



**SARASOTA COUNTY**  
*"Dedicated to Quality Service"*

**Dept. of Environment  
Protection**

**APR 14 2011**

April 12, 2011

**Southwest District**

Susan Pelz, P.E.  
Solid Waste Section  
Department of Environmental Protection  
Southwest District Office  
13051 North Telecom Parkway  
Temple Terrace, Florida 33637-0926

RE: Central County Solid Waste Disposal Complex  
Permit Number 130542-007-SO/01, WACS Facility #51614  
FDEP's response letter (dated March 23, 2011) to County's response letter (dated February 2, 2011) to the Department's Notice of Evaluation Monitoring, August 10, 2010

Dear Ms. Pelz:

Enclosed is the information requested by Mr. John Morris, P.G. in an email dated March 11, 2011 to you and provided to the County in a letter dated March 23, 2011.

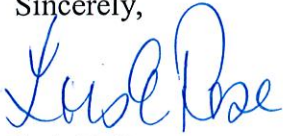
In regards to the Department's response to the County's letter dated February 2, 2011, I offer the following comments:

1. No clarification required.
2. Additional clarification required. Clarification was provided by Mr. Morris in that the requirements for this section apply only to the Phase II detection and compliance wells and the site background well.
3. Additional clarification required. A chart with parameters and sampling frequency for groundwater was provide to Mr. Morris in an email dated March 25, 2011. Mr. Morris confirmed the accuracy of the sampling chart after revisions were made in an email dated March 29, 2011. A copy of the sampling chart has been included with this correspondence.
4. No clarification required.
5. No clarification required.

In regards to the remainder of the letter, a meeting has been scheduled with the Department to discuss how to proceed with contamination evaluation. The meeting is scheduled for Wednesday, May 4 starting at 1:30 pm at the Southwest District Office.

If you any questions, please contact me at (941)861-1589 or [lerose@scgov.net](mailto:lerose@scgov.net).

Sincerely,



Lois E. Rose  
Manager, Solid Waste

Enc

cc: John Morris, P.G., FDEP SWD, Solid Waste Section



Central County Solid Waste Disposal Complex  
Groundwater Sampling  
29-Mar-11

	BKGD	Phase I						Phase II									
	MW-1R	MW-8A	MW-9	MW-10R	CW-8A	CW-9	CW-10	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	CW-15	CW-16	CW-19	CW-20
January 1 - June 30																	
Routine Monitoring Parameters:																	
Field Parameters	X	X	X	X				X	X	X	X	X	X				
Total ammonia - N	X	X	X	X				X	X	X	X	X	X				
Bicarbonate	X	X	X	X				X	X	X	X	X	X				
Carbonate	X	X	X	X				X	X	X	X	X	X				
Chlorides	X	X	X	X				X	X	X	X	X	X				
Nitrate	X	X	X	X				X	X	X	X	X	X				
Sulfate	X	X	X	X				X	X	X	X	X	X				
TDS	X	X	X	X				X	X	X	X	X	X				
Calcium	X	X	X	X				X	X	X	X	X	X				
Iron	X	X	X	X				X	X	X	X	X	X				
Magnesium	X	X	X	X				X	X	X	X	X	X				
Mercury	X	X	X	X				X	X	X	X	X	X				
Potassium	X	X	X	X				X	X	X	X	X	X				
Sodium	X	X	X	X				X	X	X	X	X	X				
Appendix I	X	X	X	X				X	X	X	X	X	X				
January 1 - June 30																	
Evaluation Monitoring Parameters:																	
Field Parameters					X	X	X							X	X	X	X
Iron					X	X	X										
Total ammonia - N					X	X	X										
TDS					X	X	X										
Arsenic					X	X	X										
Routine Monitoring Parameters (excluding Bicarbonate, Carbonate, Calcium, Magnesium, Potassium)														X	X	X	X
Appendix II	X							X	X			X	X	X	X	X	X
Aluminum	X	X	X	X				X	X	X	X	X	X	X	X	X	X
Manganese	X	X	X	X				X	X	X	X	X	X	X	X	X	X
July 1 - December 31																	
Routine Monitoring Parameters:																	
Field Parameters	X	X	X	X				X	X	X	X	X	X				
Total ammonia - N	X	X	X	X				X	X	X	X	X	X				
Bicarbonate	X	X	X	X				X	X	X	X	X	X				
Carbonate	X	X	X	X				X	X	X	X	X	X				
Chlorides	X	X	X	X				X	X	X	X	X	X				
Nitrate	X	X	X	X				X	X	X	X	X	X				
Sulfate	X	X	X	X				X	X	X	X	X	X				
TDS	X	X	X	X				X	X	X	X	X	X				
Calcium	X	X	X	X				X	X	X	X	X	X				
Iron	X	X	X	X				X	X	X	X	X	X				
Magnesium	X	X	X	X				X	X	X	X	X	X				
Mercury	X	X	X	X				X	X	X	X	X	X				
Potassium	X	X	X	X				X	X	X	X	X	X				
Sodium	X	X	X	X				X	X	X	X	X	X				
Appendix I	X	X	X	X				X	X	X	X	X	X				
July 1 - December 31																	
Evaluation Monitoring Parameters:																	
Field Parameters					X	X	X							X	X	X	X
Iron					X	X	X										
Total ammonia - N					X	X	X										
TDS					X	X	X										
Arsenic					X	X	X										
Routine Monitoring Parameters (excluding Bicarbonate, Carbonate, Calcium, Magnesium, Potassium)														X	X	X	X
Appendix II																	
Aluminum	X	X	X	X				X	X	X	X	X	X	X	X	X	X
Manganese	X	X	X	X				X	X	X	X	X	X	X	X	X	X

FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
APR 14 2011  
SOUTHWEST DISTRICT  
TAMPA



**Response to  
Mr. John Morris, P.G. email dated March 11, 2011**

1.

The January 31, 2011 letter transmitted the results of the routine ground water, surface water, leachate and gas condensate sampling events conducted during the second half of 2010 to comply with the Specific Conditions of permit #130542-007-SO/01. Additionally, the January 31, 2011 letter transmitted the results of the semi-annual evaluation monitoring sampling event conducted during the second half of 2010 at the compliance wells installed in proximity to Phase I [CW-8A, CW-9, CW-10R], and the results of the initial evaluation monitoring sampling event conducted at the compliance wells installed in proximity to Phase II [CW-15, CW-16, CW-19, CW-20]. Please have the County submit revisions to the information transmitted by the January 31, 2011 letter to address the following:

- Different versions of Department form #FD 9000-24 (the "Sampling Log") were completed for these sampling events, please use the most recently revised version of this form for future sampling events. The current version of this form includes a revision date of February 12, 2009 and can be obtained at the Department's web site at:  
<http://publicfiles.dep.state.fl.us/dear/labs/sas/formpdf/fd9000-24.pdf>.

**County Response:**        *The county will discontinue the use of forms dated prior to February 12, 2009 for form #FD9000-24 (the "Sampling Log").*

2.

- The "Purge Pump Type" item on the Sampling Logs indicated the monitor wells are equipped with peristaltic pumps, bladder pumps or submersible pumps. It is noted that the Sampling Logs completed for wells CW-8A and MW-9 on October 14, 2010, and the Sampling Log completed for well MW-19 on December 22, 2010 did not describe the purge pump type. Please submit revised Sampling Logs for wells CW-8A, MW-9 and MW-19 for these events.

**County Response:**        *See Attachment A for revised sampling logs for CW-8A, MW-9 and MW-19.*

3.

- The "Purge Pump Type" item on the Sampling Log prepared for wells MW-16 and MW-20 identified different purge pump types for the October 2010 and December 2010 events. Please confirm if the different purge pump types described for well MW-16 [bladder pump for October 2010, submersible pump for December 2010] and for well MW-20 [submersible pump for October 2010, peristaltic pump for December 2010] are correct. If not, please submit revised Sampling Logs for wells MW-16 and MW-19 for these events.

**County Response:**        *See Attachment B for revised sampling log for MW-16 for October 2010. MW-16 was sampled in October and December 2010 with a submersible pump. MW-20 was sampled with a submersible pump in October 2010 and a peristaltic pump in December 2010.*

4.

- The "Sampling Data" portion of the Sampling Logs forms #FD 9000-24 typically included the notation "See Attached Chain of Custody." It is noted that the Chain of Custody forms did not provide information for the "Sampling Equipment Code" or "Sample Pump Flow Rate" items. Please also note that as SOP #FS 2200 [Section FS 2221, "Sampling Wells Without Plumbing"] specifies the procedures to be used during the collection of samples for analysis of volatile organics when using a peristaltic pump, insufficient information was provided on the Sampling Logs for those wells that were sampled using a peristaltic pump to demonstrate that the samples were collected in accordance with this SOP. Please confirm the sample collection procedures used for those wells that were sampled using a peristaltic pump. Please complete the "Sampling Equipment Code" and "Sample Pump Flow Rate" items on the Sampling Logs for future events.

**County Response:**        *For the collection of VOCs, the SOP for the reverse flow procedure (less than 100 ml per minute) for a peristaltic pump was utilized.*

*The 2009 version of the sampling log will be used for future events and the "sampling equipment code" and "sample pump flow rate" boxes will be filled out.*



5.

- The "Field-Filtered" item on the Sampling Logs for the October 2010 event were blank for wells CW-16 and CW-19. Please submit revised Sampling Logs for wells CW-16 and CW-19 for this event.

**County Response:**

*See Attachment C for revised sampling logs for CW-16 and CW-19.*

6.

- The "Field-Filtered" item on the Sampling Logs for the October 2010 event indicated a "Y" entry for samples collected from wells MW-15, MW-16, MW-18, MW-20 and CW-15, but did not identify the filtering equipment used or the pore size of the filters. Please confirm if the samples collected from these wells were field filtered for the October 2010 event and which parameters were filtered. It is also noted that the Pace Analytical report of results for these wells did not identify "dissolved" results. In the event that samples from selected wells were filtered, the corresponding Pace Analytical reports of results should be revised accordingly. Please note that Specific Condition #E.4., of permit #130542-007-SO/01 indicates that compliance with ground water standards and minimum criteria shall be based on the analysis of unfiltered samples. In the event that the samples from these wells were filtered, the Department may require a resampling event be conducted for the affected parameters.

**County Response:**

*See Attachment D for revised sampling logs for the above mentioned wells. Filtered samples for metals were collected for the following wells; MW-1R, MW-15, MW-16, MW-19, MW-20, CW-15, CW-16, CW-19 and CW-20. The laboratory was instructed to analyze the filtered samples only if there was interference in the unfiltered samples that would cause an obscured result. Per Pace Laboratories, the filtered samples were not analyzed and the results in the report are for the "unfiltered" samples only.*

7.

