SUMTER COUNTY
(CLOSED) LANDFILL
QUARTERLY GROUNDWATER
MONITORING REPORT
Quarter II (May) 2009

Prepared for:

SUMTER COUNTY
SOLID WASTE DEPARTMENT
SUMTER COUNTY, FLORIDA

Prepared by:

THE COLINAS GROUP, INC.
509 N. Virginia Avenue
Winter Park, Florida 32789

July 2009

THE COLINAS GROUP, INC.
HYDROGEOLOGISTS & ENGINEERS

July 10, 2009

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

Subj: **Quarter II 2009 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 (1) copy of the report prepared by TCG entitled:

Sumter County (Closed) Landfill Quarterly Groundwater Monitoring Report, Quarter II (May) 2009

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

cc: Ms. Miram Zimms (KCI)
Ms. Denise Warnock (Sumter County)
Mr. Jimmy Wise (Sumter County)

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SUMTER COUNTY (CLOSED) LANDFILL GROUNDWATER MONITORING REPORT, SUMTER COUNTY, FLORIDA Quarter II (May) 2009

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Sumter County (Closed) Landfill
Quarterly Groundwater Monitoring Report
Quarter II (May) 2009

INTRODUCTION

The Colinas Group, Inc. (TCG) has reviewed the groundwater monitoring well sampling and analytical results for the Quarter II 2009 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 Long-Term Care Permit #22926-003-SF.

The Groundwater Monitoring Plan for the closed landfill was amended in 2004 to replace three (3) existing monitoring wells deemed unsuitably located with respect to closed solid waste disposal areas. Existing wells MW-1, MW-7 and MW-9 were replaced by installation of new wells MW-11, MW-10 and MW-9A, respectively. The existing wells will continue to be used as water level measuring points (piezometers).

New monitoring wells MW-4A and MW-4B, installed as part of a Preliminary Contamination Assessment completed at the landfill in January 2006, were added by the Florida Department of Environmental Protection (FDEP) to the facility groundwater monitoring network in May 2006. Groundwater sample analytical results for these new wells are included in this report. The current array of groundwater monitoring wells and piezometers at the facility is shown on Figure 1.

In accordance with Specific Condition 16d of the facility Long-Term Care Permit, sampling and analytical chemical parameters for this sampling event included the normal list of quarterly monitoring parameters. The Long-Term Care Permit requires an expanded parameter list, to include 40 CFR Appendix II parameters, during Quarter IV of each year.

SAMPLING EVENT

The Quarter II 2009 sampling event at the Sumter County Landfill occurred on May 28 and 29, 2009. Sampling was performed by TCG personnel in accordance with the 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 Environmental Conservation Laboratories, Inc. (ENCO) in accordance with the laboratory's NELAP and FDHRS Certification No. E83182. The original analytical reports prepared by ENCO in FDEP format are presented in Attachment 2 to this report.

Water table depth measurements in each facility groundwater monitoring well and piezometer were recorded on May 28, 2009. These measurements were used to develop 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 May 2009 sampling event are summarized in Table I. Field tests were completed by TCG sampling personnel 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 eight (8) 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. Groundwater pH measured at well **MW-11** was slightly below the lower pH range limit of 6.5.

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 ranged from a low of 25.1 C at well **MW-6A** to 27.3 C at **MW-4**.

Dissolved Oxygen

Dissolved oxygen (DO) exceeded the FDEP sampling guidance level of 20% saturation at four (4) of the nine (9) monitoring wells sampled, including the facility background monitoring well **MW-6A**. These wells consistently produce groundwater with elevated DO concentrations.

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 208 umhos/cm to 825 umhos/cm. Lowest specific conductance was measured at well **MW-4B**. Highest specific conductance was measured at detection well **MW-9A**.

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 at all wells had measured turbidity values less than 20 NTUs. Fluid turbidity exceeded 10 NTUs at one well.

Regulatory Exceedances

A summary of groundwater laboratory analytical results that were either equal to or exceeded the regulatory level for the particular parameter in the May 2009 sample set is presented in Table III. As shown, four (4) analytical parameters were reported for certain monitoring wells at concentrations that exceed applicable regulatory levels. Exceeded parameters were aluminum, iron, manganese and gross alpha. Nitrate nitrogen was reported at concentrations equal to the MCL in two wells.

Aluminum

Aluminum was detected at concentrations above the Florida Secondary Drinking Water Standards (FSDWS) MCL (200 ug/l) in samples from two (2) monitoring wells: **MW-4** (211 ug/l) and **MW-9A** (492ug/l). Aluminum was detected by the laboratory at concentrations below the MCL in five (5) other wells.

Iron

Dissolved iron was detected in one monitoring well at a concentration above the FSDWS MCL of 300 ug/l. Iron was reported at 903 ug/l at well **MW-10**. Iron was detected at concentrations less than 300 ug/l or was below the method detection limit at the remaining monitoring wells.

Manganese

Manganese was reported above the FSDWS MCL of 50 ug/l in monitoring well **MW-9A** at 70.3 ug/l. Manganese was detected in five (5) other wells at concentrations less than 50 ug/l.

Nitrate Nitrogen

Nitrate was reported at the FPDWS MCL of 10 mg/l at two (2) wells, **MW-4** and **MW-4A**, at 10 mg/l. Elevated nitrate levels are noted in the facility background monitoring well **MW-6A** at 5.6 mg/l and in detection well **MW-11** at 4.5 mg/l.

Gross Alpha

Gross alpha radioactivity, including the sum of radium 226/228, exceeded the 15 pCi/l MCL in groundwater samples from well **MW-11**, reported at a range of 20.7 - 25.5 pCi/l. Gross alpha individually ranged from 17.8 - 21.6 pCi/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 Detected Parameters

Antimony was reported at 0.878 ug/l in well **MW-2**. The FPDWS MCL for antimony is 6 ug/l.

Cadmium was detected in samples from four (4) monitoring wells at concentrations less than the FPDWS MCL. Cadmium was reported below the laboratory detection limit in remaining monitoring wells.

Chromium was detected at a low concentration in one monitoring well, reported for **MW-4B** at 6.16 ug/l. The FPDWS MCL for chromium is 100 ug/l.

Fluoride was reported in all but one of the monitoring wells at trace concentrations well below the 4 ug/l FPDWS MCL.

Lead was reported at 1.63 ug/l in well **MW-4**. The FPDWS MCL for lead is 15 ug/l.

Mercury was detected at 0.207 ug/l in monitoring well **MW-9A** and at 0.025 ug/l in **MW-11**, well below the FPDWS MCL of 2 ug/l, and was less than the laboratory method detection limit in remaining wells.

