January 27, 2013

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
Well Installation and Initial Sampling Report (Q1)
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 well installation and initial sampling report for the three newly installed wells – CW-1A, CW-2A and CW-3A. The wells were installed to address volatile organic compound (VOC) detections in groundwater samples collected from select groundwater monitoring wells at the J.E.D. Solid Waste Management Facility (Facility) located at 1501 Omni Way, St. Cloud, Florida. 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, dated October 31, 2013, outlined the installation procedures for three new temporary delineation wells - CW-1A, CW-2A and CW-3A.

HDR Engineering, Inc.
200 W Forsyth Street
Suite 800
Jacksonville, FL 32202-4321
Phone: (904) 598-8900
Fax: (904) 598-8988
www.hdrinc.com

Well Installation

The three temporary groundwater quality evaluation monitoring wells were installed on November 14th and November 20th, 2013. The well locations are shown in Attachment 1 - Figures. The Site Plan (Figure 1) shows the proposed locations, and the survey (Figure 2) shows the locations as installed. The wells were installed by a Florida Licensed Drilling Contractor (Environmental Drilling) using a drilling rig turning a 4.25 inch ID hollow-stem auger, producing an approximately 8 inch diameter borehole. Each well was installed to 15 feet below ground surface (bgs) and constructed with10 feet of 2 inch diameter flush joint Schedule 40 PVC 0.010 inch slot well screen and approximately 8 feet of flush joint Schedule 40 PVC solid riser (including stick-up). Each well was completed with a 4 inch x 4 inch locking protective casing set into a 2 feet x 2 feet concrete pad. The well construction details and lithological information are included in Attachment 2 – Well Logs and FDEP Well Completion Reports (Form 62-701.900(30).

The wells were installed in accordance with Chapter 62-701.510 (3)(d) FAC and SOP PCS-006 Design, Installation, and Placement of Monitoring Wells (2005). All down-hole tools and supplies were steam cleaned prior to use and between each well installation. An HDR geoscientist observed drilling and well installation activities and recorded the information listed in the well logs and completion reports.

After installation, each monitoring well was developed using a submersible pump to remove fine particles from the screen and filter pack. Turbidity was measured during development until stability was reached, with a target level of less than 20 NTU. After installation & development, the wells were surveyed by a Florida licensed Professional Land Surveyor (Peavey and Associates) to determine the horizontal (latitude/longitude), and vertical (NGVD 1929 or NAVD 1983) locations of each well (Attachment 1 – Figure 2).

Well Sampling and Analysis

Evaluation monitoring requires compliance wells to be sampled quarterly. After installation, the wells were sampled on December 16th 2013 and analyzed by ALS Environmental. The samples were analyzed for parameters required for the initial sampling event (Q1) including parameters listed in Chapter 62-701.510(7)(a) and (c).

Note that the subsequent sampling events (Q2, Q3 and Q4) will require the wells to be sampled and analyzed for the parameters 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)
	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 initial sampling event (Q1) are provided in Attachment 3 – Laboratory and Field Data. The detected parameters have been listed in Table 1 below.

Table 1. Summary of Parameters detected during Lab Analysis

Paramters	Result			MCL	MDL	PQL	Units
	CW-1A	***CW-2A***	***CW-3A***				
Chloride	21.7	76.3	62	250**	0.11	0.5	mg/L
Ammonia as Nitrogen	1.05	**6.72**	**11.1**	2.8***	0.007	0.01	mg/L
Iron, Total Recoverable	**11,900**	**8,070**	**126,000**	300**	3	100	ug/L
Sodium, Total Recoverable	20.4	50.4	65.5	160*	0.03	0.5	mg/L
Arsenic, Total Recoverable	**278**	1 I	2.1	10*	0.5	1	ug/L
Barium, Total Recoverable	55.2	54	173	2000*	0.5	2	ug/L
Beryllium, Total Recoverable	0.15 I	0.54	0.63	4*	0.04	0.5	ug/L
Cadmium, Total Recoverable	0.87	ND	ND	5*	0.1	0.4	ug/L
Cobalt, Total Recoverable	3.2	2.6	12.9	420	0.03	1	ug/L
Chromium, Total Recoverable	11.1	1.5	12.5	100*	0.2	1	ug/L
Copper, Total Recoverable	0.8 I	0.4 I	0.6 I	1000**	0.3	1	ug/L
Nickel, Total Recoverable	6.1	2.5	3.1	100*	0.5	2	ug/L
Lead, Total Recoverable	1.05	ND	2.08	15*	0.12	0.5	ug/L
Selenium, Total Recoverable	2.8	ND	1.8 I	50*	1.1	2	ug/L

Thallium, Total Recoverable	0.05 I	ND	ND	2*	0.05	0.2	ug/L
Vanadium, Total Recoverable	12.3	9.2	15	49***	0.3	2	ug/L
Zinc, Total Recoverable	2.8 I	3.7 I	3.7 I	5000**	1.6	5	ug/L
Mercury, Total	ND	0.03 I	0.05 I	2*	0.02	0.1	ug/L
Toluene	0.23 I	ND	ND	1000**	0.19	1	ug/L
Solids, Total Dissolved	445	**918**	**1190**	500**	10	10	mg/L

Notes:

ND = Not Detected

MDL = Method Detection Limit

PQL = Practical Quantitation Limit

I = The reported value is between the laboratory MDL 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 the initial sampling event with the exception of very low level toluene in CW-1A. The toluene concentration (0.23 I ug/L) was between the MDL and the PQL and well below the SDWS of 1000 ug/L. 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. Both arsenic and TDS levels are typically 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. The reported iron concentration of 126,000 ug/L in CW-3A could possibly be the result of a laboratory error, and this will be verified in upcoming sampling events. Note that turbidity in CW-3A (32 to 35 NTU) was also higher than the other evaluation monitoring wells.

Arsenic was also reported at what appears to be an anomalous level (278 ug/L) in CW-1A. CW-1A was installed at a location west of the landfill to delineate of MW-3A, however MW-3A rarely reports arsenic levels above 2 ug/L. The anomalously high arsenic level in CW-1A could possibly be due to a laboratory error which will be verified in the upcoming sampling events. Another possible source is an electrical power pole near CW-1A that may have been treated with an arsenic compound such as CCA. The indications should become more apparent with the additional data collected during the next three quarters.

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

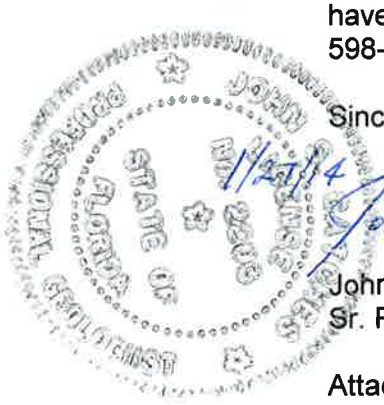
In summary, the three evaluation monitoring wells were installed to delineate VOCs (primarily benzene and vinyl chloride) that have been reported from samples collected in the shallow ("A" Zone) wells. Neither of these VOCs has been detected in the evaluation monitoring wells. Additionally, chloride, which is an excellent conservative indicator of leachate in groundwater, was detected at 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 first of four quarterly reports required for submittal during the evaluation monitoring described in the Work Plan. Based on the results of this first quarterly sampling event, it is recommended to continue as outlined in the Work Plan. The Q2 sampling event will be scheduled in March 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 next three quarterly sampling events (Q2, Q3 and Q4). Moreover we recommend sampling CW-1A for Arsenic and CW-3A for Iron in the next quarterly event (Q2) to verify that the Q1 results were anomalous. We also recommend 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. Attachment 1, Figure 3 includes Figure 1 of the 19th Semi-annual Water Quality Monitoring Report as reference to groundwater flow for this event.

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 the individuals below 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

HDR Engineering, Inc.

200 W Forsyth Street
Suite 800
Jacksonville, FL 32202-4321

Phone: (904) 598-8900
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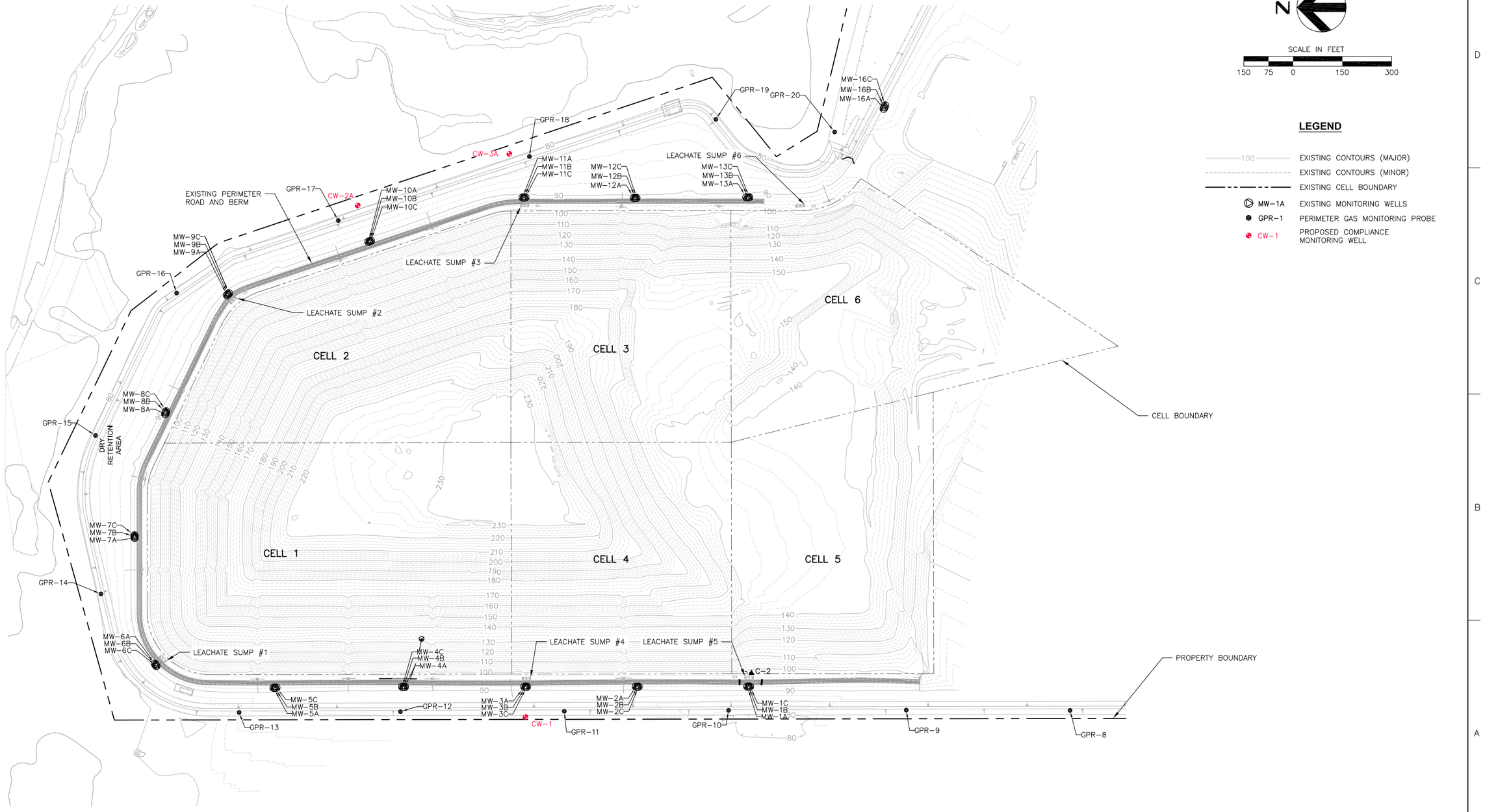


ISSUE	DATE	DESCRIPTION

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

HDR Engineering, Inc.
200 W Forsyth St
Jacksonville, FL 32202

Progressive Waste Solutions

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

0 1" 2"

FILENAME	00C-01.dwg
SCALE	AS SHOWN

SHEET Figure 1

GRAPHIC SCALE

1 inch =200ft.

