

Parameters	Method	Holding Time ⁸		Minimum Volume		Water Sampling	
		Water	Soil	Water	Soil	Container	Preservative ⁹
Acidity	SM 2310B	14 days	--	100 mL	--	250mL P	None
Alkalinity (as CaCO ₃)	SM 2320B	14 days	NS ⁵	100 mL	--	250mL P	None
Ammonia Nitrogen	SM 4500NH3-D	28 days	--	100 mL	--	250mL P	H ₂ SO ₄
Asbestos	Various	NS ⁵	NS ⁵	1 L	50 g	1L G	None
Bicarbonate Alkalinity	SM 2320B	14 days	--	100 mL	--	250mL P	None
Bioassay, %survival	NPDES	36 hr	--	5 gallons	--	5gal cube	None
Bioassay, Haz Waste screen	CCR Title 22	36 hr	36 hr	500 mL	200 g	1L G	None
Biochemical Oxygen Demand (BOD)	SM 5210B	48 hr	--	600 mL	--	1L P	None
Bromide	EPA 300.0	28 days	--	100 mL	10 g	250mL P	None
Carbon, Total Organic	SM 5310C	28 days	--	40 mL	--	250mL G	H ₂ SO ₄
	Walkley-Black	--	28 days	--	25 g	--	--
Carbon, Total Inorganic	SM 5310C	28 days	--	40 mL	--	250mL G	H ₂ SO ₄
Carbonate Alkalinity	SM 2320B	NS ⁵	--	100 mL	--	250mL P	None
Cation Exchange Capacity	EPA 9081	--	6 mo	--	10 g	--	--
Chemical Oxygen Demand (COD)	SM 5220D	28 days	--	25 mL	--	100mL P	H ₂ SO ₄
COD, Filtered	SM 5220D	28 days	--	25 mL	--	100mL P	H ₂ SO ₄
Chloride	EPA 300.0	28 days	--	100 mL	--	250mL P	None
Chlorine, Residual	SM 4500Cl-G	15 min	--	100 mL	--	250mL G	Foil wrapped
Coliform, Fecal		6 hr	--	100 mL	--	sterile 100mL P	Na ₂ S ₂ O ₃
Color	SM 2120B	48 hr	--	50 mL	--	250mL G	None
Conductivity	SM 2510B	28 days	--	100 mL	--	250mL P	None
Corrosivity to Steel (NACE)	EPA 1110A	NS ⁵	NS ⁵	1 L	1000 g	1L G	None
Chromium, Hexavalent	EPA 7196A	24 hr ¹⁰	30 days	100 mL	40 g	500mL P	None
	SM 3500Cr-D	24 hr ¹⁰	--	100 mL	--	500mL P	None
	EPA 7199	24 hr ¹⁰	--	50 mL	--	250mL P	None
Cyanide	SM 4500Cn-E	14 days	14 days	500 mL	5 g	250mL P	NaOH
	EPA 9010/9014	14 days	14 days	500 mL	5 g	250mL P	NaOH
Cyanide, Amenable	SM 4500Cn-E	14 days	14 days	500 mL	5 g	250mL P	NaOH
	EPA 9010/9014	14 days	14 days	500 mL	5 g	250mL P	NaOH

