

Preservation and Sampling Protocol

Analysis	WATER			
	Minimum Sample Size	Container	Preservation	Holding Time
Inorganics				
Acidity	100 ml	P or G	Cool, 4°C	14 days
Alkalinity	100 ml	P or G	Cool, 4°C	14 days
Ammonia	50 ml	P or G	H ₂ SO ₄ to pH <2, 4°C	28 days
Bromide		P or G	none	28 days
Chloride		P or G	none	28 days
Fluoride		P	none	28 days
Nitrate	50 ml	P or G	Cool, 4°C	48 hours
Total Nitrate - SDW (Nitrate + Nitrite)		P or G	H ₂ SO ₄ to pH <2, 4°C	28 days
Nitrite		P or G	Cool, 4°C	48 hours
Sulfate		P or G	Cool, 4°C	28 days
BOD, 5 day or CBOD, 5 day	1000 ml	P or G	Cool, 4°C	48 hours
Carbon, NPOC/TOC	2 - 40 ml	GV40T	H ₂ SO ₄ to pH <2, 4°C	28 days
Carbon, DIC	25 ml	GV40T	H ₂ SO ₄ to pH <2, 4°C	28 days
Chlorophyll a	1000 ml	P or AG	darkness	48 hours
COD	50 ml	P or G	H ₂ SO ₄ to pH <2, 4°C	28 days
Color	50 ml	P or G	Cool, 4°C	48 hours
Conductivity	100 ml	P or G	Cool, 4°C	28 days
Cyanide, Total & Amenable	50 ml each	P or G	NaOH to pH >12, 4°C	14 days
Cyanide, Reactive	50 ml	P or G	darkness	14 days
Flashpoint	100 ml	P or G	none	ASAP
Hexane Extracted Material	3000 ml	AG	H ₂ SO ₄ to pH <2, 4°C	28 days
SGT-Hexane Extracted Material	3000 ml	AG	H ₂ SO ₄ to pH <2, 4°C	28 days
Hardness	50 ml	P or G	HNO ₃ to pH <2	6 months
Ignitability				
Mercaptans	100 ml	P or G	none	7 days
TKN	50 ml	P or G	H ₂ SO ₄ to pH <2, 4°C	28 days
Nitrate + Nitrite	20 ml	P or G	H ₂ SO ₄ to pH <2, 4°C	28 days
Nitrate + Nitrite	20 ml	P or G	Cool, 4°C	48 hours
Orthophosphate	20 ml	P or G	Filter Immediately, 4°C	48 hours
pH	20 ml	P or G	none	ASAP
Phenolics	50 ml	G	H ₂ SO ₄ to pH <2, 4°C	28 days
Phosphorus	50 ml	P or G	H ₂ SO ₄ to pH <2, 4°C	28 days
Settleable Solids	1000 ml	P or G	Cool, 4°C	48 hours
Sulfite	200 ml	P or G	none	immediately

SOIL				
Minimum Sample Size	Container	Preservation	Holding Time	
10 g	G	Cool, 4°C	unknown	
10 g	G	Cool, 4°C	unknown	
10 g	G	Cool, 4°C	28 days	
10 g	G	none	6 months	
10 g	G	none	6 months	
10 g	G	none	6 months	
10 g	G	Cool, 4°C	6 months	
10 g	G			
10 g	G	Cool, 4°C	6 months	
10 g	G	Cool, 4°C	6 months	
10 g	G	Cool, 4°C	28 days - subcontracted	
10 g	G			
10 g	G	Cool, 4°C	unknown	
10 g	G			
10 g	G	Cool, 4°C	14 days	
20 g	G	darkness	14 days	
100 g	G	Cool, 4°C	unknown	
100 g	G	Cool, 4°C	unknown	
5 g	G	Cool, 4°C	6 months	
100 g	G	none	ASAP	
10 g	G	Cool, 4°C	28 days	
10 g	G	Cool, 4°C	6 months	
10 g	G	Cool, 4°C	6 months	
20g	G	none	ASAP	
10 g	G	Cool, 4°C	6 months	
10 g	G	Cool, 4°C	28 days	