SURVEYOR's NOTES:

1.) *North and coordinate basis is the East Zone of the Florida State Plane Coordinate System, and are based on NGS Control Station Numbers AJ7660(J496) and verified Pickett & Associates Targets 1 and 2 from Topographic Survey dated 12/13/01 as provided. The published values used for this survey are NAD 83 2007 adjustment*

2.) *Underground improvements, encroachments, foundations and/or utilities were not located as a part of this survey.*

3.) *This map is intended to be displayed at a scale of 1"=200' or smaller.*

4.) *Environmental concerns, if existent, were not assessed as part of this survey.*

5.) *Vertical information depicted on this report are GPS derived elevations based on the National Geodetic Vertical Datum of 1929 (NGVD29) utilizing site control as provided PK13 with an elevation of 92.92 (91.83NAVD88) and OC1406 with an elevation of 80.91 (79.82NAVD88) and converted to North American Vertical Datum 1988 (NAVD88) using vertcon.*

6.) *Symbols shown hereon are not to scale.*

7.) *This is not a boundary survey.*

8.) *This survey was prepared to show the horizontal and vertical location of newly installed compliance monitor wells on site. Image shown hereon is 2010 photography provided by client.*

LEGEND:

CONC. ELEV. — *CONCRETE ELEVATION*

Ⓦ — *WELL*

PSM — *PROFESSIONAL SURVEYOR & MAPPER*

WELLS ID	SURVEY POINT NUMBER	CASING LATITUDE	CASING LONGITUDE	CASING NORTHING	CASING EASTING	TOP OF STEEL CASING ELEVATION NGVD1929	2" PVC MARK ELEVATION NGVD1929	XMARK/ GROUND ELEVATION NGVD1929	TOP OF STEEL CASING ELEVATION NAVD88	TOP 2" PVC ELEVATION NAVD88	GROUND / XMARK ELEVATION NAVD88
CW-1A	90006	28°03'55.76"	-81°06'00.93"	1356526.77	623834.34	84.73	84.53	82.3	83.64	83.44	81.2
X-MARK	90003	28°03'55.76"	-81°06'00.93"	1356526.89	623834.30	-	-	82.43	-	-	81.34
CW-2A	90002	28°04'00.51"	-81°05'43.63"	1357004.41	625383.70	83.03	82.81	80.5	81.94	81.72	79.4
X-MARK	90014	28°04'00.51"	-81°05'43.64"	1357004.61	625383.61	-	-	80.61	-	-	79.52
CW-3A	90013	28°03'56.07"	-81°05'41.93"	1356556.47	625535.80	82.16	81.89	79.8	81.07	80.80	80.8
X-MARK	90010	28°03'56.08"	-81°05'41.93"	1356556.87	625535.61	-	-	79.93	-	-	78.84

Figure 2

NO.	DATE	REVISION

THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

Drawn By: DLP | Party Chief: DLP | Field Book: 1-7 | FILE NAME: 616-jed-wells12-5-2013 CW1A-3A

PEAVEY & ASSOCIATES
SURVEYING AND MAPPING, PA
9399 NORTH LAKE BUFFUM RD
FORT MEADE, FL 33841
PHONE: (863) 738-4990

CLIENT:
Waste Services, Inc.
JED Solid Waste
Management Facility
1501 Omni Way
St. Cloud, Fl 34773

SPECIFIC PURPOSE SURVEY
COMPLIANCE MONITORING WELLS 1A-3A
JED SOILD WASTE MANAGEMENT FACILITY

DEBORAH L. PEAVEY, P.S.M.
FLORIDA REGISTRATION NO. 6345
PEAVEY & ASSOCIATES
SURVEYING & MAPPING PA
LICENSE BUSINESS NO. 7779

12/5/2013
SURVEY DATE

SCALE	DRAWING NO.
1"=200'	251
PROJECT NO.	SHEET
616	1 OF 1

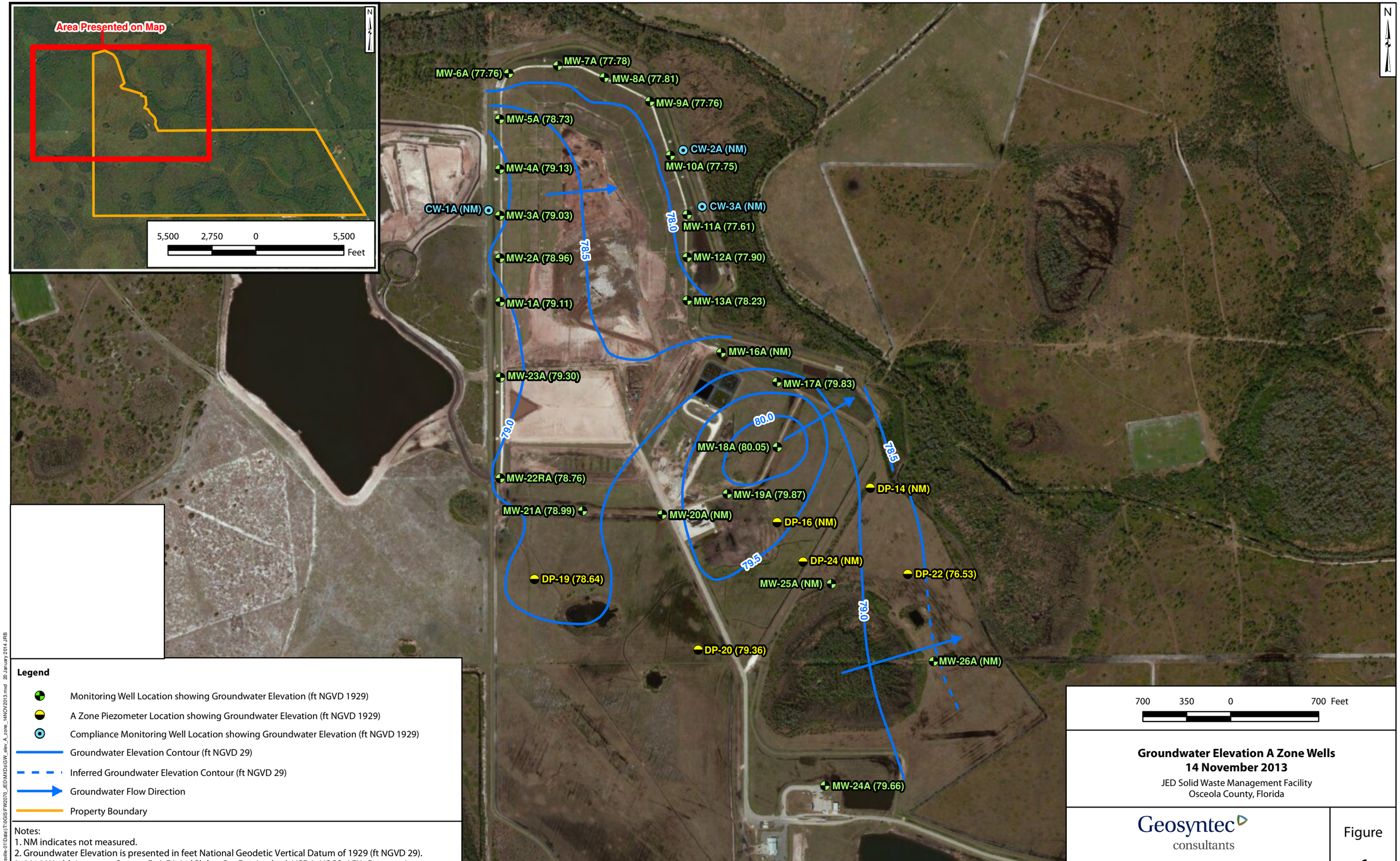

Area Presented on Map
N
5,500 2,750 0 5,500
Feet
MW-6A (77.76)
MW-7A (77.78)
MW-8A (77.81)
MW-9A (77.76)
MW-5A (78.73)
CW-2A (NM)
MW-10A (77.75)
MW-4A (79.13)
CW-1A (NM)
MW-3A (79.03)
CW-3A (NM)
MW-11A (77.61)
78.0
78.5
MW-2A (78.96)
MW-12A (77.90)
MW-1A (79.11)
MW-13A (78.23)
MW-16A (NM)
MW-23A (79.30)
MW-17A (79.83)
80.0
MW-18A (80.05)
79.0
78.5
MW-22RA (78.76)
DP-14 (NM)
MW-19A (79.87)
MW-21A (78.99)
MW-20A (NM)
DP-16 (NM)
79.5
DP-24 (NM)
DP-22 (76.53)
DP-19 (78.64)
MW-25A (NM)
79.0
DP-20 (79.36)
MW-26A (NM)
MW-24A (79.66)
Legend
Monitoring Well Location showing Groundwater Elevation (ft NGVD 1929)
A Zone Piezometer Location showing Groundwater Elevation (ft NGVD 1929)
Compliance Monitoring Well Location showing Groundwater Elevation (ft NGVD 1929)
Groundwater Elevation Contour (ft NGVD 29)
Inferred Groundwater Elevation Contour (ft NGVD 29)
Groundwater Flow Direction
Property Boundary
Notes:
1. NM indicates not measured.
2. Groundwater Elevation is presented in feet National Geodetic Vertical Datum of 1929 (ft NGVD 29).
3. 2010 World_Imagery - Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community.
700 350 0 700 Feet
Groundwater Elevation A Zone Wells
14 November 2013
JED Solid Waste Management Facility
Osceola County, Florida
Geosyntec consultants
Figure 1
Clearwater, FL
January 2014
Path: (Tlusville-01\Data\TI\GIS\FW2070_JED\MXDs\GW_elev_A_zone_14NOV2013.mxd 20 January 2014 JRB

Figure 3

ATTACHMENT 2

Well Logs and FDEP Well Completion Reports

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(30)
Form Title: Monitoring Well Completion Report
Effective Date: January 6, 2010
Incorporated in Rule 62-701.510(3), F.A.C.

