Memorandum **Florida Department of Environmental Protection**

To: Satish Kastury, Env. Administrator
Hazardous Waste Regulation Section

Through: Russ Frydenborg, Env. Administrator
Environmental Assessment Section

From: Michael Blizzard, Env. Specialist
Environmental Assessment Section

Subject: DEP SOP Field Audit Draft Report
Silver Springs Shores (former GDU surface impoundment)
Ocala, Marion County, FL

The following is the preliminary report for the field audit conducted at the **Silver Springs Shores** surface impoundment facility on July 22, 2002. This audit was requested by the DEP Hazardous Waste Regulation Section in fulfillment of cooperative agreements with EPA Region 4 for the management of RCRA permitting activities.

The findings of DEP auditors Michael Blizzard and Amy Wheeler are listed below and in the attachments.

REPORT FORMAT

The audit summary in this correspondence and the attached checklists and copies of the samplers' field logs comprise the audit report. The checklist findings are coded with the following notations, as defined:

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.

Checklist entries may also include explanatory comments, where indicated.

NARRATIVE AND SUMMARY OF AUDIT FINDINGS

The auditors' observations and findings are summarized below. A brief narrative of introductory and exit meetings is also included, as well as a discussion of prior agreements with the Department as to how the audited wells would be purged and sampled.

Use of Proposed New Sampling Procedures

Prior to the time of this audited sampling event, Hartman & Associates, Inc. (HAI), the permittee's consultant, had proposed to the Department to use the new DEP SOP for groundwater sampling, adopted by rule on April 9th, 2002 (FS 2200). Since the permitted sampling procedures required for this site are governed by the former version of the QA rule cited in the relevant permit conditions, the use of the draft procedures was voluntary and agreed to by the Department project manager for this permit, Mr. Rabin Prusty. This was approved as an alternative to the prescribed 1992 DEP procedures found in DEP-QA-001/92 and cited in CompQAP# 950504 (HAI Comprehensive QA Plan) and also in QAPP# 210057, which was approved for the Silver Springs Shores site. *The checklist for groundwater sampling audits attached to this report is based on the adopted version of the FS 2200 SOP, which was published as a final version on 1/1/02. All other attached checklists are based on the 1992 DEP SOP.*

Introductory Meeting and Orientation

DEP Environmental Assessment Section (EAS) auditors Mr. Michael Blizzard and Ms. Amy Wheeler arrived at the permitted facility site on the afternoon of July 22nd, 2002 and were met by Mr. Dale (H.L.) Claytor, HAI lead sampler and Mr. William Bangle, assistant sampler for HAI. Mr. Kyle Johnson of Marion County Utilities Department was also present for the introductory meeting. After introductions, Mr. Johnson departed the site. Mr. Blizzard briefly apprised the sampling team of audit protocols, whereafter HAI personnel began preparations to purge the single monitoring well to be audited.

Observations of Procedure and Documentation for Monitoring Wells

The major observations noted by the DEP auditors at the indicated monitoring well are listed below, along with a summary of items recorded in the samplers' field documentation.

Monitoring well MW-1

Auditors' Observations

1. The sampling team indicated that water level measurements were taken at 9:30 AM the same day.
2. After preparing supplies and equipment, purging commenced at about 1:25 PM using a submersible stainless steel pump and new, disposable poly tubing.
3. The pump was initially placed about 39 feet below top-of-casing, which was about 11 feet below water level (previously measured at 28.16 ft). Initial purge rate was adjusted to about 1 gallon per minute using an improvised overflow cell made from a plastic, 1-gallon milk jug.
4. The pump intake level was raised to about 31 feet after checking and readjusting the pump flow rate.
5. Drawdown appeared to stabilize at about 29 feet, and this put the pump intake at about 2 feet below water level.
6. Stabilization parameters were measured by collecting a grab sample from the pump effluent stream. A multi-sensor probe and meter assembly was used to measure parameters in the static sample. Dissolved oxygen (DO) readings would not stabilize using this technique. The samplers watched the meter as the DO value decreased and then recorded the "inflection point " value. At the inflection point, the meter reading for DO stopped decreasing and then started to increase.
7. The auditors encouraged the team to try measuring parameters in the overflow bucket to obtain more representative readings. Dissolved oxygen was observed to read at higher, but more stable values when this was done.
8. After purging was determined to be completed, samples were collected by splitting the sample stream from the pump tubing outlet alternately between HAI and DEP sample bottles and vials. HAI personnel performed all of the sample collection for the splits. Mr. Blizzard checked the sample stream for the presence of sulfides using test paper strips, added chemical preservatives to all of the appropriate DEP samples and verified pH values for them. One of the DEP bottle replicates had a cracked cap for the FL-PRO subsample.
9. VOC samples were collected at the 1 gallon-per-minute flow rate used for purging.
10. Vegetation roots were observed entangled on the pump assembly upon removal from the well.

