M.J. Reider Associates
Preservation and Holding Times Chart

NOTE: For all Drinking Water compliance samples in which the method does not specify an acceptable pH range and the analysis requires no chemical preservation, an acceptable pH is 5-9su.

Reference LIMS for other valid containers and preservation.

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
EPA 504.1 EDB, DBCP, 123TCP	Cool to ≤6°C * 3 mg Sodium Thiosulfate/40 mL	14 Days	< 24 Hours after extraction	4 x 40 mL vials plus duplicate Field Reagent Blanks	Glass
EPA 505 DW Pesticides/ PCBs	Cool to ≤6°C * 3 mg Sodium Thiosulfate/40 mL	14 Days (Exception: Heptachlor 7 Days)	< 24 Hours after extraction	4 x 40 mL vials plus a Field Reagent Blank	Glass
EPA 515.3 DW Herbicides	Cool to ≤6°C * (Chlorinated source, add 20 mg Sodium Thiosulfate /250 mL)	14 Days	14 Days	250 mL	Amber Glass with Teflon lined lid
EPA 524.2 DW Volatiles	Cool to ≤6°C * (Chlorinated source, add 25 mg Ascorbic Acid /40 mL), pH to <2 w/ 1:1 HCl	NA	14 Days	4 x 40 mL vials with zero headspace plus duplicate Field Reagent Blanks	Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
EPA 524.2 All DW Volatiles except TTHMs***	Cool to ≤6°C * Samples that are not acidified	NA	24 hours	4 x 40 mL vials with zero headspace plus duplicate Field Reagent Blanks	Glass
EPA 524.2 DW TTHMs only	Cool to ≤6°C * 3 mg Sodium Thiosulfate /40 mL **NO Acid necessary** (NA if Ascorbic used for dechlorinating)	NA	14 Days	4 x 40 mL vials with zero headspace	Glass
EPA 525.2 DW Semi-Volatiles	Cool to ≤6°C * (Chlorinated source, add 40-50 mg/L Sodium Sulfite), pH <2 w/ HCl	14 Days	30 Days	2 x 1 Liter plus 1 Liter Field Reagent Blank	Amber Glass
EPA 531.1 Carbamates	Cool to ≤6°C* (Chlorinated source, add 4 mg Sodium Thiosulfate/40 mL), 1.2 mL of 2.5M Monochloroacetic Acid Buffer to pH 3	NA	28 Days	40 mL vial	Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
EPA 547 Glyphosate	Cool to ≤6°C * (Chlorinated source, add 4 mg Sodium Thiosulfate/40 mL)	NA	14 Days	3 x 40 mL vials plus Field Reagent Blank	Glass
EPA 548.1 Endothall (Subcontract)	Cool to ≤6°C * (Chlorinated source, add 80 mg Sodium Thiosulfate) (Highly biologically active, add H_2SO_4 to pH 1.5-2) **pH may be adjusted at Lab**	7 Days	14 Days	1 x 500 mL NP and 1 x 500 mL NaThio	Amber Glass
EPA 549.2 Diquat	Cool to ≤6°C * (Chlorinated source, add 100 mg Sodium Thiosulfate) (Biologically active, add H_2SO_4 to pH <2) **pH may be adjusted at Lab**	7 Days	21 Days	250 mL	Amber PVC High Density or silanized amber glass
EPA 552.2 Haloacetic Acids – HAA5	Cool to ≤6°C * 25 mg Ammonium Chloride/250mL	14 Days	7 Days at ≤6°C or 14 Days at < –10°C	250 mL	Amber Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
EPA 608.3 SW846 8081B NPW Pesticides/ PCBs	Cool to ≤6°C * if pH 5-9. **For EPA 608.3**: If not 5-9, adjust pH or extract within 72hrs. (Aldrin: Chlorinated source add 80 mg Sodium Thiosulfate) **Adjust at Lab**	7 Days	40 Days	3 x 1 Liter	Amber Glass
EPA 624.1 /SW846 8260 NPW Purgeable Aromatic Hydrocarbons	Cool to ≤6°C * (Chlorinated source, add 10mg Sodium Thiosulfate/40mL) pH 2 w/ HCl	NA	14 Days	3 x 40 mL vials with zero headspace plus Trip Blank	Glass
