone	2.2 U	25	2.2	1	03/07/14 21:53	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	03/07/14 21:53	
Acetone	5.6 U	50	5.6	1	03/07/14 21:53	
Acrylonitrile	1.5 U	10	1.5	1	03/07/14 21:53	
Benzene	0.21 U	1.0	0.21	1	03/07/14 21:53	
Bromochloromethane	0.27 U	5.0	0.27	1	03/07/14 21:53	
Bromodichloromethane	0.22 U	1.0	0.22	1	03/07/14 21:53	
Bromoform	0.42 U	2.0	0.42	1	03/07/14 21:53	
Bromomethane	0.23 U	5.0	0.23	1	03/07/14 21:53	
Carbon Disulfide	2.4 U	10	2.4	1	03/07/14 21:53	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	03/07/14 21:53	
Chlorobenzene	0.16 U	1.0	0.16	1	03/07/14 21:53	
Chloroethane	0.52 U	5.0	0.52	1	03/07/14 21:53	
Chloroform	0.35 U	1.0	0.35	1	03/07/14 21:53	
Chloromethane	0.36 U	1.0	0.36	1	03/07/14 21:53	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	03/07/14 21:53	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	03/07/14 21:53	
Dibromochloromethane	0.21 U	1.0	0.21	1	03/07/14 21:53	
Dibromomethane	0.36 U	5.0	0.36	1	03/07/14 21:53	
Ethylbenzene	0.21 U	1.0	0.21	1	03/07/14 21:53	
Iodomethane	2.7 U	5.0	2.7	1	03/07/14 21:53	
m,p-Xylenes	0.31 U	2.0	0.31	1	03/07/14 21:53	
Methylene Chloride	0.21 U	5.0	0.21	1	03/07/14 21:53	
o-Xylene	0.14 U	1.0	0.14	1	03/07/14 21:53	
Styrene	0.29 U	1.0	0.29	1	03/07/14 21:53	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	03/07/14 21:53	
Toluene	0.19 U	1.0	0.19	1	03/07/14 21:53	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	03/07/14 21:53	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	03/07/14 21:53	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Sample Name: CW-2A
Lab Code: J1401341-002

Service Request: J1401341
Date Collected: 02/24/14 12:35
Date Received: 02/25/14 09:05

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	03/07/14 21:53	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	03/07/14 21:53	
Trichlorofluoromethane	0.24 U	20	0.24	1	03/07/14 21:53	
Vinyl Acetate	1.9 U	10	1.9	1	03/07/14 21:53	
Vinyl Chloride	0.36 U	1.0	0.36	1	03/07/14 21:53	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	102	72 - 121	03/07/14 21:53	
4-Bromofluorobenzene	95	86 - 113	03/07/14 21:53	
Dibromofluoromethane	96	86 - 112	03/07/14 21:53	
Toluene-d8	102	88 - 115	03/07/14 21:53	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Sample Name: CW-2A
Lab Code: J1401341-002

Service Request: J1401341
Date Collected: 02/24/14 12:35
Date Received: 02/25/14 09:05

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	0.0199	0.00700	1	03/06/14 19:31	3/6/14	
1,2-Dibromoethane (EDB)	0.00700 U	0.0199	0.00700	1	03/06/14 19:31	3/6/14	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	99	70 - 130	03/06/14 19:31	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water
Sample Name: CW-2A
Lab Code: J1401341-002

Service Request: J1401341
Date Collected: 02/24/14 12:35
Date Received: 02/25/14 09:05

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	02/28/14 20:59	02/27/14	
Arsenic, Total Recoverable	6020	2.2	ug/L	1.0	0.5	1	02/28/14 20:59	02/27/14	
Barium, Total Recoverable	6020	54.1	ug/L	2.0	0.5	1	02/28/14 20:59	02/27/14	
Beryllium, Total Recoverable	6020	0.38 I	ug/L	0.50	0.04	1	02/28/14 20:59	02/27/14	
Cadmium, Total Recoverable	6020	0.10 U	ug/L	0.40	0.10	1	02/28/14 20:59	02/27/14	
Chromium, Total Recoverable	6020	1.9	ug/L	1.0	0.2	1	02/28/14 20:59	02/27/14	
Cobalt, Total Recoverable	6020	1.8	ug/L	1.0	0.03	1	02/28/14 20:59	02/27/14	
Copper, Total Recoverable	6020	0.4 I	ug/L	1.0	0.3	1	02/28/14 20:59	02/27/14	
Iron, Total Recoverable	6010B	4050	ug/L	100	3	1	02/26/14 21:24	02/26/14	
Lead, Total Recoverable	6020	0.12 U	ug/L	0.50	0.12	1	02/28/14 20:59	02/27/14	
Mercury, Total	7470A	0.02 U	ug/L	0.10	0.02	1	02/27/14 15:49	02/26/14	
Nickel, Total Recoverable	6020	2.9	ug/L	2.0	0.5	1	02/28/14 20:59	02/27/14	
Selenium, Total Recoverable	6020	1.1 U	ug/L	2.0	1.1	1	02/28/14 20:59	02/27/14	
Silver, Total Recoverable	6020	0.06 U	ug/L	0.50	0.06	1	02/28/14 20:59	02/27/14	
Sodium, Total Recoverable	6010B	59.4	mg/L	0.50	0.03	1	02/26/14 21:24	02/26/14	
Thallium, Total Recoverable	6020	0.05 U	ug/L	0.20	0.05	1	02/28/14 20:59	02/27/14	
Vanadium, Total Recoverable	6020	8.6	ug/L	2.0	0.3	1	02/28/14 20:59	02/27/14	
Zinc, Total Recoverable	6020	3.8 I	ug/L	5.0	1.6	1	02/28/14 20:59	02/27/14	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Sample Name: CW-2A
Lab Code: J1401341-002

Service Request: J1401341
Date Collected: 02/24/14 12:35
Date Received: 02/25/14 09:05

