

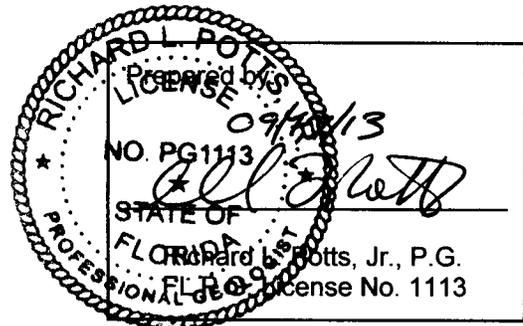
SUMTER COUNTY
(CLOSED) LANDFILL
QUARTERLY GROUNDWATER
MONITORING REPORT
Quarter III (August) 2013

Prepared for:

**SUMTER COUNTY
SOLID WASTE DEPARTMENT
SUMTER COUNTY, FLORIDA**

Prepared by:

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



September 2013

THE COLINAS GROUP, INC.
HYDROGEOLOGISTS & ENGINEERS

September 19, 2013

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

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

Dear Mr. Lubozynski:

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

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

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

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

Very truly yours,

THE COLINAS GROUP, INC.

09/17/13
Richard L. Potts

Richard L. Potts, P.G.

Principal Consultant

Fl. P.G. Reg. No. 1113

rickpotts@cfl.rr.com



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

Florida Department of Environmental Protection

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

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

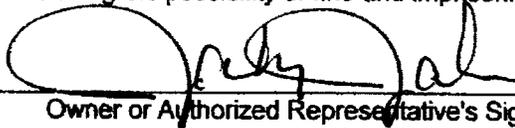
PART I GENERAL INFORMATION

- (1) Facility Name Sumter County Closed Class I Landfill
Address 835 C.R. 529
City Lake Panasoffkee Zip 33538 County Sumter
Telephone Number (352)-793-3368 E-mail address jackey.jackson@sumtercountyfl.gov
- (2) WACS_Facility 53008
- (3) DEP Permit Number 22926-004-SF
- (4) Authorized Representative's Name Jackey Jackson Title Ass't. Director Public Works
Address 319 E. Anderson Avenue
City Bushnell Zip 33513 County Sumter
Telephone Number (352)-793-0240 E-mail address jackey.jackson@sumtercountyfl.gov
- (5) Type of Discharge NA
- (6) Method of Discharge NA

CERTIFICATION

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

9/17/13
Date


Owner or Authorized Representative's Signature

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Name & DOH # The Colinas Group, Inc. / 870148G/3
Analytical Lab Organization DOH # E53076 E84589 E82574
Lab Name Advanced Environmental Laboratories, Inc.
Address 6601 Southport Parkway, Jacksonville, Florida 32216
Phone Number (904)-363-9350
E-mail Address msantiago@aellab.com

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

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

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

INTRODUCTION

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

SAMPLING EVENT

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

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

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

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

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

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

RESULTS

Field Tested Parameters

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

pH

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

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

Fluid Temperature

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

Dissolved Oxygen

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

Specific Conductance

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

Turbidity

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

Regulatory Exceedances

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

Iron

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

Manganese

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

Nitrate Nitrogen

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

Total Dissolved Solids (TDS)

