

Updates to ELAP's Wastewater Fields of Testing (FOTs) due to the Clean Water Act Methods Update Rule (MUR)- 2017

This document is an overview of the analytical methods updated in ELAP's FOT forms due to the Clean Water Act MUR-2017. It is the laboratory's responsibility to compare their accredited methods against the updated FOT forms to determine which methods have changed. For further information on the 2017 MUR and compliance schedule, please review the announcement letter and the frequently asked questions located in the [Resources](#) tab of the ELAP website.

Below are the types of changes made to the FOT forms:

Methods Revised in FOTs

Many methods revisions were updated to newer revisions because of the MUR-2017 and subsequently updated in the FOT forms. Method revisions are identified by a change in the method year (e.g. SM 9222 D-1997 to SM 9222 D-2006) or an update to a different iteration of a method (e.g. EPA 625 to EPA 625.1). The table below provides more examples of updates to method revisions in the FOT forms.

ANALYTE	OLD METHOD	→	REVISED METHOD
Fecal Coliform	SM 9222 D-1997	→	SM 9222 D-2006
E. Coli	SM 9223 B-2004 by Colilert	→	Colilert
TDS	SM 2540 C-1997	→	SM 2540 C-2011
Hydrogen ion (pH)	SM 4500-H ⁺ B-2000	→	SM 4500-H ⁺ B-2011
Purgeable Organic Compounds	EPA 624	→	EPA 624.1
VOCs	SM 6200 B-1997	→	SM 6200 B-2011
Organochlorine Pesticides and PCBs	EPA 608	→	EPA 608.1 or EPA 608.2 or EPA 608.3
TCDD and PCBs	EPA 625	→	EPA 625.1
Acute Fathead Minnow	EPA 600/4-90/027F, Static	→	EPA 2000.0, Static

NOTE: This table is not a comprehensive list. It is the laboratory's responsibility to compare the methods on their scope of accreditation against the updated FOT forms to determine which methods have changed.

Laboratories currently accredited for methods that were revised as a result of the MUR 2017 are not required to amend their certificate of accreditation and may begin analyzing samples and reporting data using the later revisions of the methods after the necessary laboratory documents (SOPs, reference methods, QAM) have been updated to reflect any required changes.

New Methods Added to FOTs

New methods and analytes have been added to the FOT forms that were not previously in ELAP's accreditation offerings. A laboratory must submit an amendment application and fee to add new methods to their certificate of accreditation.

Methods Removed from FOTs

Methods have been removed from the FOT forms because of the 2017 MUR updates to 40 CFR 136. Removed methods will no longer be offered for accreditation. If a method has been removed from the FOT form but is currently on a laboratory's certificate of accreditation, then the laboratory can use the method until the expiration date of the laboratory's certificate of accreditation and the method will be removed after the laboratory's certificate of accreditation is renewed.

Specific Method Changes in FOTs

FOT 107 – Microbiology:

Removed

- ✖ References to methods with chlorine present.
- ✖ SM 9215 B (Heterotrophic plate count)

Revised

- ✓ SM(s) have been updated to reflect newer methods revision

Added

- + ASTM D6503-99 (Enterococci)
- + SM 9230 B-2007 (Enterococci)
- + SM 9230 D-2007 (Enterococci)

FOT 108 – Inorganic Chemistry:

Removed

- ✖ Preparatory Methods
- ✖ Methods for Boron analysis have been moved to FOT 109
- ✖ SM 4140 (Sulfide)
- ✖ SM 5530 B (total Phenols)
- ✖ Hach 8048 (Nitrite)
- ✖ Hach 8190 (total Phosphorus)
- ✖ EPA 1627 (Acid Mine Drainage)
- ✖ EPA 200.7, Rev. 4.4 (1994) (Hardness (calculation))
- ✖ SM 3125 B (Hardness (calculation))
- ✖ SM 3111 B (Hardness (calculation))
- ✖ SM 3120 B (Hardness (calculation))

