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Standard Services List

<i>Test</i>	<i>Matrix</i>	<i>Method References</i>
General Chemistry Parameters		
Adsorbable Organic Halides (AOX)	Water	EPA 1650
Alkalinity	Water	SM 2320 B
Ammonia Nitrogen	Water	EPA 350.1
	Soil	EPA 350.1
Biochemical Oxygen Demand (BOD)	Water	SM 5210 B
Bromide	Water	EPA 300.0
	Soil	EPA 300.0
Carbon Dioxide	Water	SM 4500-CO ₂ B
Chemical Oxygen Demand (COD)	Water	EPA 410.4
	Soil	from Plumb
Chloride	Water	EPA 300.0 / SM 4500 Cl ⁻ D & E
	Soil	EPA 300.0 / 9056 / SM 4500 Cl ⁻ D
Chlorine, Total Residual	Water	SM 4500-Cl G-00
Conductivity	Water	EPA 120.1
Cyanide	Water	EPA 335.4
	Soil	EPA 9012
Cyanide, Amenable	Water	EPA 331.5 / 335.2
Cyanide, Available / Free	Water	EPA OIA-1677 / ASTM 7237-0
Extractable Organic Halides (EOX)	Soil	EPA 9023
Flash Point / Ignitability	Water	EPA 1010 / ASTM D93
	Soil	EPA 1010
Fluoride	Water	EPA 300.0
	Soil	EPA 300.0
Formaldehyde	Water	AOAC 31.203
	Soil	AOAC 31.203
Fraction of Organic Carbon (FOC)	Solid	ASTM D2974
Grain Size with Hydrometer	Solid	ASTM D422
Grain Size without Hydrometer	Solid	ASTM 422
Hardness	Water	EPA 200.7
Nitrate/Nitrite/Nitrate-Nitrite, Nitrogen	Water	EPA 300.0 / 353.2
	Soil	EPA 300.0 / 9056

Nitrogen, Total Kjeldahl (TKN)	Water	EPA 351.2
	Soil	EPA 351.2
Odor	Water	SM 2150
Oil and Grease / F.O.G. / TPH	Water	EPA 1664 A
	Soil	EPA 9071
Orthophosphate	Water	EPA 365.1
Oxidation – Reduction Potential	Water	SM 2580A
Oxygen, Dissolved	Water	SM 4500 O
Paint Filter Test	Soil	EPA 9095
Percent Moisture	Solid	ASTM D2974
pH / Corrosivity	Water	SM 4500 H ⁺ B / EPA 9040
	Soil	EPA 9045
Phenols, Total	Water	EPA 420.2 / 9066
	Soil	EPA 9065
Phosphorus, Total	Water	SM 4500 P – E / 6010
	Soil	EPA 6010
Solids, Total Dissolved / Total Suspended / Total Solids	Water	SM 2540 C, D & B
Solids, Volatile	Water	EPA 160.4
	Soil	EPA 160.4
Specific Gravity (Density)	Water	SM 2710 F
	Soil	ASTM D854
Sulfate	Water	EPA 300.0
	Soil	EPA 300.0 / 9056
Sulfide	Water	SM 4500 S, D/F-00
Sulfite	Water	EPA 377.1
Surfactants (MBAs)	Water	SM 5540 C
Tannin and Lignin	Water	SM 5550 B
Total Organic Carbon (TOC)	Water	SM 5310 D
	Soil	Walkley Black
Turbidity	Water	EPA 180.1
Volatile Content of Coatings	Liquid	EPA 24
Water Content	Liquid	Karl Fischer

Microbiological Analyses

Coliform Bacteria (Presence / Absence)	Water	SM 9223 B
Coliform, Fecal	Water	SM 9222D (Membrane Filtration)
E. Coli	Water	mColiBlue24 / SM 9222G

Heterotrophic Plate Count	Water	SM 9215 B
	Soil	SM 9215 B

Organic Analyses

Volatile Organics by Gas Chromatography / Mass Spectrometry (GC/MS)

Purgeable Organics	Water	EPA 624 / 8260
	Soil*	EPA 8260
Volatile Organics (Operational Memo 2)	Water	EPA 624 / 8260
	Soil*	EPA 8021 / 8260

Volatile Organics of Gas Chromatography (GC)

