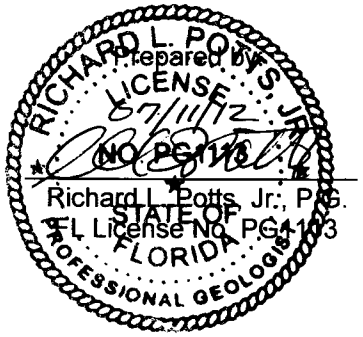
SUMTER COUNTY
(CLOSED) LANDFILL
QUARTERLY GROUNDWATER
MONITORING REPORT
Quarter II (May) 2012

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. PG1103

June 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.

7-10-12

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

July 10, 2012

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

Subj: **Quarter II (May) 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 II (May) 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.

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. LICENSE NO. PG1113 STATE OF FLORIDA

Richard L. Potts, Jr., P.G.
Principal Consultant
Fl. P.G. Reg. No. 1113

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 II (May) 2012

TABLE OF CONTENTS

* * * * *

Sumter County (Closed) Landfill
Quarterly Groundwater Monitoring Report
Quarter II (May) 2012

INTRODUCTION

The Colinas Group, Inc. (TCG) has reviewed the groundwater monitoring well sampling and analytical results for the Quarter II (May) 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 II 2012 sampling event at the Sumter County Landfill was completed during the period May 22 - 23, 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 May 23, 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.

RESULTS

Field Tested Parameters

Results of field testing completed at groundwater monitoring wells for the Quarter II 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 8.69 pH units. This well has produced pH values above 8.5 since sampling of the well began in Quarter II of 2006. Well **MW-9A** reported pH slightly below the lower-range of 6.5 pH units. Groundwater ph at remaining wells ranged from 6.55 to 7.83 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 relatively narrow range of 24.38 C to 27.91 C.

Dissolved Oxygen

Dissolved oxygen (DO) exceeded the FDEP sampling guidance level of 20% saturation at five (5) of the eleven (11) 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 148 umhos/cm to 908 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.

Regulatory Exceedances

A summary of groundwater laboratory analytical results that exceeded the regulatory level for the particular parameter in the Quarter II 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 five (5) of the eleven (11) monitoring wells (45%) at concentrations above the Florida Secondary Drinking Water Standards (FSDWS) MCL of 200 ug/l. The highest aluminum concentrations are reported for new wells **MW-4C** and **MW-4D** at 810 ug/l and1,200 ug/l, respectively, followed by **MW-11** at 720 ug/l.

Iron

Dissolved iron was detected in one of the monitoring wells at a concentration above the FSDWS MCL of 300 ug/l. Iron was reported at 860 ug/l for well **MW-9A**. Iron was detected below 300 ug/l at five (5) monitoring wells and was not detected above the laboratory method detection limit at five (5) wells.

Manganese

Manganese was measured at a concentration above the FSDWS MCL of 50 ug/l in monitoring well **MW-9A** at 81 ug/l. Manganese was reported at six (6) 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 15 mg/l. Remaining wells reported nitrate values ranging from 0.32 mg/l (**MW-9A**) to 7.8 mg/l at new well **MW-4D**. Background well **MW-6A** reported an elevated nitrate concentration of 5.8 mg/l.

Total Dissolved Solids (TDS)

TDS concentration was reported nominally above the 500 mg/l FSDWS MCL at monitoring well **MW-9A** at 590 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, 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** (19 mg/l - 33 mg/l) as compared to background and other 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 II (May) 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 well **MW-4D** which has a limited 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 well **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.

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

Nitrate nitrogen was reported at monitoring well **MW-4A** at 15 mg/l, exceeding the FPDWS MCL of 10 mg/l. Nearby wells **MW-4**, **MW-4B**, **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 well **MW-9A** at 590 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.

* * * * *

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

Sampling Point	Temp. (C)	Dissolved Oxygen (mg/l)	pH	Specific Conductance (umhos/cm)	Turbidity (NTU)
MW-2	27.91	**4.62**	6.74	192	1.21
MW-4	26.05	0.77	7.20	549	5.52
MW-4A	26.55	0.59	7.11	649	3.12
MW-4B	25.71	**4.11**	**8.69**	148	2.13
MW-4C	26.79	1.35	7.21	499	16.8
MW-4D	25.22	**3.78**	7.75	358	11.3
MW-6A	24.92	**6.88**	7.83	265	10.5
MW-8	24.38	**4.85**	7.30	341	3.29
MW-9A	25.19	0.41	**6.45**	908	13.5
MW-10	25.41	0.37	6.99	540	6.50
MW-11	25.75	0.73	6.55	555	14.0

