To: Satish Kastury, Program Administrator
Hazardous Waste Regulation

Through: Russel Frydenborg, Administrator
Environmental Assessment Section

From: Andrew Tintle, Environmental Specialist III
Thomas Deck, Environmental Specialist II
Environmental Assessment Section

Date:

Subject: Field Audit; Pine Hills Landfill, Pine Hill Road, Orlando, FL; Sampling Consultant – ELAB

The following is the preliminary report for the field audit conducted at Pine Hills Landfill on June 24, 2003. The DEP Hazardous Waste Regulation Section in fulfillment of cooperative agreements with EPA Region IV requested this audit for the management of RCRA permitting activities.

The findings of the DEP auditors Thomas Deck and Andrew Tintle are listed below and in the attachments.

REPORT FORMAT

The audit summary in this correspondence and in the attached checklist, photographs and copy of the sampler's field notes comprise the audit report. The checklist findings are coded with the following notations, as follows:

Y The activity is in compliance with the audit statement and no deficiency was found.
N The activity was not in compliance with the audit statement and a deficiency is noted.
N/A The activity was not applicable to the sampling event or was not audited.
? There was insufficient information to determine compliance with the audit statement.

NARRATIVE

Introductory Meeting and Orientation

DEP personnel, Mr. Thomas Deck and Mr. Andrew Tintle, arrived at the front gate of the landfill the morning of June 24, 2003, at 8:00a.m. to conduct the audit and split sampling event. Mr. Mike Burns Senior Environmental Technician, NODARSE & Associates, Inc., Mr. Miguel Tamayo P.E., Orange County, Mr. William Craven P.E., CDM, Mr. Justin Tiddle Field Sampler, ELAB, and Mr. Bill Sadler met DEP personnel outside the landfill gate and escorted them to the sampling wells. Ms. Kerry Kafura Sampling Coordinator, ELAB arrived later that morning.

Introductions were conducted inside the gates to the landfill.

Observations of Sampling Procedures and Documentation for Monitoring Wells

Water levels for each of the wells to be sampled, MW 4I, MW 4IC and MW 4D, were taken before implementing purging. The depths were taken from the top of the well casing using a Solinst electronic water level measuring device. Purge calculations and field records recorded during the sampling event can be found attached to this report. All of the wells were protected with locked well covers.

The first well sampled was MW 4I. Instruments used for field measurements were calibrated in ELAB base of operation before going into the field. A duplicate set of field instruments were used in order to allow purging to be completed ahead of sampling crew.

Field Test Meter Calibrations and Measurement for All Audited Wells

1. A YSI 566 MPS meter was used for analyzing pH, Temperature, DO, and specific conductance.
2. The conductivity probe was calibrated using a standard of 1413. No units were given or recorded. An additional standard that brackets the expected sample range was not used.
3. The pH probe was calibrated using standards of 7. Verification was recorded at 3.95, 6.99, and 9.95. The actual values of the standards used were not recorded.
4. A La Motte 2020 turbidimeter was employed for turbidity measurements and was calibrated and verified with a 1 and 10 standard. No units were recorded.
5. Dissolved oxygen (DO) was calibrated to 100%. Temperature at the time of calibration was not recorded. The concentration of DO was not recorded or compared to a solubility table to insure successful calibration.

All Audited Wells

For all of the audited wells, the following was noted:

1. All of the field notes associated with the sampling of the three audited wells are attached to this report.
2. Purging and sampling activities for this project were conducted according to Florida DEP 2002 revision SOPs.
3. ELAB personnel collected samples for MBAS, turbidity, nutrients, chloride, fluoride, sulfate, TDS, herbicides, BNA, carbamates, CN, conductivity, fumigants, glyphosate, mercury, metals, pesticides, and VOCs. DEP collected split samples for MBAS, turbidity, nutrients, chloride, fluoride, sulfate, TDS, herbicides, BNA, carbamates, CN, conductivity, fumigants, glyphosate, mercury, metals, pesticides, and VOCs.

The MBAS, turbidity, nutrients, chloride, fluoride, sulfate, TDS, herbicides, BNA, carbamates, CN, conductivity, fumigants, glyphosate, mercury, metals, pesticides, and VOCs were alternated between each organization's sample containers filling half of the container at a time.

The auditors presume that no other field documentation was prepared other than that exhibited to the auditors. Auditors were not present at the time of preparation of samples for shipping or transmittal of samples or documentation to the receiving laboratory and no presumption is made about information transmitted to the laboratory.

Purging and Sampling Activities

Purging activities were conducted with a dedicated bladder pumps, using a Geoguard Masterflo pump controller, and gas powered generator. The dedicated bladder pumps were constructed of stainless steel and Teflon components. The purge volume was measured using a gallon jug with top cut off. The purge water was collected in 55-gallon drums.