BTEX / MtBE	Water	EPA 8021 / 8260
	Soil*	EPA 8021 / 8260
Alcohols and Glycols	Water	EPA 8015 (Modified)
	Soil*	EPA 8015 (Modified)

Gasoline Range Organics (GRO)	Water	EPA 8015 (Modified)
	Soil*	EPA 8015 (Modified)

Methane, Ethane, Ethene (Dissolved Gases)	Water	RSK-175 (Modified) / ISOTECH
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Semi-Volatile Organics by Gas Chromatography (GC)

Chlorinated Herbicides	Water	EPA 515.1 / 8151
Organochlorine Pesticides	Water	EPA 608 / 8081
	Soil	EPA 8081
Polychlorinated Biphenyls (PCBs)	Water	EPA 608 / 8082
	Soil / Oil	EPA 8082
Chlorinated Compounds (GSI)	Water	EPA 8041 / 8121
	Soil	EPA 8041 / 8121
Diesel Range Organics (DRO)	Water	EPA 8015 (Modified)
	Soil	EPA 8015 (Modified)

Semi-Volatile Organics by High Performance Liquid Chromatography (HPLC)

Polynuclear Aromatic Hydrocarbons (PAHs) (PNAs)	Water	EPA 625 / 8270 / 8310
	Soil	EPA 8270 / 8310
Explosives	Water	EPA 8330
	Soil	EPA 8330

Semi-Volatile Organics by Gas Chromatography / Mass Spectrometry (GC/MS)

Base / Neutral / Acid Fraction (BNAs)	Water	EPA 625 / 8270
	Soil	EPA 8270

Polynuclear Aromatic Hydrocarbons (PAHs) (PNAs)	Water	EPA 625 / 8270 / 8310
	Soil	EPA 8270 / 8310

* May require methanol preservation Terra Core Kit or use of En-Core type sampling device

Air Monitoring

Volatiles by GC / MS (Tedlar Bags)	Air	Modified 8260
Metals Analysis on Filters	Air	6010

RCRA Waste Characterization

Individual Analyses

Corrosivity, pH	Liquid	EPA 9040
	Solid	EPA 9045
Flash Point / Ignitability	Solid/Liquid	EPA 1010
Paint Filter Test	Solid/Liquid	EPA 9095
Reactive Cyanide / Reactive Sulfide / Reactivity	Solid/Liquid	EPA SW 846 Chapter 7
TCLP Extraction for Metals Semi-Volatiles, Pesticides and Herbicides	Solid/Liquid	EPA 1311
TCLP ZHE Extraction for TCLP Volatiles	Solid/Liquid	EPA 1311
SPLP Extraction for Metals Semi-Volatiles, Pesticides and Herbicides	Solid	EPA 1312
SPLP ZHE Extraction for SPLP Volatiles	Solid	EPA 1312

Metals Analyses

Individual Elements

Hexavalent Chromium	Water	EPA 7196 / SM 3500 CrB
	Soil	EPA 3096 / 7196
ICP	Water	EPA 200.7 / 6010
	Soil	EPA 6010
ICP/MS	Water	EPA 200.8 / 6020
	Soil	EPA 6020

Mercury (CVAA)	Water	EPA 245.1 / 7470
	Soil	EPA 7471
Mercury (Low Level) (CVAF)	Water	EPA 1631
Metals Preparation-Digestion	Water	EPA 3015 / 200.2
	Soil	EPA 3051
Coarse and Fine Lead (Operational Memo 2)	Soil	MDEQ SOP 213
<i>List Metals</i>		
RCRA Metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver)	Water	EPA 6000 / 7000 Series
	Soil	EPA 6000 / 7000 Series
MDEQ Metals (Same as RCRA Metals plus Copper and Zinc)	Water	EPA 6000 / 7000 Series
	Soil	EPA 6000 / 7000 Series
MDEQ Operational Memo 2 Metals (Antimony, Arsenic, Barium, Cadmium, Cobalt, Copper, Chromium, Iron, Lead**, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc)	Water	EPA 6000 / 7000 Series
	Soil	EPA 6000 / 7000 Series
Target Analyte Metals (Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc)	Water	EPA 6000 / 7000 Series
	Soil	EPA 6000 / 7000 Series

** May require coarse and fine fractions for soil samples