Preservation and Sampling Protocol

Analysis	WATER			
	Minimum Sample Size	Container	Preservation	Holding Time
Inorganics (cont'd)				
Sulfide	250 ml	P or G	Zinc Acetate & NaOH to pH > 9, 4°C	7 days
Sulfide, Reactive	50 ml	P or GNHS	Cool, 4°C	7 days
Sulfur	50 ml	P or G	Cool, 4°C	28 days
Surfactants (MBAS) subcontracted	1000 ml	P or G	Cool, 4°C	48 hours
Suspended Solid & Ash	500 ml	P or G	Cool, 4°C	7 days
Total Dissolved Solids	500 ml	P or G	Cool, 4°C	7 days
Total Solids & Ash	100 ml	P or G	Cool, 4°C	7 days
Turbidity	100 ml	P or G	Cool, 4°C	48 hours
Volatile Solids	100 ml	P or G	Cool, 4°C	7 days
Volatile Acids	100 ml	P or G	Cool, 4°C	none
Metals				
Dissolved Metals	250 ml	P or G	Field Filtered, HNO ₃ to pH < 2	6 months
Total & Total Recoverable Metals	250 ml	P or G	HNO ₃ to pH < 2	6 months
Chromium, Hexavalent	1000 ml	P or G	Cool, 4°C	24 hours
Mercury	50 ml	P or G	HNO ₃ to pH < 2	28 days
Mercury - Low level; subcontracted	200 ml	G	HCl to < 2	28 days
Organics				
VOCs by GC and GC/MS	120 ml	3-GV40T	HCl to pH < 2, 4°C	14 days
Glycol/Alcohol by GC and GC/MS	80 ml	2-GV40T	Cool, 4°C	14 days
EDB & DBCP by EPA 504 / 8011	120 ml	3-GV40T	Na ₂ S ₂ O ₃ , 4°C	14 days
Pentachlorophenol by GC	1000 ml	AGwT	Cool, 4°C	7 days to extract, 40 days to analyze
PCB/Pesticides by GC (subcontracted)	1000 ml	AGwT	Cool, 4°C	7 days to extract, 40 days to analyze
PAH by HPLC	1000 ml	AGwT	Cool, 4°C	7 days to extract, 40 days to analyze
Formaldehyde	500 ml	AGwT	Cool, 4°C	3 days to extract, 3 days to analyze
Chlorinated Hydrocarbons by GC (subcontracted)	1000 ml	AGwT	Cool, 4°C	7 days to extract, 40 days to analyze
Herbicides by GC (subcontracted)	1000 ml	AGwT	Cool, 4°C	7 days to extract, 40 days to analyze

SOIL				
Minimum Sample Size	Container	Preservation	Holding Time	
10 g	G	Cool, 4°C	7 days - subcontracted	
10 g	G	Cool, 4°C	7 days	
10 g	G	Cool, 4°C	28 days	
10 g	G	Cool, 4°C	7 days	
10 g	G	Cool, 4°C	7 days	
10 g	G	none	6 months	
10 g	G	Cool, 4°C	30 days to extract, 40 days to analyze	
10 g	G	Cool, 4°C	28 days	
20 g	G (4oz.)wT	Cool, 4°C	14 days	
20 g	G (4oz.)wT	Cool, 4°C	14 days	
100 g	G (4oz.)wT	Cool, 4°C	14 days to extract, 40 days to analyze	
100 g	G (4oz.)wT	Cool, 4°C	14 days to extract, 40 days to analyze	
100 g	G (4oz.)wT	Cool, 4°C	leachate ASAP. 3 days to extract, 3 days to analyze	
100 g	G (4oz.)wT	Cool, 4°C	14 days to extract, 40 days to analyze	
100 g	G (4oz.)wT	Cool, 4°C	14 days to extract, 40 days to analyze	

Preservation and Sampling Protocol

Analysis	WATER			Holding Time
	Minimum Sample Size	Container	Preservation	
Organics (cont'd)				
Semivolatiles by GC/MS	1000 ml	AGwT	Cool, 4°C	7 days to extract, 40 days to analyze
DRO	1000 ml	AGwT	5 ml 50% HCl, 4°C	7 days to extract, 40 days to analyze
GRO	120 ml	3-GV40T	0.5 ml 50% HCl, 4°C	14 days
LUST PVOC/VOCs	120 ml	3-GV40T	0.5 ml 50% HCl, 4°C	14 days

SOIL				
Minimum Sample Size	Container	Preservation	Holding Time	
100 g	G (4oz.)wT	Cool, 4°C	14 days to extract, 40 days to analyze	
25 g	AG (60ml)	Cool, 4°C	10 days until addition of MeCl, 47 days to analyze	
25 g	AG (60ml)	25 ml MeOH added at time of sampling, Cool, 4°C	4 days until lab receipt, 21 days for analysis	
25 g	AG (60ml)	25 ml MeOH added at time of sampling, Cool, 4°C	4 days until lab receipt, 21 days for analysis, 28 days to confirmation	

Analysis	VAPOR			Holding Time
	Minimum Sample Size	Container	Preservation	
Volatiles	1 tube or 1 tedlar bag	CT; TB	Cool, 4°C for Tube, ambient for Tedlar bag	14 days - Charcoal Tube, 48 hours for Tedlar Bag
GRO/PVOC	1 tube	CT	Cool, 4°C	14 days
Semivolatiles				
Mercury				
Metals				

TCLP/SPLP				
Minimum Sample Size	Container	Preservation	Holding Time	
125 g solid, 1L or 1000 g multiphase	G	Cool, 4°C	14 days to extract, 14 days to analyze	
125 g solid + 100g for Pest/Herbs; 1L or 1000 g multiphase	G	none	14 days to extract, 7 days for organic extract, 40 days to analyze	
125 g solid, 1L or 1000 g multiphase	G	none	28 days to extract, 28 days to analyze	
125 g solid, 1L or 1000 g multiphase	G	none	180 days to extract, 180 days to analyze	

*Containers = P(Polyethylene); G (Glass); AG (Amber Glass) NHS (No Head Space); AGwT (Amber Glass with teflon cap); GV40T (40ml Glass Vial with teflon cap); CT (Charcoal tube); TB (Tedlar Bag)