MONITORING WELL COMPLETION REPORT

DATE: 12/12/13

FACILITY NAME: J.E.D. Solid Waste Management Facility

DEP PERMIT NO.: SO49-0199726-022 WACS FACILITY ID NO.: 89544

WACS MONITORING SITE NUM.: 29157 WACS WELL NO.: CW-1A

WELL TYPE: BACKGROUND ☐ DETECTION ☐ COMPLIANCE ☒

LATITUDE: 28° 03' 55.76" LONGITUDE: -81° 06' 0.93"

(see back for LAT / LONG requirements):

Coordinate Accuracy 0.05 ft. Datum NAD 1983 Elevation Datum NGVD 1929

Collection Method RTK and Level Collection Date 12/5/2013

Collector Name Deborah Peavey Collector Affiliation Peavey Surveying

AQUIFER MONITORED: Shallow Surficial

DRILLING METHOD: Hollow Stem Auger (Size: 4.25") DATE INSTALLED: 11/14/13

INSTALLED BY: Environmental Drilling; QC Person - Karamjit Singh (HDR)

BORE HOLE DIAMETER: 8.25" TOTAL DEPTH: 15' (BLS)

CASING TYPE: Schd 40 PVC CASING DIAMETER: 2' CASING LENGTH: 5'

SCREEN TYPE: Schd 40 PVC SCREEN SLOT SIZE: 0.006" SCREEN LENGTH: 10'

SCREEN DIAMETER: 2' SCREEN INTERVAL: 15' TO 5' (BLS)

FILTER PACK TYPE: Quartz Sand FILTER PACK GRAIN SIZE: 30/45

INTERVAL COVERED: 15' TO 3' (BLS)

SEALANT TYPE: Qrtz. Sand 45/65 SEALANT INTERVAL: 3' TO 1' (BLS)

GROUT TYPE: Portland Cement GROUT INTERVAL: 1' TO 0' (BLS)

TOP OF CASING ELEVATION (NGVD): 84.53 ft GROUND SURFACE ELEVATION (NGVD): 82.30 ft

DESCRIBE WELL DEVELOPMENT: Pumped for 20 mins on 11/20. Final Turb. < 20 NTU

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): 79.22 ft

DATE AND TIME MEASURED: 11/20/13 at 3:00 p.m.

REMARKS:

NAME OF PERSON PREPARING REPORT: Karamjit Singh, HDR Engineering Inc., (904) 598 8930

Karamjit.Singh@hdrinc.com

(Name, Organization, Phone No., E-mail)

HDR Engineering, Inc.

Borehole and Well Construction Log

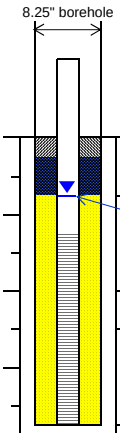
Site Name: JED Solid Waste Management Facility
HDR Project No.: 100-220474
Site Location: St. Cloud, FL

Boring ID: CW-1A
Contractor/Driller: Environmental Drilling
Total Depth Drilled: 15 feet

Date Begin: 11/14/2013
Rig Type: 4.25" Auger
Sample Method/Size: Auger Cuttings by Observation

Date End: 11/14/2013
Method: Hollow Stem Auger with Wooden Plug at Bottom
Cutting Disposal: Spread on site

Temporary Well Construction Log



Date & Time
Begin Drilling: 11/14/2013
End Drilling: 11/14/2013

Construction Details

Well Construction Intervals

Riser: 0 to 5 ft bls
Screen: 5 ft to 15 ft bls
Silt Trap: N/A
Surf. Seal: 0 to 1 ft bls
Seal: 1 ft to 3 ft
Filter Pack: 3 ft to 15 ft
Backfill: N/A

Materials

Riser: 2" Sch. 40 PVC

Screen: 2" Sch 40 PVC - 0.006" slot

Surf. Seal: Neat Type II Portland (approx. 92 lb bag each), 1/5 bag

Seal: 45/65 Quartz Sand (approx. 50 lb bag each), 3/4 bag

Filter Pack: 30/45 Quartz Sand (approx. 50 b bag each), 5 bags

Backfill:

Surface Completion

Protection: 4"x4" Steel Stickup

Pad: 2'x2'x4" premix concrete

Lock: Padlock on locking cover

HDR Personnel

Field Work: Karamjit Singh
Log Draft: Karamjit Singh

Symbols
Concrete:
Grout
Bentonite:
Sand

Notes
' - feet
" - inches
BLS - below land surface
ALS - above land surface
bTOC - Below top of PVC casing
NA - not applicable
HSA - Hollow-stem auger
▼ - water level

Borehole Log

Lithology	Sample Interval	Description	SPT Data ASTM 1596 per 6"	SPT Data ASTM 1596 N
		SAND, fine sand with organics, dark brown, SP		
		SAND, fine sand, light brown, SP		
		Post-development water level at 79.22 NGVD - 11/20/2013		
		SAND, silty, dark brown to black, SM		
		Same but very damp		

Elevations (FT-NGVD 1929)

PVC Top-of-Casing	84.53
Concrete Pad	82.63
Ground Surface	82.30

Horizontal Position (Lat./Long.)
28° 03' 55.76" Latitude
-81° 06' 0.93" Longitude

Notes:

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(30)
Form Title: Monitoring Well Completion Report
Effective Date: January 6, 2010
Incorporated in Rule 62-701.510(3), F.A.C.

MONITORING WELL COMPLETION REPORT

DATE: 12/12/13

FACILITY NAME: J.E.D. Solid Waste Management Facility

DEP PERMIT NO.: SO49-0199726-022 WACS FACILITY ID NO.: 89544

WACS MONITORING SITE NUM.: 29158 WACS WELL NO.: CW-2A

WELL TYPE: BACKGROUND ☐ DETECTION ☐ COMPLIANCE ☒

LATITUDE: 28° 04' 0.51" LONGITUDE: -81° 05' 43.63"

(see back for LAT / LONG requirements):

Coordinate Accuracy 0.05 ft. Datum NAD 1983 Elevation Datum NGVD 1929

Collection Method RTK and Level Collection Date 12/5/2013

Collector Name Deborah Peavey Collector Affiliation Peavey Surveying

AQUIFER MONITORED: Shallow Surficial

DRILLING METHOD: Hollow Stem Auger (Size: 4.25") DATE INSTALLED: 11/20/13

INSTALLED BY: Environmental Drilling; QC Person - Karamjit Singh (HDR)

BORE HOLE DIAMETER: 8.25" TOTAL DEPTH: 15' (BLS)

CASING TYPE: Schd 40 PVC CASING DIAMETER: 2' CASING LENGTH: 5'

SCREEN TYPE: Schd 40 PVC SCREEN SLOT SIZE: 0.010" SCREEN LENGTH: 10'

SCREEN DIAMETER: 2' SCREEN INTERVAL: 15' TO 5' (BLS)

FILTER PACK TYPE: Quartz Sand FILTER PACK GRAIN SIZE: 20/30

INTERVAL COVERED: 15' TO 3' (BLS)

SEALANT TYPE: Qrtz. Sand 45/65 SEALANT INTERVAL: 3' TO 1' (BLS)

GROUT TYPE: Portland Cement GROUT INTERVAL: 1' TO 0' (BLS)

TOP OF CASING ELEVATION (NGVD): 82.81 ft GROUND SURFACE ELEVATION (NGVD): 80.50 ft

DESCRIBE WELL DEVELOPMENT: Pumped for 40 mins on 11/20. Final Turb. < 20 NTU

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): 77.42 ft

DATE AND TIME MEASURED: 11/20/13 at 10:30 a.m.

REMARKS:

NAME OF PERSON PREPARING REPORT: Karamjit Singh, HDR Engineering Inc., (904) 598 8930

Karamjit.Singh@hdrinc.com

(Name, Organization, Phone No., E-mail)

HDR Engineering, Inc.

Borehole and Well Construction Log

Site Name: JED Solid Waste Management Facility
HDR Project No.: 100-220474
Site Location: St. Cloud, FL

Boring ID: CW-2A
Contractor/Driller: Environmental Drilling
Total Depth Drilled: 15 feet

Date Begin: 11/20/2013
Rig Type: 4.25" Auger
Sample Method/Size: Auger Cuttings by Observation

Date End: 11/20/2013
Method: Hollow Stem Auger with Wooden Plug at Bottom
Cutting Disposal: Spread on site

Temporary Well Construction Log

Lithology

Borehole Log

Sample Interval

Description

SPT Data ASTM 1596

per 6" | N

Elevations (FT-NGVD 1929)

PVC Top-of-Casing	82.81
Concrete Pad	80.83
Ground Surface	80.50

Horizontal Position (Lat./Long.)

28° 04' 0.51" Latitude
-81° 05' 43.63" Longitude

Notes:

8.25" borehole

Date & Time
Begin Drilling: 11/20/2013
End Drilling: 11/20/2013

Construction Details

Well Construction Intervals

Riser:	0 to 5 ft bls
Screen:	5 ft to 15 ft bls
Silt Trap:	N/A
Surf. Seal:	0 to 1 ft bls
Seal:	1 ft to 3 ft
Filter Pack:	3 ft to 15 ft
Backfill:	N/A

Materials

Riser: 2" Sch. 40 PVC

Screen: 2" Sch 40 PVC - 0.010" slot

Surf. Seal: Neat Type II Portland (approx. 92 lb bag each), 1/5 bag

Seal: 45/65 Quartz Sand (approx. 50 lb bag each), 1 bag

Filter Pack: 20/30 Quartz Sand (approx. 50 b bag each), 5 bags

Backfill:

Surface Completion

Protection: 4"x4" Steel Stickup

Pad: 2'x2'x4" premix concrete

Lock: Padlock on locking cover

HDR Personnel

Field Work: Karamjit Singh
Log Draft: Karamjit Singh

Symbols
Concrete:
Grout
Bentonite:
Sand

Notes
' - feet
" - inches
BLS - below land surface
ALS - above land surface
bTOC - Below top of PVC casing
NA - not applicable
HSA - Hollow-stem auger
▼ - water level

Depth	Description
0	SAND, fine sand with organics, grey to black, SP
2	SAND, fine sand, dark brown, moist, SP
4	SAND, fine sand with some silt, brown, very moist, SP-SM
6	Post-development water level at 77.42 NGVD - 11/20/2013
8	
10	
12	SAND, silty, brown, SM
14	
16	
18	
20	
22	
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Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(30)
Form Title: Monitoring Well Completion Report
Effective Date: January 6, 2010
Incorporated in Rule 62-701.510(3), F.A.C.

MONITORING WELL COMPLETION REPORT

DATE: 12/12/13

FACILITY NAME: J.E.D. Solid Waste Management Facility

DEP PERMIT NO.: SO49-0199726-022 WACS FACILITY ID NO.: 89544

WACS MONITORING SITE NUM.: 29159 WACS WELL NO.: CW-3A

WELL TYPE: BACKGROUND ☐ DETECTION ☐ COMPLIANCE ☒

LATITUDE: 28° 03' 56.07" LONGITUDE: -81° 05' 41.93"

(see back for LAT / LONG requirements):

Coordinate Accuracy 0.05 ft. Datum NAD 1983 Elevation Datum NGVD 1929

Collection Method RTK and Level Collection Date 12/5/2013

Collector Name Deborah Peavey Collector Affiliation Peavey Surveying

AQUIFER MONITORED: Shallow Surficial

DRILLING METHOD: Hollow Stem Auger (Size: 4.25") DATE INSTALLED: 11/20/13

INSTALLED BY: Environmental Drilling; QC Person - Karamjit Singh (HDR)

BORE HOLE DIAMETER: 8.25" TOTAL DEPTH: 15' (BLS)

CASING TYPE: Schd 40 PVC CASING DIAMETER: 2' CASING LENGTH: 5'

SCREEN TYPE: Schd 40 PVC SCREEN SLOT SIZE: 0.010" SCREEN LENGTH: 10'

SCREEN DIAMETER: 2' SCREEN INTERVAL: 15' TO 5' (BLS)

FILTER PACK TYPE: Quartz Sand FILTER PACK GRAIN SIZE: 20/30

INTERVAL COVERED: 15' TO 3' (BLS)

SEALANT TYPE: Qrtz. Sand 45/65 SEALANT INTERVAL: 3' TO 1' (BLS)

GROUT TYPE: Portland Cement GROUT INTERVAL: 1' TO 0' (BLS)

TOP OF CASING ELEVATION (NGVD): 81.89 ft GROUND SURFACE ELEVATION (NGVD): 79.80 ft

DESCRIBE WELL DEVELOPMENT: Pumped for 25 mins on 11/20. Final Turb. < 20 NTU

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): 76.55 ft

DATE AND TIME MEASURED: 11/20/13 at 12:20 p.m.