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

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

Other Significant Detected Parameters

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

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

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

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

SUMMARY AND CONCLUSIONS

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

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

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

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

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

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

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

* * * * *

TABLE I

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

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

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

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

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

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

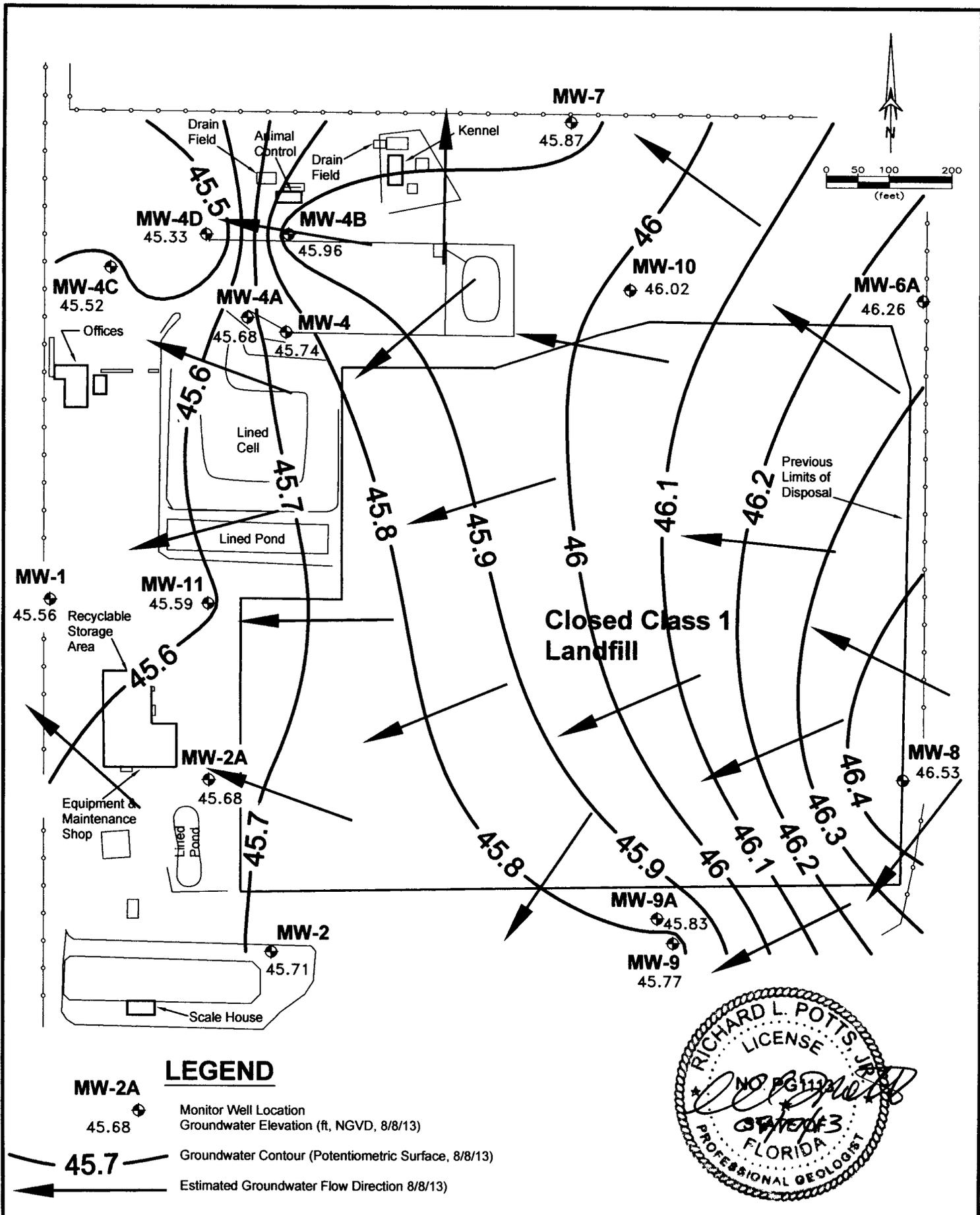
^{2/} Water levels recorded on August 8, 2013.

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

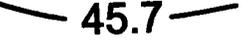
**TABLE III
SUMMARY OF LABORATORY RESULTS
SUMTER COUNTY (CLOSED) LANDFILL
QUARTER III (August) 2013**

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

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



LEGEND

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

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

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

GROUNDWATER CONTOUR MAP
 QUARTER III (AUGUST) 2013
 SUMTER COUNTY LANDFILL

FIGURE 1

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-2	SAMPLE ID: MW-2
DATE: 8/13/13	

