

Dept. of Environmental Protection

SEP 23 2013

Southwest District

SUMTER COUNTY
(CLOSED) LANDFILL
QUARTERLY GROUNDWATER
MONITORING REPORT
Quarter III (August) 2013

53008

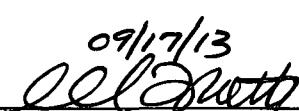
Prepared for:

SUMTER COUNTY
SOLID WASTE DEPARTMENT
SUMTER COUNTY, FLORIDA

Prepared by:

THE COLINAS GROUP, INC.
377 Maitland Avenue, Suite 2012
Altamonte Springs, Florida 32701

Prepared by:

09/17/13


Richard L. Potts, Jr., P.G.
FL P.G. License No. 1113

September 2013

Florida Department of Environmental Protection

3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767

Ground Water Monitoring Report Certification Form Rule 62-520.600(11)

PART I GENERAL INFORMATION

(1) Facility Name Sumter County Closed Class I Landfill

Address 835 C.R. 529

City Lake Panasoffkee

Zip 33538

County Sumter

Telephone Number (352)-793-3368

E-mail address jackey.jackson@sumtercountyfl.gov

(2) WACS_Facility 53008

(3) DEP Permit Number 22926-004-SF

(4) Authorized Representative's Name Jackey Jackson

Title Ass't. Director Public Works

Address 319 E. Anderson Avenue

City Bushnell

Zip 33513

County Sumter

Telephone Number (352)-793-0240

E-mail address jackey.jackson@sumtercountyfl.gov

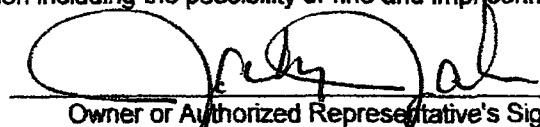
(5) Type of Discharge NA

(6) Method of Discharge NA

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.

9/17/13



Owner or Authorized Representative's Signature

Date

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Name & DOH # The Colinas Group, Inc. / 870148G/3

Analytical Lab Organization DOH # E53076 E84589 E82574

Lab Name Advanced Environmental Laboratories, Inc.

Address 6601 Southport Parkway, Jacksonville, Florida 32216

Phone Number (904)-363-9350

E-mail Address msantiago@aellab.com

DER Form 62-520.900(2)

Effective April 14, 1994

1/13/2009m

THE COLINAS GROUP, INC.
HYDROGEOLOGISTS & ENGINEERS

September 19, 2013

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

Subj: Quarter III (August) 2013 Groundwater Monitoring Report
Sumter County Closed Class I Landfill
Sumter County, Florida
WACS_Facility ID #53008
FDEP Permit No. 22926-003-SF

Dear Mr. Lubozynski:

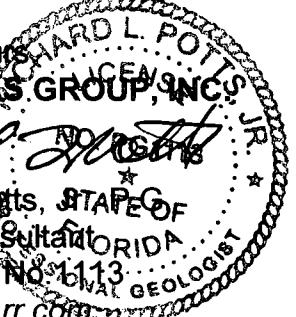
On behalf of Sumter County Board of County Commissioners, The Colinas Group, Inc. (TCG) herewith submits the Electronic Data Deliverable of the report prepared by TCG entitled:

**Sumter County (Closed) Landfill Quarterly Groundwater Monitoring Report,
Quarter III (August) 2013**

The report was prepared and is submitted in satisfaction of part of the requirements of the Sumter County Closed Landfill Long-Term Care Permit.

If you have any questions concerning the contents of the report please do not hesitate to contact me at your convenience.

Very truly yours,
THE COLINAS GROUP, INC.


Richard L. Potts, P.G.,
Principal Consultant
FL. P.G. Reg. No. 1113
rickpotts@cfl.rr.com

cc: Mr. Jackey Jackson (Sumter County)
Ms. Denise Warnock (Sumter County)
Mr. John Morris, P.G. (FDEP SW District)

**SUMTER COUNTY (CLOSED) LANDFILL
GROUNDWATER MONITORING REPORT
SUMTER COUNTY, FLORIDA
Quarter III (August) 2013**

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2. Laboratory Analytical Reports
3. Field Sampling and Testing Logs
4. Chain-of-Custody Forms
5. Field Quality Control Reports
6. FDEP ADaPT/EDD Disc - (In Pocket)

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**SUMTER COUNTY (CLOSED) LANDFILL
QUARTERLY GROUNDWATER MONITORING REPORT
QUARTER III (AUGUST) 2013**

INTRODUCTION

The Colinas Group, Inc. (TCG) has reviewed the groundwater monitoring well sampling and analytical results for the Quarter III (August) 2013 sampling event at the Sumter County (Closed) Landfill near Lake Panasoffkee in Sumter County. The sampling event was completed in accordance with the quarterly water quality monitoring and reporting requirements of the closed landfill's FDEP Long-Term Care Permit #22926-003-SF.

SAMPLING EVENT

The Quarter III 2013 sampling event at the Sumter County Landfill was completed during the period August 8 -14, 2013. Sampling was performed by TCG in accordance with the Florida Department of Environmental Protection (FDEP) Standard Operating Procedures (SOP) for Field Activities. Water samples collected from the facility groundwater monitoring wells were tested for the required field parameters. Monitoring wells were purged and the groundwater discharge allowed to stabilize prior to sample collection.

The results of field testing were recorded as part of the Field Reports (Attachment 3) and are listed in Table I. All samples were preserved and stored as required prior to shipment to the analytical laboratory.

Laboratory analytical services were provided by Advanced Environmental Laboratories, Inc. (AEL) in accordance with the laboratory's NELAC and FDHRS Certification No. E53076, E84589, and E82574. The original analytical reports prepared by AEL are presented in Attachment 2 to this report.

Water table depth measurements in each facility groundwater monitoring well and piezometer were recorded on August 8, 2013. These measurements were used to construct the Groundwater Contour Map shown on Figure 1 (Attachment 1) for the uppermost receiving groundwater aquifer beneath the site. Depth to water table measurements and corresponding groundwater elevations are listed in Table II.

Monitoring wells MW-4C and MW-4D were found damaged during the May 2013 sampling event, apparently by on-going construction activities in the western portion of the landfill

property. The damaged above-grade wellheads at MW-4C and MW-4D were subsequently repaired by Sumter County, top of casing elevations surveyed and the wells returned to service. Both monitoring wells were used for water level measurement during this sampling event.

RESULTS

Field Tested Parameters

Results of field testing completed at groundwater monitoring wells for the Quarter III 2013 sampling event are summarized in Table I. Field tests were completed in strict accordance with the FDEP SOP requirements.

pH

The field testing results indicate pH of groundwater in the uppermost aquifer was within the FDEP secondary standard (6.5 - 8.5 pH units) at six (6) of the nine (9) groundwater monitoring wells sampled. The nearly neutral to slightly basic pH values measured are consistent across the landfill property and appear normal considering the monitoring well screen intervals at and near the top of carbonate rocks and sediments.

One well (**MW-4B**) produced groundwater with a pH above the upper FDEP range at 8.93 pH units. This well has produced pH values above 8.5 since sampling of the well began in Quarter II of 2006.

Fluid Temperature

Temperature of each water sample was measured in the field immediately following discharge into the flow cell used to accept flow from the purging pump. Temperature measurements of groundwater from the monitoring wells varied through a relatively narrow range of 24.32 C to 27.49 C.

Dissolved Oxygen

Dissolved oxygen (DO) exceeded the FDEP sampling guidance level of 20% saturation at five (5) of the nine (9) monitoring wells sampled, including the facility Background Well **MW-6A**.

Specific Conductance

Specific conductance of groundwater samples collected during this sampling event are included in Table I. Specific conductance values varied through a relatively narrow range of 115 umhos/cm to 928 umhos/cm.

Turbidity

The FDEP recommends attainment of turbidity values less than 10 to 20 NTUs in groundwater samples obtained from monitoring wells. As shown in Table I, groundwater samples collected had measured turbidity values less than 20 NTUs at each of the nine (9) wells.

Regulatory Exceedances

A summary of groundwater laboratory analytical results that exceeded the regulatory level for the particular parameter in the Quarter III 2013 sample set is presented in Table III. As shown, four (4) constituents were reported at specific monitoring wells at concentrations that exceed applicable regulatory levels. Exceeding parameters were: Iron, manganese, nitrate nitrogen and total dissolved solids (TDS).

Iron

Dissolved iron was detected at a concentration above the FSDWS MCL of 300 ug/l at monitoring well **MW-9A** at 1,700 ug/l. Iron was not detected above the laboratory minimum detection limit of 38 ug/l at seven (7) wells.

Manganese

Manganese was reported at a concentration above the FSDWS MCL of 50 ug/l at monitoring well **MW-9A** at 100 ug/l. Manganese was detected at the eight (8) remaining monitoring wells at concentrations less than 50 ug/l.

Nitrate Nitrogen

Nitrate was reported above the FPDWS MCL (10 mg/l) at monitoring well **MW-4A** at 11 mg/l. Remaining monitoring wells reported nitrate values ranging from < 0.52 mg/l (**MW-9A**) to 5.0 mg/l at Background Well **MW-6A**.

Total Dissolved Solids (TDS)

TDS concentration was reported nominally above the 500 mg/l FSDWS MCL at monitoring well **MW-9A** at 530 mg/l.

No other exceedance of a parameter regulatory concentration level was reported in the laboratory analytical results for samples from groundwater monitoring wells at the Sumter County Closed Landfill.

Other Significant Detected Parameters

Antimony was reported at trace concentrations at most of the landfill monitoring wells, including background/upgradient wells **MW-6A** and **MW-8**.

Chloride concentrations reported for seven (7) of the nine (9) monitoring wells, including facility background monitoring well **MW-6A**, appear consistent between individual wells and typical for natural shallow groundwaters in Florida. Chloride concentrations at monitoring wells **MW-4A** and **MW-9A** (20 mg/l - 23 mg/l) appear slightly elevated compared to the other wells. The SDWS MCL for chloride in groundwater is 250 mg/l.

Gross alpha and **Radium 226+228** are reported at concentrations elevated above background levels and approaching PDWS MCLs (15 pCi/l and 5 pCi/l, respectively) at monitoring well **MW-11**.

Sodium appears slightly higher at monitoring wells **MW-4**, **MW-4A** and **MW-9A** (21 mg/l - 29 mg/l) as compared to background and other downgradient monitoring wells. The PDWS MCL for sodium is 160 mg/l.

SUMMARY AND CONCLUSIONS

Chemical characteristics of groundwater monitored at the Sumter County Closed Landfill are reported for the Quarter III (August) 2013 sampling event. Exceedances of constituent regulatory maximum contaminant levels (MCLs) are reported at specific monitoring wells for the Florida Secondary Drinking Water Standards (FSDWS) parameters: **Iron**, **manganese** and **total dissolved solids (TDS)**. One well reported an exceedance of the Florida Primary Drinking Water Standards MCL for **nitrate nitrogen** in groundwater,

Elevated **dissolved oxygen (DO)** levels were measured at five of the nine groundwater monitoring wells sampled, including background monitoring well **MW-6A** and up-gradient well **MW-8**. These wells routinely produce groundwater with elevated DO levels. An elevated (alkaline) groundwater **pH** outside the FSDWS pH range continues to be reported at well **MW-4B**.

