SUMTER COUNTY
(CLOSED) LANDFILL
QUARTERLY GROUNDWATER
MONITORING REPORT
Quarter I (February) 2012

Prepared for:

SUMTER COUNTY
SOLID WASTE DEPARTMENT
SUMTER COUNTY, FLORIDA

Prepared by:

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

Prepared by:

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

April 2012

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.

4-12-12

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

DER Form 62-520.900(2)
Effective April 14, 1994
1/13/2009m

THE COLINAS GROUP, INC.

HYDROGEOLOGISTS & ENGINEERS

April 10, 2012

Mr. John Morris, P.G.
Florida Department of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, Florida 33637

Subj: **Quarter I (February) 2012 Groundwater Monitoring Report**
Sumter County Closed Class I Landfill
Sumter County, Florida
FDEP Permit No. 22926-003-SF

Dear Mr. Morris:

On behalf of Sumter County Board of County Commissioners, The Colinas Group, Inc. (TCG) herewith submits one Electronic Data Deliverable and one (1) bound paper copy of the report prepared by TCG entitled:

Sumter County (Closed) Landfill Quarterly Groundwater Monitoring Report, Quarter I (February) 2012

The report was prepared and is submitted in satisfaction of part of the requirements of the Sumter County Closed Landfill Long-Term Care Permit. The report includes an additional round of water level measurements and groundwater contour map. Conclusions and recommendations to Sumter County regarding secondary water quality monitoring parameters and resolution of the nitrate nitrogen issue at the closed landfill are presented.

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, Jr., P.G.
Principal Consultant
Fl. P.G. Reg. No. 1113

RICHARD L. POTTS, JR. LICENSE NO. PG1113 STATE OF FLORIDA PROFESSIONAL GEOLOGIST

cc: Mr. Jackey Jackson (Sumter County)
Ms. Denise Warnock (Sumter County)

377 MAITLAND AVENUE, SUITE 2012, ALTAMONTE SPRINGS, FL 32701 • (407) 622-8176 • FAX: (407) 622-8196

SUMTER COUNTY (CLOSED) LANDFILL
GROUNDWATER MONITORING REPORT
SUMTER COUNTY, FLORIDA
Quarter I (February) 2012

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ATTACHMENTS:

1. Quarter I (February) 2012 Groundwater Contour Map
   Supplemental March 2012 Groundwater Contour Map
2. Laboratory Analytical Report
3. Field Data and Testing Logs
4. Chain-of-Custody Forms
5. Laboratory/Field Quality Control Reports
6. FDEP ADaPT/EDD Disc - (In Pocket)

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Sumter County (Closed) Landfill
Quarterly Groundwater Monitoring Report
Quarter I (February) 2012

INTRODUCTION

The Colinas Group, Inc. (TCG) has reviewed the groundwater monitoring well sampling and analytical results for the Quarter I (February) 2012 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 FDEP Long-Term Care Permit #22926-003-SF.

Two new water level monitoring piezometers, **MW-4C** and **MW-4D** were recently installed in the northwest potion of the landfill property at the request of the FDEP. Both piezometers were constructed in accordance with design requirements of Chapters 62-520 / 62-701, F.A.C. for groundwater monitoring wells at solid waste facilities. TCG sampled the new piezometers this quarter for the list of parameters specified for the existing monitoring wells in the landfill's long-term care permit.

SAMPLING EVENT

The Quarter I 2012 sampling event at the Sumter County Landfill was completed during the period February 21 - 22, 2012. 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 February 21, 2012. 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.

A supplemental round of water level measurements was made on March 13, 2012. A separate groundwater contour map for that date is presented on Figure 2. Measured water table depths are included in Table II.

RESULTS

Field Tested Parameters

Results of field testing completed at groundwater monitoring wells for the Quarter I 2012 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 ten (10) of the eleven (11) groundwater monitoring wells/piezometers 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 9.12 pH units. This well has produced pH values above 8.5 since sampling of the well began in Quarter II of 2006. Newly installed piezometer **MW-4D** produced groundwater with a pH of 8.15 su. Groundwater ph at remaining wells ranged from 6.55 to 7.86 su.

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/piezometers varied through a narrow range from 24.46 C at background well **MW-6A** to 26.56 C at **MW-4C**.

Dissolved Oxygen

Dissolved oxygen (DO) exceeded the FDEP sampling guidance level of 20% saturation at four (4) of the eleven (11) monitoring wells sampled, including the facility background monitoring well **MW-6A**. Aside from new piezometer **MW-4D**, these wells typically produce groundwater with dissolved oxygen levels above 20% saturation.

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 142 umhos/cm to 911 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 eleven (11) wells and piezometers.

Regulatory Exceedances

A summary of groundwater laboratory analytical results that exceeded the regulatory level for the particular parameter in the Quarter I 2012 sample set is presented in Table III. As shown, five (5) parameters were reported for certain 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 measured in water samples from seven (7) of the eleven (11) monitoring wells/piezometers (64%) at concentrations above the Florida Secondary Drinking Water Standards (FSDWS) MCL of 200 ug/l. The highest aluminum concentrations are reported for new piezometer **MW-4D** at 1,900 ug/l, followed by **MW-11** at 860 ug/l.

Iron
Dissolved iron was detected in two (2) monitoring wells at concentrations above the FSDWS MCL of 300 ug/l. Iron was reported at 940 ug/l for well **MW-9A** and 360 ug/l for **MW-10**. Iron was detected below 300 ug/l at six (6) monitoring wells and was not detected above the laboratory method detection limit at three (3) wells.

Manganese
Manganese was measured at a concentration above the FSDWS MCL of 50 ug/l in monitoring well **MW-9A** at 91 ug/l. Manganese was reported in each 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 13 mg/l. Remaining wells reported nitrate values ranging from 0.10 mg/l (**MW-9A**) to 7.4 mg/l at new piezometer **MW-4D**. Background well **MW-6A** reported an elevated nitrate concentration of 5.8 mg/l.

Total Dissolved Solids (TDS)
TDS concentration was reported marginally above the 500 mg/l FSDWS MCL at monitoring well **MW-9A** at 560 mg/l.

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

Other Significant Detected Parameters

Chloride concentrations reported for eight (8) of the eleven 11) monitoring wells and piezometers, 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-4**, **MW-4A** and **MW-9A** (18 mg/l - 25 mg/l) appear slightly elevated as compared to the other wells. The SDWS MCL for chloride in groundwater is 250 mg/l.

Sodium also appears slightly higher at monitoring wells **MW-4**, **MW-4A** and **MW-9A** (21 mg/l - 36 mg/l) as compared to background and downgradient monitoring wells. The PDWS MCL for sodium is 160 mg/l.

SAMPLING EVENT SUMMARY

Chemical characteristics of groundwater monitored at the Sumter County Closed Landfill are reported for the Quarter I (February) 2012 sampling event. Exceedances of specific 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). Nitrate nitrogen is reported slightly above the Florida Primary Drinking Water Standards (FPDWS) MCL at one monitoring well.

Elevated **dissolved oxygen** (DO) levels were measured in five of the eleven groundwater monitoring wells and piezometers, including the facility background monitoring well **MW-6A** and up-gradient well **MW-8**. Aside from new piezometer **MW-4D** which has no sample history, these wells routinely produce groundwater with elevated DO levels.

Aluminum was reported by the laboratory at concentrations above the FSDWS MCL at five monitoring wells and at both new piezometers. The highest aluminum value is reported for new piezometer **MW-4D**. Aluminum has routinely been reported above the MCL in monitoring wells at the landfill, including 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.

