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Dept. Of Environmental Protection

APR 11 2013

Southwest District

April 9, 2013

Mr. John Morris, P.G.
Solid Waste Section
Florida Department of Environmental Protection
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

Subject: First Semi-Annual Groundwater Monitoring Report 2013
Citrus County Central Class I Landfill
WACS ID# SWD/09/39859
Permit No. 21375-018-SO/01
CDM Smith Project #71138-94426

Dear Mr. Morris:

On behalf of Citrus County, and as stipulated in the Operations Permit issued on June 4, 2012, CDM Smith is providing the following report documenting the groundwater analytical results from the First Semi-Annual groundwater sampling event in 2013 at the Citrus County Central Class I Landfill. The routine sampling event was performed from January 22 to January 24, 2013 and a re-sampling event was performed on February 20, 2013. Attached are two copies of the report. Section 8 of the report contains a CD with electronic files associated with the report, which includes laboratory analytical reports and ADaPT files. The ADaPT EDD files have also been forwarded by e-mail to Clark Moore's attention at Clark.B.Moore@dep.state.fl.us in the FDEP Tallahassee office.

Please contact me if you have any questions or need additional information.

Sincerely,

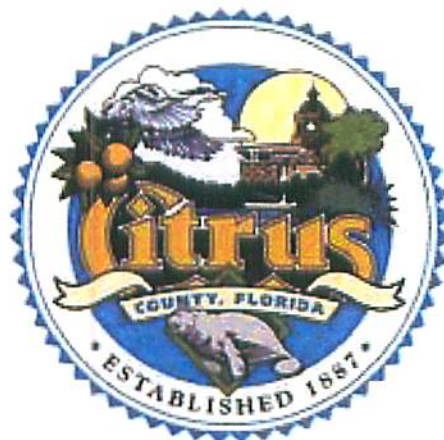
David R. Rojas, P.G.
Environmental Scientist
CDM Smith Inc.

cc: Solid Waste Administrator, FDEP - Tallahassee
Casey Stephens, Citrus County SW Management Director
Aamod Sonawane, CDM Smith



Citrus County, Florida
Citrus County Central Class I Landfill
Facility WACS # SWD/09/39859
Permit# 21375-018-SO/01
First Semi-Annual Groundwater
Monitoring Report 2013

April 2013



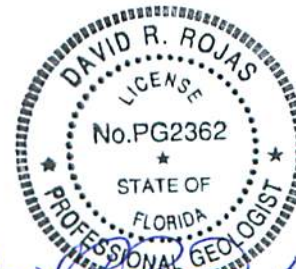
April 2013

**CDM
Smith**

Citrus County, Florida

**Citrus County Central Class I Landfill
Facility WACS# SWD/09/39859
Permit# 21375-018-SO/01
First Semi-Annual
Groundwater Monitoring Report 2013**

April 2013



David R. Rojas 4-8-13
David R. Rojas, P.G.
Florida Professional Geologist No. 2362

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APR 11 2013

Southwest District

Section 1

Introduction

The first semi-annual sampling event of 2013 for the Citrus County Central Class I Landfill (WACS Facility ID SWD/09/39859) was initiated in January 2013. The initial sampling was performed on January 22, 23, and 24, 2013. A re-sampling event was performed on February 20, 2013 to collect a groundwater sample from monitor well MW-6 and to re-sample well MW-14 to verify the concentration of iron detected in the sample collected in January. The water quality samples were collected and analyzed by personnel from TestAmerica Laboratories. Static water levels were measured on January 22, 2013, by CDM Smith, Inc. (CDM Smith) personnel.

The current operations permit (21375-018-SO/01) requires that groundwater samples be collected semi-annually from two background monitor wells (MW-3 and MW-7), nine compliance monitor wells (MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, MW-20 and MW-21), two assessment monitor wells (MW-20 and MW-21), and one intermediate monitor well (MW-6). In addition, static groundwater level measurements are required to be collected in these 14 wells and 11 piezometers (MW-1R, MW-2, MW-5, MW-8R, MW-9, MW-16, MW-AA, MW-B, MW-E, PZ-1, & PZ-2).

All groundwater samples were analyzed in accordance with the permit conditions. Groundwater samples collected from compliance and background wells were analyzed for ammonia, chlorides, nitrate, total dissolved solids (TDS), iron, mercury, sodium, and parameters listed in 40 CFR, Part 258, Appendix I. Groundwater samples collected from assessment wells were analyzed for benzene, methylene chloride, and vinyl chloride. The groundwater sample collected from the intermediate monitor well was analyzed for ammonia, chlorides, fecal coliform, nitrate, total dissolved solids (TDS), total trihalomethanes, iron, mercury, sodium, and parameters listed in 40 CFR, Part 258, Appendix I. Specific conductivity, pH, temperature, dissolved oxygen (DO), turbidity, and temperature were measured in groundwater samples in the field. Colors and sheens were noted as appropriate.

In accordance with Specific Condition E.10.a of the operations permit for the facility issued by the Florida Department of Environmental Protection (FDEP) on December 20, 2010, and Chapter 62-701.510(9)(a), this semi-annual report contains the following:

- Section 2 – Summary of Exceedances and Recommendations
- Section 3 – Groundwater Contours
- Section 4 – Chain of Custody Forms
- Section 5 – Water Level Data
- Section 6 – Water Quality Monitoring Certification (FDEP Form # 62-701.900(31))
- Section 7 – Field Sampling Logs
- Section 8 – PDF copy of Laboratory Report and Laboratory and Field Electronic Data Deliverable (EDD) and Error Logs (ADaPT report)

Section 2

Summary of Exceedances and Recommendations

A summary of the First 2013 Semi-annual Groundwater sampling event exceedances of groundwater quality criteria is provided in **Table 2-1**. Based on evaluation of the data from the January 2013 monitoring event, continued monitoring in accordance with the current permit is recommended.

2.1 pH

Measured values of pH were below the acceptable Secondary Drinking Water Standard (SDWS) range (6.5 to 8.5 S.U.) in the samples from all of the wells except MW-11, MW-12, and MW-14. The pH values measured in these three wells (6.79, 6.76, and 6.65, respectively) were only slightly above the low end of the acceptable range. Although the pH values measured in the other wells are below the low end of the acceptable range, they are comparable to historical values reported. In addition, the pH of the groundwater in both of the background wells at the site was below the 6.5 S.U. criterion.