Dissolved **iron** above the FSDWS MCL was reported at detection monitoring well **MW-9A**. **Manganese** was also reported above the FSDWS MCL at **MW-9A**. Both iron and manganese occur naturally in sediments and carbonate rocks penetrated by the monitoring wells.

Nitrate nitrogen was reported slightly above the FPDWS MCL at monitoring well **MW-4A** at 11 mg/l. The MCL for nitrate in groundwater is 10 mg/l. Well **MW-4** continues to report nitrate well below the MCL and consistent with background levels. Consistently elevated sub-MCL nitrate levels continue at Background Well **MW-6A**.

TDS was reported slightly above the FSDWS provisional MCL (500 mg/l) at well **MW-9A** at 530 mg/l. Past analytical data from the monitoring network indicates that dissolved calcium carbonate accounts for a large part of the TDS load in groundwater at the landfill.

Considering water quality results from this and prior routine monitoring events and corrective actions investigations at the landfill, we offer the following conclusions regarding compliance with regulatory requirements in accordance with the closed landfill's long-term-care permit:

1. With the lone exception of **nitrate-nitrogen** at well **MW-4A**, monitoring parameters exceeding respective MCLs are solely constituents regulated under the Florida Secondary Drinking Water Standards in Chapter 62-550, F.A.C. Monitoring parameters that have historically, from time to time, exceeded secondary drinking water standards and are reported above standards in the current quarterly sampling event include iron, manganese and total dissolved solids.
2. The Sumter County Closed Landfill (SCCL) is an "existing installation" as defined in rule 62-520.200(10), F.A.C. and is exempt from compliance with secondary drinking water standards parameters outside the facility's zone of discharge in accordance with the provisions of rule 62-520.520(1), F.A.C.
3. **Nitrate** concentrations in samples from monitoring well **MW-4A** continue to be reported nominally above the Florida Primary Drinking Water Standards MCL.

* * * * *

TABLE I

FIELD PARAMETER RESULTS SUMMARY
SUMTER COUNTY (CLOSED) LANDFILL
SUMTER COUNTY, FLORIDA
Quarter III (August) 2013

Sampling Point	Temp. (C)	Dissolved Oxygen (mg/l)	pH	Specific Conductance (umhos/cm)	Turbidity (NTU)
MW-2	27.49	5.58	6.76	205	0.41
MW-4	26.60	0.93	7.12	508	0.53
MW-4A	26.14	1.01	7.00	603	5.26
MW-4B	25.35	7.37	8.93	115	2.37
MW-6A	24.72	7.22	7.71	258	16.5
MW-8	24.32	5.01	7.24	324	0.29
MW-9A	25.26	0.82	6.42	928	10.5
MW-10	25.13	0.82	6.74	582	4.38
MW-11	26.03	1.94	6.05	311	2.13

Notes: 1). **Bold** lettering indicates: Exceedance of FDEP 20% saturation dissolved oxygen limit
Exceedance of secondary standards pH range (6.5 - 8.5)
Exceedance of FDEP-recommended turbidity (20 NTU)

TABLE II
SUMMARY OF GROUNDWATER LEVELS
SUMTER COUNTY (CLOSED) LANDFILL
SUMTER COUNTY, FLORIDA
Quarter III (August) 2013

Well No.	MP Elev. ^{1/} (ft. +NGVD)	Depth to Water ^{2/} (ft. - MP)	Groundwater Elevation (ft. +NGVD)
MW-1	70.10	24.54	45.56
MW-2	68.96	23.25	45.71
MW-2A	71.98	26.30	45.68
MW-4	70.33	24.59	45.74
MW-4A	75.49	29.81	45.68
MW-4B	73.49	27.53	45.96
MW-4C	70.64 ^{3/}	25.12	45.52
MW-4D	70.20 ^{3/}	24.87	45.33
MW-6A	77.48	31.22	46.26
MW-7	72.93	27.06	45.87
MW-8	68.63	22.10	46.53
MW-9	72.62	26.85	45.77
MW-9A	75.14	29.31	45.83
MW-10	68.14	22.12	46.02
MW-11	70.02	24.43	45.59

Notes: ^{1/} Measuring Point is top of PVC well casing.

^{2/} Water levels recorded on August 8, 2013.

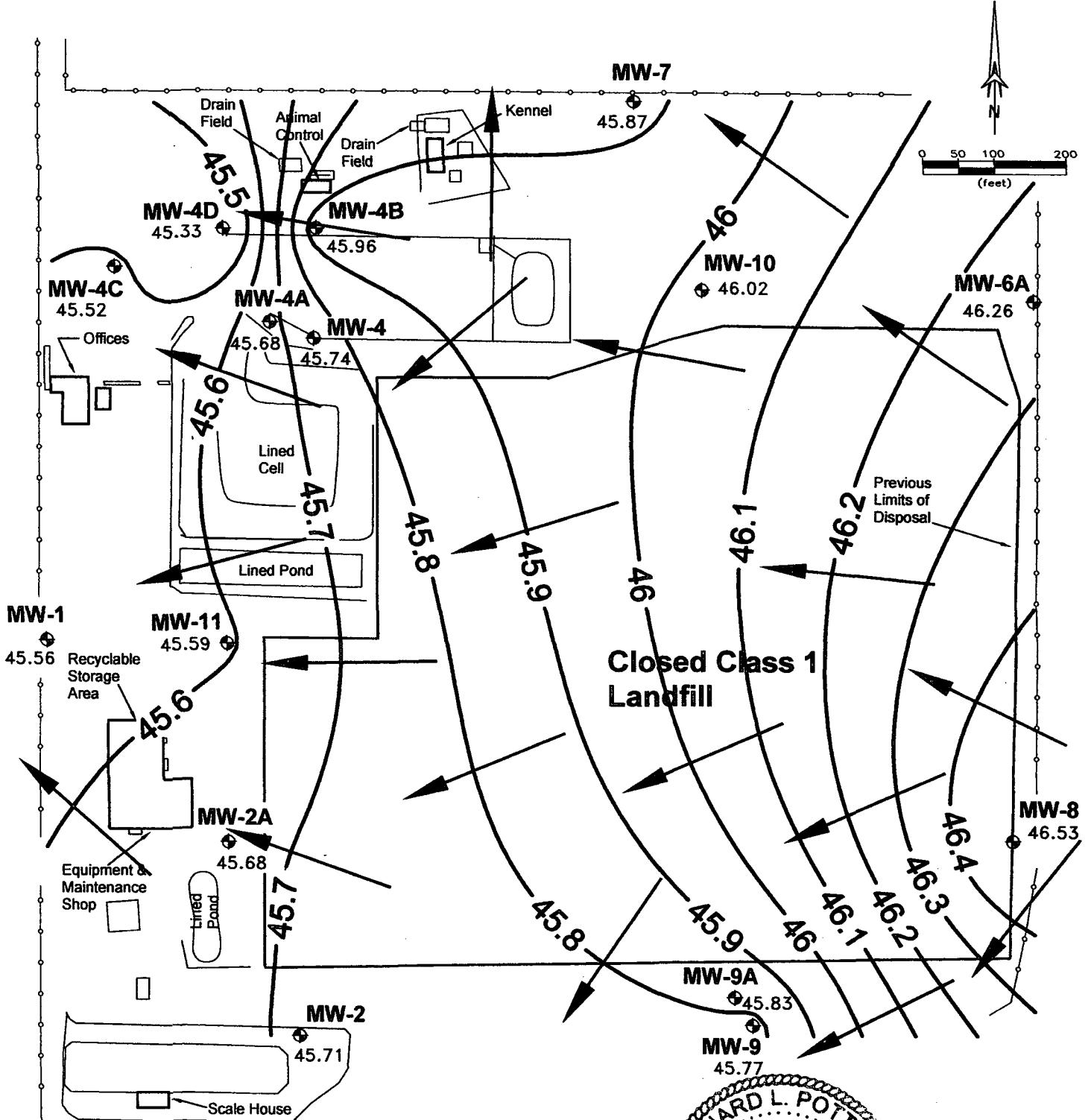
^{3/} New post-wellhead repair TOC elevation (Steven B. Wiley, PSM, August 31, 2013)

TABLE III
SUMMARY OF LABORATORY RESULTS
SUMTER COUNTY (CLOSED) LANDFILL
QUARTER III (August) 2013

Parameter	units	MW-2	MW-4	MW-4A	MW-4B	MW-6A	MW-8	MW-9A	MW-10	MW-11	MCL
Ammonia	mg/l	BDL	0.019	0.016	BDL	BDL	0.020	0.549	0.018	BDL	2.8
Aluminum	ug/l	BDL	BDL	BDL	130	BDL	BDL	70	BDL	BDL	200
Antimony	ug/l	0.82	0.59	0.17	0.15	0.079	BDL	0.085	0.18	0.23	6
Cadmium	ug/l	BDL	0.35	BDL	BDL	BDL	BDL	0.95	0.47	1.9	5
Chloride	mg/l	2.3	12	23	4.2	8.2	7.5	20	6.8	2.4	250
Chromium	ug/l	BDL	0.78	1.3	1.7	3.7	3.1	1.6	BDL	0.98	100
Fluoride	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4
Gross Alpha	pCi/l	< 0.8 ± 0.4	6.5 ± 1.5	< 1.3 ± 0.9	0.9 ± 0.6	< 1.0 ± 0.7	1.3 ± 0.9	8.3 ± 2.5	9.3 ± 1.6	11.5 ± 1.8	15
Iron	ug/l	BDL	BDL	BDL	BDL	BDL	BDL	1,700*	130	BDL	300
Lead	ug/l	BDL	BDL	BDL	0.081	0.082	BDL	0.29	0.096	BDL	15
Manganese	ug/l	1.0	3.8	1.3	0.50	1.4	0.65	100*	17	1.9	50
Mercury	ug/l	BDL	BDL	BDL	BDL	BDL	BDL	0.058	BDL	BDL	2
Nitrate, as N	mg/l	1.4	4.1	11	1.9	5.0	1.7	BDL	1.9	4.6	10
Ra226+Ra228	pCi/l	1.1 ± 0.6	1.5 ± 0.6	1.1 ± 0.6	0.6 ± 0.5	0.6 ± 0.5	1.1 ± 0.6	7.0 ± 1.2	2.1 ± 0.8	5.3 ± 1.0	5
Silver	ug/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	100
Sodium	mg/l	2.3	29	21	6.0	2.9	4.5	23	6.4	6.6	160
TDS	mg/l	140	310	370	82	160	200	530*	320	200	500
Thallium	ug/l	0.082	0.11	0.20	BDL	BDL	BDL	0.22	0.067	0.11	2

Notes: 1/. BDL means below laboratory minimum detection limit 2/. **Bold lettering** indicates result exceeds MCL / 62-777,F.A.C. GCTL 3/. * Sumter County Closed Landfill is exempt from compliance with Florida Secondary Drinking Water Standards MCLs

I



LEGEND

- MW-2A
45.68 Monitor Well Location
Groundwater Elevation (ft, NGVD, 8/8/13)
- 45.7 Groundwater Contour (Potentiometric Surface, 8/8/13)
- Estimated Groundwater Flow Direction 8/8/13



