

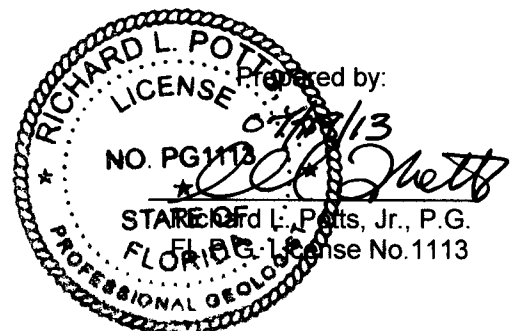
**SUMTER COUNTY
(CLOSED) LANDFILL
QUARTERLY GROUNDWATER
MONITORING REPORT
Quarter II (May) 2013**

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**



July 2013

THE COLINAS GROUP, INC.
HYDROGEOLOGISTS & ENGINEERS

July 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 II (May) 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 II (May) 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.

This report contains additional information not normally included, or required, in the quarterly monitoring report for this facility. This information, consisting of supplemental sampling results two non-MPIS monitoring wells and certain site historical documentation, is included to address items of the Model Consent Order previously issued for the closed landfill by the Department's Southwest District Office.

Sumter County is currently working with the Southwest District Office to reach a successful conclusion to the Model Consent Order. TCG will submit a copy of this report directly to that office on behalf of Sumter County.

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.

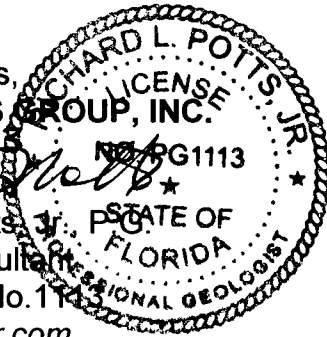
Richard L. Potts

Richard L. Potts, Jr., P.G.

Principal Consultant

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

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

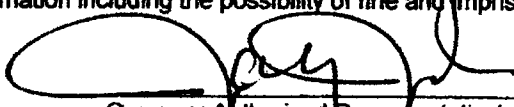
(6) Method of Discharge NA

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.

7/22/13

Date



Owner or Authorized Representative's Signature

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

**SUMTER COUNTY (CLOSED) LANDFILL
GROUNDWATER MONITORING REPORT
SUMTER COUNTY, FLORIDA
Quarter II (May) 2013**

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* * * * *

**Sumter County (Closed) Landfill
Quarterly Groundwater Monitoring Report
Quarter II (May) 2013**

INTRODUCTION

The Colinas Group, Inc. (TCG) has reviewed the groundwater monitoring well sampling and analytical results for the Quarter II (May) 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 II 2013 sampling event at the Sumter County Landfill was completed during the period May 8 -10, 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 May 10, 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 well **MW-2**, installed in an at-grade manhole in pavement around the former citizen's drop-off area, was covered by new asphalt and could not be located.

Supplemental Sampling

Supplemental sampling was completed at two Contamination Assessment monitoring wells not part of the landfill's Ground Water Monitoring Plan (GWMP). Wells **MW-4C** and **MW-4D**, installed as piezometers in 2011 and sampled twice in 2012, were sampled on June 24, 2013 at the request of the FDEP in consideration of satisfaction of Contamination Assessment (CA) actions ordered by the Department as a component of a Model Consent Order (OGC #04-0131) issued in 2004.

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 above-grade wellheads at MW-4C and MW-4D were damaged and not available for sampling.

Sumter County repaired the wellheads at MW-4C and MW-4D subsequent to the sampling event. TCG returned to the landfill on June 24, 2013 to redevelop the wells and collect groundwater samples for nitrate analyses.

RESULTS

Field Tested Parameters

Results of field testing completed at groundwater monitoring wells for the Quarter II 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 seven (7) of the eight (8) 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 8.61 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 23.77 C to 26.17 C.

Dissolved Oxygen

Dissolved oxygen (DO) exceeded the FDEP sampling guidance level of 20% saturation at three (3) of the eight (8) monitoring wells sampled, including the facility background monitoring 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 133 umhos/cm to 915 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 eight (8) wells.

Regulatory Exceedances

A summary of groundwater laboratory analytical results that exceeded the regulatory level for the particular parameter in the Quarter II 2013 sample set is presented in Table III. As shown, five (5) constituents were reported at specific monitoring wells at concentrations that exceed applicable regulatory levels. Exceeding parameters were: Aluminum, iron, manganese, nitrate nitrogen and total dissolved solids (TDS).

Aluminum

Aluminum was reported in water samples from one of the eight (8) monitoring wells at a concentration above the Florida Secondary Drinking Water Standards (FSDWS) MCL of 200 ug/l. Aluminum was reported above the MCL at well **MW-9A** at 500 ug/l.

Iron

Dissolved iron was detected at two (2) monitoring wells at concentrations above the FSDWS MCL of 300 ug/l. Iron was reported at 1,300 ug/l at well **MW-9A** and 340 ug/l at **MW-10**. Iron was not detected above the laboratory minimum detection limit of 38 ug/l at six (6) wells.

Manganese

Manganese was reported at a concentration above the FSDWS MCL of 50 ug/l at monitoring well **MW-9A** at 95 ug/l. Manganese was detected at five (5) of the 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 12 mg/l. Remaining detection/compliance wells reported nitrate values ranging from 0.49 mg/l (**MW-9A**) to 5.5 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 570 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 each of the landfill monitoring wells, including background / upgradient wells **MW-6A** and **MW-8**.

Chloride concentrations reported for six (6) of the eight (8) monitoring wells, including the 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** (21 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 wells **MW-9A**, **MW-10** and **MW-11**.

Sodium appears slightly higher at monitoring wells **MW-4**, **MW-4A** and **MW-9A** (20 mg/l - 29 mg/l) as compared to background and other downgradient monitoring wells. The PDWS MCL for sodium is 160 mg/l.

Supplemental Sampling for Nitrate

Found damaged by adjacent site construction activities at the time of quarterly sampling, the wellheads at CA monitoring wells **MW-4C** and **MW-4D** were repaired by Sumter County to allow access for sample collection. TCG measured total apparent well depths before and after air-lift pumping, removing about one foot of sand and concrete/grout fragments from each of the wells prior to sampling on June 24, 2013.

Collected groundwater samples were analyzed in the laboratory for nitrate nitrogen. The laboratory report of analyses is included in Attachment 2. Nitrate results are reported as:

MW-4C	5.2 mg/l nitrate
MW-4D	6.5 mg/l nitrate

Field sampling logs and quality control documents for the supplemental sampling are included in Attachments 3 and 4, respectively.

SUMMARY AND CONCLUSIONS

Chemical characteristics of groundwater monitored at the Sumter County Closed Landfill are reported for the Quarter II (May) 2013 sampling event. Exceedances of constituent regulatory maximum concentration levels (MCLs) are reported at specific monitoring wells for the Florida Secondary Drinking Water Standards (FSDWS) parameters: **Aluminum, 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 three of the eight 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**

Aluminum was reported by the laboratory at concentrations slightly above the FSDWS MCL at detection monitoring well **MW-9A**. Aluminum has routinely been reported above the MCL in monitoring wells at the landfill, including facility background well **MW-6A**. The most likely source of dissolved aluminum in groundwater is naturally-occurring aluminum-silicate clay minerals occurring near the top of rock throughout the landfill property.

Dissolved **iron** above the FSDWS MCL was reported at detection monitoring wells **MW-9A** and **MW-10**. **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 12 mg/l. The MCL for nitrate in groundwater is 10 mg/l. Monitoring wells **MW-4C** and **MW-4D**, installed as part of prior Contamination Assessment actions, reported nitrate below the MCL at 5.2 mg/l and 6.5 mg/l, respectively in groundwater samples collected on June 24, 2013.

Nitrate concentrations at wells **MW-4C** and **MW-4D** are reported slightly lower than two previous samples from both wells in the first half of 2012, with each of the six sample results less than the MCL and consistent with nitrate levels reported at Compliance Well **MW-4** and Background Well **MW-6A**. 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 570 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 and future water quality monitoring activities conducted 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: Aluminum, 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 facilities' zone of discharge in accordance with the provisions of rule 62-520.520(1), F.A.C. Evidence of "existing installation" status is provided in Attachment 5 to this report in the form of a copy of an Operation Permit issued by the Florida Department of Environmental Regulation for the SCCL (formerly Sumter County Central Sanitary Landfill) on January 21, 1979. The permit includes provision of an approved groundwater monitoring plan as required by Operation Permit Condition No. 9. The permit predates the Monitoring Plan Deadline for landfills (May 1983) defined in rule 62-520.200(10)(b), F.A.C.
3. Nitrate concentrations in samples from Contamination Assessment monitoring well MW-4A continue to be reported just above the Florida Primary Drinking Water Standards MCL. Well MW-4A was installed as part of prior Contamination Assessment actions to delineate the lateral extent of exceeding nitrate levels in groundwater beyond the landfill's zone of discharge boundary near the location of Compliance Well MW-4.

Nitrate concentrations at wells MW-4C and MW-4D are reported below the MCL, at levels consistent with background conditions, in three sampling events. Both wells, together with MW-4B, are located within the landfill property boundaries and down-gradient from wells MW-4 and MW-4A with respect to apparent groundwater flow direction.

4. Water quality test results for monitoring wells MW-4B, MW-4C and MW-4D demonstrate that groundwater containing MCL-exceeding levels of nitrate-nitrogen, reported previously at MW-4 and currently at MW-4A, has not migrated beyond the landfill property boundaries. This finding satisfies the objectives of Contamination Assessment investigations ordered by the FDEP and the final objectives of the Model Consent Order entered into by Sumter County and the FDEP in 2004.

RECOMMENDATIONS

1. A "Monitoring Only Proposal" is considered an appropriate conclusion to Contamination Assessment actions ordered for the landfill. This recommended proposal consists of the following primary components:
 - a). Monitoring wells MW-4C and MW-4D, constructed originally as piezometers but constructed to monitoring well specifications, should be formally incorporated into the Ground Water Monitoring Plan (GWMP) for the purpose of monitoring nitrate in groundwater downgradient from well MW-4A;
 - b). Monitoring wells MW-4 and MW-4B should be deactivated for water quality sampling and reassigned in the GWMP for use as piezometers for water level measurement only;
 - c). Monitoring constituents regulated under the Florida Secondary Drinking Water Standards should be deleted from the landfill's GWMP to include: Aluminum, chloride, iron, manganese and total dissolved solids.
2. Upon acceptance of the Monitoring Only Proposal by the FDEP and conclusion of the Contamination Assessment process, we recommend that Sumter County request a finding of satisfaction and closure of the Model Consent Order (OGC #04-0131) issued for the SCCL;
3. We recommend that Sumter County request a minor modification of the landfill long-term care permit (Permit No. 22926-003-SF) from the FDEP Southwest District Office. Modification of the facility Ground Water Monitoring Plan (GWMP) is recommended to formally incorporate the recommended Monitoring Only Proposal as a means of demonstrating compliance with the nitrate nitrogen standard in groundwater upgradient of the landfill property boundaries.
4. While typically not exceeding MCLs, the constituents gross alpha and radium 226+228 are routinely reported at elevated levels in several monitoring wells. Sumter County should exercise due care in future sampling events to reduce sample turbidity levels to as low as practicable during sampling for these radionuclides.