2.2 Iron

The concentrations of iron exceeded the SDWS MCL established in Chapter 62-550, F.A.C. in samples collected from compliance wells MW-10, MW-12, MW-13, MW-14, MW-15, MW-17, MW-20, and MW-21. The concentrations of iron in the samples from, MW-10, MW-12, MW-13, MW-15, MW-17, and MW-21 were generally consistent with concentrations of iron historically detected in samples from these wells. The concentration of iron in the sample from MW-14 was not confirmed during the February re-sampling. The concentration of iron detected in the sample collected from MW-14 in February 2013 was 210 ug/L, which is consistent with concentrations of iron historically detected in samples from this well. The concentration of iron in the sample from MW-20 was anomalously high.

The concentrations of iron in the samples from the intermediate well (MW-6) and background well MW-7 also exceeded the SDWS MCL. The concentration of iron has been consistently increasing in background well MW-7 since 2010.

2.3 Organic Compounds

Benzene (MW-10 and MW-21), bromodichloromethane & dibromochloromethane (MW-6), and vinyl chloride (MW-6, MW-10 and MW-21) were the only organic compounds detected in concentrations that exceeded Primary Drinking Water Standard (PDWS) MCLs in the groundwater samples collected in January 2013. Historically, these parameters generally exceeded PDWS MCLs in samples from these wells.

Although the concentrations of bromodichloromethane, dibromochloromethane and vinyl chloride in the sample from MW-6 were slightly higher during this monitoring period than were detected in the sample collected from this well during the July 2012 sampling event, concentrations above the current concentrations have been detected in previous samples from MW-6.

Table 2-1 Summary of Groundwater Criteria Exceedances January 2013 Sampling Event

Parameter	MCL/GCTL		Units	Well No	Result
Background Wells					
pH	6.5 - 8.5		S.U.	MW-3	5.19
				MW-7	5.29
Iron, total	300		ug/L	MW-7	1,400
Compliance Wells					
pH	6.5 - 8.5		S.U.	MW-10	4.36
				MW-13	5.03
				MW-15	4.69
				MW-17	4.95
				MW-20	6.15
				MW-21	4.74
Iron, total	300		ug/L	MW-10	3,700
				MW-12	2,700
				MW-13	2,700
				MW-14	210+
				MW-15	9,000
				MW-17	7,700
				MW-20	85,000
				MW-21	1,200
Iron, dissolved	300		ug/L	MW-10	3,000
				MW-21	820
Benzene	1.0		ug/L	MW-10	1.6
				MW-21	2.5
Vinyl Chloride	1.0		ug/L	MW-10	1.7
				MW-21	2.3
Intermediate Well					
pH	6.5 - 8.5		S.U.	MW-6	4.49*
Iron, total	300		ug/L	MW-6	1,800*
Bromodichloromethane	0.6		ug/L	MW-6	1.7*
Dibromochloromethane	0.4		ug/L	MW-6	1.6*
Total Dissolved Solids	500		mg/L	MW-6	530*
Vinyl Chloride	1.0		ug/L	MW-6	1.9*
Assessment Wells					
pH	6.5 - 8.5		S.U.	MW-18	4.79
				MW-19	5.69

Notes:

MCL = Maximum Contaminant Target Level (Chapter 62-550, F.A.C.)

GCTL = Groundwater Cleanup Target Level (Chapter 62-777, F.A.C.)

† = This result was from a re-sample collected from MW-14 on February 20, 2013. The initial result was 420 ug/L

* = Groundwater sample was collected on February 20, 2013

S.U. = Standard Unit

mg/L = Milligram per Liter

ug/L = Microgram per Liter

Although the concentrations of benzene and vinyl chloride detected in MW-10 do not represent the minimum values detected in this well, they were lower than were detected in the samples from this well in January 2012 and July 2012. Over the past three sampling events, there has been a decreasing trend in concentrations of benzene and vinyl chloride in well MW-10.

Although the concentration of benzene detected in MW-21 was slightly higher during this monitoring period than was detected in this well during the July 2012 sampling event, concentrations of benzene above the current level have been detected in MW-21. The concentration of vinyl chloride detected in MW-21 was the highest concentration detected in this well since it was installed in 2011. The concentrations of these organic compounds in samples collected from these wells should continue to be evaluated as routine monitoring continues.

2.4 General Chemistry

The concentration of TDS slightly exceeded the MCL in the sample from intermediate well MW-6. Although this is the first time TDS has exceeded the MCL in this well since 2006, higher concentrations have historically been detected in samples from this well.

Section 3

Groundwater Contours

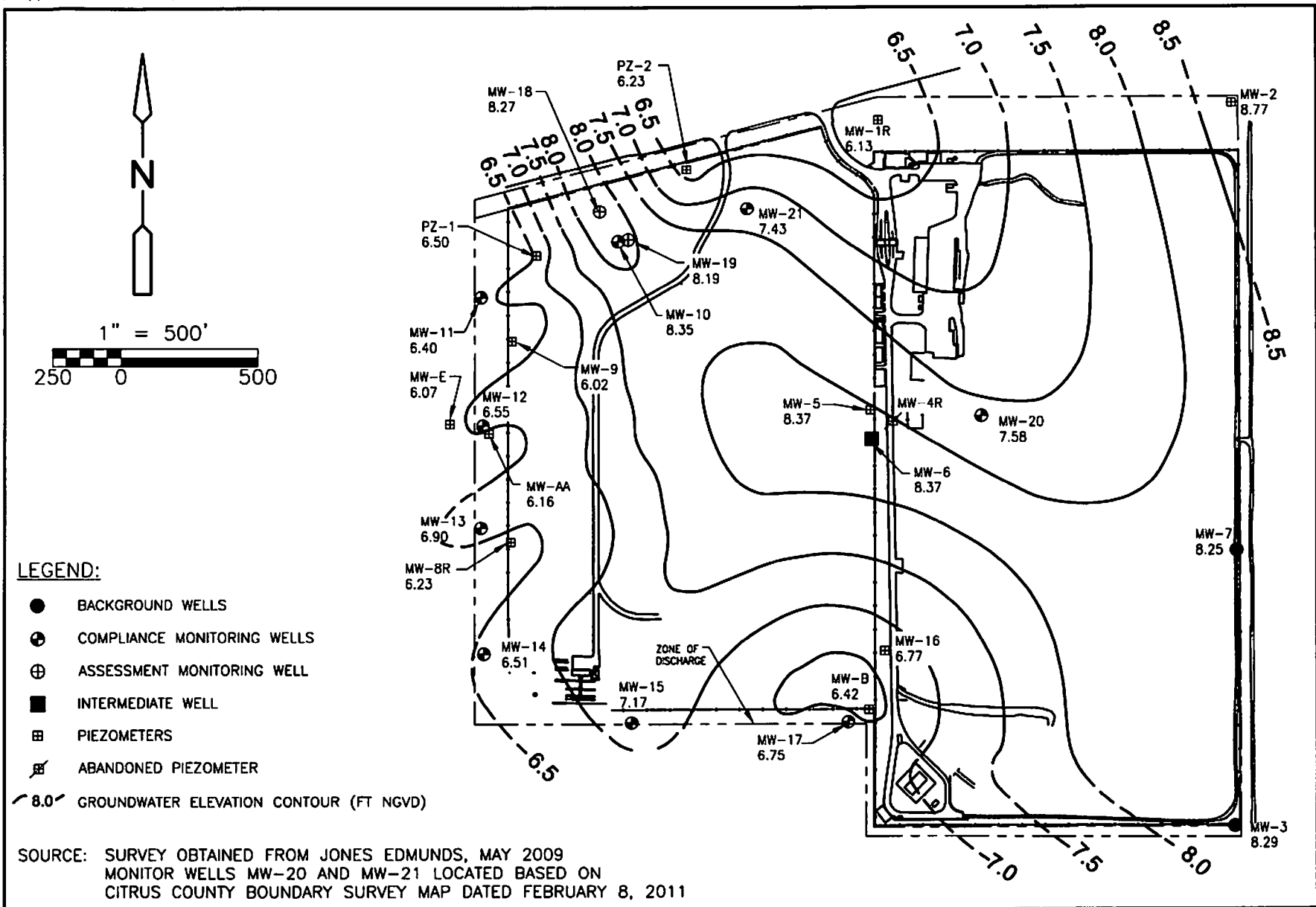
Static groundwater levels were measured by CDM Smith personnel on January 22, 2013. A contour map is provided as **Figure 3-1**. Water level data are provided in Section 5.