2



**Advanced
Environmental Laboratories, Inc.**

Advanced Environmental Laboratories, Inc

528 S. North Lake Blvd, Suite 1016

Altamonte Springs, FL 32701

Phone: (407)937-1594

Fax: (407)937-1597

ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID:	A1306040001	Date Received:	08/14/13 14:26	Matrix:	Water
Sample ID:	MW-2	Date Collected:	08/13/13 12:35		

Sample Description:	Location:
---------------------	-----------

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: FIELD - Conductance								
Conductance	205	umhos/cm		1			8/13/2013 12:18	A^
Dissolved Oxygen	5.58	mg/L		1			8/13/2013 12:18	A^
Groundwater Elevation	45.81	feet		1			8/13/2013 12:18	A^
Temperature	27.49	°C		1			8/13/2013 12:18	A^
Turbidity	0.41	NTU		1			8/13/2013 12:18	A^
pH	6.76	pH unit		1			8/13/2013 12:18	A^
METALS								
Analysis Desc: SW846 6010B								
Analysis, Water								
Aluminum	61	ug/L	U	1	200	61	8/22/2013 19:28	J
Cadmium	0.32	ug/L	U	1	0.60	0.32	8/22/2013 19:28	J
Chromium	0.50	ug/L	U	1	1.0	0.50	8/22/2013 19:28	J
Cobalt	0.60	ug/L	U	1	4.0	0.60	8/22/2013 19:28	J
Iron	38	ug/L	U	1	200	38	8/22/2013 19:28	J
Manganese	1.0	ug/L		1	1.0	0.24	8/22/2013 19:28	J
Sodium	2.3	mg/L		1	0.20	0.026	8/22/2013 19:28	J
Analysis Desc: SW846 6020B								
Analysis, Total								
Antimony	0.82	ug/L		1	0.70	0.076	8/20/2013 17:58	J
Lead	0.076	ug/L	U	1	0.70	0.076	8/20/2013 17:58	J
Silver	0.059	ug/L	U	1	0.50	0.059	8/20/2013 17:58	J
Thallium	0.082	ug/L	I	1	0.20	0.067	8/20/2013 17:58	J
Analysis Desc: SW846 7470A								
Analysis, Water								
Mercury	0.014	ug/L	U	1	0.10	0.014	8/22/2013 16:18	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water								
Chloride	2.3	mg/L		1	2.0	1.3	8/15/2013 11:34	M
Fluoride	0.30	mg/L	U	1	0.50	0.30	8/15/2013 11:34	M
Nitrate	1.4	mg/L		1	0.50	0.26	8/15/2013 11:34	M
Analysis Desc: Ammonia,E350.1,Water								
Analytical Method: EPA 350.1								

Report ID: 275904 - 716652

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CERTIFICATE OF ANALYSIS

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Advanced Environmental Laboratories, Inc

528 S. North Lake Blvd, Suite 1016

Altamonte Springs, FL 32701

Phone: (407)937-1594

Fax: (407)937-1597

ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040001** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-2** Date Collected: 08/13/13 12:35

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Ammonia (N)	0.0080	mg/L	U	1	0.010	0.0080	8/15/2013 14:21	G
Analysis Desc: Tot Dissolved Solids,SM2540C								
Total Dissolved Solids	140	mg/L		1		10	10	8/15/2013 09:01

Lab ID: **A1306040002** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-4** Date Collected: 08/13/13 11:15

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: FIELD - Conductance								
Conductance	508	umhos/cm		1			8/13/2013 10:59	A^
Dissolved Oxygen	0.93	mg/L		1			8/13/2013 10:59	A^
Groundwater Elevation	45.64	feet		1			8/13/2013 10:59	A^
Temperature	26.6	°C		1			8/13/2013 10:59	A^
Turbidity	0.53	NTU		1			8/13/2013 10:59	A^
pH	7.12	pH unit		1			8/13/2013 10:59	A^

METALS

Analysis Desc: SW846 6010B Preparation Method: SW-846 3010A
Analysis,Water Analytical Method: SW-846 6010

Aluminum	61	ug/L	U	1	200	61	8/22/2013 18:40	J
Cadmium	0.35	ug/L	I	1	0.60	0.32	8/22/2013 18:40	J
Chromium	0.78	ug/L	I	1	1.0	0.50	8/22/2013 18:40	J
Cobalt	0.60	ug/L	U	1	4.0	0.60	8/22/2013 18:40	J
Iron	38	ug/L	U	1	200	38	8/22/2013 18:40	J
Manganese	3.8	ug/L		1	1.0	0.24	8/22/2013 18:40	J
Sodium	29	mg/L		1	0.20	0.026	8/22/2013 18:40	J

Analysis Desc: SW846 6020B Preparation Method: SW-846 3010A
Analysis,Total Analytical Method: SW-846 6020

Antimony	0.59	ug/L	I	1	0.70	0.076	8/20/2013 19:03	J
Lead	0.076	ug/L	U	1	0.70	0.076	8/20/2013 19:03	J

Report ID: 275904 - 716652

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Phone: (407)937-1594

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ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040002** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-4** Date Collected: 08/13/13 11:15

Parameters	Results	Units	Qual	DF	Adjusted		Adjusted		Lab				
					PQL	MDL	Analyzed						
Silver	0.059	ug/L	U	1	0.50	0.059	8/20/2013 19:03	J					
Thallium	0.11	ug/L	I	1	0.20	0.067	8/20/2013 19:03	J					
Analysis Desc: SW846 7470A					Preparation Method: SW-846 7470A								
Analysis,Water					Analytical Method: SW-846 7470A								
Mercury	0.014	ug/L	U	1	0.10	0.014	8/22/2013 16:20	J					

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0									
Chloride	12	mg/L		2	4.0	2.7	8/15/2013 10:20	M		
Fluoride	0.60	mg/L	U	2	1.0	0.60	8/15/2013 10:20	M		
Nitrate	4.1	mg/L		2	1.0	0.52	8/15/2013 10:20	M		
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1									
Ammonia (N)	0.019	mg/L		1	0.010	0.0080	8/15/2013 14:21	G		
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540C									
Total Dissolved Solids	310	mg/L		1	10	10	8/15/2013 17:18	A		

Lab ID: **A1306040003** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-4A** Date Collected: 08/14/13 11:06

Parameters	Results	Units	Qual	DF	Adjusted		Adjusted		Lab					
					PQL	MDL	Analyzed							
FIELD PARAMETERS														
Analysis Desc: FIELD - Conductance														
Conductance	603	umhos/cm		1					8/14/2013 10:51					
Dissolved Oxygen	1.01	mg/L		1					8/14/2013 10:51					
Groundwater Elevation	45.76	feet		1					8/14/2013 10:51					
Temperature	26.14	°C		1					8/14/2013 10:51					
Turbidity	5.26	NTU		1					8/14/2013 10:51					
pH	7	pH unit		1					8/14/2013 10:51					

METALS

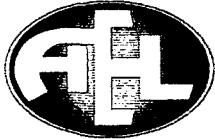
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ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040003** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-4A** Date Collected: 08/14/13 11:06

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: SW846 6010B Preparation Method: SW-846 3010A								
Analysis,Water Analytical Method: SW-846 6010								
Aluminum	61	ug/L	U	1	200	61	8/22/2013 19:33	J
Cadmium	0.32	ug/L	U	1	0.60	0.32	8/22/2013 19:33	J
Chromium	1.3	ug/L		1	1.0	0.50	8/22/2013 19:33	J
Cobalt	0.60	ug/L	U	1	4.0	0.60	8/22/2013 19:33	J
Iron	38	ug/L	U	1	200	38	8/22/2013 19:33	J
Manganese	1.3	ug/L		1	1.0	0.24	8/22/2013 19:33	J
Sodium	21	mg/L		1	0.20	0.026	8/22/2013 19:33	J
Analysis Desc: SW846 6020B Preparation Method: SW-846 3010A								
Analysis,Total Analytical Method: SW-846 6020								
Antimony	0.17	ug/L	I	1	0.70	0.076	8/20/2013 19:13	J
Lead	0.076	ug/L	U	1	0.70	0.076	8/20/2013 19:13	J
Silver	0.059	ug/L	U	1	0.50	0.059	8/20/2013 19:13	J
Thallium	0.20	ug/L	I	1	0.20	0.067	8/20/2013 19:13	J
Analysis Desc: SW846 7470A Preparation Method: SW-846 7470A								
Analysis,Water Analytical Method: SW-846 7470A								
Mercury	0.014	ug/L	U	1	0.10	0.014	8/22/2013 16:36	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water Analytical Method: EPA 300.0								
Chloride	23	mg/L		2	4.0	2.7	8/15/2013 15:16	M
Fluoride	0.60	mg/L	U	2	1.0	0.60	8/15/2013 15:16	M
Nitrate	11	mg/L		2	1.0	0.52	8/15/2013 15:16	M
Analysis Desc: Ammonia,E350.1,Water Analytical Method: EPA 350.1								
Ammonia (N)	0.016	mg/L		1	0.010	0.0080	8/15/2013 14:21	G
Analysis Desc: Tot Dissolved Solids,SM2540C Analytical Method: SM 2540C								
Total Dissolved Solids	370	mg/L		1	10	10	8/15/2013 17:18	A

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ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040004** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-4B** Date Collected: 08/14/13 11:50

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
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FIELD PARAMETERS

Analysis Desc: FIELD - Conductance Analytical Method: DISRES

Conductance	115	umhos/cm		1			8/14/2013 11:33	A^
Dissolved Oxygen	7.37	mg/L		1			8/14/2013 11:33	A^
Groundwater Elevation	45.79	feet		1			8/14/2013 11:33	A^
Temperature	25.35	°C		1			8/14/2013 11:33	A^
Turbidity	2.37	NTU		1			8/14/2013 11:33	A^
pH	8.93	pH unit		1			8/14/2013 11:33	A^

METALS

Analysis Desc: SW846 6010B Preparation Method: SW-846 3010A
Analysis,Water Analytical Method: SW-846 6010

Aluminum	130	ug/L	I	1	200	61	8/22/2013 19:37	J
Cadmium	0.32	ug/L	U	1	0.60	0.32	8/22/2013 19:37	J
Chromium	1.7	ug/L		1	1.0	0.50	8/22/2013 19:37	J
Cobalt	0.60	ug/L	U	1	4.0	0.60	8/22/2013 19:37	J
Iron	38	ug/L	U	1	200	38	8/22/2013 19:37	J
Manganese	0.50	ug/L	I	1	1.0	0.24	8/22/2013 19:37	J
Sodium	6.0	mg/L		1	0.20	0.026	8/22/2013 19:37	J

Analysis Desc: SW846 6020B Preparation Method: SW-846 3010A
Analysis,Total Analytical Method: SW-846 6020

Antimony	0.15	ug/L	I	1	0.70	0.076	8/20/2013 19:22	J
Lead	0.081	ug/L	I	1	0.70	0.076	8/20/2013 19:22	J
Silver	0.059	ug/L	U	1	0.50	0.059	8/20/2013 19:22	J
Thallium	0.067	ug/L	U	1	0.20	0.067	8/20/2013 19:22	J

Analysis Desc: SW846 7470A Preparation Method: SW-846 7470A
Analysis,Water Analytical Method: SW-846 7470A

Mercury	0.014	ug/L	U	1	0.10	0.014	8/22/2013 16:49	J
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WET CHEMISTRY