* * * * *

TABLE I
FIELD PARAMETER RESULTS SUMMARY
SUMTER COUNTY (CLOSED) LANDFILL
SUMTER COUNTY, FLORIDA
Quarter II (May) 2013

Sampling Point	Temp. (C)	Dissolved Oxygen (mg/l)	pH	Specific Conductance (umhos/cm)	Turbidity (NTU)
MW-2	ns	ns	ns	ns	ns
MW-4	26.05	0.69	7.28	512	1.43
MW-4A	26.17	0.67	7.01	618	2.74
MW-4B	25.41	3.45	8.61	133	2.53
MW-6A	24.99	6.93	7.77	258	12.4
MW-8	23.77	4.75	7.3	345	0.25
MW-9A	25.31	0.25	6.5	915	11.8
MW-10	24.59	0.43	6.89	623	3.49
MW-11	24.99	0.96	6.28	346	5.88

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)

2). ns means well not sampled.

TABLE II

SUMMARY OF GROUNDWATER LEVELS
SUMTER COUNTY (CLOSED) LANDFILL
SUMTER COUNTY, FLORIDA
Quarter II (May) 2013

Well No.	MP Elev. ^{1/} (ft. +NGVD)	Depth to Water ^{2/} (ft. - MP)	Groundwater Elevation (ft. +NGVD)
MW-1	70.10	27.84	42.26
MW-2	68.96	nm	---
MW-2A	71.98	29.58	42.40
MW-4	70.33	27.96	42.37
MW-4A	75.49	33.16	42.33
MW-4B	73.49	31.23	42.26
MW-4C	70.88	nm	---
MW-4D	73.35	nm	---
MW-6A	77.48	34.78	42.70
MW-7	72.93	30.55	42.38
MW-8	68.63	25.51	43.12
MW-9	72.62	30.16	42.46
MW-9A	75.14	32.63	42.51
MW-10	68.14	25.60	42.54
MW-11	70.02	27.73	42.29

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

^{2/} Water levels recorded on May 10, 2013.

^{3/} nm means not measured, wellheads damaged by area construction activities.

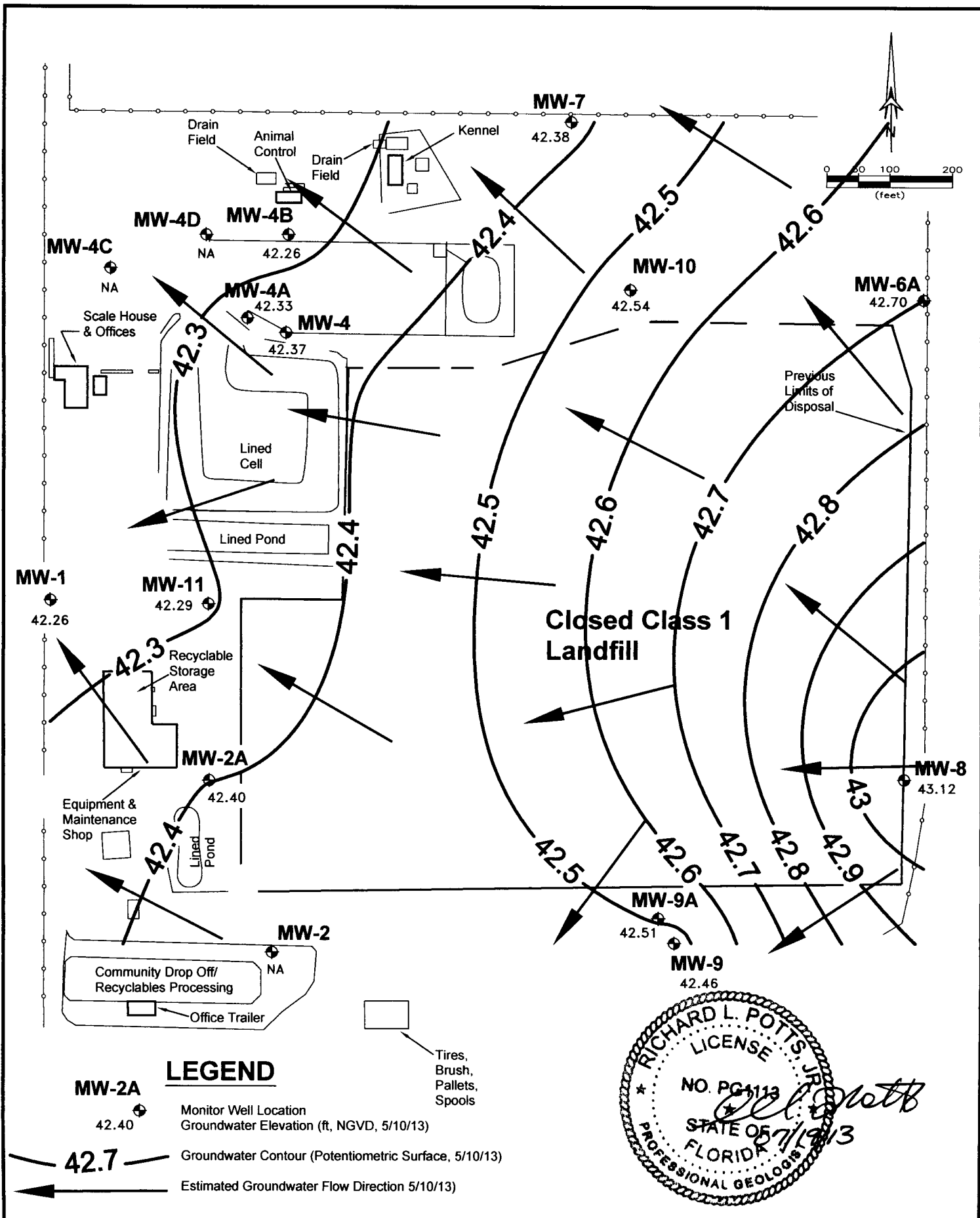
TABLE III
SUMMARY OF LABORATORY RESULTS
SUMTER COUNTY (CLOSED) LANDFILL
QUARTER II (May) 2013

Parameter	units	MW-2	MW-4	MW-4A	MW-4B	MW-6A	MW-8	MW-9A	MW-10	MW-11	MCL
Ammonia	mg/l	ns	0.034	0.056	0.072	0.020	0.104	0.590	0.029	BDL	2.8
Aluminum	ug/l	ns	BDL	BDL	160	BDL	BDL	500*	BDL	BDL	200
Antimony	ug/l	ns	0.27	0.12	1.6	0.083	0.080	0.11	0.19	0.23	6
Cadmium	ug/l	ns	BDL	BDL	BDL	BDL	BDL	1.2	0.52	2.4	5
Chloride	mg/l	ns	13	23	5.1	8.9	8.7	21	7.9	4.6	250
Chromium	ug/l	ns	0.70	1.1	2.4	6.4	3.0	4.3	BDL	1.6	100
Fluoride	mg/l	ns	0.16	BDL	0.13	0.14	0.15	0.15	0.19	0.20	4
Gross Alpha	pCi/l	ns	5.7 ± 1.4	2.6 ± 1.2	4.5 ± 1.0	4.9 ± 1.3	3.8 ± 1.0	10.1 ± 2.3	14.6 ± 2.1	10.8 ± 1.5	15
Iron	ug/l	ns	BDL	BDL	BDL	BDL	BDL	1,300*	340*	BDL	300
Lead	ug/l	ns	BDL	0.13 V	BDL	BDL	BDL	0.52 V	0.15 V	0.21 V	15
Manganese	ug/l	ns	5.1	2.2	BDL	0.78	BDL	95*	21	2.1	50
Mercury	ug/l	ns	BDL	BDL	BDL	BDL	BDL	0.10	BDL	0.037	2
Nitrate, as N	mg/l	ns	4.8	12	2.2	5.5	1.9	0.49	1.4	4.8	10
Ra226+Ra228	pCi/l	ns	2.7 ± 0.8	2.6 ± 0.7	1.7 ± 0.7	2.0 ± 0.7	1.8 ± 0.7	5.2 ± 1.0	5.1 ± 0.9	5.3 ± 1.1	5
Silver	ug/l	ns	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	100
Sodium	mg/l	ns	29	21	8.4	2.9	4.8	20	7.4	8.4	160
TDS	mg/l	ns	330	380	100	160	220	570*	370	190	500
Thallium	ug/l	ns	0.13	0.27	BDL	0.075	BDL	0.19	0.068	0.14	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 4). ns means well not sampled 5). V indicates laboratory contamination

ATTACHMENT 1

**Quarter II (May) 2013
Groundwater Contour Map**



The Colinas Group, Inc.
377 Maitland Avenue
Suite 2012
Altamonte Springs, Florida 32701

PROJ. NO.: P-483
DATE: MAY 2013
SCALE: 1" = 200'

**GROUNDWATER CONTOUR MAP
QUARTER II (MAY) 2013
SUMTER COUNTY LANDFILL**

FIGURE 1

ATTACHMENT 2

**Laboratory Analytical Reports
Field Sampling and Testing Logs**



ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534001**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-4**

Date Collected: 05/08/13 11:30

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: FIELD - Conductance			Analytical Method: DISRES					
Conductance	512	umhos/cm		1			5/8/2013 11:10	A^
Dissolved Oxygen	0.69	mg/L		1			5/8/2013 11:10	A^
Groundwater Elevation	42.42	feet		1			5/8/2013 11:10	A^
Temperature	26.05	°C		1			5/8/2013 11:10	A^
Turbidity	1.43	NTU		1			5/8/2013 11:10	A^
pH	7.28	pH unit		1			5/8/2013 11:10	A^