Concentrations of **iron** slightly above the FSDWS MCL were reported for monitoring wells **MW-9A** and **MW-10**. **Manganese** was 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 at monitoring well **MW-4A** at 13 mg/l, exceeding the FPDWS MCL of 10 mg/l. Nearby wells **MW-4**, **MW-4B** and new piezometers **MW-4C** and **MW-4D** each reported nitrate nitrogen at concentrations below the 10 mg/l MCL.

TDS was reported slightly above the FSDWS provisional MCL (500 mg/l) at 560 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.

REGULATORY CONSIDERATIONS

According to records provided by Sumter County, a complete application for permit to operate the now-closed landfill (Sumter County Central Sanitary Landfill) was submitted to the Florida Department of Environmental Regulation (FDER) on December 30, 1975. The FDER issued the operating permit on January 21, 1976. The permit authorized the operation of "...a sanitary landfill for the disposal of solid waste resulting from residential and commercial activities."

A copy of the letter of permit application from Sumter County in 1975 and a copy of the FDER operating permit issued in 1976 are attached in the Appendix to this report.

The permit included establishment and operation of a groundwater monitoring plan that specifies sampling media (groundwater), sampling constituents and frequency of sampling and reporting. The facility's current groundwater monitoring plan is an apparent evolution of the original operating permit monitoring requirements.

The Sumter County Closed Landfill meets the definition of "Existing Installation" set forth in rule 62-520.200(10), F.A.C. by virtue of having filed a complete application for a permit and having submitted a groundwater monitoring plan approved by the FDER prior to 1983. Groundwater monitored at the landfill is classified as Class G-II Ground Water as defined in Chapter 62-520, F.A.C. Secondary monitoring parameters at the landfill that historically, from time to time, have exceeded regulatory criteria include aluminum, iron, manganese and total dissolved solids.

CONCLUSIONS AND RECOMMENDATIONS

1. The Sumter County Closed Landfill is an "existing installation" as defined in Chapter 62-520, F.A.C. and is therefore, exempt from compliance with secondary drinking water standards parameters outside the facilities' zone of discharge. 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. Water quality results from this sampling event report a single exceedance of a primary standards parameter in groundwater outside the landfill zone of discharge. Nitrate nitrogen is reported at 13 mg/l at MW-4A, one of two monitoring wells installed as part of Preliminary Contamination Assessment actions implemented by the County in response to historical nitrate exceedances reported at Compliance Well MW-4. Nitrate at MW-4 is reported below the primary drinking water standard of 10 mg/l for this sampling event, continuing a steady declining trend of sub-maximum contaminant level (mcl) nitrate concentrations at this well beginning in Quarter II 2009.

3. Nitrate concentrations in groundwater samples from new piezometers MW-4C and MW-4D are reported below the mcl at 5.3 mg/l and 7.4 mg/l, respectively. Both piezometers are located downgradient from wells MW-4 and MW-4A with respect to apparent groundwater flow direction. The new piezometers are located within the landfill property boundaries, depicted by fence lines shown on the groundwater contour map presented as Figure 1, attached.

4. We recommend that Sumter County prepare and submit an application for modification of the landfill long-term care permit (Permit No. 22926-003-SF) to the Florida Department of Environmental Protection, Southwest District Office. Modification of the facility Ground Water Monitoring Plan (GWMP) is recommended to formally incorporate new piezometers MW-4C and MW-4D as monitoring wells to the GWMP as a means of demonstrating compliance with the nitrate nitrogen standard in groundwater upgradient of the landfill property boundaries. As new GWMP monitoring wells, MW-4C and MW-4D should be sampled only for the field parameters listed in Chapter 62-701, F.A.C. plus nitrate nitrogen.

5. The application for permit modification should include a "Monitoring -Only" proposal intended to provide reasonable assurance that groundwater with exceeding levels of nitrate nitrogen will likely not result in future violations of water quality standards beyond the landfill property boundaries. The proposal should include a formal request for a determination from the FDEP of Sumter County's satisfaction of water quality-related issues contained in Consent Order No. 04-0131 and the order for Corrective Actions and Contamination Assessment activities.

* * * * *

TABLE I
FIELD PARAMETER RESULTS SUMMARY,
SUMTER COUNTY (CLOSED) LANDFILL
SUMTER COUNTY, FLORIDA
Quarter I (February) 2012

Sampling Point	Temp. (C)	Dissolved Oxygen (mg/l)	pH	Specific Conductance (umhos/cm)	Turbidity (NTU)
MW-2	26.55	**3.86**	6.88	233	0.39
MW-4	26.17	0.70	7.23	568	3.90
MW-4A	26.42	0.29	7.09	665	7.67
MW-4B	25.69	**4.97**	**9.12**	142	9.71
MW-4C	26.56	1.32	7.09	522	11.20
MW-4D	25.14	**3.50**	8.15	369	12.60
MW-6A	24.46	**6.56**	7.86	249	10.50
MW-8	24.50	**3.96**	7.36	343	6.22
MW-9A	25.23	0.21	6.55	911	14.10
MW-10	25.18	1.48	6.98	515	8.38
MW-11	25.95	0.40	6.59	556	14.70