Samplers' Field Documentation
(HAI "Water Sampling Log")

The auditors presume that no other field documentation was prepared other than that exhibited to the auditors, a copy of which is attached to this report. Auditors were not present at the time of preparation of

samples or documentation for shipping to the receiving laboratory and no presumption is made about information transmitted to the laboratory.

1. DO values remained above 20% saturation. Alternative stabilization criteria were met, but a decreasing trend in DO values is noted on the log.
2. Types of chemical preservatives are not recorded for affected samples.
3. Field decontamination is noted for some purpose, but is not further described.
4. Interim and total purge volumes were determined from the estimated flow rate.
5. Drawdown measurements were not recorded for this well.
6. Only the final pump placement depth is recorded.

Exit Interview

Present at the exit interview were DEP and HAI staff, as listed above. The DEP auditors acknowledged the acceptable aspects of the observed sampling procedures and briefly summarized their concerns with the method of purge stabilization measurement. Mr. Blizzard explained the followup reporting process by which HAI would have an opportunity to clarify audit points and deficiencies noted in the report and respond to any requests for corrective actions. The meeting ended with parties exchanging additional contact information.

SUMMARY OF DEFICIENCIES REQUIRING CORRECTIVE ACTION

The following deficiencies are listed by category and are derived from the report of findings above and the attached checklists. Deficiency criteria follow the 1992 DEP SOP, except for groundwater purging and sampling, which follows the 2002 DEP SOP (see attached groundwater sampling audit checklist).

Groundwater Monitoring Well Purging and Sampling

1. Samplers were not familiar with all options and procedures for purging per FS 2200.
2. Initial pump placement was too far below water level for the SOP option of purging from the top of the water column.
3. Samplers were not sufficiently vigilant about drawdown rate at the start of purging.
4. Stabilization parameters were measured in a static sample, which affected the samplers' ability to make a definitive assessment of purging completion.
5. Flow rate was too high for VOC sample collection.
6. Drawdown water level measurements were not recorded.
7. Only the final pump placement depth was recorded.
8. Documentation is incomplete for preservation, field cleaning and QC samples.

Decontamination

1. Documentation for cleaning was incomplete per SOP requirements.

Quality Control Samples

1. Required collection of minimum QC samples could not be ascertained from the samplers' field documentation.

Field-testing Equipment Calibrations

1. No documentation for field calibrations was exhibited and proper calibrations could not be ascertained.

Other Documentation Deficiencies

1. Documentation for preservations was incomplete such that proper preservation could not be ascertained from the field record.
2. Field records were completed in pencil and errors were erased in order to make corrections.
3. Field records were incomplete for miscellaneous required SOP items. See attached checklists.

RESPONSE REQUIREMENTS

1. A response is required for each specific deficiency listed above in the summary of deficiencies requiring corrective action and in the attached checklists. The response must include the 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 objections, clarifications, corrections or explanations for any of the specifically noted deficiencies or for any observation or topic addressed in this report.

CONSEQUENCES OF NON-RESPONSE

Failure to respond with a corrective action plan by the specified date may result in a recommendation to qualify or 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 any responses.

2. If modifications to the proposed corrective action plan are required, another opportunity will be provided to propose acceptable corrective actions before the final report is issued.

3. Where circumstances warrant, the Department may recommend to its project managers that some or all of the data produced from this audited sampling event should be qualified or rejected, based on audit findings and regardless of corrective actions initiated by the respondent or its agent. Any such recommendation will be formally communicated to the project manager and other users of the affected data in accordance with the DEP Quality Assurance rule, FAC 62-160 and all other applicable rules in effect at the time of this audit.

Please call me at 921-9727 or email me if you have any questions concerning the audit report, response requirements or appropriate corrective actions.

Attachments: Copies of DEP audit checklists
Copy of samplers' field record