Revised

- ✓ SM(s) have been updated to reflect version
- ✓ Conductivity is now listed as Specific Conductance
- ✓ Hardness(calculated) must be reported by SM 2340 B-2011
- ✓ SM(s) have been updated to reflect newer method revision
- ✓ SM(s) have been split to distinguish specific methods. Examples:
 - SM 4500NH₃ B,D or B,E into two separate entries: SM 4500NH₃ D-2011 or SM 4500NH₃ E-2011
 - SM 4110 B or C into two separate entries: SM 4110 B-2011 or SM 4110 C-2011

Added

- | | | |
|--------------------------|---|-----------------------|
| + SM 2120 F-2011 | + SM 4500-NO ₃ ⁻ H-2011 | + Kelada-01 (Cyanide) |
| + Hach 10206 | + Hach 10242 | + Hach 10360 |
| + Timberline Ammonia-001 | | |



Removed

- Revised

- Added*

- ### **FOT 110 – Volatile Organic Compounds (VOCs):**

Removed

- ✕ No Methods were removed

Revised

- ✓ Analytes are no longer grouped together
- ✓ SM(s) have been updated to reflect version
- ✓ EPA 624 into EPA 624.1

Added

- | | | | | | |
|---|-----------|---|------------|---|------------|
| + | EPA 1624C | + | EPA 1666 | + | EPA 1667 |
| + | EPA 1671 | + | ASTM D3695 | + | ASTM D4763 |

FOT 111 – Semi-Volatile Organic Compounds (SVOCs):

Removed

- * No Methods were removed

Revised

- ✓ Analytes are no longer grouped together
- ✓ SM(s) have been updated to reflect newer method revision
- ✓ EPA 625 into EPA 625.1
- ✓ EPA 608 into EPA 608.1, 608.2, and/or 608.3

Added

- | | | |
|---------------------|---------------------|-----------------|
| + EPA 622, 622.1 | + EPA 627 | + EPA 629 |
| + EPA 630, 630.1 | + EPA 631 | + EPA 632.1 |
| + EPA 633, 633.1 | + EPA 637 | + EPA 645 |
| + EPA 1658 | + EPA 1659 | + EPA 1660 |
| + EPA 1661 | + SM 6640 B-2006 | + ASTM D3086-90 |
| + ASTM D4657-92(98) | + ASTM D5812-96(02) | + ASTM D7065-11 |

FOT 112 – Radiochemistry:

Removed

- ✗ Analysis for Uranium, Cesium, Iodine, Tritium, Strontium, Radon, and Radium-228
- ✗ Analysis for Gamma Emitters
- ✗ Older EPA methodologies for gross alpha and gross beta
- ✗ USGS methodologies
- ✗ DOE methodologies
- ✗ SM 7110 C

Revised

- ✓ Multiple method revisions from different SM editions are allowed. *Please see table IE in 40 CFR 136.3 for approved versions and SM editions.*

Added

- + ASTM D1943
- + ASTM D1890

FOT 113 – Bioassay:

Removed

- ✗ Water Methodologies referenced in EPA 600/4-90/027F (fourth edition), however there are a few exceptions.
- ✗ Acute toxicity water testing for Sanddab (*C. sitigmaeus*)
- ✗ Acute toxicity water testing for Pacific mysid (*H. costata*)

Revised

- ✓ FOT 119 – Bioassay Hazardous Waste has been incorporated into this FOT
- ✓ Naming convention for EPA methods

Added

- + Acute toxicity water testing for Midge (*C. tentans*)

FOT 126 – Microbiology of Recreational Water:

Removed

- ✗ SM 9223 B for Total Coliform (Enumeration)

Revised

- ✓ SM(s) have been updated to reflect newer revision

Added

- | | |
|---------------------------------------|--------------------|
| + 9222 B-2006 (E. Coli (Enumeration)) | + SM 9221 C,F-2006 |
| + SM 9230 C-2007 (Fecal Streptococci) | + SM 9213 D-2007 |
| + SM 9222 G-2006 | + SM 9230 D-2007 |
| + m-ColiBlue24 | + EPA 1103.1 |
| + EPA 1600 | + EPA 1603 |
| | + Colilert 18 |
| | + EPA 1106.1 |
| | + EPA 1604 |

Additional Changes to FOTs (Programmatic Decision):

FOT 119 – Bioassay Hazardous Waste:

- Merged with FOT 113

FOT 106 & FOT 118 – Radiochemistry

- Separated into individual FOT forms