

BC MOE SAMPLE PRESERVATION & HOLDING TIME REQUIREMENTS^(1,2) **Version: 06-Nov-2015**

Parameter Name	Sample Container	Storage Temp ⁽³⁾	Preservation	Holding Time ⁽⁴⁾ (days)	References
Water					
Physical & Aggregate Properties					
Acidity	Plastic, Glass	≤6°C	none	14 days	APHA
Alkalinity	Plastic, Glass	≤6°C	none	14 days	APHA
Colour	Plastic, Glass	≤6°C	none	3 days	APHA / BC MOE
Conductivity	Plastic, Glass	≤6°C	none	28 days	APHA
pH	Plastic, Glass	≤6°C	none	15 minutes	APHA
Solids (Total, TSS, TDS, Fixed, Volatile, etc.)	Plastic, Glass	≤6°C	none	7 days	APHA
Turbidity	Plastic, Glass	≤6°C	none	3 days	EPA 40CFR 2012 / BC MOE
UV Transmittance	Plastic, Glass	≤6°C	none	3 days	APHA / BC MOE
Inorganic Non-metals					
Bromide	Plastic, Glass	no requirement	none	28 days	EPA 300.1
Chloride	Plastic, Glass	no requirement	none	28 days	APHA / EPA 300.1
Chlorate, Bromate	Plastic, Glass	≤6°C	50 mg/L EDA	28 days	EPA 317.0
Chlorine, Total Residual (Free Chlorine)	Plastic, Glass	none	none	15 minutes	APHA
Chlorite	Plastic, Amber Glass	≤6°C	50 mg/L EDA	14 days	EPA 317.0
Cyanide (SAD, WAD)	Plastic, Glass	≤6°C	field NaOH, store in dark	14 days	APHA
			none	24 hours	APHA
Dissolved Oxygen (Winkler Method)	Glass BOD bottle	≤6°C	Winkler kit, store in dark	8 hours	APHA
Fluoride	Plastic	no requirement	none	28 days	APHA / EPA 300.1
Nitrogen, Nitrate + Nitrite	Plastic, Glass	≤6°C	H2SO4	28 days	APHA
			none	3 days	BC MOE
Nitrogen, Ammonia	Plastic, Glass	≤6°C	H2SO4	28 days	APHA
			none	3 days	BC MOE
Nitrogen, Nitrate	Plastic, Glass	≤6°C, do not freeze	none	3 days	APHA / BC MOE
Nitrogen, Nitrite	Plastic, Glass	≤6°C, do not freeze	none	3 days	APHA / BC MOE
Nitrogen, Total Kjeldahl	Plastic, Glass	≤6°C	H2SO4	28 days	APHA
			none	3 days	BC MOE
Nitrogen, Total, Persulfate Method	Plastic, Glass	≤6°C	H2SO4	28 days	APHA
			none	3 days	BC MOE
Nitrogen, Total, Combustion Method	Plastic, Glass	≤6°C	HCl	28 days	APHA
			none	3 days	BC MOE
Phosphorus, Dissolved (Orthophosphate)	Plastic, Glass	≤6°C	filter (field or lab)	3 days	EPA 40CFR 2012 / BC MOE
Phosphorus, Total Reactive (Orthophosphate)	Plastic, Glass	≤6°C	none	3 days	APHA / BC MOE
Phosphorus, Total Dissolved	Plastic, Glass	≤6°C	filter, H2SO4	28 days	APHA
			none	3 days	BC MOE
Phosphorus, Total	Plastic, Glass	≤6°C	H2SO4	28 days	APHA
			none	3 days	BC MOE
Silica, Reactive	Plastic	≤6°C, do not freeze	none	28 days	APHA
Sulfate	Plastic, Glass	≤6°C	none	28 days	APHA / SW846 Ch3 2007
Sulfide	Plastic, Glass	≤6°C	ZnAc / NaOH to pH >9	7 days	APHA
Metals					
Hexavalent Chromium	Plastic, Glass	≤6°C	1 mL 50% NaOH per 125 mL	30 days	EPA 1669
			none	24 hours	APHA
Metals, Total	Plastic, Glass	no requirement	HNO3 ⁽⁷⁾	180 days	APHA / EPA 200.2
Metals, Dissolved	Plastic, Glass	no requirement	field filter 0.45 um + HNO3, qualify if lab-filtered ⁽⁷⁾	180 days	APHA
Mercury, Total	Glass, PTFE	no requirement	HCl or BrCl ⁽⁸⁾	28 days	APHA / EPA 1631E
Mercury, Dissolved	Glass, PTFE	no requirement	field filter 0.45 um + HCl or BrCl, qualify if lab-filtered ⁽⁸⁾	28 days	APHA / EPA 1631E
Aggregate Organics					
Adsorbable Organic Halides (AOX)	Amber Glass	≤6°C	HNO3, store in dark, sodium sulfite if chlorinated, collect with no headspace	14 days	APHA 5320
Biochemical Oxygen Demand (BOD)	Plastic, Glass	≤6°C, do not freeze	none	3 days	APHA / BC MOE
Carbonaceous Biochemical Oxygen Demand (CBOD)	Plastic, Glass	≤6°C, do not freeze	none	3 days	APHA / BC MOE
Carbon, Dissolved Organic	Plastic, Glass	≤6°C	filter, H2SO4 or HCl	28 days	APHA
			none	3 days	BC MOE
Carbon, Dissolved Inorganic	Plastic, Glass	≤6°C	field filter	14 days	APHA (alkalinity)
Carbon, Total Organic	Plastic, Glass	≤6°C	H2SO4 or HCl	28 days	APHA
Carbon, Total Inorganic	Plastic, Glass	≤6°C	none	14 days	APHA (alkalinity)
Chemical Oxygen Demand (COD)	Plastic, Glass	≤6°C	H2SO4 (field or lab)	28 days	APHA
			none	3 days	BC MOE
Chlorophyll a and Phaeophytin	Filter	Filters: freeze	field filter, store in dark	Filters: 28 days	APHA
	Dark Plastic, Amber Glass	≤6°C	unfiltered, store in dark	2 days	
Surfactants (Methylene Blue Active Substances)	Plastic, Glass	≤6°C	none	3 days	APHA / BC MOE
Total Phenols (4AAP)	Plastic, Glass	≤6°C	H2SO4	28 days	APHA
Extractable Hydrocarbons					
Extractable Hydrocarbons (LEPH, HEPH, EPH)	Amber Glass	≤6°C	NaHSO4, HCl, or H2SO4	14 / 40 days	EPA 3511
			none	7 / 40 days	SW846 Ch4 2007
Oil and Grease / Mineral Oil and Grease	Amber Glass	≤6°C	HCl or H2SO4	28 days	EPA 40CFR 2012
Waste Oil Content	Amber Glass	≤6°C	none	28 days	BC MOE