EPA 624.1 NPW Purgeable Aromatic Hydrocarbons	Cool to ≤6°C * (Chlorinated source, add 10mg Sodium Thiosulfate/40mL) **NOT** pH adjusted to pH 2	NA	7 Days **without pH adjustment**	3 x 40 mL vials with zero headspace plus Trip Blank	Glass
EPA 624.1 NPW Purgeable Halocarbons	Cool to ≤6°C * (Chlorinated source, add 10mg Sodium Thiosulfate/40mL)	NA	14 Days	3 x 40 mL vials with zero headspace plus Trip Blank	Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
EPA 624.1 NPW Acrolein & Acrylonitrile	Cool to ≤6°C * (Chlorinated source, add 10mg Sodium Thiosulfate/40mL) **pH 4-5 w/HCl** ******	NA	14 Days	3 x 40 mL vials with zero headspace plus Trip Blank	Glass
EPA 624.1 NPW Acrolein & Acrylonitrile	Cool to ≤6°C * (Chlorinated source, add 10mg Sodium Thiosulfate/40mL) **No pH adjustment**	NA	3 Days ******	3 x 40 mL vials with zero headspace plus Trip Blank	Glass
EPA 625.1 / SW846 8270 NPW Semivolatiles	Cool to ≤6°C * (Chlorinated source, add 80 mg Sodium Thiosulfate/L)	7 Days	40 Days	3 x 1 Liter with Teflon lined lid	Amber Glass
EPA 625.1 / SW846 8270 NPW Benzidine	Cool to ≤6°C * (Chlorinated source, add 80 mg Sodium Thiosulfate/L). If 1,2-DPH likely to be present, adjust pH to 4.0 ± 0.2 w/ 1:1 H_2SO_4	7 Days	30 Days (Stored at <0°C)	3 x 1 Liter with Teflon lined lid	Amber Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
EPA 1666 Pharmaceuticals by GC/MS	Cool to ≤6°C * (Chlorinated source, add 10mg Sodium Thiosulfate/40 mL), pH ≤2 w/ HCl	NA	14 Days	3 x 40 mL vials with zero headspace plus Field Reagent Blank	Glass
EPA 1671 Pharmaceuticals by GC (Subcontract)	Cool to ≤6°C * (Chlorinated source, add 10mg Sodium Thiosulfate/40 mL), pH ≤2 w/ HCl	NA	14 Days	3 x 40 mL vials plus Field Reagent Blank	Glass
SM 6640B NPW Herbicides	Cool to ≤6°C * (Chlorinated source, add 2 mg Sodium Sulfite /40mL)	14 Days	21 Days	3 x 40 mL vials	Glass
SM 6640B (2,4-D, 2,4,5-T, Silvex & Dicamba) Compliance samples	Cool to ≤6°C * pH 5-9 w/HCl ********	7 Days	40 Days	3 x 40 mL vials	Glass
SW846 8015 NPW Diesel Range Organics DRO, (Subcontract)	Cool to ≤6°C *	7 Days	40 Days	2 x 1 Liter	Amber glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
SW846 8015 SOLID Diesel Range Organics (Subcontract)	Cool to ≤6°C *	14 Days	40 Days	2 x 32 oz Jar with Teflon lined lid	Glass
SW846 8081B SOLID Pesticides	Cool to ≤6°C *	14 Days	40 Days	32 oz Jar with Teflon lined lid	Glass
SW846 8082A SOLID PCBs	Cool to ≤6°C *	365 Days	40 Days	32 oz Jar with Teflon lined lid	Glass
SW846 8082A NPW PCBs	Cool to ≤6°C *	365 Days	40 Days	3 x 1 Liter	Amber glass
SW846 8141 NPW Organo-phosphate Pesticides (Subcontract)	Cool to ≤6°C * Adjust pH between 5 and 8	7 Days	40 Days	2 x 1 Liter	Amber glass
SW846 8141 SOLID Organo-phosphate Pesticides (Subcontract)	Cool to ≤6°C *	14 Days	40 Days	32 oz Jar with Teflon lined lid	Glass
SW846 8151 SOLID Herbicides (Subcontract)	Cool to ≤6°C *	14 Days	40 Days	32 oz Jar with Teflon lined lid	Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
SW846 8260 NPW Volatiles	Cool to ≤6°C * (Chlorinated source, add 10mg Sodium Thiosulfate/40mL) pH <2 w/ HCl	NA	14 Days	3 x 40 mL vials with zero headspace plus Trip blank	Glass
