Bryte Chemical Laboratory

Field QC Samples

Sample Type	Purpose	Collection
Field Duplicate	To ascertain sampling precision, reproducibility of laboratory and field procedures, and to indicate non-homogeneity.	Collect one distinct sample per sampling run or per 20 field samples per matrix. Independent samples collected as close as possible to the same point in space and time, stored in separate containers, and analyzed independently.
Field Blank	To check cross-contamination during sample collection, sample shipment, and in the laboratory and to check sample containers.	Collect for one each group of samples of similar matrix per sampling run or per 20 field samples per matrix. Use deionized water.
Equipment or Rinse Blank	To assess the potential of cross contamination of samples due to insufficient decontamination of sampling equipment.	Collect for one each group of samples of similar matrix per sampling run or per 20 field samples per matrix. May be consolidated with Field Blanks. Collect when sampling equipment is decontaminated and reused in the field. Rinsate from the equipment used to take the sample. Use deionized water.
Trip Blank	To assess the potential for in-transit contamination (volatiles samples only).	Prepare one using DI water and place in the cooler used to ship volatile samples to and from the field, never opened, until all samples are ready for analysis.

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Field QC Table

Analyte	Field Blank	Field Duplicate
Alkalinity		X
Chlorophyll	X	X
Electrical Conductivity (EC)		X
ICP Cations, Dissolved	X	X
ICP/MS Trace Metals, Dissolved	X	X
Low Level Mercury	X	X
Anions	X	X
Nutrients	X	X
Organic Carbon Dissolved (DOC)	X	X
Haloacetic Acids Formation Potential	X	X
Solids, Total Dissolved (TDS)		X
Solids, Total Suspended (TSS)		X
THM Formation Potential (THMFP)	X	X
Turbidity		X
UVA	X	X
BOD/CBOD	X	X
Volatile Organics	X	X
Pesticides/Herbicides		X

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Sample Integrity from the Field to Laboratory

Laboratory results can only be as valid as the sampling procedures used to collect the sample.

To prevent contamination:

- Do not touch potentially contaminated surfaces
- Change gloves frequently, especially before filling sample containers
- Do not touch the sample matrix
- Do not touch the inside of the bottle or inside the screw-cap
- Keep containers capped at all times, before filling and immediately after filling
- Do not touch filters or other sample processing equipment that will come in contact with the sample with ungloved hands
- Use Clean Hands/Dirty Hands techniques for trace level samples

  ⇨ *When in doubt, throw it out. If you have any reason to suspect that the sample may have been contaminated during collection, discard the sample and take another sample using a new sampling bottle.*

- Return samples to the laboratory promptly after collection. Samples should be transported on ice as soon as possible, within a maximum of 24 hours, keeping the sample temperature at < 6^{o}C.
- All field QC samples must be processed in the same way as analytical samples in regard to sample volume, containers, preservation, and filtration.
- Requirements of specific projects may vary. Always verify the Data Quality Objectives of your Quality Assurance Project Plan before sampling.

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Sample Collection, Preservation, and Holding Times