Sodium and **chloride** concentrations reported for seven (7) of the nine (9) monitoring wells appear consistent between individual wells and typical for natural shallow groundwaters in Florida. Although significantly below respective regulatory MCLs, sodium/chloride concentrations at monitoring wells **MW-4** and **MW-4A** are elevated above concentrations measured in samples from the other monitoring wells.

Thallium was reported at a low concentration in one well, **MW-4A** (0.359 ug/l). The FPDWS MCL for thallium is 2 ug/l.

SUMMARY

Chemical characteristics of groundwater monitored at the Sumter County Landfill are reported for the Quarter II 2009 sampling event. Exceedances of specific constituent regulatory levels and MCLs are reported at specific monitoring wells for **aluminum, gross alpha, iron, manganese** and **nitrate nitrogen**.

Elevated **dissolved oxygen (DO)** levels were measured in four of the nine groundwater monitoring wells, including the facility background monitoring well. Prior sampling data indicate that elevated DO levels occur frequently and in these same monitoring wells, suggesting that high DO in groundwater at these locations is likely a natural condition.

Aluminum was detected in samples from two wells (**MW-4** and **MW-9A**) at concentrations above the FSDWS MCL of 200 ug/l. Aluminum was detected below the MCL in five monitoring wells, including background well **MW-6A**. The most likely source of aluminum measured in groundwater samples is natural deposits of clay minerals within and near the groundwater monitoring zone tapped by wells at the landfill.

Gross alpha radioactivity, including the sum of radium 226/228, exceeded the 15 pCi/l MCL in groundwater samples from well **MW-11**, reported at a range of 20.7 - 25.5 pCi/l. Gross alpha individually is reported to range from 17.8 - 21.6 pCi/l in the groundwater sample.

Manganese was reported above the FSDWS MCL in the sample from **MW-9A**, one of the more recently-constructed monitoring wells. **Iron** was detected above the FSDWS MCL in well **MW-10**. Both of these elements occur naturally in sediments and carbonate rocks penetrated by the monitoring wells.

Nitrate nitrogen dissolved in groundwater was reported at the FPDWS MCL of 10 mg/l at well **MW-4** (10 mg/l) and well **MW-4A** (10 mg/l). As shown on the groundwater contour map for the May 2009 sampling event (Figure 1) well **MW-4A** was upgradient of well **MW-4** and the closed landfill waste disposal areas. Elevated concentrations of nitrate nitrogen were also reported at background well **MW-6A** and at detection well **MW-11**, at levels considered well above naturally-occurring nitrate concentrations typically found in groundwaters in Florida.

* * * * *

TABLE I
FIELD PARAMETER RESULTS SUMMARY,
SUMTER COUNTY (CLOSED) LANDFILL
SUMTER COUNTY, FLORIDA
Quarter II (May) 2009

Sampling Point	Temp. (C)	Dissolved Oxygen (mg/l)	pH	Specific Conductance (umhos/cm)	Turbidity (NTU)
MW-2	26.4	**6.55**	6.69	223	8.85
MW-4	27.3	1.35	7.01	631	8.24
MW-4A	27.0	1.11	6.96	635	2.85
MW-4B	26.6	**4.68**	8.20	208	2.76
MW-6A	25.1	**7.07**	7.41	282	7.99
MW-8	25.2	**3.03**	7.03	466	1.31
MW-9A	25.8	1.06	6.52	825	12.97
MW-10	25.8	1.52	6.67	572	8.66
MW-11	26.0	1.07	**6.26**	462	2.18

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

TABLE II

SUMMARY OF GROUNDWATER LEVELS
SUMTER COUNTY (CLOSED) LANDFILL
SUMTER COUNTY, FLORIDA
(May 28, 2009)

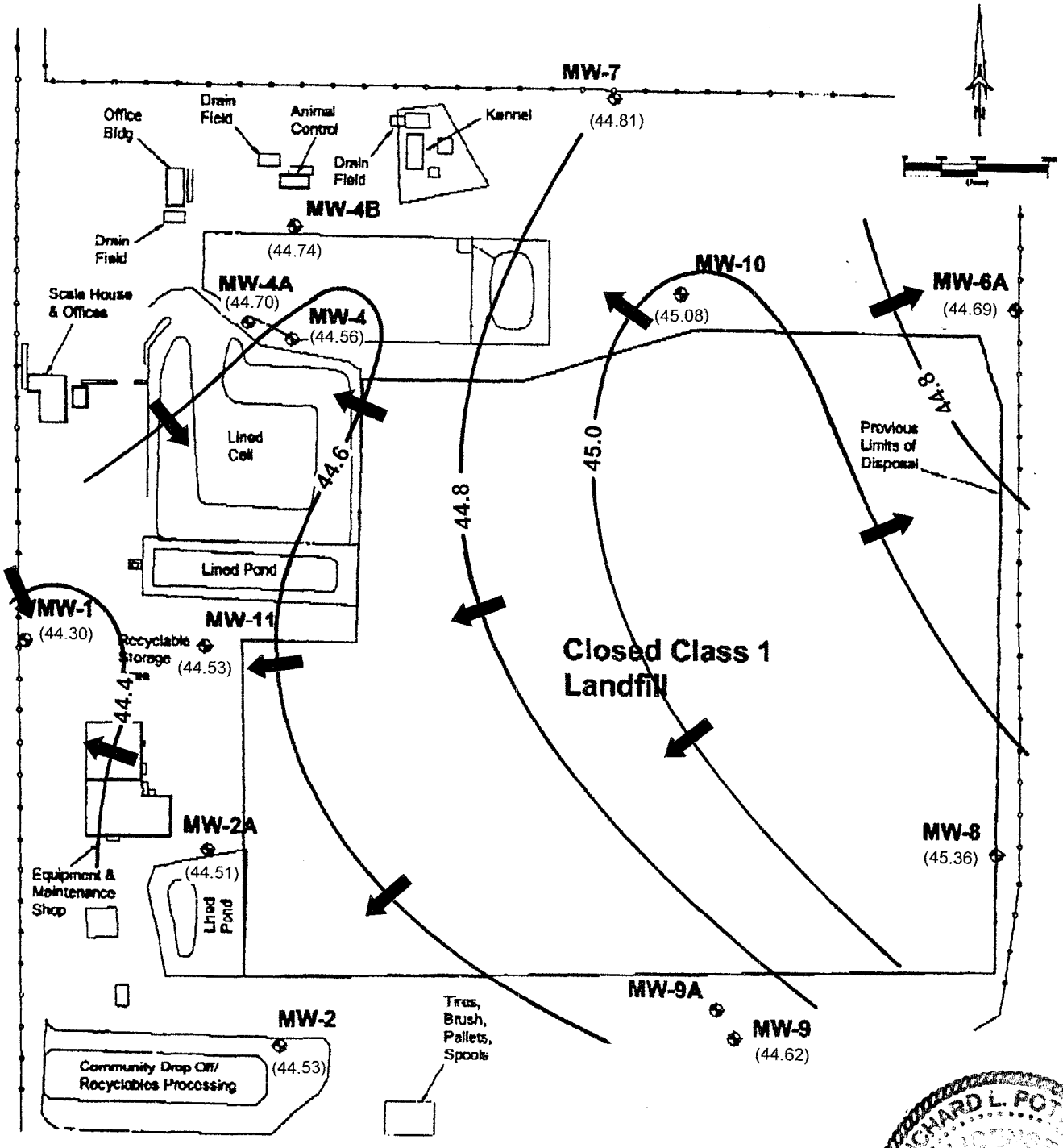
Well No.	Measuring Point Elevation (ft. +NGVD)	Depth to Water (ft. - MP)	Groundwater Elevation (ft. +NGVD)
MW-1	70.17	25.87	44.30
MW-2	69.13	24.60	44.53
MW-2A	72.11	27.60	44.51
MW-4	70.36	25.80	44.56
MW-4A	75.73	31.03	44.70
MW-4B	73.83	29.09	44.74
MW-6A	77.54	32.85	44.69
MW-7	73.14	28.33	44.81
MW-8	69.26	23.90	45.36
MW-9	71.95	27.33	44.62
MW-9A	74.26	30.67	43.59
MW-10	68.28	23.20	45.08
MW-11	70.21	25.68	44.53