- The method detection limits reported for 3 parameters included in the October 2010 sampling event at wells CW-15, CW-16, CW-19 and CW-20 did not demonstrate compliance with the ground water minimum criteria presented in Chapter 62-777, F.A.C., Table 1. Elevated MDLs were reported for Diallate, 2,4-dinitrotoluene, and Kepone. Please coordinate with Pace Analytical to determine if the results for the October 2010 sampling event for these parameters can be reported at lower detection limits (see attached table). In the event that the laboratory can report at lower detection limits, please submit revised reports of results. For any parameter that cannot be reported at sufficiently lower detection limits, please conduct a supplemental sampling event using an appropriate analytical method.

**County Response:**

*The County's contracted laboratory is working with the Department to address the 3 parameters listed above relative to method detection limits. It appears that the laboratory will be able to meet the MDLs for Diallate and Kepone. As far as 2,4-Dinitrotoluene, they are in discussions with Michael Blizzard from the Department. Below is the most recent email correspondence we have with Mr. Blizzard and Pace Analytical. Mr. Blizzards comments are in red.*

At your request we are reviewing the FDEP notification that the reporting limits for the following compounds do not meet FDEP guidelines.

Diallate does not have a target PQL in the 62-777 tables. The Groundwater guidance criteria is 0.6 ug/L. Going forward, we have a current MDL that will meet this criteria. **The lab is presumably indicating an MDL, not a PQL, that will meet the diallate criterion.**

Kepone, has a PQL guidance of 6 ug/L in the 62-777 tables. We are currently waiting on an additional standard in order to verify a detectable limit of 5



ug/L for reporting limit which will meet the criteria. We expect to be able to confirm this next week. **Not clear if detection or quantitation at this concentration is indicated with this response.**

2,4-Dinitrotoluene does not have PQL targets for SW846 method 8270 in waters in the tables in 62-777. The data reviewer quoted the Target PQL for this compound as 0.2 ug/L in waters, but this is related to the SW846 method 8330, not 8270. Since the technology is not equivalent, it would seem that the requirement to meet this PQL is questionable. We are currently looking for guidance in this matter from Michael Blizzard, FDEP Standards and Assessments Section regarding this interpretation. Meanwhile, we do have a current MDL that will meet the PQL criteria. We will keep you posted on the progress regarding this issue. **Myron may have left me a voice mail about this, but I'm not sure, and am currently out of town and will check on this when I return. You should find out what the lab is proposing for 8270, if they have not suggested something yet.**

8.

- Results for nitrate [Benchmark EnviroAnalytical] were not included for wells MW-10R, MW-18, MW-19 or MW-20. Please submit the results for nitrate in samples collected from these wells during the October 2010 event if available, otherwise please conduct a supplemental sampling event for nitrate at these wells.

**County Response:** *See Attachment E for the nitrate results from Benchmark for MW-10R, MW-18, MW-19, and MW-20. The data was inadvertently left out of the hard copy report but was included in the ADAPT data file that was previously submitted to the Department.*

9.

- Ground water samples were collected between October 13, 2010 and October 18, 2010. The tabulated ground water and surface water elevations and the water table surface elevation contour map were submitted for water levels measured on November 2, 2010. The depth to water level measurements recorded at the time of sample collection [indicated on the Sampling Log forms] were compared to the water levels measured on November 2, 2010. The majority of the wells [11 of 17 locations] showed a decline in ground water elevation between the middle of October 2010 and November 2, 2010 that ranged from 0.16 to 0.63 feet. A significantly greater decline in water levels was measured at well MW-15 [1.93 feet decline] during this same period. An increase in ground water elevations between the middle of October 2010 and November 2, 2010 was recorded for five wells [CW-16, MW-18, MW-19, CW-19 and CW-20]. Please provide an evaluation of the causes for the divergences in ground water elevations during this period of time at different parts of the facility.

**County Response:** *There was very little rainfall at the Central County Landfill for the last six months. During October 2010 no rainfall was recorded. On November 2, 2010, 0.30 inches of rainfall was recorded, however this would not have impacted groundwater elevations read on that same day.*

*During the October sampling event a consultant sampled the Phase II detection and compliance wells, while county staff sampled the remaining wells. When reading elevations or sampling a well, county staff opens the protective well cover, removes the well plug and then allows the well to equilibrate before water elevation readings are taken. This process is used every time to ensure accurate readings. It is unknown how the consultant took the initial elevation measurements which may account for the divergences.*

10.

- The table entitled "Exceedances of MCLs Summary" appears to be inconsistent with the Pace Analytical report of results for the following:
  - CW-15, sodium result for the October 2010 sampling event was omitted [the exceedance of the ground water standard was confirmed by the December 2010 resampling event]
  - CW-15, manganese result for the October 2010 sampling event was omitted [the exceedance of the ground water standard was confirmed by the December 2010 resampling event]
  - CW-15, chloride exceedance was omitted [283 mg/L]
  - MW-18, ammonia exceedance was omitted [16.4 mg/L]
  - MW-19, pH measurement at 6.01 or 6.08 S.U. [Sampling Log form is unclear, Pace Analytical report indicated 6.08 S.U.]
  - CW-20, TDS exceedance indicated to be 500 mg/L, Pace Analytical report indicated TDS at 603 mg/LPlease review these inconsistencies and submit a revised summary table.

**County Response:** *CW-15, table has been updated with October and December results. The December samples were collected to confirm the presence and levels of chloride, sodium and manganese in the compliance well. Exceedances of the MCL for sodium and manganese were confirmed for both sampling events. Chloride was detected during the December sampling event but did not exceed the MCL of 250 mg/L. For all three parameters the levels detected in the December sampling event has decreased in concentration.*

*MW-18, see page 153 of the Pace report, ammonia is reported at 2.3 mg/L. The regulatory limit is 2.8mg/L, therefore the result was not reported as an exceedance.*

*MW-19, this well was sampled by a consultant. The pH is correct as recorded.*

*CW-20, the discrepancy for TDS result has been noted and the result has been revised in the "Exceedances of MCLs Summary" table. See Attachment F.*

11.

The February 2, 2011 letter provided information regarding the construction details and development activities conducted at new compliance wells CW-15, CW-16, CW-19 and CW-20. Please have the County submit revisions to the information transmitted by the February 2, 2011 letter to address the following:

- The "Monitoring Well Completion Report" [Department Form #62-701.900(30)] requests the lithologic log at the well location be attached. Please submit a description of the lithology encountered each of the new compliance well locations. Please also revise the forms for each new compliance wells to complete the "Aquifer Monitored" item [assumed to be the surficial aquifer].

**County Response:** *The contractor that installed the wells did not prepared individual lithologic logs for the compliance wells. Included in Attachment G is the SWFWMD Well Completion Report submittal for the wells that includes information for the Drill Cuttings Log.*

*The Aquifer Monitored is the "Shallow Aquifer", otherwise known as the Surficial Aquifer. The updated FDEP Monitoring Well Completion Reports for CW-15, CW-16, CW-19 and CW-20 are included in Attachment G.*

12.

- Please submit revisions to the "Monitoring Well Completion Report" forms to provide additional details of well development if available [e.g., turbidity measurements recorded during development, visual appearance of discharge water during development, total volume pumped, water level measurements conducted during development, surging/swabbing activities completed, if wells were pumped dry during development, etc.] to demonstrate that the wells were appropriately constructed for the formation monitored and sufficiently developed to produce representative ground water samples [turbidity less than 20 NTU].



**County Response:** *See Attachment H for the "Well Construction and Development Log" for CW-15, CW-16, CW-19 and CW-20 that were provided by the contractor. Data in regards to the development of each well is limited.*

13.

- The table entitled "Phase II Monitoring and Compliance Wells" appears to be inconsistent with the Pace Analytical reports of results for the following:
  - CW-15, sodium result for the October 2010 sampling event was omitted [the exceedance of the ground water standard was confirmed by the December 2010 resampling event]
  - CW-15, manganese result for the October 2010 sampling event was omitted [the exceedance of the ground water standard was confirmed by the December 2010 resampling event]
  - CW-15, chloride exceedance was omitted [283 mg/L]
  - MW-18, pH measurement indicated at 6.42 S.U., the Sampling Log and Pace Analytical report indicated 6.29 S.U.
  - MW-18, ammonia exceedance was omitted [16.4 mg/L]
  - MW-19, pH measurement is unclear [Sampling Log form is unclear, Pace Analytical report indicated 6.08 S.U.]

**County Response:** *See Attachment I for revised "Phase II Monitoring & Compliance Wells" report.*

*Results for CW-15 have been revised in the table.*

*MW-18, see page 153 of the Pace report, ammonia is reported at 2.3 mg/L. The regulatory limit is 2.8mg/L, therefore the result was not reported as an exceedance.*

*MW-19, this well was sampled by a consultant. The pH is correct as recorded.*

14.

The February 2, 2011 letter indicates that "historical data for the site that confirmed exceedances of the ground water standards prior to the development of the landfill for chlorides and sodium." Additionally, the table entitled "Phase II Monitoring and Compliance Wells" references the SCS report dated June 28, 2002 in the notations provided for sodium and chloride. The context of the discussion of sodium and chloride concentrations presented in the referenced SCS report was not provided in the February 2, 2011 letter. However, it is noted that exceedances of the ground water standards for sodium and chloride in the Phase II detection and compliance wells appear to be limited to discrete locations in proximity to the Phase II footprint [sodium exceedances at CW-15, MW-16, CW-16; chloride exceedances at CW-15, MW-16]. This limited occurrence of elevated sodium and chloride concentrations does not appear to support the inference that exceedances of these parameters are representative of the surficial aquifer at the property as presented in the February 2, 2011 letter.