REMARKS:

NAME OF PERSON PREPARING REPORT: Karamjit Singh, HDR Engineering Inc., (904) 598 8930

Karamjit.Singh@hdrinc.com

(Name, Organization, Phone No., E-mail)

HDR Engineering, Inc.

Borehole and Well Construction Log

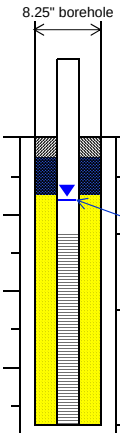
Site Name: JED Solid Waste Management Facility
HDR Project No.: 100-220474
Site Location: St. Cloud, FL

Boring ID: CW-3A
Contractor/Driller: Environmental Drilling
Total Depth Drilled: 15 feet

Date Begin: 11/20/2013
Rig Type: 4.25" Auger
Sample Method/Size: Auger Cuttings by Observation

Date End: 11/20/2013
Method: Hollow Stem Auger with Wooden Plug at Bottom
Cutting Disposal: Spread on site

Temporary Well Construction Log



Date & Time
Begin Drilling: 11/20/2013
End Drilling: 11/20/2013

Construction Details

Well Construction Intervals

Riser: 0 to 5 ft bls
Screen: 5 ft to 15 ft bls
Silt Trap: N/A
Surf. Seal: 0 to 1 ft bls
Seal: 1 ft to 3 ft
Filter Pack: 3 ft to 15 ft
Backfill: N/A

Materials

Riser: 2" Sch. 40 PVC
Screen: 2" Sch 40 PVC - 0.010" slot
Surf. Seal: Neat Type II Portland (approx. 92 lb bag each), 1/5 bag
Seal: 45/65 Quartz Sand (approx. 50 lb bag each), 1 bag
Filter Pack: 20/30 Quartz Sand (approx. 50 b bag each), 5 bags
Backfill:

Surface Completion

Protection: 4"x4" Steel Stickup
Pad: 2'x2'x4" premix concrete
Lock: Padlock on locking cover

HDR Personnel

Field Work: Karamjit Singh
Log Draft: Karamjit Singh

Symbols
Concrete:
Grout
Bentonite:
Sand

Notes
' - feet
" - inches
BLS - below land surface
ALS - above land surface
bTOC - Below top of PVC casing
NA - not applicable
HSA - Hollow-stem auger
▼ - water level

Borehole Log

Lithology | Sample Interval | Description

Elevations (FT-NGVD 1929)
PVC Top-of-Casing 81.89
Concrete Pad 80.13
Ground Surface 79.80

Horizontal Position (Lat./Long.)
28° 03' 56.07" Latitude
-81° 05' 41.93" Longitude

Notes:

SPT Data ASTM 1596

Depth	Description	per 6"	N
0	SAND, fine sand with organics, dark brown to black, SP		
2	SAND, fine sand, light brown to light gray, SP		
4			
6	SAND, fine sand with some silt, brown to light gray, very moist, SP-SM		
8	Post-development water level at 76.55 ft NGVD - 11/20/2013		
10	SAND, silty with some organics, light brown with black streaks, SM		
12			
14			
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ATTACHMENT 3

Laboratory and Field Data

December 31, 2013 Service Request No:J1307670

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 December 17, 2013
For your reference, these analyses have been assigned our service request number **J1307670.**

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

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: J1307670-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Chloride	21.7		0.11	0.50	mg/L	300.0
Ammonia as Nitrogen	1.05		0.007	0.010	mg/L	350.1
Iron, Total Recoverable	11900		3	100	ug/L	6010B
Sodium, Total Recoverable	20.4		0.03	0.50	mg/L	6010B
Arsenic, Total Recoverable	278		0.5	1.0	ug/L	6020
Barium, Total Recoverable	55.2		0.5	2.0	ug/L	6020
Beryllium, Total Recoverable	0.15	I	0.04	0.50	ug/L	6020
Cadmium, Total Recoverable	0.87		0.10	0.40	ug/L	6020
Cobalt, Total Recoverable	3.2		0.03	1.0	ug/L	6020
Chromium, Total Recoverable	11.1		0.2	1.0	ug/L	6020
Copper, Total Recoverable	0.8	I	0.3	1.0	ug/L	6020
Nickel, Total Recoverable	6.1		0.5	2.0	ug/L	6020
Lead, Total Recoverable	1.05		0.12	0.50	ug/L	6020
Selenium, Total Recoverable	2.8		1.1	2.0	ug/L	6020
Thallium, Total Recoverable	0.05	I	0.05	0.20	ug/L	6020
Vanadium, Total Recoverable	12.3		0.3	2.0	ug/L	6020
Zinc, Total Recoverable	2.8	I	1.6	5.0	ug/L	6020
Toluene	0.23	I	0.19	1.0	ug/L	8260B
Solids, Total Dissolved	445		10	10	mg/L	SM 2540 C

CLIENT ID: CW-2A	Lab ID: J1307670-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Chloride	76.3		0.11	0.50	mg/L	300.0
Ammonia as Nitrogen	6.72		0.007	0.010	mg/L	350.1
Iron, Total Recoverable	8070		3	100	ug/L	6010B
Sodium, Total Recoverable	50.4		0.03	0.50	mg/L	6010B
Arsenic, Total Recoverable	1.0	I	0.5	1.0	ug/L	6020
Barium, Total Recoverable	54.0		0.5	2.0	ug/L	6020
Beryllium, Total Recoverable	0.54		0.04	0.50	ug/L	6020
Cobalt, Total Recoverable	2.6		0.03	1.0	ug/L	6020
Chromium, Total Recoverable	1.5		0.2	1.0	ug/L	6020
Copper, Total Recoverable	0.4	I	0.3	1.0	ug/L	6020
Nickel, Total Recoverable	2.5		0.5	2.0	ug/L	6020
Vanadium, Total Recoverable	9.2		0.3	2.0	ug/L	6020
Zinc, Total Recoverable	3.7	I	1.6	5.0	ug/L	6020
Mercury, Total	0.03	I	0.02	0.10	ug/L	7470A
Solids, Total Dissolved	918		20	20	mg/L	SM 2540 C

CLIENT ID: CW-3A	Lab ID: J1307670-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Chloride	62.0		0.11	0.50	mg/L	300.0
Ammonia as Nitrogen	11.1		0.07	0.10	mg/L	350.1

SAMPLE DETECTION SUMMARY

CLIENT ID: CW-3A	Lab ID: J1307670-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Iron, Total Recoverable	126000		3	100	ug/L	6010B
Sodium, Total Recoverable	65.5		0.03	0.50	mg/L	6010B
Arsenic, Total Recoverable	2.1		0.5	1.0	ug/L	6020
Barium, Total Recoverable	173		0.5	2.0	ug/L	6020
Beryllium, Total Recoverable	0.63		0.04	0.50	ug/L	6020
Cobalt, Total Recoverable	12.9		0.03	1.0	ug/L	6020
Chromium, Total Recoverable	12.5		0.2	1.0	ug/L	6020
Copper, Total Recoverable	0.6	I	0.3	1.0	ug/L	6020
Nickel, Total Recoverable	3.1		0.5	2.0	ug/L	6020
Lead, Total Recoverable	2.08		0.12	0.50	ug/L	6020
Selenium, Total Recoverable	1.8	I	1.1	2.0	ug/L	6020
Vanadium, Total Recoverable	15.0		0.3	2.0	ug/L	6020
Zinc, Total Recoverable	3.7	I	1.6	5.0	ug/L	6020
Mercury, Total	0.05	I	0.02	0.10	ug/L	7470A
Solids, Total Dissolved	1190		20	20	mg/L	SM 2540 C

9143 Philips Highway, Suite 200, Jacksonville, FL 32256 | 904-739-2277 | www.caslab.com

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

Service Request: J1307670
Date Received: 12/17/13

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

Three water samples and one trip blank were received for analysis at ALS Environmental on 12/17/2013. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°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: The upper control criterion was exceeded for the following analyte in Laboratory Control Sample (LCS) JQ1309276-01: Vinyl Acetate. 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:

No significant data anomalies were noted with this analysis.

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 _____ Date 12/31/2013

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Florida Department of Health	E82502	6/30/2014
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 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	8/31/2014

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 determininations
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

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. **Service Request:**J1307670
Project: JED SWDF - Compliance Wells

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
J1307670-001	CW-1A	12/16/2013	1220
J1307670-002	CW-2A	12/16/2013	1125
J1307670-003	CW-3A	12/16/2013	1300
J1307670-004	Trip Blank	12/16/2013	0000

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 12:20
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-1A	**Units:**	ug/L
Lab Code:	J1307670-001	**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	12/23/13 14:47	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	12/23/13 14:47	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	12/23/13 14:47	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	12/23/13 14:47	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	12/23/13 14:47	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	12/23/13 14:47	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	12/23/13 14:47	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	12/23/13 14:47	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	12/23/13 14:47	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	12/23/13 14:47	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	12/23/13 14:47	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	12/23/13 14:47	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	12/23/13 14:47	
2-Butanone (MEK)	3.8 U	10	3.8	1	12/23/13 14:47	
2-Hexanone	2.2 U	25	2.2	1	12/23/13 14:47	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	12/23/13 14:47	
Acetone	5.6 U	50	5.6	1	12/23/13 14:47	
Acrylonitrile	1.5 U	10	1.5	1	12/23/13 14:47	
Benzene	0.21 U	1.0	0.21	1	12/23/13 14:47	
Bromochloromethane	0.27 U	5.0	0.27	1	12/23/13 14:47	
Bromodichloromethane	0.22 U	1.0	0.22	1	12/23/13 14:47	
Bromoform	0.42 U	2.0	0.42	1	12/23/13 14:47	
Bromomethane	0.23 U	5.0	0.23	1	12/23/13 14:47	
Carbon Disulfide	2.4 U	10	2.4	1	12/23/13 14:47	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	12/23/13 14:47	
Chlorobenzene	0.16 U	1.0	0.16	1	12/23/13 14:47	
Chloroethane	0.52 U	5.0	0.52	1	12/23/13 14:47	
Chloroform	0.35 U	1.0	0.35	1	12/23/13 14:47	
Chloromethane	0.36 U	1.0	0.36	1	12/23/13 14:47	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	12/23/13 14:47	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	12/23/13 14:47	
Dibromochloromethane	0.21 U	1.0	0.21	1	12/23/13 14:47	
Dibromomethane	0.36 U	5.0	0.36	1	12/23/13 14:47	
Ethylbenzene	0.21 U	1.0	0.21	1	12/23/13 14:47	
Iodomethane	2.7 U	5.0	2.7	1	12/23/13 14:47	
m,p-Xylenes	0.31 U	2.0	0.31	1	12/23/13 14:47	
Methylene Chloride	0.21 U	5.0	0.21	1	12/23/13 14:47	
o-Xylene	0.14 U	1.0	0.14	1	12/23/13 14:47	
Styrene	0.29 U	1.0	0.29	1	12/23/13 14:47	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	12/23/13 14:47	
Toluene	**0.23 I**	1.0	0.19	1	12/23/13 14:47	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	12/23/13 14:47	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	12/23/13 14:47	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 12:20
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-1A	**Units:**	ug/L
Lab Code:	J1307670-001	**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	12/23/13 14:47	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	12/23/13 14:47	
Trichlorofluoromethane	0.24 U	20	0.24	1	12/23/13 14:47	
Vinyl Acetate	1.9 U	10	1.9	1	12/23/13 14:47	*
Vinyl Chloride	0.36 U	1.0	0.36	1	12/23/13 14:47	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	105	72 - 121	12/23/13 14:47	
4-Bromofluorobenzene	100	86 - 113	12/23/13 14:47	
Dibromofluoromethane	97	86 - 112	12/23/13 14:47	
Toluene-d8	99	88 - 115	12/23/13 14:47	