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

TABLE II

SUMMARY OF GROUNDWATER LEVELS
SUMTER COUNTY (CLOSED) LANDFILL
SUMTER COUNTY, FLORIDA
Quarter II (May) 2012

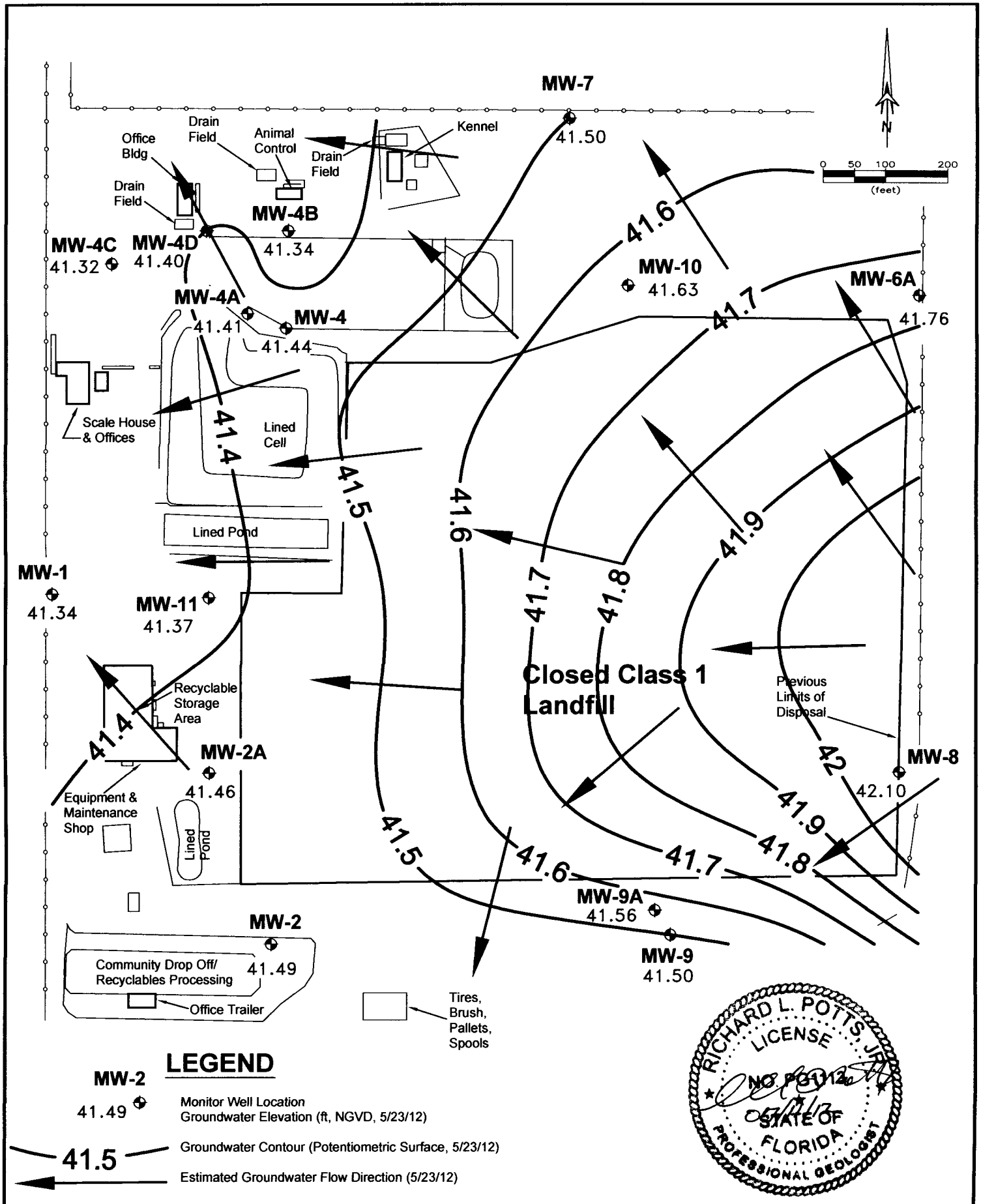
Well No.	MP Elev. 1/ (ft. +NGVD)	Depth to Water 2/ (ft. - MP)	Groundwater Elevation (ft. +NGVD)
MW-1	70.10	28.76	41.34
MW-2	68.96	27.47	41.49
MW-2A	71.98	30.52	41.46
MW-4	70.33	28.89	41.44
MW-4A	75.49	34.08	41.41
MW-4B	73.49	32.15	41.34
MW-4C	70.88	29.56	41.32
MW-4D	73.35	31.95	41.40
MW-6A	77.48	35.72	41.76
MW-7	72.93	31.43	41.50
MW-8	68.63	26.53	42.10
MW-9	72.62	31.12	41.50
MW-9A	75.14	33.58	41.56
MW-10	68.14	26.51	41.63
MW-11	70.02	28.65	41.37

Notes: 1/ Measuring Point is top of PVC well casing.
2/ Water levels recorded on May 23, 2012

