

Solid Waste Water Quality Monitoring Requirements
For Site Certification PA78-10M, in accordance with Section B, conditions I.D.

1. During the period of operation authorized by the Site Certification, the Licensee shall sample ground water at the test sites identified in item B.2 below in accordance with the Site Certification and the approved water quality monitoring plan prepared in accordance with Rules 62-701.510 and 62-520.600, F.A.C.
2. The following ground water test sites, as indicated in Figure 2 below, shall be sampled at the solid waste landfill:

Test site Name	Supplemental Description of Monitoring Location	WACS Test site ID	Test site Type (MW,SW, leachate)	Well Type (BG, CO, DE)	Aquifer Monitored	Monitoring Frequency
MW-3	Existing FGD LF and Increment 1	29326	MW	CO	Surficial	Semi-annual
MW-5	Existing FGD LF and Increment 1	29327	MW	CO	Surficial	Semi-annual
MW-7C	Existing FGD LF and Increment 1	29328	MW	CO	Surficial	Semi-annual
MW-18	Increment 1	29329	MW	DE	Surficial	Semi-annual
MW-19	Increment 1	29330	MW	DE	Surficial	Semi-annual
MW-20	Increment 1	29331	MW	DE	Surficial	Semi-annual
MW-21	Increment 1	29332	MW	DE	Surficial	Semi-annual
MW-22	Increment 1	29333	MW	DE	Surficial	Semi-annual

[62-701.510 and 62-520.600, F.A.C.] Semi-annual = Twice per year



Figure 2. Seminole Electric Routine Solid Waste Test sites

3. The following parameters in the table below shall be sampled and analyzed at the stated frequency for each monitoring well test site identified in item B.2.

Field Parameters	Laboratory Parameters
Water Level Relative to NGVD	Aluminum
pH	Arsenic
Specific Conductance	Barium
Dissolved Oxygen	Cadmium
Temperature	Chromium
Turbidity	Copper
Colors and Sheens (by observation)	Iron
	Lead
	Mercury
	Nickel
	Selenium
	Vanadium
	Sulfates
	Total Dissolved Solids

[62-701.510, 62-777, 62-520.600(11)(b), and 62-520.310(5), F.A.C.]

4. Analytical Data Reports. The Licensee shall submit all water quality sampling results according to the following schedule:

SAMPLE PERIOD	REPORT DUE DATE
January - June	July 28
July - December	January 28

Guidance for Submitting Electronic Water Quality Monitoring Reports in ADaPT format

All solid waste water quality monitoring reports shall be submitted electronically, unless the Department indicates otherwise in writing. The ground water monitoring reports shall be submitted in Adobe pdf format. The ground water data Electronic Data Deliverable (EDD) shall be provided to the Department in an electronic format consistent with requirements for importing the data into the Department's databases. Unless otherwise approved by the Department, the ground water monitoring Electronic Data Deliverable (EDD) shall be compatible with software called Florida DEP Automated Data Processing Tool (ADaPT). A copy of this ADaPT software with installation instructions and EDD specifications can be downloaded from the following website address:

<http://www.dep.state.fl.us/waste/categories/shw/pages/ADaPT.htm>

Semi-annual water monitoring reports shall include the following:

- Cover letter;
- Chain of custody forms;
- Water levels, water elevation table;
- Ground Water Monitoring Report Certification, using the appropriate Department form;
- Appropriate sampling information on Form FD 9000-24 (DEP-SOP-001/01); and,
- Laboratory and Field EDDs and error logs, as applicable.

All solid waste water quality submittals in response to this specific condition shall be sent to:

Florida Department of Environmental Protection Northeast District Office 8800 Baymeadows Way West, Suite 100 Jacksonville, Florida 32256-7549	Florida Department of Environmental Protection Solid Waste Program & Permitting 2600 Blair Stone Road, MS 4565 Tallahassee, Florida, 32399-2400 Email to: ADaPT.EDDs.and.Reports@dep.state.fl.us and sco@dep.state.fl.us
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[62-701.510 and 62-520.600(11)(b), F.A.C.]

ADaPT EDDs

The ADaPT EDD consists of two electronic deliverables: (1) a Laboratory EDD, identified as swldd.txt; and (2) a Field EDD identified as swfdd.txt. The format for the Laboratory EDD and the Field EDD are described below. In addition, as explained in Section V, a copy of the Laboratory EDD shall be prepared in Adobe Portable Document Format (PDF) file by the laboratory.

The Laboratory EDD shall be submitted in a comma separated (.csv format) text file which can be produced through Excel. The Laboratory EDD file name format shall be: WACS Facility I.D. underscore Begin Sampling Date (yyyymm) underscore swldd.txt. The period at the end would not be included. For example, with WACS Facility I.D. # 12345 where sampling started in November and ended in December of 2008, the Laboratory EDD file name should be: 12345_200811_swldd.txt.