METALS

Analysis Desc: SW846 6010B
Analysis, Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Aluminum	61	ug/L	U	1	200	61	5/13/2013 18:29	J
Cadmium	0.32	ug/L	U	1	0.60	0.32	5/13/2013 18:29	J
Chromium	0.70	ug/L	I	1	1.0	0.50	5/13/2013 18:29	J
Iron	38	ug/L	U	1	200	38	5/13/2013 18:29	J
Manganese	5.1	ug/L		1	1.0	0.24	5/13/2013 18:29	J
Sodium	29	mg/L		1	0.20	0.026	5/13/2013 18:29	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	0.27	ug/L	I	1	0.60	0.073	5/18/2013 02:21	J
Lead	0.076	ug/L	U	1	0.70	0.076	5/18/2013 02:21	J
Silver	0.059	ug/L	U	1	0.30	0.059	5/18/2013 02:21	J
Thallium	0.13	ug/L	I	1	0.20	0.067	5/18/2013 02:21	J

Analysis Desc: SW846 7470A
Analysis, Water

Preparation Method: SW-846 7470A

Analytical Method: SW-846 7470A

Mercury	0.014	ug/L	U	1	0.10	0.014	5/15/2013 12:48	J
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WET CHEMISTRY

Analysis Desc: IC,E300.0, Water

Analytical Method: EPA 300.0

Chloride	13	mg/L		1	7.5	0.78	5/9/2013 17:42	A
Fluoride	0.16	mg/L	I	1	0.50	0.075	5/9/2013 17:42	A
Nitrate	4.8	mg/L		1	0.50	0.051	5/9/2013 17:42	A

Analysis Desc: Ammonia,E350.1, Water

Analytical Method: EPA 350.1

Ammonia (N)	0.034	mg/L		1	0.010	0.0080	5/15/2013 11:28	G
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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534001**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-4**

Date Collected: 05/08/13 11:30

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids, SM2540C		Analytical Method: SM 2540C						
Total Dissolved Solids	330	mg/L		1	10	10	5/13/2013 09:44	A

Lab ID: **A1303534002**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-4A**

Date Collected: 05/08/13 12:40

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: FIELD - Conductance		Analytical Method: DISRES						
Conductance	618	umhos/cm		1			5/8/2013 12:23	A^
Dissolved Oxygen	0.67	mg/L		1			5/8/2013 12:23	A^
Groundwater Elevation	42.61	feet		1			5/8/2013 12:23	A^
Temperature	26.17	°C		1			5/8/2013 12:23	A^
Turbidity	2.74	NTU		1			5/8/2013 12:23	A^
pH	7.01	pH unit		1			5/8/2013 12:23	A^

METALS

Analysis Desc: SW846 6010B
Analysis, Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Aluminum	61	ug/L	U	1	200	61	5/13/2013 18:53	J
Cadmium	0.32	ug/L	U	1	0.60	0.32	5/13/2013 18:53	J
Chromium	1.1	ug/L		1	1.0	0.50	5/13/2013 18:53	J
Iron	38	ug/L	U	1	200	38	5/13/2013 18:53	J
Manganese	2.2	ug/L		1	1.0	0.24	5/13/2013 18:53	J
Sodium	21	mg/L		1	0.20	0.026	5/13/2013 18:53	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	0.12	ug/L	I	1	0.60	0.073	5/18/2013 01:03	J
Lead	0.13	ug/L	I,V	1	0.70	0.076	5/18/2013 01:03	J
Silver	0.059	ug/L	U	1	0.30	0.059	5/18/2013 01:03	J
Thallium	0.27	ug/L		1	0.20	0.067	5/18/2013 01:03	J

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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534002**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-4A**

Date Collected: 05/08/13 12:40

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
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	5/15/2013 13:01	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water		Analytical Method: EPA 300.0						
Chloride	23	mg/L		1	7.5	0.78	5/9/2013 18:06	A
Fluoride	0.075	mg/L	U	1	0.50	0.075	5/9/2013 18:06	A
Nitrate	12	mg/L		2	1.0	0.10	5/9/2013 19:16	A
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.056	mg/L		1	0.010	0.0080	5/15/2013 11:28	G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540C						
Total Dissolved Solids	380	mg/L		1	10	10	5/13/2013 09:44	A

Lab ID: **A1303534003**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-4B**

Date Collected: 05/08/13 13:25

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: FIELD - Conductance		Analytical Method: DISRES						
Conductance	133	umhos/cm		1			5/8/2013 13:08	A^
Dissolved Oxygen	3.45	mg/L		1			5/8/2013 13:08	A^
Groundwater Elevation	42.63	feet		1			5/8/2013 13:08	A^
Temperature	25.41	°C		1			5/8/2013 13:08	A^
Turbidity	2.53	NTU		1			5/8/2013 13:08	A^
pH	8.61	pH unit		1			5/8/2013 13:08	A^
METALS								
Analysis Desc: SW846 6010B		Preparation Method: SW-846 3010A						
Analysis, Water		Analytical Method: SW-846 6010						
Aluminum	160	ug/L	I	1	200	61	5/13/2013 19:17	J

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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534003**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-4B**

Date Collected: 05/08/13 13:25

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Cadmium	0.32	ug/L	U	1	0.60	0.32	5/13/2013 19:17	J
Chromium	2.4	ug/L		1	1.0	0.50	5/13/2013 19:17	J
Iron	38	ug/L	U	1	200	38	5/13/2013 19:17	J
Manganese	0.24	ug/L	U	1	1.0	0.24	5/13/2013 19:17	J
Sodium	8.4	mg/L		1	0.20	0.026	5/13/2013 19:17	J

Analysis Desc: SW846 6020B

Preparation Method: SW-846 3010A

Analysis, Total

Analytical Method: SW-846 6020

Antimony	0.16	ug/L	I	1	0.60	0.073	5/18/2013 02:30	J
Lead	0.076	ug/L	U	1	0.70	0.076	5/18/2013 02:30	J
Silver	0.059	ug/L	U	1	0.30	0.059	5/18/2013 02:30	J
Thallium	0.067	ug/L	U	1	0.20	0.067	5/18/2013 02:30	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	5/15/2013 13:03	J
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WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	5.1	mg/L	I	1	7.5	0.78	5/9/2013 19:39	A
Fluoride	0.13	mg/L	I	1	0.50	0.075	5/9/2013 19:39	A
Nitrate	2.2	mg/L		1	0.50	0.051	5/9/2013 19:39	A

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.034	mg/L		1	0.010	0.0080	5/15/2013 11:28	G
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Analysis Desc: Tot Dissolved
Solids, SM2540C

Analytical Method: SM 2540C

Total Dissolved Solids	100	mg/L		1	10	10	5/13/2013 09:44	A
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Lab ID: **A1303534004**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-6A**

Date Collected: 05/09/13 12:35

Sample Description:

Location:

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

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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534004**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-6A**

Date Collected: 05/09/13 12:35

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: FIELD - Conductance		Analytical Method: DISRES						
Conductance	258	umhos/cm		1			5/9/2013 12:18	A^
Dissolved Oxygen	6.93	mg/L		1			5/9/2013 12:18	A^
Groundwater Elevation	42.78	feet		1			5/9/2013 12:18	A^
Temperature	24.99	°C		1			5/9/2013 12:18	A^
Turbidity	12.4	NTU		1			5/9/2013 12:18	A^
pH	7.77	pH unit		1			5/9/2013 12:18	A^

METALS

Analysis Desc: SW846 6010B
Analysis,Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Aluminum	61	ug/L	U	1	200	61	5/13/2013 19:22	J
Cadmium	0.32	ug/L	U	1	0.60	0.32	5/13/2013 19:22	J
Chromium	6.4	ug/L		1	1.0	0.50	5/13/2013 19:22	J
Iron	38	ug/L	U	1	200	38	5/13/2013 19:22	J
Manganese	0.78	ug/L	I	1	1.0	0.24	5/13/2013 19:22	J
Sodium	2.9	mg/L		1	0.20	0.026	5/13/2013 19:22	J

Analysis Desc: SW846 6020B
Analysis,Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	0.083	ug/L	I	1	0.60	0.073	5/18/2013 02:40	J
Lead	0.076	ug/L	U	1	0.70	0.076	5/18/2013 02:40	J
Silver	0.059	ug/L	U	1	0.30	0.059	5/18/2013 02:40	J
Thallium	0.075	ug/L	I	1	0.20	0.067	5/18/2013 02:40	J

Analysis Desc: SW846 7470A
Analysis,Water

Preparation Method: SW-846 7470A

Analytical Method: SW-846 7470A

Mercury	0.014	ug/L	U	1	0.10	0.014	5/15/2013 13:06	J
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WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	8.9	mg/L		1	7.5	0.78	5/9/2013 20:03	A
Fluoride	0.14	mg/L	I	1	0.50	0.075	5/9/2013 20:03	A
Nitrate	5.5	mg/L		1	0.50	0.051	5/9/2013 20:03	A

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.020	mg/L		1	0.010	0.0080	5/15/2013 11:28	G
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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534004**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-6A**

Date Collected: 05/09/13 12:35

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids, SM2540C		Analytical Method: SM 2540C						
Total Dissolved Solids	160	mg/L		1	10	10	5/13/2013 09:44	A

Lab ID: **A1303534005**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-8**

Date Collected: 05/09/13 10:00

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: FIELD - Conductance		Analytical Method: DISRES						
Conductance	345	umhos/cm		1			5/9/2013 09:45	A^
Dissolved Oxygen	4.75	mg/L		1			5/9/2013 09:45	A^
Groundwater Elevation	43.75	feet		1			5/9/2013 09:45	A^
Temperature	23.77	°C		1			5/9/2013 09:45	A^
Turbidity	0.25	NTU		1			5/9/2013 09:45	A^
pH	7.3	pH unit		1			5/9/2013 09:45	A^

METALS

**Analysis Desc: SW846 6010B
Analysis, Water**

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Aluminum	61	ug/L	U	1	200	61	5/13/2013 19:27	J
Cadmium	0.32	ug/L	U	1	0.60	0.32	5/13/2013 19:27	J
Chromium	3.0	ug/L		1	1.0	0.50	5/13/2013 19:27	J
Iron	38	ug/L	U	1	200	38	5/13/2013 19:27	J
Manganese	0.24	ug/L	U	1	1.0	0.24	5/13/2013 19:27	J
Sodium	4.8	mg/L		1	0.20	0.026	5/13/2013 19:27	J

**Analysis Desc: SW846 6020B
Analysis, Total**

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	0.080	ug/L	I	1	0.60	0.073	5/18/2013 02:50	J
Lead	0.076	ug/L	U	1	0.70	0.076	5/18/2013 02:50	J
Silver	0.059	ug/L	U	1	0.30	0.059	5/18/2013 02:50	J
Thallium	0.067	ug/L	U	1	0.20	0.067	5/18/2013 02:50	J

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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534005**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-8**