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

TABLE II

SUMMARY OF GROUNDWATER LEVELS
SUMTER COUNTY (CLOSED) LANDFILL
SUMTER COUNTY, FLORIDA
Quarter I (February) 2012

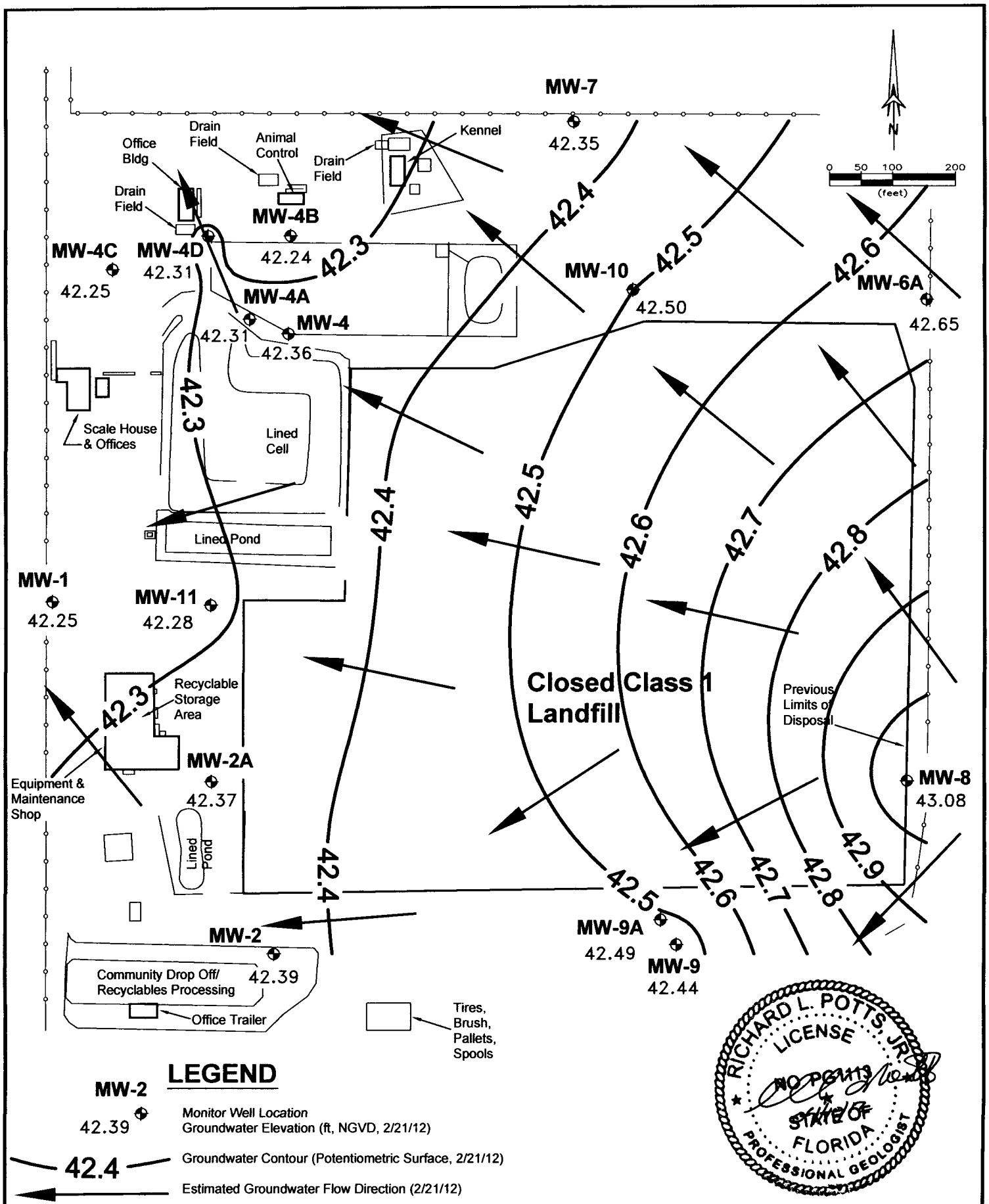
Well No.	MP Elev. 1/ (ft. +NGVD)	Depth to Water (ft. - MP) 2/ 02/21/12	Groundwater Elevation (ft. +NGVD) 02/21/12	Depth to Water (ft. - MP) 2 03/13/12	Groundwater Elevation (ft. +NGVD) 03/13/12
MW-1	70.10	27.85	42.25	27.87	42.23
MW-2	68.96	26.57	42.39	26.60	42.36
MW-2A	71.98	29.61	42.37	29.64	42.34
MW-4	70.33	27.97	42.36	28.00	42.33
MW-4A	75.49	33.18	42.31	33.21	42.28
MW-4B	73.49	31.25	42.24	31.28	42.21
MW-4C	70.88	28.63	42.25	28.66	42.22
MW-4D	73.35	31.04	42.31	31.07	42.28
MW-6A	77.48	34.83	42.65	34.89	42.59
MW-7	72.93	30.58	42.35	30.62	42.31
MW-8	68.63	25.55	43.08	25.64	42.99
MW-9	72.62	30.18	42.44	30.22	42.40
MW-9A	75.14	32.65	42.49	32.69	42.45
MW-10	68.14	25.64	42.50	25.67	42.47
MW-11	70.02	27.74	42.28	27.76	42.26

Notes: 1/ Measuring Point is top of PVC well casing.
2/ Water levels recorded on February 21, 2012 and March 13, 2012

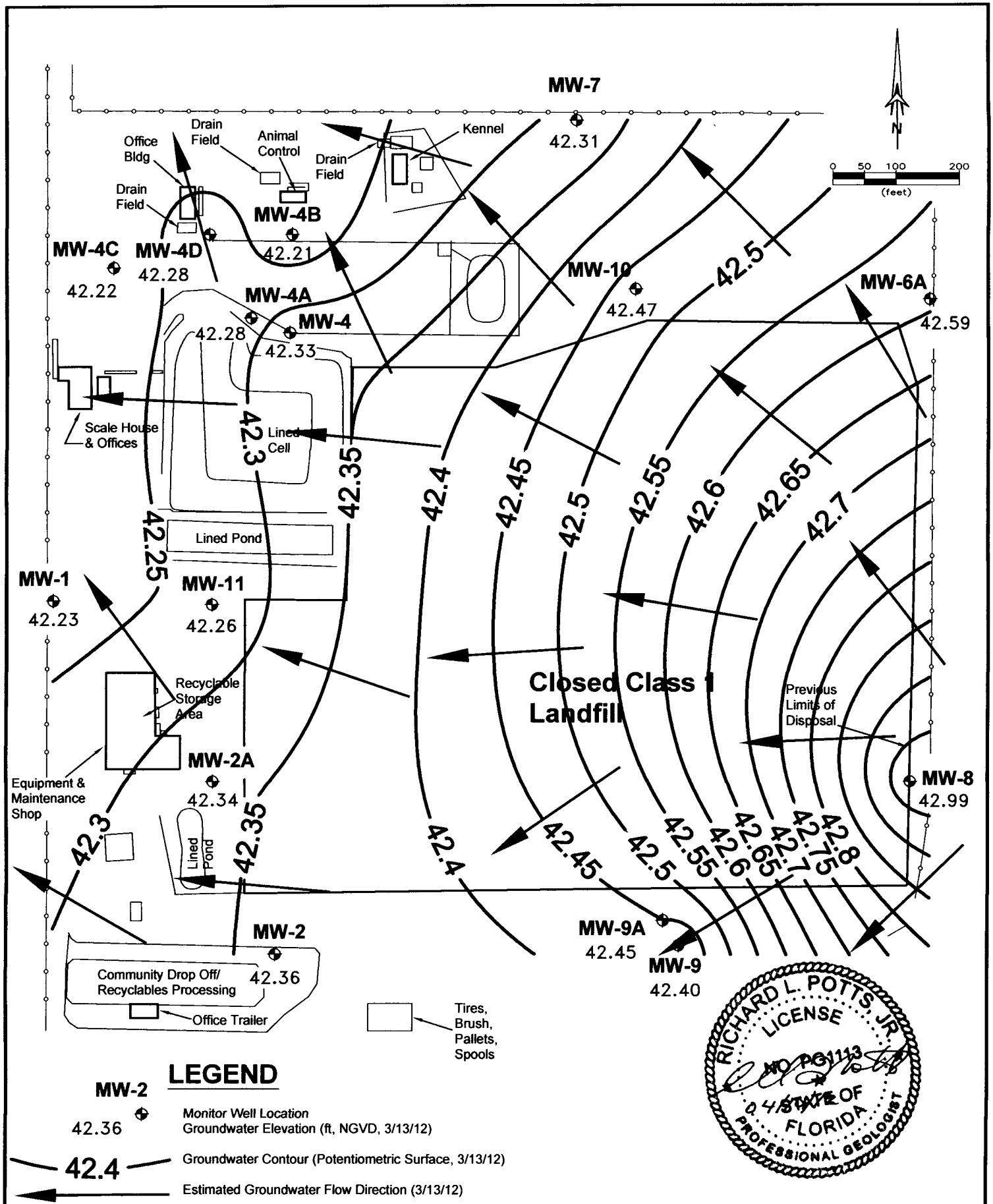
TABLE III
SUMMARY OF LABORATORY RESULTS
SUMTER COUNTY (CLOSED) LANDFILL
QUARTER I (February) 2012