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Individual Organic Compounds					
Carbamate Pesticides	Amber Glass	≤6°C	Potassium Dihydrogen Citrate (solid), ~pH 3.8, 9.2-9.5 g/L, + 100 mg/L Na ₂ S ₂ O ₃ if chlorinated	28 days	EPA 531.2, APHA 6610B
			ChlorAC buffer, ~pH 3, 1.8mL / 60 mL sample, + 100 mg/L Na ₂ S ₂ O ₃ if chlorinated	28 days	EPA 531.1
			none, 100 mg/L Na ₂ S ₂ O ₃ if chlorinated	7 days	EPA 8321A
Chlorinated and Non-chlorinated Phenolics	Amber Glass	≤6°C	0.5g Ascorbic Acid / L + NaHSO ₄ or H ₂ SO ₄	14 / 40 days	Alberta Env AE130
			none	7 / 40 days	SW846 Ch4 2007
Dioxins / Furans	Amber Glass	≤6°C	none	unlimited	SW846 Ch4 2007
Glyphosate / AMPA	Amber Glass or Polypropylene	≤6°C	100 mg/L Na ₂ S ₂ O ₃ if chlorinated	14 days	APHA 6651B
Glycols	Glass	≤6°C	NaHSO ₄ , HCl, or H ₂ SO ₄	14 / 40 days	EPA 3511
			none	7 / 40 days	SW846 Ch4 2007
Halogenated Hydrocarbons (Semi-Volatile)	Amber Glass	≤6°C	100 mg/L Na ₂ S ₂ O ₃ if chlorinated	7 / 40 days	SW846 Ch4 2007
Herbicides, Acid Extractable	Amber Glass	≤6°C	HCl (optional), store in dark, 50 mg/L Na ₂ S ₂ O ₃ if chlorinated	14 / 21 days	APHA 6640A APHA 6640A
			100 mg/L Na ₂ S ₂ O ₃ if chlorinated	7 / 21 days	EPA 549.2
Paraquat / Diquat	Dark Plastic (protect from light)	≤6°C	none	7 / 40 days	SW846 Ch4 2007
Pesticides (NP, OP, OC)	Amber Glass	≤6°C	none	unlimited	SW846 Ch4 2007
Polychlorinated Biphenyls (PCBs)	Amber Glass	≤6°C	NaHSO ₄ , HCl, or H ₂ SO ₄	14 / 40 days	EPA 3511
Polycyclic Aromatic Hydrocarbons (PAHs)	Amber Glass	≤6°C	none	7 / 40 days	SW846 Ch4 2007
			(0.5g Ascorbic Acid + 0.4g NaOH) / L	14 / 40 days	Alberta Env AE129
Resin Acids, Fatty Acids	Amber Glass	≤6°C	none	7 / 40 days	SW846 Ch4 2007
Volatile Organic Compounds (Trihalomethanes)	43mL Glass VOC Vials (2-3)	≤6°C	3 mg Na ₂ S ₂ O ₃ (see BC Lab Manual method for more details)	14 days	BC MOE
Volatile Organic Compounds (VOC, BTEX, VH)	43mL Glass VOC Vials (2-3)	≤6°C	200 mg NaHSO ₄ , or 3 mg Na ₂ S ₂ O ₃ if chlorinated (see BC Lab Manual method for other options and details)	14 days	BC MOE
Microbiological Parameters					
Coliforms, Total, Fecal, and Ecoli	Sterile Glass or Plastic	<-8°C, do not freeze	Na ₂ S ₂ O ₃	30 hours ⁽⁵⁾	BC CDC / APHA 9060B
Cryptosporidium, Giardia	Sterile Glass or Plastic	<-8°C, do not freeze	Na ₂ S ₂ O ₃	96 hours	EPA 1623 / APHA 9060B
Enterococcus	Sterile Glass or Plastic	<-8°C, do not freeze	Na ₂ S ₂ O ₃	30 hours ⁽⁵⁾	APHA 9060B
Heterotrophic Plate Count	Sterile Glass or Plastic	<-8°C, do not freeze	Na ₂ S ₂ O ₃	24 hours	APHA 9215
Toxicity					
Daphnia, Chronic 21day / Chronic EC25	Plastic, Glass (non-toxic)	4±2°C	collect with no headspace	5 days	EC EPS 1/RM/14 & 11