Date Collected: 05/09/13 10:00

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
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	5/15/2013 13:13	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water		Analytical Method: EPA 300.0						
Chloride	8.7	mg/L		1	7.5	0.78	5/9/2013 20:26	A
Fluoride	0.15	mg/L	I	1	0.50	0.075	5/9/2013 20:26	A
Nitrate	1.9	mg/L		1	0.50	0.051	5/9/2013 20:26	A
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.104	mg/L		1	0.010	0.0080	5/15/2013 11:28	G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540C						
Total Dissolved Solids	220	mg/L		1	10	10	5/13/2013 09:44	A

Lab ID: **A1303534006**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-9A**

Date Collected: 05/09/13 11:32

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: FIELD - Conductance		Analytical Method: DISRES						
Conductance	915	umhos/cm		1			5/9/2013 11:18	A^
Dissolved Oxygen	0.25	mg/L		1			5/9/2013 11:18	A^
Groundwater Elevation	41.64	feet		1			5/9/2013 11:18	A^
Temperature	25.31	°C		1			5/9/2013 11:18	A^
Turbidity	11.8	NTU		1			5/9/2013 11:18	A^
pH	6.5	pH unit		1			5/9/2013 11:18	A^
METALS								
Analysis Desc: SW846 6010B		Preparation Method: SW-846 3010A						
Analysis, Water		Analytical Method: SW-846 6010						
Aluminum	500	ug/L		1	200	61	5/13/2013 19:31	J

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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534006**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-9A**

Date Collected: 05/09/13 11:32

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Cadmium	1.2	ug/L		1	0.60	0.32	5/13/2013 19:31	J
Chromium	4.3	ug/L		1	1.0	0.50	5/13/2013 19:31	J
Iron	1300	ug/L		1	200	38	5/13/2013 19:31	J
Manganese	95	ug/L		1	1.0	0.24	5/13/2013 19:31	J
Sodium	20	mg/L		1	0.20	0.026	5/13/2013 19:31	J

Analysis Desc: SW846 6020B

Preparation Method: SW-846 3010A

Analysis, Total

Analytical Method: SW-846 6020

Antimony	0.11	ug/L	I	1	0.60	0.073	5/18/2013 03:00	J
Lead	0.52	ug/L	I,V	1	0.70	0.076	5/18/2013 03:00	J
Silver	0.059	ug/L	U	1	0.30	0.059	5/18/2013 03:00	J
Thallium	0.19	ug/L	I	1	0.20	0.067	5/18/2013 03:00	J

Analysis Desc: SW846 7470A

Preparation Method: SW-846 7470A

Analysis, Water

Analytical Method: SW-846 7470A

Mercury	0.10	ug/L		1	0.10	0.014	5/15/2013 13:16	J
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WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	21	mg/L		1	7.5	0.78	5/9/2013 20:49	A
Fluoride	0.15	mg/L	I	1	0.50	0.075	5/9/2013 20:49	A
Nitrate	0.49	mg/L	I	1	0.50	0.051	5/9/2013 20:49	A

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.590	mg/L		1	0.010	0.0080	5/15/2013 11:28	G
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Analysis Desc: Tot Dissolved
Solids, SM2540C

Analytical Method: SM 2540C

Total Dissolved Solids	570	mg/L		1	10	10	5/13/2013 09:44	A
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Lab ID: **A1303534007**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-10**

Date Collected: 05/09/13 09:25

Sample Description:

Location:

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

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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534007**
Sample ID: **MW-10**

Date Received: 05/09/13 14:17 Matrix: Water
Date Collected: 05/09/13 09:25

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: FIELD - Conductance		Analytical Method: DISRES						
Conductance	623	umhos/cm		1			5/9/2013 09:10	A^
Dissolved Oxygen	0.43	mg/L		1			5/9/2013 09:10	A^
Groundwater Elevation	42.18	feet		1			5/9/2013 09:10	A^
Temperature	24.59	°C		1			5/9/2013 09:10	A^
Turbidity	3.49	NTU		1			5/9/2013 09:10	A^
pH	6.89	pH unit		1			5/9/2013 09:10	A^
METALS								
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540C						
Total Dissolved Solids	370	mg/L		1	10	10	5/13/2013 09:44	A
Analysis Desc: SW846 6010B Analysis,Water		Preparation Method: SW-846 3010A						
Analytical Method: SW-846 6010								
Aluminum	61	ug/L	U	1	200	61	5/13/2013 19:36	J
Cadmium	0.52	ug/L	I	1	0.60	0.32	5/13/2013 19:36	J
Chromium	0.50	ug/L	U	1	1.0	0.50	5/13/2013 19:36	J
Iron	340	ug/L		1	200	38	5/13/2013 19:36	J
Manganese	21	ug/L		1	1.0	0.24	5/13/2013 19:36	J
Sodium	7.4	mg/L		1	0.20	0.026	5/13/2013 19:36	J
Analysis Desc: SW846 6020B Analysis,Total		Preparation Method: SW-846 3010A						
Analytical Method: SW-846 6020								
Antimony	0.19	ug/L	I	1	0.60	0.073	5/18/2013 03:10	J
Lead	0.15	ug/L	I,V	1	0.70	0.076	5/18/2013 03:10	J
Silver	0.059	ug/L	U	1	0.30	0.059	5/18/2013 03:10	J
Thallium	0.068	ug/L	I	1	0.20	0.067	5/18/2013 03:10	J
Analysis Desc: SW846 7470A Analysis,Water		Preparation Method: SW-846 7470A						
Analytical Method: SW-846 7470A								
Mercury	0.014	ug/L	U	1	0.10	0.014	5/15/2013 13:19	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water		Analytical Method: EPA 300.0						
Chloride	7.9	mg/L		1	7.5	0.78	5/9/2013 21:13	A
Fluoride	0.19	mg/L	I	1	0.50	0.075	5/9/2013 21:13	A
Nitrate	1.4	mg/L		1	0.50	0.051	5/9/2013 21:13	A

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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534007**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-10**

Date Collected: 05/09/13 09:25

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.029	mg/L		1	0.010	0.0080	5/15/2013 11:28	G

Lab ID: **A1303534008**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **MW-11**

Date Collected: 05/08/13 10:10

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: FIELD - Conductance		Analytical Method: DISRES						
Conductance	346	umhos/cm		1			5/8/2013 09:47	A^
Dissolved Oxygen	0.96	mg/L		1			5/8/2013 09:47	A^
Groundwater Elevation	42.51	feet		1			5/8/2013 09:47	A^
Temperature	24.99	°C		1			5/8/2013 09:47	A^
Turbidity	5.88	NTU		1			5/8/2013 09:47	A^
pH	6.28	pH unit		1			5/8/2013 09:47	A^

METALS

Analysis Desc: SW846 6010B
Analysis,Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Aluminum	61	ug/L	U	1	200	61	5/13/2013 19:41	J
Cadmium	2.4	ug/L		1	0.60	0.32	5/13/2013 19:41	J
Chromium	1.6	ug/L		1	1.0	0.50	5/13/2013 19:41	J
Iron	38	ug/L	U	1	200	38	5/13/2013 19:41	J
Manganese	10	ug/L		1	1.0	0.24	5/13/2013 19:41	J
Sodium	8.4	mg/L		1	0.20	0.026	5/13/2013 19:41	J

Analysis Desc: SW846 6020B
Analysis,Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	0.23	ug/L	I	1	0.60	0.073	5/18/2013 03:40	J
Lead	0.21	ug/L	I,V	1	0.70	0.076	5/18/2013 03:40	J
Silver	0.059	ug/L	U	1	0.30	0.059	5/18/2013 03:40	J
Thallium	0.14	ug/L	I	1	0.20	0.067	5/18/2013 03:40	J

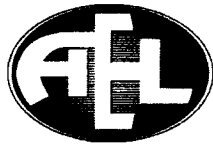
Report ID: 262823 - 418522

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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534008**
Sample ID: **MW-11**

Date Received: 05/09/13 14:17 Matrix: Water
Date Collected: 05/08/13 10:10

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: SW846 7470A		Preparation Method: SW-846 7470A						
Analysis, Water		Analytical Method: SW-846 7470A						
Mercury	0.037	ug/L	I	1	0.10	0.014	5/15/2013 13:21	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water		Analytical Method: EPA 300.0						
Chloride	4.6	mg/L	I	1	7.5	0.78	5/9/2013 21:36	A
Fluoride	0.20	mg/L	I	1	0.50	0.075	5/9/2013 21:36	A
Nitrate	4.8	mg/L		1	0.50	0.051	5/9/2013 21:36	A
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.0080	mg/L	U	1	0.010	0.0080	5/15/2013 11:28	G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540C						
Total Dissolved Solids	190	mg/L		1	10	10	5/13/2013 09:44	A

Lab ID: **A1303534009**
Sample ID: **Eq Blank**

Date Received: 05/09/13 14:17 Matrix: Water
Date Collected: 05/08/13 11:55

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	5/13/2013 19:46	J
Cadmium	0.32	ug/L	U	1	0.60	0.32	5/13/2013 19:46	J
Chromium	0.50	ug/L	U	1	1.0	0.50	5/13/2013 19:46	J
Iron	38	ug/L	U	1	200	38	5/13/2013 19:46	J
Manganese	0.49	ug/L	I	1	1.0	0.24	5/13/2013 19:46	J
Sodium	0.057	mg/L	I	1	0.20	0.026	5/13/2013 19:46	J
Analysis Desc: SW846 6020B		Preparation Method: SW-846 3010A						
Analysis, Total		Analytical Method: SW-846 6020						
Antimony	0.092	ug/L	I	1	0.60	0.073	5/18/2013 03:50	J

Report ID: 262823 - 418522

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ANALYTICAL RESULTS

Workorder: A1303534 Sumter Co. Landfill

Lab ID: **A1303534009**

Date Received: 05/09/13 14:17 Matrix: Water

Sample ID: **Eq Blank**

Date Collected: 05/08/13 11:55

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Lead	0.076	ug/L	U	1	0.70	0.076	5/18/2013 03:50	J
Silver	0.059	ug/L	U	1	0.30	0.059	5/18/2013 03:50	J
Thallium	0.067	ug/L	U	1	0.20	0.067	5/18/2013 03:50	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	5/15/2013 13:23	J
WET CHEMISTRY								
Analysis Desc: IC, E300.0, Water		Analytical Method: EPA 300.0						
Chloride	0.78	mg/L	U	1	7.5	0.78	5/9/2013 22:00	A
Fluoride	0.075	mg/L	U	1	0.50	0.075	5/9/2013 22:00	A
Nitrate	0.14	mg/L	I	1	0.50	0.051	5/9/2013 22:00	A
Analysis Desc: Ammonia, E350.1, Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.028	mg/L		1	0.010	0.0080	5/15/2013 11:28	G
Analysis Desc: Tot Dissolved Solids, SM2540C		Analytical Method: SM 2540C						
Total Dissolved Solids	10	mg/L	U	1	10	10	5/13/2013 09:44	A

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LABORATORY SERVICES

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

Report Date: May 21, 2013

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

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: A1303534001
MW-4
Sample Collection: 5-8-13/1130
Lab ID No: 13.3677
Lab Custody Date: 5-10-13/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	5.7 ± 1.4	05-15-13/0800	EPA 900.0	1.2
Combined Radium (Radium-226 + Radium 228)	pCi/l	2.7 ± 0.8	Calc	Calc	
Radium-226	pCi/l	1.7 ± 0.8	05-18-13/1115	EPA 903.0	0.7
Radium-228	pCi/l	1.0 U ± 0.7	05-19-13/0940	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.

