

DETERMINATION	MATRIX <sup>B</sup>	CONTAINER <sup>C</sup>	PRESERVATION	MAXIMUM HOLDING TIME
<b>BACTERIAL TESTS</b>				
Coliform, Colilert	W, DW	P, Bottle or Bag	Cool, 4°C, 0.008% Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> <sup>d</sup>	6-24 hours <sup>e</sup>
Coliform, Fecal and Total	W, DW	P,G	Cool, 4°C, 0.008% Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> <sup>d</sup>	6-24 hours <sup>e</sup>
Fecal Streptococci	W	P,G	Cool, 4°C, 0.008% Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> <sup>d</sup>	6-24 hours <sup>e</sup>
<b>INORGANIC TESTS</b>				
Acidity	W	P,G	Cool, 4°C	14 days
Alkalinity	W, DW	P,G	Cool, 4°C	14 days
Ammonia	W, DW	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	28 days
Biochemical Oxygen Demand (BOD)	W	P,G	Cool, 4°C	48 hours
Bromate	W, DW	P,G	50mg/L EDA, cool to 4°C	28 days
Bromide	W, DW	P,G	None Required	28 days
Chemical Oxygen Demand (COD)	W	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	28 days
Chloride – Method 300.0	W, DW	P,G	None Required	28 days
Chloride – Method 9056	W, S	P,G	Cool, 4°C	Analyze immediately
Chlorine, Total Residual	W, DW	P,G	None Required	15 minutes
Chlorite	W, DW	P,G	50mg/L EDA, cool to 4°C	14 days
Chlorophyll-A	W	G Amber	Cool, 4°C	Analyze immediately
Chromium VI – Method 7196A	W	P,G	Cool, 4°C	24 hours
Color	W, DW	P,G	Cool, 4°C	48 hours
Cyanide, Total and Amenable to Chlorination	W, DW	P,G	Cool, 4°C, NaOH to pH>12, plus 0.6 g Ascorbic Acid	14 days
Cyanide, Weak Acid Dissociable	W	P,G	Cool, 4°C, NaOH to pH >12	14 days
Ferrous Iron	W, DW	G Amber	Cool, 4°C	24 hours
Fluoride – Method 300.0	W, DW	P,G	None Required	28 days
Fluoride – Method 9056	W, S	P,G	Cool, 4°C	Analyze immediately
Hardness	W, DW	P,G	HNO <sub>3</sub> to pH<2	6 months
Hydrogen Ion (pH)	W, DW, S	P,G	None Required	Analyze immediately
Ignitability	W	G	None Required	14 days
Kjeldahl and Organic Nitrogen	W	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	28 days
Nitrate – Method 300.0	W, DW	P,G	Cool, 4°C	48 hours
Nitrate – Method 353.2	W, DW	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	48 hours
Nitrate – Method 9056	W, S	P,G	Cool, 4°C	Analyze immediately

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Nitrate-Nitrite – Method 353.2	W, DW	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	28 days
Nitrite	W	P,G	Cool, 4°C	48 hours
Orthophosphate – Method 365.3	W, DW	P,G	Cool, 4°C	Analyze immediately
Oxygen, Dissolved (Probe)	W, DW	G, Bottle and Top	None Required	Analyze immediately
Oxygen, Dissolved (Winkler)	W, DW	G, Bottle and Top	Fix on Site and Store in Dark	8 hours
Perchlorate	W, DW	P,G	Protect from temp. extremes	28 days
Phenolics, Total	W	G Only	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	28 days
Phosphorus, Elemental	W	G Only	Cool, 4°C	48 hours
Phosphorus, Total	W	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	28 days
Residue, Total	W	P,G	Cool, 4°C	7 days
Residue, Filterable (TDS)	W	P,G	Cool, 4°C	7 days
Residue, Nonfilterable (TSS)	W	P,G	Cool, 4°C	7 days
Residue, Settleable	W	P,G	Cool, 4°C	48 hours
Residue, Volatile	W	P,G	Cool, 4°C	7 days
Silica	W	P Only	Cool, 4°C	28 days
Specific Conductance	W, DW	P,G	Cool, 4°C	28 days
Sulfate – Method 300.0	W, DW	P,G	Cool, 4°C	28 days
Sulfate – Method 9056	W	P,G	Cool, 4°C	Analyze immediately
Sulfide	W	P,G	Cool, 4°C, Add Zinc Acetate plus Sodium Hydroxide to pH>9	7 days
Sulfite	W	P,G	None Required	24 hours
Surfactants (MBAS)	W	P,G	Cool, 4°C	48 hours
Tannin and Lignin	W	P,G	Cool, 4°C	28 days
Temperature	W	P,G	None Required	Analyze immediately
Turbidity	W, DW	P,G	Cool, 4°C	48 hours
<b>METALS</b>				
Metals, except CrVI and Mercury	W, DW	P,G	HNO <sub>3</sub> to pH<2	6 months
	S	G, Teflon-Lined Cap	Cool, 4°C	6 months
Chromium VI – Method 7195	W	P,G	Cool, 4°C	24 hours
Mercury	W	P,G	HNO <sub>3</sub> to pH<2	28 days
Mercury	S	P,G	Cool, 4°C	28 days