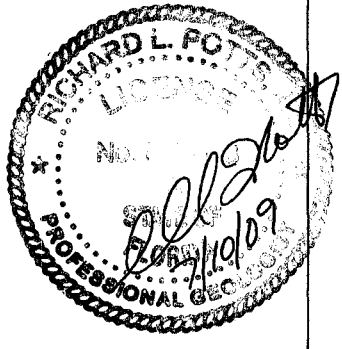
Notes: 1. Measuring Point is top of PVC well casing.
2. Water levels recorded on May 28, 2009.

TABLE III
SUMMARY OF LABORATORY RESULTS
SUMTER COUNTY (CLOSED) LANDFILL, QUARTER II (MAY) 2009

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	0.021	BDL	BDL	BDL	0.054	0.18	0.023	BDL	**2.8**
Aluminum	ug/l	189	**211**	BDL	138	82.5	BDL	**492**	189	88.9	**200**
Antimony	ug/l	0.878	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**6**
Cadmium	ug/l	BDL	3.06	1.15	BDL	BDL	BDL	2.22	BDL	2.60	**5**
Chloride	mg/l	5.5	32	30	7.4	8.1	11	12	9.0	4.0	**250**
Chromium	ug/l	BDL	BDL	BDL	6.16	BDL	BDL	BDL	BDL	BDL	**100**
Fluoride	mg/l	0.12	0.07	BDL	0.05	0.06	0.05	0.09	0.09	0.13	**4**
Gross Alpha	pCi/l	1.3 ± 1.0	14.0 ± 2.6	4.0 ± 0.9	6.0 ± 1.7	<1.8 ± 1.3	1.6 ± 0.7	7.8 ± 1.7	9.6 ± 2.0	**19.7 ± 1.9**	**15**
Iron	ug/l	64.7	90.8	BDL	BDL	BDL	44.5	236	**903**	121	**300**
Lead	ug/l	BDL	1.63	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**15**
Manganese	ug/l	8.88	16.0	5.84	BDL	BDL	BDL	**70.3**	33.5	4.80	**50**
Mercury	ug/l	BDL	BDL	BDL	BDL	BDL	BDL	0.207	BDL	0.025	**2**
Nitrate, as N	mg/l	2.7	**10**	**10**	3.0	5.6	3.0	0.41	1.6	4.5	**10**
Radium 226	pCi/l	0.2 ± 0.1	1.4 ± 0.2	0.9 ± 0.1	0.5 ± 0.1	0.4 ± 0.2	0.5 ± 0.2	2.8 ± 0.3	2.5 ± 0.3	2.9 ± 0.3	---
Radium 228	pCi/l	<0.9 ± 0.6	0.9 ± 0.5	<0.8 ±0.5	<0.8 ± 0.5	<0.8 ± 0.5	<0.8 ± 0.5	<0.9 ± 0.6	1.3 ± 0.6	0.8 ± 0.5	---
Silver	ug/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**100**
Sodium	mg/l	4.17	51.6	28.6	12.5	3.37	7.89	21.5	9.07	12.2	**160**
TDS	mg/l	160	390	380	130	190	270	490	330	300	**500**
Thallium	ug/l	BDL	BDL	0.359	BDL	BDL	BDL	BDL	BDL	BDL	**2**

Notes: 1). BDL means below laboratory method detection limit 2). **Bold lettering** indicates result exceeds MCL/Guidance concentration





PROJ. NO. P-390 DATE: July 6, 2009 SCALE: 1" = 200' (approx.) **THE COLINAS GROUP** 509 N.Virginia Ave., Winter Park, Fl 32789	**GROUNDWATER CONTOUR MAP** **QUARTER II (MAY) 2009** **SUMTER COUNTY (CLOSED) LANDFILL** **SUMTER COUNTY, FLORIDA** **FIGURE 1**

FLUID MEASUREMENT FIELD DATA

SHEET: 1 OF 1

DATE: 5.28.09 | PROJECT NAME: SUMTER COUNTY LANDFILL | PROJECT NO: 53008

WATER LEVEL MEASUREMENT INSTRUMENT: KECK | SERIAL NO: 2057

PRODUCT DETECTION INSTRUMENT: N/A | SERIAL NO: N/A

EQUIP DECON: ☐ TAP WATER WASH ☑ DIST/DEION 1 RINSE ☑ ISOPROPANOL ☑ ANALYTE FREE FINAL RINSE ☐ TAP WATER FINAL RINSE
☐ ALCONOX WASH ☑ LIQUINOX WASH ☐ DIST/DEION 2 RINSE ☐ OTHER SOLVENT ☑ DIST/DEION FINAL RINSE ☑ AIR DRY

