Environmental Analytical Lab
Montana State University
Sample Storage, Preservation, and Interferences

Instrument	Analysis	Container	Sample Storage/ Preservation	Common Interferences
Shimadzu	TC, TN, NPOC, IC (aqueous samples)	24 mL ashed glass vial (available in EAL). Cap with septa.	Filter through 0.45 um syringe filter. Store in fridge. Analyze within 48 hours.	
ICP	Elemental Analysis	In general, store samples in HNO_3 rinsed HDPE vials. For more information on container type/contamination: https://www.inorganicventures.com/container-material-properties	In general, preserve with 2% (v/v) HNO_3. Shelf stable preserved for up to 6 months. Sample preservation may change based on specific analysis. *Please contact the EAL prior to sample collection.*	Many interferences known! *Please contact the EAL prior to sample collection.*
Lachat	KCl extracts (NO_3, NH_3)	Clean glass/plastic with 1:1 HCl, rinse with deionized water.	Store KCl extracts in freezer until analysis.	NH_3: Ca/Mg can form precipitate (add EDTA) NO_3: Fe, Cu, or other metals (add EDTA), oil, grease
	Water samples (ammonium)		Filter sample with 0.45 um syringe. Acidify samples to a pH<2 using sulfuric acid. Store samples in freezer until analysis.	
	Water samples (nitrate)		Filter with 0.45 um syringe. Adjust sample between 5 and 9 using concentrated HCl or NH_4OH.. Store samples in freezer until analysis.	Residual chlorine, Fe, Cu, other metals (add edta), oil, grease
	Phosphorous (Olsens, Bray, Mehlich)		Store samples in freezer until analysis.	Silica, sample coloration (may decolorize using activated charcoal during extraction)
Dionex		Collect samples in clean glass or polyethylene bottles.	Filter <0.45 uM. Freeze until analysis. Max holding time is 28 days for Br, Cl, F, Sulfate; Nitrate-N, Nitrite-N, and O-Phosphate-P holding time is 2 days.	
Costech	TC/TN		Dry samples at ~50°C until dry (usually ~48 hrs). Grind samples to homogeneity. Store samples in air-tight vial in desiccator.	
Malvern	Particle Size		Dissolve soil in sodium hexametaphosphate prior to analyzing.	