Using a constant associated with the casing diameter and multiplying by the feet of water within the well casing the volume of water within the casing was calculated. Field measurements of pH, conductivity, dissolved oxygen, turbidity and temperature were measured in order to determine purging completion. An acceptable purge was determined by three successive measurements of Temperature, pH, Specific Conductance, and a turbidity that is no greater than 20 NTUs (MW 4D relied on a stabilization of the Turbidity measurement). Purge water was containerized in 55 gallon drums.

The purging equipment was also used for sampling. The pump tubing (excluding dedicated tubing stored in the well casing) was replaced after each well. Samples were place on ice in a cooler immediately after collection.

Preparation of paper work and coolers for shipment to the laboratory was not observed during the course of the audit.

Decontamination

1) Water level devices and water quality probes were not rinsed with analyte free water between wells.

Preservation

1) The contract laboratory supplied un-preserved sample containers for all analysis.
2) Efficacy of preservation was checked on each chemically preserved sample.
3) The presence of sulfides were not checked for cyanide analysis

Quality Control

1) Field sampling personnel collected no quality control samples for audited wells.
2) DEP personnel collected no quality control samples for audited wells.

Documentation

Documentation observed during the audit included:

1) Site name and well ID.
2) Date and time of sampling (observed by reviewing field sheets after the audit).
3) Purging date and time, volumes purged and purge equipment (observed by reviewing field sheets after the audit).
4) Temperature, conductivity, DO, turbidity, and pH readings for stabilization
5) Date and time of sample and initials of sampler.
6) Remarks
7) Water Level and well depth.

Documentation was legible and only one instance was observed of a multiple line cross out and a correction that was not initialed.

Specific records on water levels, purging, field measurements and sampling are attached to this report.

Sampling procedures were reviewed based on the organizations, and Florida DEP 2002 revision SOPs.

Exit Interview

Present at the exit interview were DEP staff and Kerry Kashura of ELAB. Acceptable aspects of the observed sampling event and noted deficiencies were discussed. The audit reporting process was briefly explained by which ELAB would have the opportunity to clarify audit points and deficiencies noted in the report and respond to any requests for corrective actions.

Summary of Deficiencies Requiring Corrective Actions

1. The field organization did not rinse water quality meter or water level measuring device between measurements.

2. On the field calibration field sheet units were not recorded for conductivity and turbidity calibration measurements and standards.

3. A one-point calibration was performed for pH. Florida DEP 2002 revision SOPs require a least a two-point calibration of which one point is a pH 7 buffer.

4. The field organization provided no documentation of temperature checks.

5. The true value of the standards used for calibration verification of pH, turbidity, and conductivity were not recorded.

6. The turbidity calibration did not use standards the quantitatively bracketed the expected sample range.

7. A second conductivity standard that quantitatively bracketed the expected sample range was not read.

8. Dissolved oxygen (DO) calibration did not compare the DO concentration (in mg/L) at the recorded temperature to the theoretical value for that temperature. This value can be obtained from a solubility table. See DEP-SOP-001/01 FT 1500 for additional information.

9. The presence of sulfides was not checked for during the preservation of cyanides analysis.

10. No record was made of the amount of preservative used for samples that require chemical preservative.

RESPONSE REQUIREMENTS

1) ELAB must respond to each specific deficiency outlined in the “summary of Deficiencies Requiring Corrective Actions” section of this correspondence as well as all of the “**N**” designations in the attached checklist. The response must include the specific measures to be taken in correcting the deficiency, the timetable for implementation and any other information pertinent to the evaluation of generated data.

2) The response may include clarifications, corrections, or explanations for any of the specifically noted deficiencies.
3) The corrective action plan specified in item #1 above must be received by the Department on or before (45 days from report date).

CONSEQUENCES OF NON-RESPONSE

Failure to respond with a corrective Action Plan by the specified date may result in a recommendation to reject all or selective portions of the data for use by the Department. See item #3 under "Department Actions" below

DEPARTMENT ACTIONS

1) When the Corrective Action Plan has been received, the Environmental Assessment Section will review the proposal to determine if appropriate corrective actions have been taken. If the Plan is acceptable, the Department will issue a final audit report based on the preliminary report and the proposed corrective actions.
2) If modifications to your proposed corrective actions are required, you will be provided another opportunity to propose acceptable corrective actions before the final report is issued.
3) Where circumstances warrant, the Department may recommend to its project managers that any or all data produced from this sampling event should be qualified or rejected, based on audit findings, and regardless of corrective actions initiated by the respondent or his agent. Any such recommendation will be formally communicated to the project manager and or other users of the affected data in accordance with the DEP Quality Assurance rule, 62-160, F.A.C., and all other applicable rules in effect at the time of this audit.

Please call me at (850) 921-9733 or e-mail me at Andrew.Tintle @dep.stae.fl.us if you have any questions concerning the audit report, response requirements, or appropriate corrective actions.

Sincerely,

Andrew R. Tintle
Environmental Assessment Section

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Attachments (2): Completed audit Checklist
Field Records

Cc: Camille Stein; DEP hazardous Waste Regulation w/attachments
Thomas Deck, DEP EAS w/attachments
Russ Frydenborg, DEP EAS w/attachments