TMDL AUDIT Executive Summary

Audited Organizations:
Laboratory 1:
Orange County Environmental Protection Division
9124 Curry Ford Road, Orlando FL 32825
DoH Certification Number: E43155
Phone: 407-836-1400 Fax: 407-836-1499

Laboratory 2:
Orange County Environmental Protection Division – Mercy Drive Laboratory
800 Mercy Drive Suite 4, Orlando FL 32808
DoH Certification Number: E43639
Phone: 407-836-6936 **Fax:** 407-249-4481

DEP/EAS Auditors: Andy Tintle, Silky Labie, Joyce Ziesenis
Environmental Assessment Section
2600 Blair Stone Road, MS 6511
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Audit Date: April 27-28, 2004

This audit was conducted to:

- evaluate past data for TMDL listing purposes as specified in Chapter 62-303, F.A.C. and
- determine if current sampling procedures used by Orange County Environmental Protection Division conform with DEP Standard Operating Procedure (DEP SOP) requirements.

To accomplish these objectives, audit consisted of two different activities:

- A project audit of data retrieved from STORET that was identified as having been produced by Orange County Environmental Protection Division Curry Ford and Mercy Drive laboratories and field staff; and
- An on-site performance audit of current field sampling and field testing procedures (conducted April 27, 2004)

The project audit was performed using criteria that were developed to meet specific data quality objectives for the TMDL program. Selected records were reviewed to determine if sufficient information was available to verify the quality of the data, with emphasis on calibration, quality control procedures, and documentation. The purpose of the audit was to determine data usability and was not intended as a regulatory action against the audited party.

The Environmental Assessment Section (EAS) determined that for the selected STORET data set, Orange County Environmental Protection Division has adequate documentation to allow verification of the quality of all of the audited results.

Inspection of the organization's records revealed that some of the data quality objectives that have been established for TMDL purposes were not being met, and certain field test calibration protocols and record keeping practices did not satisfy some of the requirements of the DEP SOPs.

The observed procedural and documentation problems will be corrected with the Orange County Environmental Protection Division's plan of corrective actions for laboratory and field operations.

The attached table summarizes the analyte records and types of evaluation criteria used for the audit of historical data. Other supporting documentation is available upon request.

TMDL DATA AUDIT SUMMARY (TMDL DATA USABILITY)
DATA FROM SAMPLES COLLECTED APRIL 27-28, 2004
LABORATORY AND FIELD DATA

TMDL Criterion / Analytes	BOD	Chlorophyll A	Fecal Coliform	NH3	NO2	NO3	NOX	o-P	TKN	TP	TSS	Turbidity	Calcium	Magnesium	Arsenic	Copper	Lead	Mercury	pH	Sp Cond.	DO
Sample Preservation and Holding Times																					
Holding times met.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sample preservation as acceptable	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Laboratory Practical Quantitation Limit																					
Reported PQL ≤ TMDL usability level	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Laboratory Replicate Precision																					
Replicates ≤ 20% RPD/RSD	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Laboratory Spike Recoveries																					
Spike recoveries were within TMDL limits					X	X	X	X	X	X			X	X	X	X	X	X			
Spike concentration levels met TMDL criterion					X	X	X	X	X	X			X	X	X	X	X	X			
SRM or QC check sample within limits	X	X														X					
Field and Laboratory Quality Control Blanks	X																				
Blank detects <10% of sample values		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Field and Laboratory Instrument Calibration																					
At least the minimum number of standards were used				X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	
Correlation coefficient was ≥ 0.995				X	X	X	X	X	X	X			X	X	X	X	X	X			
Second source verification for initial calibration				X	X	X	X	X	X	X			X	X	X	X	X	X			
Initial verification after calibration																			X	X	X
Verifications met TMDL recovery limits				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Samples & QC samples within verified time bracket.				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Samples & QC samples within verified concentration bracket.				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Method Specific Requirements																					
All audited sample results were properly calculated	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Critical method specific requirements met	X		X		X	X	X				X	X	X	X	X	X	X	X			

LEGEND: X – ANALYTE RECORDS WERE AUDITED FOR INDICATED TMDL USABILITY CRITERION.

▨ Hatched [ ] Criterion not applicable