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Cyanide, Reactive	SW846 Ch.7	NS ⁵	NS ⁵	25 mL	10 g	250mL P	None
Density	ASTM or AOCS	NS ⁵	--	200 mL	--	250mL P or G	None
Dissolved Organic Carbon	SM 5310C	28 days	--	40 mL	--	250mL G	H ₂ SO ₄
Dissolved Oxygen	SM 4500O-G	15 min	--	100 mL	--	250mL G	None
Dissolved Sulfide	SM 4500S ² -D	7 days	--	50 mL	--	250mL P	NaOH
Ferrous Iron (Fe ₂ ⁺)	SM 3500Fe-D	in field	--	50 mL	--	100mL P or G	HCL
Ferric Iron (Fe ₃ ⁺)	SM 3500Fe-D	24 hr	--	See Notes	--	2 x 100mL P	see Notes (6)
Flash Point	EPA 1010A	NS ⁵	--	60 mL	NA	250mL P	None
Fluoride	EPA 300.0	28 days	28 days	100 mL	10 g	250mL P	None
Free Liquids (Paint Filter Test)	EPA 9095B	NS ⁵	NS ⁵	100 mL	50 g	500mL wide G	None
Halogens, Total Organic	EPA 9020	28 days	28 days	200 mL	10 g	250mL P or G	H ₂ SO ₄
Hardness, as CaCO ₃	SM 2340B	6 mo.	--	100 mL	--	250mL P	HNO ₃
Hexavalent Chromium	EPA 7196A	24 hr ¹⁰	30 days	100 mL	40 g	500mL P	None
	SM 3500Cr-D	24 hr ¹⁰	--	100 mL	--	500mL P	None
	EPA 7199	24 hr ¹⁰	--	50 mL	--	250mL P	None
Ignitability	SW846 Ch.7	--	NS ⁵	--	10 g	--	None
Iron, Ferrous (Fe ₂ ⁺)	SM 3500FeD	24 hr	--	50 mL	--	100mL P	HCL
Iron, Ferric (Fe ₃ ⁺)	SM 3500FeD	24 hr	--	See Notes	--	2 x 100mL P	see Notes (6)
MBAS (Surfactants)	SM 5540C	48 hr	--	250 mL	--	250mL P	None
Moisture	CLP-SOW	--	NS ⁵	--	25 g	--	None
Nitrate Nitrogen	EPA 300.0	48 hr	--	100 mL	--	250mL P	None
Nitrite Nitrogen	EPA 300.0	48 hr	--	100 mL	--	250mL P	None
Nitrate/ Nitrite Nitrogen	EPA 353.2	28 days	--	100 mL	--	250mL P	H ₂ SO ₄
Nitrogen, Ammonia	SM 4500NH ₃ -D	28 days	28 days	100 mL	10 g	250mL P	H ₂ SO ₄
Nitrogen, Total Kjeldahl (TKN)	SM 4500NH ₃ -C	28 days	28 days	50 mL	5 g	250mL P	H ₂ SO ₄
Oil & Grease, Petroleum (H.E.M.-SG)	EPA 1664A	28 days	--	1 L	--	1L G	HCL
Oil & Grease, Total (H.E.M.)		28 days	--	1 L	--	1L G	HCL
Organic Carbon, Total	SM 5310C	28 days	--	40 mL	--	250mL G	H ₂ SO ₄
	Walkley-Black	--	28 days	--	25 g	--	--

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Organic Lead	CA LUFT ⁷	14 days	14 days	100 mL	50 g	500mL G	None
Ortho-phosphate Phosphorus	SM 4500P-E	48 hr ¹¹	--	50 mL	--	100mL P	None
Oxygen Demand, Biochemical	SM 5210B	48 hr	--	600 mL	--	1L P	None
Oxygen Demand, Chemical	SM 5220D	28 days	--	100 mL	--	250mL P	H ₂ SO ₄
Oxygen, Dissolved	SM 4500O-G	15 min	--	100 mL	--	250mL G	None
Paint Filter Test	EPA 9095	NS ⁵	NS ⁵	100 mL	50 g	500mL wide	None
Perchlorate	EPA 314.0	28 days	--	100 mL	--	250mL P	None
PH	SM 4500H+B	15 min		100 mL		250mL P	None
	EPA 9040C/ 9045D	24 hr	14 days	100 mL	50 g	250mL P	None
Phenolic Compounds	EPA 420.1	28 days	--	100 mL	--	250mL G	H ₂ SO ₄
Phosphate, ortho-	SM 4500P-E	48 hr	--	50 mL	--	100mL P	None
Phosphate, Total	SM 4500P-E	28 days	28 days	50 mL	10 g	250mL P	H ₂ SO ₄
Potassium Permanganate (KMnO ₄)	SM 4500KMnO ₄	15 min	--	250 mL	--	250mL G	None
Reactive Cyanide	SW846 Ch.7	NS ⁵	NS ⁵	25 mL	10 g	500mL P	None
Reactive Sulfide	SW846 Ch.7	NS ⁵	NS ⁵	25 mL	10 g	500mL P	None
Residual Chlorine	SM 4500CI-G	15 min	--	50 mL	--	100mL G	None
Resistivity	SM 2510B	28 days	--	100 mL	--	250mL P	None
Salinity	SM 2520B	NS ⁵	--	250 mL	--	250mL G	None
Silica	SM 4500SiO ₂ -C	28 days	28 days	50 mL	10 g	100mL P	None
Solids, Settleable	SM 2540F	48 hr	--	1 L	--	1L G	None
Solids, Total	SM 2540B	7 days	--	100 mL	--	250mL P	None
Solids, Total Dissolved	SM 2540C	7 days	--	100 mL	--	250mL P	None
Solids, Total Suspended	SM 2540D	7 days	--	100 mL	--	250mL P	None
Solids, Total Volatile	SM 2540E	7 days	NS ⁵	100 mL	50 g	250mL P	None
Sulfate	EPA 300.0	28 days	--	100 mL	--	250mL P	None
Sulfide	SM 4500S ² -D	7 days	--	50 mL	--	250mL P	NaOH + ZnAc
	EPA 9030B/9034	--	7 days	--	50g	--	--
Sulfide, Dissolved	SM 4500S ² -D	7 days	--	50 mL	--	250mL P	NaOH
Sulfide, Reactive	SW846 Ch.7	NS ⁵	NS ⁵	25 mL	10 g	500mL P	None