Parameter	units	MW-2	MW-4	MW-4A	MW-4B	MW-4C	MW-4D	MW-6A	MW-8	MW-9A	MW-10	MW-11	MCL
Ammonia	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.34	BDL	BDL	**2.8**
Aluminum	ug/l	BDL	**460**	64	**640**	**700**	**1,900**	BDL	BDL	**570**	**420**	**860**	**200**
Antimony	ug/l	0.49	0.21	0.099	0.15	BDL	BDL	BDL	0.11	BDL*	1.1	0.46	**6**
Cadmium	ug/l	BDL	0.34	BDL	BDL	0.34	BDL	BDL	BDL	1.5	0.48	2.6	**5**
Chloride	mg/l	4.9	18	25	4.5	11	11	7.9	7.8	21	6.9	3.8	**250**
Chromium	ug/l	1.2 (v)	3.3 (v)	1.8 (v)	4.7 (v)	11 (v)	9.9 (v)	6.5 (v)	4.1 (v)	11 (v)	4.9 (v)	8.0 (v)	**100**
Fluoride	mg/l	0.15	0.13	BDL	0.14	0.17	BDL	BDL	BDL	0.16	0.15	0.18	**4**
Gr. Alpha	pCi/l	<1.2 ± 0.9	5.9 ± 2.2	2.6 ± 0.9	1.0 ± 0.8	7.5 ± 1.6	2.3 ± 1.6	<1.7 ±1.3	<2.3 ±1.6	9.5 ± 1.9	8.9 ± 1.2	11.6 + 1.5	**15**
Iron	ug/l	BDL	51	BDL	46	130	150	BDL	76	**940**	**360**	180	**300**
Lead	ug/l	BDL	0.36	BDL	0.23	BDL	BDL	BDL	BDL	BDL*	0.28	0.75	**15**
Manganese	ug/l	0.48	4.9	4.7	0.27	48	1.3	0.73	3.3	**91**	17	5.6	**50**
Mercury	ug/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.22	BDL	0.082	**2**
Nitrate	mg/l	1.8	7.2	**13**	4.3	5.3	7.4	5.8	1.9	0.10	2.8	4.9	**10**
Radium 226	pCi/l	0.5 ± 0.2	1.0 ± 0.2	0.9 ± 0.2	0.3± 0.2	0.9 ± 0.2	0.4 ± 0.1	0.5 ± 0.1	0.4 ± 0.1	3.0 ± 0.3	1.9 ± 0.2	2.4 ± 0.3	---
Radium 228	pCi/l	0.7 ± 0.5	<0.8 ± 0.5	<0.9 ± 0.6	<0.9 ± 0.5	<0.9 ± 0.6	<0.9 ± 0.6	<0.8 ± 0.5	<0.9 ± 0.6	<1.0 ± 0.6	<0.8 ± 0.5	0.9 ± 0.6	---
Silver	ug/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL*	BDL	0.075	**100**
Sodium	mg/l	3.1 (v)	36 (v)	26 (v)	10 (v)	17 (v)	11 (v)	3.2 (v)	5.1 (v)	21 (v)	6.1 (v)	8.9 (v)	**160**
TDS	mg/l	150	340	430	98	320	260	200	210	**560**	300	330	**500**
Thallium	ug/l	BDL	0.11	0.24	BDL	BDL	BDL	BDL	BDL	BDL*	0.078	0.14	**2**

Notes: 1). BDL means below laboratory method detection limit , * Indicates dilution factor of 10 and higher MDL 2). **Bold lettering** indicates result exceeds MCL/Guidance concentration
3). (v) indicates constituent was detected in the laboratory method blank.



The Colinas Group, Inc. 377 Maitland Avenue Suite 2012 Altamonte Springs, Florida 32701	PROJ. NO.: P-453 DATE: MARCH 2012 SCALE: 1" = 200'	GROUNDWATER CONTOUR MAP QUARTER I (FEBRUARY) 2012 SUMTER COUNTY LANDFILL	FIGURE 1



The Colinas Group, Inc. 377 Maitland Avenue Suite 2012 Altamonte Springs, Florida 32701	PROJ. NO.: P-453 DATE: MARCH 2012 SCALE: 1" = 200'	GROUNDWATER CONTOUR MAP MARCH 2012 SUMTER COUNTY LANDFILL	FIGURE 2

APPENDIX

Sumter County

DUB PALMER, Chairman
District 1 - Phone (904) 748-1716
Rt. 1, Box 171, Wildwood, Florida 32785

HARRY LOVETT, Vice Chairman
District 4 - Phone (904) 793-3062
Rt. 1, Box 147, Bushnell, Florida 33513

J. W. ARGO JR.
District 2 - Phone (904) 793-4730
P. O. Box 454 Lake Panasoffkee, Florida 33538

WILLIAM C. WING
District 3 - Phone (904) 748-1332
P. O. Box 1076, Wildwood, Florida 32785

MELVIN CARLTON
District 5 - Phone (904) 793-3712
P. O. Box 237, Webster, Florida 33597

Board of
County Commissioners

P. O. Box 8

Office Phone (904) 793-2848

BUSHNELL, FLORIDA 33513

C. BURTON MARSH, Clerk
Phone (904) 793-2611
P. O. Box 8, Bushnell, Florida 33513

T. RICHARD HAGIN, Attorney
Phone (904) 793-2714
P. O. Box 248, Bushnell, Florida 33513

FIRST MEETING
First Wednesday after the
First Monday of each month

SECOND MEETING
Third Wednesday after the
First Monday of each month

December 30, 1975

Mr. Kenneth D. Allbritton
State of Florida
Department of Environmental Regulation
9721 Executive Center Drive, Suite 200
St. Petersburg, Florida 33742

Re: Solid Waste
Sumter Central Landfill
SC-60-0024

Dear Mr. Allbritton:

Please find enclosed a letter, dated December 22, 1975, from the County Engineer, John Springstead, certifying completion of portions of the County's Central Landfill. Also, please find enclosed a check in the amount of $20.00 to cover the application fee.

We are, herewith, requesting an operating permit for the subject operation. Should you have any question regarding the current status, please feel free to contact Mr. Pat Walsh, Landfill Coordinator, John Springstead, or me, and we will be glad to work with you in any way.

Very truly yours,

BOARD OF COUNTY COMMISSIONERS

by Harry Lovett
HARRY S. LOVETT - VICE-CHAIRMAN

HSL:tos

Enclosures

SPRINGSTEAD AND ASSOCIATES, INC.
Consulting Engineers

1326 NORTH BLVD. WEST
P.O. BOX 283
LEESBURG, FLA. 32748
[904]787-1414

WEST HWY 476
P.O. BOX 283
BUSHNELL, FLA. 33513
[904]793-3639

December 22, 1975

SOUTH WEST DISTRICT
ST. PETERSBURG

Mr. Kenneth D. Allbritton
State of Florida
Department of Environmental Regulation
9721 Executive Center Dr.
Suite 200
St. Petersburg, Florida 33742

RE: Solid Waste
Sumter Central Landfill
SC-60-0024

Dear Ken:

Thank you for your recent notice of the expiration of the referenced project's construction permit.

I have made a recent inspection of the work to date and have found that the construction is progressing very well according to the area of disposal being used. The remaining construction will complement the use of the large acreage of the total landfill site. The access roads, internal roads, leachate-drainage containment ditches, wells, office-ticket area, fences and other systems necessary for the proper operation and maintenance have been substantially completed as per plans and specifications and construction permit issued on May 13, 1975.

Please accept this letter as a request for an operation permit for the subject project.

Very truly yours,

SPRINGSTEAD AND ASSOCIATES, INC.

John W Springstead PE.

John W. Springstead, P. E.