USER: nunesal

DATE: Mar 07, 2013 1:07pm

pw:\\DACPWAPP2\\PW_PL1\\Documents\\71138\\94426\\03 Reports and Studies\\09 CADD Figures and Graphics\\01 semi annual 2013\\FIG 3-1.dwg

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**CDM
Smith**

Figure No. 3-1
Groundwater Contour Map of Floridan Aquifer
Citrus County Central Landfill
Water Level Data Collected, January 22, 2013

Section 4

Chain of Custody Forms

Chain of custody forms for the groundwater samples collected by TestAmerica Laboratory personnel are provided in this section.

TestAmerica Orlando

8010 Sunport Drive Suite 116
Orlando, FL 32809
Phone (800) 851-2580 Fax (407) 858-0886

660-52278

Chain of Custody Record
TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Mr. Asmod Sonawane Company: CDM Smith, Inc. Address: 1715 North Westshore Blvd. Suite 875 City: Tampa State, Zip: FL, 33607 Phone: Email: sonawaneas@cdmsmith.com Project Name: Citrus County Landfill Background Wells Site: Florida		Sample: Shawn Victory Phone: 407-399-3348 Lab POC: Hornsby, Jess E-Mail: jess.hornsby@testamericainc.com Center Tracking No(s): COC No: 660-45785-12678.1 Page: Page 1 of 2 Job #: Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - NaOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3S S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-8 Z - other (specify) Other:	
Analysis Requested Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: 71138-78196-TASK1 Project #: 96003335 SSOW#:		Special Instructions/Note: Field Filtered Metals	
Sample Identification Sample Date Sample Time Sample Type (C-comp, G-grab) Matrix (Water, Soil, Sediment, Air)	333.2 - Nitrite 33460 - Total Dissolved Solids 3020, 7470A Field Sampling - Field Parameters 3390B - 3390 Appendix I Compounds 350.1 - Ammonia 8011 - Appendix I 350.0, 350 - Chloride Field Filtered Metals		Special Instructions/Note: Field Filtered Metals
Field Blank MW-3 MW-7 MW-20 MW-21	1-22-13 850 1030 1158 1310 1600	6 ↓ ↓ ↓ ↓	Water Water Water Water Water Water Water Water Water Water
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months Special Instructions/QC Requirements:	
Empty Kit Relinquished by: Relinquished by: Relinquished by:		Date: 1-22-13 1623 Date/Time: Company: TAORC Received by: Christopher Edwards Date/Time: 1/22/13 1623 Company: TestAmerica	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.: 4.2°C 4107	

2/6/2013

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TestAmerica Orlando
8010 Sunport Drive Suite 118
Orlando, FL 32809
Phone (800) 851-2560 Fax (407) 858-0886

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2/6/2013

Client Information		Sample: <u>Shawn Victory</u>		Lab Pk: <u>Hornsby, Jess</u>		Carrier Tracking No(s):		DOC No: <u>860-45785-12879.1</u>	
Client Contact: Mr. Aamod Sonawane		Phone: <u>407-399-3348</u>		E-Mail: <u>jess.hornsby@testamericainc.com</u>				Page: <u>Page 1 of 2</u>	
Company: CDM Smith, Inc.								Job #: <u>1060-52297</u>	
Address: 1715 North Westshore Blvd. Suite 875		Due Date Requested:						Preservation Codes:	
City: Tampa		TAT Requested (days):						A - HCL M - Hexano B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitro Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dithionite I - Ice U - Aszone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)	
State, Zip: FL 33607		PO #: <u>71138-79186-TASK1</u>						Other:	
Phone:		WO #: <u>66003335</u>							
Email: sonawane@cdmsmith.com		Project #: <u>66003335</u>							
Project Name: Citrus County Landfill Background Wells		SSONR:							
Site: Florida									
Sample Identification		Sample Date	Sample Time	Sample Type (C-comp, G-grab)	Matrix (W-water, S-solid, G-grab)				
						333.2 - Nitrate	334.0C - Total Dissolved Solids	3025.7470A	Field Sampling - Field Parameters
						330.0B - 3300 Appendix 1 Compounds	330.1 - Ammonia	3011 - Appendix 1	300.0 330 - Chloride
MW-17	1-23-13	840	G	Water		X	X	X	X
MW-14	↓	1003	↓	Water		X	X	X	X
MW-13	↓	1112	↓	Water		X	X	X	X
MW-12	↓	1344	↓	Water		X	X	X	X
MW-11	↓	1436	↓	Water		X	X	X	X
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological						☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: <u>Shawn Victory</u>		Date/Time: <u>1-23-13 1600</u>		Company: <u>TAOL</u>		Received by: <u>[Signature]</u>		Date/Time: <u>1-23-13 1600</u>	
Relinquished by: <u>Daniel B. Kojan</u>		Date/Time: <u>1-23-13 1720</u>		Company:		Received by: <u>[Signature]</u>		Date/Time: <u>1/23/13 1720</u>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>2.5 C LV-07</u>					

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660-52323

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

Phone (800) 851-2560 Fax (407) 858-0888

Chain of Custody Record

THE LEADER IN ENVIRONMENTAL TESTING

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Chain of Custody Record

3/6/2013

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660-52807

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

Section 5

Water Level Data

Static water level data collected by CDM Smith on January 22, 2013, are summarized in **Table 5-1**. In accordance with the permit requirements, these data were used to prepare the groundwater level contour map (Figure 3-1).