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<b>ORGANIC TESTS</b>				
Oil and Grease, Hexane Extractable Material (EPA 1664)	W	G, Teflon-Lined Cap	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	28 days
Organic Carbon, Total (TOC)	W	P,G	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	28 days
Organic Halogens, Total (TOX)	W	G, Teflon-Lined Cap	Cool, 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2, No headspace	28 days
Organic Halogens, Absorbable (AOX)	W	G, Teflon-Lined Cap	Cool, 4°C, HNO <sub>3</sub> to pH<2	6 months
Petroleum Hydrocarbons, Total Recoverable	W	G, Teflon-Lined Cap	Cool, 4°C, HCl or H <sub>2</sub> SO <sub>4</sub> to pH<2	28 days
Petroleum Hydrocarbons, Total	W	G, Teflon-Lined Cap	Cool, 4°C, HCl or H <sub>2</sub> SO <sub>4</sub> to pH<2	7 days until extraction; 40 days after extraction
Petroleum Hydrocarbons, Total	S	G, Teflon-Lined Cap	Cool, 4°C	14 days until extraction; 40 days after extraction
<b>VOLATILE ORGANICS</b>				
Petroleum Hydrocarbons, Volatile (Gasoline-Range Organics)	W	G, Teflon-Lined Septum Cap	Cool, 4°C, HCl to pH<2, No Headspace	14 days
Petroleum Hydrocarbons, Volatile (Gasoline-Range Organics)	S	G, Teflon-Lined Cap	Cool, 4°C, Minimize Headspace	14 days
Purgeable Halocarbons	W	G, Teflon-Lined, Septum Cap	No Residual Chlorine Present: HCl to pH<2, Cool, 4°C, No Headspace Residual Chlorine Present: 10% Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> , HCl to pH<2, Cool, 4°C No Headspace	14 days
Purgeable Halocarbons	S	G, Teflon-Lined Cap	Cool, 4°C, Minimize Headspace	14 days
Purgeable Halocarbons	S	Method 5035A, G. Teflon-Lined, Septum Cap	Freeze at -20°C on site in vial	14 days
			Frozen in coring tool on site	48 hours
			Cool 4°C, freeze at lab within 48 hours	14 days
			Cool 4°C, methanol preserved within 48 hours	14 days
			Cool 4°C in vial	48 hours
			Cool 4°C in coring tool	48 hours
			Cool 4°C, Sodium Bisulfate	14 days
Purgeable Aromatic Hydrocarbons (including BTEX and MTBE)	W	G, Teflon-Lined, Septum Cap	No Residual Chlorine Present: HCl to pH<2, Cool, 4°C, No Headspace Residual Chlorine Present: 10% Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> , HCl to pH<2, Cool 4°C	14 days