PURGING DATA

WELL 2" PVC	TUBING 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 23.32'	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY <i>only fill out if applicable</i>											
Well Vol = (31.92' feet - 23.32' feet) X .16 gallons/foot = 1.376 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME <i>(only fill out if applicable)</i>											
1 Equip Vol = .02 gallons + (.006 gallons/foot X feet) + .125 gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25'	PURGING INITIATED AT: 1156	PURGING ENDED AT: 1218	TOTAL VOLUME PURGED (gallons): 1.76							
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)
1214	1.44	1.44	.08	23.45	6.81	22.54	209	5.60	0.50	Clear	None
1216	.16	1.60	.08	23.45	6.79	22.56	208	5.68	0.41	Clear	None
1218	.16	1.76	.08	23.45	6.76	22.49	205	5.58	0.41	Clear	None
No Screen											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.		SAMPLE SIGNATURES: 		SAMPLING INITIATED AT: 1219	SAMPLING ENDED AT: 1235				
PUMP OR TUBING DEPTH IN WELL (feet): 25'		SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL		TUBING MATERIAL CODE: PE					
FIELD DECONTAMINATION: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N W/Prose only		FIELD-FILTERED: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		FILTER SIZE: _____ µm					
DUPLICATE: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N									
SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-2	2	PE	1 Ltr	HN03	None	---	Gross Alpha, RA226RA228		APP
"	1	PE	250 mL	H2S04	None	---	Total Ammonia		APP
"	1	PE	250 mL	HN03	None	---	Metals		APP
"	1	PE	500 mL	None	None	---	Chloride, Fluoride, Nitrate, TDS		APP

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

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

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

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

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

GROUNDWATER SAMPLING LOG

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

PURGING DATA

WELL 2" PVC	TUBING .3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 24.70	PURGE PUMP TYPE OR BAILER: ESP ac PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)											
= (36.35' feet - feet) X gallons/foot = gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)											
1 Equip Vol = .02 gallons + (.0006 gallons/foot X 36') + .125 gallons = .2186 gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~30'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~30'	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):							
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (uS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1055	.56	.56	.07	24.91	7.11	26.68	507	1.20	1.35	Clear	None
1057	.14	.70	.07	24.91	7.11	26.63	507	1.02	0.85	Clear	None
1059	.14	.84	.07	24.91	7.12	26.60	508	0.93	0.53	Clear	None
No Screen											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											

SAMPLING DATA

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

REMARKS:
 1047: Set dedicated 1/4" PE tubing at ~30' b/c and started pump at .07 gpm.
 1052: WL 24.91' at .07 gpm, GW is clear.
 1054: WL 24.91' at .07 gpm. Drawdown is stable. All parameters are stable or in range.

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

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

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

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

GROUNDWATER SAMPLING LOG

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

PURGING DATA

WELL 2" PVC DIAMETER (Inches):	TUBING 3/8" DIAMETER (Inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH 29.97' TO WATER (feet):	PURGE PUMP TYPE OR BAILER: ESP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable)											
= (45.23' feet - _____ feet) X _____ gallons/foot = _____ gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME X3 = 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): ~40'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	PURGING INITIATED AT: 1037	PURGING ENDED AT: 1051	TOTAL VOLUME PURGED (gallons): 4.20							
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (uS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1047	3.00	3.00	.3	30.10	6.96	26.28	604	1.18	10.1	Clear	None
1049	.6	3.60	.3	30.11	6.98	26.21	604	1.08	8.16	Clear	None
1051	.6	4.20	.3	30.11	7.00	26.14	603	1.01	5.26	Clear	None
No Screen											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER SIGNATURES: 	SAMPLING INITIATED AT: 1052	SAMPLING ENDED AT: 1106					
PUMP OR TUBING DEPTH IN WELL (feet): ~40'	SAMPLE PUMP FLOW RATE (µL per minute): < 250 mL	TUBING MATERIAL CODE: PE						
FIELD DECONTAMINATION: <input checked="" type="radio"/> N	FIELD-FILTERED: <input checked="" type="radio"/> Y (N) FILTER SIZE: _____ µm	DUPLICATE: <input type="radio"/> Y <input checked="" type="radio"/> 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
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

REMARKS:

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

1042: WL 30.10' at .3 gpm, GW is slightly turbid at 31 NTU's.

1046: WL 30.10' at .3 gpm, drawdown is stable. All parameters are stable or in range.

