METAL PARAMETERS

METAL PARAMETER	METHOD CODE	TECHNOLOGY
ALUMINUM	EPA 200.9 SM 18th, 19th 3113 B	GFAA
ALUMINUM	SM 18th, 19th 3111 D SW846 7000 B	FAA
ALUMINUM	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
ALUMINUM	EPA 200.8 SW846 6020 A	ICP/MS
ALUMINUM	SM 18th, 19th 3500 Al D	MANUAL COLORIMETRIC
ANTIMONY	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
ANTIMONY	SM 18th, 19th 3111 B SW846 7000 B	FAA
ANTIMONY	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
ANTIMONY	EPA 200.8 SW846 6020 A	ICP/MS
ARSENIC	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
ARSENIC	SM 3114 B 4.d SW846 7061 A SW846 7062	FAA
ARSENIC	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
ARSENIC	EPA 200.8 SW846 6020 A	ICP/MS
ARSENIC	SM 18th, 19th 3500 As C	MANUAL COLORIMETRIC
BARIUM	SM 18th, 19th 3113 B SW846 7010	GFAA
BARIUM	SM 18th, 19th 3111 D SW846 7000 B	FAA
BARIUM	EPA 200.7 SM 3120 B SW846 6010 C AES0029	ICP/AES
BARIUM	EPA 200.8 SW846 6020 A	ICP/MS
BERYLLIUM	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
BERYLLIUM	SM 18th, 19th 3111 D SW846 7000 B	FAA

METAL PARAMETER	METHOD CODE	TECHNOLOGY
BERYLLIUM	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
BERYLLIUM	EPA 200.8 SW846 6020 A	ICP/MS
BERYLLIUM	SM 3500 Be D	MANUAL COLORIMETRIC
BORON	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
BORON	EPA 200.8 SW846 6020 A	ICP/MS
CADMIUM	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
CADMIUM	SM 3111 18th, 19th B or C SW846 7000 B	FAA
CADMIUM	EPA 200.7 SM 3120 B SW846 6010 C AES0029	ICP/AES
CADMIUM	EPA 200.8 SW846 6020 A	ICP/MS
CADMIUM	SM 3500 Cd D	MANUAL COLORIMETRIC
CALCIUM	SM 18th, 19th 3111 B SW846 7000 B	FAA
CALCIUM	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
CALCIUM	SW846 6020 A EPA 200.8	ICP/MS
CALCIUM	SM 18th, 19th 3500 Ca D SM 20th 3500 Ca B	TITRATION
COBALT	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
COBALT	SM 18th, 19th 3111 B or C SW846 7000 B	FAA
COBALT	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
COBALT	EPA 200.8 SW846 6020 A	ICP/MS
CHROMIUM TOTAL	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
CHROMIUM TOTAL	SM 3111 18th, 19th B SM 3111 18th, 19th C SW846 7000 B	FAA

METAL PARAMETER	METHOD CODE	TECHNOLOGY
CHROMIUM TOTAL	EPA 200.7 SM 3120 B SW846 6010 C AES0029	ICP/AES
CHROMIUM TOTAL	EPA 200.8 SW846 6020 A	ICP/MS
CHROMIUM TOTAL	SM 18th, 19th 3500 Cr D SM 20th 3500 Cr B	MANUAL COLORIMETRIC
CHROMIUM HEXAVALENT	SM 18th, 19th 3111 C	FAA
CHROMIUM HEXAVALENT	SM 18th, 19th 3500 Cr D SM 20th 3500 Cr B SW846 7196 A HACH 8023	MANUAL COLORIMETRIC
CHROMIUM HEXAVALENT	EPA 218.6 SM 20th 3500 Cr C SW846 7199	IC
COPPER	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
COPPER	SM 3111 18th, 19th B or C SW846 7000 B	FAA
COPPER	EPA 200.7 SM 3120 B SW846 6010 C AES0029	ICP/AES
COPPER	EPA 200.8 SW846 6020 A	ICP/MS
COPPER	SM 18th, 19th 3500 Cu D	MANUAL COLORIMETRIC
IRON	SM 18th, 19th 3113 B SW846 7010	GFAA
IRON	SM 3111 18th, 19th B or C SW846 7000 B	FAA
IRON IRON	EPA 200.7 SM 3120 B SW846 6010 C AES0029	ICP/AES
IRON	SW846 6020 A EPA 200.8	ICP/MS
IRON	SM 18th, 19th 3500 Fe D SM 20th 3500 Fe B	MANUAL COLORIMETRIC
LEAD	EPA 200.9 SM 3113 B SW846 7010	GFAA
LEAD	SM 18th, 19th 3111 B or C SW846 7000 B	FAA
LEAD	EPA 200.7 SM 3120 B SW846 6010 C AES0029	ICP/AES