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Ammonia as Nitrogen	350.1	6.83	mg/L	0.010	0.007	1	02/25/14 14:33	
Chloride	300.0	92.1	mg/L	0.50	0.11	1	02/26/14 01:28	
Nitrate as Nitrogen	300.0	0.03 U	mg/L	0.20	0.03	1	02/26/14 01:28	
Solids, Total Dissolved	SM 2540 C	952	mg/L	20	20	2	02/26/14 15:38	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water
Sample Name: CW-3A
Lab Code: J1401341-003

Service Request: J1401341
Date Collected: 02/24/14 11:45
Date Received: 02/25/14 09:05

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	03/07/14 22:15	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	03/07/14 22:15	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	03/07/14 22:15	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	03/07/14 22:15	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	03/07/14 22:15	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	03/07/14 22:15	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	03/07/14 22:15	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	03/07/14 22:15	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	03/07/14 22:15	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	03/07/14 22:15	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	03/07/14 22:15	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	03/07/14 22:15	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	03/07/14 22:15	
2-Butanone (MEK)	3.8 U	10	3.8	1	03/07/14 22:15	
2-Hexanone	2.2 U	25	2.2	1	03/07/14 22:15	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	03/07/14 22:15	
Acetone	5.6 U	50	5.6	1	03/07/14 22:15	
Acrylonitrile	1.5 U	10	1.5	1	03/07/14 22:15	
Benzene	0.21 U	1.0	0.21	1	03/07/14 22:15	
Bromochloromethane	0.27 U	5.0	0.27	1	03/07/14 22:15	
Bromodichloromethane	0.22 U	1.0	0.22	1	03/07/14 22:15	
Bromoform	0.42 U	2.0	0.42	1	03/07/14 22:15	
Bromomethane	0.23 U	5.0	0.23	1	03/07/14 22:15	
Carbon Disulfide	2.4 U	10	2.4	1	03/07/14 22:15	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	03/07/14 22:15	
Chlorobenzene	0.16 U	1.0	0.16	1	03/07/14 22:15	
Chloroethane	0.52 U	5.0	0.52	1	03/07/14 22:15	
Chloroform	0.35 U	1.0	0.35	1	03/07/14 22:15	
Chloromethane	0.36 U	1.0	0.36	1	03/07/14 22:15	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	03/07/14 22:15	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	03/07/14 22:15	
Dibromochloromethane	0.21 U	1.0	0.21	1	03/07/14 22:15	
Dibromomethane	0.36 U	5.0	0.36	1	03/07/14 22:15	
Ethylbenzene	0.21 U	1.0	0.21	1	03/07/14 22:15	
Iodomethane	2.7 U	5.0	2.7	1	03/07/14 22:15	
m,p-Xylenes	0.31 U	2.0	0.31	1	03/07/14 22:15	
Methylene Chloride	0.21 U	5.0	0.21	1	03/07/14 22:15	
o-Xylene	0.14 U	1.0	0.14	1	03/07/14 22:15	
Styrene	0.29 U	1.0	0.29	1	03/07/14 22:15	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	03/07/14 22:15	
Toluene	0.19 U	1.0	0.19	1	03/07/14 22:15	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	03/07/14 22:15	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	03/07/14 22:15	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Sample Name: CW-3A
Lab Code: J1401341-003

Service Request: J1401341
Date Collected: 02/24/14 11:45
Date Received: 02/25/14 09:05

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	03/07/14 22:15	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	03/07/14 22:15	
Trichlorofluoromethane	0.24 U	20	0.24	1	03/07/14 22:15	
Vinyl Acetate	1.9 U	10	1.9	1	03/07/14 22:15	
Vinyl Chloride	0.36 U	1.0	0.36	1	03/07/14 22:15	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	102	72 - 121	03/07/14 22:15	
4-Bromofluorobenzene	95	86 - 113	03/07/14 22:15	
Dibromofluoromethane	96	86 - 112	03/07/14 22:15	
Toluene-d8	101	88 - 115	03/07/14 22:15	

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Analytical Report

Client: Waste Services of Florida, Inc. **Service Request:** J1401341
Project: JED SWDF Compliance Wells **Date Collected:** 02/24/14 11:45
Sample Matrix: Water **Date Received:** 02/25/14 09:05

Sample Name: CW-3A **Units:** ug/L
Lab Code: J1401341-003 **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)	0.0356 U	0.101	0.0356	5	03/06/14 20:35	3/6/14	
1,2-Dibromoethane (EDB)	0.0356 U	0.101	0.0356	5	03/06/14 20:35	3/6/14	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	102	70 - 130	03/06/14 20:35	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water
Sample Name: CW-3A
Lab Code: J1401341-003

Service Request: J1401341
Date Collected: 02/24/14 11:45
Date Received: 02/25/14 09:05