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.



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Report Date: May 21, 2013

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

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: A1303534002
MW-4A
Sample Collection: 5-8-13/1240
Lab ID No: 13.3678
Lab Custody Date: 5-10-13/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	2.6 ± 1.2	5-21-13/0900	EPA 900.0	1.4
Combined Radium (Radium-226 + Radium 228)	pCi/l	2.6 ± 0.7	Calc	Calc	
Radium-226	pCi/l	1.6 ± 0.7	05-18-13/1115	EPA 903.0	0.6
Radium-228	pCi/l	1.0 U ± 0.7	05-19-13/0940	EPA Ra-05	1.0

Alpha Standard: Th-230

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A handwritten signature in black ink that reads "James W. Hayes". The signature is written in a cursive, flowing style.

James W. Hayes
Laboratory Manager

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Report Date: May 21, 2013

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

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: A1303534003
MW-4B
Sample Collection: 5-8-13/1325
Lab ID No: 13.3679
Lab Custody Date: 5-10-13/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	4.5 ± 1.0	05-17-13/0800	EPA 900.0	0.8
Combined Radium (Radium-226 + Radium 228)	pCi/l	1.7 ± 0.7	Calc	Calc	
Radium-226	pCi/l	0.7 U ± 0.5	05-18-13/1115	EPA 903.0	0.7
Radium-228	pCi/l	1.0 U ± 0.7	05-19-13/0940	EPA Ra-05	1.0

Alpha Standard: Th-230

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James W. Hayes
Laboratory Manager

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Report Date: May 21, 2013

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

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: A1303534004
MW-6A
Sample Collection: 5-9-13/1235
Lab ID No: 13.3680
Lab Custody Date: 5-10-13/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	4.9 ± 1.3	05-17-13/0800	EPA 900.0	1.1
Combined Radium (Radium-226 + Radium 228)	pCi/l	2.0 ± 0.7	Calc	Calc	
Radium-226	pCi/l	1.0 I ± 0.6	05-18-13/1115	EPA 903.0	0.6
Radium-228	pCi/l	1.0 U ± 0.7	05-19-13/0940	EPA Ra-05	1.0

Alpha Standard: Th-230

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James W. Hayes
Laboratory Manager

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Report Date: May 21, 2013

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

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: A1303534005
MW-8
Sample Collection: 5-9-13/1000
Lab ID No: 13.3681
Lab Custody Date: 5-10-13/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	3.8 ± 1.0	05-17-13/0800	EPA 900.0	0.8
Combined Radium (Radium-226 + Radium 228)	pCi/l	1.8 ± 0.7	Calc	Calc	
Radium-226	pCi/l	0.8 I ± 0.5	05-18-13/1115	EPA 903.0	0.6
Radium-228	pCi/l	1.0 U ± 0.7	05-19-13/0940	EPA Ra-05	1.0

Alpha Standard: Th-230

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

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A handwritten signature in black ink, reading "James W. Hayes".

James W. Hayes
Laboratory Manager

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Report Date: May 21, 2013

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

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: A1303534006
MW-9A
Sample Collection: 5-9-13/1132
Lab ID No: 13.3682
Lab Custody Date: 5-10-13/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	10.1 ± 2.3	05-17-13/0800	EPA 900.0	1.8
Combined Radium (Radium-226 + Radium 228)	pCi/l	5.2 ± 1.0	Calc	Calc	
Radium-226	pCi/l	4.2 ± 1.0	05-18-13/1115	EPA 903.0	0.5
Radium-228	pCi/l	1.0 U ± 0.7	05-19-13/0940	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, reading "James W. Hayes". The signature is written in a cursive, flowing style.

James W. Hayes
Laboratory Manager

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Report Date: May 21, 2013

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

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: A1303534007
MW-10
Sample Collection: 5-9-13/0925
Lab ID No: 13.3683
Lab Custody Date: 5-10-13/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	14.6 ± 2.1	05-17-13/0800	EPA 900.0	1.2
Combined Radium (Radium-226 + Radium 228)	pCi/l	5.1 ± 0.9	Calc	Calc	
Radium-226	pCi/l	3.5 ± 0.9	05-18-13/1115	EPA 903.0	0.7
Radium-228	pCi/l	1.6 I ± 0.8	05-19-13/0940	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". The signature is written in a cursive style with a large, stylized "J" and "H".

James W. Hayes
Laboratory Manager

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Report Date: May 21, 2013

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

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: A1303534008
MW-11
Sample Collection: 5-8-13/1010
Lab ID No: 13.3684
Lab Custody Date: 5-10-13/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	10.8 ± 1.5	05-17-13/0800	EPA 900.0	1.0
Combined Radium (Radium-226 + Radium 228)	pCi/l	5.3 ± 1.1	Calc	Calc	1.0
Radium-226	pCi/l	4.0 ± 1.1	05-19-13/1245	EPA 903.0	0.9
Radium-228	pCi/l	1.3 I ± 0.9	05-19-13/0940	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 cursive script that reads 'James W. Hayes'.

James W. Hayes
Laboratory Manager

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Report Date: May 21, 2013

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

Attn: Myrna Santiago

Field Custody: Client
Client/Field ID: A1303534009
EQ.BLANK
Sample Collection: 5-8-13/1155

Lab ID No: 13.3685
Lab Custody Date: 5-10-13/0940
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	1.2 \pm 0.6	05-17-13/0800	EPA 900.0	0.7
Combined Radium (Radium-226 + Radium 228)	pCi/l	1.8 \pm 0.8	Calc	Calc	1.0
Radium-226	pCi/l	0.8 U \pm 0.4	05-19-13/1245	EPA 903.0	0.8
Radium-228	pCi/l	1.0 U \pm 0.8	05-19-13/1135	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.

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.

Well Water Levels

PROJ # _____

NAME: Dale Clayton

PROJECT

NAME: Sumner Co. Landfill

DATE: 5/10/13

PROJECT

LOCATION:

TIME	COMMENTS
Well #	WC (H. Hor.)
MW-1	27.84'
MW-2	NA (No access, paved over.)
MW-2A	29.58'
MW-4	27.96'
MW-4A	33.16'
MW-4B	31.23'
MW-4C	NA
MW-4D	(25.80) Well is full of sand at ~2' b/s, *
MW-6A	34.78' Well is broken off, missing cover
MW-7	30.55'
MW-8	25.51'
MW-9	30.16'
MW-9A	32.63'
MW-10	25.60'
MW-11	27.73'
* appears to have been hit by something and moved over from original location. It appears to have been broken off at ~2' b/s.	

PURGING DATA

DATE: 5/8/13

SAMPLING DATA

REMARKS:

No Samples - Well is covered with asphalt

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 $\leq 20\%$ saturation (see Table FS 2200-2), optionally, $\pm .02$ mg/L or $\pm 10\%$ (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

PURGING DATA

SAMPLING DATA

REMARKS:

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 $\leq 20\%$ saturation (see Table FS 2200-2), optionally, $\pm .02$ mg/L or $\pm 10\%$ (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill		SITE LOCATION: Sumterville, FL	
WELL NO: MW-4A	SAMPLE ID: MW-4A	DATE: 5/8/13	

PURGING DATA

WELL 2" PVC	TUBING 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH 33.12 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)											
= (45.23' 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)											
1 Equip Vol = .02 gallons + (.006 gallons/foot X 4.5' 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: 1206	PURGING ENDED AT: 1223	TOTAL VOLUME PURGED (gallons): 6.80							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (uS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1219	5.20	5.20	.4	33.27	7.04	26.19	619	0.89	5-66	Clear	None
1221	.8	6.00	.4	33.27	7.00	26.18	619	0.75	4.09	Clear	None
1223	.8	6.80	.4	33.27	7.01	26.17	618	0.67	2.74	Clear	None
NO SLURRY											
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: <i>[Signature]</i>				SAMPLING INITIATED AT: 1224		SAMPLING ENDED AT: 1240	
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"/> Y <input type="checkbox"/> N				FIELD-FILTERED: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N FILTER SIZE: _____ µm				DUPLICATE: <input type="checkbox"/> Y <input checked="" type="checkbox"/> 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-4A	2	PE	1 Ltr	HN03	None	—	Gross Alpha, 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:

1206: Inserted SS ESP and dedicated 3/8" PE tubing to ~40' btoe and started pump at .4 gpm. This well is typically extremely turbid at beginning of purge and requires a high flow rate and over purging to clear it up.

1212: WL 33.27' at .4 gpm, GW is still turbid at 75 NTUs. Continuing purge.

1217: WL 33.27' at .4 gpm, drawdown is stable. Turbidity has dropped to 13 NTUs. 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RPPP = 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: 5/8/13	

PURGING DATA

WELL 2" PVC	TUBING 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH 31.20 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											
$1 \text{ Well Vol} = (38.49' \text{ feet} - 31.20' \text{ feet}) \times .16 \text{ gallons/foot} = 1.1664 \text{ gallons}$											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)											
$1 \text{ Equip Vol} = .02 \text{ gallons} + (.006 \text{ gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~33'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~33'	PURGING INITIATED AT: 1255	PURGING ENDED AT: 1308	TOTAL VOLUME PURGED (gallons): 3.25							
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)
1304	2.25	2.25	.25	31.38	8.56	25.45	136	3.65	8.55	Clear	None
1306	.5	2.75	.25	31.38	8.59	25.44	134	3.48	3.14	Clear	None
1308	.5	3.25	.25	31.38	8.61	25.41	133	3.45	2.53	Clear	None
No Show											
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: 1309		SAMPLING ENDED AT: 1325	
PUMP OR TUBING DEPTH IN WELL (feet): ~33'				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				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					
MW-4B	2	PE	1 Ltr	HN03	None	—	Gross Alpha, 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:

1255: Inserted SS ESP and dedicated 3/8" PE tubing to ~33' BLOC and started pump at .25 gpm.