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

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

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

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

GROUNDWATER SAMPLING LOG

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

PURGING DATA

WELL 2" PVC	TUBING 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 28.04	PURGE PUMP TYPE OR BAILER: ESP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY <i>(only fill out if applicable)</i>											
Well Vol = (38.49' feet - 28.04' feet) X .16 gallons/foot = 1.672 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME <i>(only fill out if applicable)</i>											
1 Equip Vol = .02 gallons + (.006 gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~30'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~30'	PURGING INITIATED AT: 1115	PURGING ENDED AT: 1133	TOTAL VOLUME PURGED (gallons): 5.40							
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1129	4.20	4.20	.3	28.28	8.94	25.35	114	7.50	3.06	Clear	None
1131	.6	4.80	.3	28.28	8.95	25.34	114	7.43	2.96	Clear	None
1133	.6	5.40	.3	28.28	8.93	25.35	115	7.37	2.37	Clear	None
No screen											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.		SAMPLER(S) SIGNATURES: <i>[Signature]</i>		SAMPLING INITIATED AT: 1134	SAMPLING ENDED AT: 1150				
PUMP OR TUBING DEPTH IN WELL (feet): ~30'		SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL		TUBING MATERIAL CODE: PE					
FIELD DECONTAMINATION: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		FIELD-FILTERED: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> FILTER SIZE: _____ µm		DUPLICATE: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>					
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION		INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-4B	2	PE	1 Ltr	HN03	None	—	Gross Alpha, RA226RA228		ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia		ESP
"	1	PE	250 mL	HN03	None	—	Metals		ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS		ESP

REMARKS:
1115: Inserted SS ESP and dedicated 3/8" PE tubing to ~30' btoe and started pump at .3 gpm.
1119: WL 28.24' at .3 gpm, GW is clear.
1122: WL 28.28' at .3 gpm, DO and pH are high at 7.71 mg/L and 8.94 s/u's respectively, but is typical for this well. Will use optional stabilization criteria for both.
1128: WL 28.28' at .3 gpm, drawdown is stable. DO and pH are still high, all other parameters are stable or in range.

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

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

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

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

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-6A	SAMPLE ID: MW-6A DATE: 8/14/13

PURGING DATA

WELL 2" PVC	TUBING 3/8"	WELL SCREEN INTERVAL DEPTH: feet feet	STATIC DEPTH 31.33 TO WATER (feet):	PURGE PUMP TYPE OR BAILER: ESP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
= (50.84' feet - feet) X gallons/foot = gallons				

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME **x3 = 1.335**
(only fill out if applicable)

1 Equip Vol = .02 gallons + (.006 gallons/foot X 50 feet) + .125 gallons = 445 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~45'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~45'	PURGING INITIATED AT: 1212	PURGING ENDED AT: 1244	TOTAL VOLUME PURGED (gallons): 11.75
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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)
1240	10.25	10.25	.25	31.37	7.65	24.65	258	7.27	17.6	Clear	None
1242	1.5	11.75	.25	31.37	7.67	24.75	258	7.24	16.6	Clear	None
1244	1.5	14.75	.25	31.37	7.71	24.72	258	7.22	16.5	Clear	None
No show											

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Clayton, Colinas Group, Inc.	SAMPLED BY SIGNATURES: <i>[Signature]</i>	SAMPLING INITIATED AT: 1245	SAMPLING ENDED AT: 1300
PUMP OR TUBING DEPTH IN WELL (feet): ~45'	SAMPLE PUMP	TUBING	MATERIAL CODE: PE
FIELD DECONTAMINATION: <input checked="" type="radio"/> Y <input type="radio"/> N	FIELD-FILTERED: <input checked="" type="radio"/> Y <input type="radio"/> N FILTER SIZE: _____ µm	DUPLICATE: <input type="radio"/> Y <input checked="" type="radio"/> N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
MW-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:

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

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

1222: Turbidity is at 31 NTUs, DO is high at 7.69 mg/L, but is typical for this well. Will use optional stabilization criteria for DO.

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

1239: WL 31.37' at .25 gpm, drawdown is stable. Turbidity dropped to 19 NTUs, all other parameters are stable or in range.