Analysis Desc: IC,E300.0,Water Analytical Method: EPA 300.0

Chloride	4.2	mg/L		2	4.0	2.7	8/15/2013 15:34	M
Fluoride	0.60	mg/L	U	2	1.0	0.60	8/15/2013 15:34	M
Nitrate	1.9	mg/L		2	1.0	0.52	8/15/2013 15:34	M

Analysis Desc: Ammonia,E350.1,Water Analytical Method: EPA 350.1

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ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040004** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-4B** Date Collected: 08/14/13 11:50

Sample Description:	Location:	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Parameters	Results Units	Qual DF			
Ammonia (N)	0.0080 mg/L	U 1	0.010	0.0080	8/15/2013 14:21 G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540C			
Total Dissolved Solids	82 mg/L	1	10	10	8/15/2013 17:18 A

Lab ID: **A1306040005** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-6A** Date Collected: 08/14/13 13:00

Sample Description:	Location:	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Parameters	Results Units	Qual DF			

FIELD PARAMETERS

Analysis Desc: FIELD - Conductance Analytical Method: DISRES

Conductance	258 umhos/cm	1	8/14/2013 12:44	A^
Dissolved Oxygen	7.22 mg/L	1	8/14/2013 12:44	A^
Groundwater Elevation	46.21 feet	1	8/14/2013 12:44	A^
Temperature	24.72 °C	1	8/14/2013 12:44	A^
Turbidity	16.5 NTU	1	8/14/2013 12:44	A^
pH	7.71 pH unit	1	8/14/2013 12:44	A^

METALS & WET CHEMISTRY

Analysis Desc: Ammonia,E350.1,Water Analytical Method: EPA 350.1

Ammonia (N)	0.0080 mg/L	U 1	0.010	0.0080	8/15/2013 14:21	G
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Analysis Desc: SW846 6010B Preparation Method: SW-846 3010A

Analysis,Water		Analytical Method: SW-846 6010				
Aluminum	61 ug/L	U 1	200	61	8/22/2013 19:42	J
Cadmium	0.32 ug/L	U 1	0.60	0.32	8/22/2013 19:42	J
Chromium	3.7 ug/L	1	1.0	0.50	8/22/2013 19:42	J
Cobalt	0.60 ug/L	U 1	4.0	0.60	8/22/2013 19:42	J
Iron	38 ug/L	U 1	200	38	8/22/2013 19:42	J
Manganese	1.4 ug/L	1	1.0	0.24	8/22/2013 19:42	J
Sodium	2.9 mg/L	1	0.20	0.026	8/22/2013 19:42	J

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ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID:	A1306040005	Date Received:	08/14/13 14:26	Matrix:	Water
Sample ID:	MW-6A	Date Collected:	08/14/13 13:00		

Sample Description:	Location:
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Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: SW846 6020B								
Analysis, Total								
Antimony	0.079	ug/L	I	1	0.70	0.076	8/20/2013 19:31	J
Lead	0.082	ug/L	I	1	0.70	0.076	8/20/2013 19:31	J
Silver	0.059	ug/L	U	1	0.50	0.059	8/20/2013 19:31	J
Thallium	0.067	ug/L	U	1	0.20	0.067	8/20/2013 19:31	J
Analysis Desc: SW846 7470A								
Analysis, Water								
Mercury	0.014	ug/L	U	1	0.10	0.014	8/22/2013 16:51	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water								
Analysis Method: EPA 300.0								
Chloride	8.2	mg/L		2	4.0	2.7	8/15/2013 15:53	M
Fluoride	0.60	mg/L	U	2	1.0	0.60	8/15/2013 15:53	M
Nitrate	5.0	mg/L		2	1.0	0.52	8/15/2013 15:53	M
Analysis Desc: Tot Dissolved Solids,SM2540C								
Total Dissolved Solids	160	mg/L		1	10	10	8/15/2013 17:18	A

Lab ID:	A1306040006	Date Received:	08/14/13 14:26	Matrix:	Water
Sample ID:	MW-8	Date Collected:	08/13/13 11:50		

Sample Description:	Location:
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Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: FIELD - Conductance								
Conductance	324	umhos/cm		1			8/13/2013 11:35	A^
Dissolved Oxygen	5.01	mg/L		1			8/13/2013 11:35	A^
Groundwater Elevation	47.17	feet		1			8/13/2013 11:35	A^
Temperature	24.32	°C		1			8/13/2013 11:35	A^
Turbidity	0.29	NTU		1			8/13/2013 11:35	A^
pH	7.24	pH unit		1			8/13/2013 11:35	A^

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ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040006** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-8** Date Collected: 08/13/13 11:50

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Preparation Method: SW-846 3010A								
Analysis,Water Analytical Method: SW-846 6010								
Aluminum	61	ug/L	U	1	200	61	8/22/2013 19:47	J
Cadmium	0.32	ug/L	U	1	0.60	0.32	8/22/2013 19:47	J
Chromium	3.1	ug/L		1	1.0	0.50	8/22/2013 19:47	J
Cobalt	0.60	ug/L	U	1	4.0	0.60	8/22/2013 19:47	J
Iron	38	ug/L	U	1	200	38	8/22/2013 19:47	J
Manganese	0.65	ug/L	I	1	1.0	0.24	8/22/2013 19:47	J
Sodium	4.5	mg/L		1	0.20	0.026	8/22/2013 19:47	J
Analysis Desc: SW846 6020B Preparation Method: SW-846 3010A								
Analysis,Total Analytical Method: SW-846 6020								
Antimony	0.076	ug/L	U	1	0.70	0.076	8/20/2013 19:40	J
Lead	0.076	ug/L	U	1	0.70	0.076	8/20/2013 19:40	J
Silver	0.059	ug/L	U	1	0.50	0.059	8/20/2013 19:40	J
Thallium	0.067	ug/L	U	1	0.20	0.067	8/20/2013 19:40	J
Analysis Desc: SW846 7470A Preparation Method: SW-846 7470A								
Analysis,Water Analytical Method: SW-846 7470A								
Mercury	0.014	ug/L	U	1	0.10	0.014	8/22/2013 16:54	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water Analytical Method: EPA 300.0								
Chloride	7.5	mg/L		2	4.0	2.7	8/15/2013 10:39	M
Fluoride	0.60	mg/L	U	2	1.0	0.60	8/15/2013 10:39	M
Nitrate	1.7	mg/L		2	1.0	0.52	8/15/2013 10:39	M
Analysis Desc: Ammonia,E350.1,Water Analytical Method: EPA 350.1								
Ammonia (N)	0.020	mg/L		1	0.010	0.0080	8/15/2013 14:21	G
Analysis Desc: Tot Dissolved Solids,SM2540C Analytical Method: SM 2540C								
Total Dissolved Solids	200	mg/L		1	10	10	8/15/2013 17:18	A

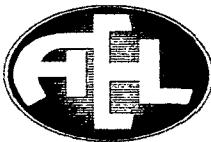
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ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040007** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-9A** Date Collected: 08/14/13 10:25

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
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FIELD PARAMETERS

Analysis Desc: FIELD - Conductance Analytical Method: DISRES

Conductance	928	umhos/cm		1			8/14/2013 10:10	A^
Dissolved Oxygen	0.82	mg/L		1			8/14/2013 10:10	A^
Groundwater Elevation	44.85	feet		1			8/14/2013 10:10	A^
Temperature	25.26	°C		1			8/14/2013 10:10	A^
Turbidity	10.5	NTU		1			8/14/2013 10:10	A^
pH	6.42	pH unit		1			8/14/2013 10:10	A^

METALS & WET CHEMISTRY

Analysis Desc: IC,E300.0,Water Analytical Method: EPA 300.0

Chloride	20	mg/L		2	4.0	2.7	8/15/2013 16:12	M
Fluoride	0.60	mg/L	U	2	1.0	0.60	8/15/2013 16:12	M
Nitrate	0.52	mg/L	U	2	1.0	0.52	8/15/2013 16:12	M

Analysis Desc: SW846 6010B

Analysis,Water Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Aluminum	70	ug/L	I	1	200	61	8/22/2013 19:51	J
Cadmium	0.95	ug/L		1	0.60	0.32	8/22/2013 19:51	J
Chromium	1.6	ug/L		1	1.0	0.50	8/22/2013 19:51	J
Cobalt	20	ug/L		1	4.0	0.60	8/22/2013 19:51	J
Iron	1700	ug/L		1	200	38	8/22/2013 19:51	J
Manganese	100	ug/L		1	1.0	0.24	8/22/2013 19:51	J
Sodium	23	mg/L		1	0.20	0.026	8/22/2013 19:51	J

Analysis Desc: SW846 6020B

Analysis,Total Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	0.085	ug/L	I	1	0.70	0.076	8/20/2013 19:50	J
Lead	0.29	ug/L	I	1	0.70	0.076	8/20/2013 19:50	J
Silver	0.059	ug/L	U	1	0.50	0.059	8/20/2013 19:50	J
Thallium	0.22	ug/L		1	0.20	0.067	8/20/2013 19:50	J

Analysis Desc: SW846 7470A

Analysis,Water Preparation Method: SW-846 7470A

Analytical Method: SW-846 7470A

Mercury	0.058	ug/L	I	1	0.10	0.014	8/22/2013 16:56	J
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WET CHEMISTRY

Analysis Desc: Ammonia,E350.1,Water Analytical Method: EPA 350.1

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ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040007** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-9A** Date Collected: 08/14/13 10:25

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted	Adjusted	Lab
					PQL	MDL	
Ammonia (N)	0.549	mg/L		1	0.010	0.0080	8/15/2013 14:21 G
Analysis Desc: Tot Dissolved Solids,SM2540C							
Total Dissolved Solids	530	mg/L		1		10	8/15/2013 17:18 A

Lab ID: **A1306040008** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-10** Date Collected: 08/13/13 10:45

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted	Adjusted	Lab
					PQL	MDL	
FIELD PARAMETERS							
Analysis Desc: FIELD - Conductance							
Conductance	582	umhos/cm		1			8/13/2013 10:26 A^
Dissolved Oxygen	0.82	mg/L		1			8/13/2013 10:26 A^
Groundwater Elevation	46.05	feet		1			8/13/2013 10:26 A^
Temperature	25.13	°C		1			8/13/2013 10:26 A^
Turbidity	4.38	NTU		1			8/13/2013 10:26 A^
pH	6.74	pH unit		1			8/13/2013 10:26 A^

METALS

Analysis Desc: SW846 6010B Preparation Method: SW-846 3010A
Analysis,Water Analytical Method: SW-846 6010

Aluminum	61	ug/L	U	1	200	61	8/22/2013 19:56	J
Cadmium	0.47	ug/L	I	1	0.60	0.32	8/22/2013 19:56	J
Chromium	0.50	ug/L	U	1		1.0	0.50	8/22/2013 19:56 J
Cobalt	0.60	ug/L	U	1		4.0	0.60	8/22/2013 19:56 J
Iron	130	ug/L	I	1	200	38	8/22/2013 19:56	J
Manganese	17	ug/L		1		1.0	0.24	8/22/2013 19:56 J
Sodium	6.4	mg/L		1		0.20	0.026	8/22/2013 19:56 J