1300: WL 31.38' at .25 gpm, GW is Clear, DO is high at 3.99 mg/L, but is typical for this well. Will use optional stabilization criteria for DO if necessary. pH is also high at 8.57 slus, but also is typical for this well.

1303: WL 31.38' at .25 gpm, drawdown 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RPPP = 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)

4-5

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill		SITE LOCATION: Sumterville, FL	
WELL NO: MW-6A	SAMPLE ID: MW-6A	DATE: 5/9/13	

PURGING DATA

WELL 2" PVC DIAMETER (inches):	TUBING 3/8" DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH 34.76 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)											
= (50.84' 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)											
1 Equip Vol = .02 gallons + (.006 gallons/foot X feet) + .125 gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~45'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~45'	PURGING INITIATED AT: 1200	PURGING ENDED AT: 1218	TOTAL VOLUME PURGED (gallons): 2.5							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1214	6.5	6.5	1.25	34.81	7.23	24.93	257	7.09	12.7	Clear	None
1216	1.5	7.0	1.25	34.81	7.25	24.97	257	7.02	12.8	Clear	None
1218	1.5	7.5	1.25	34.81	7.27	24.99	258	6.93	12.4	Clear	None
No shown											
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): ~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	---	Gross Alpha, 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:

1200: Inserted SS ESP and dedicated 3/8" PE tubing to ~45' bto c and started pump at 1.75 gpm. This well is extremely turbid at beginning of purge and required over purging at a high flow rate to clean it up.

1206: WL 34.90' at 1.75 gpm, turbidity is at 30 NTUs. Reduced flow to 1.25 gpm.

1210: WL 34.81' at 1.25 gpm, turbidity is at 20 NTUs. DO is high at 7.31 mg/L, but is typical for this well, will use optional stabilization criteria for DO. All other parameters are stable or in range.

1219: WL 34.81' at 1.25 gpm, drawdown 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 = 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-8		SAMPLE ID: MW-8	
		DATE: 5/9/13	

PURGING DATA

WELL 2" PVC	TUBING 5/8" 1/4"	WELL SCREEN INTERVAL	STATIC DEPTH 25.51	PURGE PUMP TYPE							
DIAMETER (inches):	DIAMETER (inches):	DEPTH: feet to feet	TO WATER (feet):	OR BAILER: ESPAC PP							
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 X 3.7104											
(only fill out if applicable)											
1 Equip Vol = 0.020 gallons + (0.006 gallons/foot X 43') + .125 gallons = 0.268 gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~38'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~38'	PURGING INITIATED AT: 0931	PURGING ENDED AT: 0945	TOTAL VOLUME PURGED (gallons): 1.40							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (uS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0941	1.00	1.00	.1	25.53	7.31	23.79	347	4.69	0.50	Clear	None
0943	.2	1.20	.1	25.53	7.31	23.78	346	4.72	0.41	Clear	None
0945	.2	1.40	.1	25.53	7.30	23.77	345	4.75	0.25	Clear	None
									No stream		
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: 0946	SAMPLING ENDED AT: 1000
PUMP OR TUBING DEPTH IN WELL (feet): ~38'		SAMPLE PUMP FLOW RATE (ml per minute): < 250 mL		TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: (N) N		FIELD-FILTERED: (N) N		FILTER SIZE: μm	
Filtration Equipment Type: N		DUPLICATE: Y (N)			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)
MW-8	2	PE	1 Ltr	HN03	None
"	1	PE	250 mL	H2S04	None
"	1	PE	250 mL	HN03	None
"	1	PE	500 mL	None	None
				INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
				GrossAlpha, RA226RA228	APP ESP-OC
				Total Ammonia	APP ESP-OL
				Metals	APP ESP-OC
				Chloride, Fluoride, Nitrate, TDS	APP ESP-OC

REMARKS:

0931: Set dedicated 1/4" PE tubing at ~38' btlc and started pump at .1 gpm.

0937: WL 25-53' at .1 gpm, GW is clear. DO is high at 4.60 mg/L, but is typical for this well. Will use optional stabilization criteria for DO if necessary.

0939: WL 25-53' at .1 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 EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPF = 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)

2.00
2.50
5.00

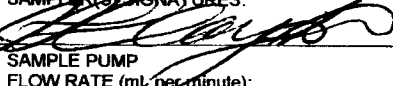
GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill		SITE LOCATION: Sumterville, FL	
WELL NO: MW-9A	SAMPLE ID: MW-9A	DATE: 5/9/13	

PURGING DATA

WELL 2" PVC	TUBING 3/8"	WELL SCREEN INTERVAL	STATIC DEPTH 32.62	PURGE PUMP TYPE							
DIAMETER (inches):	DIAMETER (inches):	DEPTH: feet to feet	TO WATER (feet):	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' feet - feet) X gallons/foot = gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME x3 = 1.335											
(only fill out if applicable)											
1 Equip Vol = .02 gallons + (.006 gallons/foot X 50' feet) + .125 gallons = .445 gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~45'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~45'	PURGING INITIATED AT: 1030	PURGING ENDED AT: 1118	TOTAL VOLUME PURGED (gallons): 19.25							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (uS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1114	18.25	18.25	125	36.63	6.50	25.31	916	0.30	16.3	Clear	Sulfur
1116	.5	18.75	25	36.62	6.50	25.32	916	0.27	13.4	Clear	Same
1118	.5	19.25	25	36.62	6.50	25.31	915	0.25	11.8	Clear	Same
									No Show		
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: 1119	SAMPLING ENDED AT: 1132
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) FILTER SIZE: _____ µm		DUPLICATE: (Y) (N)	
Filtration Equipment Type: _____					
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)
MW-9A	2	PE	1 Ltr	HN03	None
"	1	PE	250 mL	H2S04	None
"	1	PE	250 mL	HN03	None
"	1	PE	500 mL	None	None
				INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
				Gross Alpha, RA226RA228	ESP
				Total Ammonia	ESP
				Metals	ESP
				Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:

1030: Inserted SS ESP and dedicated 3/8" PE tubing to ~45' btoe and started pump at 16 gpm. This well is extremely turbid at beginning of purge and requires over purging at a high flow rate to clean it up.

1040: Turbidity is at 144 NTUs, reduced flow to 25 gpm.

1050: Turbidity is at 100 NTUs, increased flow to 1 gpm.

1055: Reduced flow to 25 gpm, turbidity is at 239 NTUs.

1103: WL 36.69' at 25 gpm, turbidity is at 39 NTUs. All other parameters are stable or in range. Continuing purge.

1111: WL 36.63' at 25 gpm, drawdown has stabilized. Turbidity is at 18 NTUs. 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 EQUIPMENT CODES:	APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPF = 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: 5/9/13	

PURGING DATA

WELL 2" PVC	TUBING 20' x 1 1/4"	WELL SCREEN INTERVAL	STATIC DEPTH	PURGE PUMP TYPE							
DIAMETER (inches):	DIAMETER (inches):	DEPTH: feet to feet	TO WATER (feet):	OR BAILER: ESP PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY											
= (45.35' 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)											
1 Equip Vol = 0.24 gallons + (0.006 gallons/foot X 45' feet) + .125 gallons = .242 gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	PURGING INITIATED AT: 0858	PURGING ENDED AT: 0910	TOTAL VOLUME PURGED (gallons): 1.20							
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 (NTUs)	COLOR (describe)	ODOR (describe)
0906	.80	.80	.1	26.10	6.92	24.54	626	0.43	4.31	Clear	None
0908	.2	1.00	.1	26.10	6.90	24.58	625	0.42	3.54	Clear	None
0910	.2	1.20	.1	26.10	6.89	24.59	623	0.43	3.49	Clear	None
No Show											
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: 0911	SAMPLING ENDED AT: 0925			
PUMP OR TUBING DEPTH IN WELL (feet): ~40'		SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL		MATERIAL CODE: PE				
FIELD DECONTAMINATION: (Y) N		FIELD-FILTERED: Y FILTER SIZE: µm		DUPLICATE: Y (N)				
SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
MW-10	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	APP ESP OC
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	APP ESP OC
"	1	PE	250 mL	HN03	None	—	Metals	APP ESP OC
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	APP ESP OC

REMARKS:

0858: Set dedicated 1/4" PE tubing at ~40' btoe and started pump at 19am.
0903: WL 26.10' at .1 gpm, GW is clear.
0905: WL 26.10' at .1 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 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 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: 5/8/13	

PURGING DATA

WELL 2" PVC	TUBING 1 1/4"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH 27.70 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)											
= (40.15' 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)											
1 Equip Vol = 0.022 gallons + (0.006 gallons/foot X 40') + .125 gallons = 0.229 gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~35'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~35'	PURGING INITIATED AT: 0934	PURGING ENDED AT: 0947	TOTAL VOLUME PURGED (gallons): 1.04							
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)
0943	.72	.72	.08	27.74	6.31	24.89	339	1.09	11.5	Clear	None
0945	.16	.88	.08	27.74	6.30	24.95	344	1.04	2.81	Clear	None
0947	.16	1.04	.08	27.74	6.28	24.99	346	0.96	5-88	Clear	None
									No Slime		
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: <i>[Signature]</i>				SAMPLING INITIATED AT: 0948		SAMPLING ENDED AT: 1010	
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 <i>Proze only</i>				FIELD-FILTERED: Y (N) FILTER SIZE: _____ µm				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-11	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226, RA228		APP ESP-DC		
"	1	PE	250 mL	H2S04	None	—	Total Ammonia		APP ESP-DC		
"	1	PE	250 mL	HN03	None	—	Metals		APP ESP-DC		
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS		APP ESP-DC		

REMARKS:

0934: Set dedicated 1 1/4" PE tubing at ~35' GLOC and started pump at 08 gpm.
0939: WL 27.79' at .08 gpm, GW is clear at 16 NTUs turbidity.
0941: WL 27.74' at .08 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 = Bailor; 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: NA	SAMPLE ID: EQB		DATE: 5/8/13

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.				SAMPLER(S) SIGNATURES: 			SAMPLING INITIATED AT: 1145		SAMPLING ENDED AT: 1155	
PUMP OR TUBING DEPTH IN WELL (feet):				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				
EQB	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	
Various		Various	Various	Various	None	---	Appendix I Parameters		ESP	

REMARKS:

Field decontaminated 5 gallon PE bucket, SS ESP and WL probe with AW DEPSOP. 001/01, FC 1000. Inserted SS ESP and WL probe into bucket and poured 1 gallon of DI water into bucket. Started pump and circulated DI water through pump and over WL probe for several minutes before collecting 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 EQUIPMENT CODES:	APP = After Peristaltic Pump;	B = Bailer;	BP = Bladder Pump;	ESP = Electric Submersible Pump;	PP = Peristaltic Pump		
	RFPF = 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 $\leq 20\%$ saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ≤ 5 NTU or $\pm 10\%$ (whichever is greater)

ATTACHMENT 3

**Chain-of-Custody Forms
Field Quality Control Reports**



Advanced
Environmental Laboratories, Inc.