**County Response:** *The reference to historical data for the site was discussed in the Groundwater Monitoring Plan Evaluation Report conducted by SCS Engineers, dated June 28, 2002 and in the January 2000 Biennial Groundwater Quality Report. In Section IV of the June 28, 2002 report it infers the presence of sodium chloride water (mineralized waste) prior to the development of CCSWDC based in well sampling at the site starting in 1994. If the Department is unable to locate this report, please advise and the County will provide a copy.*

## **Attachment A**









# GROUNDWATER SAMPLING LOG

SITE NAME: Central County Solid Waste Disposal		SITE LOCATION: 4000 Knights Trail Rd	
WELL NO: MW-19	SAMPLE ID: 23035	DATE: 12/22/10	

## PURGING DATA

[illegible]

## SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Alison Eggleston / EST III		SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>		SAMPLING INITIATED AT: 0925		SAMPLING ENDED AT: 0928	
PUMP OR TUBING DEPTH IN WELL (feet): 21.5		TUBING MATERIAL CODE: PPE,S		FIELD-FILTERED: Y (N)		Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y (N)		TUBING Y (N (replaced))		DUPLICATE: Y (N)			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION		INTENDED ANALYSIS AND/OR METHOD	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	SAMPLING EQUIPMENT CODE
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 = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = 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:**  $\pm 0.2$  units **Temperature:**  $\pm 0.2$  °C **Specific Conductance:**  $\pm 5\%$  **Dissolved Oxygen:** all readings  $\leq 20\%$  saturation (see Table FS 2200-2); optionally,  $\pm 0.2$  mg/L or  $\pm 10\%$  (whichever is greater) **Turbidity:** all readings  $\leq 20$  NTU; optionally  $\pm 5$  NTU or  $\pm 10\%$  (whichever is greater)

Revision Date: February 12, 2009

## **Attachment B**



DEP-SOP-001/01  
FS 2200 Groundwater Sampling  
Form FD 9000-24  
**GROUNDWATER SAMPLING LOG**

FACILITY NAME: Central County Solid Waste Disposal		FACILITY LOCATION: 4000 Knights Trail Road	
MONITORING_SITE_NUM: MW-16		WACS_WELL: 23032	DATE: 10/15/10

**PURGING DATA**

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 19.8 feet to 29.8 feet	STATIC DEPTH TO WATER (feet): 25.32	PURGE PUMP TYPE <sup>de</sup> OR BAILER: BP ESP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable) = (29.8 feet - 25.32 feet) X (500 ml) gallons/foot = x 1.5 = 0.734 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) + (500 ml) gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 29	PURGING INITIATED AT: 10:53	PURGING ENDED AT: 11:05	TOTAL VOLUME PURGED (gallons): 4.34							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10:48	3.3	3.3	0.5	26.9	6.24	27.6	2796	2.9	57.8	Amber	None
12:09	7.65	10.98	0.15	26.9	6.24	29.2	2765	4.6	181	Cloudy	None
12:48	2.7	13.68	0.3	27.8	6.30	27.3	2777	1.4	100	Amber	None
10:57	0.42	0.42	0.14	27.8	6.38	25.5	2720	12.8	61.1	Amber	None
11:17	2.8	3.22	0.14	27.8	6.31	26.3	2730	16.5	15.1	Amber	None
11:23	0.84	4.06	0.14	27.8	6.40	26.0	2771	9.34	19.34	Amber	None
11:25	0.28	4.34	0.14	27.8	6.32	26.3	2713	9.00	10.4	Amber	None
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: Randall Murphy, DET				SAMPLER(S) SIGNATURES: Randall Murphy				SAMPLING INITIATED AT: 11:25		SAMPLING ENDED AT: 11:55	
PUMP OR TUBING DEPTH IN WELL (feet): 29				SAMPLE PUMP FLOW RATE (mL per minute): 600 ml				TUBING MATERIAL CODE: PE			
FIELD DECONTAMINATION: Y				FIELD-FILTERED: Y Filtration Equipment Type: Titan F3000 Filter				DUPLICATE: Y			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	
SAMPLE ID CODE	# CO NTA INE RS	MATERI AL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
SEE ATTACHED CHAIN OF CUSTODY											
REMARKS: Final water level 27.1											
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 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)

## **Attachment C**



DEP-SOP-001/01  
FS 2200 Groundwater Sampling  
Form FD 9000-24  
**GROUNDWATER SAMPLING LOG**

FACILITY NAME: <b>Central County Solid Waste Disposal</b>	FACILITY LOCATION: <b>4000 Knights Trail Road</b>
MONITORING_SITE_NUM: <b>CW-16</b>	WACS_WELL: <b>27139</b> DATE: <b>10/13/10</b>

**PURGING DATA**

WELL DIAMETER (inches): <b>2</b>	TUBING DIAMETER (inches): <b>3/8</b>	WELL SCREEN INTERVAL DEPTH: <b>6</b> feet to <b>16</b> feet	STATIC DEPTH TO WATER (feet): <b>11.92</b>	PURGE PUMP TYPE OR BAILER: <b>BP PP</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = ( <b>16</b> feet - <b>11.92</b> feet ) X ( <b>500</b> ml ) gallons/foot = <b>x 1.5</b> = <b>gallons</b>				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = <b>gallons</b> + ( <b>gallons/foot</b> X <b>feet</b> ) + ( <b>500</b> ml ) gallons = <b>gallons</b>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>13</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>13.5</b>	PURGING INITIATED AT: <b>1518</b>	PURGING ENDED AT: <b>1612</b>	TOTAL VOLUME PURGED (gallons): <b>2.4</b>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1551	1.0	1	0.10	12.05	6.61	27.8	1463	5.6	40.7	yellow	None
1603	0.5	1.5	"	12.11	5.98	27.8	1497	4.5	19.9	"	"
1606	0.3	1.8	"	12.16	5.99	27.7	1527	3.8	18.0	"	"
1609	0.3	2.1	"	12.18	5.98	27.7	1533	3.5	18.1	"	"
1612	0.3	2.4	"	12.21	5.17	27.7	1534	3.3	16.4	"	"

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: <b>Andrew Petric / Dunk.</b>				SAMPLER(S) SIGNATURES: <i>[Signature]</i>				SAMPLING INITIATED AT: <b>1612</b>		SAMPLING ENDED AT: <b>1640</b>	
PUMP OR TUBING DEPTH IN WELL (feet): <b>13.5</b>				SAMPLE PUMP FLOW RATE (mL per minute): <b>500</b> ml				TUBING MATERIAL CODE: <b>PE</b>			
FIELD DECONTAMINATION: <b>Y</b> (N)				FIELD-FILTERED: (Y) <b>N</b> FILTER SIZE: <b>1.0</b> µm Filtration Equipment Type: <b>Titan F3000 Filter</b>				DUPLICATE: <b>Y</b> (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			
<b>SEE ATTACHED CHAIN OF CUSTODY</b>									

REMARKS: **Final water level = 12.21      2.5' static - 4" draw measured from top**

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 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)

## PURGING DATA

## SAMPLING DATA

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

## **Attachment D**





DEP-SOP-001/01  
FS 2200 Groundwater Sampling  
Form FD 9000-24  
**GROUNDWATER SAMPLING LOG**

FACILITY NAME: <b>Central County Solid Waste Disposal</b>	FACILITY LOCATION: <b>4000 Knights Trail Road</b>
MONITORING_SITE_NUM: <b>MW-15</b>	WACS_WELL: <b>23031</b> DATE: <b>10/14/10</b>

**PURGING DATA**

WELL DIAMETER (inches): <b>2</b>	TUBING DIAMETER (inches): <b>3/8</b>	WELL SCREEN INTERVAL DEPTH: <b>20</b> feet to <b>30</b> feet	STATIC DEPTH TO WATER (feet): <b>24.77</b>	PURGE PUMP TYPE OR BAILER: <b>BP ESP</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = ( <b>30</b> feet - <b>24.77</b> feet ) X (500 ml) gallons/foot = x 1.5 = <b>0.83</b> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = <b>3</b> gallons + (      gallons/foot X      feet ) + (500 ml) gallons =      gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>26</b>		FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>27</b>		PURGING INITIATED AT: <b>1016</b>		PURGING ENDED AT: <b>1042</b>		TOTAL VOLUME PURGED (gallons): <b>7.8</b>			
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
<b>1030</b>	<b>4.2</b>	<b>4.2</b>	<b>0.3</b>	<b>26.3</b>	<b>6.31</b>	<b>27.1</b>	<b>3751</b>	<b>5.4</b>	<b>140</b>	<b>Br</b>	<b>None</b>
<b>1036</b>	<b>1.5</b>	<b>6.0</b>	<b>0.3</b>	<b>26.3</b>	<b>6.30</b>	<b>27.4</b>	<b>3923</b>	<b>3.0</b>	<b>20.0</b>	<b>Clear</b>	<b> </b>
<b>1040</b>	<b>1.2</b>	<b>7.2</b>	<b>0.3</b>	<b>26.3</b>	<b>6.29</b>	<b>27.3</b>	<b>3918</b>	<b>2.7</b>	<b>15.0</b>	<b>Amber</b>	<b> </b>
<b>1042</b>	<b>0.6</b>	<b>7.8</b>	<b>0.3</b>	<b>26.74</b>	<b>6.28</b>	<b>27.3</b>	<b>3750</b>	<b>2.6</b>	<b>19.9</b>	<b>Amber</b>	<b> </b>

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: <b>Russell Murphy / DEP</b>	SAMPLE(S) SIGNATURES: <i>Russell Murphy</i>	SAMPLING INITIATED AT: <b>1045</b>	SAMPLING ENDED AT: <b>1100</b>
PUMP OR TUBING DEPTH IN WELL (feet): <b>27</b>	SAMPLE PUMP FLOW RATE (ml per minute): <b>100</b> ml	TUBING MATERIAL CODE: <b>PE</b>	
FIELD DECONTAMINATION: <b>Y</b> <input checked="" type="checkbox"/>	FIELD-FILTERED: <b>Y</b> <input checked="" type="checkbox"/> N <input type="checkbox"/> FILTER SIZE: <b>1.0</b> µm Filtration Equipment Type: <b>Titan F 3000 Filter</b>	DUPLICATE: <b>Y</b> <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		
SEE ATTACHED CHAIN OF CUSTODY								

REMARKS: **Final water level**

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 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)

DEP-SOP-001/01  
FS 2200 Groundwater Sampling  
Form FD 9000-24  
**GROUNDWATER SAMPLING LOG**

FACILITY NAME: Central County Solid Waste Disposal	FACILITY LOCATION: 4000 Knights Trail Road
MONITORING_SITE_NUM: MW-16	WACS_WELL: 23032
DATE: 10/15/10	

**PURGING DATA**

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 19.8 feet to 29.8 feet	STATIC DEPTH TO WATER (feet): 25.32	PURGE PUMP TYPE: <sup>2E</sup> BP ESP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (29.8 feet - 25.32 feet) X (500 ml) gallons/foot = 0.736 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) + (500 ml) gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 29	PURGING INITIATED AT: 10:53	PURGING ENDED AT: 11:25	TOTAL VOLUME PURGED (gallons): 4.34

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10:48	3.3	3.3	0.13	26.9	6.24	27.6	2796	2.9	57.8	Amber	None
12:29	7.65	10.98	0.15	26.9	6.24	29.2	2765	4.6	186	Cloudy	None
12:48	2.7	13.68	0.3	27.8	6.30	27.3	2777	7.4	100	Amber	None
10:57	0.42	0.42	0.14	27.8	6.38	25.5	2720	12.8	61.1	Amber	None
11:17	2.8	3.22	0.14	27.8	6.31	26.3	2730	16.5	15.1	Amber	None
11:23	0.84	4.06	0.14	27.8	6.42	26.0	2771	9.34	19.34	Amber	None
11:25	0.28	4.34	0.14	27.8	6.32	26.3	2713	9.04	10.4	Amber	None
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: Randall Murphy / Det			SAMPLER(S) SIGNATURES: Randall Murphy			SAMPLING INITIATED AT: 11:25		SAMPLING ENDED AT: 11:55	
PUMP OR TUBING DEPTH IN WELL (feet): 29			SAMPLE PUMP FLOW RATE (mL per minute): 600 ml			TUBING MATERIAL CODE: PE			
FIELD DECONTAMINATION: Y			FIELD-FILTERED: N Filtration Equipment Type: Titan F3000 Filter			DUPLICATE: Y			

