Kentucky Wastewater Laboratory Certification Program
Field Analysis for pH-only Stormwater
Procedures for Multiple Facilities
May 14, 2015
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This document is intended to assist in the preparation, setup and on-going management of regulated entities with multiple satellite facilities[1] performing pH-only stormwater analysis for Kentucky Pollution Discharge Elimination Program (KPDES) in accordance with Kentucky's Wastewater Laboratory Certification Program (KWLCP).

Application

- Identify a main (or central) contact for all administrative duties required for compliance with KPDES and KWLCP
- Complete KWLCP application for pH-only analyses
- Prepare a Quality Assurance Plan (QAP) and Standard Operating Procedure (SOP) using the templates provided on KWLCP webpage[2]
- Utilize a Proficiency Test (PT) Provider using the list on the KWLCP webpage[2]. Perform the PT Study and submit results to the Provider (following their instructions). Make sure to include Kentucky Laboratory Certification Program as your Certifying Authority on the paperwork. Providers must submit PT Study results using the following email: dowptresults@ky.gov.

Certificate Package

- Package includes a certificate and method-analyte list
- Unique Kentucky Laboratory Identification Number (Lab ID)

Internal Program

- Main (or central) contact – establish a 'Point-of Contact' with KWLCP (and KPDES if necessary)
- Main (or central) contact – prepare internal program details for all satellite facilities performing pH-only stormwater analyses
    - Name, location and contact information of all satellite facilities (create list)
    - Determine mechanism for reporting and record retention
    - Determine a PT Study schedule – such that each facilities analyses a PT sample on a revolving basis. Remember: One PT sample must be successfully analyzed per calendar year by any facility within the system of satellite facilities
- Ensure that KWLCP receives a copy of the annual PT Studies directly from the PT Provider

[1] Multiple facilities – is defined as all satellite facilities performing KPDES compliance sample analysis for a KPDES permit utilizing the same QAP/SOP and reporting results via a central contact.
[2] http://water.ky.gov/permitting/Pages/WasteWaterCertification.aspx

Field Documentation Requirements

- Utilize field notebooks for all observations pertaining to the analysis of KPDES compliance samples
- Use indelible ink (black or blue)
- For corrections – strike through original value with a single line, initial and date

QA/QC Requirements

- All facilities performing pH-only analyses – use field notebooks and logbooks for all activities
- Prior to each pH Meter use:
    - Calibrate meter – according to manufacturer's requirements
        - Typically: calibrate using a 4, 7 and 10 S.U. buffers (poured fresh for each use)
        - Calibration must bracket range of use
    - Record the calibration information, including buffer lot numbers and expiration dates in the field notebook
    - Record the slope of the calibration curve – if displayed (slope must be 0.95-1.05)
    - Verify the calibration of the pH Meter using a buffer standard (using a second source[3] standard) and analyze as an unknown sample (result must be $\pm$0.1 S.U. of expected)
    - Record the calibration verification results in the field notebook (make a Pass/Fail notation). If verification failed – refer to SOP for corrective action
- Analyze compliance samples
- Analyze a field sample DUPLICATE at least once per 20 samples (over multiple days), not to exceed one quarter (per analyst / field technician).
    - Calculate duplicate Relative Percent Difference (RPD) – using the equation in the QAP/SOP. RPD must be $\leq$20 RPD. If failed criteria – refer to the QAP/SOP for corrective action
- Each satellite facility must perform a quarterly Quality Control Sample (QCS) analysis – using a buffer from a different source (second source[3]) than the buffers used for the primary calibration. Use of a buffer from the same supplier, but a different lot number is acceptable.
    - Record the results of the QCS in the field notebook (result must be within $\pm$5% of expected value; or within manufacturer's certificate of analysis).

[3] Second source standard is defined as a standard that has been purchased from a different supplier (or vendor) than the primary standards used for instrument calibration. If a different supplier (or vendor) does not exist, or is impractical, a different lot number may be used from the same supplier as the primary standards.