Altamonte Springs: 528 S. Northlake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597
Gainesville: 6815 SW Archer Road • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.6639
Jacksonville: 6601 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354
Miramar: 10200 USA Today Way, Miramar, FL 33025 • 954.899.2289 • Fax 954.899.2281
Tallahassee: 1288 Cedar Center Drive, Tallahassee, FL 32301 • 850.219.6274 • Fax 850.219.6275
Tampa: 9610 Pinellas Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327

Client Name: <u>The Lab Group, Inc.</u>		Project Name: <u>Sumter Co. Landfill</u>		BOTTLE TYPE & SIZE		LABORATORY I.D. NUMBER	
Address: <u>3720 Highland Ave., Suite 200</u>		P.O. Number/Project Number: <u>P-483</u>		ANALYSIS REQUIRED		A1303534	
Altamonte Springs, FL 32701		Project Location: <u>Sumterville, FL</u>		REMARKS/SPECIAL INSTRUCTIONS:			
Phone: <u>407-622-8126</u>							
FAX: <u>407-622-8196</u>							
Contact: <u>Art Potter</u>							
Sampled By: <u>Dale Clayton</u>							
Turn Around Time: <u>STANDARD</u> <input type="checkbox"/> RUSH <input type="checkbox"/>							
Page <u>1</u> of <u>1</u>							
SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	TIME	MATRIX	NO. COUNT	
MW-4		G	5.8.13	1130	GW	6	01
MW-4A		G		1240	GW	6	02
MW-4B		G		1245	GW	6	03
MW-6A		G	5.9.13	1245	GW	6	04
MW-8		G		1000	GW	6	05
MW-9A		G		1132	GW	6	06
MW-10		G		0945	GW	6	07
MW-11		G	5.8.13	1010	GW	6	08
SOB		G		1155	GW	6	09

Matrix Code: MW = wastewater SW = surface water GW = groundwater DW = drinking water O = oil A = air SO = soil SL = sludge
Received on ice ☒ Yes ☐ No ☐ Temp taken from sample ☐ Temp from blank ☐ Temp from blank
Form revised 06/15/2010

Where required, pH checked ☐ Temperature when received ☐ (in degrees Celsius)
J: 9A G: LT-1 LT-2 T: 10A T: 10A M: 1A

FOR DRINKING WATER USE:
(When PWS information not otherwise supplied) PWS ID: _____
Contact Person: _____ Phone: _____
Supplier of Water: _____
Site Address: _____

Relinquished by:	Date	Time	Received by:	Date	Time
<u>[Signature]</u>	5/9/13	1417	<u>[Signature]</u>	5/9/13	1417

INSTRUMENT (MAKE/MODEL#) YSI 556/Lamotte 2020e INSTRUMENT # _____

☒ TEMPERATURE ☒ CONDUCTIVITY ☐ SALINITY ☒ pH ☐ ORP
☒ TURBIDITY ☐ RESIDUAL CL ☒ DO ☐ OTHER _____

Standard E Lamotte 10 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	
5/8/13	0900	A	4.01	4.01		Yes	IC	HP	pH
		B	7.00	2.00					pH
		C	1500	1500					Cond
		-	-	9.00					DO
		-	-	20.53					Temp
		D	1	1.0					Turb
		E	10.00 15	15.0					Turb
5/8/13	0925	A	4.01	4.00		Yes	ICV	HP	pH
		B	7.00	2.01					pH
		C	1500	1501					Cond
		-	-	8.91					DO
		-	-	20.86					Temp
		D	1	0.07					Turb
		E	10.00 15	15.1					Turb
5/8/13	1500	A	4.01	4.08		Yes	CC	HP	pH
		B	7.00	6.97					pH
		C	1500	1497					Cond
		-	-	8.76					DO
		-	-	22.21					Temp
		D	1	0.07					Turb
		E	10.00 15	14.9					Turb

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

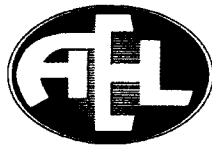
☒ TEMPERATURE ☒ CONDUCTIVITY ☐ SALINITY ☒ pH ☐ ORP
☒ TURBIDITY ☐ RESIDUAL CL ☒ DO ☐ OTHER _____

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	
5/9/13	0830	A	4.01	4.01		Yes	IC	HE	pH
		B	7.00	7.00					pH
		C	1500	1500					Cond
		--	--	9.12					DO
		--	--	19.87					Temp
		D	0.1	0.1					Turb
		E	15	15.0					Turb
5/9/13	0850	A	4.01	4.01		Yes	ICV	HE	pH
		B	7.00	7.01					pH
		C	1500	1500					Cond
		--	--	9.08					DO
		--	--	20.35					Temp
		D	0.1	0.06					Turb
		E	15	14.9					Turb
5/9/13	1300	A	4.01	4.00		Yes	CC	HE	pH
		B	7.00	7.00					pH
		C	1500	1496					Cond
		--	--	8.76					DO
		--	--	22.10					Temp
		D	0.1	0.08					Turb
		E	15	15.0					Turb

ATTACHMENT 4

Supplemental Water Quality Analyses (MW-4C and MW-4D)



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

July 8, 2013

Rick Potts
The Colinas Group, Inc.
377 Maitland Avenue
Suite 2012
Altamonte Springs, FL 32701

RE: Workorder: A1304649 Sumter Co Landfill

Dear Rick Potts:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, June 25, 2013. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Myrna Santiago
MSantiago@AELLab.com

Enclosures

Report ID: 268721 - 553652

Page 1 of 9

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

SAMPLE SUMMARY

Workorder: A1304649 Sumter Co Landfill

Lab ID	Sample ID	Matrix	Date Collected	Date Received
A1304649001	MW-4C	Water	6/24/2013 14:10	6/25/2013 10:21
A1304649002	MW-4D	Water	6/24/2013 16:38	6/25/2013 10:21

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Phone: (407)937-1594
Fax: (407)937-1597

ANALYTICAL RESULTS

Workorder: A1304649 Sumter Co Landfill

Lab ID: **A1304649001**

Date Received: 06/25/13 10:21 Matrix: Water

Sample ID: **MW-4C**

Date Collected: 06/24/13 14:10

Sample Description:

Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water			Analytical Method: EPA 300.0					
Nitrate	5.2	mg/L		1	0.50	0.051	6/25/2013 19:09	A

Lab ID: **A1304649002**

Date Received: 06/25/13 10:21 Matrix: Water

Sample ID: **MW-4D**

Date Collected: 06/24/13 16:38

Sample Description:

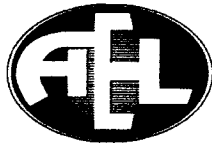
Location:

Parameters	Results	Units	Qual	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water			Analytical Method: EPA 300.0					
Nitrate	6.5	mg/L		1	0.50	0.051	6/25/2013 20:16	A

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Phone: (407)937-1594
Fax: (407)937-1597

ANALYTICAL RESULTS QUALIFIERS

Workorder: A1304649 Sumter Co Landfill

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)

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QUALITY CONTROL DATA

Workorder: A1304649 Sumter Co Landfill

QC Batch: WCAa/1591 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Prepared:
Associated Lab Samples: A1304649001, A1304649002

METHOD BLANK: 1244710

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Nitrate	mg/L	0.051	0.051 U

LABORATORY CONTROL SAMPLE: 1244711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Nitrate	mg/L		4.9		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1244714 1244715 Original: A1304649001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
WET CHEMISTRY											
Nitrate	mg/L			7.6	7.6				0	10	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: A1304649 Sumter Co Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
A1304649001	MW-4C			EPA 300.0	WCAa/1591
A1304649002	MW-4D			EPA 300.0	WCAa/1591

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Jacksonville: 6601 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.731.1111 • Fax 904.731.1112

Miramar: 10200 USA Today Way, Miramar, FL 33025 • 954.486.1111 • Fax 954.486.1112

Tallahassee: 1286 Cedar Center Drive, Tallahassee, FL • 904.633.1111 • Fax 904.633.1112

Tampa: 9610 Princess Palm Ave., Tampa, FL 33619 • 813.886.1111 • Fax 813.886.1112

A1304649

[illegible]




GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill		SITE LOCATION: Sumterville, FL	
WELL NO: MW-4C	SAMPLE ID: MW-4C		DATE: 6/25/13

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.				SAMPLER(S) SIGNATURES: 			SAMPLING INITIATED AT: 1407		SAMPLING ENDED AT: 1410		
PUMP OR TUBING DEPTH IN WELL (feet): ~35'				SAMPLE PUMP: 			TUBING		MATERIAL CODE: PE		
FIELD DECONTAMINATION: (Y)				FLOW RATE (ml per minute): < 250 mL			FIELD-FILTERED: Y (N)		FILTER SIZE: µm		
FIELD DECONTAMINATION: (Y)				Filtration Equipment Type: prose only			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-4C	1	PE	120 mL	None	None	---	Nitrate			ESP	

REMARKS:

1220: Inserted new 1/4" PE tubing to ~ 37.6 loc and started pump at .05 gpm.

10305 WL 27.96 at 1.05 gpm, GW is extremely turbid. This well was recently damaged and repaired and redeveloped. GW was turbid after ~1 hour of development. Will use optional stabilization criteria for turbidity if necessary.

1240: WL 27.95 at .05 gpm. drawdown is stable. GW is still extremely turbid at 1000+ NTU's. GW is cloudy tan.

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 = 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.

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 $\leq 20\%$ saturation (see Table FS 2200-2), optionally, $\pm .02$ mg/L or $\pm 10\%$ (whichever is greater); Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

11W-4C (Cont.)