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

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

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

GROUNDWATER SAMPLING LOG

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

PURGING DATA

WELL 2" PVC	TUBING 3/8"	WELL SCREEN INTERVAL DEPTH: 22.09 feet to 22.09 feet	STATIC DEPTH TO WATER (feet): 22.09	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 - 22.09' feet) X 0.026 gallons/foot = 0.55 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
1 Equip Vol = 0.20 gallons + (0.007 gallons/foot X 43' feet) + .125 gallons = 0.43 gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~38'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~38'	PURGING INITIATED AT: 1123	PURGING ENDED AT: 1135	TOTAL VOLUME PURGED (gallons): 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)
1121	.80	.80	.1	22.12	7.21	24.42	325	5.05	0.45	Clear	None
1133	.2	1.00	.1	22.12	7.23	24.36	324	5.12	0.23	Clear	None
1135	.2	1.20	.1	22.12	7.24	24.32	324	5.01	0.29	Clear	None
<i>No Sheen</i>											

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: 	SAMPLING INITIATED AT: 1136	SAMPLING ENDED AT: 1150
PUMP OR TUBING DEPTH IN WELL (feet): ~38'	SAMPLE PUMP FLOW RATE (ml per minute): < 250 mL	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: <input checked="" type="radio"/> N <i>W/ Probe</i>	FIELD-FILTERED: <input checked="" type="radio"/> Y <input type="radio"/> N	FILTER SIZE: _____ µm	DUPLICATE: <input type="radio"/> Y <input checked="" type="radio"/> N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
MW-8	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228	ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	ESP
"	1	PE	250 mL	HN03	None	—	Metals	ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	ESP

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

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

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

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

GROUNDWATER SAMPLING LOG

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

PURGING DATA

WELL 2" PVC	TUBING 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 29.41	PURGE PUMP TYPE OR BAILER: ESP
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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 50' feet) + .125 gallons = .445 gallons **x3 = 1.335**

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 245	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 245	PURGING INITIATED AT: 0940	PURGING ENDED AT: 1010	TOTAL VOLUME PURGED (gallons): 15.0
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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)
1006	14.00	14.00	.25	32.61	6.40	25.32	930	0.96	14.7	Clear	Sulfur
1008	.5	14.50	.25	32.61	6.42	25.27	928	0.89	12.2	Clear	Same
1010	.5	15.00	.25	32.61	6.42	25.26	928	0.82	10.5	Clear	Same
No screen											

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: 	SAMPLING INITIATED AT: 1011	SAMPLING ENDED AT: 1025
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PUMP OR TUBING DEPTH IN WELL (feet): 245	SAMPLE PUMP FLOW RATE (gpm):	TUBING MATERIAL CODE: PE
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FIELD DECONTAMINATION: <input checked="" type="radio"/> Y <input type="radio"/> N	FIELD-FILTERED: <input checked="" type="radio"/> Y <input type="radio"/> N FILTER SIZE: _____ µm	DUPLICATE: <input type="radio"/> Y <input checked="" type="radio"/> N
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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:

0940: Inserted SS ESP and dedicated 3/8" PE tubing to 245' Btoc and started pump at .75 gpm. This well is typically extremely turbid at beginning of purge and requires higher flow rate to clean it up.

0955: Turbidity is at 91 NTUs, reduced flow to .25 gpm.

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

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

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

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

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

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-10	SAMPLE ID: MW-10
DATE: 8/13/13	

PURGING DATA

WELL 2" PVC	TUBING 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH 22.23 TO WATER (feet):	PURGE PUMP TYPE OR BAILER: ESPEC PP
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WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
only fill out if applicable)

= (**45.35'** feet - **22.23** feet) X **0.026** gallons/foot = **0.606** gallons

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

1 Equip Vol = **0.22** gallons + (**0.026** gallons/foot X **45'** feet) + **.125** gallons = **1.32** gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~40'	PURGING INITIATED AT: 1015	PURGING ENDED AT: 1026	TOTAL VOLUME PURGED (gallons): 1.32
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TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1022	.84	.84	.12	22.87	6.71	25.17	585	0.99	5.39	Clear	None
1024	.24	1.08	.12	22.87	6.73	25.08	584	0.90	5.03	Clear	None
1026	.24	1.32	.12	22.87	6.74	25.13	582	0.82	4.38	Clear	None
<i>No screen</i>											