WELL NUMBER	GROUND SURFACE ELEVATION	TOP OF CASING ELEVATION	DEPTH TO PRODUCT BELOW TOC	DEPTH TO WATER BELOW TOC	WELL DEPTH BELOW TOC	PRODUCT THICKNESS	WATER TABLE ELEVATION	ACTUAL TIME
MW-1				25.87	—			0942
MW-2A				27.60	—			0947
MW-11				25.68	40.15			
MW-9A				30.67	50.17			
MW-9				27.33	—			
MW-8				23.90	43.24			1128
MW-8A				32.85	50.84			1132
MW-10				23.20	45.35			1136
MW-7				28.33	—			1140
MW-4R				29.09	38.49			1152
MW-4				25.90	~~[illegible]~~	36.35		1151
MW-4A				31.03	45.23			1157
MW-2				21.60	31.92			1248

REMEMBER TO CORRECT PRODUCT THICKNESS FOR DENSITY BEFORE CALCULATING WATER TABLE ELEVATION

PREPARED BY: J. Shan Prater

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, Sumter County, FL	
WELL NO: MW- 2	SAMPLE ID: MW- 2	DATE: 05-28-09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: / feet to / feet	STATIC DEPTH TO WATER (feet): 24.60	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)
= (31.92 feet – 24.60 feet) X 0.16 gallons/foot = 1.2 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.1 gallons + (0.006 gallons/foot X 31 feet) + 0.2 gallons = 0.5 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 27	PURGING INITIATED AT: 1306	PURGING ENDED AT: 1327	TOTAL VOLUME PURGED (gallons): 4.2

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1306	Initial	0	0.2	24.60				7.45		CLEAR	NONE
1312	1.2	1.2	0.2	24.92	6.98	26.4	230	6.35	104.30	"	"
1318	1.2	2.4	0.2	24.92	6.80	26.5	229	6.05	29.24	CLEAR	"
1321	0.6	3.0	0.2	24.92	6.75	26.4	226	6.76	19.36	"	"
1324	0.6	3.6	0.2	24.92	6.71	26.4	224	6.67	13.12	"	"
1327	0.6	4.2	0.2	24.92	6.69	26.4	223	6.55 (A)	8.85	"	"

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

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: John Prater/The Colinas Group	SAMPLER(S) SIGNATURE(S): John Prater	SAMPLING INITIATED AT: 1328	SAMPLING ENDED AT: 1338
PUMP OR TUBING DEPTH IN WELL (feet): 27	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N (replaced)	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	SAMPLE PUMP FLOW RATE (~~mL per minute~~)
	[redacted]								
	[redacted]								
	1 ✓	PE	500 mL	4 deg. C	NA		Chloride, Flouride, Nitrate-N, TDS	ESP	0.2 GPM
	1 ✓	PE	250 mL	H2SO4	Lab.	< 2	Ammonium 350.1		
	1 ✓	PE	250 mL	HNO3	Lab.	< 2	Metals		
	2 ✓	PE	1 L	HNO3	Lab.	< 2	RA226, RA228, Gross Alpha		

REMARKS:
(A) ~~ECA~~ DO VALUES HI FROM START AS IN PAST EVENTS

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

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

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, Sumter County, FL	
WELL NO: MW- 4	SAMPLE ID: MW- 4	DATE: 05-29-09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: / feet to / feet	STATIC DEPTH TO WATER (feet): 25.63	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)
= (36.35 feet – 25.63 feet) X 0.16 gallons/foot = 1.7 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.1 gallons + (0.006 gallons/foot X 42 feet) + 0.2 gallons = 0.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 33	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 33	PURGING INITIATED AT: 1406	PURGING ENDED AT: 1437	TOTAL VOLUME PURGED (gallons): 3.74

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1404	Initial	0	0.12	25.63	—	—	—	1.34	—	TAN/BR	NONE
1420	1.7	1.7	0.12	25.96	7.04	27.1	631	1.14	48.80	VSY/CO	"
1427	0.84	2.54	0.12	25.96	7.02	27.3	630	1.53	18.95	CLEAR	"
1432	0.6	3.14	0.12	25.96	7.01	27.3	630	1.46	12.87	"	"
1437	0.6	3.74	0.12	25.96	7.01	27.3	631	1.35	8.24	"	"

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

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: John Prater/The Colinas Group	SAMPLER(S) SIGNATURE(S): John Prater	SAMPLING INITIATED AT: 1438	SAMPLING ENDED AT: 1448
PUMP OR TUBING DEPTH IN WELL (feet): 33	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N (replaced))	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	SAMPLE PUMP FLOW RATE (~~mL per minute~~)
	~~3~~	~~CG~~	~~40 mL~~	~~HCl~~	~~[illegible]~~	~~2~~	~~8260B App. 4 FL~~	~~ESP~~	
	~~2~~	~~CG~~	~~40 mL~~	~~4 deg. C~~	~~NA~~		~~8011~~		
	1 ✓	PE	500 mL	4 deg. C	NA	7.01	Chloride, Flouride, Nitrate-N, TDS	ESP	0.12 GPM
	1 ✓	PE	250 mL	H2SO4	Lab.	< 2	Ammonium 350.1		
	1 ✓	PE	250 mL	HNO3	Lab.	< 2	Metals		
	2 ✓	PE	1 L	HNO3	Lab.	< 2	RA226, RA228, Gross Alpha		

REMARKS:

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

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

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

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, Sumter County, FL	
WELL NO: MW- 4A	SAMPLE ID: MW- 4A	DATE: 05-29-09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: ✓ feet to ✓ feet	STATIC DEPTH TO WATER (feet): 30.85	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 – 30.85 feet) X 0.16 gallons/foot = 2.3 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.1 gallons + (0.006 gallons/foot X 48 feet) + 0.2 gallons = 0.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 42	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 42	PURGING INITIATED AT: 1310	PURGING ENDED AT: 1337	TOTAL VOLUME PURGED (gallons): 3.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1310	Initial	0	0.15	30.85	—	—	—	1.54	—	CLEAR	NONE
1325	2.3	2.3	0.15	30.94	6.99	27.1	634	1.09	16.81	CLEAR	"
1329	0.4	2.7	0.15	30.94	6.98	27.1	635	1.09	8.25	"	"
1333	0.4	3.1	0.15	30.94	6.96	27.1	636	1.08	3.79	"	"
1337	0.4	3.5	0.15	30.94	6.96	27.0	635	1.11	2.85	"	"