The Field EDD shall be submitted in the same comma separated (.csv format) text file as the Laboratory EDD. The Field EDD file name format shall be: WACS Facility I.D. underscore Begin Sampling Date (yyyymm) underscore swfdd.txt. Again, the period at the end is not included. For example, with WACS Facility I.D. # 12345 where sampling started in November and ended in December of 2008, the file name should be: 12345_200811_swfdd.txt

For confirmation sampling, add the term _conf to the EDD filenames as follows:
12345_200811_conf_swldd.txt for the Laboratory EDD or 12345_200811_conf_swfdd.txt for the Field EDD.

For data that is resubmitted, add _#, where # is the number of data submittals (greater than 1). For example, if the data was resubmitted for the first time, and was thus submittal number 2, then the EDD filenames would be as follows: 12345_200811_2_swldd.txt for the Laboratory EDD and 12345_200811_2_swfdd.txt for the Field EDD.

Finally, taking this to an extreme, if conformation data was resubmitted for say the 10th time, then the EDD filenames would be: 12345_200811_conf_10_swldd.txt for the Laboratory EDD or 12345_200811_conf_10_swfdd.txt for the Field EDD.

Process Required

Three steps are generally required. First, two copies of the Laboratory EDD, one in comma separated text format and one as a PDF file, must be submitted by the laboratory. A digitally "signed" PDF copy by the laboratory serves to maintain the integrity of the Laboratory EDD. In order to validate the QA/QC aspects of the Laboratory EDD, the Licensee shall ensure the laboratory processes the Laboratory EDD through ADaPT using both their laboratory specific library and the Department's Solid Waste Master library and corrects all critical errors and explains all non-critical errors prior to submittal.

Second, the appropriate entity (laboratory, consultant, or Licensee) shall process the Field EDD through ADaPT using the Department's Solid Waste Master library and correct all critical errors and explain all non-critical errors prior to submittal. Finally, as a completeness check, the Licensee or consultant shall process both the Laboratory EDD and the Field EDD through ADaPT and confirm a successful export to disk prior to submitting the Laboratory EDD, Field EDD and ADaPT error log(s) to the Department.

5. New/Replacement Well Requirements. In the event any monitoring well becomes damaged or inoperable, the Licensee shall notify the Department within two (2) days of discovery and shall submit a detailed written report within ten (10) days of notice. The written report shall detail the problem that has occurred and remedial measures that have been taken to prevent a recurrence. Damaged wells shall be repaired or replaced within 60 days. If a monitoring well is unable to be sampled during its normal time frame due to damage, it shall be sampled within 30 days of repair or replacement and its analysis shall be submitted to the Department within 60 days of repair or replacement. All monitoring well design and replacement shall be approved by the Department prior to installation. [62-520.600(6)(l) and 62-4.070(3), F.A.C.]
6. Monitor Well Completion Reports. One (1) electronic copy (Adobe pdf format) of the Monitoring Well Completion Report, Form 62-701.900(30), F.A.C., must be submitted to the Department within thirty (30) days after installation of any new or replacement monitoring well(s). In addition, as-built well construction diagrams and soil boring logs that cover the entire depth of the monitoring well(s) must be submitted to the Department. [62-520.600(6)(j), F.A.C.] NOTE: The top of casing elevation of each well, to the nearest 0.01 feet, and the latitude and longitude of each well in degrees, minutes and seconds, to two (2) decimal places, must be determined and certified by a Florida Licensed Surveyor and Mapper and provided on the form. [62-701.510(3)(d)1 & 62-520.600(6)(i), F.A.C.]
7. One (1) electronic copy (Adobe pdf format) of a drawing must be submitted within sixty (60) days following monitoring well installation showing the location of all monitoring sites (active, abandoned, and Evaluation Monitoring), piezometers, water bodies and waste filled areas. The location of features on the drawing must be horizontally and vertically located by standard surveying techniques. The drawing shall include all monitoring well locations, each monitoring well name and identification (WACS) number, the top of casing, pad elevation, permanent benchmark(s) and/or corner monument marker(s) referenced to a nationally recognized datum (such as NGVD 1929 or NAVD 1988) to the nearest 0.01 feet. The latitude and longitude of each well in degrees, minutes and seconds, to two (2) decimal places, must be determined and provided on the drawing. The survey shall be conducted and certified by a Florida Licensed Surveyor and Mapper. [62-701.510(1)(c)&(3)(d)1, and 62-520.600(6)(i), F.A.C.]
8. If a monitoring well is being replaced or new wells are being added to an existing ground water monitoring plan, only the new wells need to be surveyed as long as all other monitoring wells in the monitoring plan have been surveyed and certified by a Florida Licensed Surveyor and Mapper and there is no reason to believe that the elevations have changed. The location and elevation determinations and the certification must be provided with the Monitoring Well Completion Report upon completion of each new well. [62-701.510(3)(d)1, F.A.C.]
9. Water Quality Monitoring Requirements. The Department must be notified in writing, hard copy or e-mail, at least fourteen (14) days prior to sampling of any monitoring well(s) so that the Department may collect split samples. [62-701.510(9)(a), F.A.C.]
10. Compliance with groundwater standards and/or criteria shall be determined by analysis of unfiltered groundwater samples, unless the requirements of Rule 62-520.310(5), F.A.C., are satisfied. Additional samples, wells, and parameters may be required based upon subsequent analyses.