Table 5-1 Water Level Data Collected at Citrus County Central Class I Landfill

Monitor Well ID	Tasks in 1/2013 Sampling Event	Casing Size (in)	Top of Casing Elev. (NGVD)	Water Levels Measured In January 2013			
				Initial Round of Water Levels ¹		Water Level at Time of Sampling	
				(ft btoc)	(NGVD)	(ft btoc)	(NGVD)
MW-AA	WL only	2	106.11	99.95	6.16	NS	NS
MW-B	WL only	4	113.46	107.04	6.42	NS	NS
MW-E	WL only	2	109.51	103.44	6.07	NS	NS
MW-1R	WL only	2	118.08	111.95	6.13	NS	NS
MW-2	WL only	2	136.19	127.42	8.77	NS	NS
MW-3	GW Sample & WL	2	120.47	112.18	8.29	112.22	8.25
MW-5	WL only	2	121.14	112.77	8.37	NS	NS
MW-6	GW Sample & WL	2	118.48	110.11	8.37	110.53†	7.95†
MW-7	GW Sample & WL	2	128.66	120.41	8.25	120.41	8.25
MW-8R	WL only	2	118.08	111.85	6.23	NS	NS
MW-9	WL only	2	113.46	107.44	6.02	NS	NS
MW-10	GW Sample & WL	2	114.20	105.85	8.35	105.88	8.32
MW-11	GW Sample & WL	2	105.21	98.81	6.40	98.85	6.36
MW-12	GW Sample & WL	2	104.01	97.46	6.55	97.50	6.51
MW-13	GW Sample & WL	2	112.61	105.71	6.90	105.78	6.83
MW-14	GW Sample & WL	2	109.12	102.61	6.51	102.69	6.43
MW-15	GW Sample & WL	2	124.21	117.04	7.17	117.10	7.11
MW-16	WL only	2	120.31	113.54	6.77	NS	NS
MW-17	GW Sample & WL	2	111.55	104.80	6.75	104.80	6.75
MW-18	GW Sample & WL	2	116.41	108.14	8.27	108.20	8.21
MW-19	GW Sample & WL	2	114.16	105.97	8.19	105.96	8.20
MW-20	GW Sample & WL	2	119.74	112.16	7.58	112.12	7.62
MW-21	GW Sample & WL	2	115.63	108.20	7.43	108.22	7.41
PZ-1	WL only	2	111.56	105.06	6.50	NS	NS
PZ-2	WL only	2	117.32	111.09	6.23	NS	NS

Notes:

ft btoc - feet below top of casing

in - inches

NGVD - National Geodetic Vertical Datum (1929)

WL - Water Level

GW - Groundwater

NS - Not Sampled

Initial Round of Water Levels¹ - Static WLs collected from 9:15 to 13:45 on 1/22/13

† = MW-6 was sampled on February 20, 2013

Section 6

Water Quality Monitoring Report Certification

FDEP Form 62-701.900(31) completed by CDM Smith is provided in this section.



Florida Department of Environmental Protection

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

DEP Form #: 62-701.900(31), F.A.C.

Form Title: Water Quality Monitoring Certification

Effective Date: January 6, 2010

Incorporated in Rule 62-701.510(9), F.A.C.

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

- (1) Facility Name Citrus County Central Class I Landfill
Address P.O. Box 340
City Lecanto Zip 34460-0340 County Citrus
Telephone Number (352) 527-7670
- (2) WACS Facility ID SWD/09/39859
- (3) DEP Permit Number 21375-018-SO/01
- (4) Authorized Representative's Name David R. Rojas, P.G. w/CDM Smith Title Environmental Scientist
Address 1715 N. West Shore Blvd. Suite 875
City Tampa Zip 33607 County Hillsborough
Telephone Number (813) 281-2900
Email address (if available) Rojasdr@cdmsmith.com

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

3-27-13

(Date)

David R. Rojas

(Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

- Sampling Organization TestAmerica Laboratories, Inc.
- Analytical Lab NELAC / HRS Certification # Tpa - E84282, Tal - E81005, Orlando - E83012, & Savannah GA - E87052
- Lab Name TestAmerica Laboratories, Inc.
- Address 6712 Benjamin Road, Suite 100, Tampa, FL 33634
- Phone Number (813) 885-7427
- Email address (if available) www.testamericainc.com

Northwest District
160 Government Center
Pensacola, FL 32501-5794
850-593-8360

Northeast District
7825 Baymeadows Way, Ste. 200 B
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 McGuire Blvd., Ste. 232
Orlando, FL 32803-3787
407-894-7555

Southwest District
13051 N. Telecom Pkwy.
Tempe Terrace, FL
813-632-7600

South District
2285 Victoria Ave., Ste. 364
Fort Myers, FL 33902-2549
239-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-881-8600

Section 7

Field Sampling Logs

Groundwater sampling logs and equipment calibration logs prepared by TestAmerica Laboratory Inc. are included in this section.

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PURGING DATA

PURGING EQUIPMENT CODES: B = Beller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

REMARKS:

1 CPM 40/50 58 psi

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: $\pm 0.2^{\circ}\text{C}$ Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2);
 optionally, $\pm 0.2\text{ mg/L}$ or $\pm 10\%$ (whichever is greater) Turbidity: all readings $\leq 20\text{ NTU}$; optionally $\pm 5\text{ NTU}$ or $\pm 10\%$ (whichever is greater)
 Revision Date: February 12, 2009

Motor #s: M-L/T-3

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PURGING DATA

SAMPLING DATA

Revision Date: February 12, 2009

Meter #'s: A-1 H-3

PAGE: 1 of 1

PURGING DATA

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 138	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 138	PURGING INITIATED AT: 1107	PURGING ENDED AT: 1148	TOTAL VOLUME PURGED (gallons): 5.0
--	--	----------------------------	------------------------	------------------------------------

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.08; 2" = 0.16; 3" = 0.37; 4" = 0.66; 5" = 1.02; 6" = 1.47; 12" = 6.98
TURNING METER DIA. CAPACITY (Gal/Ft): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 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)

FIELD DECONTAMINATION: PUMP Y ☒ TUBING Y ☒ (replaced) DUPLICATE: Y ☒

REMARKS: 10 AM 35% - 62.25

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Boiler; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTE: 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: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)
 Revision Date: February 12, 2009

TESTAMERICA ORLANDO FIELD SAMPLING LOG -
DEP-SOP-001/01- Form FD 9000-24 GROUNDWATER SAMPLING

Meter #s: M-1 / T-3

PAGE: 1 of 1

SITE NAME: <u>Citrus County Landfill</u>	SITE LOCATION: <u>Lecanto, FL</u>	DATE: <u>1-24-13</u>
WELL NO: <u>MW-10</u>	SAMPLE ID: <u>MW-10</u>	