TABLE III
SUMMARY OF LABORATORY RESULTS
SUMTER COUNTY (CLOSED) LANDFILL
QUARTER II (May) 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	0.46	BDL	BDL	**2.8**
Aluminum	ug/l	BDL	190	BDL	130	**810**	**1,200**	BDL	BDL	**360**	**360**	**720**	**200**
Antimony	ug/l	0.20	0.11	BDL	0.54	0.30	0.21	0.074	BDL	BDL	0.16	0.095	**6**
Cadmium	ug/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.83	0.35	2.3	**5**
Chloride	mg/l	4.7	17	26	4.5	14	10	7.9	7.9	20	7.2	3.8	**250**
Chromium	ug/l	0.81	3.4	1.9	3.4	3.3	5.4	8.2	3.6	7.6	1.3	7.6	**100**
Fluoride	mg/l	0.13	0.12	BDL	0.13	0.15	0.15	0.13	0.11	0.16	0.14	0.18	**4**
Gr. Alpha	pCi/l	1.8 ± 0.8	4.1 ± 1.9	5.0 ± 1.6	3.2 ± 1.0	10.8 ± 1.8	2.8 ± 1.1	2.1 ±0.9	3.1 ±1.1	12.7 ± 2.7	12.1 ± 2.1	15.4 ± 2.4	**15**
Iron	ug/l	BDL	BDL	BDL	BDL	89	88	BDL	44	**860**	140	120	**300**
Lead	ug/l	BDL	0.11	BDL	0.58	BDL	BDL	BDL	BDL	0.22	0.19	0.57	**15**
Manganese	ug/l	BDL	3.3	1.8	BDL	17	BDL	BDL	0.58	**81**	13	3.6	**50**
Mercury	ug/l	BDL	0.022	BDL	BDL	BDL	BDL	BDL	BDL	0.082	BDL	0.046	**2**
Nitrate	mg/l	2.6	7.3	**15**	3.9	7.6	7.8	5.8	1.9	0.32	1.8	4.8	**10**
Radium 226	pCi/l	0.4 ± 0.4	2.0 ± 0.7	1.7 ± 0.7	0.4 ± 0.4	1.8 ± 0.7	1.2 ± 0.5	0.7 ± 0.5	1.2 ± 0.5	5.5 ± 1.1	2.8 ± 0.9	4.4 ± 1.0	**---**
Radium 228	pCi/l	0.0 ± 0.7	0.4 ± 0.8	0.0 ± 0.6	0.1 ± 0.7	0.0 ± 0.7	0.0 ± 0.7	0.0 ± 0.7	0.0 ± 0.7	0.8 ± 0.7	0.3 ± 0.9	0.6 ± 0.8	**---**
Silver	ug/l	BDL	BDL	BDL	0.071	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**100**
Sodium	mg/l	3.8 (v)	33 (v)	25 (v)	9.2 (v)	15 (v)	8.8 (v)	3.3 (v)	5.0 (v)	19 (v)	6.3 (v)	8.8 (v)	**160**
TDS	mg/l	170	350	430	96	300	240	210	220	**590**	320	320	**500**
Thallium	ug/l	BDL	0.10	0.23	0.072	BDL	0.093	BDL	BDL	0.15	BDL	0.11	**2**

Notes: 1). BDL means below laboratory method detection limit 2). **Bold lettering** indicates result exceeds MCL/Guidance concentration 3). (v) indicates constituent was detected in the laboratory method blank.



LEGEND

MW-2
41.49 — Monitor Well Location
Groundwater Elevation (ft, NGVD, 5/23/12)

41.5 — Groundwater Contour (Potentiometric Surface, 5/23/12)

Estimated Groundwater Flow Direction (5/23/12)

RICHARD L. POTTS JR. LICENSE NO. PG1112 STATE OF FLORIDA PROFESSIONAL GEOLOGIST

The Colinas Group, Inc. 377 Maitland Avenue Suite 2012 Altamonte Springs, Florida 32701	PROJ. NO.: P-468 DATE: JUNE 2012 SCALE: 1" = 200'	GROUNDWATER CONTOUR MAP QUARTER II (MAY) 2012 SUMTER COUNTY LANDFILL	FIGURE 1

FIELD LOG
Well Water Levels

PROJ # P-468 **NAME:** Dale Chaffer

PROJECT NAME: Sumter Co. Landfill **DATE:** 5/23/12

PROJECT LOCATION: Sumterville, FL

TIME	COMMENTS	
	MW-1	28.76'
	MW-2	27.47'
	MW-2A	30.52'
	MW-4	28.89'
	MW-4A	34.08'
	MW-4B	32.15'
	MW-4C	29.56'
	MW-4D	31.95'
	MW-6A	35.72'
	MW-7	31.43'
	MW-8	26.53'
	MW-9	31.12'
	MW-9A	33.58'
	MW-10	26.51'
	MW-11	28.65'