Analysis Desc: SW846 6020B Preparation Method: SW-846 3010A
Analysis,Total Analytical Method: SW-846 6020

Antimony	0.18	ug/L	I	1	0.70	0.076	8/20/2013 19:59	J
Lead	0.096	ug/L	I	1	0.70	0.076	8/20/2013 19:59	J

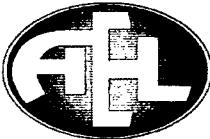
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ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040008** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-10** Date Collected: 08/13/13 10:45

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted	Adjusted	Lab
					PQL	MDL	
Silver	0.059	ug/L	U	1	0.50	0.059	8/20/2013 19:59 J
Thallium	0.067	ug/L	U	1	0.20	0.067	8/20/2013 19:59 J

Analysis Desc: SW846 7470A Preparation Method: SW-846 7470A
Analysis,Water Analytical Method: SW-846 7470A

Mercury **0.014** ug/L U 1 0.10 0.014 8/22/2013 16:58 J

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0						
Chloride	6.8	mg/L		2	4.0	2.7	8/15/2013 10:02 M
Fluoride	0.60	mg/L	U	2	1.0	0.60	8/15/2013 10:02 M
Nitrate	1.9	mg/L		2	1.0	0.52	8/15/2013 10:02 M
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1						
Ammonia (N)	0.018	mg/L		1	0.010	0.0080	8/15/2013 14:21 G
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540C						
Total Dissolved Solids	320	mg/L		1	10	10	8/15/2013 17:18 A

Lab ID: **A1306040009** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-11** Date Collected: 08/13/13 13:30

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted	Adjusted	Lab				
					PQL	MDL					
FIELD PARAMETERS											
Analysis Desc: FIELD - Conductance	Analytical Method: DISRES										
Conductance	311	umhos/cm		1		8/13/2013 13:14	A^				
Dissolved Oxygen	1.94	mg/L		1		8/13/2013 13:14	A^				
Groundwater Elevation	45.61	feet		1		8/13/2013 13:14	A^				
Temperature	26.03	°C		1		8/13/2013 13:14	A^				
Turbidity	2.13	NTU		1		8/13/2013 13:14	A^				
pH	6.05	pH unit		1		8/13/2013 13:14	A^				

METALS & WET CHEMISTRY

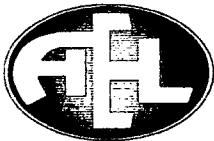
Report ID: 275904 - 716652

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Advanced Environmental Laboratories, Inc

528 S. North Lake Blvd, Suite 1016

Altamonte Springs, FL 32701

Phone: (407)937-1594

Fax: (407)937-1597

ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040009** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **MW-11** Date Collected: 08/13/13 13:30

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: IC,E300.0,Water Analytical Method: EPA 300.0								
Chloride 2.4 mg/L 1 2.0 1.3 8/21/2013 17:29 M								
Fluoride	0.60	mg/L	U	2	1.0	0.60	8/15/2013 11:53	M
Nitrate	4.6	mg/L		2	1.0	0.52	8/15/2013 11:53	M
Analysis Desc: SW846 6010B Preparation Method: SW-846 3010A								
Analysis,Water Analytical Method: SW-846 6010								
Aluminum	61	ug/L	U	1	200	61	8/22/2013 20:01	J
Cadmium	1.9	ug/L		1	0.60	0.32	8/22/2013 20:01	J
Chromium	0.98	ug/L	I	1	1.0	0.50	8/22/2013 20:01	J
Cobalt	0.60	ug/L	U	1	4.0	0.60	8/22/2013 20:01	J
Iron	38	ug/L	U	1	200	38	8/22/2013 20:01	J
Manganese	1.9	ug/L		1	1.0	0.24	8/22/2013 20:01	J
Sodium	6.6	mg/L		1	0.20	0.026	8/22/2013 20:01	J
Analysis Desc: SW846 6020B Preparation Method: SW-846 3010A								
Analysis,Total Analytical Method: SW-846 6020								
Antimony	0.23	ug/L	I	1	0.70	0.076	8/20/2013 20:27	J
Lead	0.076	ug/L	U	1	0.70	0.076	8/20/2013 20:27	J
Silver	0.059	ug/L	U	1	0.50	0.059	8/20/2013 20:27	J
Thallium	0.11	ug/L	I	1	0.20	0.067	8/20/2013 20:27	J
Analysis Desc: SW846 7470A Preparation Method: SW-846 7470A								
Analysis,Water Analytical Method: SW-846 7470A								
Mercury	0.014	ug/L	U	1	0.10	0.014	8/22/2013 17:06	J
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water Analytical Method: EPA 350.1								
Ammonia (N)	0.0080	mg/L	U	1	0.010	0.0080	8/15/2013 14:21	G
Analysis Desc: Tot Dissolved Solids,SM2540C Analytical Method: SM 2540C								
Total Dissolved Solids	200	mg/L		1	10	10	8/15/2013 17:18	A

Report ID: 275904 - 716652

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Phone: (407)937-1594

Fax: (407)937-1597

ANALYTICAL RESULTS

Workorder: A1306040 Sumter Co Landfill GW

Lab ID: **A1306040010** Date Received: 08/14/13 14:26 Matrix: Water
Sample ID: **EQ BLANK** Date Collected: 08/14/13 09:10

Sample Description: Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Preparation Method: SW-846 3010A								
Analysis,Water Analytical Method: SW-846 6010								
Aluminum	61	ug/L	U	1	200	61	8/22/2013 20:06	J
Cadmium	0.32	ug/L	U	1	0.60	0.32	8/22/2013 20:06	J
Chromium	0.50	ug/L	U	1	1.0	0.50	8/22/2013 20:06	J
Cobalt	0.60	ug/L	U	1	4.0	0.60	8/22/2013 20:06	J
Iron	38	ug/L	U	1	200	38	8/22/2013 20:06	J
Manganese	0.87	ug/L	I	1	1.0	0.24	8/22/2013 20:06	J
Sodium	0.058	mg/L	I	1	0.20	0.026	8/22/2013 20:06	J
Analysis Desc: SW846 6020B Preparation Method: SW-846 3010A								
Analysis,Total Analytical Method: SW-846 6020								
Antimony	0.094	ug/L	I	1	0.70	0.076	8/20/2013 20:36	J
Lead	0.076	ug/L	U	1	0.70	0.076	8/20/2013 20:36	J
Silver	0.059	ug/L	U	1	0.50	0.059	8/20/2013 20:36	J
Thallium	0.067	ug/L	U	1	0.20	0.067	8/20/2013 20:36	J
Analysis Desc: SW846 7470A Preparation Method: SW-846 7470A								
Analysis,Water Analytical Method: SW-846 7470A								
Mercury	0.014	ug/L	U	1	0.10	0.014	8/22/2013 17:08	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water Analytical Method: EPA 300.0								
Chloride	1.3	mg/L	U	1	2.0	1.3	8/15/2013 17:07	M
Fluoride	0.30	mg/L	U	1	0.50	0.30	8/15/2013 17:07	M
Nitrate	0.26	mg/L	U	1	0.50	0.26	8/15/2013 17:07	M
Analysis Desc: Ammonia,E350.1,Water Analytical Method: EPA 350.1								
Ammonia (N)	0.014	mg/L		1	0.010	0.0080	8/15/2013 14:21	G
Analysis Desc: Tot Dissolved Solids,SM2540C Analytical Method: SM 2540C								
Total Dissolved Solids	10	mg/L	U	1	10	10	8/20/2013 09:15	A

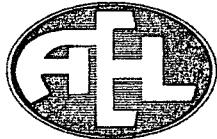
Report ID: 275904 - 716652

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Altamonte Springs, FL 32701

Phone: (407)937-1594

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ANALYTICAL RESULTS QUALIFIERS

Workorder: A1306040 Sumter Co Landfill GW

PARAMETER QUALIFIERS

- U The compound was analyzed for but not detected.
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

LAB QUALIFIERS

- A DOH Certification #E53076(AEL-A)(FL NELAC Certification)
- A^ Not Certified
- G DOH Certification #E82001(AEL-G)(FL NELAC Certification)
- J DOH Certification #E82574(AEL-JAX)(FL NELAC Certification)
- M DOH Certification #E82535(AEL-M)(FL NELAC Certification)

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**DOH Certification #E84025
DEP COMPOAP # 870251**



2742 N. Florida Ave.
P.O. Box 1833
Tampa, Florida 33601
(813) 229-2879
Fax (813) 229-0002

Report Date: August 26, 2013

Advanced Environmental Labs
528 S. North Lake Blvd. Suite 1016
Altamonte Springs, FL 32701

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: MW-2
A1306040001
Sample Collection: 08-13-13/1235
Lab ID No: 13.6229
Lab Custody Date: 08-15-13/1132
Sample description: water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	0.8 U ± 0.4	08-23-13/0800	EPA 900.0	0.8
Combined Radium (Radium-226 + Radium 228)	pCi/l	1.1 ± 0.6	Calc	Calc	
Radium-226	pCi/l	1.1 I ± 0.6	08-18-13/1240	EPA 903.0	0.7
Radium-228	pCi/l	1.0 U ± 0.7	08-19-13/1120	EPA Ra-05	1.0

Alpha Standard: Th-230

U = indicates that the compound was analyzed for but not detected.

I = the reported value is between the laboratory detection limit and the laboratory practical quantitation limit.

A handwritten signature in black ink that reads "James W. Hayes".

James W. Hayes
Laboratory Manager

Test results meet all requirements of NELAC standards. Test results refer only to sample(s) listed. Contact person: Jim Hayes (813) 229-2879.



2742 N. Florida Ave.
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Fax (813) 229-0002

Report Date: August 26, 2013

Advanced Environmental Labs
528 S. North Lake Blvd. Suite 1016
Altamonte Springs, FL 32701

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: MW-4
A1306040002
Sample Collection: 08-13-13/1115
Lab ID No: 13.6230
Lab Custody Date: 08-15-13/1132
Sample description: water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	6.5 ± 1.5	08-23-13/0800	EPA 900.0	1.4
Combined Radium (Radium-226 + Radium 228)	pCi/l	1.5 ± 0.6	Calc	Calc	
Radium-226	pCi/l	1.5 ± 0.6	08-24-13/1435	EPA 903.0	0.8
Radium-228	pCi/l	1.0 U ± 0.8	08-24-13/1220	EPA Ra-05	1.0
Alpha Standard:	Th-230				

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James W. Hayes
Laboratory Manager

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Report Date: August 26, 2013

Advanced Environmental Labs
528 S. North Lake Blvd. Suite 1016
Altamonte Springs, FL 32701

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: MW-4A
A1306040003
Sample Collection: 08-14-13/1106
Lab ID No: 13.6231
Lab Custody Date: 08-15-13/1132
Sample description: water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	1.3 U ± 0.9	08-22-13/0800	EPA 900.0	1.3
Combined Radium (Radium-226 + Radium 228)	pCi/l	1.1 I ± 0.6	Calc	Calc	
Radium-226	pCi/l	1.1 I ± 0.6	08-24-13/1435	EPA 903.0	0.7
Radium-228	pCi/l	1.0 U ± 0.8	08-24-13/1220	EPA Ra-05	1.0
Alpha Standard: Th-230					

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James W. Hayes
Laboratory Manager

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DOH Certification #E84025
DEP COMPOQAP # 870251



