

Approved Analytical Methods

QA Training Spring 2011

For DEP Rules:

Data submitted for regulatory use requires analytical methods approved by DEP

- Methods or method lists (sources) specified in rules
- Methods “recognized” by DEP but not cited in rules
- Alternative, new or modified methods approved by DEP



Methods Promulgated by Rule

- Includes methods cited in any order or permit, if applicable

Methods Promulgated by Rule

EXAMPLES

Drinking Water

- Includes citations to federal rules at 40 CFR Parts 141 & 143

Wastewater

- Includes citations to federal rules at 40 CFR Part 136

Waste

- 62-770 Tables

Methods Recognized by DEP

- A method for the analyte and matrix already specified in a rule, permit, order, contract, etc. must be used
 - A DEP program may have the discretion to allow methods other than those specified as above
 - To accommodate obsolete rule listings
 - To achieve DQOs with technology or method improvements
- The method must be published and intended for the **analyte** and **matrix** to be analyzed

Methods Recognized by DEP

EXAMPLE SOURCES

- Method lists at 40 CFR Parts 136, 141, 143
- DEP SOP Information
 - Table FS 1000-5 (Specific methods not at 40 CFR Part 136)
 - DEP SOP LT 7000 (BioRecon, SCI, LCI, LVI)
- Method lists associated with DEP Rules
 - 62-4.246(4) Target MDL & PQL list
 - Waste Management rules target PQL list

Methods Recognized by DEP

EXAMPLE SOURCES

- Methods published as collections of methods:
 - SW-846
 - “Standard Methods” (APHA)
 - ASTM
 - USGS
 - AOAC

Choosing Appropriate Methods

- Rule or other specifications take precedence
- Matrix & analyte must be specific to method
- Sensitivity – MDL & PQL
 - See 62-4.246(4) and Waste Management targets
 - Methods may also suggest expected sensitivities
- Potential analytical interferences
 - Described in published methods

Choosing Appropriate Methods

- Equivalent methods & technology
 - See MDL & PQL target lists (DEP)
 - See 40 CFR Parts 136, 141, 143 lists

Choosing Appropriate Methods

- Lab must be certified for method (62-160 FAC)
 - Non-potable water equivalency provision
 - Certification only required for one analyte-analytical technology combination
 - Lab may report any method for equivalent combination
 - Lab must meet requirements in reported method
- Specific QA rule exceptions are described:
 - DEP program may waive certification
 - Certain tests and applications are exempted



Choosing Appropriate Methods

For help with method choices and questions

- DEP Standards & Assessment Section
- DEP Chemistry Lab
- DEP Biology Lab

Modified, New & Alternative Methods

- New methods –
 - No DEP-approved method is approved for the analyte & matrix
- Alternative methods-
 - DEP approves a different method for the analyte & matrix
- Modified Methods-
 - Method language specifically allows modification
 - 40 CFR Part 136.6 allows modification
 - No pre-approval by DEP required
 - Documentation of performance required

Modified, New & Alternative Methods

- Submittal-
 - Method validation per DEP-QA-001/01
 - For NPDES – application per 40 CFR 136.4 & .5
 - DEP will forward to EPA Region IV
- Approval-
 - DEP will issue order
 - Site-specific or limited use – notice in Quality of Science e-newsletter
 - Statewide use – notice in FAW
 - NPDES – EPA Region IV will approve or deny

Publications & Sources

- See QA Officers' Resources page for web links
- Typical sources:
 - EPA
 - Methods primarily for drinking water & wastewater, including non-potable water
 - SW-846 collection of methods for aqueous & non-aqueous samples, including soils and wastes
 - APHA ("Standard Methods") – water analyses
 - USGS – water and sediment analyses
 - ASTM – water and other media