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: 5/22/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 22.45'	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 – 22.45' feet) X .16 gallons/foot = .2152 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): ~29'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~29'	PURGING INITIATED AT: 1448	PURGING ENDED AT: 1502	TOTAL VOLUME PURGED (gallons): .95

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)
1503	.75	.75	.05	22.57'	6.79	22.90	198	4.80	1.14	Clear	None
1505	.1	.85	.05	22.57'	6.77	22.91	195	4.67	0.88	Clear	None
1507	.1	.95	.05	22.57'	6.74	22.91	192	4.62	1.21	Clear	None
								No Sheen			

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1508	SAMPLING ENDED AT: 1522
PUMP OR TUBING DEPTH IN WELL (feet): ~29'	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				
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-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
"	DUP	PE	500 mL	None	None	—	Chloride,Fluoride, Nitrate, TDS	APP

REMARKS:
1448: Set dedicated 1/4" PE tubing @ ~29' btoc and started pump @ .05 gpm.
1458: WL 22.58' @ .05 gpm, GW is clear.
1502: WL 22.57' @ .05 gpm, drawdown is stable. All parameters are stable or in range except for DO @ 4.62 mg/L. 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)

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: 5/22/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): .3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 28.84'	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 = (36.35' feet – 28.84' feet) X .16 gallons/foot = 1.2016 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): ~30.5'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~30.5'	PURGING INITIATED AT: 1359	PURGING ENDED AT: 1412	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. (uS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1408	2.25	2.25	.25	29.44'	7.21	26.11	547	0.84	6.32	Clear	None
1410	.5	2.75	.25	29.44'	7.20	26.09	548	0.79	5.61	Clear	None
1412	.5	3.25	.25	29.44'	7.20	26.05	549	0.77	5.52	Clear	None
								No Sheen			

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1413	SAMPLING ENDED AT: 1425
PUMP OR TUBING DEPTH IN WELL (feet): ~30.5'	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				
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-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
"	2	PE	500 mL DC	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:
1359: Inserted SS ESP and dedicated 3/8" PE tubing to ~30.5' btoc and started pump @ .25 gpm.

1405: WL 29.44' @ .25 gpm, GW is clear.

1407: WL 29.44' @ .25 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)

5.00

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: 5/22/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 34.05	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 = 1.245 (only fill out if applicable)

1 Equip Vol = .02 gallons + (.006 gallons/foot X 45 feet) + 1.125 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: 1304	PURGING ENDED AT: 1326	TOTAL VOLUME PURGED (gallons): 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)
1322	2.00	2.00	.25	34.18	7.16	26.62	650	0.86	5.11	Clear	None
1324	.5	2.50	.25	34.19	7.12	26.59	650	0.63	3.48	Clear	None
1326	.5	8.00	.25	34.19	7.11	26.55	649	0.59	3.12	Clear	None
								No sheen			

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1327	SAMPLING ENDED AT: 1335
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				
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-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
"	2	PE	250 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:

1304: Inserted SS ESP and dedicated 3/8" PE tubing to ~40' BTOC and started pump @ .5 gpm. This well is typically turbid at start of purge and required over purging at a high rate of flow to clean it up.

1314: Turbidity is @ 45 NTUs, reduced flow to .25 gpm.

1317: WL 34.17' @ .25 gpm. Turbidity is @ 11 NTUs.

1320: WL 34.18' @ .25 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-4B	SAMPLE ID: MW-4B	DATE: 5/23/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 32.15	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 – 32.15 feet) X .16 gallons/foot = 1.0144 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) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~34'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~34'	PURGING INITIATED AT: 1202	PURGING ENDED AT: 1215	TOTAL VOLUME PURGED (gallons): 2.60

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)
1211	1.80	1.80	.2	32.30	8.54	25.20	146	4.48	2.62	Clear	None
1213	.4	2.20	.2	32.30	8.61	25.67	145	4.26	2.46	Clear	None
1215	.4	2.60	.2	32.29	8.69	25.71	148	4.91	2.13	Clear	None
								No sheen			

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1216	SAMPLING ENDED AT: 1225
PUMP OR TUBING DEPTH IN WELL (feet): ~34'	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				
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-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
"	2	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:

1202: Inserted SS ESP and dedicated 3/8" PE tubing to ~34' btoc and started pump @ .2 spm.

1208: WL 32.30' @ .2 spm, GW is clear. DO is high @ 4.91 mg/L, but is typical for this well. Will use optional stabilization criteria below.