Daphnia, LC50 / LT50	Plastic, Glass (non-toxic)	4±2°C	collect with no headspace	5 days	EC EPS 1/RM/14 & 11
Microtox	Plastic, Glass (non-toxic)	4±2°C	collect with no headspace	3 days	EC EPS 1/RM/24
Trout, LC50	Plastic, Glass (non-toxic)	4±2°C	collect with no headspace	5 days	EC EPS 1/RM/13 & 9
Trout, LT50	Plastic, Glass (non-toxic)	4±2°C	collect with no headspace	5 days	EC EPS 1/RM/13 & 9
Soil and Sediment					
Inorganics					
Bromide / Chloride / Fluoride	Plastic, Glass	no requirement	none	unlimited	Carter (Table 4.1)
Cyanide (WAD / SAD)	Plastic, Glass	≤6°C	store in dark, field moist	14 days	SW846 Ch3 2007
Hexavalent Chromium	Plastic, Glass	≤6°C	store field moist	30 / 7 days	SW846 Ch3 2007 / EPA 3060A
Metals, Total	Plastic, Glass	no requirement	none	180 days	SW846 Ch3 2007
Mercury, Total	Plastic, Glass	no requirement	none	28 days	SW846 Ch3 2007
Moisture	Plastic, Glass	≤6°C	none	14 days	Puget Sound Protocols
pH	Plastic, Glass	no requirement	none	365 days	Carter
Sulfide	Plastic, Glass	≤6°C	store field moist	7 days	Puget Sound Protocols
TCLP - Mercury	Plastic, Glass	no requirement	sample: none TCLP extract: HNO ₃ , HCl, or BrCl	28 / 28 days	EPA 1311
TCLP - Metals	Plastic, Glass	no requirement	sample: none TCLP extract: HNO ₃	180 / 180 days	EPA 1311
Organics					
Carbons (TC, TOC)	Plastic, Glass	≤6°C	none	28 days	SW846 Ch3 2007
	Plastic, Glass	no requirement	dried state	unlimited	Carter (Table 4.1)
Chlorinated and Non-chlorinated phenolics	Glass	≤6°C	none	14 / 40 days	SW846 Ch4 2007
Dioxins / Furans	Glass	≤6°C	none	unlimited	SW846 Ch4 2007
Extractable Hydrocarbons (LEPH, HEPH, EPH)	Glass	≤6°C	none	14 / 40 days	SW846 Ch4 2007
Glycols	Glass	≤6°C	none	14 / 40 days	SW846 Ch4 2007
Herbicides, Acid Extractable	Glass	≤6°C	none	14 / 40 days	SW846 Ch4 2007
Oil and Grease / Mineral Oil and Grease / Waste Oil Content	Glass	≤6°C	none	28 days	SW846 Ch3 2007, Puget Sound Protocols
Pesticides (NP, OP, OC)	Glass	≤6°C	none	14 / 40 days	SW846 Ch4 2007
Polychlorinated Biphenyls (PCBs)	Glass	≤6°C	none	unlimited	SW846 Ch4 2007
Polycyclic Aromatic Hydrocarbons (PAHs)	Glass	≤6°C	none	14 / 40 days	SW846 Ch4 2007
Resin Acids, Fatty Acids	Glass	≤6°C	none	14 / 40 days	SW846 Ch4 2007
TCLP - Volatile Organic Compounds	Glass	≤6°C	sample: none TCLP extract: NaHSO ₄ , HCl, or H ₂ SO ₄	14 / 14 days	EPA 1311
TCLP - Semi-Volatile Organic Compounds	Glass	≤6°C	none	14 / 7 / 40 days	EPA 1311
Volatile Organic Compounds (VOC, BTEX, VH, THM)	Pre-weighed sealed glass vial charged with methanol preservative + glass soil jar for moisture	≤6°C	methanol (exact volume, e.g. 10.0 mL)	40 days	EPA 5035A / CCME
	Hermetic sampler + glass soil jar for moisture ⁽⁶⁾	≤6°C	none	48 hours ⁽⁶⁾ / 40 days	EPA 5035A / CCME / ASTM D6418-09

