



Technical Guidance Effluent Monitoring Programs Wastewater Discharge Standard No. 1

Background

This document provides supporting guidance for implementing the Initial Confirmatory Testing and Ongoing Monitoring Programs required in sections 3.c and 4.a respectively of Standard No. 1. The framework for both programs is presented in the following sections. Final Ongoing Monitoring Protocols specific to conditions and circumstances of the CWT being monitored will be developed by the technical subcommittee and provided to the Standards Committee for approval. In all instances of testing and monitoring, samples will be analyzed by a laboratory that is accredited by the National Environmental Accreditation Program (NELAP).

Initial Confirmatory Testing Program

As noted in the standard, confirmatory sampling of the effluent must be completed at any CWT used for discharge. Representative effluent samples will be collected at the monitoring point specified in the CWT's NPDES permit.

Prior to initiation of sampling activities, a sampling and analysis plan (SAP) shall be developed by the Operator for review and approval by CSSD. The SAP shall detail sample collection and handling procedures including applicable QA/QC samples (field duplicates, trip blanks, and equipment rinsate blanks) and analytical lab(s) selected to perform analysis (if multiple labs are proposed, analyses performed by each lab shall be specified).

Unless modified by CSSD in a facility-specific Protocol, the list of parameters included as part of the initial confirmatory sampling and associated analytical methods are identified in Attachment A. Attachment A may be revised as additional science and knowledge is developed relative to shale wastewater constituents and available and approved analytical methods.

Unless modified by CSSD in a facility-specific Protocol, a minimum of five sampling events will be conducted over an appropriate period (the default period shall be 10 days unless an alternative period is approved by CSSD in the SAP) in order to ensure that discharges sampled are representative of treated effluent typically discharged by the facility being tested. The type of samples collected (grab vs. 24-hour composite) for each sampling event will be based on the monitoring requirements specified in the NPDES permit.

Full laboratory data reports and a summary table of all analytical results will be provided to CSSD following conclusion of the sampling event. Additionally, a summary report will be provided demonstrating that all work was performed in accordance with the applicable testing Program or Protocol and identifying any changes to the field or laboratory protocols that may have resulted in a deviation from expected results, in particularly any QA/QC issues.



Ongoing Monitoring Program

Unless established otherwise in a facility-specific Protocol, all monitoring tests conducted under this subsection will occur on a semi-annual basis, beginning six months after results are finalized for the Initial Confirmatory Testing Program.

Until modified by CSSD, ongoing monitoring will follow the same sampling and analysis procedures as specified in the Initial Confirmatory Testing Program. This includes the list of parameters and associated analytical methods included in Attachment A.

Full laboratory data reports and a summary table of all analytical results will be provided to CSSD following conclusion of the sampling event. Additionally, a summary report will be provided demonstrating that all work was performed in accordance with the applicable testing Program or Protocol and identifying any changes to the field or laboratory protocols that may have resulted in a deviation from expected results, in particular any QA/QC issues.



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Attachment A
Analytical Parameters and Analytical Methods

Analysis	Method
TOC	EPA 415.1
Aldehydes	SW-846 8315
VOCs	SW-846 8260B with 20 non-interpretive TICs
SVOCs	SW-846 8270C with 25 non-interpretive TICs
Pentanoic and Hexanoic Acids	8270C-TLS (Library Search)
Organic Acids	SW-846 8015B (mod)
Alcohols	SW-846 8015B (mod)
Glycols	LC/MS/MS 8321AMOD
TPH C8-C40	SW-846 8015B (TPH)
30 ICP Metals	SW-846 6010B
Anions - Sulfate, Chloride, Fluoride, Bromide	EPA 300
Ammonia	EPA 350.2
TDS	SM 2540D
Ra 226 and Ra 228, dissolved, insoluble	EPA 903.1 and 904
Acrylamide	EPA 603
MBAS	Method SM 5540 C-2000
Mercury	Cold Vapor Method EPA 245.7
Nonylphenol	WS-MS-0010
Nitrite	SW-846 9056/A
Nitrate	SW-846 9056/A
Hexavalent Chromium	SM 3500-Cr B-2009
Total Strontium	EPA 200.7
Thallium	EPA 200.8

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