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		
SEE ATTACHED CHAIN OF CUSTODY								

REMARKS: Final water level 27.1

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 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)



DEP-SOP-001/01  
FS 2200 Groundwater Sampling  
Form FD 9000-24  
**GROUNDWATER SAMPLING LOG**

FACILITY NAME: <b>Central County Solid Waste Disposal</b>	FACILITY LOCATION: <b>4000 Knights Trail Road</b>
MONITORING_SITE_NUM: <b>MW-19</b>	WACS_WELL: <b>23035</b> DATE: <b>10/18/10</b>

**PURGING DATA**

WELL DIAMETER (inches): <b>2</b>	TUBING DIAMETER (inches): <b>1/2</b>	WELL SCREEN INTERVAL DEPTH: <b>12.5</b> feet to <b>22.5</b> feet	STATIC DEPTH TO WATER (feet): <b>19.9</b>	PURGE PUMP TYPE OR BAILER: <b>BP ESP</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = ( <b>22.5</b> feet - <b>19.9</b> feet ) X ( <b>500</b> ml ) gallons/foot = X 1.5 = <b>0.41</b> 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 ) + ( <b>500</b> ml ) gallons =      gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>21</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>21</b>	PURGING INITIATED AT: <b>0859</b>	PURGING ENDED AT: <b>1049</b>	TOTAL VOLUME PURGED (gallons): <b>4.64</b>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
<b>1007</b>	<b>1.28</b>	<b>1.28</b>	<b>0.16</b>	<b>20.2</b>	<b>6.04</b>	<b>26.3</b>	<b>789</b>	<b>7.7</b>	<b>17</b>	<b>Amber</b>	<b>None</b>
<b>1047</b>	<b>3.2</b>	<b>4.48</b>	<b>0.08</b>	<b>20.2</b>	<b>6.08</b>	<b>27.3</b>	<b>819</b>	<b>12.6</b>	<b>12</b>	<b>Amber</b>	<b>None</b>
<b>1049</b>	<b>0.16</b>	<b>4.64</b>	<b>0.08</b>	<b>20.2</b>	<b>6.08</b>	<b>27.3</b>	<b>823</b>	<b>11.7</b>	<b>7</b>	<b>Amber</b>	<b>None</b>

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: <b>Russell Murphy / DET</b>			SAMPLER(S) SIGNATURES: <i>[Signature]</i>			SAMPLING INITIATED AT: <b>1049</b>		SAMPLING ENDED AT: <b>1140</b>	
PUMP OR TUBING DEPTH IN WELL (feet): <b>21</b>			SAMPLE PUMP FLOW RATE (mL per minute): <b>0.16</b> ml			TUBING MATERIAL CODE: <b>PE</b>			
FIELD DECONTAMINATION: <b>Y</b> N			FIELD-FILTERED: <b>Y</b> N      FILTER SIZE: <b>1.0 µm</b> Filtration Equipment Type: <b>Titan F3000 Filter</b>			DUPLICATE: <b>Y</b> <b>N</b>			

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		
<b>SEE ATTACHED CHAIN OF CUSTODY</b>								

REMARKS: **Final water level**

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 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)

DEP-SOP-001/01  
FS 2200 Groundwater Sampling  
Form FD 9000-24  
**GROUNDWATER SAMPLING LOG**

FACILITY NAME: <b>Central County Solid Waste Disposal</b>	FACILITY LOCATION: <b>4000 Knights Trail Road</b>	DATE: <b>10/18/10</b>
MONITORING_SITE_NUM: <b>MW-20</b>	WACS_WELL: <b>23036</b>	

**PURGING DATA**

WELL DIAMETER (inches): <b>2</b>	TUBING DIAMETER (inches): <b>1/2</b>	WELL SCREEN INTERVAL DEPTH: <b>12</b> feet to <b>27</b> feet	STATIC DEPTH TO WATER (feet): <b>18.75</b>	PURGE PUMP TYPE OR BAILER: <b>BP ESP</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable) = ( <b>22.0</b> feet - <b>18.75</b> feet ) X ( <b>500</b> ml ) gallons/foot = x 1.5 = <b>0.65</b> gallons <b>0.52</b>				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) <b>NA</b> = \ gallons + ( \ gallons/foot X \ feet ) + ( <b>500</b> ml ) gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: <b>1158</b>	PURGING ENDED AT: <b>1247</b>	TOTAL VOLUME PURGED (gallons): <b>4.9</b>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1233	3.5	3.5	0.1	21.2	6.57	28.3	2324	8.0	25	Clear	None
1238	0.5	4.0	0.1	21.2	6.59	29.4	2356	7.9	21	Clear	None
1240	0.2	4.2	0.1	21.2	6.59	29.9	2369	9.3	14	Clear	None
1245	0.5	4.7	0.1	21.2	6.58	30.1	2365	7.4	9	Clear	None
1247	0.2	4.9	0.1	21.2	6.58	30.4	2372	8.7	7	Clear	None
					✓	✓	✓	✓	✓		

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: <b>Randall Murphy, DEP</b>			SAMPLER(S) SIGNATURES: <i>[Signature]</i>			SAMPLING INITIATED AT: <b>1247</b>		SAMPLING ENDED AT: <b>13:45</b>	
PUMP OR TUBING DEPTH IN WELL (feet):			SAMPLE PUMP FLOW RATE (mL per minute): <b>500</b> ml			TUBING MATERIAL CODE: <b>PE</b>			
FIELD DECONTAMINATION: <b>Y</b>			FIELD-FILTERED: <b>Y</b> FILTER SIZE: <b>1.0 µm</b> Filtration Equipment Type: <b>Titan F 3000 Filter</b>			DUPLICATE: <b>Y</b>		<b>N</b>	

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		
SEE ATTACHED CHAIN OF CUSTODY								

REMARKS: **Final water level**

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

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

NOTES: 1. The above do not constitute all 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: <u>Central County Solid Waste Disposal</u>		SITE LOCATION: <u>4000 KNIGHTS TROLL ROAD</u>	
WELL NO: <u>CLOIS</u>		SAMPLE ID: <u>27138</u>	
DATE: <u>10/15/10</u>			

**PURGING DATA**

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>3/8</u>	WELL SCREEN INTERVAL DEPTH: <u>7</u> feet to <u>17</u> feet	STATIC DEPTH TO WATER (feet): <u>10.5</u>	PURGE PUMP TYPE OR BAILER: <u>PP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = <u>(17.0 - 10.5)</u> feet X <u>0.16</u> gallons/foot = <u>1.04</u> 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): 12			FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12			PURGING INITIATED AT: 1355		PURGING ENDED AT: 1421		TOTAL VOLUME PURGED (gallons): 3.38	
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)
1410	1.95	1.95	0.13	11.6	6.41	27.6	2471	21.4	15.5	Amber	None
1413	0.59	2.34	0.13	11.6	6.44	26.9	1268	22.2	13.8	Amber	None
1418	0.6	2.94	0.13	11.6	6.42	26.7	2662	18.8	17.0	Amber	None
1420	0.26	3.25	0.13	11.75	6.41	26.7	2589	15.1	12.6	Amber	None
1421	0.13	3.38	0.13	11.75	6.39	26.7	2591	12.6	10.3	Amber	None
					✓	✓	✓	22.0	✓		

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: <u>Russell Murphy / Det</u>		SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>		SAMPLING INITIATED AT: <u>1421</u>		SAMPLING ENDED AT: <u>1445</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>12</u>		TUBING MATERIAL CODE: <u>PE</u>		FIELD-FILTERED: <u>(Y)</u> <u>N</u>		FILTER SIZE: <u>1.0 µm</u>	
FIELD DECONTAMINATION: PUMP <u>Y</u> <u>(N)</u> TUBING <u>Y</u> <u>(N)</u> (replaced)				DUPLICATE: <u>Y</u> <u>N</u>			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
			<u>See CAPN OF Custody</u>						
			<u>ATTN: [Signature]</u>						

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



DEP-SOP-001/01  
FS 2200 Groundwater Sampling  
Form FD 9000-24  
**GROUNDWATER SAMPLING LOG**

FACILITY NAME: <b>Central County Solid Waste Disposal</b>	FACILITY LOCATION: <b>4000 Knights Trail Road</b>
MONITORING_SITE_NUM: <b>CW-16</b>	WACS_WELL: <b>27139</b> DATE: <b>10/13/10</b>

**PURGING DATA**

WELL DIAMETER (inches): <b>2</b>	TUBING DIAMETER (inches): <b>3/8</b>	WELL SCREEN INTERVAL DEPTH: <b>6</b> feet to <b>16</b> feet	STATIC DEPTH TO WATER (feet): <b>11.92</b>	PURGE PUMP TYPE OR BAILER: <b>BP PP</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable) = ( <b>18</b> feet - <b>11.92</b> feet ) X (500 ml) gallons/foot = <b>x 1.5</b> = <b>gallons</b>				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = <b>gallons</b> + ( <b>gallons/foot</b> X <b>feet</b> ) + (500 ml) gallons = <b>gallons</b>				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>13</b>		FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>13.5</b>		PURGING INITIATED AT: <b>1548</b>		PURGING ENDED AT: <b>1612</b>		TOTAL VOLUME PURGED (gallons): <b>2.4</b>			
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1551	1.0	1	0.10	12.05	6.01	27.4	1463	5.6	40.7	yellow	None
1603	0.5	1.5	"	12.11	5.98	27.8	1497	4.5	19.9	"	"
1606	0.3	1.8	"	12.16	5.98	27.7	1527	3.8	18.0	"	"
1609	0.3	2.1	"	12.18	5.98	27.7	1533	3.5	18.1	"	"
1612	0.3	2.4	"	12.21	5.17	27.7	1536	3.3	16.4	"	"

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: <b>Andrew Petric / Duke</b>		SAMPLER(S) SIGNATURES: <b>JP</b>		SAMPLING INITIATED AT: <b>1612</b>		SAMPLING ENDED AT: <b>1640</b>	
PUMP OR TUBING DEPTH IN WELL (feet): <b>13.5</b>		SAMPLE PUMP FLOW RATE (mL per minute): <b>500 ml</b>		TUBING MATERIAL CODE: <b>PE</b>			
FIELD DECONTAMINATION: <b>Y</b> (N)		FIELD-FILTERED: <b>Y</b> (N)      FILTER SIZE: <b>1.0 µm</b>		DUPLICATE: <b>Y</b> (N)			
Filtration Equipment Type: <b>Titan F3000 Filter</b>							