METAL PARAMETER	METHOD CODE	TECHNOLOGY
LEAD	EPA 200.8 SW846 6020 A	ICP/MS
LEAD	SM 18th, 19th 3500 Pb D	MANUAL COLORIMETRIC
LITHIUM	SM 18th, 19th 3111 B SW846 7000 B	FAA
LITHIUM	EPA 200.7 SW846 6010 C	ICP/AES
MAGNESIUM	EPA 200.9	GFAA
MAGNESIUM	SM 18th, 19th 3111 B SW846 7000 B	FAA
MAGNESIUM	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
MAGNESIUM	SW846 6020 A EPA 200.8	ICP/MS
MAGNESIUM	SM 18th, 19th 3500 Mg D	GRAVIMETRIC
MANGANESE	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
MANGANESE	SM 18th, 19th 3111 B SW846 7000 B	FAA
MANGANESE	EPA 200.7 SM 3120 B SW846 6010 C AES0029	ICP/AES
MANGANESE	EPA 200.8 SW846 6020 A	ICP/MS
MANGANESE	SM 18th, 19th 3500 Mn D	MANUAL COLORIMETRIC
MERCURY	EPA 245.1 EPA 245.2 EPA 245.7 SM 18th, 19th 3112 B SW846 7470 A SW846 7471 B	CV
MERCURY	EPA 1631 E	P&T/CVF
MERCURY	EPA 200.7 SW846 6010 C	ICP/AES
MERCURY	EPA 200.8 SW846 6020 A	ICP/MS
MOLYBDENUM	SM 18th, 19th 3113 B SW846 7010	GFAA
MOLYBDENUM	SM 18th, 19th 3111 D SW846 7000 B	FAA
MOLYBDENUM	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
MOLYBDENUM	EPA 200.8 SW846 6020A	ICP/MS

METAL PARAMETER	METHOD CODE	TECHNOLOGY
NICKEL	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
NICKEL	SM 18th, 19th 3111 B or C SW846 7000 B	FAA
NICKEL	EPA 200.7 SM 3120 B SW846 6010 C AES0029	ICP/AES
NICKEL	EPA 200.8 SW846 6020 A	ICP/MS
NICKEL	SM 17TH 3500 Ni D	MANUAL COLORIMETRIC
PHOSPHORUS TOTAL	EPA 200.7 EPA 6010 C	ICP/AES
POTASSIUM	SM 18th, 19th 3111 B SW846 7000 B	FAA
POTASSIUM	EPA 200.7 SW846 6010 C	ICP/AES
POTASSIUM	SW846 6020 A EPA 200.8	ICP/MS
SELENIUM	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
SELENIUM	SM 18th, 19th 3114 B SW846 7741 A	FAA
SELENIUM	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
SELENIUM	EPA 200.8 SW846 6020 A	ICP/MS
SILICA	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
SILICA	SM 18th, 19th 4500 Si D SM 20th 4500 SiO_2 C	MANUAL COLORIMETRIC
SILVER	EPA 200.9 SM 18th, 19th 3113 B SW846 7010	GFAA
SILVER	SM 18th, 19th 3111 B or C SW846 7000 B	FAA
SILVER	EPA 200.7 SM 3120 B SW846 6010 C AES0029	ICP/AES
SILVER	EPA 200.8 SW846 6020 A	ICP/MS
SODIUM	SM 18th, 19th 3111 B SW846 7000 B	FAA
SODIUM	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES