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Purgeable Aromatic Hydrocarbons (including BTEX and MTBE)	S	G, Teflon-Lined Cap	Cool, 4°C, Minimize Headspace	14 days
Purgeable Aromatic Hydrocarbons (including BTEX and MTBE)	S	Method 5035A, G. Teflon-Lined, Septum Cap	Freeze at -20°C on site in vial	14 days
			Frozen in coring tool on site	48 hours
			Cool 4°C, freeze at lab within 48 hours	14 days
			Cool 4°C, methanol preserved within 48 hours	14 days
			Cool 4°C in vial	48 hours
			Cool 4°C in coring tool	48 hours
			Cool 4°C, Sodium Bisulfate	14 days
Acrolein, Acrylonitrile, Acetonitrile	W	G, Teflon-Lined, Septum Cap	Adjust pH to 4-5, Cool, 4°C, No Headspace	14 days
EDB and DBCP	W,S	G, Teflon-Lined Cap	Cool, 4°C, 3 mg Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> , No Headspace	28 days
<b>SEMIVOLATILE ORGANICS</b>				
Dioxins/Furans by 8290/8280	W	G Amber	Cool, 4°C	30 days
Dioxins/Furans by 8290/8280	S	G	Cool, 4°C	30 days, if frozen 1 year
Dioxins/Furans by 1613B	W	G Amber	Cool, 4°C	1 year
Dioxins/Furans by 1613B	S	G	Frozen	1 year
Coplanar PCBs by 1668A	W	G Amber	Cool, 4°C	1 year
Coplanar PCBs by 1668A	S	G	Cool, 4°C	1 year
Petroleum Hydrocarbons, Extractable (Diesel-Range Organics)	W,S	G, Teflon-Lined Cap	Cool, 4°C	7 days until extraction; <sup>f</sup> 40 days after extraction
Alcohols and Glycols	W,S	G, Teflon-Lined Cap	Cool, 4°C <sup>a</sup>	7 days until extraction; <sup>f</sup> 40 days after extraction
Phenols	W,S	G, Teflon-Lined Cap	Cool, 4°C <sup>a</sup>	7 days until extraction; <sup>f</sup> 40 days after extraction
Phthalate Esters	W,S	G, Teflon-Lined Cap	Cool, 4°C <sup>a</sup>	7 days until extraction; <sup>f</sup> 40 days after extraction
Nitrosamines	W,S	G, Teflon-Lined Cap	Cool, 4°C	7 days until extraction; <sup>f</sup> 40 days after extraction
Organochlorine Pesticides and PCBs	W,S	G, Teflon-Lined Cap	Cool, 4°C	7 days until extraction; <sup>f</sup> 40 days after extraction

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Nitroaromatics and Cyclic Ketones	W,S	G, Teflon-Lined Cap	Cool, 4°C	7 days until extraction; <sup>f</sup> 40 days after extraction
Polynuclear Aromatic Hydrocarbons	W,S	G, Teflon-Lined Cap	Cool, 4°C	7 days until extraction; <sup>f</sup> 40 days after extraction
Haloethers	W,S	G, Teflon-Lined Cap	Cool, 4°C <sup>a</sup>	7 days until extraction; <sup>f</sup> 40 days after extraction
Chlorinated Hydrocarbons	W,S	G, Teflon-Lined Cap	Cool, 4°C <sup>a</sup>	7 days until extraction; <sup>f</sup> 40 days after extraction
Organophosphorus Pesticides	W,S	G, Teflon-Lined Cap	Cool, 4°C <sup>a</sup>	7 days until extraction; <sup>f</sup> 40 days after extraction
Nitrogen- and Phosphorus-Containing Pesticides	W,S	G, Teflon-Lined Cap	Cool, 4°C <sup>a</sup>	7 days until extraction; <sup>f</sup> 40 days after extraction
Carbonyl Compounds (formaldehyde)	W	G, Teflon-Lined Cap	Cool, 4°C <sup>a</sup>	3 days until extraction; 3 days after extraction
Chlorinated Herbicides	W,S	G, Teflon-Lined Cap	Cool, 4°C <sup>a</sup>	7 days until extraction; <sup>f</sup> 40 days after extraction
Chlorinated Phenolics	W	G, Teflon-Lined Cap	H <sub>2</sub> SO <sub>4</sub> to pH<2, Cool, 4°C <sup>a</sup>	30 days until extraction; 30 days after extraction
Resin and Fatty Acids	W	G, Teflon-Lined Cap	NaOH to pH >10, Cool, 4°C <sup>a</sup>	30 days until extraction; 30 days after extraction
<b>DRINKING WATER ORGANICS</b>				
Purgeable Organics	DW	G, Teflon-Lined, Septum Cap	Ascorbic Acid, HCl to pH<2, Cool, 4°C, No Headspace	14 days
EDB, DBCP, and TCP	DW	G, Teflon-Lined Septum Cap	Cool, 4°C, 3 mg Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> , No Headspace	14 days
Carbamates, Carbamoyloximes	DW	G, Amber, Teflon-Lined Cap	1.8 mL monochloroacetic acid to pH<3; 80 mg/L Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> if Res.Cl.; Cool, 4°C	28 days
Chlorinated Herbicides	DW	G, Amber, Teflon-Lined Cap	If Res.Cl, 2mg/40mL NaS; Cool, <6°C	14 days until extraction; 21 days after extraction
Chlorinated Pesticides	DW	G, Amber, Teflon-Lined Cap	50 mg/L NaS, HCl to pH< 2; Cool, 4°C	14 days until extraction; 30 days after extraction