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		
<b>SEE ATTACHED CHAIN OF CUSTODY</b>								

REMARKS: Final water level = **12.21**      **2.5' static - up**      **Dist Measured from Top**

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 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)

DEP-SOP-001/01  
FS 2200 Groundwater Sampling  
Form FD 9000-24  
**GROUNDWATER SAMPLING LOG**

FACILITY NAME: <b>Central County Solid Waste Disposal</b>	FACILITY LOCATION: <b>4000 Knights Trail Road</b>
MONITORING_SITE_NUM: <b>CW-19</b>	WACS_WELL: <b>27140</b> DATE: <b>10/11/10</b>

**PURGING DATA**

WELL DIAMETER (inches): <b>2</b>	TUBING DIAMETER (inches): <b>3/8</b>	WELL SCREEN INTERVAL DEPTH: <b>7</b> feet to <b>17</b> feet	STATIC DEPTH TO WATER (feet): <b>10.60</b>	PURGE PUMP TYPE OR BAILER: <b>SP PP</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable) = ( <b>17</b> feet - <b>10.6</b> feet ) X (500 ml) gallons/foot = x 1.5 = <b>1.04</b> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) <b>N/A</b> = <b>0</b> gallons + ( <b>0</b> gallons/foot X <b>0</b> feet ) + (500 ml) gallons = <b>0</b> gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>12</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>13</b>	PURGING INITIATED AT: <b>1243</b>	PURGING ENDED AT: <b>1302</b>	TOTAL VOLUME PURGED (gallons): <b>1.9</b>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/c m or µS/cm)	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1253	1.00	1.00	0.10	11.45	6.62	29.2	659	6.5	12.0	clear	none
1256	0.8	1.8	0.10	11.50	6.58	29.1	665	5.3	9.6	1	"
1259	0.8	1.8	0.10	11.53	6.56	29.1	659	5.0	6.7	1	"
1302	0.3	2.1	0.10	11.55	6.56	29.0	653	4.4	5.0	1	11

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: <b>Andrew Petric</b>			SAMPLER(S) SIGNATURES: <i>[Signature]</i>			SAMPLING INITIATED AT: <b>1302</b>		SAMPLING ENDED AT: <b>1335</b>	
PUMP OR TUBING DEPTH IN WELL (feet): <b>13</b>			SAMPLE PUMP FLOW RATE (mL per minute): <b>500</b> ml			TUBING MATERIAL CODE: <b>PE</b>			
FIELD DECONTAMINATION: <b>Y</b> <input checked="" type="checkbox"/>			FIELD-FILTERED: <b>Y</b> <input checked="" type="checkbox"/> N <input type="checkbox"/> FILTER SIZE: <b>1.0</b> µm Filtration Equipment Type: <b>Titan F3000 Filter</b>			DUPLICATE: <b>Y</b> <input checked="" type="checkbox"/> N <input 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		
SEE ATTACHED CHAIN OF CUSTODY								

REMARKS: Final water level = **11.55'**      **Open from TOC, 2.5' stick up**

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 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)

DEP-SOP-001/01  
FS 2200 Groundwater Sampling  
Form FD 9000-24  
**GROUNDWATER SAMPLING LOG**

FACILITY NAME: <b>Central County Solid Waste Disposal</b>		FACILITY LOCATION: <b>4000 Knights Trail Road</b>	
MONITORING_SITE_NUM: <b>CW-20</b>		WACS_WELL: <b>27141</b>	DATE: <b>10/13/10</b>

**PURGING DATA**

WELL DIAMETER (inches): <b>2</b>	TUBING DIAMETER (inches): <b>3/8</b>	WELL SCREEN INTERVAL DEPTH: <b>7</b> feet to <b>17</b> feet	STATIC DEPTH TO WATER (feet): <b>11.17</b>	PURGE PUMP TYPE OR BAILER: <b>PP</b>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY only fill out if applicable) = ( <b>17</b> feet - <b>11.2</b> feet ) X <b>11.2</b> (500 ml) gallons/foot = x 1.5 = gallons <b>0.93</b>				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) <b>N/A</b> = \ gallons + ( gallons/foot X \ feet ) + \ (500 ml) gallons = gallons \				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <b>12.5</b>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <b>13</b>	PURGING INITIATED AT: <b>0924</b>	PURGING ENDED AT: <b>0946</b>	TOTAL VOLUME PURGED (gallons): <b>2.2</b>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/c m or (SCM))	DISSOLVED OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0934	1.0	1.0	0.10	11.95	6.64	27.4	800	5.5	24.4	white	None
0938	0.4	1.4	0.10	11.97	6.70	27.5	833	5.1	16.1	white	"
0942	0.4	1.8	0.10	11.98	6.71	27.5	850	4.9	16.0	white	"
0946	0.4	2.2	0.10	11.99	6.68	27.5	854	4.7	14.6	white	"

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: <b>Andrew Petric / Duxbury</b>		SAMPLER(S) SIGNATURES: <b>CP</b>		SAMPLING INITIATED AT: <b>0946</b>	SAMPLING ENDED AT: <b>0920</b>
PUMP OR TUBING DEPTH IN WELL (feet): <b>13</b>		SAMPLE PUMP FLOW RATE (mL per minute): <b>500 ml</b>		TUBING MATERIAL CODE: <b>PE</b>	
FIELD DECONTAMINATION: Y <input checked="" type="radio"/> N		FIELD-FILTERED: <input checked="" type="radio"/> Y <input type="radio"/> N FILTER SIZE: <b>1.0 µm</b> Filtration Equipment Type: <b>Titan F. 3000 Filter</b>		DUPLICATE: Y <input type="radio"/> N <input checked="" type="radio"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CO NTA INE RS	MATERI AL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
SEE ATTACHED CHAIN OF CUSTODY								

REMARKS: Final water level : **11.99'** "stick-up" = 2 ft, BTW measured from TOC

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 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)



SITE NAME: <b>Central County Solid Waste Disposal</b>		SITE LOCATION: <b>4000 Knights Trail Road</b>	
WELL NO: <b>MW-18 (23034)</b>	SAMPLE ID:	DATE: <b>10/18/10</b>	

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 16.1 feet to 25.1 feet	STATIC DEPTH TO WATER (feet): 22.3	PURGE PUMP TYPE OR BAILER: E3P
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
= ( 25.1 feet - 22.3 feet ) X 0.16 gallons/foot = 0.448 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				

<b>WELL CAPACITY</b> (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 <b>TUBING INSIDE DIA. CAPACITY</b> (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									
<b>PURGING EQUIPMENT CODES:</b> B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)									

SAMPLED BY (PRINT) / AFFILIATION: <i>Russell Murphy / DET</i>				SAMPLER(S) SIGNATURE(S): <i>Russell Murphy</i>			SAMPLING INITIATED AT: <i>0919</i>		SAMPLING ENDED AT: <i>0923</i>	
PUMP OR TUBING DEPTH IN WELL (feet): <i>23.0</i>				TUBING MATERIAL CODE: <i>PC</i>		FIELD-FILTERED: <i>Yes</i> Filtration Equipment Type: <i>PC</i>		FILTER SIZE: <i>0.45</i> µm		
FIELD DECONTAMINATION: PUMP <input checked="" type="radio"/> N TUBING <input checked="" type="radio"/> Y <input checked="" type="radio"/> (replaced)						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				

[illegible]

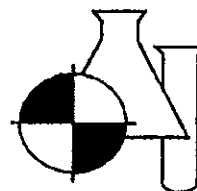
<b>MATERIAL CODES:</b>	<b>AG</b> = Amber Glass;	<b>CG</b> = Clear Glass;	<b>PE</b> = Polyethylene;	<b>PP</b> = Polypropylene;	<b>S</b> = Silicone;	<b>T</b> = Teflon;	<b>O</b> = Other (Specify)
<b>SAMPLING EQUIPMENT CODES:</b>	<b>APP</b> = After Peristaltic Pump;	<b>B</b> = Bailor;	<b>BP</b> = Bladder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

Revision Date: February 12, 2009

## **Attachment E**

# BENCHMARK

*EnviroAnalytical Inc.*



NELAC Certification # E84167

## ANALYTICAL TEST REPORT

THESE RESULTS MEET NELAC STANDARDS

Submission Number : 10100653

Pace Analytical Services, Inc.  
8 East Tower Circle  
Ormond Beach, FL 32174

Project Name : CENTRAL COUNTY WELLS  
Date Received : 10/18/2010  
Time Received : 1448

Submission Number 10100653

Sample Number: 001

Sample Description: 4510 MW-10R

Sample Date: 10/18/2010

Sample Method: Grab

Sample Time: 1458

Parameter	Result	Units	MDL	PQL	Procedure	Analysis		Analyst
						Date	Time	
NITRATE NITROGEN	0.019	MG/L	0.004	0.015	353.2	10/19/2010	15:45	BH/MWC
NITRATE+NITRITE AS N	0.019	MG/L	0.004	0.015	353.2	10/22/2010	10:00	MWC
NITRITE NITROGEN	0.003 U	MG/L	0.003	0.012	SM1800NO2B	10/19/2010	15:45	BH

1711 12th Street East \* Palmetto, FL 34221 \* Phone (941) 723-9986 \* Fax (941) 723-6061

standard report

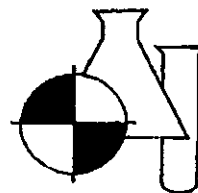
10100653

PAGE 1 OF 4



# BENCHMARK

*EnviroAnalytical Inc.*



NELAC Certification # E84167

## ANALYTICAL TEST REPORT

THESE RESULTS MEET NELAC STANDARDS

Submission Number : 10100650

Pace Analytical Services, Inc.  
8 East Tower Circle  
Ormond Beach, FL 32174

Project Name : CENTRAL COUNTY WELLS  
Date Received : 10/19/2010  
Time Received : 1446

Submission Number 10100650

Sample Number: 001      Sample Description: 23035 MW-19  
Sample Date: 10/18/2010      Sample Method: Grab  
Sample Time: 1140

Parameter	Result	Units	MDL	PQL	Procedure	Analysis		Analyst
						Date	Time	
NITRATE NITROGEN	0.018	MGL	0.004	0.016	353.2	10/18/2010	18:48	BH/MWC
NITRATE+NITRITE AS N	0.018	MGL	0.004	0.016	353.2	10/22/2010	10:07	MWC
NITRITE NITROGEN	0.003 U	MGL	0.003	0.012	8M4500NO2B	10/19/2010	18:48	BH