PURGING DATA

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>3/8</u>	WELL SCREEN INTERVAL DEPTH: <u>20.5</u> feet to <u>10.5</u> feet	STATIC DEPTH TO WATER (feet): <u>105.88</u>	PURGE PUMP TYPE OR BAILER: <u>BP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) <u>14.62</u> = <u>(120.50 - 105.88)</u> feet X <u>16</u> gallons/foot = <u>2.34</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 113			FINAL PUMP OR TUBING DEPTH IN WELL (feet): 113			PURGING INITIATED AT: 934		PURGING ENDED AT: 1044		TOTAL VOLUME PURGED (gallons): 5.0		
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro units) (micro mhos/cm or µmhos/cm)	DISSOLVED OXYGEN (micro units) (mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR	ORP
1004	2.34	2.34	.06	106.7	4.21	22.6	45	.58	52.5	cloudy	NO	-
1014	.60	2.94	.06	106.65	4.27	22.6	45	.56	69.6	↓	↓	-
1024	.60	3.54	.06	106.65	4.33	22.6	45	.58	38.3	↓	↓	-
1034	.60	4.14	.06	106.65	4.34	22.6	45	.56	35.1	↓	↓	-
1044	.60	4.74	.06	106.65	4.36	22.6	44	.62	31.2	↓	↓	-
						</						

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; 6" = 1.02; 8" = 1.47; 12" = 5.88;
 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>SHAWN VICTORY/TESTAMERICA</u>				SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>				SAMPLING INITIATED AT: <u>1044</u>		SAMPLING ENDED AT: <u>1054</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>113</u>				TUBING MATERIAL CODE: <u>PE</u>		FIELD FILTERED: ☒ N		FILTER SIZE: <u>1.0</u> µm			
FIELD DECONTAMINATION: PUMP <u>Y</u> TUBING <u>Y</u> (replaced)				DUPLICATE: <u>Y</u>							
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)		
SAMPLER ID CODE	CONTAINER	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
MW-10	1	PE	1000	UMP	0	4.4	+ DS	BP	240		
↓	2	PE	250	UMP	0	4.4	Cl, Nitrate	↓	↓		
↓	2	PE	250	H2SO4	0	2.0	350.1, 352.2	↓	↓		
↓	2	PE	250	HNO3	0	2.0	6020, 7470A	↓	↓		
↓	3	CG	40	UMP	0	-	6260B	↓	< 150		
↓	3	CG	40	HCl	0	-	8011	↓	< 150		

REMARKS:

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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = 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

PAGE: 1 of 1

PURGING DATA

SAMPLING DATA

Revision Date: February 12, 2009

Meter #'s: M-1 / T-3

PAGE: 1 of 1

PURGING DATA

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	107	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	107	PURGING INITIATED AT: 1321	PURGING ENDED AT: 1338	TOTAL VOLUME PURGED (gallons):	3.2
--	-----	--	-----	----------------------------	------------------------	--------------------------------	-----

WELL CAPACITY (Gallons Per Foot): $0.75" = 0.02$; $1" = 0.04$; $1.25" = 0.08$; $2" = 0.16$; $3" = 0.37$; $4" = 0.65$; $6" = 1.02$; $8" = 1.47$; $12" = 6.88$
 TUBING INSIDE DIA. CAPACITY (Gal/FL): $1/8" = 0.0008$; $3/16" = 0.0014$; $1/4" = 0.0022$; $5/16" = 0.004$; $3/8" = 0.006$; $1/2" = 0.010$; $5/8" = 0.018$
 PP = Peristaltic Pump; O = Other (Specify)

