# Department of
# Environmental Protection

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January 5, 2005

Paula Hedges
Environmental Services & Permitting, Inc.
12580 NW US Highway 441
Alachua, FL 32615

SUBJECT: Draft TMDL Audit Report – Environmental Services & Permitting Field Data Audit Conducted June 15, 2004

Thank you for the time spent with our auditors during the subject audit.

The attached draft audit report lists the procedural and documentary problems and deficiencies observed by the DEP auditors for the selected field data set.

Please respond to each numbered item found in the report with a description of the corrective action to be taken in remedy of the noted problem or deficiency indicated by the item. Provide an implementation schedule for the corrective actions. Some of the remedies may have already been executed and should be so indicated in your report. You may rebut (including submitting additional data), clarify, or otherwise explain any item in the audit report, as necessary.

**Please submit your corrective action report to the DEP Environmental Assessment Section no later than February 28, 2005.**

A final audit report and an executive summary will be distributed after receipt and evaluation of your proposed corrective actions.

Thank you again for the time and effort you and your staff have given to this audit. I hope you find this report useful in improving the quality of your field activities.

Sincerely,

Andrew R. Tintle
Environmental Assessment Section
Bureau of Laboratories
Division of Resource Assessment and Management

cc (email only): David Hornsby, SRWMD
Russ Frydenborg, DEP

Attachment: Draft Audit Report

***TMDL Field Data Evaluation***

**Sampling Organization:** Environmental Services and Permitting, Inc. (ES&P)
**Address:** 12580 NW US Highway 441
Alachua, FL 32615
**Phone:** (386) 462-4334
**ES&P Personnel:** Paula Hedges
**DEP/EAS Auditors:** Andy Tintle, Russ Frydenborg

**Audited Samples:**

| Station ID | Field ID | Collection Date |
|---|---|---|
| SUW275C1 | 23022852 | 03/10/2003 |
| AUC050C1 | 22091487 | 10/21/2002 |
| FAN010C1 | 22111767 | 12/02/2002 |

***Field Information***
***Observed Problems***

## Sample Collection

1. The names of all personnel who collected the sample were not recorded on all associated records for sample collection. *FD 5000 section 2.1*

   a. Initials of sampling personnel were recorded. Suggest maintaining a master log of initials so sampling personnel can be easily identified.

2. The sampling equipment used to collect the sample was not recorded or the collection was not indicated as a direct container grab sample. *FD 5000 section 2.10*

   a. Sampling equipment was identified in the project records. Filtration equipment including the filter pore size must also be specified where applicable.

## Sample Preservation

3. Preservation information and verification was not recorded for the sample. *FD 5100 section 1 – 1.4*

a. Preservation documentation must include a direct statement indicating that the pH of the sample was adequate (eg. pH <2).
b. Preservation for ortho P must include a statement that the samples were field filtered.

**Sample Filtration**

4. Unless otherwise specified by the sampling plan, the sample (usually, orthophosphate) was not filtered using a 0.45 um pore size for the filter. *FS 2000, section 1.3.7*

a. No records were provided supporting the use of a 0.45 um filter.

## General Requirements for Field Testing Calibration Activities

5. Information about all calibration standards used for field testing were not linked to the calibration information associated with the field-testing measurements for the samples by means of a lot number or similar indication. *FD 4100*

a. This information was not recorded for the calibration standards.

6. The assayed or certified values, descriptions and expiration dates of all applicable standards were not recorded for all calibrations and verifications. *FD 4100, sections 1.1 – 1.3*

a. Standard descriptions and expiration dates were not part of the permanent project records. Expiration dates were placed on the standard containers.

7. For each instrument unit used for the measurement of the sample, the following information was not recorded for all calibrations and verifications: *FD 4100 sections 2.1 - 2.7*
   - Instrument ID
   - Date/time
   - Instrument (display result & units)
   - Description of each standard used

a. Company field measurement instruments were identified in the field records. However, records were not always complete to allow linkage of the specific field instrument to specific field measurements.

## Field Testing Calibration

8. The sample measurement was not quantitatively bracketed with an appropriate choice of at least two buffers or standards for calibrations or verifications. *FT 1100 sections 1.2, 2.3.3 & 2.3.4*

a. Sample 22111767 collected on 12/02/2002 from station FAN010C1 had a pH of 7.13 that just exceeded the calibration range. A standard above 7 must be used in the calibration process when project samples exceed a pH of 7.
b. Conductivity standards used must bracket the project sample concentrations (the low level standard does not need to be below 100 umhos/cm). Only one standard concentration was used for specific conductance for the project samples audited. Also, the DEP SOP initial calibration procedure requires the use of at least two standards for specific conductance measurements. If your instrument will only

calibrate on one standard the second may be analyzed as a sample and used to verify the calibration.

9. For specific conductance, the calibration verifications did not meet the acceptance criterion of ± 5% of the verification standard value. *FT 1200 sections 3.2.2 & 3.2.4*

   a. Verifications for all of the audited samples exceeded the 5% criteria.

## Use of Field Data Qualifiers

10. The sample field-testing result was not qualified as an estimated value ("J" qualifier code) when the instrument calibration could not be verified. *FT 1000, section 2.2.4.2*

    a. Calibration verifications for specific conductance measurements were outside of acceptance criteria. Associated sample values were not qualified.