1711 12th Street East \* Palmetto, FL 34221 \* Phone (941) 723-9986 \* Fax (941) 723-6061

standard report

10100650

PAGE 1 OF 5

## **Attachment F**

**CENTRAL COUNTY SOLID WASTE DISPOSAL COMPLEX**  
**EXCEEDENCE OF MCLs SUMMARY**  
**2010 - 2nd Semi-Annual & 4th Quarter Evaluation Monitoring Report (Revised April 2011)**

Parameter	MCL	20585	21455	22883	4509	22884	4510	22885	23031	27138	23032	27139	23033	23034	23035	27140	23036	27141
		Background	Detection	Compliance	Detection	Compliance	Detection	Compliance	Detection	Compliance	Detection	Compliance	Detection	Detection	Detection	Compliance	Detection	Compliance
		MW-1R	MW-8A	CW-8A	MW-9	CW-9	MW-10R	CW-10R	MW-15	CW-15	MW-16	CW-16	MW-17	MW-18	MW-19	CW-19	MW-20	CW-20
pH	6.5-8.5		6.3	5.98	6.45	6.42	6.17	5.89	6.29	6.39	6.32	5.97	6.2	6.29	6.01			
Arsenic	10 ug/l		38.6	53.3	43.2	53.5	11.3		48.6	16.8	48.5	24.9	65.5	10.3	38	23.1	55.6	26.6
Iron	0.3 mg/l	6.55	37.7	45.1	39.2	25.6	52.9	6.89	49.6	59.9	62	71.9	116	37.1	76	11.8	38.9	7.1
Sodium	160 mg/l									193	275	173						
Solids, Total Dissolved	500 mg/l		1090	670	1160	770	904	1600	2810	1700	1630	930	910	746			1350	604
Total Ammonia	2.8 mg/l		25.5	7.9	17.3	10.5	8.4	3.4	5	25.1	20.4	14.4	25.2		12.5	2.9		
Sulfate	250 mg/l								392									
Manganese	50 ug/l								995	64.1								
Chloride	250 mg/l									283	317							
Aluminum	200 mg/l														471			

December Sampling Event										27138								
Parameter	MCL									Compliance								
										CW-15								
Sodium	160 mg/l									184								
Manganese	50 ug/l									52.9								
Chloride	250 mg/l									239								



## **Attachment G**

# STATE OF FLORIDA WELL COMPLETION REPORT



☒ Southwest  
☐ Northwest  
☐ St. Johns River  
☐ South Florida  
☐ Suwannee River  
☐ DEP  
☐ Delegated Authority (If Applicable)

PLEASE, FILL OUT ALL APPLICABLE FIELDS  
(\*Denotes Required Fields Where Applicable)

Date Stamp

Official Use Only

1. \*Permit Number 807843 \*CUP/WUP Number \_\_\_\_\_ \*DID Number \_\_\_\_\_ 62-524 Delineation No. Q2620

2. \*Number of permitted wells constructed, repaired, or abandoned 4 \*Number of permitted wells not constructed, repaired, or abandoned 0

3. \*Owner's Name Sarasota County 4. \*Completion Date 10/8/10 5. Florida Unique ID V10-300

6. 4000 Knights Trail Road, Nokomis  
\*Well Location - Address, Road Name or Number, City, ZIP

7. \*County Sarasota \*Section 3 Land Grant \_\_\_\_\_ Township 38 \*Range 19

8. Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

9. Data Obtained From: ☒ GPS ☐ Map ☐ Survey Datum: NAD 27 NAD 83 WGS 84

10. \*Type of Work: ☒ Construction ☐ Repair ☐ Modification ☐ Abandonment

11. \*Specify Intended Use(s) of Well(s):  
☐ Domestic ☐ Landscape Irrigation ☐ Agricultural Irrigation ☐ Site Investigation  
☐ Bottled Water Supply ☐ Recreation Area Irrigation ☐ Livestock ☒ Monitoring  
☐ Public Water Supply (Limited Use/DOH) ☐ Nursery Irrigation ☐ Test  
☐ Public Water Supply (Community or Non-Community/DEP) ☐ Commercial/Industrial ☐ Earth-Coupled Geothermal  
☐ Golf Course Irrigation ☐ HVAC Supply  
☐ HVAC Return  
☐ Class I Injection  
 Class V Injection: ☐ Recharge ☐ Commercial/Industrial Disposal ☐ Aquifer Storage and Recovery ☐ Drainage  
 Remediation: ☐ Recovery ☐ Air Sparge ☐ Other (Describe) \_\_\_\_\_  
 Other (Describe) \_\_\_\_\_

12. \*Drill Method: ☐ Auger ☐ Cable Tool ☒ Rotary ☐ Combination (Two or More Methods) ☐ Jetted ☐ Sonic  
☐ Horizontal Drilling ☐ Hydraulic Point (Direct Push) ☐ Other \_\_\_\_\_

13. \*Measured Static Water Level: 8.3 ft. \*Measured Pumping Water Level: \_\_\_\_\_ ft. After \_\_\_\_\_ Hours at \_\_\_\_\_ GPM

14. \*Measuring Point (Describe): Top of Casing Which is 2.5 ft. ☒ Above ☐ Below Land Surface \*Flowing: ☐ Yes ☒ No

15. \*Casing Material: ☐ Black Steel ☐ Galvanized ☒ PVC ☐ Stainless Steel ☐ Not Cased ☐ Other \_\_\_\_\_

16. \*Total Well Depth 17.5 ft. Cased Depth 7 ft. \*Open Hole: From \_\_\_\_\_ To \_\_\_\_\_ ft. \*Screen: From 7 To 17 ft. Slot Size 0.01

17. \*Abandonment: ☐ Other (Explain) \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_

18. \*Surface Casing Diameter and Depth:  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_

19. \*Primary Casing Diameter and Depth:  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_

20. \*Liner Casing Diameter and Depth:  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_

21. \*Telescope Casing Diameter and Depth:  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_  
 Dia \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One): ☐ Neat Cement ☐ Bentonite ☐ Other \_\_\_\_\_

22. Pump Type (If Known): ☐ Centrifugal ☐ Jet ☐ Submersible ☐ Turbine  
 Horsepower \_\_\_\_\_ Pump Capacity (GPM) \_\_\_\_\_  
 Pump Depth \_\_\_\_\_ ft. Intake Depth \_\_\_\_\_ ft. Laboratory Test \_\_\_\_\_ Field Test Kit \_\_\_\_\_

23. Chemical Analysis (When Required):  
 Iron \_\_\_\_\_ ppm Sulfate \_\_\_\_\_ ppm Chloride \_\_\_\_\_ ppm  
 Division ADMIN

24. Water Well Contractor:  
 \*Contractor Name Christopher M. Galt License Number 11127 E-mail Address \_\_\_\_\_  
 \*Contractor's Signature Christopher M. Galt \*Driller's Name (Print or Type) Christopher Galt  
 (Certify that the information provided in this report is accurate and true.)







# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(30)

Form Title: Monitoring Well Completion Report

Effective Date: January 6, 2010

Incorporated in Rule 62-701.510(3), F.A.C.

## MONITORING WELL COMPLETION REPORT

DATE: 10/25/2010

FACILITY NAME: Sarasota County Solid Waste Disposal Complex

DEP PERMIT NO.: 807843 WACS FACILITY ID NO.: \_\_\_\_\_

WACS MONITORING SITE NUM.: \_\_\_\_\_ WACS WELL NO.: CW-15

WELL TYPE: BACKGROUND ☐ DETECTION ☐ COMPLIANCE ☒

LATITUDE: 27° 12' 02.95311" LONGITUDE: 82° 23' 31.92789"

(see back for LAT / LONG requirements):

Coordinate Accuracy \_\_\_\_\_ Datum NAD83 Elevation Datum NGVD-1929

Collection Method \_\_\_\_\_ Collection Date 10/20/10

Collector Name \_\_\_\_\_ Collector Affiliation Sarasota County Survey-Mapping

AQUIFER MONITORED: Shallow Aquifer

DRILLING METHOD: Wash Rotary (Water Only) DATE INSTALLED: 10/8/10

INSTALLED BY: Dunkelberger Engineering and Testing, Inc.

BORE HOLE DIAMETER: 6" TOTAL DEPTH: 17.5' (BLS)

CASING TYPE: PVC CASING DIAMETER: 2" CASING LENGTH: 9.5'

SCREEN TYPE: PVC/Slotted SCREEN SLOT SIZE: .010 SCREEN LENGTH: 10'

SCREEN DIAMETER: 2" SCREEN INTERVAL: 17' TO 7' (BLS)

FILTER PACK TYPE: SILICA SAND FILTER PACK GRAIN SIZE: 20/30

INTERVAL COVERED: 17 TO 6 (BLS)

SEALANT TYPE: Bentonite Chips SEALANT INTERVAL: 6 TO 5.5 (BLS)

GROUT TYPE: Portland Cement GROUT INTERVAL: 5.5 TO 0 (BLS)

TOP OF CASING ELEVATION (NGVD): 30.173' GROUND SURFACE ELEVATION (NGVD): 27.44'

DESCRIBE WELL DEVELOPMENT: Pumped for 30 mins at 0.5 gal/min

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): 21.92'

DATE AND TIME MEASURED: 10/8/10

REMARKS: \_\_\_\_\_

NAME OF PERSON PREPARING REPORT: Jimmy Jackson, Dunkelberger Engineering and Testing, Inc.,

941-379-0621, jamesj@detinc.net

(Name, Organization, Phone No., E-mail)

Northwest District  
160 Government Center  
Pensacola, FL 32501-5794  
850-595-8360

Northeast District  
7825 Baymeadows Way Ste 200B  
Jacksonville, FL 32256-7590  
904-807-3300

Central District  
3319 Maguire Blvd., Ste. 232  
Orlando, FL 32803-3767  
407-894-7555

Southwest District  
13051 N. Telecom Pky.  
Temple Terrace, FL  
813-632-7600

South District  
2295 Victoria Ave., Ste. 364  
Fort Myers, FL 33901-3881  
239-332-6975

Southeast District  
400 North Congress Ave.  
West Palm Beach, FL 33401  
561-681-6600



# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(30)

Form Title: Monitoring Well Completion Report

Effective Date: January 6, 2010

Incorporated in Rule 62-701.510(3), F.A.C.