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Biota					
Inorganics					
Metals, Total	Plastic, Glass	freeze (≤ -18C)	none	2 years ⁽⁹⁾	Puget Sound Protocols
Mercury, Total	Plastic, Glass	freeze (≤ -18C)	none	1 year ⁽⁹⁾	EPA 1631 Appendix
Organics					
Semi-Volatile Organic Compounds	Glass, PTFE	freeze (≤ -18C)	none	365 / 40 days	Puget Sound Protocols
Volatile Organic Compounds	Glass, PTFE	freeze (≤ -18C)	none	14 days	Puget Sound Protocols
Air (Vapours)					
VOCs by Canister Sampling	SS canister	ambient	none	30 days	EPA TO15
VOCs by Thermal Desorption	thermal desorption tube	≤6°C	none	30 days	EPA TO17
VOCs and other Volatile Substances by Charcoal and Miscellaneous Collection Media	see BC Lab Manual Method	≤6°C (or as per applicable reference method)	none	30 days	see BC Lab Manual Method

¹ A Director or an Environmental Management Act permit may specify alternate requirements.

² Refer to applicable BC Environmental Laboratory Manual methods for additional detail. Where differences exist between Lab Manual methods and this table, this table takes precedence.

³ Storage temperature applies to storage at the laboratory. For all tests where refrigeration at ≤ 6°C is required at the laboratory, samples should be packed with ice or cold packs to maintain a temperature of ≤10°C during transport to the laboratory. The storage of <8°C for microbiological samples applies during storage at the laboratory and during transport to the laboratory. To prevent breakage, water samples stored in glass should not be frozen. Except where indicated by "do not freeze", test results need not be qualified for frozen samples. Labs may apply a "Cooling Initiated" qualifier on reports to indicate where samples were received above specified storage temperature, but where sampling occurred < 8 hours before arrival at the lab, and where samples were packed appropriately in coolers with ice or cold packs to initiate the cooling process.