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 12:20
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-1A	**Units:**	ug/L
Lab Code:	J1307670-001	**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)	0.00705 U	0.0201	0.00705	1	12/20/13 12:04	12/19/13	
1,2-Dibromoethane (EDB)	0.00705 U	0.0201	0.00705	1	12/20/13 12:04	12/19/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	94	70 - 130	12/20/13 12:04	

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 12:20
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-1A	**Basis:**	NA
Lab Code:	J1307670-001		

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	12/19/13 16:32	12/18/13	
Arsenic, Total Recoverable	6020	**278**	ug/L	1.0	0.5	1	12/19/13 16:32	12/18/13	
Barium, Total Recoverable	6020	**55.2**	ug/L	2.0	0.5	1	12/19/13 16:32	12/18/13	
Beryllium, Total Recoverable	6020	**0.15 I**	ug/L	0.50	0.04	1	12/19/13 16:32	12/18/13	
Cadmium, Total Recoverable	6020	**0.87**	ug/L	0.40	0.10	1	12/19/13 16:32	12/18/13	
Chromium, Total Recoverable	6020	**11.1**	ug/L	1.0	0.2	1	12/19/13 16:32	12/18/13	
Cobalt, Total Recoverable	6020	**3.2**	ug/L	1.0	0.03	1	12/19/13 16:32	12/18/13	
Copper, Total Recoverable	6020	**0.8 I**	ug/L	1.0	0.3	1	12/19/13 16:32	12/18/13	
Iron, Total Recoverable	6010B	**11900**	ug/L	100	3	1	12/18/13 23:21	12/18/13	
Lead, Total Recoverable	6020	**1.05**	ug/L	0.50	0.12	1	12/19/13 16:32	12/18/13	
Mercury, Total	7470A	0.02 U	ug/L	0.10	0.02	1	12/19/13 16:16	12/18/13	
Nickel, Total Recoverable	6020	**6.1**	ug/L	2.0	0.5	1	12/19/13 16:32	12/18/13	
Selenium, Total Recoverable	6020	**2.8**	ug/L	2.0	1.1	1	12/19/13 16:32	12/18/13	
Silver, Total Recoverable	6020	0.06 U	ug/L	0.50	0.06	1	12/20/13 00:03	12/18/13	
Sodium, Total Recoverable	6010B	**20.4**	mg/L	0.50	0.03	1	12/18/13 23:21	12/18/13	
Thallium, Total Recoverable	6020	**0.05 I**	ug/L	0.20	0.05	1	12/19/13 16:32	12/18/13	
Vanadium, Total Recoverable	6020	**12.3**	ug/L	2.0	0.3	1	12/19/13 16:32	12/18/13	
Zinc, Total Recoverable	6020	**2.8 I**	ug/L	5.0	1.6	1	12/19/13 16:32	12/18/13	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 12:20
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-1A	**Basis:**	NA
Lab Code:	J1307670-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Ammonia as Nitrogen	350.1	**1.05**	mg/L	0.010	0.007	1	12/20/13 16:12	
Chloride	300.0	**21.7**	mg/L	0.50	0.11	1	12/17/13 21:35	
Nitrate as Nitrogen	300.0	0.03 U	mg/L	0.20	0.03	1	12/17/13 21:35	
Solids, Total Dissolved	SM 2540 C	**445**	mg/L	10	10	1	12/19/13 11:19	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 11:25
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-2A	**Units:**	ug/L
Lab Code:	J1307670-002	**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	12/23/13 15:13	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	12/23/13 15:13	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	12/23/13 15:13	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	12/23/13 15:13	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	12/23/13 15:13	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	12/23/13 15:13	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	12/23/13 15:13	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	12/23/13 15:13	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	12/23/13 15:13	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	12/23/13 15:13	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	12/23/13 15:13	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	12/23/13 15:13	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	12/23/13 15:13	
2-Butanone (MEK)	3.8 U	10	3.8	1	12/23/13 15:13	
2-Hexanone	2.2 U	25	2.2	1	12/23/13 15:13	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	12/23/13 15:13	
Acetone	5.6 U	50	5.6	1	12/23/13 15:13	
Acrylonitrile	1.5 U	10	1.5	1	12/23/13 15:13	
Benzene	0.21 U	1.0	0.21	1	12/23/13 15:13	
Bromochloromethane	0.27 U	5.0	0.27	1	12/23/13 15:13	
Bromodichloromethane	0.22 U	1.0	0.22	1	12/23/13 15:13	
Bromoform	0.42 U	2.0	0.42	1	12/23/13 15:13	
Bromomethane	0.23 U	5.0	0.23	1	12/23/13 15:13	
Carbon Disulfide	2.4 U	10	2.4	1	12/23/13 15:13	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	12/23/13 15:13	
Chlorobenzene	0.16 U	1.0	0.16	1	12/23/13 15:13	
Chloroethane	0.52 U	5.0	0.52	1	12/23/13 15:13	
Chloroform	0.35 U	1.0	0.35	1	12/23/13 15:13	
Chloromethane	0.36 U	1.0	0.36	1	12/23/13 15:13	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	12/23/13 15:13	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	12/23/13 15:13	
Dibromochloromethane	0.21 U	1.0	0.21	1	12/23/13 15:13	
Dibromomethane	0.36 U	5.0	0.36	1	12/23/13 15:13	
Ethylbenzene	0.21 U	1.0	0.21	1	12/23/13 15:13	
Iodomethane	2.7 U	5.0	2.7	1	12/23/13 15:13	
m,p-Xylenes	0.31 U	2.0	0.31	1	12/23/13 15:13	
Methylene Chloride	0.21 U	5.0	0.21	1	12/23/13 15:13	
o-Xylene	0.14 U	1.0	0.14	1	12/23/13 15:13	
Styrene	0.29 U	1.0	0.29	1	12/23/13 15:13	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	12/23/13 15:13	
Toluene	0.19 U	1.0	0.19	1	12/23/13 15:13	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	12/23/13 15:13	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	12/23/13 15:13	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 11:25
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-2A	**Units:**	ug/L
Lab Code:	J1307670-002	**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	12/23/13 15:13	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	12/23/13 15:13	
Trichlorofluoromethane	0.24 U	20	0.24	1	12/23/13 15:13	
Vinyl Acetate	1.9 U	10	1.9	1	12/23/13 15:13	*
Vinyl Chloride	0.36 U	1.0	0.36	1	12/23/13 15:13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	105	72 - 121	12/23/13 15:13	
4-Bromofluorobenzene	97	86 - 113	12/23/13 15:13	
Dibromofluoromethane	99	86 - 112	12/23/13 15:13	
Toluene-d8	100	88 - 115	12/23/13 15:13	

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 11:25
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-2A	**Units:**	ug/L
Lab Code:	J1307670-002	**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)	0.00711 U	0.0203	0.00711	1	12/20/13 13:08	12/19/13	
1,2-Dibromoethane (EDB)	0.00711 U	0.0203	0.00711	1	12/20/13 13:08	12/19/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	89	70 - 130	12/20/13 13:08	

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 11:25
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-2A	**Basis:**	NA
Lab Code:	J1307670-002		

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	12/19/13 16:37	12/18/13	
Arsenic, Total Recoverable	6020	**1.0 I**	ug/L	1.0	0.5	1	12/19/13 16:37	12/18/13	
Barium, Total Recoverable	6020	**54.0**	ug/L	2.0	0.5	1	12/19/13 16:37	12/18/13	
Beryllium, Total Recoverable	6020	**0.54**	ug/L	0.50	0.04	1	12/19/13 16:37	12/18/13	
Cadmium, Total Recoverable	6020	0.10 U	ug/L	0.40	0.10	1	12/19/13 16:37	12/18/13	
Chromium, Total Recoverable	6020	**1.5**	ug/L	1.0	0.2	1	12/19/13 16:37	12/18/13	
Cobalt, Total Recoverable	6020	**2.6**	ug/L	1.0	0.03	1	12/19/13 16:37	12/18/13	
Copper, Total Recoverable	6020	**0.4 I**	ug/L	1.0	0.3	1	12/19/13 16:37	12/18/13	
Iron, Total Recoverable	6010B	**8070**	ug/L	100	3	1	12/18/13 23:25	12/18/13	
Lead, Total Recoverable	6020	0.12 U	ug/L	0.50	0.12	1	12/19/13 16:37	12/18/13	
Mercury, Total	7470A	**0.03 I**	ug/L	0.10	0.02	1	12/19/13 16:17	12/18/13	
Nickel, Total Recoverable	6020	**2.5**	ug/L	2.0	0.5	1	12/19/13 16:37	12/18/13	
Selenium, Total Recoverable	6020	1.1 U	ug/L	2.0	1.1	1	12/19/13 16:37	12/18/13	
Silver, Total Recoverable	6020	0.06 U	ug/L	0.50	0.06	1	12/20/13 00:08	12/18/13	
Sodium, Total Recoverable	6010B	**50.4**	mg/L	0.50	0.03	1	12/18/13 23:25	12/18/13	
Thallium, Total Recoverable	6020	0.05 U	ug/L	0.20	0.05	1	12/19/13 16:37	12/18/13	
Vanadium, Total Recoverable	6020	**9.2**	ug/L	2.0	0.3	1	12/19/13 16:37	12/18/13	
Zinc, Total Recoverable	6020	**3.7 I**	ug/L	5.0	1.6	1	12/19/13 16:37	12/18/13	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 11:25
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-2A	**Basis:**	NA
Lab Code:	J1307670-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Ammonia as Nitrogen	350.1	**6.72**	mg/L	0.010	0.007	1	12/20/13 16:13	
Chloride	300.0	**76.3**	mg/L	0.50	0.11	1	12/17/13 21:51	
Nitrate as Nitrogen	300.0	0.03 U	mg/L	0.20	0.03	1	12/17/13 21:51	
Solids, Total Dissolved	SM 2540 C	**918**	mg/L	20	20	2	12/19/13 11:19	