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

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: John Prater/The Colinas Group	SAMPLER(S) SIGNATURE(S): John Prater	SAMPLING INITIATED AT: 1338	SAMPLING ENDED AT: 1348
PUMP OR TUBING DEPTH IN WELL (feet): 42	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N (replaced))	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	SAMPLE PUMP FLOW RATE (mL per minute)
	~~3~~	~~CG~~	~~40 mL~~	~~HCl~~	~~Lab~~	~~< 2~~	~~8260B App 1 FL~~	~~ESP~~	
	~~2~~	~~CG~~	~~40 mL~~	~~4 deg. C~~	~~NA~~		~~8011~~		
	1 ✓	PE	500 mL	4 deg. C	NA	6.96	Chloride, Flouride, Nitrate-N, TDS	ESP	0.15 GPM
	1 ✓	PE	250 mL	H2SO4	Lab.	< 2	Ammonium 350.1		
	1 ✓	PE	250 mL	HNO3	Lab.	< 2	Metals		
	2 ✓	PE	1 L	HNO3	Lab.	< 2	RA226, RA228, Gross Alpha		

REMARKS:

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

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

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, Sumter County, FL	
WELL NO: MW- 4B	SAMPLE ID: MW- 4B	DATE: 05-29-09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 28.92	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)
= (38.49 feet – 28.92 feet) X 0.16 gallons/foot = 1.5 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.1 gallons + (0.006 gallons/foot X 40 feet) + 0.2 gallons = 0.4 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35	PURGING INITIATED AT: 1209	PURGING ENDED AT: 1233	TOTAL VOLUME PURGED (gallons): 2.94

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1209	Initial	0	0.12	28.92	—	—	—	4.73	—	SLIGHTLY MILKY	
1221	1.5	1.5	0.12	29.02	8.19	26.7	204	4.61	9.09	CLEAR	"
1225	0.48	1.98	0.12	29.02	8.21	26.6	205	4.69	5.26	"	"
1229	0.48	2.46	0.12	29.02	8.22	26.5	206	4.68	3.81	"	"
1233	0.48	2.94	0.12	29.02	8.20	26.6	208	4.62	2.76	"	"
								(A)			

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

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: John Prater/The Colinas Group	SAMPLER(S) SIGNATURE(S): John Prater	SAMPLING INITIATED AT: 1234	SAMPLING ENDED AT: 1244
PUMP OR TUBING DEPTH IN WELL (feet): 35	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N (replaced))	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	SAMPLE PUMP FLOW RATE (mL per minute)
	[redacted]								
	[redacted]		40 mL	4 deg. C	NA				
	1 ✓	PE	500 mL	4 deg. C	NA		Chloride, Flouride, Nitrate-N, TDS	ESP	0.126 gpm
	1 ✓	PE	250 mL	H2SO4	Lab.	< 2	Ammonium 350.1		
	1 ✓	PE	250 mL	HNO3	Lab.	< 2	Metals		
	2 ✓	PE	1 L	HNO3	Lab.	< 2	RA226, RA228, Gross Alpha		

REMARKS:
(A) LO HI FROM START AS IN PAST EVENTS.

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

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

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, Sumter County, FL	
WELL NO: MW- 6A	SAMPLE ID: MW- 6A	DATE: 05.29.09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: / feet to / feet	STATIC DEPTH TO WATER (feet): 32.63	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)
= (50.84 feet – 32.63 feet) X 0.16 gallons/foot = 2.9 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.1 gallons + (0.006 gallons/foot X 56 feet) + 0.2 gallons = 0.7 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 47	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 47	PURGING INITIATED AT: 1044	PURGING ENDED AT: 1124	TOTAL VOLUME PURGED (gallons): 8.2

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1044	Initial	0	0.2	32.63	—	—	—	7.45	—	CO/BR	NONE
1058	2.9	2.9	0.2	32.68	7.43	25.0	207	7.32	170.00	"	"
1112	2.9	5.8	0.2	32.68	7.41	25.0	280	6.94	16.83	CLEAR	"
1116	0.8	6.6	0.2	32.68	7.41	24.9	281	7.09	14.17	"	"
1120	0.8	7.4	0.2	32.68	7.41	25.0	281	7.05	13.14	"	"
1124	0.8	8.2	0.2	32.68	7.41	25.1	282	7.07	7.99	"	"
								(R)			

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

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: John Prater/The Colinas Group	SAMPLER(S) SIGNATURE(S): John Prater	SAMPLING INITIATED AT: 1125	SAMPLING ENDED AT: 1135
PUMP OR TUBING DEPTH IN WELL (feet): 47	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N (replaced)	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	SAMPLE PUMP FLOW RATE (mL per minute)
	[redacted]			HCl	Lab.		[redacted]	ESP	[redacted]
	[redacted]			4 deg. C	NA		8011		
	1 ✓	PE	500 mL	4 deg. C	NA	7.41	Chloride, Flouride, Nitrate-N, TDS	ESP	0.2 GPM
	1 ✓	PE	250 mL	H2SO4	Lab.	< 2	Ammonium 350.1		
	1 ✓	PE	250 mL	HNO3	Lab.	< 2	Metals		
	2 ✓	PE	1 L	HNO3	Lab.	< 2	RA226, RA228, Gross Alpha		

REMARKS:
(R) DO HI FLOW START AS IN PAST EVENTS

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

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

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

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, Sumter County, FL	
WELL NO: MW- 8	SAMPLE ID: MW- 8	DATE: 05.28.09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: / feet to / feet	STATIC DEPTH TO WATER (feet): 23.90	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 – 23.90 feet) X 0.16 gallons/foot = 3.1 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.1 gallons + (0.006 gallons/foot X 47 feet) + 0.2 gallons = 0.48 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 40	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 40	PURGING INITIATED AT: 1523	PURGING ENDED AT: 1547	TOTAL VOLUME PURGED (gallons): 4.9

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1523	Initial	0	0.2	23.90	—	—	—	3.10	—	CO/BR	NONE
1538	3.1	3.1	0.2	23.91	7.03	25.1	481	2.76	11.40	CLEAR	"
1541	0.4	3.7	0.2	23.91	7.03	25.2	473	2.90	3.43	"	"
1544	0.6	4.3	0.2	23.91	7.03	25.2	468	3.00	1.79	"	"
1547	0.6	4.9	0.2	23.91	7.03	25.2	466	3.03	1.31	"	"
								☆			

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

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: John Prater/The Colinas Group	SAMPLER(S) SIGNATURE(S): John Prater	SAMPLING INITIATED AT: 1548	SAMPLING ENDED AT: 1558
PUMP OR TUBING DEPTH IN WELL (feet): 40	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N (replaced)	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	SAMPLE PUMP FLOW RATE (mL per minute)
	3	CG	40 mL	HCl	Lab.		8260B App IV+	ESP	
	2	CG	40 mL	4 deg. C	NA		8011		
	1 ✓	PE	500 mL	4 deg. C	NA	7.03	Chloride, Flouride, Nitrate-N, TDS	ESP	0.2 GPM
	1 ✓	PE	250 mL	H2SO4	Lab.	< 2	Ammonium 350.1		
	1 ✓	PE	250 mL	HNO3	Lab.	< 2	Metals		
	2 ✓	PE	1 L	HNO3	Lab.	< 2	RA226, RA228, Gross Alpha		