- 1245: Turbidity is still over 1000 NTU's. Raised tubing to ~ 30' btec. Lots of very fine silty material in GW.
- 1255: Turbidity is still over 1000 NTU's. Will switch over to a submersible pump and see if well will clean up at a higher flow rate.
- 1310: Inserted SS ESP and new 3/8" PE tubing to ~ 30' btec and started pump at 175 gpm.
- 1320: WL 33.82' | well is slowly drawing down, reduced flow to .5 gpm. Turbidity is at 214 NTU's. Continuing purge.
- 1325: Turbidity is at 99 NTU's. Reduced flow to .3 gpm.
- 1327: Turbidity is going up at slower flow rate. IS 356 NTU's. Increased flow to .5 gpm.
- 1332: Turbidity is at 32 NTU's. Continuing purge at .5 gpm, WL 32.81'.
- 1342: Turbidity is at 35 NTU's. WL ~~32.82~~ 32.85' at .5 gpm.
- 1347: Turbidity is going up again. Will fall back on optional stabilization criteria. Turbidity is 56 NTU's. WL 32.80'.
- 1354: Turbidity is up to 161 NTU's.
- 1356: Turbidity is fluctuating, probably due to the very fine material (silt) suspended in GW and coming through well filter pack. Will start measuring field parameters WL 32.80' at .5 gpm.

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

SITE NAME: **Sumter County Landfill** SITE LOCATION: **Sumterville, FL**
WELL NO: **MW-4D** SAMPLE ID: **MW-4D** DATE: **6/24/13**

PURGING DATA

WELL 2" PVC TUBING 3/8" 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
= (**40.90** feet - **44.82** feet) X **1.155** gallons/foot = **3.85** 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 + (**.006** gallons/foot X **40** feet) + **.125** gallons = **.385** gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): **~35** FINAL PUMP OR TUBING DEPTH IN WELL (feet): **~35** PURGING INITIATED AT: **1535** PURGING ENDED AT: **1634** TOTAL VOLUME PURGED (gallons): **3.85**

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (uS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1630	38.10	38.10	.75	22.50	8.00	24.88	286	4.65	84.1	Cloudy	None
1632	1.80	39.90	.75	22.50	8.04	24.89	288	4.62	83.7	White	None
1634	1.50	41.40	.75	22.50	8.06	24.87	287	4.55	75.8	Same	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 Clayton, Colinas Group, Inc.** SAMPLER(S) SIGNATURES: *[Signature]* SAMPLING INITIATED AT: **1635** SAMPLING ENDED AT: **1638**

PUMP OR TUBING DEPTH IN WELL (feet): **~35** FLOW RATE (mL per minute): **< 250 mL** TUBING MATERIAL CODE: **PE**

FIELD DECONTAMINATION: ☒ Y ☐ N FIELD-FILTERED: ☒ Y ☐ N FILTER SIZE: **1** µm 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-4D	1	PE	120 mL	None	None	—	Nitrate	ESP

REMARKS:

1535: Inserted SS ESP and dedicated 3/8" PE tubing to ~35' b/c and started pump at .75 gpm.
1542: WL 27.53' at .75 gpm. GW is extremely turbid. This well was recently damaged and repaired. GW was turbid after ~1 hour of development.
1547: WL 27.55' at .75 gpm, turbidity is at 418 NTUs.
1555: Turbidity is at 184 NTUs. Reduced flow to .5 gpm.
1558: Turbidity is going back up at lower flow rate. Increased flow to .9 gpm. (over)

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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
RFPF = 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: ± 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-40 (cont.)

~~1605~~ 1605: Turbidity is at 140 NTU's. Continuing purge at .9 gpm.

1608: Turbidity is at 129 NTU's. Reduced flow to .18 gpm.

1615: Turbidity is at 146 NTU's. Turbidity is again going up at lower flow rate. Increased flow to .3 gpm.

1618: Turbidity is still going up, is at 179 NTU's. Increased flow to .75 gpm. Will use optional stabilization criteria for turbidity. It is high, but typical for some of the wells at this landfill. ~~WL 27.00'~~

1629: WL 27.50' at .75 gpm. all parameters are stable or in range.

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

☒ TEMPERATURE ☒ CONDUCTIVITY ☐ SALINITY ☒ pH ☐ ORP
☒ TURBIDITY ☐ RESIDUAL CL ☒ DO ☐ OTHER _____

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	
6/24/13	1230	A	4.01	4.01		Yes	IC	RP	pH
		B	7.00	7.00					pH
		C	1500	1500					Cond
		--	--	7.38					DO
		--	--	31.42					Temp
		D	0.1	0.1					Turb
		E	15	15.0					Turb
6/24/13	1300	A	4.01	4.01		Yes	ICV	RP	pH
		B	7.00	6.98					pH
		C	1500	1501					Cond
		--	--	7.64					DO
		--	--	29.36					Temp
		D	0.1	0.09					Turb
		E	15	14.9					Turb
6/24/13	1655	A	4.01	4.00		Yes	CC	RP	pH
		B	7.00	7.00					pH
		C	1500	1502					Cond
		--	--	7.62					DO
		--	--	29.86					Temp
		D	0.1	0.07					Turb
		E	15	14.9					Turb

ATTACHMENT 5

**Existing Installation Site Documentation
Sketch of Lease Agreements (July 10, 2013)**



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

P. O. BOX 28850

9721 EXECUTIVE CENTER DRIVE, NORTH
ST. PETERSBURG, FLORIDA 33742 33702 Phone: 813/576-6420

JOSEPH W. LANDERS JR.

SECRETARY

January 21, 1976

Sumter County SW
Central Sanitary Landfill

*File
C-108*

Board of Sumter County Commissioners
P. O. Box 8
Bushnell, Florida 33513

Dear Board Members:

Pursuant to your recent application, please find enclosed a permit (No. S060-0069) dated 1/21/76 to ~~construct~~/operate the subject pollution source.

This permit will expire on 1/21/80 , and will be subject to the conditions, requirements and restrictions checked or indicated otherwise in the attached sheet "Construction/Operation Permit Conditions".

This permit is issued under the authority of Florida Statutes 403.061(16) and 403.707, and Chapters 17-4 and 17-7 of the Florida Administrative Code. The time limits imposed herein are a condition to this permit and are enforceable under Florida Statute 403.161. You are hereby placed on Notice that the Department will review this permit before the scheduled date of expiry and will seek court action for violation of the conditions and requirements of this permit.

You have ten days from the date of receipt hereof within which to seek a review of the conditions and requirements contained in this permit. Failure to file a written request to review or modify the conditions or requirements contained in this permit shall be deemed a waiver of any objections thereto.

Your continued cooperation in this matter is appreciated and in future communication please refer to your permit number.

Very truly yours,

B. B. Vest Jr.

Banks B. Vest, Jr.
District Manager
Southwest District

JEL
WEL/BLC/smw

cc: S.W.F.W.M.D.
U.S.G.S.
U.S.D.A.S.C.S.
Central Files
John Springstead, P. E.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION
OPERATION PERMIT

FOR Sumter County Central

Sanitary Landfill

(Woodward Site)

PERMIT NO. S060-0069

DATE OF ISSUE January 21, 1976

PURSUANT TO THE PROVISIONS OF SECTIONS 403.061(16) AND 403.707 OF CHAPTER 403 FLORIDA STATUTES AND CHAPTERS 17-4 AND 17-7 FLORIDA ADMINISTRATIVE CODE, THIS PERMIT IS ISSUED TO:

Board of Sumter County Commissioners

FOR THE OPERATION OF THE FOLLOWING:

A sanitary landfill for the Disposal of Solid Waste resulting from
Residential and Commercial Activities.

LOCATED AT: T20S, R22E, Sect. 15

Lat 28° 44' 30" N., Long 82° 05' 20" W

IN ACCORDANCE WITH THE APPLICATION DATED December 22, 1975 & December 30, 1975

ANY CONDITIONS OR PROVISOS WHICH ARE ATTACHED HERETO ARE INCORPORATED INTO AND MADE A PART OF THIS PERMIT AS THOUGH FULLY SET FORTH HEREIN. FAILURE TO COMPLY WITH SAID CONDITIONS OR PROVISOS SHALL CONSTITUTE A VIOLATION OF THIS PERMIT AND SHALL SUBJECT THE APPLICANT TO SUCH CIVIL AND CRIMINAL PENALTIES AS PROVIDED BY LAW.

THIS PERMIT SHALL BE EFFECTIVE FROM THE DATE OF ISSUE UNTIL January 21, 1980

OR UNTIL REVOKED OR SURRENDERED AND SHALL BE SUBJECT TO ALL LAWS OF THE STATE AND THE RULES AND REGULATIONS OF THE DEPARTMENT.

J. E. Anderson
DISTRICT ENGINEER

Joseph W. Landers, Jr.
JOSEPH W. LANDERS, JR.
SECRETARY
Bob B. Votj
DISTRICT MANAGER

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
PROVISOS FOR RESOURCE RECOVERY FACILITIES
OPERATION PERMIT CONDITIONS

Permit No. SO60-0069

DATE January 21, 1976

- (X) 1. Dust free, all-weather access roads to the site shall be maintained.
- (X) 2. Operations shall be limited to adequately dewatered sections of the site.
- (X) 3. All applicable Rules of the Department shall be adhered to.
- (X) 4. There shall be no open burning at this site.
- (X) 5. A trained supervisor or foreman shall be responsible for maintaining the operation.
- (X) 6. Access to the site shall be controlled to keep out unauthorized persons and to assist the landfilling operation. Access shall be allowed only when an attendant is on duty.
- (X) 7. Signs indicating traffic flow, hours of operation, and any charge for disposal shall be provided.
- (X) 8. All objectionable odors originating from this site shall be effectively controlled during all phases of operation.
- (X) 9. Groundwater from at least 4 test wells around the landfill perimeter and collected drainage from the site shall be examined on a quarterly basis for BOD, COD or TOC, pH, conductivity or chlorides, nitrates, total coliform bacteria, cadmium, chromium, copper, and lead. Samples shall be analyzed by a pesticide scan for chlorinated hydrocarbons on a semiannual basis. Results of these examinations shall be submitted promptly to the Southwest District Office, Florida Department of Environmental Regulation.
- (X) 10. The access road from SR 470 to the landfill entrance shall have trash pickup no less than once a week.

✓

5.21 ACRES

5.00 ACRES

60' WIDE ROAD

ADMS JOINT USE &
ACCESS AGREEMENT
ORB 2320 PG 775

ACMS JOINT USE &
ACCESS AGREEMENT
ORR 2320 PG 775

ADMS OF SUMTER, LLC
INCENTIVE LEASE AGREEMENT
1.60 ACRES

— ON THE EFFECTS OF A SHORT-TERM

20' WIDE UTILITY
EASEMENT

PORTION OF CLOSED
COUNTY ROAD 529
PER SUMTER COUNTY
RESOLUTION 10-24

WIDE UTILITY ASSESSMENT

ACMS OF SUMTER, LLC
INCENTIVE LEASE AGREEMENT
25.07 ACRES