11. The field testing, sample collection and preservation and laboratory testing, including quality control procedures, shall be in accordance with Chapter 62-160, F.A.C. Approved methods as published by the Department or as published in Standard Methods, ASTM, or EPA Methods shall be used. [62-701.510(2)(b), F.A.C.]
12. The organization collecting samples at this site must use the Field and Laboratory Standard Operating Procedures (DEP-SOP-001/01) referenced in Chapter 62-160, F.A.C. The laboratory designated to conduct the chemical analyses must be certified by the Florida Department of Health Environmental Laboratory Certification Program (DOH ELCP). This Certification must be for the test method and analyte(s) that are reported. [62-160.210(1), 62-160.300(1), 62-701.510(2)(b), F.A.C. and DEP SOP FS 1008.]

NOTE: DEP-SOP-001/01 can be accessed at:

<http://www.dep.state.fl.us/water/sas/sop/sops.htm>

13. The Licensee must ensure that the analytical laboratory conducting the analyses uses analytical methods capable of achieving detection limits at or below the Groundwater Cleanup Target Levels (GCTLs) or the Freshwater Surface Water Cleanup Target Levels (SWCTLs) in Table I, Chapter 62-777, F.A.C. except those listed in Table C of the "FDEP Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits dated 10/12/2004". GCTLs and SWCTLs that are not water quality standards are used as screening tools and interim guidelines for ground water minimum criteria until standards are promulgated. [DEP SOP FM 1000]
14. If, at any time, analyses detect parameters which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, F.A.C., in the detection wells or at the edge of the Zone of Discharge, the Licensee may confirm the data by resampling the affected wells within thirty (30) days of receipt of the sampling data. Should the permittee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility. If the data is confirmed, or if the permittee chooses not to resample, the permittee shall notify the Department within 14 days of this finding. [62-701.510(6)(a), F.A.C.]
15. If the resampling event detects parameters which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, F.A.C., the Licensee shall notify the Department in writing within 14 days of receipt of the sampling data. Confirmed data must be submitted to the Department within 60 days from completion of lab analyses, unless a different due date is approved. Use "CONF" (for confirmation data) in the report type column. [62-701.510(8)(a), F.A.C.]
16. Upon notification by the Department, the Licensee shall initiate evaluation monitoring in accordance with Rule 62-701.510(6)(a), F.A.C.
17. In addition to the above water quality reports, the Licensee shall provide an annual summary report containing the following:
 - a. Ground water contour maps and ground water flow analysis utilizing existing ground water monitoring well data from the wells listed in 2. above. Contour map information will be collected from the aforementioned ground water wells on a semi-annual basis;
 - b. A summary of exceedances and sampling problems, if any (e.g., variations from SOP filed criteria);
 - c. A trend analysis of any monitored parameters consistently detected;

- d. An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based on site conditions.

The annual report shall be provided to the Department within 90 days following the second semi-annual ground water data collection effort. The annual summary report shall be signed and sealed pursuant to Florida Statutes (F.S.) Chapters 471 and 492 which require that documents requiring the practice of professional engineering or professional geology, as described in Chapter 471 or 492, F.S., be signed and sealed by the professional(s) who prepared or approved them. This certification must be made by a licensed professional who is able to demonstrate competence in this subject area. [62-701.510(8)(a)9, F.A.C.]

18. Ground Water Contour Maps. Ground water elevation contour maps for each monitored aquifer zone must be submitted with contours at no greater than one foot intervals unless site specific conditions dictate otherwise. Ground water elevation contour map(s) should include monitoring well and piezometer locations, ground water elevation at each monitoring well or piezometer location referenced to a nationally recognized datum (such as NGVD 1929 or NAVD 1988), a bar scale, north arrow, ground water contour interval, date of measurement and ground water flow direction. The map(s) must incorporate adjacent and on-site surface water elevations where appropriate.
19. Zone of Discharge. The solid waste facilities shall not contaminate waters of the State (including both surface and ground waters) in excess of the standards and criteria of Chapters 62-302 and 62-520, F.A.C. beyond the boundary of a zone of discharge extending horizontally from the edge of each solid waste landfill to the facility's property line, and vertically to the bottom of the surficial aquifer. [62-520.200(27)] [62-520.465] [62-701.510]