SEMIVOLATILE ORGANICS SAMPLING CONTAINERS & HOLDING TIMES

Curtis & Tompkins, Ltd.

Parameter	Matrix	Prep Method	Analytical Method	Holding Time[5]	Minimum Volume	Water Sampling	
						Container	Preservative[7]
TPH/Diesel [3]	Water	EPA 3520	EPA 8015	14d[11]/ 40d[6]	500 mL	2 x 500mL G	None
	Soil	EPA 3550	EPA 8015	14d/ 40d[6]	50 g		
		CA LUFT[4]	EPA 8015	14d/ 40d[6]	50 g		
Creosote, coal tar	Water	EPA 3520	EPA 8270	7d/ 40d[6]	1 L	1L G	None[8]
	Soil	EPA 3550	EPA 8270	14d/ 40d[6]	30 g		
1,4-Dioxane	Water	EPA 3520	8270-SIM	7d/ 40d[6]	1 L	1L G	None[8]
	Soil	EPA 3550	8270-SIM	14d/ 40d[6]	30 g		
Dioxins & Furans	Water	METHOD[4]	EPA 8280	30d/ 45[6]	1 L	1L G	None[8]
	Soil	METHOD[4]	EPA 8280	30d/ 45d[6]	10 g		
Dioxins & Furans (Low Concentration)	Water	METHOD[4]	EPA 8290	30d/ 45d[6]	1 L	1L G	None[8]
	Soil	METHOD[4]	EPA 8290	30d/ 45d[6]	10 g		
Explosives (Nitroaromatics & Nitramines)	Water	EPA 3535	EPA 8330	7d/ 40d[6]	1 L	1L G	None[8]
	Soil	METHOD[4]	EPA 8330	14d/ 40d[6]	10 g		
Organochlorine Herbicides	Water	METHOD[4]	EPA 8151	7d/ 40d[6]	1 L	1L G	None
	TCLP Leachate	EPA 3520	EPA 8151	7d/ 40d[6]	1 L	1L G	None
	Soil	METHOD[4]	EPA 8151	14d/ 40d[6]	30 g		
Organochlorine Pesticides	Water	EPA 3520	EPA 8081	7d/ 40d[6]	1 L	1L G	None
		EPA 608	EPA 608	7d/ 40d[6]	1 L	1L G	None
	TCLP Leachate	EPA 3520	EPA 8081	7d/ 40d[6]	1 L	1L G	None
	Soil	EPA 3550	EPA 8081	14d/ 40d[6]	30 g		
PCBs (Polychlorinated Biphenyl)	Water	EPA 3520	EPA 8082	7d/ 40d[6]	1 L	1L G	None
		EPA 608	EPA 608	7d/ 40d[6]	1 L	1L G	None
	TCLP Leachate	EPA 3520	EPA 8082	7d/ 40d[6]	1 L	1L G	None
	Soil	EPA 3550	EPA 8082	14d/ 40d[6]	30 g		
PCB Congeners	Water	EPA 3520	EPA 8082	7d/ 40d[6]	1 L	1L G	None
	Soil	EPA 3550	EPA 8082	14d/ 40d[6]	30 g		
Pentachlorophenol	Water	EPA 3520	EPA 8270	7d/ 40d[6]	1 L	1L G	None[8]
	Soil	EPA 3550	EPA 8270	14d/ 40d[6]	30 g		
Phenols (including cresols)	Water	EPA 3520	EPA 8270	7d/ 40d[6]	1 L	1L G	None[8]

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	Soil	EPA 3550	EPA 8270	14d/ 40d[6]	30 g		
Phthalates	Water	EPA 3520	EPA 8270	7d/ 40d[6]	1 L	1L G	None[8]
	Soil	EPA 3550	EPA 8270	14d/ 40d[6]	30 g		
Polynuclear Aromatic Hydrocarbons	Water	EPA 3520	EPA 8270	7d/ 40d[6]	1 L	1L G	None[8]
		EPA 3520	8270-SIM	7d/ 40d[6]	1 L	1L G	None[8]
		EPA 3520	EPA 8310	7d/ 40d[6]	1 L	1L G	None[8]
	Soil	EPA 3550	EPA 8270	14d/ 40d[6]	30 g		
		EPA 3550	8270-SIM	14d/ 40d[6]	30 g		
		EPA 3550	EPA 8310	14d/ 40d[6]	30 g		
Semivolatile Organics	Water	EPA 3520	EPA 8270	7d/ 40d[6]	1 L	1L G	None[8]
		EPA 625	EPA 625	7d/ 40d[6]	1 L	1L G	None[8]
	TCLP Leachate	EPA 3520	EPA 8270	7d/ 40d[6]	1 L	1L G	None
	Soil	EPA 3550	EPA 8270	14d/ 40d[6]	30 g		
TCLP Extraction for Semivolatiles	Soil	EPA 1311	Various	14 days	100 g[10]		

Notes:

1. Benzene, Toluene, Ethylbenzene, and Xylenes; MTBE (Methyl tert-Butyl Ether) may be added upon request.
2. Total Petroleum Hydrocarbons as Gasoline: JP-4, Aviation Gas, Mineral spirits, or Stoddard solvent may be added upon request. Reporting limits may be higher for fuels other than gasoline.
3. Total Petroleum Hydrocarbons as Diesel; motor oil, commercial jet fuel, JP-5, hydraulic oil, or Bunker C fuel oil May be added upon request. Reporting limits may be higher for fuels other than diesel.
4. CA LUFT: California Department of Health Services Leaking Underground Fuel Tank Manual 1989
5. Holding time specified in 40CFR136 Table 2 (Clean Water Act/ NPDES 2012) and SW-846 Table 2-36 (1996)
6. X / Y: X days from sample collection to extraction, then Y days from extraction to analysis.
7. Samples should be kept at $\leq 6^0$C from time of collection until analysis. Containers can be supplied by C&T.
   HCL: Hydrochloric Acid to pH < 2
   ZnAc: Zinc Acetate
8. Free chlorine should be neutralized with 0.008% $Na_2S_2O_3$ at time of sampling.
9. Prep method EPA 5035 using Encore or similar sampling devices should be used for collecting soil.

Legend:

mg/L	milligrams per liter (ppm)
µg/L	micrograms per liter (ppb)
mg/Kg	milligrams per kilogram (ppm)
µg/Kg	micrograms per kilogram (ppb)
VOA	40mL Amber VOA Vial
G	Amber Glass
P	Polyethylene
Vial	20mL Amber RSK Vial

Parameter	Matrix	Prep Method	Analytical Method	Holding Time[5]	Minimum Volume	Water Sampling Container	Water Sampling Preservative[7]

Three aliquots of each sample should be submitted for analysis. Samples should be frozen or chemically preserved within 48 hours of collection. Freezing extends the holding time to 7 days; chemical preservation extends the holding time to 14 days but may create matrix interferences.

10. 100g minimum for TCLP Extraction; 50g required for each analysis.
11. California LUFT Manual allows a 14 day holding time for extraction of TPH-Diesel/Motor Oil from water samples, however for projects located outside California (or associated with a Federal or Department of Defense project), the holding time is 7 days.