1210: WL 32.30' @ .2 spm, 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)

1.92
1.21

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: 5/22/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): ~~3/8"~~ 1/4"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 29.53'	PURGE PUMP TYPE OR BAILER: ~~ESP~~ APP

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 x3 = 718
(only fill out if applicable)

1 Equip Vol = ~~.02~~ 0 gallons + (~~.006~~ .0026 gallons/foot X 44' feet) + .125 gallons = .239 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~39'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~39'	PURGING INITIATED AT: 1118	PURGING ENDED AT: 1232	TOTAL VOLUME PURGED (gallons): 4.23

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)
1228	3.99	3.99	.06	29.74'	7.18	26.89	500	1.51	20.0	Clear	None
1230	.12	4.11	.06	29.74'	7.20	26.83	499	1.40	19.6	Clear	None
1232	.12	4.23	.06	29.74'	7.21	26.79	499	1.35	16.8	Clear	None
								No sheen			

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1233	SAMPLING ENDED AT: 1245
PUMP OR TUBING DEPTH IN WELL (feet): ~39'	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				
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-4C	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	~~ESP~~ APP
"	1	PE	250 mL	H2S04	None	—	Ammonia	~~ESP~~ APP
"	1	PE	250 mL	HN03	None	—	Metals	~~ESP~~ APP
"	2	PE	~~500~~ 250 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	~~ESP~~ APP

REMARKS:
1118: Inserted new 1/4" PE tubing to ~39' btoc and started pump @ .06 gpm.
1128: GW is extremely turbid at 1000+ NTUs, continuing purge.
1135: Turbidity is @ 119 NTUs, continuing purge. WL 29.76' btoc @ .06 gpm.
1145: Turbidity is @ 59 NTUs, continuing purge. WL 29.76' @ .06 gpm, drawdown is stable.
1150: Turbidity is @ 49 NTUs, reduced flow to 0.03 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)

4.8
9.1

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: 5/23/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): .3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 31.95	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) X3 = 1.227

1 Equip Vol = .02 gallons + (.006 gallons/foot X 44 feet) + .125 gallons = .409 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~39'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~39'	PURGING INITIATED AT: 1246	PURGING ENDED AT: 1321	TOTAL VOLUME PURGED (gallons): 23.90

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)
1317	21.90	21.90	.5	32.10	7.83	25.44	353	3.83	13.9	Clear	None
1319	1	22.90	.5	32.09	7.79	25.41	353	3.25	13.1	Clear	None
1321	1	23.90	.5	32.10	7.75	25.22	358	3.28	11.3		
								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) SIGNATURE(S):	SAMPLING INITIATED AT: 1322	SAMPLING ENDED AT: 1330 / 1400
PUMP OR TUBING DEPTH IN WELL (feet): ~39'	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				
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-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
"	2	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:

1246: Inserted SS ESP and dedicated 3/8" PE tubing to ~39' btoc and started pump @ .6 gpm.

1254: Turbidity is @ 117 NTUs, increased flow to 1.3 gpm.

1301: Turbidity is @ 108 NTUs, reduced flow to 1.5 gpm.

1306: Turbidity is @ 40 NTUs, continuing purge at .5 gpm. WL 32.11' @ .5 gpm.

1314: WL 32.10' @ .5 gpm, drawdown is stable. Turbidity is @ 18 NTUs. DO is high @ 3.91 mg/L, but appears normal for this well. 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; 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

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL	
WELL NO: MW-6A	SAMPLE ID: MW-6A	DATE: 5/23/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 35.72	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): ~44'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~44'	PURGING INITIATED AT: 1422	PURGING ENDED AT: 1450	TOTAL VOLUME PURGED (gallons): 16.5

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)
1446	14.5	14.5	.5	35.84	7.89	25.00	265	6.93	14.0	Clear	None
1448	1	15.5	.5	35.84	7.84	24.96	265	6.88	11.5	Clear	None
1450	1	16.5	.5	35.83	7.83	24.92	265	6.88	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: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1451	SAMPLING ENDED AT: 1500
PUMP OR TUBING DEPTH IN WELL (feet): ~44'	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				
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-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
"	Dup 2	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:

1422: Inserted SS ESP and dedicated 3/8" PE tubing to ~44' btoc and started pump @ .1 gpm.

1427: Turbidity is at 52 NTUs, reduced flow to .5 gpm. This well typically requires over purging at a high flow rate to clear up turbidity.

1432: Turbidity is @ 26 NTUs, continuing purge @ .5 gpm. WL 35.85' @ .5 gpm.