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.	SAMPLER(S) SIGNATURES: <i>[Signature]</i>	SAMPLING INITIATED AT: 1027	SAMPLING ENDED AT: 1045
PUMP OR TUBING DEPTH IN WELL (feet): ~40'	SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL	TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <i>Probe only</i>	FIELD-FILTERED: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	FILTER SIZE: _____ µm	DUPLICATE: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
MW-10	2	PE	1 Ltr	HN03	None	—	Gross Alpha, RA226RA228	APP ESPEC
"	1	PE	250 mL	H2S04	None	—	Total Ammonia	APP ESPEC
"	1	PE	250 mL	HN03	None	—	Metals	APP ESPEC
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS	APP ESPEC

REMARKS:
 1015: Set dedicated 1/4" PE tubing at ~40' b/c and started pump at .12 gpm.
 1019: WL 22.87' at .12 gpm, GW is clear.
 1021: WL 22.87' at .12 gpm, drawdown is stable. All parameters are stable or in range.

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

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

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

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: MW-11	SAMPLE ID: MW-11
DATE: 8/13/13	

PURGING DATA

WELL 2" PVC	TUBING 3/8"	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER: ESP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY <i>only fill out if applicable</i>											
= (40.15' feet - feet) X gallons/foot = gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME <i>only fill out if applicable</i>											
1 Equip Vol = 0.22 gallons + (1.0026 gallons/foot X 40' feet) + .125 gallons = 2.29 gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~35'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~35'	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):							
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1310	2.90	2.90	.1	24.60	6.01	26.04	300	1.82	2.84	Clear	None
1312	.2	3.10	.1	24.60	6.03	26.04	305	1.89	2.55	Clear	None
1314	.2	3.30	.1	24.60	6.05	26.03	311	1.94	2.13	Clear	None
No Screen											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dale Claytor, Colinas Group, Inc.		SAMPLER SIGNATURES: <i>[Signature]</i>		SAMPLING INITIATED AT: 1315	SAMPLING ENDED AT: 1330				
PUMP OR TUBING DEPTH IN WELL (feet): ~35'		SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL		TUBING MATERIAL CODE: PE					
FIELD DECONTAMINATION: <input checked="" type="checkbox"/> Y <i>with probe only</i>		FIELD-FILTERED: <input checked="" type="checkbox"/> Y <i>(N)</i>		FILTER SIZE: _____ µm					
DUPLICATE: <input type="checkbox"/> Y <input checked="" type="checkbox"/> (N)									
SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-11	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226, RA228		ESP
"	1	PE	250 mL	H2S04	None	—	Total Ammonia		ESP
"	1	PE	250 mL	HN03	None	—	Metals		ESP
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS		ESP

REMARKS:
 1241: Set dedicated 1/4" PE tub: 13 at ~35' b/c and started pump at .1 gpm.
 1246: WL 24.61' at .1 gpm, GW is clear.
 1248: WL 24.61' at .1 gpm, drawdown is stable. DO is high at 3.49 mg/L, but is slowly dropping. pH is lower than normal at 5.85 slus and is slowly going up. Will purge until both are in range or stable. 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

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

MW-11 (cont.)

1308: pH is stable at 6.00 s/u's. DO is fluctuating slightly between 1.85 - 1.90 mg/L. Will use optimal stabilization criteria for DO. WL is stable at 24.60 at 1 gpm.

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, FL
WELL NO: NA	SAMPLE ID: EQB DATE: 8/14/13

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER: ESP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)											
= (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: Dale Claytor, Colinas Group, Inc.		SAMPLER DESIGNATION: <i>[Signature]</i>		SAMPLING INITIATED AT: 0900	SAMPLING ENDED AT: 0910					
PUMP OR TUBING DEPTH IN WELL (feet):		SAMPLE PUMP FLOW RATE (mL per minute): < 250 mL		TUBING MATERIAL CODE: PE						
FIELD DECONTAMINATION: <input checked="" type="radio"/> Y <input type="radio"/> N		FIELD-FILTERED: <input checked="" type="radio"/> Y <input type="radio"/> N FILTER SIZE: _____ µm		DUPLICATE: <input type="radio"/> Y <input checked="" type="radio"/> N						
SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
EQB	2	PE	1 Ltr	HN03	None	—	GrossAlpha, RA226RA228		ESP	
"	1	PE	250 mL	H2S04	None	—	Total Ammonia		ESP	
"	1	PE	250 mL	HN03	None	—	Metals		ESP	
"	1	PE	500 mL	None	None	—	Chloride, Fluoride, Nitrate, TDS		ESP	
"		Various	Various	Various	None	—	Appendix I Parameters		ESP	