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	02/28/14 21:04	02/27/14	
Arsenic, Total Recoverable	6020	2.0	ug/L	1.0	0.5	1	02/28/14 21:04	02/27/14	
Barium, Total Recoverable	6020	108	ug/L	2.0	0.5	1	02/28/14 21:04	02/27/14	
Beryllium, Total Recoverable	6020	0.67	ug/L	0.50	0.04	1	02/28/14 21:04	02/27/14	
Cadmium, Total Recoverable	6020	0.10 U	ug/L	0.40	0.10	1	02/28/14 21:04	02/27/14	
Chromium, Total Recoverable	6020	8.3	ug/L	1.0	0.2	1	02/28/14 21:04	02/27/14	
Cobalt, Total Recoverable	6020	13.0	ug/L	1.0	0.03	1	02/28/14 21:04	02/27/14	
Copper, Total Recoverable	6020	0.4 I	ug/L	1.0	0.3	1	02/28/14 21:04	02/27/14	
Iron, Total Recoverable	6010B	115000	ug/L	100	3	1	02/26/14 21:28	02/26/14	
Lead, Total Recoverable	6020	0.12 U	ug/L	0.50	0.12	1	02/28/14 21:04	02/27/14	
Mercury, Total	7470A	0.02 U	ug/L	0.10	0.02	1	02/27/14 15:50	02/26/14	
Nickel, Total Recoverable	6020	2.1	ug/L	2.0	0.5	1	02/28/14 21:04	02/27/14	
Selenium, Total Recoverable	6020	1.1 U	ug/L	2.0	1.1	1	02/28/14 21:04	02/27/14	
Silver, Total Recoverable	6020	0.06 U	ug/L	0.50	0.06	1	02/28/14 21:04	02/27/14	
Sodium, Total Recoverable	6010B	68.5	mg/L	0.50	0.03	1	02/26/14 21:28	02/26/14	
Thallium, Total Recoverable	6020	0.05 U	ug/L	0.20	0.05	1	02/28/14 21:04	02/27/14	
Vanadium, Total Recoverable	6020	11.3	ug/L	2.0	0.3	1	02/28/14 21:04	02/27/14	
Zinc, Total Recoverable	6020	6.5	ug/L	5.0	1.6	1	02/28/14 21:04	02/27/14	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Sample Name: CW-3A
Lab Code: J1401341-003

Service Request: J1401341
Date Collected: 02/24/14 11:45
Date Received: 02/25/14 09:05

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Ammonia as Nitrogen	350.1	8.17	mg/L	0.010	0.007	1	02/25/14 14:34	
Chloride	300.0	63.0	mg/L	0.50	0.11	1	02/26/14 11:33	
Nitrate as Nitrogen	300.0	0.03 U	mg/L	0.20	0.03	1	02/26/14 11:33	
Solids, Total Dissolved	SM 2540 C	1230	mg/L	20	20	2	02/26/14 15:38	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water
Sample Name: Trip Blank
Lab Code: J1401341-004

Service Request: J1401341
Date Collected: 02/24/14 00:00
Date Received: 02/25/14 09:05

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	03/07/14 16:14	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	03/07/14 16:14	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	03/07/14 16:14	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	03/07/14 16:14	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	03/07/14 16:14	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	03/07/14 16:14	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	03/07/14 16:14	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	03/07/14 16:14	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	03/07/14 16:14	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	03/07/14 16:14	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	03/07/14 16:14	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	03/07/14 16:14	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	03/07/14 16:14	
2-Butanone (MEK)	3.8 U	10	3.8	1	03/07/14 16:14	
2-Hexanone	2.2 U	25	2.2	1	03/07/14 16:14	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	03/07/14 16:14	
Acetone	5.6 U	50	5.6	1	03/07/14 16:14	
Acrylonitrile	1.5 U	10	1.5	1	03/07/14 16:14	
Benzene	0.21 U	1.0	0.21	1	03/07/14 16:14	
Bromochloromethane	0.27 U	5.0	0.27	1	03/07/14 16:14	
Bromodichloromethane	0.22 U	1.0	0.22	1	03/07/14 16:14	
Bromoform	0.42 U	2.0	0.42	1	03/07/14 16:14	
Bromomethane	0.23 U	5.0	0.23	1	03/07/14 16:14	
Carbon Disulfide	2.4 U	10	2.4	1	03/07/14 16:14	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	03/07/14 16:14	
Chlorobenzene	0.16 U	1.0	0.16	1	03/07/14 16:14	
Chloroethane	0.52 U	5.0	0.52	1	03/07/14 16:14	
Chloroform	0.35 U	1.0	0.35	1	03/07/14 16:14	
Chloromethane	0.36 U	1.0	0.36	1	03/07/14 16:14	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	03/07/14 16:14	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	03/07/14 16:14	
Dibromochloromethane	0.21 U	1.0	0.21	1	03/07/14 16:14	
Dibromomethane	0.36 U	5.0	0.36	1	03/07/14 16:14	
Ethylbenzene	0.21 U	1.0	0.21	1	03/07/14 16:14	
Iodomethane	2.7 U	5.0	2.7	1	03/07/14 16:14	
m,p-Xylenes	0.31 U	2.0	0.31	1	03/07/14 16:14	
Methylene Chloride	0.23 IV	5.0	0.21	1	03/07/14 16:14	
o-Xylene	0.14 U	1.0	0.14	1	03/07/14 16:14	
Styrene	0.29 U	1.0	0.29	1	03/07/14 16:14	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	03/07/14 16:14	
Toluene	0.19 U	1.0	0.19	1	03/07/14 16:14	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	03/07/14 16:14	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	03/07/14 16:14	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Sample Name: Trip Blank
Lab Code: J1401341-004

Service Request: J1401341
Date Collected: 02/24/14 00:00
Date Received: 02/25/14 09:05

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	03/07/14 16:14	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	03/07/14 16:14	
Trichlorofluoromethane	0.24 U	20	0.24	1	03/07/14 16:14	
Vinyl Acetate	1.9 U	10	1.9	1	03/07/14 16:14	
Vinyl Chloride	0.36 U	1.0	0.36	1	03/07/14 16:14	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	102	72 - 121	03/07/14 16:14	
4-Bromofluorobenzene	94	86 - 113	03/07/14 16:14	
Dibromofluoromethane	96	86 - 112	03/07/14 16:14	
Toluene-d8	102	88 - 115	03/07/14 16:14	

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Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: JQ1401697-03