1443: Turbidity is @ 19 NTUs; DO is high @ 7.22 mg/L, but is typical for this well. WL 35.84' and is stable. All other parameters are in range or stable. Will use optional grab 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)

DEP-SOP-001/01
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: 5/23/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): ~~3/8"~~ 1/4"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 26.53	PURGE PUMP TYPE OR BAILER: ~~ESP~~ 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 X3 = .7104
(only fill out if applicable)

1 Equip Vol = ~~.02~~ 0 gallons + (~~.006~~ .0026 gallons/foot X 4/3 feet) + .125 gallons = ~~.2368~~ .2368 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~38'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~38'	PURGING INITIATED AT: 1029	PURGING ENDED AT: 1041	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. (uS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1037	.80	.80	.1	26.54'	7.27	24.42	342	4.80	2.77	Clear	None
1039	.2	1.00	.1	26.54'	7.29	24.38	342	4.91	3.23	Clear	None
1041	.2	1.20	.1	26.54'	7.30	24.38	341	4.85	3.29	Clear	None
								No Sheen			

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1042	SAMPLING ENDED AT: 1052
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 We Apply Only	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	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-8	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	~~DC-ESP~~ APP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	~~DC-ESP~~ APP
"	1	PE	250 mL	HN03	None	—	Metals	~~DC-ESP~~ APP
"	#2	PE	~~500~~ 250 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	~~DC-ESP~~ APP

REMARKS:
1029: Inserted new 1/4" PE tubing to ~38' btoc and started PP @ .1 gpm.

1034: WL 26.54' @ .1 gpm, GW is clear. DO is high @ 5.11 mg/L, but is typical for this well. Will use optional stabilization criteria below.

1036: WL 26.54' @ .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)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)

6.00
7.50

DEP-SOP-001/01
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: 5/23/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 33.58	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
(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: 0925	PURGING ENDED AT: 0959	TOTAL VOLUME PURGED (gallons): 18.30

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)
0955	16.20	16.20	.4	39.21	6.42	25.22	913	0.38	12.2	Clear	Slight Sulfur
0957	.8	17.00	.4	39.21	6.44	25.21	908	0.45	15.8	Clear	Same
0959	.8	18.30	.4	39.20	6.45	25.19	908	0.41	13.5	Clear	Same
								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: 1000	SAMPLING ENDED AT: 1008
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				
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-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
"	2	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:
0925: Inserted SS ESP and dedicated 3/8" PE tubing to ~45' btoc and started pump @ .5 gpm. This well is typically extremely turbid at beginning of purge and requires over purging at a high flow rate to clean it up.
0937: Turbidity is @ 101 NTUs, continuing purge. Increased flow to .75 gpm.
0947: Turbidity is at 74 NTUs, reduced flow to .4 gpm.
0951: Turbidity is @ 19 NTUs. All other parameters are stable or in range. WL is at 39.20 btoc and slowly recovering.

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-10	SAMPLE ID: MW-10	DATE: 5/23/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 26.51'	PURGE PUMP TYPE OR BAILER: ~~ESP~~ PP

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

= (45.35' feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME x3: .126
(only fill out if applicable)

1 Equip Vol = ~~.020~~ 0 gallons + (~~.005~~ .0026 gallons/foot X 45 feet) + .125 gallons = .241 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	PURGING INITIATED AT: 1113	PURGING ENDED AT: 1128	TOTAL VOLUME PURGED (gallons): 1.50

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)
1124	1.10	1.10	.1	26.90'	6.91	25.53	543	0.48	8.96	Clear	None
1126	.2	1.30	.1	26.90'	6.99	25.48	543	0.45	7.79	Clear	None
1128	.2	1.50	.1	26.90'	6.99	25.41	540	0.33	6.50	Clear	None
								No Sheen			

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1129	SAMPLING ENDED AT: 1142
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 (WL probe only)	FIELD-FILTERED: Y (N) FILTER SIZE: ____ µm Filtration Equipment Type:	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	~~DC~~ ESP APP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	~~DC~~ ESP APP
"	1	PE	250 mL	HN03	None	—	Metals	~~DC~~ ESP APP
"	~~2~~ 2	PE	~~500~~ 250 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	~~DC~~ ESP APP

REMARKS:
1113: Inserted new 1/4" PE tubing to ~40' stick and started PP @ .1 ~~gal~~ gpm.

1118: WL 26.90' @ .1 gpm, GW is clear.

1129: WL 26.90' @ .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)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-11	SAMPLE ID: MW-11	DATE: 5/22/12

PURGING DATA

WELL DIAMETER (inches): 2" PVC	TUBING DIAMETER (inches): 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 28.63	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: 1019	PURGING ENDED AT: 1036	TOTAL VOLUME PURGED (gallons): 6.50

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)
1032	5.50	5.50	.25	28.85	6.53	25.25	553	0.97	13.6	Clear	None
1034	.5	6.00	.25	28.83	6.55	25.82	557	0.80	13.1	Clear	None
1036	.5	6.50	.25		6.55	25.25	555	0.73	14.0	Clear	None
								No Sheen			

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1037	SAMPLING ENDED AT: 1045
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) FILTER SIZE: ____ µm Filtration Equipment Type:	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-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
"	2	PE	250 mL	None	None	—	Chloride,Fluoride, Nitrate, TDS	ESP

REMARKS:
1019: Inserted SS ESP and dedicated 3/8" PE tubing to ~35' BTOC and started pump @ .5 gpm. This well typically has high turbidity at beginning of purge requiring over purging at a high flow rate to clean it up.

