Sampling Protocol for Water , Wastewater & Soil

Ground Water / Surface Water

One liter ground water / surface water sample to be collected from the sampling location in good quality (acid & alkali Proof), plastic bottles having screw . The sample should be duly coded, labeled and ice preserved immediately and transported in Ice box in ice preserved condition. Temperature , DO, Residual Chlorine , to be analyzed at field itself.

Waste Water

One liter of wastewater sample avoiding any visible floating matter to be collected from the sampling location in good quality (acid & alkali Proof), plastic bottles having screw cap and for O&G separate one liter capacity glass bottles and for Nitrogenous Parameters separate H2SO4 preserved plastic bottles to be used . The sample should be duly coded / labeled and ice preserved and transported in ice box in ice preserved condition.

Soil / Sediment / Solid Waste / Hazardous Waste

Several Aliquots of soil / sediment / solid waste / hazardous waste to be collected from the sampling area. These Aliquots should be mixed together (unwanted matters to be separated manually before mixing of samples) . Out of the mixture, approx. 500 g sample to be taken into Polypropylene Zip pouch, duly coded, labeled and ice preserved immediately and transported in ice preserve condition in an ice box.

Summery of Sampling, Preservation & Sample Handling Requirements

(Water & Wastewater)

Determination (Parameters)	Container Type	Minimum Sample Size (ml)	Preservation Recommended	Maximum Storage Period Regulatory
Acidity	P, G (B)	100	Refrigerate	24 h / 14 d
Alkalinity	P, G	200	Refrigerate	24 h / 14 d
BOD	P,G	1000	Refrigerate	6 h / 48 h
Boron	P	100	None required	28 d / 6 months
Bromide	P, G	-	None required	28 d / 28d
Carbon, Organic, Total	G	100	Analyze immediately; or refrigerate and add HCl to pH	7 d / 28 d
Carbon Dioxide	P, G	100	Analyze immediately	Start / N. S.
COD	P, G	100	Analyze as soon as possible or add H_2SO_4 to pH, refrigerate	7 d / 28 d
Chlorine, Residue	P, G	500	Analyze immediately	0.5 h / Stat
Chlorine Dioxide	P, G	500	Analyze immediately	0.5 h / N, S.
Chlorophyll	P, G	500	30 d in dark	30 / N.S.
Colour	P, G	500	Refrigerate	48 h / 48 h
Conductivity	P, G	500	Refrigerate	28 d / 28 d
Cyanide: Total	P, G	500	Add NaOH to pH >12 Refrigerate in dark	24 h / 14 d, 24 d if sulfide present
Cyanide : Amenable to Chlorination	P G	500	Add 100 mg $Na_2S_2O_3$ / L sulfide present	Stat/14 d; 24 h
Fluoride	P	300	None required	28 d / 28 d
Hardness	P, G	100	Add HNO_3 to pH <2	6 months / 6 months
Iodine	P, G	500	Analyze immediately	0.5 h / N. S.

Metals:				
General	P (A), G (A)	500	For dissolved metals filter immediately, add HNO3 to pH < 2	6 months / 6 months
Chromium VI	P (A), G (A)	300	Refrigerate	24 h / 24 h
Copper by Colorimetry Mercury	P (A) G (A)	500	Add HNO_3 to pH < 2 4 °C Refrigerate	28 d / 28 d
Nitrogen:				
Ammonia	P, G	500	Analyze a soon as possible or add H_2SO_4 to pH < 2, Refrigerate	7 d / 28 d
Nitrate	P, G	100	Analyze a soon as possible or Refrigerate	48 h / 48 h (28 d for Chlorinated samples)
Nitrate + Nitrite	P, G	200	Add H_2SO_4 to pH < 2, Refrigerate	None / 28 d
Nitrite	P, G	100	Analyze a soon as possible or Refrigerate	None / 48 d
Organic (Kjeldahl)	P, G	500	Refrigerate; add H_2SO_4 to pH < 2	7 d / 28 d
Oil & Grease	G, Wide mouth calibrated	1000	Add H_2SO_4 to pH < 2, Refrigerate	28 d / 28 d
Odor	G	500	Analyze as soon as possible, refrigerate	6 h / N. S.
Organic Compounds:				
Pesticides	G (S), TFE-lined cap.	50	Refrigerate; add 1000 mg Ascorbic Acid / if residual chlorine present	7 d/7d until Extraction: 40 d after extraction
Phenols	P, G	500	Refrigerate; add H_2SO_4 to pH < 2	28 f`
Purgeables by purge and trap	G, TFE – lined cap.	50	Refrigerate; HCl to pH < 2 add 100 mg Ascorbic acid / L if residual chlorine present	7 d / 14 d

Determination (Parameters)	Container Type	Minimum Sample Size (ml)	Preservation Recommended	Maximum Storage Period Regulatory
Oxygen, Dissolved: Electrode Winkler	G, BOD bottle	300	Analyzed immediately Titration may be delayed after acidification	0.5 h / Stat 8 h / 8 h
Ozone	G	1000	Analyze immediately	0.5 h / N. S.
pH	P, G	-	Analyze immediately	2 h / Stat
Phosphate	G (A)	100	For dissolved phosphate filter immediately; refrigerate	48 h / Stat
Salinity	G, wax seal	250	Analyze immediately or use wax seal	6 months / N. S.
Silica	P	-	Refrigerate, do not freeze	28 d / 28 d
Sludge Digester Gas	G, gas bottle	-	-	N. S.
Solids	P, G	-	Refrigerate	7 d / 2- 7 d
Sulfate	P, G	-	Refrigerate	28 d / 28 d
Sulfate	P, G	100	Refrigerate; add 4 drops 2N zinc acetate /100 ml add NaOH to pH 9	28 d / 7 d
Taste	G	500	Analyze as soon as possible, refrigerate	24 h / N. S.
Temperature	P, G	-	Analyze immediately	State / stat
Turbidity	P, G	-	Analyze same day; store in dark up-to 24 h refrigerate	24 h / 48 h