## MONITORING WELL COMPLETION REPORT

DATE: 10/25/2010

FACILITY NAME: Sarasota County Solid Waste Disposal Complex

DEP PERMIT NO.: 807843

WACS FACILITY ID NO.: \_\_\_\_\_

WACS MONITORING SITE NUM.: \_\_\_\_\_

WACS WELL NO.: CW-16

WELL TYPE: BACKGROUND ☐

DETECTION ☐

COMPLIANCE ☒

LATITUDE: 27° 12' 02.999479" LONGITUDE: 82° 23' 38.06370"

(see back for LAT / LONG requirements):

Coordinate Accuracy \_\_\_\_\_ Datum NAD83 Elevation Datum NGVD-1929

Collection Method \_\_\_\_\_ Collection Date 10/20/10

Collector Name \_\_\_\_\_ Collector Affiliation Sarasota County Survey-Mapping

AQUIFER MONITORED: Shallow Aquifer

DRILLING METHOD: Wash Rotary (Water Only)

DATE INSTALLED: 10/7/10

INSTALLED BY: Dunkelberger Engineering and Testing, Inc.

BORE HOLE DIAMETER: 6" TOTAL DEPTH: 16' (BLS)

CASING TYPE: PVC CASING DIAMETER: 2" CASING LENGTH: 8'

SCREEN TYPE: PVC/Slotted SCREEN SLOT SIZE: .010 SCREEN LENGTH: 10'

SCREEN DIAMETER: 2" SCREEN INTERVAL: 15.5' TO 5.5' (BLS)

FILTER PACK TYPE: SILICA SAND FILTER PACK GRAIN SIZE: 20/30

INTERVAL COVERED: 15.5 TO 5 (BLS)

SEALANT TYPE: Bentonite Chips SEALANT INTERVAL: 4.5 TO 4 (BLS)

GROUT TYPE: Portland Cement GROUT INTERVAL: 4 TO 0 (BLS)

TOP OF CASING ELEVATION (NGVD): 29.578' GROUND SURFACE ELEVATION (NGVD): 28.57'

DESCRIBE WELL DEVELOPMENT: Pumped for 30 mins at 0.5 gal/min

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): 21.08'

DATE AND TIME MEASURED: 10/7/10

REMARKS: \_\_\_\_\_

NAME OF PERSON PREPARING REPORT: Jimmy Jackson, Dunkelberger Engineering and Testing, Inc.,

941-379-0621, jamesj@detinc.net

(Name, Organization, Phone No., E-mail)

Northwest District  
160 Government Center  
Pensacola, FL 32501-5794  
850-595-8360

Northeast District  
7825 Baymeadows Way Ste 200B  
Jacksonville, FL 32256-7590  
904-807-3300

Central District  
3319 Maguire Blvd., Ste. 232  
Orlando, FL 32803-3767  
407-894-7555

Southwest District  
13051 N. Telecom Pky.  
Temple Terrace, FL  
813-632-7600

South District  
2295 Victoria Ave., Ste. 364  
Fort Myers, FL 33901-3881  
239-332-6975

Southeast District  
400 North Congress Ave.  
West Palm Beach, FL 33401  
561-681-6600



# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
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DEP Form # 62-701.900(30)

Form Title: Monitoring Well Completion Report

Effective Date: January 6, 2010

Incorporated in Rule 62-701.510(3), F.A.C.

## MONITORING WELL COMPLETION REPORT

DATE: 10/25/2010

FACILITY NAME: Sarasota County Solid Waste Disposal Complex

DEP PERMIT NO.: 807843

WACS FACILITY ID NO.: \_\_\_\_\_

WACS MONITORING SITE NUM.: \_\_\_\_\_

WACS WELL NO.: CW-19

WELL TYPE: BACKGROUND ☐ DETECTION ☐ COMPLIANCE ☒

LATITUDE: 27° 12' 10.08576" LONGITUDE: 82° 23' 45.53219"

(see back for LAT / LONG requirements):

Coordinate Accuracy \_\_\_\_\_ Datum NAD83 Elevation Datum NGVD-1929

Collection Method \_\_\_\_\_ Collection Date 10/20/10

Collector Name \_\_\_\_\_ Collector Affiliation Sarasota County Survey-Mapping

AQUIFER MONITORED: Shallow Aquifer

DRILLING METHOD: Wash Rotary (Water Only) DATE INSTALLED: 10/7/10

INSTALLED BY: Dunkelberger Engineering and Testing, Inc.

BORE HOLE DIAMETER: 6" TOTAL DEPTH: 15' (BLS)

CASING TYPE: PVC CASING DIAMETER: 2" CASING LENGTH: 7'

SCREEN TYPE: PVC/Slotted SCREEN SLOT SIZE: .010 SCREEN LENGTH: 10'

SCREEN DIAMETER: 2" SCREEN INTERVAL: 14.5' TO 4.5' (BLS)

FILTER PACK TYPE: SILICA SAND FILTER PACK GRAIN SIZE: 20/30

INTERVAL COVERED: 14.5 TO 4 (BLS)

SEALANT TYPE: Bentonite Chips SEALANT INTERVAL: 3.5 TO 3 (BLS)

GROUT TYPE: Portland Cement GROUT INTERVAL: 3 TO 0 (BLS)

TOP OF CASING ELEVATION (NGVD): 27.524' GROUND SURFACE ELEVATION (NGVD): 24.81'

DESCRIBE WELL DEVELOPMENT: Pumped for 30 mins at 0.5 gal/min

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): 21.77'

DATE AND TIME MEASURED: 10/7/10

REMARKS: \_\_\_\_\_

NAME OF PERSON PREPARING REPORT: Jimmy Jackson, Dunkelberger Engineering and Testing, Inc.,

941-379-0621, jamesj@detinc.net

(Name, Organization, Phone No., E-mail)

Northwest District  
160 Government Center  
Pensacola, FL 32501-5794  
850-595-8360

Northeast District  
7825 Baymeadows Way Ste 200B  
Jacksonville, FL 32256-7590  
904-807-3300

Central District  
3319 Maguire Blvd., Ste. 232  
Orlando, FL 32803-3767  
407-894-7555

Southwest District  
13051 N. Telecom Pky.  
Temple Terrace, FL  
813-632-7600

South District  
2295 Victoria Ave., Ste. 364  
Fort Myers, FL 33901-3881  
239-332-6975

Southeast District  
400 North Congress Ave.  
West Palm Beach, FL 33401  
561-681-6600



# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(30)  
Form Title: Monitoring Well Completion Report  
Effective Date: January 6, 2010  
Incorporated in Rule 62-701.510(3), F.A.C.

## MONITORING WELL COMPLETION REPORT

DATE: 10/25/2010

FACILITY NAME: Sarasota County Solid Waste Disposal Complex

DEP PERMIT NO.: 807843

WACS FACILITY ID NO.: \_\_\_\_\_

WACS MONITORING SITE NUM.: \_\_\_\_\_ WACS WELL NO.: CW-20

WELL TYPE: BACKGROUND ☐ DETECTION ☐ COMPLIANCE ☒

LATITUDE: 27° 12' 15.86268" LONGITUDE: 82° 23' 45.56977"

(see back for LAT / LONG requirements):

Coordinate Accuracy \_\_\_\_\_ Datum NAD83 Elevation Datum NGVD-1929

Collection Method \_\_\_\_\_ Collection Date 10/20/10

Collector Name \_\_\_\_\_ Collector Affiliation Sarasota County Survey-Mapping

AQUIFER MONITORED: Shallow Aquifer

DRILLING METHOD: Wash Rotary (Water Only) DATE INSTALLED: 10/7/10

INSTALLED BY: Dunkelberger Engineering and Testing, Inc.

BORE HOLE DIAMETER: 6" TOTAL DEPTH: 15' (BLS)

CASING TYPE: PVC CASING DIAMETER: 2" CASING LENGTH: 7'

SCREEN TYPE: PVC/Slotted SCREEN SLOT SIZE: .010 SCREEN LENGTH: 10'

SCREEN DIAMETER: 2" SCREEN INTERVAL: 14.5' TO 4.5' (BLS)

FILTER PACK TYPE: SILICA SAND FILTER PACK GRAIN SIZE: 20/30

INTERVAL COVERED: 14.5 TO 4 (BLS)

SEALANT TYPE: Bentonite Chips SEALANT INTERVAL: 3.5 TO 3 (BLS)

GROUT TYPE: Portland Cement GROUT INTERVAL: 3 TO 0 (BLS)

TOP OF CASING ELEVATION (NGVD): 27.383' GROUND SURFACE ELEVATION (NGVD): 24.57'

DESCRIBE WELL DEVELOPMENT: Pumped for 30 mins at 0.5 gal/min

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): 21.38'

DATE AND TIME MEASURED: 10/7/10

REMARKS: \_\_\_\_\_

NAME OF PERSON PREPARING REPORT: Jimmy Jackson, Dunkelberger Engineering and Testing, Inc.,

941-379-0621, jamesj@detinc.net

(Name, Organization, Phone No., E-mail)

Northwest District  
160 Government Center  
Pensacola, FL 32501-5794  
850-595-8360

Northeast District  
7825 Baymeadows Way Ste 200B  
Jacksonville, FL 32256-7590  
904-807-3300

Central District  
3319 Maguire Blvd., Ste. 232  
Orlando, FL 32803-3767  
407-894-7555

Southwest District  
13051 N. Telecom Pky.  
Temple Terrace, FL  
813-632-7600

South District  
2295 Victoria Ave., Ste. 364  
Fort Myers, FL 33901-3881  
239-332-6975

Southeast District  
400 North Congress Ave.  
West Palm Beach, FL 33401  
561-681-6600



## **Attachment H**

**WELL CONSTRUCTION AND DEVELOPMENT LOG**

WELL CONSTRUCTION DATA					
Well Number: CW-15		Site Name:		FDEP Facility I.D. Number:	
Well Location and Type (check appropriate boxes): <input type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input type="checkbox"/> Flush-to-Grade If AG, list feet of riser above land surface:		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table ) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method:  Surface Casing Install Method:	
Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size: _____ feet by _____ feet	
Riser Diameter and Material:		Riser/Screen Connections: <input type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: _____ feet from _____ feet to _____ feet		
Screen Diameter and Material:		Screen Slot Size:	Screen Length: _____ feet from _____ feet to _____ feet		
1 <sup>st</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 <sup>st</sup> Surface Casing I.D. (inches):	1 <sup>st</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet		
2 <sup>nd</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 <sup>nd</sup> Surface Casing I.D. (inches):	2 <sup>nd</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet		
3 <sup>rd</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 <sup>rd</sup> Surface Casing I.D. (inches):	3 <sup>rd</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet		
Filter Pack Material and Size:	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No		Filter Pack Length: _____ feet from _____ feet to _____ feet		
Filter Pack Seal Material and Size:			Filter Pack Seal Length: _____ feet from _____ feet to _____ feet		
Surface Seal Material:			Surface Seal Length: _____ feet from _____ feet to _____ feet		