⁴ Hold Times: Single values refer to hold time from sampling to analysis. Where 2 values are given, the first is hold time from sampling to extraction, and the second is hold time from extraction to analysis. 3 values are given for TCLP semi-volatiles (1st is from collection to TCLP extraction; 2nd is from TCLP extraction to preparative extraction; 3rd is from preparative extraction to analysis).

⁵ Samples received from remote locations more than 48 hours after collection must not be tested.

⁶ Methanol extracts are stable for 40 days from sampling. Hermetic samples must be methanol-extracted within 48 hours of sampling or may be frozen at ≤ -7°C within 48 hours of sampling to extend hold time to 7 days from sampling. Frozen hermetic samples must be extruded into methanol while still predominantly or partially frozen.

⁷ If not field-preserved, water samples for metals analysis must be acidified at the lab in their original containers by addition of HNO₃ (within 14 days of sampling), then equilibrated at least 16 hours prior to sub-sampling or analysis (otherwise, qualify as "received unpreserved"). This approach is also applicable to dissolved metals if field filtered. Not applicable to mercury.

⁸ Use only glass or PTFE containers to collect water samples for total or dissolved mercury. For total mercury, field-preserve with HCl or BrCl. For dissolved mercury, field filter and then preserve with HCl or BrCl. Adding BrCl to original sample container at the laboratory within 28 days of sampling is an acceptable alternative for total mercury and for dissolved mercury (if field-filtered). If samples are oxidized for 24 hours prior to sub-sampling or analysis. Dissolved mercury should not be lab-filtered. Qualify lab-filtered results for dissolved mercury as "lab-filtered".

⁹ Freezing is optional for freeze dried tissue samples and for vegetation that is dried prior to digestion and reported on a dry weight basis; in these cases, samples may be stored at ambient temperature, with a hold time of 28 days for mercury and 6 months for other metals (based on BC MOE soil guidelines).

Effective Date of this revision: January 4, 2016

BC MOE SAMPLE PRESERVATION & HOLDING TIME REQUIREMENTS

List of References:

Alberta Env AE129	Resin and Fatty Acids in Pulp Mill Effluents and Receiving Waters, Method AE129.0, Alberta Environment, August 1990.
Alberta Env AE130	Chlorinated Phenolic Compounds in Bleached Kraft Mill Effluents and Receiving Waters, Method AE130.0, Alberta Environment, April 1991.
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association (APHA), the American Water Works Association (AWWA), and the Water Environment Federation (WEF). Primary reference is Section 1060, Collection and Preservation of Samples, Table 1060:I, Summary of Special Sampling and Handling Requirements, 2011.
APHA 5320	Dissolved Organic Halogen, Method 5320, APHA Standard Methods, 1997.
APHA 6610B	Carbamate Pesticides, Method 6610B, High Performance Liquid Chromatography Method, APHA Standard Methods, 2004.
APHA 6640A	Acidic Herbicide Compounds, Method 6640A, Introduction, APHA Standard Methods, 2001 (HCl preservation, 14 day hold time).
APHA 6640A	Acidic Herbicide Compounds, Method 6640A, Introduction, APHA Standard Methods, 2001 (reference does not use HCl preservation, but recommends extraction as soon as possible, up to 14 days, cautions about potential analyte degradation).
APHA 6651B	Glyphosate Herbicide, Method 6651B, Liquid Chromatographic Post-Column Fluorescence Method, APHA Standard Methods, 2000.
APHA 9060B	Microbiological Examination Section, Samples, Method 9060B, Preservation and Storage, APHA Standard Methods, 2006.
APHA 9215	Heterotrophic Plate Count, Method 9215, APHA Standard Methods, 2004.
ASTM D6418-09	Standard Practice for Using the Disposable En Core Sampler for Sampling and Storing Soil for Volatile Organic Analysis.
BC CDC	British Columbia Centre for Disease Control.
BC MOE	British Columbia Ministry of Environment (British Columbia Environmental Laboratory Manual).
Carter	Carter, Martin R. and Gregorich, E. G., Soil Sampling and Methods of Analysis, Canadian Society of Soil Science, 2008.
CCME	Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, ISBN 1-896997-01-5, Publication No. 1310, Canadian Council of Ministers of the Environment Inc., 2001.
EC EPS 1/RM/24	Biological Test Method: Toxicity Test Using Luminescent Bacteria, Environment Canada, Report EPS 1/RM/24, November 1992.
EC EPS 1/RM/11	Biological Test Method: Acute Lethality Test Using Daphnia spp., Environment Canada, Report EPS 1/RM/11, July 1990 (with May 1996 amendments).
EC EPS 1/RM/14	Biological Test Method: Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia magna, Environment Canada, Report EPS 1/RM/14 second edition, December 2000.
EC EPS 1/RM/13	Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout, Environment Canada, Report EPS 1/RM/13, second edition, December 2000 (with May 2007 amendments).
EC EPS 1/RM/9	Biological Test Method: Acute Lethality Test Using Rainbow Trout, Environment Canada, Report EPS 1/RM/9, July 1990 (with May 1996 and May 2007 amendments).
EPA	United States Environmental Protection Agency.
EPA 1311	Toxicity Characteristic Leaching Procedure, SW 846 Method 1311, Revision 0, US EPA Office of Solid Waste, July 1992.
EPA 1631E	Method 1631, Revision E: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry, US EPA Office of Water, August 2002.
EPA 1669	Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, Method 1669, US EPA Office of Water, July 1996.
EPA 200.2	Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements, Method 200.2, Revision 2.8, US EPA Office of Research and Development, 1994.
EPA 300.1	Determination of Inorganic Anions in Drinking Water by Ion Chromatography, Revision 1.0, US EPA Office of Research and Development, 1997.
EPA 3060A	Alkaline Digestion for Hexavalent Chromium, SW846 Method 3060A, Revision 1, US EPA Office of Solid Waste, December 1996.
EPA 317.0	Determination of Inorganic Oxihalide Disinfection By-Products in Drinking Water Using Ion Chromatography with the Addition of a Postcolumn Reagent for Trace Bromate Analysis, Revision 2.0, US EPA Office of Research and Development, July 2001.
EPA 3511	Organic Compounds in Water by MicroExtraction, SW 846 Method 3511, Revision 0, US EPA Office of Solid Waste, Nov 2002.
EPA 40CFR 2012	Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; Analysis and Sampling Procedures, Final Rule, 40 CFR Parts 136, 260, et al, Table II - Required Containers, Preservation Techniques, and Holding Times, US EPA, May 18, 2012.
EPA 5035A	Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples, SW 846 Method 5035A, Draft Revision 1, US EPA Office of Solid Waste, July 2002.
EPA 531.1	Measurement of N-MethylCarbamoyloximes and N-MethylCarbamates in Water by Direct Aqueous Injection HPLC with PostColumn Derivatization, Revision 3.1, US EPA Office of Ground Water and Drinking Water, 1995.
EPA 531.2	Measurement of N-MethylCarbamoyloximes and N-MethylCarbamates in Water by Direct Aqueous Injection HPLC with PostColumn Derivatization, Revision 1.0, US EPA Office of Ground Water and Drinking Water, September 2001.
EPA 549.2	Determination of Diquat and Paraquat in Drinking Water by Liquid-Solid Extraction and High Performance Liquid Chromatography with Ultraviolet Detection, Method 549.2, Revision 1.0, US EPA Office of Research and Development, June 1997.
EPA 8321A	Solvent Extractable Nonvolatile Compounds by High Performance Liquid Chromatography / Thermospray / Mass Spectrometry (HPLC/TS/MS) or Ultraviolet (UV) Detection, Revision 1, US EPA Office of Solid Waste, Dec 1996.
EPA TO15	Determination Of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS), Compendium Method TO-15, Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, US EPA Office of Research and Development, January 1999.
EPA TO17	Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes, Compendium Method TO-17, Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, US EPA Office of Research and Development, January 1999.
Puget Sound Protocols	Recommended Protocols for Measuring Selected Environmental Variables in Puget Sound, Puget Sound Water Quality Action Team, prepared for U.S. Environmental Protection Agency (Region 10) and U.S. Army Corps of Engineers, July 1996.
SW846 Ch3 2007	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, Final Update IV, Chapter 3, Inorganic Analytes, Revision 4, US EPA Office of Solid Waste, February 2007.
SW846 Ch4 2007	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, Final Update IV, Chapter 4, Organic Analytes, Revision 4, US EPA Office of Solid Waste, February 2007.