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 13:00
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-3A	**Units:**	ug/L
Lab Code:	J1307670-003	**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	12/23/13 15:38	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	12/23/13 15:38	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	12/23/13 15:38	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	12/23/13 15:38	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	12/23/13 15:38	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	12/23/13 15:38	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	12/23/13 15:38	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	12/23/13 15:38	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	12/23/13 15:38	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	12/23/13 15:38	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	12/23/13 15:38	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	12/23/13 15:38	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	12/23/13 15:38	
2-Butanone (MEK)	3.8 U	10	3.8	1	12/23/13 15:38	
2-Hexanone	2.2 U	25	2.2	1	12/23/13 15:38	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	12/23/13 15:38	
Acetone	5.6 U	50	5.6	1	12/23/13 15:38	
Acrylonitrile	1.5 U	10	1.5	1	12/23/13 15:38	
Benzene	0.21 U	1.0	0.21	1	12/23/13 15:38	
Bromochloromethane	0.27 U	5.0	0.27	1	12/23/13 15:38	
Bromodichloromethane	0.22 U	1.0	0.22	1	12/23/13 15:38	
Bromoform	0.42 U	2.0	0.42	1	12/23/13 15:38	
Bromomethane	0.23 U	5.0	0.23	1	12/23/13 15:38	
Carbon Disulfide	2.4 U	10	2.4	1	12/23/13 15:38	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	12/23/13 15:38	
Chlorobenzene	0.16 U	1.0	0.16	1	12/23/13 15:38	
Chloroethane	0.52 U	5.0	0.52	1	12/23/13 15:38	
Chloroform	0.35 U	1.0	0.35	1	12/23/13 15:38	
Chloromethane	0.36 U	1.0	0.36	1	12/23/13 15:38	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	12/23/13 15:38	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	12/23/13 15:38	
Dibromochloromethane	0.21 U	1.0	0.21	1	12/23/13 15:38	
Dibromomethane	0.36 U	5.0	0.36	1	12/23/13 15:38	
Ethylbenzene	0.21 U	1.0	0.21	1	12/23/13 15:38	
Iodomethane	2.7 U	5.0	2.7	1	12/23/13 15:38	
m,p-Xylenes	0.31 U	2.0	0.31	1	12/23/13 15:38	
Methylene Chloride	0.21 U	5.0	0.21	1	12/23/13 15:38	
o-Xylene	0.14 U	1.0	0.14	1	12/23/13 15:38	
Styrene	0.29 U	1.0	0.29	1	12/23/13 15:38	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	12/23/13 15:38	
Toluene	0.19 U	1.0	0.19	1	12/23/13 15:38	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	12/23/13 15:38	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	12/23/13 15:38	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 13:00
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-3A	**Units:**	ug/L
Lab Code:	J1307670-003	**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	12/23/13 15:38	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	12/23/13 15:38	
Trichlorofluoromethane	0.24 U	20	0.24	1	12/23/13 15:38	
Vinyl Acetate	1.9 U	10	1.9	1	12/23/13 15:38	*
Vinyl Chloride	0.36 U	1.0	0.36	1	12/23/13 15:38	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	105	72 - 121	12/23/13 15:38	
4-Bromofluorobenzene	99	86 - 113	12/23/13 15:38	
Dibromofluoromethane	95	86 - 112	12/23/13 15:38	
Toluene-d8	101	88 - 115	12/23/13 15:38	

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 13:00
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-3A	**Units:**	ug/L
Lab Code:	J1307670-003	**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)	0.00707 U	0.0202	0.00707	1	12/20/13 13:30	12/19/13	
1,2-Dibromoethane (EDB)	0.00707 U	0.0202	0.00707	1	12/20/13 13:30	12/19/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	107	70 - 130	12/20/13 13:30	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 13:00
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-3A	**Basis:**	NA
Lab Code:	J1307670-003		

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	12/19/13 16:42	12/18/13	
Arsenic, Total Recoverable	6020	**2.1**	ug/L	1.0	0.5	1	12/19/13 16:42	12/18/13	
Barium, Total Recoverable	6020	**173**	ug/L	2.0	0.5	1	12/19/13 16:42	12/18/13	
Beryllium, Total Recoverable	6020	**0.63**	ug/L	0.50	0.04	1	12/19/13 16:42	12/18/13	
Cadmium, Total Recoverable	6020	0.10 U	ug/L	0.40	0.10	1	12/19/13 16:42	12/18/13	
Chromium, Total Recoverable	6020	**12.5**	ug/L	1.0	0.2	1	12/19/13 16:42	12/18/13	
Cobalt, Total Recoverable	6020	**12.9**	ug/L	1.0	0.03	1	12/19/13 16:42	12/18/13	
Copper, Total Recoverable	6020	**0.6 I**	ug/L	1.0	0.3	1	12/19/13 16:42	12/18/13	
Iron, Total Recoverable	6010B	**126000**	ug/L	100	3	1	12/18/13 23:29	12/18/13	
Lead, Total Recoverable	6020	**2.08**	ug/L	0.50	0.12	1	12/19/13 16:42	12/18/13	
Mercury, Total	7470A	**0.05 I**	ug/L	0.10	0.02	1	12/19/13 16:18	12/18/13	
Nickel, Total Recoverable	6020	**3.1**	ug/L	2.0	0.5	1	12/19/13 16:42	12/18/13	
Selenium, Total Recoverable	6020	**1.8 I**	ug/L	2.0	1.1	1	12/19/13 16:42	12/18/13	
Silver, Total Recoverable	6020	0.06 U	ug/L	0.50	0.06	1	12/20/13 00:13	12/18/13	
Sodium, Total Recoverable	6010B	**65.5**	mg/L	0.50	0.03	1	12/18/13 23:29	12/18/13	
Thallium, Total Recoverable	6020	0.05 U	ug/L	0.20	0.05	1	12/19/13 16:42	12/18/13	
Vanadium, Total Recoverable	6020	**15.0**	ug/L	2.0	0.3	1	12/19/13 16:42	12/18/13	
Zinc, Total Recoverable	6020	**3.7 I**	ug/L	5.0	1.6	1	12/19/13 16:42	12/18/13	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 13:00
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	CW-3A	**Basis:**	NA
Lab Code:	J1307670-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Ammonia as Nitrogen	350.1	**11.1**	mg/L	0.10	0.07	10	12/20/13 17:42	
Chloride	300.0	**62.0**	mg/L	0.50	0.11	1	12/17/13 22:22	
Nitrate as Nitrogen	300.0	0.03 U	mg/L	0.20	0.03	1	12/17/13 22:22	
Solids, Total Dissolved	SM 2540 C	**1190**	mg/L	20	20	2	12/19/13 11:19	

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 00:00
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	J1307670-004	**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	12/23/13 16:03	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	12/23/13 16:03	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	12/23/13 16:03	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	12/23/13 16:03	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	12/23/13 16:03	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	12/23/13 16:03	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	12/23/13 16:03	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	12/23/13 16:03	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	12/23/13 16:03	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	12/23/13 16:03	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	12/23/13 16:03	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	12/23/13 16:03	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	12/23/13 16:03	
2-Butanone (MEK)	3.8 U	10	3.8	1	12/23/13 16:03	
2-Hexanone	2.2 U	25	2.2	1	12/23/13 16:03	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	12/23/13 16:03	
Acetone	5.6 U	50	5.6	1	12/23/13 16:03	
Acrylonitrile	1.5 U	10	1.5	1	12/23/13 16:03	
Benzene	0.21 U	1.0	0.21	1	12/23/13 16:03	
Bromochloromethane	0.27 U	5.0	0.27	1	12/23/13 16:03	
Bromodichloromethane	0.22 U	1.0	0.22	1	12/23/13 16:03	
Bromoform	0.42 U	2.0	0.42	1	12/23/13 16:03	
Bromomethane	0.23 U	5.0	0.23	1	12/23/13 16:03	
Carbon Disulfide	2.4 U	10	2.4	1	12/23/13 16:03	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	12/23/13 16:03	
Chlorobenzene	0.16 U	1.0	0.16	1	12/23/13 16:03	
Chloroethane	0.52 U	5.0	0.52	1	12/23/13 16:03	
Chloroform	0.35 U	1.0	0.35	1	12/23/13 16:03	
Chloromethane	0.36 U	1.0	0.36	1	12/23/13 16:03	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	12/23/13 16:03	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	12/23/13 16:03	
Dibromochloromethane	0.21 U	1.0	0.21	1	12/23/13 16:03	
Dibromomethane	0.36 U	5.0	0.36	1	12/23/13 16:03	
Ethylbenzene	0.21 U	1.0	0.21	1	12/23/13 16:03	
Iodomethane	2.7 U	5.0	2.7	1	12/23/13 16:03	
m,p-Xylenes	0.31 U	2.0	0.31	1	12/23/13 16:03	
Methylene Chloride	0.21 U	5.0	0.21	1	12/23/13 16:03	
o-Xylene	0.14 U	1.0	0.14	1	12/23/13 16:03	
Styrene	0.29 U	1.0	0.29	1	12/23/13 16:03	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	12/23/13 16:03	
Toluene	0.19 U	1.0	0.19	1	12/23/13 16:03	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	12/23/13 16:03	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	12/23/13 16:03	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13 00:00
Sample Matrix:	Water	**Date Received:**	12/17/13 09:35
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	J1307670-004	**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	12/23/13 16:03	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	12/23/13 16:03	
Trichlorofluoromethane	0.24 U	20	0.24	1	12/23/13 16:03	
Vinyl Acetate	1.9 U	10	1.9	1	12/23/13 16:03	*
Vinyl Chloride	0.36 U	1.0	0.36	1	12/23/13 16:03	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	107	72 - 121	12/23/13 16:03	
4-Bromofluorobenzene	99	86 - 113	12/23/13 16:03	
Dibromofluoromethane	98	86 - 112	12/23/13 16:03	
Toluene-d8	99	88 - 115	12/23/13 16:03	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	JQ1309276-02	**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	12/23/13 11:24	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	12/23/13 11:24	
1,1,2,2-Tetrachloroethane	0.29 U	1.0	0.29	1	12/23/13 11:24	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	12/23/13 11:24	
1,1-Dichloroethane (1,1-DCA)	0.30 U	1.0	0.30	1	12/23/13 11:24	
1,1-Dichloroethene (1,1-DCE)	0.16 U	1.0	0.16	1	12/23/13 11:24	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	12/23/13 11:24	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	5.0	2.3	1	12/23/13 11:24	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	12/23/13 11:24	
1,2-Dichlorobenzene	0.48 U	1.0	0.48	1	12/23/13 11:24	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	12/23/13 11:24	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	12/23/13 11:24	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	12/23/13 11:24	
2-Butanone (MEK)	3.8 U	10	3.8	1	12/23/13 11:24	
2-Hexanone	2.2 U	25	2.2	1	12/23/13 11:24	
4-Methyl-2-pentanone (MIBK)	1.1 U	25	1.1	1	12/23/13 11:24	
Acetone	5.6 U	50	5.6	1	12/23/13 11:24	
Acrylonitrile	1.5 U	10	1.5	1	12/23/13 11:24	
Benzene	0.21 U	1.0	0.21	1	12/23/13 11:24	
Bromochloromethane	0.27 U	5.0	0.27	1	12/23/13 11:24	
Bromodichloromethane	0.22 U	1.0	0.22	1	12/23/13 11:24	
Bromoform	0.42 U	2.0	0.42	1	12/23/13 11:24	
Bromomethane	0.23 U	5.0	0.23	1	12/23/13 11:24	
Carbon Disulfide	2.4 U	10	2.4	1	12/23/13 11:24	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	12/23/13 11:24	
Chlorobenzene	0.16 U	1.0	0.16	1	12/23/13 11:24	
Chloroethane	0.52 U	5.0	0.52	1	12/23/13 11:24	
Chloroform	0.35 U	1.0	0.35	1	12/23/13 11:24	
Chloromethane	0.36 U	1.0	0.36	1	12/23/13 11:24	
cis-1,2-Dichloroethene	0.36 U	1.0	0.36	1	12/23/13 11:24	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	12/23/13 11:24	
Dibromochloromethane	0.21 U	1.0	0.21	1	12/23/13 11:24	
Dibromomethane	0.36 U	5.0	0.36	1	12/23/13 11:24	
Ethylbenzene	0.21 U	1.0	0.21	1	12/23/13 11:24	
Iodomethane	2.7 U	5.0	2.7	1	12/23/13 11:24	
m,p-Xylenes	0.31 U	2.0	0.31	1	12/23/13 11:24	
Methylene Chloride	0.21 U	5.0	0.21	1	12/23/13 11:24	
o-Xylene	0.14 U	1.0	0.14	1	12/23/13 11:24	
Styrene	0.29 U	1.0	0.29	1	12/23/13 11:24	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	12/23/13 11:24	
Toluene	0.19 U	1.0	0.19	1	12/23/13 11:24	
trans-1,2-Dichloroethene	0.19 U	1.0	0.19	1	12/23/13 11:24	
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	12/23/13 11:24	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	JQ1309276-02	**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	12/23/13 11:24	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	12/23/13 11:24	
Trichlorofluoromethane	0.24 U	20	0.24	1	12/23/13 11:24	
Vinyl Acetate	1.9 U	10	1.9	1	12/23/13 11:24	
Vinyl Chloride	0.36 U	1.0	0.36	1	12/23/13 11:24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	106	72 - 121	12/23/13 11:24	
4-Bromofluorobenzene	100	86 - 113	12/23/13 11:24	
Dibromofluoromethane	97	86 - 112	12/23/13 11:24	
Toluene-d8	101	88 - 115	12/23/13 11:24	