1028: Turbidity is @ 20 NTUs, reduced flow to .25 gpm.

1030: wl @ 28.85' @ .25 gpm, turbidity is @ 11 NTUs. All other parameters are stable or in range. 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

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill		SITE LOCATION: Sumterville, FL
WELL NO: NA	SAMPLE ID: EQB	DATE: 5/22/12

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER: ESP

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

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: 0940	SAMPLING ENDED AT: 0945
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				
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
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
"	2	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP
~~"~~	~~1~~	~~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, FC 1000. Poured 1.5 gallons of DI water into PE bucket and inserted SS ESP and WL probe. Circulated DI water through pump and over WL probe for ~ 4 minutes and collected EQB 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; 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.

☑ **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 • 954.889.2288 • Fax 954.889.2281
☐ **Tallahassee:** 1288 Cedar Center Drive, Tallahassee, FL
☐ **Tampa:** 9610 Princess Palm Ave. • Tampa, FL 33619 • 81

A1204268

Client Name: The Colinas Group, Inc.
Address: 327 Northland Ave, Suite 204
Altamonte Springs, FL 32701
Phone: 407-622-8176
FAX: 407-622-8196
Contact: Rick Potts
Sampled By: Dale Clayton
Turn Around Time: ☒ STANDARD ☐ RUSH
Page 1 of 2

Project Name: Sumter Co. Landfill
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	BOTT. SIZE & TYPE	PRESERVATION	Gross Alpha	RA 226 + RA 228	Metals	TDS	Ammonia	F, Cl, NO3	LABORATORY I.D. NUMBER
							ANALYSIS REQUIRED		IN	IN	IN	I	IS	I	
	MW-2	G	5/22/12	1532	GW	6			X	X	X	X	X	X	01
	MW-4	G	"	1425	GW	6			X	X	X	X	X	X	02
	MW-4A	G	"	1335	GW	6			X	X	X	X	X	X	03
	MW-4B	G	5/23/12	1225	GW	6			X	X	X	X	X	X	04
	MW-4C	G	5/22/12	1245	GW	6			X	X	X	X	X	X	05
	MW-4D	G	5/23/12	1330	GW	6			X	X	X	X	X	X	06
	MW-6A	G	"	1500	GW	6			X	X	X	X	X	X	07
	MW-8	G	"	1052	GW	6			X	X	X	X	X	X	08
	MW-9A	G	"	1008	GW	6			X	X	X	X	X	X	09
	MW-10	G	"	1142	GW	6			X	X	X	X	X	X	10

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge
Preservation Code: I = Ice H=(HCl) S = (H_2SO_4) N = (HNO_3) T = (Sodium Thiosulfate)

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

Form revised 06/15/2010

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

	Relinquished by:	Date	Time	Received by:	Date	Time
1	[signature]	5/24/12	1647	[signature]	5/25/12	0847
2						
3						
4						

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

A12042608

Advanced Environmental Laboratories, Inc.

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☑ **Gainesville:** 6815 SW Archer Road • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.6639
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☐ **Miramar:** 10200 USA Today Way, Miramar, FL 33025 • 954.889.2288 • Fax 954.889.2281
☐ **Tallahassee:** 1288 Cedar Center Drive, Tallahassee, FL 32301 • 850.219.6274 • Fax 850.219.6275
☐ **Tampa:** 9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327

Client Name: The Colinas Group, Inc.
Address: 372 Maitland Ave Suite 201
Altamonte Springs, FL 32701
Phone: 407-622-8176
FAX: 407-622-8196
Contact: Rick Potts
Sampled By: Dale Clayton
Turn Around Time: ☒ STANDARD ☐ RUSH
Page 2 of 2

Project Name: Sumter Co. Landfill
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	Radon +RA228	metals	TDS	Ammonia	F, Cl, NO3	LABORATORY I.D. NUMBER
	MW-11	G	5/22/12	1045	GW	6	IN	X	X	X	X	X	X	01
	EBB	G	1	0945	DI	6	IN	X	X	X	X	X	X	02

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge
Preservation Code: I = ice H=(HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

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

Form revised 06/15/2010

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

	Relinquished by:	Date	Time	Received by:	Date	Time
1		5/22/12	1647		5/23/12	1647
2						
3						
4						

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

Chain of Custody

Document 19641 - HBN 14868 **Workorder** Sumter Co Landfill **Results Requested By** 6/3/2012