SW846 8260 NPW Volatiles: Required for Styrene, Vinyl Chloride and 2CEVE	Cool to ≤6°C * (Chlorinated source, add 10mg Sodium Thiosulfate/40mL) **pH NOT adjusted to pH<2**	NA	7 Days	3 x 40 mL vials with zero headspace	Glass
SW846 8260 NPW Acrolein & Acrylonitrile	Cool to ≤6°C * (Chlorinated source, add 10mg Sodium Thiosulfate/40mL) **pH 4-5 w/ HCl**	NA	14 Days	3 x 40 mL vials with zero headspace	Glass
SW846 8260 SOLID Volatiles	Cool to ≤6°C *	NA	14 Days	Soil Kit or 4 oz Jar with Teflon lined lid	Glass
SW846 8260 SOLID Volatiles	Cool to ≤6°C *	NA	14 Days	Encores or 4 oz Jar with Teflon lined lid *******	Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
SW846 8260 SOLID Styrene, Vinyl Chloride and 2CEVE	Cool to ≤6°C *	NA	7 Days	Encores or 4 oz Jar with Teflon lined lid	Glass
SW846 8270 NPW Semivolatiles	Cool to ≤6°C * (Chlorinated source, add 80 mg Sodium Thiosulfate)	7 Days	40 Days	2 x 1 Liter with Teflon lined lid	Amber Glass
SW846 8270 SOLID Semivolatiles	Cool to ≤6°C *	14 Days	40 Days	32 oz Jar with Teflon lined lid	Glass
Acidity	Cool to ≤6°C *	NA	14 Days	500 mL	Plastic or Glass
Alkalinity Alk	Cool to ≤6°C * Minimal Head Space	NA	14 Days	500 mL	Plastic or Glass
Ammonia NH3-N	Cool to ≤6°C * pH <2 w/H_2SO_4	NA	28 Days	500 mL	Plastic
Asbestos (Subcontract)	Cool to ≤6°C * Solids do not require ≤6°C		48 Hours or (if 20 mg/L Hg as $HgCl_2$ added - 6 months)	1 Liter	Plastic
Biochemical Oxygen Demand BOD	Cool to ≤6°C *	NA	48 Hours	1 Liter	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Bromate **** BrO3-	Typically, Cool to ≤6°C *, but not required. 0.25 mL EDA/500 mL	NA	28 Days	250 mL	Plastic or Glass
Bromide **** Br-	Typically, Cool to ≤6°C *, but not required. (Addition of 0.25 mL EDA/500 mL permitted)	NA	28 Days	250 mL	Plastic or Glass
Calcium Hardness, CaCO3	NA	NA	NA		NA
Carbonaceous Biochemical Oxygen Demand CBOD	Cool to ≤6°C *	NA	48 Hours	1 Liter	Plastic or Glass
Chemical Oxygen Demand COD	Cool to ≤6°C * pH to <2 with H2SO4	NA	28 Days	500 mL	Plastic or Glass
Chloramines (Subcontract)	Typically, Cool to ≤6°C *, but not required. Zero Head Space	NA	15 minutes	250 mL	Plastic or Glass
Chlorate **** ClO3-	Typically, Cool to ≤6°C *, but not required. 0.25 mL EDA/500 mL	NA	28 Days	250 mL	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Chloride Cl-	Typically, Cool to ≤6°C *, but not required	NA	28 Days	500 mL	Plastic or Glass
Chlorine, Residual Cl2 Free & Cl2 Total	Typically, Cool to ≤6°C *, but not required.	NA	15 minutes	250 mL Zero Head Space	Amber Glass
Chlorine Demand (Subcontract)	Do Not Store – minimal light and agitation	NA	Immediately	1 Liter	Glass
Chlorine Dioxide (Subcontract)	Cool to ≤6°C *, but not required	NA	Immediately	500 mL	Plastic or Glass
Chlorite **** ClO2-	Cool to ≤6°C * 0.25 mL EDA/500 mL	NA	14 Days	250 mL	Opaque Plastic or Amber Glass
Coliform, Fecal (FC) NPW (CWA) 9222D-MF Colilert 18	Cool to <10°C 10 mg Sodium Thiosulfate/120 mL (provided by manufacturer) or 0.1 mL Sodium Thiosulfate/120 mL (preserved in lab)	NA **SWTR**= Surface Water Treatment Rule	8 Hours ***** **CWA** = Clean Water Act	120 mL Sterile	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Coliform, Fecal (FC) Sludge-Biosolids 9221E-MPN	Cool to <10°C	NA	24 Hours *****	16 oz Jar Sterile	Glass