METAL PARAMETER	METHOD CODE	TECHNOLOGY
SODIUM	SW846 6020 A EPA 200.8	ICP/MS
STRONTIUM	SM 18th, 19th 3111 B SW846 7000 B	FAA
STRONTIUM	SM 3120 B EPA 200.7 SW846 6010 C	ICP/AES
STRONTIUM	EPA 200.8 SW846 6020 A	ICP/MS
THALLIUM	EPA 200.9 EPA 279.2 SW846 7010	GFAA
THALLIUM	SM 18th, 19th 3111 B SW846 7000 B	FAA
THALLIUM	SM 3120 B EPA 200.7 SW846 6010 C	ICP/AES
THALLIUM	EPA 200.8 SW846 6020 A	ICP/MS
TIN	EPA 200.9 SM 18th, 19th 3113 B	GFAA
TIN	SM 18th, 19th 3111 B SW846 7000 B	FAA
TIN	EPA 200.7 SW846 6010 C	ICP/AES
TIN	EPA 200.8 SW846 6020A	ICP/MS
TITANIUM	EPA 283.2	GFAA
TITANIUM	SM 18th, 19th 3111 D	FAA
TITANIUM	EPA 200.7 SW846 6010 C	ICP/AES
TITANIUM	EPA 200.8 SW846 6020A	ICP/MS
VANADIUM	SW846 7010	GFAA
VANADIUM	SM 18th, 19th 3111 D SW846 7000 B	FAA
VANADIUM	EPA 200.7 SM 3120 B SW846 6010 C	ICP/AES
VANADIUM	EPA 200.8 SW846 6020 A	ICP/MS
VANADIUM	SM 18th,19th 3500 V D	MANUAL COLORIMETRIC
ZINC	EPA 200.9 EPA 289.2 SW846 7010	GFAA
ZINC	SM 18th,19th 3111 B or C SW846 7000 B	FAA

METAL PARAMETER	METHOD CODE	TECHNOLOGY
ZINC	**EPA 200.7 SM 3120 B SW846 6010 C AES0029**	**ICP/AES**
ZINC	**EPA 200.8 SW846 6020 A**	**ICP/MS**
ZINC	**SM 18th, 19th 3500 Z E or F**	**MANUAL COLORIMETRIC**
METALS (ANIMAL WASTE) CA CU MG MN K NA ZN	**MEHLICH 3**	**PREP**
TCLP METALS	**SW846 1311**	**LEACHATES**
SPLP METALS	**SW846 1312**	**LEACHATES**

References:

1. Methods for the Determination of Metals in Environmental Samples, Supplement I, National Exposure Risk Laboratory-Cincinnati, OH, May, 1994, EPA/600/R-94/111.

2. Methods for the Determination of Inorganic Substances in Environmental Samples, National Exposure Risk Laboratory-Cincinnati, OH, August 1993, EPA/600/R-93/100.

3. Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, SW-846; 3rd edition (9/86), USEPA Office of Solid Waste and emergency Response, Washington, D.C.

4. Standard Methods for the Examination of Water and Wastewater (designated SM), 18th Edition, American Public Health Association, Washington, DC, 1992.

5. Standard Methods for the Examination of Water and Wastewater (designated SM), 19th Edition, American Public Health Association, Washington, DC, 1995.

6. Standard Methods for the Examination of Water and Wastewater (designated SM), 20th Edition, American Public Health Association, Washington, DC, 1998.

7. Standard Methods for the Examination of Water and Wastewater (designated SM), Online, American Public Health Association, Washington, DC, 2000 *et al*.

8. Code of Federal Regulations, Title 40, Part 136, U.S. Government printing office, Washington, D.C., July 1993.

9. Direct Current Plasma (DCP) Optical Emission Spectrometric Method for Trace Elemental Analysis of Water and Wastes, Method AES0029, 1986 – Revised 1991, Thermo Jarrell Ash Corporation, 27 Forge Parkway, Franklin, MA 02038.

10. A. Mehlich, 1984. Mehlich 3 Soil Test Extractant: A modification of Mehlich 2 Extractant. Comm.Soil Sci. and Plant Anal.15(12),1409-1416.