JWS:ss

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
~~P. O. BOX 28050~~
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

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,

Banks B. Vest, Jr.
District Manager
Southwest District

~~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. SO60-0069 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 FOURTH 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. Hollandsworth
DISTRICT ENGINEER

J. W. Landers Jr.
JOSEPH W. LANDERS, JR.
SECRETARY

Bob B. Vat
DISTRICT MANAGER

DER FS 11
8/75

STATE OF FLORIDA
DEP. MENT OF ENVIRONMENTAL REGULAT
PROVISOS FOR RESOURCE RECOVERY FACILITIES
OPERATION PERMIT CONDITIONS

Permit No. S060-0069 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.

State

(X) 10. The access road from SR 470 to the landfill entrance shall have trash pickup no less than once a week.

FIELD LOG
Well Water Levels

PROJ # P-453 **NAME:** Dale Clayton

PROJECT NAME: Sumter Co. Landfill **DATE:** 2/21/12

PROJECT LOCATION: Sumterville, FL

TIME	COMMENTS	
	Well #	WL (ft. btoc)
	MW-1	27.85'
	MW-2	26.57'
	MW-2A	29.61'
	MW-4	27.97'
	MW-4A	33.18'
	MW-4B	31.25'
	MW-4C	28.63'
	MW-4D	31.04'
	MW-6A	34.83'
	MW-7	30.58'
	MW-8	25.55'
	MW-9	30.18'
	MW-9A	32.65'
	MW-10	25.64'
	MW-11	27.24'

DEP-SOP-001/01
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL	
WELL NO: MW-2	SAMPLE ID: MW-2	DATE: 2/21/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 26.57'	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
1 Well Vol = (31.92' feet – 26.57' feet) X .16 gallons/foot = .856 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 31' feet) + .125 gallons = .2056 gallons~~ 0 + (.0026 x 31') + .125 = .2056 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~28'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~28'	PURGING INITIATED AT: 1319	PURGING ENDED AT: 1338	TOTAL VOLUME PURGED (gallons): 1.14

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)
1334	.90	.90	.06	26.71	6.89	26.63	233	3.87	1.35	Clear	None
1336	.12	1.02	.06	26.71'	6.88	26.60	233	3.89	0.63	Clear	None
1338	.12	1.14	.06	26.71'	6.88	26.55	233	3.86	0.39	Clear	None
								No Sheen			

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: H. L. Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1339	SAMPLING ENDED AT: 1352
PUMP OR TUBING DEPTH IN WELL (feet): ~28'	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-2	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	APP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	APP
"	1	PE	250 mL	HN03	None	—	Metals	APP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	APP

REMARKS:
1319: Set dedicated 1/4" PE tubing @ ~28' btoc and began pursing @ .06 gpm with a PP.
1326: WL 26.71' @ .06 gpm, GW is clear. DO is high @ 4.07 mg/L, but is typical for this well. Will use optional stabilization critria below.
1331: WL 26.71' @ .06 gpm, drawdown is stable. All parameters are stable or in range.
1333: WL 26.71' @ .06 gpm.

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)y

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)

DEP-SOP-001/01
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: **Sumter County Landfill**	SITE LOCATION: **Sumterville, FL**
WELL NO: **MW-4**	SAMPLE ID: **MW-4**	DATE: 2/21/12

PURGING DATA

WELL DIAMETER (inches): **2" PVC**	TUBING DIAMETER (inches): **.3/8"**	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 27.97	PURGE PUMP TYPE OR BAILER: **ESP**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (**36.35'** feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME x3= 1.083
(only fill out if applicable)
1 Equip Vol = **.02** gallons + (**.006** gallons/foot X 36' feet) + **.125** gallons = .361 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
~31'	~31'	1134	1147	2.60

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)
1143	1.80	1.80	.2	28.43'	7.24	26.18	566	.73	2.38	Clear	Slight Sulfur
1145	.4	2.20	.2	28.43'	7.24	26.18	568	.72	5.22	Clear	Same
1147	.4	2.60	.2	28.44'	7.23	26.17	568	.70	3.90	Clear	Same
								No sheen			

WELL CAPACITY (Gallons Per Foot): **0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88**
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016**

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: **H. L. Claytor, Colinas Group, Inc.**	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1148	SAMPLING ENDED AT: 1200
PUMP OR TUBING DEPTH IN WELL (feet): ~31'	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-4	**2**	**PE**	**1 Ltr**	**HN03**	**None**	—	**GrossAlpha, RA226RA228**	**ESP**
"	**1**	**PE**	**250 mL**	**H2S04**	**None**	—	**Ammonia**	**ESP**
"	**1**	**PE**	**250 mL**	**HN03**	**None**	—	**Metals**	**ESP**
"	**1**	**PE**	**500 mL**	**None**	**None**	—	**Chloride,Fluoride, Nitrate, TDS**	**ESP**

REMARKS:
1134: Inserted SS ESP and dedicated 3/8" PE tubing to ~31' btoc and began purging @ .2 gpm.
1139: WL 28.43' @ .2 gpm, GW is clear.
1142: WL 28.43' @ .2 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)y

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)

DEP-SOP-001/01
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: **Sumter County Landfill**	SITE LOCATION: **Sumterville, FL**	
WELL NO: **MW-4A**	SAMPLE ID: **MW-4A**	DATE: 2/21/12

PURGING DATA

WELL DIAMETER (inches): **2" PVC**	TUBING DIAMETER (inches): **3/8"**	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 33.18'	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 x3 = 1.029
(only fill out if applicable)
1 Equip Vol = **.02** gallons + (**.006** gallons/foot X 33' feet) + .125 gallons = .343 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
~40'	~40'	1231	1248	3.40

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)
1244	2.60	2.60	.2	33.30'	7.09	26.40	666	.34	12.2	Clear	None
1246	.4	3.00	.2	33.30'	7.09	26.42	666	.31	10.4	Clear	None
1248	.4	3.40	.2	33.30'	7.09	26.42	665	.29	7.67	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: **H. L. Claytor, Colinas Group, Inc.**	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1249	SAMPLING ENDED AT: 1300
PUMP OR TUBING DEPTH IN WELL (feet): ~40	SAMPLE PUMP FLOW RATE (mL per minute): **< 250 mL**	TUBING MATERIAL CODE: **PE**	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) 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-4A	**2**	**PE**	**1 Ltr**	**HN03**	**None**	—	**GrossAlpha, RA226RA228**	**ESP**
"	**1**	**PE**	**250 mL**	**H2S04**	**None**	—	**Total Ammonia**	**ESP**
"	**1**	**PE**	**250 mL**	**HN03**	**None**	—	**Metals**	**ESP**
"	**1**	**PE**	**500 mL**	**None**	**None**	—	**Chloride, Fluoride, Nitrate, TDS**	**ESP**

REMARKS:
1231: Inserted SS ESP and dedicated 3/8" PE tubing to ~40' btoc and began purging @ .2 gpm.
1236: WL 33.27' @ .2 gpm, GW is turbid @ 98 NTUs. Will over purge to clear it up.
1241: WL 33.30' @ .2 gpm, turbidity is @ 33 NTUs. Continuing purge.
1243: WL 33.30' @ .2 gpm, turbidity has dropped to 18 NTUs. 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)y

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)

DEP-SOP-001/01
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: **Sumter County Landfill**	SITE LOCATION: **Sumterville, FL**
WELL NO: **MW-4B**	SAMPLE ID: **MW-4B**	DATE: 2/22/12