Coliform, Fecal (FC) Colilert 18/ Quantitray	Cool to <10°C 10 mg Sodium Thiosulfate/120 mL (provided by manufacturer) or 0.1 mL Sodium Thiosulfate/120 mL (preserved in lab)	NA	8 Hours *****	120 mL Sterile	Plastic or Glass
Coliform, Total (TC) DW (TCR) 9223B-Colilert P/A	Cool to <10°C 10 mg Sodium Thiosulfate/120 mL (provided by manufacturer) or 0.1 mL Sodium Thiosulfate/120 mL (preserved in lab)	NA **TCR** = Total Coliform Rule	30 Hours	120 mL Sterile	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Coliform:TC, FC and HPC for SWTR (DW)	Cool to <10°C 10 mg Sodium Thiosulfate/120 mL (provided by manufacturer) or 0.1 mL Sodium Thiosulfate/120 mL (preserved in lab)	NA	8 Hours	120 mL Sterile	Plastic or Glass
Coliform, E. Coli (EC) Enumeration for SWTR 9223B-Colilert	Cool to <10°C 10 mg Sodium Thiosulfate/120 mL (provided by manufacturer) or 0.1 mL Sodium Thiosulfate/120 mL (preserved in lab)	NA	30 Hours	120 mL Sterile	Plastic or Glass
Coliform, E. Coli (EC) P/A for GWR – PWS not homeowners	Cool to <10°C 10 mg Sodium Thiosulfate/120 mL (provided by manufacturer) or 0.1 mL Sodium Thiosulfate/120 mL (preserved in lab)	NA **GWR =** Ground Water Rule	30 hours	120 mL Sterile	Plastic or Glass
Color	Cool to ≤6°C *	NA	48 Hours	500 mL	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Cyanide, Total and Free CN-Kelada-01 (Total) CN-F Kelada-01 (Free)	Cool to ≤6°C * (Chlorinated source, add 2 mL of Sodium Arsenite/250 mL), DW: pH ≥12, WW: pH >10 w/NaOH	NA	14 Days	250 mL	Amber glass
Cyanide, Total **SOLID**	Cool to ≤6°C *		14 Days	32 oz Jar	Glass
Dioxin in DW- method 1613 (Subcontract)	Cool to ≤6°C * 80 mg Sodium Thiosulfate. If pH > 9 adjust to pH 7-9 with H_2SO_4	1 Year	1 Year	2 x 1 Liter	Amber glass
Dissolved Oxygen, DO	Cool to ≤6°C *	NA	15 Minutes	300 mL	Glass BOD Bottle
Fluoride F-	Typically, Cool to ≤6°C *, but not required.	NA	28 Days	250 mL	Plastic
Hardness Hardness	NA	NA	NA	NA	NA
Heterotrophic Plate Count HPC, Standard Plate Count. SWTR, BWR, NPDES	Cool to <10°C Sodium Thiosulfate	NA	8 Hours *****	120 mL Sterile	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Hexavalent Chromium NPW Cr+6 EPA 218.6	Cool to ≤6°C * Filter, then adjust pH to 9.3 - 9.7 with 1mL of $NH_4OH/(NH_4)_2SO_4$ per 100 mL. Filter and preserve within 15 minutes of sample collection.	NA	28 Days	250 mL	Plastic, Field Filter Kit
Hexavalent Chromium DW Cr+6 EPA 218.7 (Subcontract)	Cool to ≤6°C * 1 ml of NH4OH/(NH4)2 SO4 /100ml	NA	14 Days	500 mL	Plastic or Glass
Hexavalent Chromium SOLID Cr+6 SM 3500 Cr-B	Cool to ≤6°C *	30 Days until digestion	7 Days after digestion, if properly preserved	32 oz Jar	Glass or Plastic
Ignitability SW846-1010A-liquid 1030-solid	Cool to ≤6°C * unless refrigeration would adversely affect the sample. Minimal Headspace	NA	30 Days	500 mL (liquid) 32 oz Jar (solid)	Glass or Plastic
Lead/Copper, First Draw Pb/Cu	Water must not be used for 6 hrs. Aerator on. pH <2 with HNO3	NA	6 months	1 Liter	Plastic