Service Request: J1401341
Date Collected: NA
Date Received: NA
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	03/07/14 13:11	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	03/07/14 13:11	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	03/07/14 13:11	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	03/07/14 13:11	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	03/07/14 13:11	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	03/07/14 13:11	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	03/07/14 13:11	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	03/07/14 13:11	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	03/07/14 13:11	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	03/07/14 13:11	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	03/07/14 13:11	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	03/07/14 13:11	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	03/07/14 13:11	
2-Butanone (MEK)	3.8 U	10	3.8	1	03/07/14 13:11	
2-Hexanone	2.2 U	25	2.2	1	03/07/14 13:11	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	03/07/14 13:11	
Acetone	5.6 U	50	5.6	1	03/07/14 13:11	
Acrylonitrile	1.5 U	10	1.5	1	03/07/14 13:11	
Benzene	0.21 U	1.0	0.21	1	03/07/14 13:11	
Bromochloromethane	0.27 U	5.0	0.27	1	03/07/14 13:11	
Bromodichloromethane	0.22 U	1.0	0.22	1	03/07/14 13:11	
Bromoform	0.42 U	2.0	0.42	1	03/07/14 13:11	
Bromomethane	0.23 U	5.0	0.23	1	03/07/14 13:11	
Carbon Disulfide	2.4 U	10	2.4	1	03/07/14 13:11	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	03/07/14 13:11	
Chlorobenzene	0.16 U	1.0	0.16	1	03/07/14 13:11	
Chloroethane	0.52 U	5.0	0.52	1	03/07/14 13:11	
Chloroform	0.35 U	1.0	0.35	1	03/07/14 13:11	
Chloromethane	0.36 U	1.0	0.36	1	03/07/14 13:11	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	03/07/14 13:11	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	03/07/14 13:11	
Dibromochloromethane	0.21 U	1.0	0.21	1	03/07/14 13:11	
Dibromomethane	0.36 U	5.0	0.36	1	03/07/14 13:11	
Ethylbenzene	0.21 U	1.0	0.21	1	03/07/14 13:11	
Iodomethane	2.7 U	5.0	2.7	1	03/07/14 13:11	
m,p-Xylenes	0.31 U	2.0	0.31	1	03/07/14 13:11	
Methylene Chloride	0.30 I	5.0	0.21	1	03/07/14 13:11	
o-Xylene	0.14 U	1.0	0.14	1	03/07/14 13:11	
Styrene	0.29 U	1.0	0.29	1	03/07/14 13:11	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	03/07/14 13:11	
Toluene	0.19 U	1.0	0.19	1	03/07/14 13:11	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	03/07/14 13:11	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	03/07/14 13:11	

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Analytical Report

Client: Waste Services of Florida, Inc. **Service Request:** J1401341
Project: JED SWDF Compliance Wells **Date Collected:** NA
Sample Matrix: Water **Date Received:** NA

Sample Name: Method Blank **Units:** ug/L
Lab Code: JQ1401697-03 **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	03/07/14 13:11	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	03/07/14 13:11	
Trichlorofluoromethane	0.24 U	20	0.24	1	03/07/14 13:11	
Vinyl Acetate	1.9 U	10	1.9	1	03/07/14 13:11	
Vinyl Chloride	0.36 U	1.0	0.36	1	03/07/14 13:11	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	102	72 - 121	03/07/14 13:11	
4-Bromofluorobenzene	96	86 - 113	03/07/14 13:11	
Dibromofluoromethane	96	86 - 112	03/07/14 13:11	
Toluene-d8	101	88 - 115	03/07/14 13:11	

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dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc. **Service Request:** J1401341
Project: JED SWDF Compliance Wells **Date Collected:** NA
Sample Matrix: Water **Date Received:** NA

Sample Name: Method Blank **Units:** ug/L
Lab Code: JQ1401674-01 **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	03/06/14 18:27	3/6/14	
1,2-Dibromoethane (EDB)	0.00700 U	0.0200	0.00700	1	03/06/14 18:27	3/6/14	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	82	70 - 130	03/06/14 18:27	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: J1401341-MB

Service Request: J1401341
Date Collected: NA
Date Received: NA

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	02/28/14 18:53	02/27/14	
Arsenic, Total Recoverable	6020	0.5 U	ug/L	1.0	0.5	1	02/28/14 18:53	02/27/14	
Barium, Total Recoverable	6020	0.5 U	ug/L	2.0	0.5	1	02/28/14 18:53	02/27/14	
Beryllium, Total Recoverable	6020	0.04 U	ug/L	0.50	0.04	1	02/28/14 18:53	02/27/14	
Cadmium, Total Recoverable	6020	0.10 U	ug/L	0.40	0.10	1	02/28/14 18:53	02/27/14	
Chromium, Total Recoverable	6020	0.2 U	ug/L	1.0	0.2	1	02/28/14 18:53	02/27/14	
Cobalt, Total Recoverable	6020	0.03 U	ug/L	1.0	0.03	1	02/28/14 18:53	02/27/14	
Copper, Total Recoverable	6020	0.3 U	ug/L	1.0	0.3	1	02/28/14 18:53	02/27/14	
Iron, Total Recoverable	6010B	50 I	ug/L	100	3	1	02/26/14 20:26	02/26/14	
Lead, Total Recoverable	6020	0.12 U	ug/L	0.50	0.12	1	02/28/14 18:53	02/27/14	
Mercury, Total	7470A	0.02 U	ug/L	0.10	0.02	1	02/27/14 15:36	02/26/14	
Nickel, Total Recoverable	6020	0.5 U	ug/L	2.0	0.5	1	02/28/14 18:53	02/27/14	
Selenium, Total Recoverable	6020	1.1 U	ug/L	2.0	1.1	1	02/28/14 18:53	02/27/14	
Silver, Total Recoverable	6020	0.06 U	ug/L	0.50	0.06	1	02/28/14 18:53	02/27/14	
Sodium, Total Recoverable	6010B	0.03 U	mg/L	0.50	0.03	1	02/26/14 20:25	02/26/14	
Thallium, Total Recoverable	6020	0.05 U	ug/L	0.20	0.05	1	02/28/14 18:53	02/27/14	
Vanadium, Total Recoverable	6020	0.3 U	ug/L	2.0	0.3	1	02/28/14 18:53	02/27/14	
Zinc, Total Recoverable	6020	2.7 I	ug/L	5.0	1.6	1	02/28/14 18:53	02/27/14	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: J1401341-MB

