FINAL AUDIT REPORT

Escambia County Water Quality and Land Management Division

OGC Case No. 17-0919

Field Performance Audit, February 6-7, 2017

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
July 2017

Introduction

This field performance audit of the Escambia County Water Quality and Land Management Division (Escambia County) was conducted by the Florida Department of Environmental Protection (DEP or department) Aquatic Ecology and Quality Assurance Section (AEQAS), in accordance with Rule 62-160.650, Florida Administrative Code (F.A.C). The audit was conducted at the auditee's request to inform the department and Escambia County staff of the extent of conformance of their field procedures with the requirements of Chapter 62-160, F.A.C., including implementation of the DEP Standard Operating Procedures for Field Activities, DEP-SOP-001/01, March 1, 2014 (DEP SOPs), which cover sample collection, field testing, and required field documentation. The results of the audit have been evaluated to provide the required corrective actions and recommendations that should be implemented by Escambia County for conformance with the DEP SOPs.

Description of Audit

Department auditors, Jennifer Claypool and Kristen Sapp (AEQAS), conducted a field performance audit of Escambia County samplers, Dana Morton and Mollie Taylor, on February 6-7, 2017. The audit was requested by Escambia County as part of their continuing efforts to review Quality Control and Quality Assurance (QA/QC) procedures, and to ensure that sampling staff are following DEP SOPs. DEP also used this audit as an opportunity to train employees in the DEP Northwest District Pensacola Office Compliance and Assistance Program (CAP), who observed the audit. The sites chosen are sampled by Escambia County as part of their landfill compliance monitoring. All sites were located within the closed Klondike landfill.

On day one of the audit, auditors observed the samplers collecting groundwater samples from two monitoring wells. Sample containers were provided by their contract lab, Pace Analytical, and came pre-preserved for those analytes that required chemical preservation. An electronic submersible pump (ESP) was used to purge and sample at the first site, and a peristaltic pump was used to purge and sample at the second site. Dissolved oxygen, pH, specific conductance, turbidity, and temperature were measured in a flow cell for use in determining purge completion. For both wells, samplers purged the full well volume from mid-screen depth.

On day two of the audit, auditors met with the samplers at the Escambia County lab facility to observe meter calibration and verification. The auditors then followed the samplers to the first site and observed them collecting surface water samples by wading into Coffee Creek, adjacent to the landfill. Sample bottles were provided by the contract lab, Pace Analytical, and came pre-preserved if chemical preservation was required. Standard grab techniques from DEP SOP FS 2100 were used, except when collecting low level mercury, when the samplers used the "clean hands/dirty hands" technique from DEP SOP 8200. The chlorophyll bottle was used as an intermediate sampling device for the pre-preserved samples. DEP requested copies of the field sheets, calibration logs, and chain of custody forms related to this audit. Those forms were sent by Escambia County and reviewed for this report.

Preliminary Audit Report and Implementation of Corrective Actions

A preliminary report was sent to Dana Morton, Escambia County, on May 4, 2017. Responses to the preliminary report, along with proposed corrective actions and requests for clarification, were received from Dana Morton on June 13, 2017. The preliminary audit report noted that the samplers' techniques in collecting and handling samples were in accordance with the DEP SOPs, with only minor deviations (Table 1). Many of the audit findings are related to documentation requirements in DEP SOP FD 1000, and have been addressed by modification of field sheets (Table 1). The auditors reviewed the proposed corrective actions to ensure that the audit deficiencies had been fully addressed, and found all corrective actions to be acceptable as of July 26, 2017.

Audit Conclusions

The department has determined that the sample collection and field testing procedures of the Escambia County sampling team meet the department's data quality objectives for surface water and groundwater sampling according to Chapter 62-160, F.A.C., and DEP SOPs.

Table 1. Findings of deficiency and corrective actions for ground water and surface water field sampling, and field testing performance (audited 2/6/17 and 2/7/17).

Finding Number	DEP SOP Reference	Audit Finding/Auditors' Notes	Recommended or Required Corrective Action (CA)	Escambia County Response	AEQAS Final Response
1	FD 5000 section 2.18, FD 5100, section 4.	The groundwater field sheet is used for both groundwater and surface water sampling. There is no space to record the water sampling depth for surface water.	Required: Include either a checkoff or comment to indicate the depth of grab samples.	We will begin using our standard surface water field sheet (with depth of sample space) immediately Effective date: 8/1/2017	Response is acceptable. Auditee provided this form as confirmation.
2	FD 5000 section 2.15, FQ 1250, section 2	Time of blank collection is recorded on the chain of custody (COC), but the location not recorded anywhere.	Required: Record the location where the blank is collected.	Starting immediately, we will fill out a surface water field sheet for the Hg blank, recording the nearest site location, date and time. Site will also be recorded on the COC Effective date: 8/1/2017	Response is acceptable.
3	FD 5000 section 2.14	The chlorophyll bottle was used as an intermediate container during the surface water sampling. This was not recorded on the field sheet.	Required: Record the type of sampling equipment, including the use of an intermediate container.	In the future when an intermediate container is used the type of container/equipment will be recorded on a revised field sheet. Effective date: 8/1/2017	Response is acceptable.
4	FS 1006 section 4	Samplers use pre-preserved bottles and stated they do not check the pH for acid-preserved samples.	Required: Check the pH of preserved samples routinely, as specified in FS 1000.	Landfill groundwater and surface water sampling frequency is semi-annual. Based on FS 2000 Section 4, non-VOA, pH adjusted samples will be checked each time a site is sampled. Results will be recorded on the field sheet. All other WQLM pH adjusted samples will comply with the appropriate SOP. Effective date: 8/1/2017	Response is acceptable. Note: appropriate SOP reference is FS 2001, Section 4, regarding non-VOC pH adjusted samples.

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5	FD 2000 section 1.1, and 1.2.1	There is a check off for equipment decontamination on the field sheet, but no reference to a method or SOP. The time and date of decontamination can be inferred from the field sheet, but are not specifically recorded for decontamination.	Required: Record the date, time, and location of equipment decontamination, and reference the cleaning procedure.	The field will be added to the field sheet for decontamination, method, date and time. Effective date: 8/1/2017	Response is acceptable.
6	FS 2110, section 1.1	A sample bottle was submerged with its neck up at the first surface water site. The correct procedure was demonstrated and staff corrected at the next site.	Required: Collect direct grab samples by submerging the open end of the inverted container first into the water. Remind staff of this required sampling technique.	Future surface water samples will be collected as required inverted with opening down when depth allows. Shallow water samples will be avoided or caution used. Effective date: 8/1/2017	Response is acceptable.
7	FS 2212 section 3.5	The DO purge completion criteria did not pass for a groundwater sample that was taken 2/6/17, but not observed by the auditors. The DO concentrations met the alternative criteria, but there were no notes.	Required: Record an explanation of the field sheet when alternative purging completion criteria are used.	Beginning immediately when alternate stabilization criteria are used this information will be recorded on the field sheet. Effective date: 8/1/2017	Response is acceptable.
8	FT 1600 section 2.3 and 5.2	The auditor was unable to confirm that the turbidity meter was calibrated or verified with a primary standard. There is no space on the Escambia county turbidimeter log form to indicate if the standard is primary or secondary.	Required: Record the type of standard and identify when the meter was last checked with primary standard.	Turbidity log form will be revised to accommodate standard identity (primary/secondary) and date of last primary standard verification. Effective date: 8/1/2017	Response is acceptable.