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0017, 1/4" = 0.0033, 5/16" = 0.0055, 3/8" = 0.0083, 1/2" = 0.0167, 5/8" = 0.0250, 3/4" = 0.0333, 7/8" = 0.0417, 1" = 0.0500, 1 1/8" = 0.0694, 1 1/4" = 0.0833, 1 3/8" = 0.1042, 1 1/2" = 0.1250, 1 5/8" = 0.1500, 1 3/4" = 0.1667, 1 7/8" = 0.1875, 2" = 0.2083, 2 1/8" = 0.2344, 2 1/4" = 0.2604, 2 3/8" = 0.2865, 2 1/2" = 0.3125, 2 5/8" = 0.3387, 2 3/4" = 0.3646, 2 7/8" = 0.3906, 3" = 0.4167, 3 1/8" = 0.4427, 3 1/4" = 0.4688, 3 3/8" = 0.4948, 3 1/2" = 0.5208, 3 5/8" = 0.5469, 3 3/4" = 0.5729, 3 7/8" = 0.5989, 4" = 0.6250, 4 1/8" = 0.6510, 4 1/4" = 0.6771, 4 3/8" = 0.7031, 4 1/2" = 0.7292, 4 5/8" = 0.7552, 4 3/4" = 0.7813, 4 7/8" = 0.8073, 5" = 0.8333, 5 1/8" = 0.8594, 5 1/4" = 0.8854, 5 3/8" = 0.9115, 5 1/2" = 0.9375, 5 5/8" = 0.9636, 5 3/4" = 0.9896, 5 7/8" = 1.0156, 6" = 1.0417, 6 1/8" = 1.0677, 6 1/4" = 1.0938, 6 3/8" = 1.1198, 6 1/2" = 1.1458, 6 5/8" = 1.1719, 6 3/4" = 1.1979, 6 7/8" = 1.2239, 7" = 1.2500, 7 1/8" = 1.2760, 7 1/4" = 1.3021, 7 3/8" = 1.3281, 7 1/2" = 1.3542, 7 5/8" = 1.3802, 7 3/4" = 1.4063, 7 7/8" = 1.4323, 8" = 1.4583, 8 1/8" = 1.4844, 8 1/4" = 1.5104, 8 3/8" = 1.5365, 8 1/2" = 1.5625, 8 5/8" = 1.5886, 8 3/4" = 1.6146, 8 7/8" = 1.6406, 9" = 1.6667, 9 1/8" = 1.6927, 9 1/4" = 1.7188, 9 3/8" = 1.7448, 9 1/2" = 1.7708, 9 5/8" = 1.7969, 9 3/4" = 1.8229, 9 7/8" = 1.8489, 10" = 1.8750, 10 1/8" = 1.9011, 10 1/4" = 1.9271, 10 3/8" = 1.9531, 10 1/2" = 1.9792, 10 5/8" = 2.0052, 10 3/4" = 2.0313, 10 7/8" = 2.0573, 11" = 2.0833, 11 1/8" = 2.1094, 11 1/4" = 2.1354, 11 3/8" = 2.1615, 11 1/2" = 2.1875, 11 5/8" = 2.2136, 11 3/4" = 2.2396, 11 7/8" = 2.2656, 12" = 2.2917, 12 1/8" = 2.3177, 12 1/4" = 2.3438, 12 3/8" = 2.3698, 12 1/2" = 2.3958, 12 5/8" = 2.4219, 12 3/4" = 2.4479, 12 7/8" = 2.4739, 13" = 2.5000, 13 1/8" = 2.5260, 13 1/4" = 2.5521, 13 3/8" = 2.5781, 13 1/2" = 2.6042, 13 5/8" = 2.6302, 13 3/4" = 2.6563, 13 7/8" = 2.6823, 14" = 2.7083, 14 1/8" = 2.7344, 14 1/4" = 2.7604, 14 3/8" = 2.7865, 14 1/2" = 2.8125, 14 5/8" = 2.8386, 14 3/4" = 2.8646, 14 7/8" = 2.8906, 15" = 2.9167, 15 1/8" = 2.9427, 15 1/4" = 2.9688, 15 3/8" = 2.9948, 15 1/2" = 3.0208, 15 5/8" = 3.0469, 15 3/4" = 3.0729, 15 7/8" = 3.0989, 16" = 3.1250, 16 1/8" = 3.1511, 16 1/4" = 3.1771, 16 3/8" = 3.2031, 16 1/2" = 3.2292, 16 5/8" = 3.2552, 16 3/4" = 3.2813, 16 7/8" = 3.3073, 17" = 3.3333, 17 1/8" = 3.3594, 17 1/4" = 3.3854, 17 3/8" = 3.4115, 17 1/2" = 3.4375, 17 5/8" = 3.4636, 17 3/4" = 3.4896, 17 7/8" = 3.5156, 18" = 3.5417, 18 1/8" = 3.5677, 18 1/4" = 3.5938, 18 3/8" = 3.6198, 18 1/2" = 3.6458, 18 5/8" = 3.6719, 18 3/4" = 3.6979, 18 7/8" = 3.7239, 19" = 3.7500, 19 1/8" = 3.7760, 19 1/4" = 3.8021, 19 3/8" = 3.8281, 19 1/2" = 3.8542, 19 5/8" = 3.8802, 19 3/4" = 3.9063, 19 7/8" = 3.9323, 20" = 3.9583, 20 1/8" = 3.9844, 20 1/4" = 4.0104, 20 3/8" = 4.0365, 20 1/2" = 4.0625, 20 5/8" = 4.0886, 20 3/4" = 4.1146, 20 7/8" = 4.1406, 21" = 4.1667, 21 1/8" = 4.1927, 21 1/4" = 4.2188, 21 3/8" = 4.2448, 21 1/2" = 4.2708, 21 5/8" = 4.2969, 21 3/4" = 4.3229, 21 7/8" = 4.3489, 22" = 4.3750, 22 1/8" = 4.4011, 22 1/4" = 4.4271, 22 3/8" = 4.4531, 22 1/2" = 4.4792, 22 5/8" = 4.5052, 22 3/4" = 4.5313, 22 7/8" = 4.5573, 23" = 4.5833, 23 1/8" = 4.6094, 23 1/4" = 4.6354, 23 3/8" = 4.6615, 23 1/2" = 4.6875, 23 5/8" = 4.7136, 23 3/4" = 4.7396, 23 7/8" = 4.7656, 24" = 4.7917, 24 1/8" = 4.8177, 24 1/4" = 4.8438, 24 3/8" = 4.8698, 24 1/2" = 4.8958, 24 5/8" = 4.9219, 24 3/4" = 4.9479, 24 7/8" = 4.9739, 25" = 5.0000, 25 1/8" = 5.0260, 25 1/4" = 5.0521, 25 3/8" = 5.0781, 25 1/2" = 5.1042, 25 5/8" = 5.1302, 25 3/4" = 5.1563, 25 7/8" = 5.1823, 26" = 5.2083, 26 1/8" = 5.2344, 26 1/4" = 5.2604, 26 3/8" = 5.2865, 26 1/2" = 5.3125, 26 5/8" = 5.3386, 26 3/4" = 5.3646, 26 7/8" = 5.3906, 27" = 5.4167, 27 1/8" = 5.4427, 27 1/4" = 5.4688, 27 3/8" = 5.4948, 27 1/2" = 5.5208, 27 5/8" = 5.5469, 27 3/4" = 5.5729, 27 7/8" = 5.5989, 28" = 5.6250, 28 1/8" = 5.6511, 28 1/4" = 5.6771, 28 3/8" = 5.7031, 28 1/2" = 5.7292, 28 5/8" = 5.7552, 28 3/4" = 5.7813, 28 7/8" = 5.8073, 29" = 5.8333, 29 1/8" = 5.8594, 29 1/4" = 5.8854, 29 3/8" = 5.9115, 29 1/2" = 5.9375, 29 5/8" = 5.9636, 29 3/4" = 5.9896, 29 7/8" = 6.0156, 30" = 6.0417, 30 1/8" = 6.0677, 30 1/4" = 6.0938, 30 3/8" = 6.1198, 30 1/2" = 6.1458, 30 5/8" = 6.1719, 30 3/4" = 6.1979, 30 7/8" = 6.2239, 31" = 6.2500, 31 1/8" = 6.2760, 31 1/4" = 6.3021, 31 3/8" = 6.

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTERDE ANALYSIS AND/OR METHOD	EQUIPMENT CODE	FLOW RATE (mL per minute)
SAMPL E ID CODE	# CONTAIN ERS	MATERI AL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MU-42	1	PE	1000	UNP	0	6.7	TDS	BP	720
↓	2	PE	250	UNP	0	6.7	Cl, Nitrate	↓	↓
↓	2	PE	250	H2SO4	0	2.0	350.1, 353.2	↓	↓
↓	1	PE	250	HNO3	0	2.0	6020, 747A	↓	↓
↓	3	CG	40	UNP	0	-	8260B	↓	450
↓	3	CG	40	HCl	0	-	8011	↓	250

2 Q PM 13/17 60 psi

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; FG = Frosted Glass; BG = Borosilicate Glass; PP = Polypropylene; PE = Polyethylene; PS = Polystyrene; PC = Polycarbonate; PMMA = Plexiglas; PVC = Polyvinyl Chloride; Teflon = PTFE

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Boiler; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

1. The above do not constitute all of the minimum criteria for the use of the data.

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

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

Revision Date: February 12, 2009

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Meter #s: M-1 / R-3

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PURGING DATA

		=	gallons + (	gallons/foot X	feet) +	gallons =	gallons
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	115						
FINAL PUMP OR TUBING DEPTH IN WELL (feet):	115						
PURGING INITIATED AT:	912						
PURGING ENDED AT:	955						
TOTAL VOLUME PURGED (gallons):							4.8

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" = 6.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PUMPING EQUIPMENT CODES: B = Sucker; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: SHAWN VICTORY/TESTAMERICA	SAMPLET(S) SIGNATURE(S): 	SAMPLING INITIATED AT: 955	SAMPLING ENDED AT: 1003
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FIELD DECONTAMINATION: PUMP Y ☒ TUBING Y ☒ (replaced) DUPLICATE: Y ☒

REMARKS:

2 cfm 15/15 . 60 psi

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 = Baker; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPF = 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 82-160, F.A.C.