Service Request: J1401341
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Ammonia as Nitrogen	350.1	0.007 U	mg/L	0.010	0.007	1	02/25/14 13:31	
Chloride	300.0	0.11 U	mg/L	0.50	0.11	1	02/25/14 21:13	
Nitrate as Nitrogen	300.0	0.03 U	mg/L	0.20	0.03	1	02/25/14 21:13	
Solids, Total Dissolved	SM 2540 C	10 U	mg/L	10	10	1	02/26/14 15:38	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Service Request: J1401341

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	1,2-Dichloroethane-d4	4-Bromofluorobenzene	Dibromofluoromethane
CW-1A	J1401341-001	102	96	94
CW-2A	J1401341-002	102	95	96
CW-3A	J1401341-003	102	95	96
Trip Blank	J1401341-004	102	94	96
Lab Control Sample	JQ1401697-01	102	92	102
Duplicate Lab Control Sample	JQ1401697-02	102	91	102
Method Blank	JQ1401697-03	102	96	96

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Service Request: J1401341

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	Toluene-d8
		88 - 115
CW-1A	J1401341-001	102
CW-2A	J1401341-002	102
CW-3A	J1401341-003	101
Trip Blank	J1401341-004	102
Lab Control Sample	JQ1401697-01	100
Duplicate Lab Control Sample	JQ1401697-02	101
Method Blank	JQ1401697-03	101

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Service Request: J1401341
Date Analyzed: 03/08/14

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Units: ug/L
Basis: NA
Analysis Lot: 382692

Lab Control Sample
JQ1401697-01

Duplicate Lab Control Sample
JQ1401697-02

Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	47.8	50.0	96	47.5	50.0	95	77-118	<1	30
1,1,1-Trichloroethane (TCA)	48.9	50.0	98	48.2	50.0	96	70-122	1	30
1,1,2,2-Tetrachloroethane	45.7	50.0	91	45.5	50.0	91	66-135	<1	30
1,1,2-Trichloroethane	45.1	50.0	90	44.7	50.0	89	75-122	<1	30
1,1-Dichloroethane (1,1-DCA)	50.2	50.0	100	48.7	50.0	97	79-117	3	30
1,1-Dichloroethene (1,1-DCE)	49.5	50.0	99	48.9	50.0	98	72-128	1	30
1,2,3-Trichloropropane	45.0	50.0	90	44.9	50.0	90	70-123	<1	30
1,2-Dibromo-3-chloropropane (DBCP)	38.7	50.0	77	37.7	50.0	75	60-122	3	30
1,2-Dibromoethane (EDB)	48.0	50.0	96	47.6	50.0	95	76-118	<1	30
1,2-Dichlorobenzene	49.5	50.0	99	49.4	50.0	99	81-115	<1	30
1,2-Dichloroethane	50.9	50.0	102	50.0	50.0	100	70-117	2	30
1,2-Dichloropropane	48.8	50.0	98	47.5	50.0	95	79-117	3	30
1,4-Dichlorobenzene	48.5	50.0	97	47.9	50.0	96	82-115	1	30
2-Butanone (MEK)	48.3	50.0	97	47.1	50.0	94	62-138	3	30
2-Hexanone	45.3	50.0	91	44.5	50.0	89	74-127	2	30
4-Methyl-2-pentanone (MIBK)	47.6	50.0	95	47.3	50.0	95	77-120	<1	30
Acetone	51.6	50.0	103	51.5	50.0	103	42-161	<1	30
Acrylonitrile	48.2	50.0	96	47.8	50.0	96	63-132	<1	30
Benzene	47.4	50.0	95	46.6	50.0	93	80-117	2	30
Bromochloromethane	48.9	50.0	98	47.9	50.0	96	78-118	2	30
Bromodichloromethane	48.9	50.0	98	49.3	50.0	99	75-118	<1	30
Bromoform	45.1	50.0	90	44.8	50.0	90	63-121	<1	30
Bromomethane	44.9	50.0	90	44.0	50.0	88	31-153	2	30
Carbon Disulfide	47.8	50.0	96	48.4	50.0	97	72-128	1	30
Carbon Tetrachloride	51.2	50.0	102	50.0	50.0	100	67-124	2	30
Chlorobenzene	47.5	50.0	95	46.9	50.0	94	83-118	1	30
Chloroethane	50.5	50.0	101	47.4	50.0	95	68-132	6	30
Chloroform	49.1	50.0	98	48.2	50.0	96	77-116	2	30
Chloromethane	39.1	50.0	78	39.9	50.0	80	60-128	2	30
cis-1,2-Dichloroethene	49.2	50.0	98	47.7	50.0	95	78-117	3	30
cis-1,3-Dichloropropene	46.1	50.0	92	44.3	50.0	89	80-119	4	30
Dibromochloromethane	47.6	50.0	95	46.5	50.0	93	74-121	2	30
Dibromomethane	51.1	50.0	102	48.7	50.0	97	76-117	5	30
Ethylbenzene	48.2	50.0	96	47.3	50.0	95	82-119	2	30
Iodomethane	50.3	50.0	101	50.6	50.0	101	51-137	<1	30
m,p-Xylenes	92.3	100	92	91.1	100	91	79-122	1	30
Methylene Chloride	49.3	50.0	98	48.1	50.0	96	75-123	2	30
o-Xylene	47.5	50.0	95	47.2	50.0	94	80-119	<1	30
Styrene	47.6	50.0	95	47.4	50.0	95	80-121	<1	30
Tetrachloroethene (PCE)	48.7	50.0	97	48.2	50.0	96	75-126	<1	30
Toluene	47.0	50.0	94	46.5	50.0	93	52-152	1	30

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Service Request: J1401341
Date Analyzed: 03/08/14

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B **Units:** ug/L
 Basis: NA
 Analysis Lot: 382692