PURGING DATA

WELL DIAMETER (inches): **2" PVC**	TUBING DIAMETER (inches): **3/8"**	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 31.27	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 Well Vol = (38.49' feet – 31.27' feet) X .16 gallons/foot = 1.1552 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 ~~38~~ feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
~33'	~33'	1052	1104	2.40

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. ~~(mS/cm)~~ uS	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1100	1.60	1.60	.2	31.47'	9.17	25.66	139	5.04	13.6	Clear	None
1102	.4	2.00	.2	31.47'	9.15	25.65	141	5.07	12.8	Clear	None
1104	.4	2.40	.2	31.47'	9.12	25.69	142	4.97	9.71	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: **H. L. Claytor, Colinas Group, Inc.**	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1105	SAMPLING ENDED AT: 1115
PUMP OR TUBING DEPTH IN WELL (feet): ~33'	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-4B	**2**	**PE**	**1 Ltr**	**HN03**	**None**	—	**GrossAlpha, RA226RA228**	**ESP**
"	**1**	**PE**	**250 mL**	**H2S04**	**None**	—	**Total Ammonia**	**ESP**
"	**1**	**PE**	**250 mL**	**HN03**	**None**	—	**Metals**	**ESP**
"	**1**	**PE**	**500 mL**	**None**	**None**	—	**Chloride, Fluoride, Nitrate, TDS**	**ESP**

REMARKS:
1052: Set SS ESP and dedicated 3/8" PE tubing @ ~33' btoc and began purging @ .2 gpm.
1056: WL 31.47' @ .2 gpm, GW is clear.
1058: WL 31.47' @ .2 gpm, all parameters are stable or in range. DO and pH are high, but this is typical for this well. Will use optional stabilization criteria below.

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)y

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)

2.0
1.2

DEP-SOP-001/01
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-4C	SAMPLE ID: MW-4C	DATE: 2/22/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 28.65	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)
= (44.62' 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): ~43'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~43'	PURGING INITIATED AT: 1323	PURGING ENDED AT: 1414	TOTAL VOLUME PURGED (gallons): 16.10

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)
1410	14.90	14.90	.3	31.73'	7.09	26.52	524	1.31	13.7	Clear	None
1412	.6	15.50	.3	31.68'	7.09	26.52	521	1.33	12.1	Clear	None
1414	.6	16.10	.3	31.68	7.09	26.56	522	1.32	11.2	Clear	None
								No Sheen			

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: H. L. Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1415	SAMPLING ENDED AT: 1425
PUMP OR TUBING DEPTH IN WELL (feet): ~43'	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-4C	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:
1323: Inserted SS ESP and new 3/8" PE tubing to ~43' btoc and began purging @ 1 gpm.
1325: WL has drawn down to 43' btoc (bottom of pump). Shut down pump. Will allow to recover and purge at a slower rate. This is first sampling event for this well. GW is extremely turbid (muddy tan).
1328: Restarted pump @ .4 gpm, GW is muddy tan.
1331: Well is drawing down, reduced flow to .3 gpm. WL 32.57'. Raised tubing to ~40' btoc.

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

(over)

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

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

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)

MW-4C (Cont.)

1336: WL 32.37' @ .3 gpm, turbidity is @ 319 NTUs. GW color is milky. Continuing purge.

1346: WL 31.95' @ .3 gpm, turbidity is @ 53 NTUs. Continuing purge. Reduced flow to .12 gpm.

1355: Turbidity is slowly going back up, increased flow to .3 gpm.

1400: Turbidity is @ 40 NTUs, continuing purge. WL 31.76' @ .3 gpm.

1405: Turbidity is @ 21 NTUs, continuing purge.

1408: Turbidity has dropped to 17 NTUs, all other parameters are stable or in range. WL 31.73' btoc.

1.5
2.5
8.0 44
1.50 13.8
~~1.30~~

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: 2/22/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): .3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 31.06'	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)
= (~~44.62'~~ 45.66' feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME X 3 = 1.245
(only fill out if applicable)
1 Equip Vol = .02 gallons + (.006 gallons/foot X 45' feet) + .125 gallons = .415 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~44'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	PURGING INITIATED AT: 0914	PURGING ENDED AT: 1028	TOTAL VOLUME PURGED (gallons): 75.3

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)
1024	73.30	73.30	.5	31.35'	8.16	25.13	369	3.48	12.9	Clear	None
1026	1	74.30	.5	31.34'	8.15	25.15	369	3.50	13.7	Clear	None
1028	1	75.30	.5	31.33'	8.15	25.14	369	3.50	12.6	Clear	None
								Noshown			

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: H. L. Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1029	SAMPLING ENDED AT: 1038
PUMP OR TUBING DEPTH IN WELL (feet): ~40'	SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE: ____ µm	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	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:
0914: Inserted SS ESP and new 3/8" PE tubing to ~44' btoc and began purging @ .5 gpm.

0917: GW is extremely turbid, muddy, tan colored. Increased flow to 1 gpm. This is the first sampling event for this well.

0930: GW is still extremely turbid, increased flow to 2 gpm and raised tubing/pump to ~40' btoc.

0952: Turbidity is @ 83 NTUs, continuing purge. Reduced flow to .5 gpm.

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

(over)

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

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

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)

(cont.)

1002: Turbidity is @ 28 NTUs, continuing purge.

1007: Turbidity is @ 18 NTUs, DO is high @ 3.87 mg/L. Reduced flow to .2 gpm to see if DO goes down.

1011: Turbidity is slowly going up ~~the~~ at lower flow rate. DO is stable @ 3.07 mg/L, DO appears to be naturally high at this well. Increased flow to .5 gpm. Will use optional stabilization criteria for DO.

1021: Turbidity is @ 16 NTUs, DO is stable around 3.49 mg/L. All other parameters are stable or in range. WL is 31.35' @ .5 gpm and is stable.

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7.50
.60

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL	
WELL NO: MW-6A	SAMPLE ID: MW-6A	DATE: 2/22/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 34.82'	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 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):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
~45'	~45'	1452	1523	22.35

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (~~mS/cm~~ µS)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1519	19.35	19.35	.75	34.97'	7.86	24.47	249	6.42	12.3	Clear	None
1521	1.50	20.85	.75	34.97'	7.86	24.47	249	6.51	12.5	Clear	None
1523	1.5	22.35	.75	34.97'	7.86	24.46	249	6.56	10.5	Clear	None
								No sheen			

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: H. L. Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1524	SAMPLING ENDED AT: 1535
PUMP OR TUBING DEPTH IN WELL (feet): ~45'	SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
MW-6A	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	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:
1452: Inserted SS ESP and dedicated 3/8" PE tubing to ~45' btoc and began purging @ .75 gpm.
1458: GW is turbid @ 57 NTUs, but is typical for this well. Will over purge to clean it up.
1502: Turbidity is @ 54 NTUs, reduced flow to .13 gpm.
1504: Turbidity is ~~back~~ up to 189 NTUs at lower flow rate. Increased flow to .75 gpm. DO is high @ 6.58 mg/L, but is typical for this well. Will use optional stabilization criteria below.
1506: Turbidity has dropped to 16 NTUs, all other parameters are stable. WL 34.97' @ .75 gpm and is stable.

