
APPENDIX L

APPROVED METHODS FOR THE ANALYSIS OF SEWAGE SLUDGE (40 *CFR* 503)

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**APPROVED METHODS FOR THE ANALYSIS OF SEWAGE SLUDGE
(40 CFR Part 503)**

Parameter	Analysis Method a/
Arsenic	SW-846 Method 6010B <u>b/</u> SW-846 Method 6020 <u>b/</u> SW-846 Method 7060B <u>b/</u> SW-846 Method 7061B <u>b/</u>
Cadmium	SW-846 Method 6010B <u>b/</u> SW-846 Method 6020 <u>b/</u> SW-846 Method 7130 <u>b/</u> SW-846 Method 7131B <u>b/</u>
Copper	SW-846 Method 6010B <u>b/</u> SW-846 Method 6020 <u>b/</u> SW-846 Method 7210 <u>b/</u> SW-846 Method 7211 <u>b/</u>
Lead	SW-846 Method 6010B <u>b/</u> SW-846 Method 6020 <u>b/</u> SW-846 Method 7420 <u>b/</u> SW-846 Method 7421 <u>b/</u>
Mercury	SW-846 Method 7471B
Molybdenum	SW-846 Method 6010B <u>b/</u> SW-846 Method 6020 <u>b/</u> SW-846 Method 7481 <u>b/</u>
Nickel	SW-846 Method 7521 <u>b/</u> SW-846 Method 6010B <u>b/</u> SW-846 Method 6020 <u>b/</u> SW-846 Method 7520 <u>b/</u>
Selenium	SW-846 Method 6010B <u>b/</u> SW-846 Method 6020 <u>b/</u> SW-846 Method 7740 <u>b/</u> SW-846 Method 7741B <u>b/</u>
Zinc	SW-846 Method 6010B <u>b/</u> SW-846 Method 6020 <u>b/</u> SW-846 Method 7950 <u>b/</u> SW-846 Method 7951 <u>b/</u>
Fecal Coliform (MPN)	SM-18th Method 9221 E (MPN) & Appendix F, EPA/625/R-92/013
<i>Salmonella</i> bacteria	Appendix G, EPA/625/R-92/013
Helminth Ova	Appendix I, EPA/625/R-92/013
Enteric Viruses	Appendix H, EPA/625/R-92/013
Nitrate (as N)	SM-18th Method 4500-NO ₃ ⁻ SW-846 Method 9056 SW-846 Method 9210
Nitrite (as N)	SM-18th Method 4500-NO ₂

Ammonia (as N)	SM-18th Method 4500-NH ₃
Organic Nitrogen	Value calculated TKN minus NH ₃ -N
Total Kjeldahl Nitrogen (TKN)	SM-18th Method 4500-N _{org}
Total Solids	SM-18th Method 2540 G
Total Volatile Solids	SM-18th Method 2540 G
Total Phosphorus	SM-18th Method 4500-P
pH	SW-846 Method 9045C
TCLP	SW-846 Method 1311
Paint Filter Test	SW-846 Method 9095A

a/ The references for the specified analytical methods are listed below:

EPA/626/R-92/013 means *Environmental Regulations and Technology, Control of Pathogens and Vector Attraction in Sewage Sludge (Including Domestic Septage) Under 40 CFR Part 503*, EPA Publication EPA/625/R-92/013, Revised October 1999. Use the indicated appendix. A copy of the document can be downloaded in PDF format from the Region 8 Biosolids Web page at <http://www.epa.gov/region8/water/wastewater/biohome/biohome.html>. Click on "Biosolids Documents", "New Documents", then "625r92013.pdf".

SM-18th means *Standard Methods for the Examination of Water and Wastewater*, 18th Edition, 1992, American Public Health Association, 1015 15th Street, NW., Washington, DC 20005.

SW-846 means *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA publication SW-846 Third Edition (September 1986), Update I (July 1992), Update II (September 1994), Update IIA (August 1993), Update IIB (January 1995), and Update III (December 1996). Available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

b/ All samples must be digested using SW-846 Method 3050B (using equivalent to 1 gram dry weight) prior to analysis by any of the procedures indicated. Methods 3051 or 3052 may be used only with permission of the permit issuing authority. The AA direct Aspiration analyses are applicable at moderate concentration levels in clean complex matrix systems. AA Furnace methods can increase sensitivity if matrix effects are not severe. Inductively Coupled Plasma (ICP) methods are applicable over a broad linear range and are especially sensitive for refractory elements. Detection limits for AA Furnace methods are generally lower than for ICP methods.