WELL DEVELOPMENT DATA			
Well Development Date: 10/08/10		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)	
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): ~5.5	
Pumping Rate (gallons per minute): 0.5	Maximum Drawdown of Groundwater During Development (feet): Not Measured	Well Purged Dry (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No	
Pumping Condition (check one): <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): ~15	Development Duration (minutes): 30	Development Water Drummed (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development:  White/ No Odor		Water Appearance (color and odor) At End of Development:  Clear/ No Odor	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
Post-development water level elevation (feet NGVD) = 21.92' on 10/08/10

**WELL CONSTRUCTION AND DEVELOPMENT LOG**

WELL CONSTRUCTION DATA					
Well Number: CW-16		Site Name:		FDEP Facility I.D. Number:	
Well Location and Type (check appropriate boxes): <input type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Date(s):	
If AG, list feet of riser above land surface:				Well Install Method:	
Borehole Depth (feet):		Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size: _____ feet by _____ feet
Riser Diameter and Material:		Riser/Screen Connections: <input type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: _____ feet from _____ feet to _____ feet		
Screen Diameter and Material:		Screen Slot Size:	Screen Length: _____ feet from _____ feet to _____ feet		
1 <sup>st</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 <sup>st</sup> Surface Casing I.D. (inches):	1 <sup>st</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet		
2 <sup>nd</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 <sup>nd</sup> Surface Casing I.D. (inches):	2 <sup>nd</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet		
3 <sup>rd</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 <sup>rd</sup> Surface Casing I.D. (inches):	3 <sup>rd</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet		
Filter Pack Material and Size:		Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No		Filter Pack Length: _____ feet from _____ feet to _____ feet	
Filter Pack Seal Material and Size:				Filter Pack Seal Length: _____ feet from _____ feet to _____ feet	
Surface Seal Material:				Surface Seal Length: _____ feet from _____ feet to _____ feet	

WELL DEVELOPMENT DATA			
Well Development Date: 10/07/10		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)	
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): ~7.5	
Pumping Rate (gallons per minute): 0.5	Maximum Drawdown of Groundwater During Development (feet): Not Measured		Well Purged Dry (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No
Pumping Condition (check one): <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): ~15	Development Duration (minutes): 30	Development Water Drummed (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: White/ No Odor		Water Appearance (color and odor) At End of Development: Clear/ No Odor	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
Post-development water level elevation (feet NGVD) = 21.08' on 10/07/10

**WELL CONSTRUCTION AND DEVELOPMENT LOG**

WELL CONSTRUCTION DATA				
Well Number: CW-15	Site Name:		FDEP Facility I.D. Number:	Well Install Date(s):
Well Location and Type (check appropriate boxes): <input type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input type="checkbox"/> Flush-to-Grade If AG, list feet of riser above land surface:		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table ) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method:  Surface Casing Install Method:
Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size: _____ feet by _____ feet
Riser Diameter and Material:	Riser/Screen Connections: <input type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: _____ feet from _____ feet to _____ feet		
Screen Diameter and Material:		Screen Slot Size:	Screen Length: _____ feet from _____ feet to _____ feet	
1 <sup>st</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 <sup>st</sup> Surface Casing I.D. (inches):	1 <sup>st</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet	
2 <sup>nd</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 <sup>nd</sup> Surface Casing I.D. (inches):	2 <sup>nd</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet	
3 <sup>rd</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 <sup>rd</sup> Surface Casing I.D. (inches):	3 <sup>rd</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet	
Filter Pack Material and Size:	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No		Filter Pack Length: _____ feet from _____ feet to _____ feet	
Filter Pack Seal Material and Size:			Filter Pack Seal Length: _____ feet from _____ feet to _____ feet	
Surface Seal Material:			Surface Seal Length: _____ feet from _____ feet to _____ feet	

WELL DEVELOPMENT DATA			
Well Development Date: 10/07/10	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)	Depth to Groundwater (before developing in feet): ~3.0		
Pumping Rate (gallons per minute): 0.5	Maximum Drawdown of Groundwater During Development (feet): Not Measured	Well Purged Dry (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No	
Pumping Condition (check one): <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): ~15	Development Duration (minutes): 30	Development Water Drummed (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development:  White/ No Odor		Water Appearance (color and odor) At End of Development:  Clear/ No Odor	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
Post-development water level elevation (feet NGVD) = 21.77' on 10/07/10



**WELL CONSTRUCTION AND DEVELOPMENT LOG**

WELL CONSTRUCTION DATA					
Well Number: CW-15		Site Name:		FDEP Facility I.D. Number:	Well Install Date(s):
Well Location and Type (check appropriate boxes): <input type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input type="checkbox"/> Flush-to-Grade If AG, list feet of riser above land surface:		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method:  Surface Casing Install Method:	
Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size: _____ feet by _____ feet	
Riser Diameter and Material:		Riser/Screen Connections: <input type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: _____ feet from _____ feet to _____ feet		
Screen Diameter and Material:		Screen Slot Size:	Screen Length: _____ feet from _____ feet to _____ feet		
1 <sup>st</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 <sup>st</sup> Surface Casing I.D. (inches):	1 <sup>st</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet		
2 <sup>nd</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 <sup>nd</sup> Surface Casing I.D. (inches):	2 <sup>nd</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet		
3 <sup>rd</sup> Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 <sup>rd</sup> Surface Casing I.D. (inches):	3 <sup>rd</sup> Surface Casing Length: _____ feet from 0 feet to _____ feet		
Filter Pack Material and Size:	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No		Filter Pack Length: _____ feet from _____ feet to _____ feet		
Filter Pack Seal Material and Size:			Filter Pack Seal Length: _____ feet from _____ feet to _____ feet		
Surface Seal Material:			Surface Seal Length: _____ feet from _____ feet to _____ feet		

WELL DEVELOPMENT DATA					
Well Development Date: 10/07/10		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)			
Development Pump Type (check): <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		<input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic		Depth to Groundwater (before developing in feet): ~3.2	
Pumping Rate (gallons per minute): 0.5		Maximum Drawdown of Groundwater During Development (feet): Not Measured		Well Purged Dry (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No	
Pumping Condition (check one): <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): ~15		Development Duration (minutes): 30	Development Water Drummed (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No	
Water Appearance (color and odor) At Start of Development:  White/ No Odor			Water Appearance (color and odor) At End of Development:  Clear/ No Odor		

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
Post-development water level elevation (feet NGVD) = 21.38' on 10/07/10

## **Attachment I**



**Central County Solid Waste Disposal Complex - Phase II Monitoring & Compliance Wells (revised 4/11)**

Well #	Parameter	2010 1st Semi-Annual Exceedence Value	2010 October/December Exceedence Value	Limit	Units	Consent Order Parameter	Notes
MW-1R	Iron	4120	6,550	300	µg/l	Yes	
MW-15	pH	6.34	6.29	6.5	Units	Yes	
	Arsenic	47.3	48.6	10	µg/l	Yes	
	Iron	46900	49,600	300	µg/l	Yes	
	TDS	3540	2810	500	mg/l	Yes	
	Ammonia	4.1	5	2.8	mg/l	Yes	
	Sulfate	639	392	250	mg/l	No	Secondary Standard, compliance well below MCL
	Manganese	1010	995	50	µg/l	No	Secondary Standard, compliance well just exceeds MCL
CW-15	pH		6.39	6.5	Units	Yes	
	Arsenic		16.8	10	µg/l	Yes	
	Iron		59,900	300	µg/l	Yes	
	TDS		1,700	500	mg/l	Yes	
	Ammonia		25.1	2.8	mg/l	Yes	
	Sulfate		47.8	250	mg/l		
	Manganese	64.1	52.9	50	µg/l	No	Secondary Standard, just exceeds MCL
	Sodium	193	184	160	mg/l	No	Historical before landfill development - SCS Report 06/28/2002
	Chloride	283	239	250	mg/l	No	December resample below MCL
MW-16	pH	6.23	6.32	6.5	Units	Yes	
	Arsenic	47.3	48.5	10	µg/l	Yes	
	Iron	55900	62,000	300	µg/l	Yes	
	Sodium	256	275	160	mg/l	No	Historical before landfill development - SCS Report 06/28/2002
	Ammonia	12.5	20.4	2.8	mg/l	Yes	
	Chloride	305	317	250	mg/l	No	Historical before landfill development - SCS Report 06/28/2002
	TDS	1830	1630	500	mg/l	Yes	
CW-16	pH		5.97	6.5	Units	Yes	
	Arsenic		24.9	10	µg/l	Yes	
	Iron		71,900	300	µg/l	Yes	
	Sodium		173	160	mg/l	No	Historical before landfill development - SCS Report 06/28/2002
	Ammonia		14.4	2.8	mg/l	Yes	
	Chloride		158	250	mg/l		
	TDS		930	500	mg/l	Yes	
MW-17	pH	6.18	6.2	6.5	Units	Yes	
	Arsenic	70.0	65.5	10	µg/l	Yes	
	Iron	105000	116,000	300	µg/l	Yes	
	Ammonia	25.1	25.2	2.8	mg/l	Yes	
	TDS	948	910	500	mg/l	Yes	
MW-18	pH	6.26	6.29	6.5	Units	Yes	
	Arsenic	5.0U	10.3	10	µg/l	Yes	New exceedence, part of consent order
	Iron	28100	37,100	300	µg/l	Yes	
	TDS	605	746	500	mg/l	Yes	
MW-19	pH	5.95	6.01	6.5	Units	Yes	
	Aluminum	2830	471	200	ug/l	No	Trending down, not detected in compliance well
	Arsenic	42.2	38	10	µg/l	Yes	
	Iron	63300	76,000	300	µg/l	Yes	
	Ammonia	22.4	12.5	2.8	mg/l	Yes	
CW-19	pH		6.56	6.5	Units		
	Aluminum		50.0 U	200	ug/l		
	Arsenic		23.1	10	µg/l	Yes	
	Iron		11,800	300	µg/l	Yes	
	Ammonia		2.9	2.8	mg/l	Yes	
MW-20	pH	6.48	6.58	6.5	Units		
	Arsenic	76.7	55.6	10	µg/l	Yes	
	Iron	58200	38,900	300	µg/l	Yes	
	Lead	15.9	5.0U	15	µg/l		
	Vanadium	65.6	5.0U	49	µg/l		
	Ammonia	3.2	2.60	2.8	mg/l		
	TDS	1180	1350	500	mg/l	Yes	
CW-20	pH		6.68	6.5	Units		
	Arsenic		26.6	10	µg/l	Yes	
	Iron		7,100	300	µg/l	Yes	
	Lead		5.0U	15	µg/l		
	Vanadium		5.0U	49	µg/l		
	Ammonia		0.89	2.8	mg/l		
	TDS		604	500	mg/l	Yes	

Exceedence Parameter

Exceedence Parameter Addressed in OGC Case No. 08-1728

No Exceedence Confirmed in Monitoring & Compliance Well

FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

APR 14 2011

SOUTHWEST DISTRICT  
TAMPA