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

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

SAMPLING/PURGING 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)y

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)

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL	
WELL NO: MW-8	SAMPLE ID: MW-8	DATE: 2/21/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 25.55	PURGE PUMP TYPE OR BAILER: ESP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)
= (43.24' feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME x3 = 1.209
(only fill out if applicable)
1 Equip Vol = .02 gallons + (.006 gallons/foot X ~~25.55~~ 43' feet) + .125 gallons = .403 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~38'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~38'	PURGING INITIATED AT: 1418	PURGING ENDED AT: 1432	TOTAL VOLUME PURGED (gallons): 2.80

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)
1428	2.00	2.00	.2	25.61'	7.35	24.43	343	3.93	9.16	Clear	None
1430	.4	2.40	.2	25.60	7.36	24.44	343	3.94	6.44	Clear	None
1432	.4	2.80	.2	25.60	7.36	24.50	343	3.96	6.22	Clear	None
								No sheen			

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: H. L. Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1433	SAMPLING ENDED AT: 1445
PUMP OR TUBING DEPTH IN WELL (feet): ~38'	SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE: ____ µm	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-8	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:
1418: Inserted SS ESP and dedicated 3/8" PE tubing to ~38' bloc and began purging @ .2 gpm.
1423: WL 25.61' @ .2 gpm, GW is clear.
1425: WL 25.61' @ .2 gpm, drawdown is stable. DO is high @ 4.17 mg/L, but is typical for this well. Will use optional stabilization criteria below.
1427: WL 25.61' @ .2 gpm, 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)y

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)

5-80

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Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-9A	SAMPLE ID: MW-9A	DATE: 2/22/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 32.74'	PURGE PUMP TYPE OR BAILER: ESP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (50.17' 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):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
~45'	~45'	1222	1247	8.00

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)
1243	2.20	2.20	.2	38.02'	6.56	25.22	914	.25	19.0	Clear	Slight Sulfur
1245	.4	2.60	.2	38.02'	6.56	25.22	912	.22	16.0	Clear	Same
1247	.4	8.00	.2	38.02'	6.55	25.23	911	.21	14.1	Clear	Same
								No	[illegible]	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: H. L. Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1248	SAMPLING ENDED AT: 1300
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 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-9A	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:
1222: Inserted SS ESP and dedicated 3/8" PE tubing to ~45' btoc and began purging @ .5 gpm.
1227: GW is extremely turbid, but is typical for this well. Will over purge to clear it up.
1232: Turbidity is @ 151 NTUs, reduced flow to .2 gpm.
1237: Turbidity is @ 22 NTUs, continuing purge. WL 38.02' @ .2 gpm
1242: Turbidity is @ 18 NTUs, all parameters are stable or in range. WL 38.02' @ .02 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 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)y

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)

DEP-SOP-001/01
Form FD 9000-24

5-90

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-10	SAMPLE ID: MW-10 — DATE: 2/22/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 25.64'	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)
= (45.35' feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME x3: 1.245
(only fill out if applicable)
1 Equip Vol = .02 gallons + (.006 gallons/foot X 45' feet) + .125 gallons = 1.415 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	PURGING INITIATED AT: 1130	PURGING ENDED AT: 1152	TOTAL VOLUME PURGED (gallons): 7.40

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (mS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1148	6.60	6.60	.2	27.60	6.99	25.14	517	1.39	11.8	Clear	Sulfur
1150	.4	7.00	.2	27.60	6.99	25.15	517	1.41	11.7	Clear	Same
1152	.4	7.40	.2	27.60	6.98	25.18	515	1.48	8.38	Clear	Same
								No Sheen			

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: H. L. Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1153	SAMPLING ENDED AT: 1205
PUMP OR TUBING DEPTH IN WELL (feet): ~40'	SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) 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-10	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:
1130: Inserted SS ESP and dedicated 3/8" PE tubing to ~40' bloc and began purging @ .5 gpm.
1140: GW is turbid @ 38 NTUs, but is typical for this well. Will over purge to clear it up. Reduced flow to .2 gpm.
1145: Turbidity has dropped to 18 NTUs. WL 27.60' and is stable @ .2 gpm. All parameters are stable or in range.
1147: WL 27.60' @ .2 gpm.

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)y

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)

2.50

DEP-SOP-001/01
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill		SITE LOCATION: Sumterville, FL	
WELL NO: MW-11	SAMPLE ID: MW-11		DATE: 2/21/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 27.74	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 X3 = 1.155
(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: 1043	PURGING ENDED AT: 1100	TOTAL VOLUME PURGED (gallons): 4.90

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (mS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1056	4.10	4.60	.2	27.87'	6.58	25.94	549	.46	12.9	Clear	None
1058	.4	4.50	.2	27.87'	6.58	25.91	552	.42	13.6	Clear	None
1100	.4	4.90	.2	27.87'	6.59	25.95	556	.40	14.7	Clear	None
								No Sheen			

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: H. L. Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1101	SAMPLING ENDED AT: 1115
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	FIELD-FILTERED: Y (N) Filtration Equipment Type: 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	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:
1043: Inserted SS ESP and dedicated 3/8" PE tubing to ~35' btoc and began purging @ .5 gpm.
1048: WL 28.02' @ .5 gpm, turbidity is @ 21 NTUs. Reduced flow to .2 gpm.
1053: WL 27.87' @ .2 gpm, drawdown is stable. Turbidity is @ 10 NTUs. All other parameters are stable or in range.
1055: WL 27.87' @ .2 gpm.
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)y

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)

Advanced Environmental Laboratories, Inc.

6801 Southpoint Pkwy. - Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354 • E82574
9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84589
6815 SW Archer Road • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.8639 • E82001
526 S. North Lake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597 • E53076

A1201606

CLIENT NAME:	The Colinas Group, Inc.
ADDRESS:	377 Maitland Ave Suite 2012
	Altamonte Springs, FL 32701
PHONE:	407-622-8176
FAX:	407-622-8196
CONTACT:	Dale Claytor
SAMPLED BY:	Dale Claytor
TURN AROUND TIME:	☒ STANDARD _____ ☐ RUSH _____

Sumter Co. Landfill - GW Sampling

P.O. NUMBER/PROJECT NUMBER: P-453

PROJECT LOCATION: Sumterville, FL

REMARKS/SPECIAL INSTRUCTIONS:

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. COUNT	PRESERVATION	Gross Alpha (1 L P)	Ra 226 + Ra 228 (1 L P)	Sb, Al, Cd, Cr, Fe, Pb, Mn, Hg, Ag, Na, Tl, (500 mL P)	TDS (250 mL P)	Ammonia (250 mL P)	F, Cl, NO3 (125 mL P)							LABORATORY I.D. NUMBER
							ANALYSIS REQUIRED	N	N	N	I	S	I							
	MW-10	Grab	2/22/12	1205	W	6		X	X	X	X	X	X							01
	MW-11	Grab	2/21/12	1115	W	6		X	X	X	X	X	X							02
	MW-2	Grab	2/21/12	1352	W	6		X	X	X	X	X	X							03
	MW-4	Grab	2/21/12	1200	W	6		X	X	X	X	X	X							04
	MW-4A	Grab	2/21/12	1300	W	6		X	X	X	X	X	X							05
	MW-4B	Grab	2/22/12	1115	W	6		X	X	X	X	X	X							06
	MW-4C	Grab	2/22/12	1425	W	6		X	X	X	X	X	X							07
	MW-4D	Grab	2/22/12	1038	W	6		X	X	X	X	X	X							08
	MW-6A	Grab	2/21/12	1535	W	6		X	X	X	X	X	X							09
	MW-8	Grab	2/21/12	1445	W	6		X	X	X	X	X	X							10

Received on Ice ☒ Yes ☐ No ☒ Temp taken from sample ☐ Temp from temp blank ☐ Where required, pH checked Temperature when received 3 (in degrees celcius)