REMARKS:
Field decontaminated SS ESP, WL probe and 5 gallon PE bucket IAW DEP-SOP-001/01, FC 1000. Poured 1 gallon of DI water into bucket, inserted pump and WL probe and circulated DI water through pump and over WL probe for several minutes, then collected 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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Notes: 1. The above do not constitute all the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 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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 5810 Pinellas Palm Ave., Tampa, FL 33619 • 813.630.9916 • Fax 813.630.4237 • E345599
 6918 SW Archer Road - Gainesville, FL 32608 • 352.377.5249 • Fax 352.366.9639 • E32001
 528 S. North Lake Blvd., Ste. 1018 - Altamonte Springs, FL 32711 • 407.937.1894 • Fax 407.937.1997 • E550078

CLIENT NAME: The Collins Group, Inc.		PROJECT NAME: Sumter Co. Landfill - GW Sampling											
ADDRESS: 377 Mallard Ave Suite 2012 Altamonte Springs, FL 32701		P.O. NUMBER/PROJECT NUMBER: P-483											
PHONE: 407-622-8176		PROJECT LOCATION: Bentley, FL											
FAX: 407-622-8186		REMARKS/SPECIAL INSTRUCTIONS:											
CONTACT: Dale Claytor													
SAMPLED BY: Dale Claytor													
TURN AROUND TIME: _____													
STANDARD: <input checked="" type="checkbox"/> RUSH <input type="checkbox"/>													
SAMPLE ID	SAMPLE DESCRIPTION	Grid Comp	SAMPLING DATE	TIME	MATRIX	NO. COUNT	ANALYSIS REQUIRED	BOTTLE SIZE & TYPE	1 L P	500 mL P	250 mL P	250 mL P	LABORATORY I.D. NUMBER
MW-2		G	8-13-13	1235	W	5	Gross Alpha	1 L P	X				01
MW-4		G		1115	W	5	TDS, F, Cl, NO3	1 L P	X	X	X		02
MW-4A		G	8-14-13	1106	W	5	Sb, Al, Cd, Cr, Fe, Pb, Mn, Hg, Ag, Na, TI	1 L P	X	X	X		03
MW-4B		G		1150	W	5	Gross Alpha	1 L P	X				04
MW-6A		G		1300	W	5	TDS, F, Cl, NO3	1 L P	X	X	X		05
MW-8		G	8-13-13	1150	W	5	Gross Alpha	1 L P	X				06
MW-9A		G	8-14-13	1035	W	5	TDS, F, Cl, NO3	1 L P	X	X	X		07
MW-10		G	8-13-13	1045	W	5	Sb, Al, Cd, Cr, Fe, Pb, Mn, Hg, Ag, Na, TI	1 L P	X	X	X		08
MW-11		G		1320	W	5	Gross Alpha	1 L P	X				09
20B		G	8-14-13	0910	W	5	TDS, F, Cl, NO3	1 L P	X	X	X		10

Received on lot Yes No Temp taken from sample Temp from temp blank Where required, pH checked Temperature when received 3 (in degrees Celsius)

Form revised 2/05 Device used for measuring Temp by unique identifier (circle if temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A

Retrieved by: [Signature] Date: 8-14-13 Time: 1424

Received by: [Signature] Date: 8/14/13 Time: 1424

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

Field Instrument Calibration Records

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

PARAMETERS:

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

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

- Standard A Oakton pH Standard 4.01 Units Exp: 3/2014
 Standard B Oakton pH Standard 7.00 Units Exp: 8/2014
 Standard C Oakton Conductivity Standard 1500 uS/cm Exp: 4/2014
 Standard D Hanna 0.1 NTU Standard Exp: 4/2015
 Standard E Hanna 15 NTU Standard Exp: 4/2015

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

Field Instrument Calibration Records

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

PARAMETERS:

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

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

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

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

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

Standard D Hanna 0.1 NTU Standard Exp: 4/2015

Standard E Hanna 15 NTU Standard Exp: 4/2015

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