Audit of
Collier County Pollution Control and Prevention Department

Conducted 25 and 26 February 2003
Environmental Assessment Section
Bureau of Laboratories

Summary of Audit and Findings

This audit was conducted in support of the DEP Total Maximum Daily Load (TMDL) program. The purpose of the audit was to determine if Collier County is capable of producing data that is:

- useable by the TMDL program and
- of verifiable and acceptable quality according to criteria outlined in the DEP Quality Assurance rule, 62-160 FAC.

Overall, the Environmental Assessment Section (EAS) has determined that Collier County has excellent sampling and analytical procedures in place to produce data meeting DEP quality standards. Documentation of procedures and data is adequate to verify and validate reported results. A summary of deficiencies is outlined in the remainder of this report. Checklists used during the audit are also available and have been transmitted to the audited party.

Recommendation Based on Audit Findings

The EAS recommends that the TMDL program accept data produced by Collier County Government as useable for TMDL purposes.

Project Name

The subject of the project data audit was “Lake Trafford”, with internal project identifier listed as “02032514-01-17”.

Project Date

The samples for this project were collected on March 25th, 2002.

EAS Auditors

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Lake Trafford Project Data Audit

Completeness Review and Project Summary

Minor record keeping deficiencies were noted for sample collection, sample laboratory receipt, sample holding time, sample preservation verification upon laboratory receipt, QC sample identification, laboratory sample identification and tracking, designation of

analytical methods used, sample preparations and link between field and lab sample identifications.

Laboratory Sample Receipt
Records do not establish one-to-one correspondence between field and laboratory identification numbers, sample preservation and required analyses associated with each sample.

Analytical Method Review: Blanks
Documentation for seeded blanks for BOD analyses was deficient and did not allow verification of proper method technique.

Method blanks for nitrite analyses are sporadically omitted from preparation batches.

Analytical Method Review: Calibration
Working standard concentrations could not be verified in the record for some analyses and could not be clearly traced to vendor-certified standards.

Standard concentrations are not uniquely identified in the record for some analyses.

Analytical Method Review: Quality Control
Sample spike batches are not assigned unique identifications.

Method blanks were not prepared at a 5% rate for BOD analyses as required.

An unconventional formula is used to calculate spike recovery for some analyses, resulting in discrepancies with spike recovery values calculated traditionally.

Sample Preparation
Preparation logs are not kept for total phosphorous and chlorophyll analyses.

Field Information
Obliterated errors were noted in some field records.

Deficiencies in the permanent field log and laboratory transmittal record include a lack of information for unique identification for each sample container; sample matrix collected; preservation method and on-site checks of acid preservation; field filtration and filter pore size; total number of containers collected; required analyses per container; method of transport to laboratory; sample collection technique; sampling equipment and use of fuel-powered boat.

Sample Container Receipt, Packing and Transport
Required information about materials obtained from the contracted commercial laboratory was not documented

Field Sampling and Testing Performance Audit

Field Documentation
Deficiencies in the permanent field sampling and lab transmittal records included a lack of information for sample kit preparations; field-meter calibrations; unique sample container identifications; sample collection times for samples with holding times less

than 24 hours; sample matrix collected; preservation method for samples; verification of acidified sample pH; number of containers transmitted to laboratory and required analyses per container.

General and Aqueous Sampling Procedures
Field blanks (on-site container blanks) were not collected.

Field Testing and Calibration Procedures
Measured sample temperatures were not bracketed with appropriate temperature calibration values.

Measured sample conductivities for tidally influenced stations were outside of calibration bracket values.