REMARKS:
DO VALUES HI FROM START AS IN PAST EVENTS

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

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

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

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	Sumter County Landfill	SITE LOCATION:	Sumterville, Sumter County, FL
WELL NO:	MW- 9A	SAMPLE ID: MW-	9A
DATE:	05.28.09		

PURGING DATA

WELL DIAMETER (inches):	2	TUBING DIAMETER (inches):	3/8	WELL SCREEN INTERVAL DEPTH: / feet to / feet	STATIC DEPTH TO WATER (feet):	30.67	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 – 30.67 feet) X 0.16 gallons/foot = 3.1 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.1 gallons + (0.006 gallons/foot X 52 feet) + 0.2 gallons = 0.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	47	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	47	PURGING INITIATED AT:	1413	PURGING ENDED AT:	1505	TOTAL VOLUME PURGED (gallons):	7.50

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1413	Initial	0	0.17	30.67	—	—	—	1.90	—	CO/BRN	NONE
1435	3.1	3.1	0.17	31.76	6.52	25.8	823	1.06	15.40	SL/CO	"
1457	3.1	6.2	0.17	31.72	6.55	25.8	824	1.08	19.00	CLEAR	"
1501	0.68	6.88	0.17	31.71	6.51	25.8	824	1.05	12.46	"	"
1505	0.68	7.50	0.17	31.71	6.52	25.8	825	1.06	12.97	"	"

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

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	John Prater/The Colinas Group	SAMPLER(S) SIGNATURE(S):	John Prater	SAMPLING INITIATED AT:	1506	SAMPLING ENDED AT:	1516
PUMP OR TUBING DEPTH IN WELL (feet):	47	TUBING MATERIAL CODE:	PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:		FILTER SIZE: ____ µm	
FIELD DECONTAMINATION:	PUMP (Y) N	TUBING	Y (N (replaced)	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	SAMPLE PUMP FLOW RATE ~~(mL per minute)~~
	~~2~~	~~CG~~	~~40 mL~~	~~HCl~~	~~Lab.~~	~~<2~~	~~8260B App. IV~~	~~BSE~~	
	~~2~~	~~CG~~	~~40 mL~~	~~4 deg. C~~	~~NA~~		~~8011~~		
	1 ✓	PE	500 mL	4 deg. C	NA	6.52	Chloride, Flouride, Nitrate-N, TDS	ESE	0.176 gpm
	1 ✓	PE	250 mL	H2SO4	Lab.	< 2	Ammonium 350.1		
	1 ✓	PE	250 mL	HNO3	Lab.	< 2	Metals		
	2 ✓	PE	1 L	HNO3	Lab.	< 2	RA226, RA228, Gross Alpha		

REMARKS:
EQB @ 1400

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

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

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, Sumter County, FL	
WELL NO: MW- 10	SAMPLE ID: MW- 10	DATE: 05-29-09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: / feet to / feet	STATIC DEPTH TO WATER (feet): 23.15	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)
= (45.35 feet – 23.15 feet) X 0.16 gallons/foot = 3.6 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.1 gallons + (0.006 gallons/foot X 48 feet) + 0.2 gallons = 0.6 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 42	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 42	PURGING INITIATED AT: 0934	PURGING ENDED AT: 1010	TOTAL VOLUME PURGED (gallons): 5.4

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0934	Initial	0	0.15	23.15				1.07		CLEAR	NONE
0958	3.6	3.6	0.15	23.85	6.62	25.6	571	1.29	16.96	CLEAR	"
1002	0.6	4.2	0.15	23.85	6.63	25.7	573	1.28	13.67	"	"
1006	0.6	4.8	0.15	23.85	6.67	25.8	573	1.69	8.83	"	"
1010	0.6	5.4	0.15	23.85	6.67	25.8	572	1.52	8.06	"	"

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

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: John Prater/The Colinas Group	SAMPLER(S) SIGNATURE(S): John Prater	SAMPLING INITIATED AT: 1011	SAMPLING ENDED AT: 1021
PUMP OR TUBING DEPTH IN WELL (feet): 42	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N (replaced)	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	SAMPLE PUMP FLOW RATE (mL per minute)
	3	CG	40 ml	HCl	Lab	<2	[illegible]	ESP	
		CG	40 ml	4 deg. C	NA		[illegible]		
	1 ✓	PE	500 mL	4 deg. C	NA	6.67	Chloride, Flouride, Nitrate-N, TDS	ESP	0.15
	1 ✓	PE	250 mL	H2SO4	Lab.	< 2	Ammonium 350.1		
	1 ✓	PE	250 mL	HNO3	Lab.	< 2	Metals		
	2 ✓	PE	1 L	HNO3	Lab.	< 2	RA226, RA228, Gross Alpha		

REMARKS:

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

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

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Sumter County Landfill	SITE LOCATION: Sumterville, Sumter County, FL	
WELL NO: MW- 11	SAMPLE ID: MW- 11	DATE: 05.28.09

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: / feet to / feet	STATIC DEPTH TO WATER (feet): 25.08	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 – 25.08 feet) X 0.16 gallons/foot = 2.3 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.1 gallons + (0.006 gallons/foot X 43 feet) + 0.2 gallons = 0.4 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 37	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 37	PURGING INITIATED AT: 1019	PURGING ENDED AT: 1054	TOTAL VOLUME PURGED (gallons): 5.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1019	Initial	0	0.14	25.68	—	—	—	2.97	—	CL/BRN	NONE
1035	2.3	2.3	0.14	25.76	5.99	25.9	386	1.92	73.78	SL/CO	"
1046	1.5	3.8	0.14	25.76	6.23	25.9	452	1.63	4.96	CLEAR	"
1050	0.4	4.4	0.14	25.76	6.24	26.0	457	1.22	2.82	"	"
1054	0.4	5.0	0.14	25.76	6.26	26.0	462	1.07	2.18	"	"

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

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: John Prater/The Colinas Group	SAMPLER(S) SIGNATURE(S): John Prater	SAMPLING INITIATED AT: 1055	SAMPLING ENDED AT: 1105
PUMP OR TUBING DEPTH IN WELL (feet): 37	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N (replaced))	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	SAMPLE PUMP FLOW RATE (mL per minute)
	[redacted]								—
	[redacted]								—
	1 ✓	PE	500 mL	4 deg. C	NA	6.24	Chloride, Flouride, Nitrate-N, TDS	ESP	0.14GPM
	1 ✓	PE	250 mL	H2SO4	Lab.	< 2	Ammonium 350.1		
	1 ✓	PE	250 mL	HNO3	Lab.	< 2	Metals		
	2 ✓	PE	1 L	HNO3	Lab.	< 2	RA226, RA228, Gross Alpha		