Report To	Subcontract To
Myrna Santiago Advanced Environmental Laboratories, Inc 528 S. North Lake Blvd, Suite 1016 Altamonte Springs, FL 32701 Phone (407)937-1594 Fax (407)937-1597	KNL-FL KNL Laboratory Services, Inc. 2742 North Florida Avenue Tampa, FL 33602 Phone Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: EPA 903.1	EPA Ra-05	EPA 900										LAB USE ONLY
1	MW-2	5/22/2012 15:22	A1204268001	Water	2						X	X	X										
2	MW-4	5/22/2012 14:25	A1204268002	Water	2						X	X	X										
3	MW-4A	5/22/2012 13:35	A1204268003	Water	2						X	X	X										
4	MW-4B	5/23/2012 12:25	A1204268004	Water	2						X	X	X										
5	MW-4C	5/22/2012 12:45	A1204268005	Water	2						X	X	X										
6	MW-4D	5/23/2012 13:30	A1204268006	Water	2						X	X	X										
7	MW-8A	5/23/2012 15:00	A1204268007	Water	2						X	X	X										
8	MW-8	5/23/2012 10:52	A1204268008	Water	2						X	X	X										
9	MW-9A	5/23/2012 10:08	A1204268009	Water	2						X	X	X										
10	MW-10	5/23/2012 11:42	A1204268010	Water	2						X	X	X										
11	MW-11	5/22/2012 10:45	A1204268011	Water	2						X	X	X										
12	EQ BLANK	5/22/2012 09:45	A1204268012	Water	2						X	X	X										

DUE: 6-7-12

12.4661-72

05-25-12 1500

Chain of Custody

Document 19641 - HBN 14868 **Workorder** Sumter Co Landfill **Results Requested By** 6/3/2012

Report To	Subcontract To	Requested Analyses
Myma Santiago Advanced Environmental Laboratories, Inc. 6601 Southpoint Parkway Jacksonville, FL 32216 Phone (904)363-9350 Fax (904)363-9354	KNL-FL KNL Laboratory Services, Inc. 2742 North Florida Avenue Tampa, FL 33602 Phone Fax	

No.	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers (#) HNO3						EPA 608.1	EPA 525	EPA 500									LAB USE ONLY
13																						
14																						
15																						
16																						

Report	Electronic Data Deliverables	Comments
☐ Standard (Results only)	☐ SEDD Stage 2A	
☐ Standard with Batch QC	☐ SEDD Stage 2B	
☐ CLP	☐ SEDD Stage 3	
☐ Other _____	☐ Other _____	

Preservative
HNO3 = HNO3

Transfers	Released By	Date/Time	Received By	Date/Time
1		5/24/12	BLS	5/24/12
2				
3			5-25-12	
4				1500
5				

Field Instrument Calibration Records

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

PARAMETERS:

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

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

Standard A Oakton pH Standard 4.01 Units *Exp:* 8/2013
Standard B Oakton pH Standard 7.00 Units *Exp:* 9/2013
Standard C Oakton Conductivity Standard 1500 uS/cm *Exp:* 2/2013
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	
5/22/12	0950	A	4.01	4.01		Yes	IC	[illegible]	pH
		B	7.00	7.00					pH
		C	1500	1500					Cond
		--	--	8.31					DO
		--	--	24.69					Temp
		D	0.1	0.1					Turb
		E	15	15.0					Turb
5/22/12	1010	A	4.01	4.02		Yes	ICV	[illegible]	pH
		B	7.00	7.06					pH
		C	1500	1501					Cond
		--	--	8.30					DO
		--	--	24.93					Temp
		D	0.1	0.08					Turb
		E	15	15.0					Turb
5/22/12	1540	A	4.01	4.04		Yes	CC	[illegible]	pH
		B	7.00	7.00					pH
		C	1500	1493					Cond
		--	--	8.26					DO
		--	--	25.26					Temp
		D	0.1	0.09					Turb
		E	15	15.1					Turb

Field Instrument Calibration Records

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

PARAMETERS:

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

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

Standard A Oakton pH Standard 4.01 Units Exp: 8/2013
Standard B Oakton pH Standard 7.00 Units Exp: 8/2013
Standard C Oakton Conductivity Standard 1500 uS/cm Exp: 2/2013
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	
5/23/12	0830	A	4.01	4.01		Yes	IC	[illegible]	pH
		B	7.00	7.00					pH
		C	1500	1500					Cond
		--	--	8.63					DO
		--	--	22.67					Temp
		D	0.1	0.1					Turb
		E	15	15.0					Turb
5/23/12	0850	A	4.01	4.03		Yes	ICV	[illegible]	pH
		B	7.00	6.98					pH
		C	1500	1499					Cond
		--	--	8.62					DO
		--	--	22.77					Temp
		D	0.1	0.09					Turb
		E	15	14.9					Turb
5/23/12	1510	A	4.01	4.01		Yes	CC	[illegible]	pH
		B	7.00	6.99					pH
		C	1500	1496					Cond
		--	--	8.43					DO
		--	--	24.27					Temp
		D	0.1	0.08					Turb
		E	15	15.1					Turb