Empirical Laboratories, LLC

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Container, Preservation and Holding Time Requirements

ANALYSIS	METHOD	CONTAINERS		PRESERVATION	HT (days)
		WATER	SOIL	~soils get NO preservation~ [1]	Water / Soil
General Chemistry Methods					
Acidity	SM2310B	250mL / Plastic	NA	none / cool to 4°C	14 / NA
Alkalinity	SM2320B	250mL / Plastic	NA	none / cool to 4°C	14 / NA
Ammonia-N	SM4500NH3BG	250mL / Plastic	4oz. glass jar	H2SO4 / cool to 4°C	28 / 28
Anions (excluding below)	9056A / 300.0	250mL / Plastic	4oz. glass jar	none / cool to 4°C	28 / 28
Anions (Nitrate-N / Nitrite-N)	9056A / 300.0	250mL / Plastic	4oz. glass jar	none / cool to 4°C	48 hrs / 28
BOD	SM5210B	1L / Plastic	NA	none / cool to 4°C	48 hrs / NA
COD	410.4	250mL / Plastic	NA	H2SO4 / cool to 4°C	28 / NA
Coliform, Fecal & Total	9131, 9132	250mL / Plastic	NA	Sodium Thiosulfate / cool to 4°C	6 hrs / NA
Conductance, Spec.	9050A	250mL / Plastic	NA	none / cool to 4°C	28 / NA
Corrosivity (pH)	9040B / C, 9045C / D	250mL / Plastic	4oz. glass jar	none / cool to 4°C	ASAP [2] / 28
Cyanide, Total	9012A / B / SM4500-CNG	250mL / Plastic	4oz. glass jar	NaOH / cool to 4°C	14 / 14
Hardness	6010B / C / 200.7	250mL / Plastic	NA	HNO3 / cool to 4°C	180 / NA
Hydrogen Ion, pH	9040B / C, 9045C / D	250mL / Plastic	4oz. glass jar	none / cool to 4°C	ASAP [2] / 28
Nitrate+Nitrite-N	353.2	250mL / Plastic	4oz. glass jar	H2SO4 / cool to 4°C	28 / 28
Oil and Grease	1664A	1L / Glass	4oz. glass jar	H2SO4 / cool to 4°C	28 / 28
Oil and Grease	9071B	NA	4oz. glass jar	cool to 4°C	NA / 28
Oxygen, Diss. Probe	SM4500G	250mL / Glass	NA	none / cool to 4°C	ASAP [2] / NA
Paint Filter	9095B	250mL / Plastic	4oz. glass jar	none / cool to 4°C	28 / 28
Perchlorate	6850 or 314	250mL / Plastic	4oz. glass jar	none / cool to 4°C	28 / 28
Phenolics	420.2	1L / Glass	4oz. glass jar	H2SO4 / cool to 4°C	28 / 28
Phosphorate, Ortho	SM4500PE	250mL / Plastic	NA	none / cool to 4°C	48 hrs / NA
Phosphorus, Total	SM4500PBSE	250mL / Plastic	4oz. glass jar	H2SO4 / cool to 4°C	28 / NA
Settleable Solids	SM2540F	1L / Plastic	NA	none / cool to 4°C	48 hrs / NA
Sulfide	SM4500S-2 CF / 9034	250mL / Plastic	4oz. glass jar	ZnAC / NaOH / cool to 4°C	7 / 7
TDS	SM2540C	500mL / Plastic	NA	none / cool to 4°C	7 / NA
TKN	351.2	250mL / Plastic	4oz. glass jar	H2SO4 / cool to 4°C	28 / 28
TOC	SM5310C / 9060	250mL / Plastic	4oz. glass jar	H2SO4 / cool to 4°C	28 / 28
TOC	Lloyd Kahn	NA	4oz. glass jar	none / cool to 4°C	NA / 14
TPH	1664A	1L / Glass	4oz. glass jar	H2SO4 / cool to 4°C	28 / NA
TS	SM2540B	500mL / Plastic	NA	none / cool to 4°C	7 / NA
TSS	SM2540D	500mL / Plastic	NA	none / cool to 4°C	7 / NA
Turbidity	180.1	250mL / Plastic	NA	none / cool to 4°C	48 hrs / NA
Volatile Fatty Acids	5560C	250mL / Plastic	NA	none / cool to 4°C	14 / NA

