

Chemical analysis has long been an integral component of complete water and sediment quality assessments. At GLEC we have the experienced staff, equipment, and resources necessary to conduct environmental chemistry evaluations, either in support of other programs or as stand-alone projects. GLEC has completed numerous integrated surveys of large and small water bodies involving the collection and chemical analysis of water and effluent samples, biological tissues, and sediment samples for both organic and inorganic constituents. GLEC's chemistry lab is equipped to conduct low-level nutrient chemistry and a wide array of organic chemistry analyses. Stringent Quality Assurance/Quality Control (QA/QC) procedures are routinely applied and Good Laboratory Practices (GLP) are implemented when necessary. All laboratory practices follow written Standard Operating Procedures.

Inorganic/Nutrient Chemistry Analysis Examples

PARAMETER	REPORTING LIMIT
Alkalinity	2 mg/L
Biochemical Oxygen Demand	0.2 mg/L
Chloride (Cl ⁻)	1 mg/L
Chlorine, Total Residual	0.3 mg/L
Chlorophyll a	0.2 µg/L
Hardness as CaCO ₃	1 mg/L
Nitrogen:	
Ammonia (NH ₃ -N)	0.1 mg/L
Kjeldahl, Total (TKN)	0.1 mg/L
Nitrate/Nitrite (NO ₃ /NO ₂ -N)	0.005 mg/L
Nitrate (NO ₃ -N)	0.01 mg/L
Nitrite (NO ₂ -N)	0.01 mg/L
Total Nitrogen	0.1 mg/L
Phosphorus:	
Total (TP)	3 µg/L
Soluble Reactive (SRP)	3 µg/L
Solids:	
Dissolved (TDS)	1 mg/L
Suspended (TSS)	1 mg/L

GLEC analyzes a wide range of parameters in addition to the list above. Contact Robin Silva-Wilkinson for all GLEC environmental chemistry services.

Analytical Equipment

- Gas Chromatograph/Mass Spectral Detector (GC/MS)
- Gas Chromatograph/Electron Capture Detector (GC/ECD)
- High Performance Liquid Chromatograph (HPLC)
- Gel Permeation Chromatograph (GPC)
- Technicon Autoanalyzer
- Spectrophotometer
- Various Meters with Ion-Selective Electrodes



Capabilities

Low-level nutrient chemistry

Methods Development, Refinement and Validation

Toxicant ID for Toxicity Reduction Evaluations

Site-Specific Criteria Development

Bioconcentratable Contaminant Assessments

Low-Level Chlorophyll a Monitoring

Organic Contaminant Investigations

Electronic Data Deliverables

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