Lab Control Sample
JQ1401697-01 **Duplicate Lab Control Sample**
JQ1401697-02

Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	50.0	50.0	100	48.6	50.0	97	75-121	3	30
trans-1,3-Dichloropropene	43.8	50.0	88	42.0	50.0	84	76-118	4	30
trans-1,4-Dichloro-2-butene	40.9	50.0	82	41.5	50.0	83	10-198	1	30
Trichloroethene (TCE)	49.9	50.0	100	49.0	50.0	98	78-122	2	30
Trichlorofluoromethane	49.3	50.0	99	48.1	50.0	96	58-134	3	30
Vinyl Acetate	50.5	50.0	101	49.6	50.0	99	36-169	2	30
Vinyl Chloride	71.8	50.0	144 *	66.5	50.0	133	69-138	8	30

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Service Request: J1401341

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
CW-1A	J1401341-001	92
CW-2A	J1401341-002	99
CW-3A	J1401341-003	102
Method Blank	JQ1401674-01	82
Lab Control Sample	JQ1401674-02	75
CW-2A	JQ1401674-03	64 *
CW-2A	JQ1401674-04	74

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Service Request: J1401341
Date Collected: 02/24/14
Date Received: 02/25/14
Date Analyzed: 03/6/14
Date Extracted: 03/6/14

Duplicate Matrix Spike Summary

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

Sample Name: CW-2A **Units:** ug/L
Lab Code: J1401341-002 **Basis:** NA

Analysis Method: 8011
Prep Method: Method

Matrix Spike
JQ1401674-03

Duplicate Matrix Spike
JQ1401674-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-chloropropane (DBCP)	0.00700 U	0.172	0.245	70	0.166	0.251	66	65-135	4	30
1,2-Dibromoethane (EDB)	0.00700 U	0.160	0.245	65	0.165	0.251	66	65-135	3	30

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. **Service Request:** J1401341
Project: JED SWDF Compliance Wells **Date Analyzed:** 03/06/14
Sample Matrix: Water **Date Extracted:** 03/06/14

Lab Control Sample Summary

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

Lab Control Sample
JQ1401674-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,2-Dibromo-3-chloropropane (DBCP)	0.230	0.250	92	70-130
1,2-Dibromoethane (EDB)	0.223	0.250	89	70-130

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Service Request:J1401341
Date Analyzed:02/26/14 - 02/28/14

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L
Basis:NA

Lab Control Sample
J1401341-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Antimony, Total Recoverable	6020	52.2	50.0	104	80-120
Arsenic, Total Recoverable	6020	51.9	50.0	104	80-120
Barium, Total Recoverable	6020	102	100	102	80-120
Beryllium, Total Recoverable	6020	24.4	25.0	98	80-120
Cadmium, Total Recoverable	6020	19.7	20.0	99	80-120
Chromium, Total Recoverable	6020	52.0	50.0	104	80-120
Cobalt, Total Recoverable	6020	52.0	50.0	104	80-120
Copper, Total Recoverable	6020	53.1	50.0	106	80-120
Iron, Total Recoverable	6010B	5200	5000	104	80-120
Lead, Total Recoverable	6020	25.9	25.0	103	80-120
Mercury, Total	7470A	1.22	1.25	97	80-120
Nickel, Total Recoverable	6020	107	100	107	80-120
Selenium, Total Recoverable	6020	105	100	105	80-120
Silver, Total Recoverable	6020	26.4	25.0	106	80-120
Thallium, Total Recoverable	6020	10.0	10.0	100	80-120
Vanadium, Total Recoverable	6020	106	100	106	80-120
Zinc, Total Recoverable	6020	264	250	106	80-120

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

Service Request:J1401341
Date Analyzed:2/26/14

Lab Control Sample Summary
Inorganic Parameters

Units:mg/L
Basis:NA

Lab Control Sample
J1401341-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Sodium, Total Recoverable	6010B	26.1	25.0	104	80-120

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Waste Services of Florida, Inc.
Project: JED SWDF Compliance Wells
Sample Matrix: Water

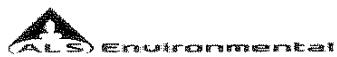
Service Request:J1401341
Date Analyzed:02/25/14 - 02/26/14

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
J1401341-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	0.950	1.00	95	90-110
Chloride	300.0	48.2	50.0	96	90-110
Nitrate as Nitrogen	300.0	5.07	5.00	101	90-110
Solids, Total Dissolved	SM 2540 C	297	300	99	85-115



Cooler Receipt Form

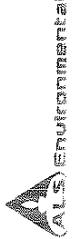
Client:	PWSFL	Service Request #:	51401341
Project:	JEDSWDF Compliance Wells		
Cooler received on	2/25/14	and opened on	2/25/14 by
COURIER:	ALS	UPS	FEDEX
Client	Other	Airbill #8041 4933 0274	
1	Were custody seals on outside of cooler?	<input checked="" type="checkbox"/> Yes	No
	If yes, how many and where?	#: 1	on lid other
2	Were seals intact and signature and date correct?	<input checked="" type="checkbox"/> Yes	No N/A
3	Were custody papers properly filled out?	<input checked="" type="checkbox"/> Yes	No N/A
4	Temperature of cooler(s) upon receipt (Should be > 0°C and < 6°C)	03	
5	Thermometer ID	781	
6	Temperature Blank Present?	<input checked="" type="checkbox"/> Yes	No
7	Were Ice or Ice Packs present	<input checked="" type="checkbox"/> Ice	Ice Packs No
8	Did all bottles arrive in good condition (unbroken, etc....)?	<input checked="" type="checkbox"/> 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....)?	<input checked="" type="checkbox"/> Yes	No N/A
11	Did all bottle labels and tags agree with custody papers?	<input checked="" type="checkbox"/> Yes	No N/A
12	Were the correct bottles used for the tests indicated?	<input checked="" type="checkbox"/> Yes	No N/A
13	Were all of the preserved bottles received with the appropriate preservative?	<input checked="" type="checkbox"/> Yes	No N/A
	HNO3 pH<2 H ₂ SO4 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?	<input checked="" type="checkbox"/> Yes	No N/A
15	Were all VOA vials free of air bubbles? If present, note below	<input checked="" type="checkbox"/> Yes	No N/A
16	Where did the bottles originate?	<input checked="" type="checkbox"/> ALS	Client