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Metals Methods					
Hexavalent Chromium	7196A	500mL / Plastic	4oz. glass jar	none / cool to 4°C	24 hrs / 28
Mercury, Total	7470A, 7471A / B	250mL / Plastic	4oz. glass jar	HNO3 / cool to 4°C [4]	28 / 28
Metals, Total / Dissolved	200.7 / 6010B / C	250mL / Plastic	4oz. glass jar	HNO3 / cool to 4°C [4]	180 / 180
Organic Methods					
Chlorinated Acids / Herbicides	8151A	1L / Glass	4oz. glass jar	none / cool to 4°C	7 / 14
DRO	8015B / C	1L / Glass	4oz. glass jar	H2SO4 / cool to 4°C (HCl alternate)	7 / 14
EDB / DBCP	8011 / 504.1	3-40mL vials	NA	(HCl optional) / cool to 4°C	14 / NA
Explosives	8330 / 8330A / 8330B (discrete)	1L / Glass	4oz. glass jar	none / cool to 4°C	
Explosives	8330B_KG (MIS)	1L / Glass	1 gallon plastic bag	none / cool to 4°C	7 / 14
FLPRO	FLPRO	1L / Glass	4oz. glass jar	H2SO4 / cool to 4°C (HCl alternate)	7 / 14
Glycols or Methanol	8015B / C	3-40mL vials	4oz. glass jar	none / cool to 4°C	14 / 14
GRO	8015B / C	2-40mL vials	MeOH / 4oz jar	H2SO4 / cool to 4°C (HCl alternate)	14 / 14
MEE	RSK-175	3-40mL vials	NA	HCl / cool to 4°C	14 / NA
PCBs	8082 / 8082A	1L / Glass	4oz. glass jar	none / cool to 4°C	7 / 14
Perchlorates	6850	250mL / Plastic	4oz. glass jar	none / cool to 4°C	28 / 28
Pesticides	8081A / B	1L / Glass	4oz. glass jar	none / cool to 4°C	7 / 14
Semi-volatiles	8270C / D	1L / Glass	4oz. glass jar	none / cool to 4°C	7 / 14
TCLP Herbicides	1311_8151	1L / Glass	4oz. glass jar	none / cool to 4°C	14 / 14
TCLP Metals	1311_6010 / 7470 / 7471	250mL / Plastic	4oz. glass jar	none / cool to 4°C	14 / 14
TCLP Pesticides	1311_8081	1L / Glass	4oz. glass jar	none / cool to 4°C	14 / 14
TCLP Semi-volatiles	1311_8270	1L / Glass	4oz. glass jar	none / cool to 4°C	14 / 14
TCLP Volatiles	1311_8260	3-40mL vials	4oz. glass jar	HCl / cool to 4°C	14 / 14
TNEPH	8015B / C	1L / Glass	4oz. glass jar	H2SO4 / cool to 4°C (HCl alternate)	7 / 14
Volatiles	8260B	3-40mL vials	Encore / Terracore / 4 oz jar	HCl (W)/ 2 Water or 2 NaHS04 and 1 MeOH / cool to 4°C	14 / 14 [3]

[1] Volatile soils can be field sampled / preserved in 40mL VOA vials with 5g to 5ml sodium bisulfate solution or methanol to provide a 14 day holding time when cooled to 4°C.

[2] Field tests to be performed within 15-minutes, usually samples are OOH when received, upon receipt test as soon as possible.

[3] Soil En Core® and unpreserved soil 40mL VOA vial aliquots (5 grams soil to 5 milliliters water) require sodium bisulfate preservation or freezing within 48hours of sampling.

[4] Metals waters received unpreserved and subsequently preserved in-house must be held 24 hours prior to preparation.