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	JQ1309181-01	**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	12/20/13 11:21	12/19/13	
1,2-Dibromoethane (EDB)	0.00700 U	0.0200	0.00700	1	12/20/13 11:21	12/19/13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	98	70 - 130	12/20/13 11:21	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	J1307670-MB		

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	12/19/13 15:21	12/18/13	
Arsenic, Total Recoverable	6020	**0.6**	**I**	ug/L	1.0	0.5	1	12/19/13 15:21	12/18/13	
Barium, Total Recoverable	6020	0.5	U	ug/L	2.0	0.5	1	12/19/13 15:21	12/18/13	
Beryllium, Total Recoverable	6020	0.04	U	ug/L	0.50	0.04	1	12/19/13 15:21	12/18/13	
Cadmium, Total Recoverable	6020	0.10	U	ug/L	0.40	0.10	1	12/19/13 15:21	12/18/13	
Chromium, Total Recoverable	6020	0.2	U	ug/L	1.0	0.2	1	12/19/13 15:21	12/18/13	
Cobalt, Total Recoverable	6020	0.03	U	ug/L	1.0	0.03	1	12/19/13 15:21	12/18/13	
Copper, Total Recoverable	6020	0.3	U	ug/L	1.0	0.3	1	12/19/13 15:21	12/18/13	
Iron, Total Recoverable	6010B	3	U	ug/L	100	3	1	12/18/13 23:13	12/18/13	
Lead, Total Recoverable	6020	0.12	U	ug/L	0.50	0.12	1	12/19/13 15:21	12/18/13	
Mercury, Total	7470A	0.02	U	ug/L	0.10	0.02	1	12/19/13 16:13	12/18/13	
Nickel, Total Recoverable	6020	0.5	U	ug/L	2.0	0.5	1	12/19/13 15:21	12/18/13	
Selenium, Total Recoverable	6020	1.1	U	ug/L	2.0	1.1	1	12/19/13 15:21	12/18/13	
Silver, Total Recoverable	6020	0.06	U	ug/L	0.50	0.06	1	12/19/13 15:21	12/18/13	
Sodium, Total Recoverable	6010B	0.03	U	mg/L	0.50	0.03	1	12/18/13 23:13	12/18/13	
Thallium, Total Recoverable	6020	0.05	U	ug/L	0.20	0.05	1	12/19/13 15:21	12/18/13	
Vanadium, Total Recoverable	6020	0.3	U	ug/L	2.0	0.3	1	12/19/13 15:21	12/18/13	
Zinc, Total Recoverable	6020	1.6	U	ug/L	5.0	1.6	1	12/19/13 15:21	12/18/13	

Analytical Report

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	J1307670-MB		

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	12/20/13 15:34	
Chloride	300.0	0.11	U	mg/L	0.50	0.11	1	12/17/13 18:07	
Nitrate as Nitrogen	300.0	0.03	U	mg/L	0.20	0.03	1	12/17/13 18:07	
Solids, Total Dissolved	SM 2540 C	10	U	mg/L	10	10	1	12/19/13 11:19	

Client: Waste Services of Florida, Inc. **Service Request:** J1307670
Project: JED SWDF - Compliance Wells
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

		1,2-Dichloroethane-d4	4-Bromofluorobenzene	Dibromofluoromethane
Sample Name	**Lab Code**	**72 - 121**	**86 - 113**	**86 - 112**
CW-1A	J1307670-001	105	100	97
CW-2A	J1307670-002	105	97	99
CW-3A	J1307670-003	105	99	95
Trip Blank	J1307670-004	107	99	98
Lab Control Sample	JQ1309276-01	107	99	98
Method Blank	JQ1309276-02	106	100	97

Client: Waste Services of Florida, Inc. **Service Request:** J1307670

Project: JED SWDF - Compliance Wells

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	Toluene-d8 88 - 115
CW-1A	J1307670-001	99
CW-2A	J1307670-002	100
CW-3A	J1307670-003	101
Trip Blank	J1307670-004	99
Lab Control Sample	JQ1309276-01	99
Method Blank	JQ1309276-02	101

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Analyzed:**	12/23/13
Sample Matrix:	Water		

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260B	**Units:**	ug/L
		Basis:	NA
		Analysis Lot:	374162

Lab Control Sample
JQ1309276-01

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	22.0	20.0	110	77-118
1,1,1-Trichloroethane (TCA)	20.4	20.0	102	70-122
1,1,2,2-Tetrachloroethane	20.0	20.0	100	66-135
1,1,2-Trichloroethane	19.9	20.0	100	75-122
1,1-Dichloroethane (1,1-DCA)	19.5	20.0	98	79-117
1,1-Dichloroethene (1,1-DCE)	19.9	20.0	99	72-128
1,2,3-Trichloropropane	20.3	20.0	101	70-123
1,2-Dibromo-3-chloropropane (DBCP)	18.5	20.0	92	60-122
1,2-Dibromoethane (EDB)	19.3	20.0	96	76-118
1,2-Dichlorobenzene	19.7	20.0	98	81-115
1,2-Dichloroethane	20.5	20.0	102	70-117
1,2-Dichloropropane	19.2	20.0	96	79-117
1,4-Dichlorobenzene	19.8	20.0	99	82-115
2-Butanone (MEK)	102	100	102	62-138
2-Hexanone	105	100	105	74-127
4-Methyl-2-pentanone (MIBK)	104	100	104	77-120
Acetone	95.5	100	95	42-161
Acrylonitrile	101	100	101	63-132
Benzene	19.2	20.0	96	80-117
Bromochloromethane	19.3	20.0	96	78-118
Bromodichloromethane	21.3	20.0	106	75-118
Bromoform	19.0	20.0	95	63-121
Bromomethane	14.0	20.0	70	31-153
Carbon Disulfide	93.7	100	94	72-128
Carbon Tetrachloride	22.3	20.0	112	67-124
Chlorobenzene	19.2	20.0	96	83-118
Chloroethane	18.7	20.0	94	68-132
Chloroform	19.8	20.0	99	77-116
Chloromethane	17.9	20.0	90	60-128
cis-1,2-Dichloroethene	19.4	20.0	97	78-117
cis-1,3-Dichloropropene	20.7	20.0	103	80-119
Dibromochloromethane	21.9	20.0	110	74-121
Dibromomethane	20.5	20.0	102	76-117
Ethylbenzene	20.0	20.0	100	82-119
Iodomethane	96.2	100	96	51-137
m,p-Xylenes	40.3	40.0	101	79-122
Methylene Chloride	19.0	20.0	95	75-123
o-Xylene	20.5	20.0	102	80-119
Styrene	19.4	20.0	97	80-121
Tetrachloroethene (PCE)	20.5	20.0	102	75-126
Toluene	19.7	20.0	99	52-152

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Analyzed:**	12/23/13
Sample Matrix:	Water		

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260B	**Units:**	ug/L
		Basis:	NA
		Analysis Lot:	374162

Lab Control Sample
JQ1309276-01

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	19.8	20.0	99	75-121
trans-1,3-Dichloropropene	21.2	20.0	106	76-118
trans-1,4-Dichloro-2-butene	21.2	20.0	106	10-198
Trichloroethene (TCE)	19.0	20.0	95	78-122
Trichlorofluoromethane	21.2	20.0	106	58-134
Vinyl Acetate	170	100	170 *	36-169
Vinyl Chloride	20.2	20.0	101	69-138

Client: Waste Services of Florida, Inc. **Service Request:** J1307670
Project: JED SWDF - Compliance Wells
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

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

Analysis Method: 8011
Extraction Method: Method

Sample Name	Lab Code	1,1,1,2-Tetrachloroethane 70 - 130
CW-1A	J1307670-001	94
CW-2A	J1307670-002	89
CW-3A	J1307670-003	107
Method Blank	JQ1309181-01	98
Lab Control Sample	JQ1309181-02	102
CW-1A	JQ1309181-03	95
CW-1A	JQ1309181-04	81

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Collected:**	12/16/13
Sample Matrix:	Water	**Date Received:**	12/17/13
		Date Analyzed:	12/20/13
		Date Extracted:	12/19/13

Duplicate Matrix Spike Summary
1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Sample Name:	CW-1A	**Units:**	ug/L
Lab Code:	J1307670-001	**Basis:**	NA
Analysis Method:	8011		
Prep Method:	Method		

		Matrix Spike JQ1309181-03			Duplicate Matrix Spike JQ1309181-04					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2-Dibromo-3-chloropropane (DBCP)	0.00703 U	0.243	0.251	97	0.190	0.252	75	65-135	25	30
1,2-Dibromoethane (EDB)	0.00703 U	0.259	0.251	103	0.187	0.252	74	65-135	32*	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.

Client:	Waste Services of Florida, Inc.	**Service Request:**	J1307670
Project:	JED SWDF - Compliance Wells	**Date Analyzed:**	12/20/13
Sample Matrix:	Water	**Date Extracted:**	12/19/13

Lab Control Sample Summary
1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by Microextraction and Gas Chromatography

Analysis Method:	8011	**Units:**	ug/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	373961

Lab Control Sample
JQ1309181-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,2-Dibromo-3-chloropropane (DBCP)	0.264	0.250	105	70-130
1,2-Dibromoethane (EDB)	0.264	0.250	106	70-130

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

Service Request:J1307670
Date Collected:12/16/13
Date Received:12/17/13
Date Analyzed:12/18/13

Duplicate Matrix Spike Summary
Inorganic Parameters

Sample Name: CW-3A
Lab Code: J1307670-003

Units:ug/L
Basis:NA

			Matrix Spike J1307670-003MS			Duplicate Matrix Spike J1307670-003DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Iron, Total Recoverable	6010B	126000	129000	5000	60 #	131000	5000	106 #	75-125	2	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.

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

Service Request:J1307670
Date Collected:12/16/13
Date Received:12/17/13
Date Analyzed:12/18/13

Duplicate Matrix Spike Summary
Inorganic Parameters

Sample Name: CW-3A
Lab Code: J1307670-003

Units:mg/L
Basis:NA

			Matrix Spike J1307670-003MS			Duplicate Matrix Spike J1307670-003DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Sodium, Total Recoverable	6010B	65.5	90.2	25.0	99	91.1	25.0	102	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.