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Report Date: August 26, 2013

Advanced Environmental Labs
528 S. North Lake Blvd. Suite 1016
Altamonte Springs, FL 32701

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: MW-4B
A1306040004
Sample Collection: 08-14-13/1150
Lab ID No: 13.6232
Lab Custody Date: 08-15-13/1132
Sample description: water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	0.9 ± 0.6	08-22-13/0800	EPA 900.0	0.8
Combined Radium (Radium-226 + Radium 228)	pCi/l	0.6 ± 0.5	Calc	Calc	
Radium-226	pCi/l	0.6 U ± 0.5	08-24-13/1435	EPA 903.0	0.6
Radium-228	pCi/l	1.0 U ± 0.7	08-26-13/0950	EPA Ra-05	1.0
Alpha Standard: Th-230					

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James W. Hayes
Laboratory Manager

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Fax (813) 229-0002

Report Date: August 26, 2013

Advanced Environmental Labs
528 S. North Lake Blvd. Suite 1016
Altamonte Springs, FL 32701

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: MW-6A
A1306040005
Sample Collection: 08-14-13/1300
Lab ID No: 13.6233
Lab Custody Date: 08-15-13/1132
Sample description: water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	1.0 U ± 0.7	08-22-13/0800	EPA 900.0	1.0
Combined Radium (Radium-226 + Radium 228)	pCi/l	0.6 ± 0.5	Calc	Calc	
Radium-226	pCi/l	0.6 U ± 0.5	08-24-13/1435	EPA 903.0	0.6
Radium-228	pCi/l	1.0 U ± 0.6	08-26-13/0950	EPA Ra-05	1.0
Alpha Standard: Th-230					

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James W. Hayes
Laboratory Manager

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Report Date: August 26, 2013

Advanced Environmental Labs
528 S. North Lake Blvd. Suite 1016
Altamonte Springs, FL 32701

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: MW-8
A1306040006
Sample Collection: 08-13-13/1150
Lab ID No: 13.6234
Lab Custody Date: 08-15-13/1132
Sample description: water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	1.3 ± 0.9	08-22-13/0800	EPA 900.0	1.2
Combined Radium (Radium-226 + Radium 228)	pCi/l	1.1 I ± 0.6	Calc	Calc	
Radium-226	pCi/l	1.1 I ± 0.6	08-24-13/1435	EPA 903.0	0.6
Radium-228	pCi/l	1.0 U ± 0.7	08-26-13/0950	EPA Ra-05	1.0

Alpha Standard: Th-230

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James W. Hayes
Laboratory Manager

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Report Date: August 26, 2013

Advanced Environmental Labs
528 S. North Lake Blvd. Suite 1016
Altamonte Springs, FL 32701

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: MW-9A
A1306040007
Sample Collection: 08-14-13/1025
Lab ID No: 13.6235
Lab Custody Date: 08-15-13/1132
Sample description: water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	8.3 ± 2.5	08-22-13/0800	EPA 900.0	2.4
Combined Radium (Radium-226 + Radium 228)	pCi/l	7.0 ± 1.2	Calc	Calc	
Radium-226	pCi/l	5.8 ± 1.2	08-24-13/1435	EPA 903.0	0.6
Radium-228	pCi/l	1.2 I ± 0.8	08-26-13/0950	EPA Ra-05	1.0

Alpha Standard: Th-230

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I = the reported value is between the laboratory detection limit and the laboratory practical quantitation limit.

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James W. Hayes
Laboratory Manager

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**DOH Certification #E84025
DEP COMPOAP # 870251**



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Report Date: August 26, 2013

Advanced Environmental Labs
528 S. North Lake Blvd. Suite 1016
Altamonte Springs, FL 32701

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: MW-10
A1306040008
Sample Collection: 08-13-13/1045
Lab ID No: 13.6236
Lab Custody Date: 08-15-13/1132
Sample description: water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	9.3 ± 1.6	08-22-13/0800	EPA 900.0	1.1
Combined Radium (Radium-226 + Radium 228)	pCi/l	2.1 ± 0.8	Calc	Calc	
Radium-226	pCi/l	2.1 ± 0.8	08-24-13/1435	EPA 903.0	0.6
Radium-228	pCi/l	1.0 U ± 0.7	08-26-13/0950	EPA Ra-05	1.0
Alpha Standard:	Th-230				

U = indicates that the compound was analyzed for but not detected.

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James W. Hayes
Laboratory Manager

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Report Date: August 26, 2013

Advanced Environmental Labs
528 S. North Lake Blvd. Suite 1016
Altamonte Springs, FL 32701

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: MW-11
A1306040009
Sample Collection: 08-13-13/1330
Lab ID No: 13.6237
Lab Custody Date: 08-15-13/1132
Sample description: water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	11.5 ± 1.8	08-23-13/0800	EPA 900.0	1.2
Combined Radium (Radium-226 + Radium 228)	pCi/l	5.3 ± 1.0	Calc	Calc	
Radium-226	pCi/l	3.0 ± 1.0	08-24-13/1435	EPA 903.0	0.7
Radium-228	pCi/l	2.3 ± 0.9	08-26-13/0950	EPA Ra-05	1.0
Alpha Standard: Th-230					

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James W. Hayes
Laboratory Manager

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3

FIELD LOG

PROJ # P-483

PROJECT

NAME: Scarter Co. Landfill

PROJECT

LOCATION: Seminole, FL

NAME: Dale Claytor

8/8/13

TIME	COMMENTS
Well #	WL (ft. of sea)
MW-1	24.54'
MW-2	23.25'
MW-2A	24.30'
MW-4	24.59'
MW-4A	29.81'
MW-4B	24.53' 27.53
MW-4C	25.12'
MW-4D	27.87'
MW-6A	31.2d'
MW-7	27.06'
MW-8	22.10'
MW-9	26.85'
MW-9A	29.31'
MW-10	22.1d'
MW-11	24.43'

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-2	SAMPLE ID: MW-2

DATE: 8/13/13

PURGING DATA

WELL 2" PVC DIAMETER (inches):	TUBING 3/8" DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)											
$1 \text{ well } 11/10 = (31.92' \text{ feet} - 23.32' \text{ feet}) \times .16 \text{ gallons/foot} = 1.376 \text{ gallons}$											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): $\sim 25'$	FINAL PUMP OR TUBING DEPTH IN WELL (feet): $\sim 25'$	PURGING INITIATED AT: 1156	PURGING ENDED AT: 1218	TOTAL VOLUME PURGED (gallons): 1.376							
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 (NTU)	COLOR (describe)	ODOR (describe)
1214	1.44	1.44	.08	23.45	6.81	27.54	209	5.60	0.50	Clear	None
1216	.16	1.60	.08	23.45	6.79	27.56	208	5.68	0.41	Clear	None
1218	.16	1.76	.08	23.45	6.76	27.49	205	5.58	0.41	Clear	None
No screen											

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): $1/8'' = 0.0006$; $3/16'' = 0.0014$; $1/4'' = 0.0026$; $5/16'' = 0.004$; $3/8'' = 0.006$; $1/2'' = 0.010$; $5/8'' = 0.016$

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1219	SAMPLING ENDED AT: 1235					
PUMP OR TUBING DEPTH IN WELL (feet): $\sim 25'$	SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL	TUBING MATERIAL CODE: PE						
FIELD DECONTAMINATION: <input checked="" type="radio"/> Y <input type="radio"/> N _{WL probe}	FIELD-FILTERED: <input checked="" type="radio"/> Y <input type="radio"/> N _{Filtration Equipment Type}	FILTER SIZE: μm	DUPPLICATE: <input checked="" type="radio"/> Y _N					
SAMPLE CONTAINER SPECIFICATION	SAMPLE PRESERVATION							
SAMPLE ID CODE	# CONTAINERS	MATERI AL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
MW-2	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	APP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	APP
"	1	PE	250 mL	HN03	None	—	Metals	APP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	APP

REMARKS:
 1156: Set dedicated 1/4" PE tubing at $\sim 25'$ static and started pump at .08 gpm.
 1202: WL 23.45' at .08 gpm, GW is clear.
 1207: WL 23.45' at .08 gpm, drawdown is stable.
 1212: WL 23.45' at .08 gpm, drawdown is stable. DO is high at 5.73 mg/L, but is typical for this well. All other parameters are stable or in range. Will use optional stabilization criteria for DO.

Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes
 2) Packed samples on ice immediately upon collection

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Notes: 1. The above do not constitute all the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)H: ± 0.2 units; Temperature: ± 0.2 degrees C; Specific Conductance: $\pm 5\%$; Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2), optionally, $\pm .02 \text{ mg/L}$ or $\pm 10\%$ (whichever is greater); Turbidity: all readings $\leq 20 \text{ NTU}$, optionally $\pm 5 \text{ NTU}$ or $\pm 10\%$ (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-4	SAMPLE ID: MW-4

DATE: 8/13/13

PURGING DATA

WELL 2" PVC DIAMETER (inches):	TUBING .3/8" DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH 24.70 TO WATER (feet):	PURGE PUMP TYPE OR BAILER: ESP or PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)											
= (36.35' feet - 24.70 feet) X gallons/foot = gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)											
1 Equip Vol = .02 gallons + (.0006 gallons/foot X 36' feet) + .125 gallons = .2186 gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~30'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~30'	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):							
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)	ODOR (describe)
1055	.56	.56	.07	24.91	7.11	26.68	507	1.20	1.35	Clear	None
1057	.14	.70	.07	24.91	7.11	26.63	507	1.02	0.85	Clear	None
1059	.14	.84	.03	24.91	7.12	26.60	508	0.93	0.53	Clear	None
<i>No Screen</i>											

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Clayton, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1100	SAMPLING ENDED AT: 1115					
PUMP OR TUBING DEPTH IN WELL (feet): ~30'	SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL	TUBING MATERIAL CODE: PE						
FIELD DECONTAMINATION: Y N WL Filtration Equipment Type:	FIELD-FILTERED: Y N FILTER SIZE: _____ µm	DUPPLICATE: Y N						
SAMPLE CONTAINER SPECIFICATION	SAMPLE PRESERVATION	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE					
SAMPLE ID CODE	# CONTAINERS	MATERI AL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
MW-4	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	APP ESP or
"	1	PE	250 mL	H2S04	None	—	Ammonia	APP ESP or
"	1	PE	250 mL	HN03	None	—	Metals	APP ESP or
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	APP ESP or

REMARKS:

1047: Set ddr: cated 1/4" PE tubing at ~30' to and started pump at .07 gpm.

1052: WL 24.91 at .07 gpm, GW is clear.

1054: WL 24.91 at .07 gpm. Drawdown is stable - All parameters are stable or in range.

Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes
2) Packed samples on ice immediately upon collection

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

SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump

EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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

2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)H: ± 0.2 units; Temperature: ± 0.2 degrees C; Specific Conductance: ± 5%; Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± .02 mg/L or ± 10% (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-4A	SAMPLE ID: MW-4A

PURGING DATA

WELL 2" PVC DIAMETER (inches):	TUBING 3/8" DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 29.97'	PURGE PUMP TYPE OR BAILER: ESP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)											
= (45.23' feet - 29.97' feet) X gallons/foot = gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME X 3 = 1.2455 (only fill out if applicable)											
1 Equip Vol = .02 gallons + (.006 gallons/foot X 45' feet) + .125 gallons = .415 gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	PURGING INITIATED AT: 1037	PURGING ENDED AT: 1051	TOTAL VOLUME PURGED (gallons): 4.20							
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 (NTU's)	COLOR (describe)	ODOR (describe)
1047	3.00	3.00	.3	30.10	6.96	26.28	604	1.18	10.1	Clear	None
1049	.6	3.60	.3	30.11	6.98	26.21	604	1.08	8.16	Clear	None
1051	.6	4.20	.3	30.11	7.00	26.14	603	1.07	5.26	Clear	None
<i>No Screen</i>											

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER SIGNATURES:	SAMPLING INITIATED AT: 1052	SAMPLING ENDED AT: 1106					
PUMP OR TUBING DEPTH IN WELL (feet): ~40'	SAMPLE PUMP FLOW RATE (ml per minute): < 250 mL	TUBING MATERIAL CODE: PE						
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: μm	DUPPLICATE: Y (N)					
SAMPLE CONTAINER SPECIFICATION		SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE		
SAMPLE ID CODE	# CONTAINERS	MATERI AL CODE	VOLUME	PRESERVATIVE USED			TOTAL VOL ADDED IN FIELD (mL)	FINAL pH
MW-4A	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:

1037: Inserted SS ESP and dedicated 3/8" PE tubing to ~40' stock and started pump at .3 gpm.

1047: WL 30.10' at .3 gpm, GW is slightly turbid at 31 NTU's.

1049: WL 30.10' at .3 gpm, drawdown is stable. All parameters are stable or in range.

Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes
2) Packed samples on ice immediately upon collection

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

SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump

EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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

2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)H: ± 0.2 units; Temperature: ± 0.2 degrees C; Specific Conductance: ± 5%; Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± .02 mg/L or ± 10% (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL	
WELL NO: MW-4B	SAMPLE ID: MW-4B	DATE: 8/14/13

PURGING DATA

WELL 2" PVC DIAMETER (inches):	TUBING 3/8" DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER: ESP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)											
<i>Well Vol = (38.49' feet - 28.04' feet) x .16' gallons/foot = 1.672 gallons</i>											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~20'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~20'	PURGING INITIATED AT: 1115	PURGING ENDED AT: 1133	TOTAL VOLUME PURGED (gallons): 5.40							
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 (NTU)	COLOR (describe)	ODOR (describe)
1109	4.20	4.20	.3	28.28	8.94	25.35	114	7.00	3.06	Clear	None
1131	.6	4.80	.3	28.28	8.95	25.34	114	7.43	2.96	Clear	None
1133	.6	5.40	.3	28.28	8.93	25.35	115	7.37	2.37	Clear	None
<i>No screen</i>											

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: 	SAMPLING INITIATED AT: 1134	SAMPLING ENDED AT: 1150					
PUMP OR TUBING DEPTH IN WELL (feet): ~20'	SAMPLE PUMP FLOW RATE (ml per minute): < 250 mL	TUBING MATERIAL CODE: PE						
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: μm	DUPPLICATE: Y N					
SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION					
SAMPLE ID CODE	CONTAINERS	MATERI AL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
MW-4B	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:

1115: Inserted 55 ESP and dedicated 3/8" PE tubing to ~30' boc and started pump at ~3 gpm.
 1119: WL 28.24' at ~3 gpm, GW is clear.
 1122: WL 28.28' at ~3 gpm, DO and pH are high at 7.71 mg/L and 8.94 9/L respectively, but is typical for this well. Will use optional stabilization criteria for both.
 1128: WL 28.28' at ~3 gpm, draw down is stable. DO and pH are still high, all other parameters are stable or in range.
 Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes
 2) Packed samples on ice immediately upon collection

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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

2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)H: ± 0.2 units; Temperature: ± 0.2 degrees C; Specific Conductance: ± 5%; Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± .02 mg/L or ± 10% (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Clayton, Colinas Group, Inc.		SAMPLE SIGNATURES:		SAMPLING INITIATED AT: 1245	SAMPLING ENDED AT: 1300			
PUMP OR TUBING DEPTH IN WELL (feet):	~45'	SAMPLE PUMP	FLOW RATE (ml per minute): < 250 mL	TUBING	MATERIAL CODE: PE			
FIELD DECONTAMINATION: (Y) N		FIELD-FILTERED: Y (N)	FILTER SIZE: _____ μm Filtration Equipment Type: _____	DUPLICATE: Y (N)				
SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)			FINAL pH
MW-6A	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2SO4	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate TDS	ESP

REMARKS:

1212: Inserted SS ESP and dedicated 3/8" PE tubing to ~45' boc
and started pump at 1 gpm. This well is typically extremely
hybrid at beginning of purge and requires high flow rate to
clean it up.

1217: Turbidity is at 82 NTUs, reduced flow to .25 gpm.

Turbidity is at 31 NTU's. DO is high at 7.69 mg/l, but is typical for this well. Will use optional stabilization criteria for DO.

1239: All other parameters are stable or in range - WL 31.37' at .25 gpm

Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes

- 1) Used a graduated 5 gallon bucket and timed to measure
- 2) Packed samples on ice immediately upon collection.

Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes
2) Packed samples on ice immediately upon collection

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polycarbonate

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

SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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

2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3J): ± 0.2 units; Temperature: ± 0.2 degrees C; Specific Conductance: $\pm 5\%$; Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2), optionally, $\pm .02$ mg/l or $\pm 10\%$ (whichever is greater);

Turbidity: all readings \leq 20 NTU, optionally \pm 5 NTU or \pm 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-8	SAMPLE ID: MW-8

DATE: 8/13/13

PURGING DATA

WELL 2" PVC DIAMETER (inches):	TUBING 3/8" DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER: ESP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
	= (43.24' feet -		feet) X	gallons/foot = gallons
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)	= 0.0007000000000000001 gallons + (.0007000000000000001 gallons/foot X 43' feet) + .125 gallons = gallons, 2368			X 3 = .7104
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~38'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~38'	PURGING INITIATED AT: 1123	PURGING ENDED AT: 1135	TOTAL VOLUME PURGED (gallons): 120

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)	ODOR (describe)
1121	.80	.80	.1	22.12	7.21	24.44	325	5.05	0.45	Clear	None
1123	.2	1.00	.1	22.12	7.23	24.36	324	5.12	0.23	Clear	None
1135	.2	1.20	.1	22.12	7.24	24.32	324	5.01	0.29	Clear	None
No Sheen											

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1136	SAMPLING ENDED AT: 1150					
PUMP OR TUBING DEPTH IN WELL (feet): ~38'	SAMPLE PUMP	TUBING	MATERIAL CODE: PE					
FLOW RATE (ml per minute): < 250 mL	FIELD-FILTERED: Y N	FILTER SIZE: μm	DUPPLICATE: Y N					
FIELD DECONTAMINATION: (Y) N	Probe	Filtration Equipment Type:						
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
MW-8	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:
 1123: Set dedicated 1/4" PE tubing at ~38' stoc and started pump at .1 gpm.
 1128: WL 22-12' at .1 gpm. GW is clear.
 1130: WL 22-12' at .1 gpm. drawdown is stable. DO is high at 5.10 mg/L, but is typical for this well. All other parameters are stable or in range. Will use optional stabilization criteria for DO.

Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes
 2) Packed samples on ice immediately upon collection

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Baile; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Notes: 1. The above do not constitute all the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)H: ± 0.2 units; Temperature: ± 0.2 degrees C; Specific Conductance: ± 5%; Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± .02 mg/L or ± 10% (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

1.25

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL	
WELL NO: MW-9A	SAMPLE ID: MW-9A	DATE: 8/14/13

PURGING DATA

WELL 2" PVC DIAMETER (inches):	TUBING 3/8" DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 29.41	PURGE PUMP TYPE OR BAILER: ESP
-----------------------------------	-----------------------------------	---	-------------------------------------	-----------------------------------

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

$$= (50.17' \text{ feet} - 29.41 \text{ feet}) \times \text{gallons/foot} = \text{gallons}$$

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) $\times 3 = 1.395$

$$1 \text{ Equip Vol} = .02 \text{ gallons} + (.006 \text{ gallons/foot} \times 50' \text{ feet}) + .125 \text{ gallons} = .445 \text{ gallons}$$

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~45'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~45'	PURGING INITIATED AT: 0940	PURGING ENDED AT: 1010	TOTAL VOLUME PURGED (gallons): 15.0
--	--	-------------------------------	---------------------------	--

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 (NTU)	COLOR (describe)	ODOR (describe)
1006	14.00	14.00	.25	32.61	6.40	25.32	930	0.76	14.7	Clear	Sulfur
1008	.5	14.50	.25	32.61	6.42	25.27	928	0.89	12.2	Clear	Same
1010	.5	15.00	.25	32.61	6.42	25.26	928	0.80	10.5	Clear	Same

No shear

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Clayton, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1011	SAMPLING ENDED AT: 1025
PUMP OR TUBING DEPTH IN WELL (feet): ~45'	SAMPLE PUMP FLOW RATE (ml per minute):	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: <u> </u> µm	DUPPLICATE: Y N

SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERI AL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
MW-9A	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:

0940: Inserted SS ESP and dedicated 3/8" PE tubing to ~45' b/c and started pump at .75 gpm. This well is typically extremely turbid at beginning of purge and requires higher flow rate to clean it up.

0955: Turbidity is at 91 NTU's, reduced flow to .25 gpm.

1004: Turbidity has dropped to 19 NTU's, all other parameters are stable or in range. WL is 32.61' at .25 gpm and is stable.

Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes
2) Packed samples on ice immediately upon collection

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

SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailler; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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

2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3): H: ± 0.2 units; Temperature: ± 0.2 degrees C; Specific Conductance: ± 5%; Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2), optionally, ± .02 mg/L or ± 10% (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-10	SAMPLE ID: MW-10

DATE: 8/13/13

PURGING DATA

WELL 2" PVC DIAMETER (inches):	TUBING 3/8" DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 22.33	PURGE PUMP TYPE OR BAILER: ESPC PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)											
		= (45.35' feet - 22.33 feet) X 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	'002.6	X 3 = .726								
1 Equip Vol	= .02 gallons + (.006 gallons/foot X 45' feet) + .125 gallons = .243 gallons										
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	PURGING INITIATED AT: 1015	PURGING ENDED AT: 1026	TOTAL VOLUME PURGED (gallons): 1.32							
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)	ODOR (describe)
1022	.84	.84	.12	22.87	6.71	25.17	585	0.99	5-39	Clear	None
1024	.24	1.08	.12	22.87	6.73	25.08	584	0.90	5-03	Clear	None
1026	.24	1.32	.12	22.87	6.74	25.13	582	0.82	4-38	Clear	None
											No Sulfur
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											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Clayton, Colinas Group, Inc.	SAMPLER'S SIGNATURE:	SAMPLING INITIATED AT: 1027	SAMPLING ENDED AT: 1045					
PUMP OR TUBING DEPTH IN WELL (feet): ~40'	SAMPLE PUMP FLOW RATE (ml per minute): < 250 mL	TUBING MATERIAL CODE: PE						
FIELD DECONTAMINATION: <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> W <i>0.064</i>	FIELD-FILTERED <input checked="" type="checkbox"/> N Filtration Equipment Type: <i>only</i>	FILTER SIZE: <i>10</i> µm	DUPPLICATE: <input checked="" type="checkbox"/> Y <i>N</i>					
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
MW-10	2	PE	1 Ltr	HNO3	None	—	GrossAlpha, RA226RA228	APP ESPC
"	1	PE	250 mL	H2SO4	None	—	Total Ammonia	APP ESPC
"	1	PE	250 mL	HNO3	None	—	Metals	APP ESPC
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	APP ESPC

REMARKS:

1015: Set dedicated 1/4" PE tubing at ~40' 6ftoc and started pump at ~12 gpm.