REMARKS:

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

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

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

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ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Client Name	The Collins Group (CO016)	Project Number	53008
Address	509 N. Virginia Ave.	Project Name/Desc	SUMTER COUNTY VOL. RD. 8 LANDFILL
City/ST/Zip	Winter Park, FL 32789	PO # / Billing Info	
Tel / Fax	(407) 622-8176 / (407) 622-8186	Reporting Contact	Rick Potts
Sampler(s) Name, Affiliation (Print)	John Prater / The Collins Group	Billing Contact	Rick Potts
Sampler(s) Signature	John Prater		

Requested Turnaround Times: ✓ Standard; Expedited; Due __/__/__

Lab Workorder: A902294

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix	Total # of Containers	As,Al,Cd,Cr,Fe,Hg,Mn,Na,Pb,Sb,Tl	Ammonia 350.1	[illegible]	[illegible]	[illegible]	Gross Alpha	[illegible]	Radium 226 Radium 228	TDS SM2540C		Sample Comments
Preservation							N	S	I			N		N	I		
2	MW-2	05-28-09	1328	GRAB	GW	5	X	X	X	X	X	X	X	X	X		
/	~~MW-4~~				GW	5	X	X	X	X	X	X	X	X	X		DID NOT SAMPLE
/	~~MW-4A~~				GW	5	X	X	X	X	X	X	X	X	X		"
/	~~MW-4B~~				GW	5	X	X	X	X	X	X	X	X	X		"
/	~~MW-6A~~				GW	5	X	X	X	X	X	X	X	X	X		"
5	MW-8	05-28-09	1548	GRAB	GW	5	X	X	X	X	X	X	X	X	X		
4	MW-9A	"	1506	"	GW	5	X	X	X	X	X	X	X	X	X		
/	~~MW-10~~				GW	5	X	X	X	X	X	X	X	X	X		"
1	MW-11	05-28-09	1055	GRAB	GW	5	X	X	X	X	X	X	X	X	X		
3	Equipment Blank	"	1900	"	GW	5	X	X	X			X		X	X		

Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time
Andy Montanez	5/18/09 900	Andy Montanez	5/18/09 900	John Prater	5/27/09 @ 1515
		John Prater	5/28/09 17:22	[signature]	5/28/09 17:22
				Andy Montanez	5/28/09 17:22

Cooler temperature: C-391 1°C SN BHW 1°C

Condition upon receipt: Y Acceptable / Unacceptable

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ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Client Name: The Colinas Group (CO116)	Project Number: 53098
Address: 609 N. Virginia Ave.	Project Name/Desc:
City/ST/Zip: Winter Park, FL 32789	PO #/Billing Info:
Tel: (407) 622-8176	Fax: (407) 622-8196
Reporting Contact: Rick Potts	Billing Contact: Rick Potts
Sampler(s) Name, Affiliation: John Peirce / Colinas GRP.	Sampler(s) Signature: [signature]

Requested Analyses: Ammonia 350.1; Gross Alpha; Radium 226, Radium 228; TDS SM2540C

Requested Turnaround Times: / Standard; ___ Expedited; Due __/__/__

Lab Workorder: A902294

Item #	Sample ID	Collection Date	Time	Comp / Grab	Matrix	Total # of Containers	Requested analyses
1	MW-10	05.29.09	1011	GRAB	GW	5	X X X X X X X X X
2	MW-6A	↓	1125	↓	↓	↓	↓
3	MW-4B	↓	1234	↓	↓	↓	↓
4	MW-4A	↓	1338	↓	↓	↓	↓
5	MW-4	↓	1438	↓	↓	↓	↓

Relinquished By	Date/Time	Received By	Date/Time	Relinquished By	Date/Time
Andy Montanez	5/18/09 400	Andy Montanez	5/18/09 400	[signature]	05 27 09 1555
		John Peirce	05 29 09 1455	Andy Montanez	5/29/09 1555
				[signature]	5/30/09 0925

Temperature: R-100, 1°C; C-380, 0°C

Condition upon receipt: ✓ Acceptable; Unacceptable

FIELD EQUIPMENT CALIBRATION LOG

SHEET: 1 OF 1

DATE: 5-28-09 | PROJECT NAME: SUMTER COUNTY LANDFILL | PROJECT NO.: 53008

EQUIPMENT: WTW Multiline P3 | SERIAL NO.: 81552054

ACTUAL TIME: 1005 | PERFORMED BY: Joshua PRATER

CALIBRATION STANDARDS USED:		pH 4.00	pH 7.00	pH 10.00	180 us/cm	1413 us/cm	us/cm
	Lot #	7A1033	7AG125	7A1088	A7156	A8L0266	
	Expiration	Sept. '09	July '09	Sept. '09	6/1/2012	6/10/2009	

CALIBRATION READINGS LOG:		pH 4.00	pH 7.00	pH 10.00	180 us/cm	1413 us/cm	us/cm
	Before Cal.	3.99	6.97	—	—	1410	
	After Cal.	3.99	7.05	—	—	1410	
mV < 60.7 3 mV	5/29@0910	4.01	7.00	—	180	1413	
CAL ACCEPTED							

CALIBRATION TECHNIQUE/FREQUENCY: ☑ PRIOR TO USE ☑ AFTER USE ☐ EACH SAMPLE LOCATION

☐ OTHER (SPECIFY)

EQUIPMENT: WTW Oxi 330i | SERIAL NO.: 6191821

ACTUAL TIME: 1010 | PERFORMED BY:

CALIBRATION STANDARDS USED: AIR SATURATED

CALIBRATION TECHNIQUE/FREQUENCY: ☑ PRIOR TO USE ☑ AFTER USE ☐ EACH SAMPLE LOCATION

☑ OTHER (SPECIFY) 4 HOURS MAX

REMARKS/CORRECTIVE ACTION:

Date/Time	5/28/1400	1250	1010	5/29@0915	
Temp. °C	30.8	32.0	32.0	29.7	
Sat.	1.05	1.11	1.08	1.05	

CAL ACCEPTED

EQUIPMENT: HF Scientific MicroTPW 20000 Turbidimeter | SERIAL NO.: 200712047

ACTUAL TIME: 1015 | PERFORMED BY:

CALIBRATION STANDARDS USED:		0.02 ntu	10.0 ntu	1000 ntu		
	Lot #	71104	71113	71109		
	Expiration	May-09	May-09	May-09		