41 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: $\pm 0.2^{\circ}\text{C}$ Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2);
optionally, $\pm 0.2\text{ mg/L}$ or $\pm 10\%$ (whichever is greater) Turbidity: all readings $\leq 20\text{ NTU}$; optionally $\pm 5\text{ NTU}$ or $\pm 10\%$ (whichever is greater)
Sampling Date: February 12, 2009

Revision Date: February 12, 2009

Meter #'s: M-1 4 3

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Revision Date: February 12, 2000

Meter #s: M-1/T-3

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PURGING DATA

PURGING EQUIPMENT CODES: B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

Revision Date: February 12, 2009

Meter #'s: M-1 / T-3

PAGE: 1 of 1

PURGING DATA

SAMPLING DATA

52 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: $\pm 0.2^{\circ}\text{C}$ Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2);
optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)
Revision Date: February 12, 2009

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Meter #'s: M-1 / T-3

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PURGING DATA

[illegible]

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.08; 2" = 0.16; 3" = 0.37; 4" = 0.88; 6" = 1.02; 8" = 1.47; 12" = 5.88
 TIRING INSIDE DIA. CAPACITY (Gal/Ft): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Beller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: SHAWN VICTORY/TESTAMERICA		SAMPLER(S) SIGNATURE(S): 		SAMPLING INITIATED AT: 1648	SAMPLING ENDED AT: 1650
PUMP OR TUBING DEPTH IN WELL (feet): 117	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y ☒ M ☒		FILTER SIZE: _____ µm	
FIELD DECONTAMINATION: PUMP Y ☒ M ☒		TUBING Y ☒ (replaced)		DUPLICATE Y ☒	

[illegible]

REMARKS:

1 cdm $\frac{30}{30}$ 70 psi

MATERIAL CODE: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Airlift Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RPPP = 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 82-160, F.A.C.

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

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

Revision Date: February 12, 2009

Meter #'s: M-1 / T-3

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PURGING DATA

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 122	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 122	PURGING INITIATED AT: 1214	PURGING ENDED AT: 1300	TOTAL VOLUME PURGED (gallons): 3.5
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WELL CAPACITY (Gallons Per Foot): $0.78'' = 0.02$; $1'' = 0.04$; $1.25'' = 0.08$; $2'' = 0.16$; $3'' = 0.37$; $4'' = 0.68$; $5'' = 1.02$; $6'' = 1.47$; $12'' = 5.88$
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): $1/8'' = 0.0008$; $3/16'' = 0.0014$; $1/4'' = 0.0028$; $5/16'' = 0.004$; $3/8'' = 0.008$; $1/2'' = 0.016$; $5/8'' = 0.018$

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MM-20	1	PE	1000	UNP	Ø	6.1	TPS	DP	250
↓	2	PE	250	UNP	Ø	6.1	Cl ₂ Nitrate	↓	↓
↓	2	PE	250	H ₂ SO ₄	Ø	22.0	250.1/353.2	↓	↓
↓	1	PE	250	HNO ₃	Ø	22.0	6020, 7470A	↓	↓
↓	3	CB	40	UNP	r	—	8260 B	↓	< 150
↓	3	CB	40	HCl	y	—	8011	↓	< 150

REMARKS: 2 CPM 15/15 60 psi

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;
RPP = 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: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ 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

Meter #'s: M-1/T-3

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PURGING DATA

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME									
(only fill out if applicable)	=	gallons + (	gallons/foot X	feet) +	gallons =	gallons			

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) $\mu\text{mhos/cm}$ or cm^2/cm	DISSOLVED OXYGEN (circle units) $\frac{\text{mg/L}}{\% \text{ saturation}}$	TURBIDITY (NTUs)	COLOR describe	ODOR	ORP
1439	2.83	2.83	.06	108.37	4.79	22.9	62	.35	37.7	cloudy	NO	-
1451	.72	3.55	.06	108.37	4.77	22.9	63	.31	36.5			-
1503	.72	4.27	.06	108.37	4.78	22.8	62	.34	52.7			-
1515	.72	4.99	.06	108.37	4.77	22.7	62	.36	38.2			-
1527	.72	5.71	.06	108.37	4.75	22.9	63	.39	23.9			-
1539	.72	6.43	.06	108.37	4.75	22.9	62	.41	22.4			-
1551	.72	7.15	.06	108.37	4.74	23.0	62	.32	21.8			-
							Filtred Turbidity	.87				

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.66; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal/Ft): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 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)

FIELD DECONTAMINATION:	PUMP	Y	(N)	TUBING	Y	(N) (replaced)	DUPLICATE:	Y	(N)
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SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
SAMPL E ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MC-21	1	PE	1000	UMP	0	7.8	TPS	BP	240
	2	PE	250	UMP	0	7.8	Cl ₂ Nitrate	↓	↓
↓	2	PE	250	H ₂ SO ₄	0	≤2.0	350.1, 253.2		
		PE	250	HNO ₃	0	≤2.0	6020, 7470A		
↓	3	CB	40	UMP	0	—	8200 B		
	3	CB	40	HCl	0	—	8011		

REMARKS: 1 cpm $30/30$ 60 psi

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 = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFP = 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: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)
 Revision Date: February 12, 2009

Revision Date: February 12, 2009

TestAmerica, 8010 Sunport Drive, Ste. 116, Orlando, FL 32809
Field Calibration Logbook

Name: Citrus County Landfill Date: 1-22-13 Instrument #: M-1/T-3 Make/Model: YSI 556/Hach 2100F

pH:

	pH Buffer	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)	Temp. (°C)
Initial	7.00	124088	7/2014	830	7.02	NO	CCV	19.2
	4.00	114768	9/2013	831	3.95	NO	CCV	19.3
	10.00							
Post	7.00	124088	7/2014	1836	7.15	NO	CCV	20.1
	4.00	114768	9/2013	1831	3.94	NO	CCV	20.1
	10.00							

CONDUCTIVITY STANDARD:

	Conductivity (uS/cm)	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	100	2104072	3/2013	836	100	YES	ICV
	1000						
	10000						
Post	100	2104072	3/2013	927	99	NO	CCV
	1000						
	10000						

DISSOLVED OXYGEN: (Reference Table FS2200-2)*

Temperature Probe Annual Calibration: Date: _____, NIST Therm. ID#: _____

	Temp. (°C)	DO*(mg/L)	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	14.7	10.14	820	14.7 / 10.14	YES	ICV
Post	17.7	9.52	1825	17.7 / 9.37	NO	CCV

ORP: (Reference Table 6.2 Zobeil Solution Values)*

	ORP (mV/Volts)*	Element #	Exp. Date	Time	Temp. (°C)	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial								
Post								

TURBIDITY:

	Turbidity (NTU)	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	<0.10	A231	1/2014	826	5.82	NO	CCV
	20	↓	↓	↓	51.0	↓	↓
	100	↓	↓	↓	527	↓	↓
	800	↓	↓	↓			
Post	<0.10	A231	1/2014	1820	5.82	NO	CCV
	20	↓	↓	↓	51.1	↓	↓
	100	↓	↓	↓	526	↓	↓
	800	↓	↓	↓			

Acceptance Criteria: 1-10 NTU=10%, 11-40 NTU=8%, 41-100 NTU=6.5%, >100 NTU=5%

Calibrated only in Calibrate Mode

ICV- Initial Calibration Verification (perform only in Run Mode)

CCV- Continuing Calibration Verification (perform only in Run Mode)

Signature: Shawn Kist

Date: 1-22-13

TestAmerica, 8010 Sunport Drive, Ste. 116, Orlando, FL 32809
Field Calibration Logbook

Name: Citrus County Landfill Date: 1/23/13 Instrument #: A-1/T-2 Make/Model: YSI 534/Hech 2100P

pH:

	pH Buffer	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)	Temp. (°C)
Initial	7.00	124088	7/2014	718	7.00	YES	ICV	8.7
	4.00	114768	9/2013	720	3.99	YES	CCV	8.3
	10.00							
Post	7.00	124088	7/2014	1720	6.84	NO	CCV	19.1
	4.00	114768	9/2013	1721	4.04	✓	✓	19.1
	10.00							

CONDUCTIVITY STANDARD:

	Conductivity (uS/cm)	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	100	210472	3/2013	720	99	NO	CCV
	1000						
	10000						
Post	100	210472	3/2013	1725	98	NO	CCV
	1000						
	10000						

DISSOLVED OXYGEN: (Reference Table FS2200-2)*

Temperature Probe Annual Calibration: Date: _____, NIST Therm. ID#: _____

	Temp. (°C)	DO* (mg/L)	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	4.65	12.89	730	4.65/12.91	YES	CCV
Post	5.74	12.52	1730	5.74/12.64	YES	CCV

ORP: (Reference Table 6.2 Zobell Solution Values)*

	ORP (milliVolts)*	Element #	Exp. Date	Time	Temp. (°C)	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial								
Post								

TURBIDITY:

	Turbidity (NTU)	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	<0.10	A231	1/2014	715	5.82	NO	CCV
	20.52	↓	↓	↓	51.0	↓	↓
	100.53	↓	↓	↓	520	↓	↓
	800						
Post	<0.10	A23	1/2014	1727	6.01	NO	CCV
	20.52	↓	↓	↓	49.6	↓	↓
	100.53	↓	↓	↓	530	↓	↓
	800						

Acceptance Criteria: 1-10 NTU=10%, 11-40 NTU=8%, 41-100 NTU=6.5%, >100 NTU=5%

Calibrated only in Calibrate Mode

ICV- Initial Calibration Verification (perform only in Run Mode)

CCV- Continuing Calibration Verification (perform only in Run Mode)

Signature: Alfred V...

Date: 1/23/13

Name: Citrus County Lab Date: 1-24-13 Instrument #: M-1/T-3 Make/Model: YS550 / 14cm 210P

pH:

	pH Buffer	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)	Temp. (°C)
Initial	7.00	124088	7/2014	734	7.00	Yes	ICV	8.1
	4.00	114768	9/2013	735	4.00	↓	ICV	8.1
	10.00							
Post	7.00	124088	7/2014	1500	7.05	NO	CCV	16.5
	4.00	114768	9/2013	1502	4.04	↓	ICV	16.6
	10.00							

CONDUCTIVITY STANDARD:

	Conductivity (uS/cm)	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	100	210472	3/2013	732	95	NO	ICV
	1000						
	10000						
Post	100	210472	3/2013	1504	98	NO	ICV
	1000						
	10000						

DISSOLVED OXYGEN: (Reference Table FS2200-2)*

Temperature Probe Annual Calibration: Date:

NIST Therm. ID#:

	Temp. (°C)	DO* (mg/L)	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	5.79	12.52	727	5.79/12.49	Yes	ICV
Post	17.5	9.56	1508	17.5/9.68	NO	CCV

ORP: (Reference Table 6.2 Zobell Solution Values)*

	ORP (milliVolts)*	Element #	Exp. Date	Time	Temp. (°C)	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial								
Post								

TURBIDITY:

	Turbidity (NTU)	Element #	Exp. Date	Time	Inst. Response	Calibrated (Y/N)	Type (ICV, CCV)
Initial	<0.10	A221	1/2014	730		NO	CCV
	5.80 20	↓	↓	↓	6.01	NO	CCV
	520 100	↓	↓	↓	49.6	↓	↓
	370 800				535		
Post	5.80 20	A231	1/2014	1512	4.65	NO	CCV
	520 20	↓	↓	↓	4.67	↓	↓
	530 100				536		
	800						

Acceptance Criteria: 1-10 NTU=10%, 11-40 NTU=8%, 41-100 NTU=6.5%, >100 NTU=5%

Calibrated only in Calibrate Mode

ICV- Initial Calibration Verification (perform only in Run Mode)

CCV- Continuing Calibration Verification (perform only in Run Mode)

Signature: [Signature]

Date: 1/24/13

Section 8

Laboratory and Field EDDs and Error Logs (ADaPT Report)

Portable document file (PDF) copies of the laboratory reports are included in a compact disc in this section. The laboratory electronic data deliverable (EDD), the laboratory EDD error log, and the field EDD for use with FDEP's ADaPT software are provided as separate .txt electronic files on the compact disc. Because a leachate effluent sample was collected from the site for laboratory analysis on the same day that MW-6 was sampled and MW-14 was re-sampled, the ADaPT file provided for the samples collected on February 20, 2013 include data from the leachate sample even though the laboratory report and a discussion regarding the results of the leachate sampling are not provided in this report submittal. The laboratory report and a discussion regarding the results of the leachate sampling will be submitted separately.