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Diquat and Paraquat	DW	HDPE, Amber, Teflon-Lined Cap	100 mg/L Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> if Res.Cl., Cool, 4°C	7days until extraction; 21 days after extraction
Endothall	DW	G, Amber, Teflon-Lined Cap	Cool, 4°C	7 days until extraction; 14 days after extraction
Glyphosate	DW	G, Amber, Teflon-Lined Cap	100 mg/L Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> , Cool, 4°C	14 days
Haloacetic Acids	DW	G, Amber, Teflon-Lined Cap	100 mg/L NH <sub>4</sub> Cl, Cool, 4°C	14 days until extraction; 7 days after extraction
Semivolatile Organics	DW	G, Amber, Teflon-Lined Cap	50 mg/L NaS, HCl to pH< 2; Cool, 4°C	14 days until extraction; 30 days after extraction
<b>TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)</b>				
Mercury	HW	P,G	Sample: Cool, 4°C	28 days until extraction;
			TCLP extract: HNO <sub>3</sub> to pH<2	28 days after extraction
Metals, except Mercury	HW	P,G	Sample: Cool, 4°C	180 days until extraction;
			TCLP extract: HNO <sub>3</sub> to pH<2	180 days after extraction
Volatile Organics	HW	G, Teflon-Lined Cap	Sample: Cool, 4°C , Minimize Headspace	14 days until extraction;
			TCLP extract: Cool, 4°C, HCl to pH<2, No Headspace	14 days after extraction
Semivolatile Organics	HW	G, Teflon-Lined Cap	Sample: Cool, 4°C, Store in Dark <sup>a</sup>	14 days to prepare leachate;
			TCLP extract: Cool, 4°C, Store in Dark <sup>a</sup>	7 days to extract
				40 days after extraction to analyze
Organochlorine Pesticides	HW	G, Teflon-Lined Cap	Sample: Cool, 4°C	14 days until TCLP ext'n;
			TCLP extract: Cool, 4°C	7 days until extraction; 40 days after extraction
Chlorinated Herbicides	HW	G, Teflon-Lined Cap	Sample: Cool, 4°C	14 days until TCLP ext'n;
			TCLP extract: Cool, 4°C	7 days until extraction; 40 days after extraction

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<b>CONTRACT LABORATORY PROGRAM (CLP):</b>				
<b>(HOLDING TIMES ARE CALCULATED FROM RECEIPT AT LABORATORY)</b>				
Dioxins/Furans by DLM	W	G Amber	Cool, 4°C	1 year
Dioxins/Furans by DLM	S	G	Cool, 4°C	1 year
Chlorinated Biphenyl Congeners (PCBs) by CBC	W	G Amber	Cool, 4°C	1 year
Chlorinated Biphenyl Congeners (PCBs) by CBC	S	G	Cool, 4°C	1 year
Cyanide, Total and Amenable to Chlorination	W	P,G	Cool, 4°C, NaOH to pH 12, plus 0.6 g Ascorbic Acid	12 days
Cyanide, Total and Amenable to Chlorination	S	P,G	Cool, 4°C	12 days
Mercury	W	P,G	HNO <sub>3</sub> to pH<2	26 days
Mercury	S	P,G	Cool, 4°C	26 days
Metals, except Mercury	W	P,G	HNO <sub>3</sub> to pH<2	180 days
Metals, except Mercury	S	P,G	Cool, 4°C	180 days
Volatile Organics	W,S	G, Teflon-Lined Cap	Water - Cool, 4°C, Minimize Headspace; Soil – see SOP	10 days
Semivolatile Organics	W,S	G, Teflon-Lined Cap	Cool, 4°C, Store in Dark <sup>a</sup>	Water: 5 days until extraction; Solids: 10 days until extraction; 40 days after extraction
Organochlorine Pesticides and PCBs	W,S	G, Teflon-Lined Cap	Cool, 4°C	Water: 5 days until extraction; Solids: 10 days until extraction; 40 days after extraction

Notes:

- a. If the water sample contains residual chlorine, 10% sodium thiosulfate is used to dechlorinate
- b. DW = Drinking Water; W = Water; S = Soil or Sediment; HW = Hazardous Waste; A = Air
- c. P = Polyethylene; G = Glass
- d. For chlorinated water samples
- e. The maximum holding time is dependent on the geographical proximity of sample source to the laboratory
- f. Fourteen days until extraction for soil, sediment, and sludge samples