Method	Analyte	Container	Sample Prep	Sample Size	Preservative	Holding Time
SM 2320B, EPA 310.1	Alkalinity	Polyethylene	Filtered	500 mL	0 - 6°C	14 days
SM 10200H	Chlorophyll	Manila Envelope	Filtered	500	- 20°C	28 days
SM 2510B EPA 120.1	Electrical Conductivity (EC)	Polyethylene	Filtered	500 mL	0 - 6°C	28 days
EPA 200.7	Hardness, Total by Calculation	Polyethylene	Unfiltered	250 mL	pH<2 HNO_3	6 months
EPA 200.7	ICP Cations, Dissolved	Polyethylene	Filtered	250 mL	pH<2 HNO_3	6 months
EPA 200.7	ICP Cations, Total	Polyethylene	Unfiltered	250 mL	pH<2 HNO_3	6 months
EPA 200.8	ICP/MS Trace Metals, Dissolved	Polyethylene	Filtered	500 mL	pH<2 HNO_3	6 months
EPA 200.8	ICP/MS Trace Metals, Total	Polyethylene	Unfiltered	500 mL	pH<2 HNO_3	6 months
EPA 200.8	Mercury by ICP/MS	Polyethylene	Filtered	500 mL	pH<2 HNO_3	28 days
EPA 1631	Low Level Mercury, Dissolved	Glass	Filtered	250 mL	5 mL/L BrCl within 28 days	90 days
EPA 1631	Low Level Mercury, Total	Glass	Unfiltered	250 mL	5 mL/L BrCl within 28 days	90 days
EPA 1638	ICP/MS Trace Metals, Dissolved	Polyethylene	Filtered	500 mL	pH<2 HNO_3	6 months
EPA 1638	ICP/MS Trace Metals, Total	Polyethylene	Unfiltered	500 mL	pH<2 HNO_3	6 months
EPA 300.0	IC Anions	Polyethylene	Filtered	500 mL	0 - 6°C	28 days
EPA 300.0	Nitrate, Nitrite	Polyethylene	Filtered	500 mL	0 - 6°C	48 hours
EPA 300.0	Nitrate, Nitrite (DWR mod)	Polyethylene	Filtered	500 mL	0 - 6°C	28 days
SM 4500-NO_3-F EPA 353.2	Nitrate, Nitrite (Nutrient)	Polyethylene	Filtered	250 mL	0 - 6°C	48 hours
SM 4500-NO_3-F EPA 353.2	Nitrate, Nitrite (DWR mod)	Polyethylene	Filtered	250 mL	- 20°C	28 days
SM 4500-P-F EPA 365.1	Orthophosphate	Polyethylene	Filtered	250 mL	0 - 6°C	48 hours
SM 4500-P-F EPA 365.1	Orthophosphate (DWR mod)	Polyethylene	Filtered	250 mL	- 20°C	28 days

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Sample Collection, Preservation, and Holding Times

Method	Analyte	Container	Sample Prep	Sample Size	Preservative	Holding Time
SM 4500-NH_3 EPA 350.1	Nitrogen, Ammonia (DWR mod)	Polyethylene	Filtered	250 mL	- 20°C	28 days
EPA 351.2	Nitrogen, Kjeldahl, Total (TKN) (DWR mod)	Polyethylene	Unfiltered	250 mL	- 20°C	28 days
EPA 415.3 (D)	Organic Carbon Dissolved (DOC)	Amber, VOA	Filtered	40 mL	0 - 6°C pH<2 H_3PO_4	28 days
EPA 415.3 (T)	Organic Carbon Total (TOC)	Amber, VOA	Unfiltered	40 mL	0 - 6°C pH<2 H_3PO_4	28 days
EPA 365.4	Phosphorus Total (DWR mod)	Polyethylene	Unfiltered	250 mL	- 20°C	28 days
SM 5710B/ EPA 552.2	Haloacetic Acids Formation Potential (HAA-FP)	Amber, VOA	Filtered	3-40 mL VOAs	0 - 6°C	14 days
SM 2540C EPA 160.1	Solids, Total Dissolved (TDS)	Polyethylene	Filtered	500 mL	0 - 6°C	7 days
EPA 160.2	Solids, Total Suspended (TSS)	Polyethylene	Unfiltered	500 mL	0 - 6°C	7 days
SM 5710B/ EPA 524.2	THM Formation Potential (THMFP)	Amber, VOA	Filtered	3-40 mL VOAs	0 - 6°C	14 days
SM 2310B EPA 180.1	Turbidity	Polyethylene	Unfiltered	500 mL	0 - 6°C	48 hours
SM 5910B	UVA (DWR mod)	Polyethylene	Filtered	250 mL	0 - 6°C	14 days
SM 5210B	BOD/CBOD	Polyethylene	Unfiltered	500 mL	0 - 6°C	48 hours
EPA 524.2	Volatile Organics	Amber, VOA	Unfiltered	3-40 mL VOAs No headspace	0 - 6°C	14 days
EPA 608/614/615	Pesticides/Herbicides	Amber, Glass	Unfiltered	1000 mL	0 - 6°C	7 days

If you require additional information or clarification, please contact Bryte at (916) 375-6008.