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

Service Request:J1307670
Date Analyzed:12/18/13 - 12/19/13

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L
Basis:NA

Lab Control Sample
J1307670-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Antimony, Total Recoverable	6020	52.5	50.0	105	80-120
Arsenic, Total Recoverable	6020	48.9	50.0	98	80-120
Barium, Total Recoverable	6020	103	100	103	80-120
Beryllium, Total Recoverable	6020	23.8	25.0	95	80-120
Cadmium, Total Recoverable	6020	20.3	20.0	101	80-120
Chromium, Total Recoverable	6020	52.0	50.0	104	80-120
Cobalt, Total Recoverable	6020	51.0	50.0	102	80-120
Copper, Total Recoverable	6020	51.3	50.0	103	80-120
Iron, Total Recoverable	6010B	5110	5000	102	80-120
Lead, Total Recoverable	6020	25.6	25.0	102	80-120
Mercury, Total	7470A	1.18	1.25	94	80-120
Nickel, Total Recoverable	6020	101	100	101	80-120
Selenium, Total Recoverable	6020	96.8	100	97	80-120
Silver, Total Recoverable	6020	25.5	25.0	102	80-120
Thallium, Total Recoverable	6020	10.2	10.0	102	80-120
Vanadium, Total Recoverable	6020	101	100	101	80-120
Zinc, Total Recoverable	6020	248	250	99	80-120

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

Service Request:J1307670
Date Analyzed:12/18/13

Lab Control Sample Summary
Inorganic Parameters

Units:mg/L
Basis:NA

Lab Control Sample
J1307670-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Sodium, Total Recoverable	6010B	25.5	25.0	102	80-120

Client: Waste Services of Florida, Inc. **Service Request:**J1307670
Project: JED SWDF - Compliance Wells **Date Analyzed:**12/17/13 - 12/20/13
Sample Matrix: Water

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
J1307670-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	0.965	1.00	96	90-110
Chloride	300.0	50.1	50.0	100	90-110
Nitrate as Nitrogen	300.0	5.25	5.00	105	90-110
Solids, Total Dissolved	SM 2540 C	296	300	99	85-115

ALS Environmental

Cooler Receipt Form

Client: PROGRESSIVE WASTE SOL FL Service Request #: J1307690

Project: JED SWDF COMPLIANCE WELLS

Cooler received on 10-4-13 @ 0935 and opened on 10-7-13 by CMK

COURIER: ALS UPS (FEDEX) Client Other _____ Airbill # 8041 4923 9880

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)	1.4°C						
5	Thermometer ID	TR1						
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?	(Yes)	No	N/A				
	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

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

ALS Environmental

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

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SR# 513076 70
CAS Contract

J1307670 5
Waste Services of Florida, Inc.
JED SWDF - Compliance Wells

Project Name: JED SWDF - Compliance Wells	Project Number:
Project Manager: Mike Kaiser	Email Address: mkaiser@wsii.us
Company/Address: PWSFL 1501 Omni Way St. Cloud, FL 34773	
Phone #: 1-904-673-0446	FAX #
Sampler's Signature: Joe Terry	Sampler's Printed Name: Joe Terry

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 1 0 3 2 0

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	8260	B011	NH3	Metals	TDS, Cl, NO3	REMARKS/ ALTERNATE DESCRIPTION
CW-1A		12/6/13	1220	GW	9	3	3	1	1	1	
CW-2A			1125	GW	9	3	3	1	1	1	
CW-3A			1300	GW	9	3	3	1	1	1	
Trip Blank		12/6/13	00:00	DI H_2O	1	1					

1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

See QAPP ☐

1.4°C/TB

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
X STANDARD
REQUESTED FAX DATE
REQUESTED REPORT DATE

REPORT REQUIREMENTS
_____ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
_____ IV. Data Validation Report with Raw Data
_____ V. Specialized Forms / Custom Report
Edata _____Yes _____No

INVOICE INFORMATION
PO #
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Joe Terry	Signature:	Signature	Signature	Signature	Signature
Printed Name: Joe Terry	Printed Name:	Printed Name	Printed Name	Printed Name	Printed Name
Firm: PWSFL	Firm: ALS	Firm	Firm	Firm	Firm
Date/Time: 12-16-13/1400	Date/Time: 12-17-13 0935	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Retained by Client

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-1A	SAMPLE ID: CW-1A	DATE: December 16, 2013

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): 5.03	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)
= (18.46 feet – 5.03 feet) X 0.16 gallons/foot = 2.2 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 40 feet) + 0.12 gallons = 0.2 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 1035	PURGING ENDED AT: 1215	TOTAL VOLUME PURGED (gallons): 13

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)
1205	11.7	11.7	0.13	5.13	5.05	24.04	626	1.57	2.8	clear	101.8
1210	0.65	12.35	0.13	5.13	5.02	24.07	626	1.52	2.9	clear	103.6
1215	0.65	13.0	0.13	5.13	5.00	24.10	628	1.16	2.6	clear	103.2

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: 1220	SAMPLING ENDED AT: 1230
PUMP OR TUBING DEPTH IN WELL (feet): 13	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CW-1A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
CW-1A	3	CG	40mL	None	None		8011	RFPP	<100
CW-1A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	500
CW-1A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	500
CW-1A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	500

REMARKS:
weather: clear, ~55°F, light breeze
odor: none
TD = 18.46' BTOC

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 Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 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-2A	SAMPLE ID: CW-2A	DATE: December 16, 2013

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): 4.81	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)
= (18.48 feet – 4.81 feet) X 0.16 gallons/foot = 2.2 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 35 feet) + 0.12 gallons = 0.2 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 1015	PURGING ENDED AT: 1125	TOTAL VOLUME PURGED (gallons): 7

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)
1110	5.5	5.5	0.1	4.91	4.45	23.74	1222	0.84	1	clear	91.2
1115	0.5	6	0.1	4.91	4.50	23.78	1223	0.81	0.5	clear	85.9
1120	0.5	6.5	0.1	4.91	4.51	23.77	1222	0.78	1	clear	90.1
1125	0.5	7	0.1	4.91	4.49	23.80	1222	0.78	0.6	clear	89.5

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: 1125	SAMPLING ENDED AT: 1137
PUMP OR TUBING DEPTH IN WELL (feet): 13	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
CW-2A	3	CG	40mL	HCL	Prefilled by lab		8260	RFPP	<100
CW-2A	3	CG	40mL	None	None		8011	RFPP	<100
CW-2A	1	PE	500mL	HNO_3	Prefilled by lab		Metals	APP	400
CW-2A	1	PE	125mL	H_2SO_4	Prefilled by lab		NH_3	APP	400
CW-2A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	400

REMARKS:
weather: clear, ~55°F, light breeze
odor: none
TD = 18.48' BTOC

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 Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 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-3A	SAMPLE ID: CW-3A	DATE: December 16, 2013

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): 4.19	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 40 feet) + 0.12 gallons = 0.2 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 1000	PURGING ENDED AT: 1255	TOTAL VOLUME PURGED (gallons): 17.5

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)
1050	5	5	0.1	4.45	4.78	23.52	1409	1.00	32	clear	70.8
1240	11	16	0.1	4.45	4.74	23.6	1426	1.52	34.2	clear	86
1245	0.5	16.5	0.1	4.45	4.71	23.59	1423	1.36	33	clear	87.5
1250	0.5	17	0.1	4.45	4.73	23.6	1418	1.32	34	clear	96.3
1255	0.5	17.5	0.1	4.45	4.74	23.58	1417	1.24	35	clear	85.3

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: 1300	SAMPLING ENDED AT: 1315
PUMP OR TUBING DEPTH IN WELL (feet): 13	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP No	TUBING No (replaced)	DUPLICATE or EQUIPMENT BLANK: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
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_2SO_4	Prefilled by lab		NH_3	APP	400
CW-3A	1	PE	250mL	None	None		TDS, Cl, NO_3	APP	400

REMARKS:
weather: clear, 55°F, light breeze
odor: sulfur-like
TD = 18.42' BTOC

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 Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Field Instrument Calibration Record

Site: JED SWMF Date: Dec. 16, 2013

Water Quality Instrument Make: YSI Instrument Model Number: 556 Instrument Serial Number: 06A2173AL

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

Time: 0600

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	4.03	0.03	0.2	Y	C	JT
C358930	Feb 7, 2015	pH = 7.00	7.11	0.11	0.2	Y	C	JT
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C256861	Jan. 2014	Turbidity = 10 NTU	10.07	0.7	10%	Y	C	JT
3AJ929	Oct 2014	Conductivity = 84 µS/cm	85	1.2	5%	Y	C	JT
C250309	Jan. 20, 2014	Conductivity = 500 µS/cm	501	0.2	5%	Y	C	JT
C257964	Jan. 2014	Conductivity = 1,000 µS/cm	990	1	5%	Y	C	JT
	Per Table →	D.O. = 8.482 mg/L @ 23.6 °C	8.51	0.03	0.2 mg/l	Y	I	JT

Date: Dec 17, 2013 Time: 1830

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	4.02	0.02	0.2	Y	C	JT
C358930	Feb 7, 2015	pH = 7.00	7.05	0.05	0.2	Y	C	JT
C256078	Oct 2014	pH = 10.00			0.2			
		Turbidity = 0.0 NTU						
		Turbidity = 1.0 NTU			10%			
C256861	Jan.2014	Turbidity = 10 NTU	9.87	1.3	10%	Y	C	JT
3AJ929	Oct 2014	Conductivity = 84 µS/cm	83	1.2	5%	Y	C	JT
C250309	Jan. 20, 2014	Conductivity = 500 µS/cm	500	0	5%	Y	C	JT
C257964	Jan. 2014	Conductivity = 1,000 µS/cm	1006	0.6	5%	Y	C	JT
	Per Table →	D.O. = 8.74 mg/L @ 22 °C	8.83	0.09	0.2 mg/l	Y	F	JT

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

ALS Environmental

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

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SR#

CAS Contract

Project Name: SED SWDF - Compliance Wells

Project Number:

Project Manager: Mike Kaiser

Email Address: mkaiser@uwsii.us

Company/Address: PWSFL

1501 Omni Way

St. Cloud, FL 34773

Phone #: 1-904-673-0446

FAX #:

Sampler's Signature: Joe Terry

Sampler's Printed Name: Joe Terry

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	8260	8011	NH_3	Metals	TDS, Cl, NO_3	REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE						1	0	3	2	0	
CW-1A		12.16.13	1220	GW	9	3	3	1	1	1	
CW-2A		"	1125	GW	9	3	3	1	1	1	
CW-3A		"	1300	GW	9	3	3	1	1	1	
Trip Blank		12.16.13	00:00	DI H_2O	1	1					

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL I NSTRUCTIONS/COMMENTS

See QAPP ☐

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
__X__ STANDARD
REQUESTED FAX DATE
_____
REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
_____ I. Results Only
__X__ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
_____ IV. Data Validation Report with Raw Data
_____ V. Specialized Forms / Custom Report
Edata _____Yes _____No

INVOICE INFORMATION
PO #
BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Joe Terry	Signature	Signature	Signature	Signature	Signature
Printed Name: Joe Terry	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: PWSFL	Firm	Firm	Firm	Firm	Firm
Date/Time: 12.16.13/1400	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Retained by Client