Parameters	Method	Holding Time ⁸		Minimum Volume		Water Sampling	
		Water	Soil	Water	Soil	Container	Preservative ⁹
Sulfite	SM 4500SO ₃ -B	15 min	--	100 mL	--	500mL P	EDTA ¹³
Surfactants (MBAS)	SM 5540C	48 hr	--	250 mL	--	250mL P	None
Total Dissolved Solids (TDS)	SM 2540C	7 days	--	100 mL	--	250mL P	None
Total Inorganic Carbon	SM 5310C	28 days	28 days	40 mL	25 g	250mL G	H ₂ SO ₄
Total Kjeldahl Nitrogen (TKN)	SM 4500NH ₃ -C	28 days	28 days	50 mL	5 g	250mL P	H ₂ SO ₄
Total Organic Carbon (TOC)	SM 5310C	28 days	--	40 mL	--	250mL G	H ₂ SO ₄
	Walkley-Black	--	28 days	--	25 g	--	--
Total Organic Halogens (TOX)	EPA 9020B	28 days	28 days	200 mL	10 g	250mL G ¹²	H ₂ SO ₄
Total Solids	SM 2540B	7 days	--	100 mL	--	250mL P	None
Total Suspended Solids (TSS)	SM 2540D	7 days	--	100 mL	--	250mL P	None
Total Volatile Solids (TVS)	SM 2540E	7 days	NS ⁵	100 mL	50 g	250mL P	None
Tributyl Tin	GC/FPD	NS ⁵	NS ⁵	1 L	10 g	1L P or G	None
Turbidity	SM 2130B	48 hr	--	100 mL	--	250mL P	None
Viscosity	ASTM methods	NS ⁵	--	25 mL	--	50mL P	None

General Minerals	Method	Holding Time ⁸		Minimum Volume		Water Sampling	
		Water	Soil	Water	Soil	Container	Preservative ⁹
Alkalinity (as CaCO ₃)	SM 2320B	14 days	NS ⁵	100 mL	--	250mL P	None
Chloride, Sulfate	EPA 300.0	28 days	--	100 mL	10 g	250mL P	None
Conductivity	SM 2510B	28 days	--	100 mL	--	250mL P	None
pH	SM 4500H+B	15 min	--	100 mL	--	250mL P	None
Total Dissolved Solids (TDS)	SM 2540C	7 days	--	100 mL	--	250mL P	None
Ca, Fe, Mg, Na, Zn	EPA 200.7	6 mo	6 mo	100 mL	--	250mL P	HNO ₃
Hardness (run with Metals)	SM 2340B	6 mo	6 mo	100 mL	--	250mL P	HNO ₃
Optional Analyses (included upon request):							
Surfactants (MBAS)	SM 5540C	48 hr	--	250 mL	--	1L P	None

Ion Chromatography	Method	Holding Time ⁸		Minimum Volume		Water Sampling	
		Water	Soil	Water	Soil	Container	Preservative ⁹
Bromide	EPA 300.0	28 days	--	100 mL	10 g	250mL P	None
Chloride	EPA 300.0	28 days	--	100 mL	10 g	250mL P	None
Fluoride	EPA 300.0	28 days	--	100 mL	10 g	250mL P	None
Nitrate Nitrogen	EPA 300.0	48 hr	--	100 mL	10 g	250mL P	None
Nitrite Nitrogen	EPA 300.0	48 hr	--	100 mL	10 g	250mL P	None
Sulfate	EPA 300.0	28 days	--	100 mL	10 g	250mL P	None
Hexavalent Chromium	EPA 7199	24 hr ¹⁰	--	50 mL	10 g	250mL P	None
Perchlorate	EPA 314.0	28 days	--	100 mL	10 g	250mL P	None

Notes:

- NS: No holding time is specified in the regulations for this method.
- Ferric Iron (Fe³⁺) is the difference between total and ferrous iron.
Requires submission of two polyethylene bottles, one preserved with HCl and one with HNO₃.
- CA LUFT: California Department of Health Services Leaking Underground Fuel Tank Manual 1989
- Holding time specified in 40CFR136 Table 2 (Clean Water Act/ NPDES 2012) and SW-846 Table 2-36 (1996)
- Samples should be kept at ≤ 6°C from time of collection until analysis. Containers can be supplied by C&T.
HCL: Hydrochloric Acid to pH < 2 NaOH: Sodium Hydroxide to pH > 12
HNO₃: Nitric Acid to pH < 2 ZnAc: Zinc Acetate
H₂SO₄: Sulfuric Acid to pH < 2
- Holding time can be extended to 28 days by preservation with EPA 218.6 buffer to pH 9.3 – 9.7.
- Ortho-phosphate samples must be filtered within 15 minutes of collection and analyzed within 48 hours.
- TOX (Total Organic Halides) samples should be collected with no headspace remaining in bottle.
Sulfite samples should be collected with minimal exposure to air, then allowed to cool to <50°C. If not analyzed in the field (within 15 minutes), the samples should be preserved with 1.0mL EDTA solution / 100mL sample. Do not filter.

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