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Lead/Copper, First Draw Pb/Cu	Cool to ≤6°C until preserved. If not preserved immediately must add acid within 14 Days	NA	6 months	1 Liter	Plastic
Mercury Hg	pH <2 with HNO3	NA	28 Days	500 mL	Plastic or Glass
Mercury, Dissolved Hg-D	Filter and preserve to pH <2 with HNO3 within 15 minutes of sample collection.	NA	28 Days	250 mL	Plastic or Glass, Field Filter Kit
Mercury, Low Level EPA1631 EPA 1669 (Subcontract)	HCl – refer to method for special instructions			4 x 40 mL vials and **Field Blank**	Glass
Mercury SOLID	Cool to ≤6°C *	NA	28 Days	32 oz Jar	Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Metals (except Hg)	pH <2 with HNO3 at least 24 hours prior to analysis. To analyze immediately, add the acid within 15 min of collection. If not preserved immediately, must add acid within 14 Days	NA	6 Months	1 Liter (DW) 500 mL (NPW)	Plastic or Glass (Boron and Silica must be in Plastic) Field Filter Kit
Metals (except Hg) **SOLID**	Cool to ≤6°C *	NA	6 Months	16 oz Jar (EPA 6020) 32 oz Jar (EPA 6010)	Glass
Metals, Dissolved (except Hg)	Filter within 15 min of collection and before adding acid. pH <2 with HNO3	NA	6 Months	250 mL	Plastic or Glass (Boron and Silica must be in Plastic) Field Filter Kit
Nitrate NO3-N	Cool to ≤6°C *	NA	48 Hours	250 mL	Plastic or Glass
Nitrate/ Nitrite, combined NO3-NO2	Cool to ≤6°C * pH <2 with H2SO4	NA	28 Days	500 mL	Plastic or Glass
Nitrate/ Nitrite, combined	Cool to ≤6°C *	NA	48 Hours	250 mL	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Nitrite NO2-N	Cool to ≤6°C *	NA	48 Hours	250 mL	Plastic or Glass
Nitrogen, Total Kjeldahl TKN	Cool to ≤6°C * pH to <2 with H2SO4	NA	28 Days	500 mL	Plastic or Glass
Odor	Cool to ≤6°C * Minimal Headspace	NA	24 Hours	1 Liter	Amber Glass
Oil and Grease O&G HEM	Cool to ≤6°C * pH <2 with HCl (or H_2SO_4)	NA	28 Days	2 x 1 Liter	Glass
Oil and Grease SOLID	Cool to ≤6°C *	NA	28 Days	32 oz Jar	Glass
Ortho-Phosphate as P o-PO4	Cool to ≤6°C * Filter within 15 min of collection	NA	48 Hours	500 mL	Plastic or Glass
Osmotic Pressure OP	Cool to ≤6°C *	NA	48 Hours	500 mL	Plastic or Glass
Paint	Cool to ≤6°C * unless refrigeration would adversely affect the sample.	NA	30 Days	16 oz Jar (NPW) 32 oz Jar (Solid)	Glass or Plastic
Perchlorate (Subcontract)	Typically, Cool to ≤6°C *, but not required	NA	28 Days	250 mL	Plastic or Glass
pH	Cool to ≤6°C *	NA	15 minutes	500 mL	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Phenols	Cool to ≤6°C * pH <2 with H_2SO_4	NA	28 Days	250 mL 32 oz Jar (Solid)	Glass
Phosphorus, Total PO4	Cool to ≤6°C * pH <2 with H_2SO_4	NA	28 Days	500 mL	Plastic or Glass
Phosphorus, Total Dissolved PO4-D	Cool to ≤6°C * Filter and preserve to pH <2 with H_2SO_4 within 15 minutes of sample collection.	NA	28 Days	500 mL	Plastic or Glass
Rads ********* (Subcontract)	pH <2 with HCl or HNO3	NA	6 months	½ Gallon	Plastic or Glass
Silica as SiO2 Silica	NA	NA	NA	NA	NA
Solids, Settleable Set Sol	Cool to ≤6°C *	NA	48 Hours	2 Liter	Plastic or Glass
Solids TS, TSS, TDS, TVS, VSS	Cool to ≤6°C *	NA	7 Days	1 Liter 500 mL (VSS)	Plastic or Glass
Specific Conductance Sp Cond	Cool to ≤6°C *	NA	28 Days	500 mL	Plastic or Glass
Sulfate SO4	Cool to ≤6°C *	NA	28 Days	250 mL	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Sulfide S2	Cool to ≤6°C * 1 mL 2N Zinc Acetate, pH > 9 with NaOH. Fill bottle completely	NA	7 Days (preserved) 24 hours (not preserved)	500 mL	Plastic or Glass
Sulfide SOLID S2	Cool to ≤6°C *	NA	7 Days	32 oz Jar	Plastic or Glass
Sulfite SO3	Typically, Cool to ≤6°C *, but not required. Required:<50°C. Add 2.5 mL EDTA, minimize contact with air	NA	15 minutes	250 mL	Plastic or Glass
Surfactants MBAS	Cool to ≤6°C *	NA	48 Hours	1 Liter	Plastic or Glass
Suitability (Subcontract)	Cool to <10°C	NA	None listed	500 mL	Glass- Dry Heat Sterilized
Temperature Temp	NA	NA	15 minutes	NA	NA
Total Kjeldahl Nitrogen TKN	Cool to ≤6°C * pH <2 with H2SO4	NA	28 Days	500 mL	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
Total Organic Carbon TOC	Cool to ≤6°C * pH <2 with H3PO4, minimal headspace	NA	28 Days	4 x 40 mL vials	Amber Glass
Total Organic Carbon SOLID TOC (Subcontract)	Cool to ≤6°C *	NA	28 Days	32 oz Jar	Glass
Total Organic Carbon, Dissolved ** TOC-D	Cool to ≤6°C * Filter and preserve to pH<2 with H3PO4 within 48 hours. Minimal headspace	NA	28 Days	4 x 40 mL vials	Amber Glass
Total Organic Halogens TOX (Subcontract)	Cool to ≤6°C * pH <2 with H_2SO_4 (Chlorinated source, add Na Thiosulfate to reduce Free Chlorine)	NA	28 Days	250 mL	Ambler Glass
Total Petroleum Hydrocarbon TPH SGT-HEM	Cool to ≤6°C * pH <2 with HCl	NA	28 Days	2 x 1 Liter	Glass
Turbidity Turbid	Cool to ≤6°C *	NA	48 Hours	250 mL	Plastic or Glass