Sample ID	Reagent	Lot #	ml added	Initials Date/Time

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

Client approval to run samples if discrepancies noted:

Date:



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

9143 Phillips Highway, Ste 200 • Jacksonville, FL 32256 (904) 739-2277 • 800-695-7222 x06 • FAX (904) 739-2011

SR# J401341
CAS Contract

Project Name JEDSWDF Compliance Walls		Project Number J401341		PAGE <u>1</u> OF <u>1</u>		
Project Manager Mike Kaiser	Email Address mkaiser@uswi.us	ANALYSIS REQUESTED (Include Method Num)				
Company Address PWSFL					Key	
1501 Omni Way St. Cloud FL 34773 Phone# <u>313-9041-673-0446</u> Signature <u>Joe Terry</u>		Preservative 1 0 3 2 0				
FAX#		Number of Containers				REMARKS/ ALTERNATE DESCRIPTION
Samplers Printed Name <u>Joe Terry</u>		SAMPLING	DATE	TIME	MATRIX	
CLIENT SAMPLE ID	LAB ID					
CW-1A		2/24/14	1320	6:00	9 3 3 1 1	
CW-2A			1/23/15	6:00	9 3 3 1 1	
CW-3A			1/16/15	6:00	9 3 3 1 1	
Trip Tank		2/24/14	0000	0442 0	1 1	
See DAPP <input type="checkbox"/>						
SPECIAL INSTRUCTIONS/COMMENTS Cooler ID: 140555 - JED						
SAMPLE RECEIPT CONDITION/COOLER TEMP: 0° 30°C		RECEIVED BY		RELINQUISHED BY		
RELINQUISHED BY		RELINQUISHED BY		RECEIVED BY		
Signature <u>Joe Terry</u>	Signature <u>Mike Moldovan</u>	Signature <u>Mike Moldovan</u>	Signature <u>Mike Moldovan</u>	Signature <u>Mike Moldovan</u>	Signature <u>Mike Moldovan</u>	Signature <u>Mike Moldovan</u>
Printed Name Joe Terry	Printed Name Mike Moldovan	Printed Name Mike Moldovan	Printed Name Mike Moldovan	Printed Name Mike Moldovan	Printed Name Mike Moldovan	Printed Name Mike Moldovan
Firm PWSFL	Firm PLS	Firm PLS	Firm PLS	Firm PLS	Firm PLS	Firm PLS
Date/Time <u>2-21-14 16:45</u>	Date/Time <u>2/25/14 0905</u>	Date/Time <u>2/25/14 0905</u>	Date/Time <u>2/25/14 0905</u>	Date/Time <u>2/25/14 0905</u>	Date/Time <u>2/25/14 0905</u>	Date/Time <u>2/25/14 0905</u>
INVOICE INFORMATION						
REPORT REQUIREMENTS						
RUSH (SURCHARGES APPLY)						
<input checked="" type="checkbox"/> STANDARD						
REQUESTED FAX DATE _____						
REQUESTED REPORT DATE _____						
TURNAROUND REQUIREMENTS						
I. Results Only						
<input checked="" type="checkbox"/> II. Results + QC Summaries (LGS, CLIP, MSMSP as required)						
<input type="checkbox"/> III. Results + QC and Calibration Summaries						
<input type="checkbox"/> IV. Data Validation Report with Raw Data						
<input type="checkbox"/> V. Specialized Forms / Custom Report						
Edata <input type="checkbox"/> Yes <input type="checkbox"/> No						
RECEIVED BY						
RElinquished BY						
See DAPP <input type="checkbox"/>						
SAMPLE RECEIPT CONDITION/COOLER TEMP: 0° 30°C		RECEIVED BY		RELINQUISHED BY		
RELINQUISHED BY		RELINQUISHED BY		RECEIVED BY		
Signature <u>Joe Terry</u>	Signature <u>Mike Moldovan</u>	Signature <u>Mike Moldovan</u>	Signature <u>Mike Moldovan</u>	Signature <u>Mike Moldovan</u>	Signature <u>Mike Moldovan</u>	Signature <u>Mike Moldovan</u>
Printed Name Joe Terry	Printed Name Mike Moldovan	Printed Name Mike Moldovan	Printed Name Mike Moldovan	Printed Name Mike Moldovan	Printed Name Mike Moldovan	Printed Name Mike Moldovan
Firm PWSFL	Firm PLS	Firm PLS	Firm PLS	Firm PLS	Firm PLS	Firm PLS
Date/Time <u>2-21-14 16:45</u>	Date/Time <u>2/25/14 0905</u>	Date/Time <u>2/25/14 0905</u>	Date/Time <u>2/25/14 0905</u>	Date/Time <u>2/25/14 0905</u>	Date/Time <u>2/25/14 0905</u>	Date/Time <u>2/25/14 0905</u>

Form FD 9000-24
GROUNDWATER SAMPLING LOG

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212 SECTION 3)

pH: ± 0.2 units **Temperature:** $\pm 0.2^\circ\text{C}$ **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2\text{ mg/L}$ or $+10\%$ (whichever is greater) **Turbidity:** all readings $< 20\text{ NTU}$; typically $\pm 5\text{ NTU}$ or $\pm 10\%$ (whichever is greater)

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pH: ± 0.2 units **Temperature:** $\pm 0.2^\circ\text{C}$ **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) **Turbidity:** all readings < 20 NTU; optionally $+ 5$ NTU or $+ 10\%$ (whichever is greater)