CALIBRATION TECHNIQUE/FREQUENCY: ☑ PRIOR TO USE ☑ AFTER USE ☐ EACH SAMPLE LOCATION

☐ OTHER (SPECIFY)

REMARKS/CORRECTIVE ACTION:		0.02 ntu	10.0 ntu	1000 ntu		
	Reading	0.03	9.91	996.5		
	AFTER CAL	0.02	10.02	1002		
	5/29@0920	0.01	9.97	997.3		
CAL ACCEPTED						

FIELD EQUIPMENT CALIBRATION LOG

SHEET: 1 OF 1

DATE: 5-29-09 | PROJECT NAME: SUMTER COUNTY LANDFILL | PROJECT NO.:

EQUIPMENT: WTW Multiline P3 | SERIAL NO.: 81552054

ACTUAL TIME: 0910 | PERFORMED BY: J. Slusher GRATEK

		pH			CONDUCTIVITY		
CALIBRATION STANDARDS USED:		pH 4.00	pH 7.00	pH 10.00	180 us/cm	1413 us/cm	us/cm
	Lot #	7A1033	7AG125	7A1088	A7156	A8L0266	
	Expiration	Sept. '09	July '09	Sept. '09	6/1/2012	6/10/2009	
CALIBRATION READINGS LOG:		pH 4.00	pH 7.00	pH 10.00	180 us/cm	1413 us/cm	us/cm
	Before Cal.	4.01	7.00	—	180	1413	
	After Cal.	3.99	7.00	—	—	1410	
	5/29/2009 1745	4.00	7.01	9.74	180	1417	

mV = -60.0 -1 mV

CAL ACCEPTED

CALIBRATION TECHNIQUE/FREQUENCY: ☑ PRIOR TO USE ☑ AFTER USE ☐ EACH SAMPLE LOCATION

☐ OTHER (SPECIFY)

EQUIPMENT: WTW Oxi 330i | SERIAL NO.: 6191821

ACTUAL TIME: 0915 | PERFORMED BY:

CALIBRATION STANDARDS USED: AIR STANDARDIZATION

CALIBRATION TECHNIQUE/FREQUENCY: ☑ PRIOR TO USE ☑ AFTER USE ☐ EACH SAMPLE LOCATION

☑ OTHER (SPECIFY) 4 HOURS MAX

REMARKS/CORRECTIVE ACTION:

Date/Time	5/29/2009	1255	1500	1750	
Temp. °C	28.7	29.8	32.0	31.9	
Sat.	1.05	1.11	1.11	1.09	

CAL ACCEPTED

EQUIPMENT: HF Scientific MicroTPW 20000 Turbidimeter | SERIAL NO.: 200712047

ACTUAL TIME: | PERFORMED BY:

CALIBRATION STANDARDS USED:	Standard	0.02 ntu	10.0 ntu	1000 ntu		
	Lot #	71104	71113	71109		
	Expiration	May-09	May-09	May-09		

CALIBRATION TECHNIQUE/FREQUENCY: ☑ PRIOR TO USE ☑ AFTER USE ☐ EACH SAMPLE LOCATION

☐ OTHER (SPECIFY)

REMARKS/CORRECTIVE ACTION:	Standard	0.02 ntu	10.0 ntu	1000 ntu		
	Reading	0.01	9.97	997.3		
	AFTER CAL	0.01	10.02	998.2		
	5/29/2009 1755	0.04	10.04	1003		

CAL ACCEPTED

Description: EQUIPMENT BLANK
Matrix: Ground Water
Project: SUMTER COUNTY VOL. RED. & LANDFILL

Lab Sample ID: A902294-05
Sampled: 05/28/09 14:00
Sampled By: John Prater

Received: 05/28/09 17:22
Work Order: A902294

Metals by EPA 200 Series Methods

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Aluminum [7429-90-5] ^	68.0	U	ug/L	1	68.0	100	9E29017	EPA 200.8	06/03/09 14:53	JAY	
Antimony [7440-36-0] ^	0.700	U	ug/L	1	0.700	5.00	9E29017	EPA 200.8	06/03/09 14:53	JAY	
Cadmium [7440-43-9] ^	**1.76**	I	ug/L	1	1.10	3.00	9E29017	EPA 200.8	06/03/09 14:53	JAY	
Chromium [7440-47-3] ^	4.50	U	ug/L	1	4.50	10.0	9E29017	EPA 200.8	06/03/09 14:53	JAY	
Iron [7439-89-6]	38.0	U	ug/L	1	38.0	50.0	9E29017	EPA 200.8	06/03/09 14:53	JAY	
Lead [7439-92-1] ^	1.20	U	ug/L	1	1.20	5.00	9E29017	EPA 200.8	06/03/09 14:53	JAY	
Manganese [7439-96-5] ^	2.00	U	ug/L	1	2.00	10.0	9E29017	EPA 200.8	06/03/09 14:53	JAY	
Mercury [7439-97-6] ^	0.024	U	ug/L	1	0.024	0.200	9E29004	EPA 245.1	06/03/09 07:40	JAY	
Silver [7440-22-4] ^	0.200	U	ug/L	1	0.200	1.00	9E29017	EPA 200.8	06/03/09 14:53	JAY	
Sodium [7440-23-5]	0.320	U	mg/L	1	0.320	1.00	9E29017	EPA 200.8	06/03/09 14:53	JAY	
Thallium [7440-28-0] ^	0.260	U	ug/L	1	0.260	1.00	9E29017	EPA 200.8	06/03/09 14:53	JAY	

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Description: EQUIPMENT BLANK
Matrix: Ground Water
Project: SUMTER COUNTY VOL. RED. & LANDFILL

Lab Sample ID: A902294-05
Sampled: 05/28/09 14:00
Sampled By: John Prater

Received: 05/28/09 17:22
Work Order: A902294

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ammonia as N [7664-41-7] ^	0.010	U	mg/L	1	0.010	0.020	9F01007	EPA 350.1	06/01/09 13:21	KBS	
Chloride [16887-00-6] ^	0.24	U	mg/L	1	0.24	5.0	9E29001	EPA 300.0	05/29/09 13:47	RSA	
Fluoride [16984-48-8] ^	0.03	U	mg/L	1	0.03	0.20	9E29001	EPA 300.0	05/29/09 13:47	RSA	
Nitrate as N [14797-55-8] ^	0.020	U	mg/L	1	0.020	1.0	9E29001	EPA 300.0	05/29/09 13:47	RSA	
Total Dissolved Solids [ECL-0156] ^	10	U	mg/L	1	10	10	9E31001	SM18 2540C	06/01/09 23:15	AH	