Form revised 2/6/08

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A

	Relinquished by:	Date	Time	Received by:	Date	Time
1	[signature]	2/22/12	1710	[signature]	2/22/12	1710
2						
4						

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

Advanced Environmental Laboratories, Inc.
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9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84589
6815 SW Archer Road • Gainesville, FL 32608 • 352.377.2348 • Fax 352.395.6638 • E82001
528 S. North Lake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597 • E53078

LAB NUMBER:

CLIENT NAME: The Colinas Group, Inc.
ADDRESS: 377 Maitland Ave Suite 2012
Altamonte Springs, FL 32701
PHONE: 407-622-8176
FAX: 407-622-8196
CONTACT: Dale Claytor
SAMPLED BY: Dale Claytor
TURN AROUND TIME: ☒ STANDARD _____ ☐ RUSH _____

Sumter Co. Landfill - GW Sampling
P.O. NUMBER/PROJECT NUMBER: P-453
PROJECT LOCATION: Sumterville,FL
REMARKS/SPECIAL INSTRUCTIONS:

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. COUNT	PRESERVATION	Gross Alpha (1 L P, N)	Ra 226 + Ra 228 (1 L P, N)	Sb, Al, Cd, Cr, Fe, Pb, Mn, Hg, Ag, Na, Tl, (500 mL P, N)	TDS (250 mL P, I)	Ammonia (250 mL P, S)	F, Cl, NO3 (125 mL P, I)	LABORATORY I.D. NUMBER
	MW-9A	Grab	2/21/12	1300	W	6		X	X	X	X	X	X	11
	EQUIPMENT BLANK	Grab	2/21/12	1030	W	6		X	X	X	X	X	X	12

Received on Ice ☒ Yes ☐ No ☒ Temp taken from sample ☐ Temp from temp blank ☐ Where required, pH checked Temperature when received 3 (In degrees celcius)

Form revised 2/8/08

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 8A G: LT-1 LT-2 T: 10A A: 3A

	Relinquished by:	Date	Time	Received by:	Date	Time
1	[signature]	2/21/12	1710	[signature]	2/22/12	1110
2						
4						

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

Sumter Co. Landfill

DEP-SOP-001/01: Form FD 9000-8 (June 20, 2001)

Field Instrument Calibration Records

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

PARAMETERS:

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

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

Standard A Oakton pH Standard 4.01 Units *Exp:* 12/2012

Standard B Oakton pH Standard 7.00 Units *Exp:* 9/2013

Standard C Oakton Conductivity Standard 1500 uS/cm *Exp:* 8/2012

Standard D Hanna 0.1 NTU Standard *Exp:* 4/2013

Standard E Hanna 15 NTU Standard *Exp:* 4/2013

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS	
2/21/12	0940	A	4.01	4.01		Yes	IC	HC	pH
		B	7.00	7.00					pH
		C	1500	1500 @ 25.0°C					Cond
		--	--	9.37					DO
		--	--	18.53					Temp
		D	0.1	0.1					Turb
		E	15	15.0					Turb
2/21/12	1000	A	4.01	3.99		Yes	ICV	HC	pH
		B	7.00	7.02					pH
		C	1500	1348 @ 19.54°C ok					Cond
		--	--	9.18					DO
		--	--	19.68					Temp
		D	0.1	0.05					Turb
		E	15	14.9					Turb
2/21/12	1505	A	4.01	4.02		Yes	CC	HC	pH
		B	7.00	6.99					pH
		C	1500	1365 @ 20.02°C ok					Cond
		--	--	8.51					DO
		--	--	23.65					Temp
		D	0.1	0.05					Turb
		E	15	14.8					Turb

Sumter Co. Landfill

DEP-SOP-001/01: Form FD 9000-8 (June 20, 2001)

Field Instrument Calibration Records

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

PARAMETERS:

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

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

Standard A Oakton pH Standard 4.01 Units *Exp:* 12/2012

Standard B Oakton pH Standard 7.00 Units *Exp:* 9/2013

Standard C Oakton Conductivity Standard 1500 uS/cm *Exp:* 8/2012

Standard D Hanna 0.1 NTU Standard *Exp:* 4/2013

Standard E Hanna 15 NTU Standard *Exp:* 4/2013

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS	
2/22/12	0930	A	4.01	4.01		Yes	IC	[illegible]	pH
		B	7.00	7.00					pH
		C	1500	1500 @ 25.00°C					Cond
		--	--	9.27					DO
		--	--	19.00					Temp
		D	0.1	0.1					Turb
		E	15	15.0					Turb
2/22/12	0950	A	4.01	4.02		Yes	IC	[illegible]	pH
		B	7.00	6.99					pH
		C	1500	1316 @ 18.43°C ok					Cond
		--	--	9.18					DO
		--	--	19.54					Temp
		D	0.1	0.05					Turb
		E	15	15.1					Turb
2/22/12	1545	A	4.01	4.01		Yes	CC	[illegible]	pH
		B	7.00	6.99					pH
		C	1500	1395 @ 21.00°C ok					Cond
		--	--	8.84					DO
		--	--	21.62					Temp
		D	0.1	0.06					Turb
		E	15	15.0					Turb

DEP-SOP-001/01
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: NA	SAMPLE ID: EQB — DATE: 2/21/12

PURGING DATA

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches): NA	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): NA	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)
= (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)
= gallons + (gallons/foot X feet) + gallons = gallons

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

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (uS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
NA											

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: H. L. Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT: 1020	SAMPLING ENDED AT: 1030
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	H2S04	None	---	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	---	Metals	ESP
"	1	PE	500 mL	None	None	---	Chloride, Fluoride, Nitrate, TDS	ESP
~~"~~		~~Various~~	~~Various~~	~~Various~~	~~None~~	~~---~~	~~Appendix I Parameters~~	~~ESP~~

REMARKS:

Field decon'ed 5 gallon PE bucket, SS ESP and WL probe IAW DEP-SOP-001/01, FC1000. Poured 1 gallon of DI water into bucket, inserted SS ESP and WL probe, and circulated DI water through pump and over WL probe for several minutes. Collected samples with intermediate container (unpreserved sample bottle).

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)y

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)

Advanced Environmental Laboratories, Inc.

Advanced Environmental Laboratories, Inc
528 S. North Lake Blvd, Suite 1016
Altamonte Springs, FL 32701
Phone: (407)937-1594
Fax: (407)937-1597

ANALYTICAL RESULTS

Workorder: A1201606 Sumter Co. Landfill - GW

Lab ID: **A1201606012** Date Received: 02/22/12 17:10 Matrix: Water

Sample ID: **EQUIPMENT BLANK** Date Collected: 02/21/12 10:30

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	3/1/2012 05:43	J
Silver	**0.059**	ug/L	U	1	0.30	0.059	3/1/2012 05:43	J
Thallium	**0.067**	ug/L	U	1	0.20	0.067	3/1/2012 05:43	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	2/27/2012 13:30	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**0.87**	mg/L	U	1	10	0.87	2/23/2012 10:04	A
Fluoride	**0.078**	mg/L	U	1	0.20	0.078	2/23/2012 10:04	A
Nitrate	**0.094**	mg/L	U	1	0.20	0.094	2/23/2012 10:04	A
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.025**	mg/L	U	1	0.10	0.025	2/27/2012 10:55	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540C							
Total Dissolved Solids	**10**	mg/L	U	1	10	10	2/27/2012 07:57	T

CERTIFICATE OF ANALYSIS

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