Revision Date: February 12, 2009

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GROUNDWATER SAMPLING LOG

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2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: + 0.2 units Temperature: + 0.2 °C Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see notes)

optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Dissolved Oxygen: all readings $\geq 20\%$ saturation (see Table PC 2200-2), optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME: J.E.D. SWMF (WACs Facility ID: 89544)				SITE LOCATION: 1501 Omni Way, St. Cloud, Osceola County, Florida, 34773							
WELL NO: CW-34		SAMPLE ID: CW-3A				DATE: February 24, 2014					
PURGING DATA											
WELL DIAMETER (inches): 2.0		TUBING DIAMETER (inches): 0.25		WELL SCREEN INTERVAL DEPTH: 8 feet to 18 feet		STATIC DEPTH TO WATER (feet): 3.71		PURGE PUMP TYPE OR BAILER: peristaltic			
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)											
= (feet - feet) X 0.16 gallons/foot = gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)											
= 0.0 gallons + (0.0026 gallons/foot X 45 feet) + 0.12 gallons = 0.24 gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13		FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13		PURGING INITIATED AT: 1020			PURGING ENDED AT: 1143		TOTAL VOLUME PURGED (gallons): 8.3		
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)
1130	7	7	0.1	4.00	4.60	23.04	1407	3.44	0.4	clear	-3.8
1135	0.5	7.5	0.1	4.00	4.57	23.08	1401	0.98	0	clear	-2.5
1143	0.8	8.3	0.1	4.00	4.60	23.05	1406	0.67	0	clear	-0.6
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88											
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											
SAMPLING DATA											
SAMPLED BY (PRINT) / AFFILIATION: Joe Terry / PWSFL				SAMPLER(S) SIGNATURE(S): Joe Terry				SAMPLING INITIATED AT: 1145		SAMPLING ENDED AT: 1155	
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE: PE				FIELD-FILTERED: Y <input checked="" type="checkbox"/> N		FILTER SIZE: _____ μm Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP No				TUBING No (replaced)				DUPLICATE or EQUIPMENT BLANK: Y <input checked="" type="checkbox"/>			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD		SAMPLE PUMP FLOW RATE (mL per minute)	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
CW-3A	3	CG	40mL	HCL	Prefilled by lab				8260	RFPP	<100
CW-3A	3	CG	40mL	None	None				8011	RFPP	<100
CW-3A	1	PE	500mL	HNO ₃	Prefilled by lab				Metals	APP	400
CW-3A	1	PE	125mL	H ₂ SO ₄	Prefilled by lab				NH ₃	APP	400
CW-3A	1	PE	250mL	None	None				TDS, Cl, NO ₃	APP	400
REMARKS: weather: m-sunny, 78°F, slight S. breeze odor: none											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: + 0.2 units Temperature: + 0.2 °C Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see notes)

optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater). Turbidity: all readings < 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater).

Revision Date: February 12, 2009

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Field Instrument Calibration Record

Site: JED SWF Date: Feb. 23, 2014

Water Quality Instrument Make: YSI Instrument Model Number: 556 Instrument Serial Number: 06A2173AM

Turbidity Instrument Make: LaMotte Instrument Model Number: 2020e Instrument Serial Number: ME12953

Time: 1930

Calibration Standard			Instrument Response	Percent Deviation ⁽¹⁾ or Difference	Allowable Deviation ⁽²⁾	Calibrated? Yes or No	Type of Calibration ⁽³⁾	Calibration Performed By:
Lot No.	Expiration Date	Standard Value						
3AH355	Aug 2015	pH = 4.00	4.00	0	0.2	Y	I	JT
C358930	Feb 7, 2015	pH = 7.00	7.00	0	0.2	Y	I	JT
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C364881	June 2015	Turbidity = 10 NTU	9.95	0.5	10%	Y	I	JT
3AJ929	Oct 2014	Conductivity = 84 µS/cm	85	1.2	5%	Y	C	JT
4AA137	Jan 2015	Conductivity = 500 µS/cm	503	0.6	5%	Y	C	JT
4AA941	Jan 2015	Conductivity = 1,000 µS/cm	1003	0.3	5%	Y	C	JT
	Per Table →	D.O. = 8.66 mg/L @ 22.5°C	8.70	0.04	0.2 mg/l	Y	I	JT

Date: Feb. 25, 2014 Time: 0800

Calibration Standard			Instrument Response	Percent Deviation ⁽¹⁾ or Difference	Allowable Deviation ⁽²⁾	Calibrated? Yes or No	Type of Calibration ⁽³⁾	Calibration Performed By:
Lot No.	Expiration Date	Standard Value						
C359207	Feb 15, 2015	pH = 4.00	4.01	0.01	0.2	Y	C	JT
C358930	Feb 7, 2015	pH = 7.00	7.03	0.03	0.2	Y	C	JT
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C364881	June 2015	Turbidity = 10 NTU	10.13	1.3	10%	Y	C	JT
3AJ929	Oct 2014	Conductivity = 84 µS/cm	84	0	5%	Y	C	JT
4AA137	Jan 2015	Conductivity = 500 µS/cm	504	0.8	5%	Y	C	JT
4AA941	Jan 2015	Conductivity = 1,000 µS/cm	1014	1.4	5%	Y	C	JT
	Per Table →	D.O. = 8.54 mg/L @ 23.4 °C	8.53	0.02	0.2 mg/l	Y	F	JT

Note (1): Percent Deviation = (Standard Value – Instrument Response) ÷ Standard Value × 100

Note (2): Allowable Deviation: pH ± 0.2 of Standard Value; Conductivity ± 5 % of Standard Value; Salinity ± 3 % of Standard Value; DO ± 0.2 mg/L;

Turbidity 0.1-10 NTU ± 10% of Standard Value, 11-40 NTU ± 8% of Standard Value, 41-100 NTU ± 6.5% of Standard Value, >100 NTU ± 5% of Standard Value

Note (3): Initial, Continual, Final



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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PAGE OF

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