Parameter/ Method	Preservative	Extraction Holding Time (Organics Only)	Sample/ Analysis Holding Time	Container Size	Container Type
UV254	Cool to ≤6°C *	NA	48 Hours	250 mL	Amber Glass

* Aqueous samples must be preserved at ≤ 6 ° C and should not be frozen unless there is data demonstrating that sample freezing does not affect the sample integrity.

** Within 48 hours of sampling, the samples to be analyzed are filtered through a 0.45µm filter and analyzed immediately or preserved to pH <2 with Phosphoric Acid.

*** If the analysis is for TTHMs only and Sodium Thiosulfate was used to dechlorinate, acidification may be omitted and the holding time still be 14 Days.

**** When collecting a sample for EPA 300.1 from a treatment plant employing Chlorine Dioxide, the sample must be sparged with an inert gas prior to the addition of the EDA at the time of sampling.

***** Sample analysis should begin as soon as possible after receipt; sample incubation must be started no later than 8 hours from the time of collection.

****** The pH adjustment is only required if Acrolein is being analyzed. Samples for Acrolein that receive no pH adjustment must be analyzed within 3 Days of sampling. MJRA prefers to collect both preserved and unpreserved samples for Acrolein and Acrylonitrile in the event a 3-day analysis is not feasible.

******* If no soil kit is available, encores may be used, however, the sample must be transferred to soil vials within 48 hours of collection.

******** The pH adjustment for SM 6640B may be performed upon receipt at the laboratory and may be omitted if the samples are extracted within 72 hours of collection.

********* Container size and volume requirements vary depending on which analytes will be tested.