1019: WL 22.87' at ~12 gpm, GW: is clear.

1021: WL 22.87' at ~12 gpm, drawdown is stable. All parameters are stable or in range.

Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes
2) Packed samples on ice immediately upon collection

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

SAMPLING/PURGING APP = After Peristaltic Pump; B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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

2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3): H: ± 0.2 units; Temperature: ± 0.2 degrees C; Specific Conductance: ± 5%; Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± .02 mg/L or ± 10% (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill		SITE LOCATION: Sumterville, FL									
WELL NO: MW-11	SAMPLE ID: MW-11	DATE: 8/13/13									
PURGING DATA											
WELL 2" PVC DIAMETER (inches):	TUBING 3/8" DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):								
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)		PURGE PUMP TYPE OR BAILER: ESP									
		= (40.15' feet - 0' feet) X 0.026 gallons/foot = 105.46 gallons									
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)		X 105.46 gallons + (0.0016 gallons/foot X 40' feet) + .125 gallons = 105.68 gallons									
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~35'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~35'	PURGING INITIATED AT:	PURGING ENDED AT:								
		TOTAL VOLUME PURGED (gallons):									
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 (NTU)	COLOR (describe)	ODOR (describe)
1310	2.90	2.90	.1	24.60	6.01	26.04	41	1.82	2.84	Clear	None
1312	3	3.10	.1	24.60	6.03	26.04	305	1.87	2.55	Clear	None
1314	3	3.30	.1	24.60	6.05	26.03	311	1.94	2.13	Clear	None
NO Sheen											

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

SAMPLED BY (PRINT) / AFFILIATION: Dale Clayton, Colinas Group, Inc.			SAMPLED BY SIGNATURES:			SAMPLING INITIATED AT: 1315	SAMPLING ENDED AT: 1330	
PUMP OR TUBING DEPTH IN WELL (feet): ~35'			SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL			TUBING	MATERIAL CODE: PE	
FIELD DECONTAMINATION: Y N Only			FIELD-FILTERED: Y N Filtration Equipment Type:			FILTER SIZE: μm	DUPPLICATE: Y N	
SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERI AL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
MW-11	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226.RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride,Fluoride, Nitrate, TDS	ESP

REMARKS:
1241: Set dedicated 1/4" PE tub: 13 at ~35' & 0°C and started pump at ~1 gpm.

1246: WL 24.61' at ~1 gpm, GW is clear.

1248: WL 24.61' at ~1 gpm, drawdown is stable. DO is high at 3.49 mg/L, but is slowly dropping. pH is lower than normal at 5.85 NTU's and is slowly going up. Will purge until both are in range or stable. All other parameters are stable or.

Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes in range.
2) Packed samples on ice immediately upon collection

(over)

MATERIAL CODES:	AG = Amber Glass;	CG = Clear Glass;	PE = Polyethylene;	PP = Polypropylene;	S = Silicone;	T = Teflon;	O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES:	APP = After Peristaltic Pump;	B = Bailer;	BP = Bladder Pump;	ESP = Electric Submersible Pump;	PP = Peristaltic Pump		

Notes: 1. The above do not constitute all the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3): ± 0.2 units; Temperature: ± 0.2 degrees C; Specific Conductance: ± 5%; Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± .02 mg/L or ± 10% (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

MW-II (Cont.)

1308: pH is stable at 6.00 slus. DO is fluctuating slightly between 1.85 - 1.90 mg/lc. Will use optional stabilization criteria for DO. WL is stable at 24.60° at .1 gpm.

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

SITE NAME: Sumter County Landfill		SITE LOCATION: Sumterville, FL									
WELL NO: NA		SAMPLE ID: EQB		DATE: 8/14/13							
PURGING DATA											
WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER: ESP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable $= (\text{feet} - \text{feet}) \times \text{gallons/foot} = \text{gallons}$											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) $= \text{gallons} + (\text{gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):		FINAL PUMP OR TUBING DEPTH IN WELL (feet):		PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):					
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)	ODOR (describe)
<i>NA</i>											
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											

SAMPLER BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.				SAMPLER SIGNATURES: <i>[Signature]</i>	SAMPLING INITIATED AT: 0900	SAMPLING ENDED AT: 0910		
PUMP OR TUBING DEPTH IN WELL (feet):				SAMPLE PUMP FLOW RATE (ml per minute): < 250 mL	TUBING MATERIAL CODE: PE			
FIELD DECONTAMINATION: <input checked="" type="radio"/> Y <input type="radio"/> N				FIELD-FILTERED: <input checked="" type="radio"/> Y <input type="radio"/> N FILTER SIZE: _____ µm Filtration Equipment Type:	DUPLICATE: <input type="radio"/> Y <input checked="" type="radio"/> N			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
EQB	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP
"		Various	Various	Various	None	—	Appendix I Parameters	ESP

REMARKS:
Field decontaminated SS ESP, WL probe and 5 gallon PE bucket IAW DEP-SOP-001/01, FC 1000. Poured 1 gallon of DI water into bucket, inserted pump and WL probe and circulated DI water through pump and over WL probe for several minutes, then collected EOB samples.

Notes: 1) Used a graduated 5 gallon bucket and timed to measure purge volumes
 2) Packed samples on ice immediately upon collection

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

SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
 EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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

2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)H: ± 0.2 units; Temperature: ± 0.2 degrees C; Specific Conductance: ± 5%; Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± .02 mg/L or ± 10% (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

4

A1306040



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Page 1

Tuesday, August 27, 2013 4:34:52 PM

Page 29 of 29

Sumter Co. Landfill - GW Sampling							LABORATORY I.D. NUMBER		
CLIENT NAME:		P.O. NUMBER/PROJECT NUMBER: P-483							
ADDRESS:		PROJECT LOCATION: Demarest, FL							
PHONE:		REMARKS/SPECIAL INSTRUCTIONS:							
FAX:									
CONTACT:									
SAMPLED BY:									
TURN AROUND TIME:									
<input checked="" type="checkbox"/> STANDARD		<input type="checkbox"/> RUSH							
SAMPLE ID	SAMPLE DESCRIPTION		Grab Camp	SAMPLING		MATRIX		NO. COUNT	PRESSURE WATER
				DATE	TIME				
MW-2			G	8-13-13	1235	W	5	X	X X X X X X
MW-4			G	1	1115	W	5	X	X X X X X X
MW-4A			G	8-14-13	1106	W	5	X	X X X X X X
MW-4B			G	1	1150	W	5	X	X X X X X X
MW-6A			G	1	1300	W	5	X	X X X X X X
MW-8			G	8-13-13	1150	W	5	X	X X X X X X
MW-9A			G	8-14-13	1025	W	5	X	X X X X X X
MW-10			G	8-13-13	1045	W	5	X	X X X X X X
MW-11			G	1	1320	W	5	X	X X X X X X
EQB			G	8-14-13	0910	W	5	X	X X X X X X

Received on ice Yes No

Temp taken from sample Temp from temp blank Where required, pH checked

Temperature when received 3 (In degrees celsius)

Form revised 2/6/08

Device used for measuring Temp by unique identifier (circle if temp gun used) J: SA G: LT-1 LT-2 T: 10A A: SA

Refined by:	Date	Time	Received by:	Date	Time
1	8-14-13	1424	C. Feigin	8/14/13	1426
2					
4					

FOR DRINKING WATER USE:

(From PWG information not otherwise supplied) PWG ID: _____

Contact Person: _____ Phone: _____

Site Address: _____

5

Field Instrument Calibration Records

INSTRUMENT (MAKE/MODEL#) YSI 556/Hanna INSTRUMENT #

PARAMETERS:

TEMPERATURE CONDUCTIVITY SALINITY pH ORP
 TURBIDITY RESIDUAL CL DO OTHER _____

STANDARDS: [Bracket calibrated meters pH 4.01 - 7 and Turbidity 0.1 - 15 NTU's]

Standard A Oakton pH Standard 4.01 Units Exp: 3/20/14

Standard B Oakton pH Standard 7.00 Units Exp: 8/2014

Standard C Oakton Conductivity Standard 1500 uS/cm, Exp: 4/2014

Standard D Hanna 0.1 NTU Standard Exp: 4/2015

Standard E Hanna 15 NTU Standard Exp: 4/2015

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS	
8/13/13	0950	A	4.01	4.01		Yes	IC	JL	pH
		B	7.00	7.00					pH
		C	1500	1500					Cond
		--	--	7.73					DO
		--	--	28.68					Temp
		D	0.1	0.1					Turb
		E	15	15.0					Turb
8/13/13	1010	A	4.01	4.03		Yes	ILV	JL	pH
		B	7.00	7.04					pH
		C	1500	1499					Cond
		--	--	7.71					DO
		--	--	28.76					Temp
		D	0.1	0.07					Turb
		E	15	15.0					Turb
8/13/13	1430	A	4.01	4.10		Yes	CC	JL	pH
		B	7.00	6.96					pH
		C	1500	1504					Cond
		--	--	7.70					DO
		--	--	29.27					Temp
		D	0.1	0.07					Turb
		E	15	15.0					Turb

Field Instrument Calibration Records

INSTRUMENT (MAKE/MODEL#) YSI 556/Hanna INSTRUMENT #

PARAMETERS;

TEMPERATURE CONDUCTIVITY SALINITY pH ORP
 TURBIDITY RESIDUAL CL DO OTHER _____

STANDARDS: [Bracket calibrated meters pH 4.01 – 7 and Turbidity 0.1 – 15 NTU's]

Standard A Oakton pH Standard 4.01 Units Exp: 3/2014

Standard B Oakton pH Standard 7.00 Units Exp: 8/2014

Standard C Oakton Conductivity Standard 1500 uS/cm Exp: 4/2014

Standard D Hanna 0.1 NTU Standard Exp: 4/20/15

Standard E Hanna 15 NTU Standard Exp: 4/2015

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
8/14/13	0900	A	4.01	4.01		Yes	IC	JKD
		B	7.00	7.00				pH
		C	1500	1500				Cond
		-	-	7.85				DO
		-	-	27.85				Temp
		D	0.1	0.1				Turb
		E	15	15.0				Turb
8/14/13	0930	A	4.01	4.04		Yes	ICV	JKD
		B	7.00	7.00				pH
		C	1500	1502				Cond
		--	--	7.83				DO
		--	--	27.96				Temp
		D	0.1	0.08				Turb
		E	15	15.0				Turb
8/14/13	1330	A	4.01	4.00		Yes	CC	JKD
		B	7.00	7.00				pH
		C	1500	1504				Cond
		--	--	7.61				DO
		--	--	29.86				Temp
		D	0.1	0.08				Turb
		E	15	15.1				Turb