

The University of Northern British Columbia is **home to an extensive suite of analytical science instrumentation** that enables a broad spectrum of chemical, physical, and biological analyses.



UNBC has made these services available to researchers as well as private, public, and non-profit sectors to help meet their research, development, and quality assurance needs through the Northern Analytical Laboratory Service (NALS).



Northern Analytical Laboratory Services

Northern BC's Environmental & Climate Solutions Innovation Hub



Standards Council of
Canada Accredited Lab*
ISO/IEC 17025:2017
*Our scope of accreditation
is listed on our website.

Northern Analytical Lab Services

Phone: 250-960-5713 & 250-960-6154
Email: nals@unbc.ca
Web: nalslab.ca

University of Northern British Columbia
3333 University Way, Prince George, B.C.
Canada, V2N 4Z9

UNBC-NALS Analytical Services

Environmental Samples (Soil, Water, Air)

- Elemental, major/trace, analysis
- POPs, VOCs, and PAHs
- Micro- and macro-nutrients
- Isotope ratio analysis: 13C/12C, 15N/14N
- Total carbon, nitrogen, and sulfur
- Ammonium and nitrite/nitrate measurements
- Cation exchange capacity (CEC)
- Water holding capacity (WHC)
- Moisture, loss on ignition, ashing
- Petroleum hydrocarbons in waste waters, soils and sediments
- Particle size analysis (PSA)
- pH and soil conductivity

Industrial Hygiene

- Metals analysis
- Gravimetry
- Gas analysis

Drinking Water Testing

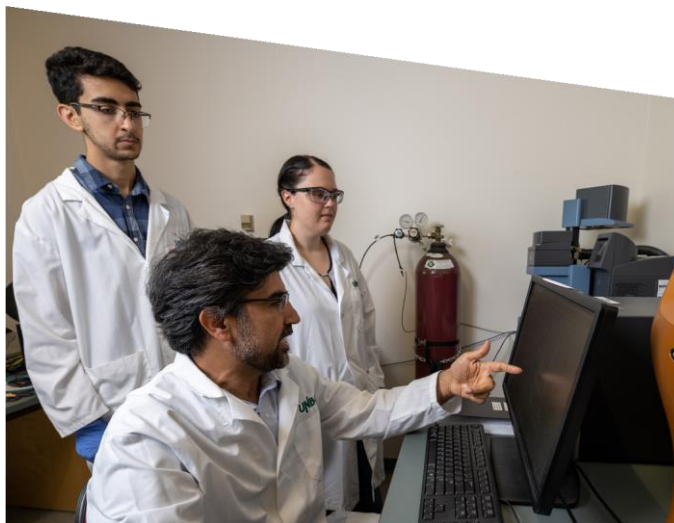
- Water quality tests
- Total organic and inorganic carbon (TOC / TIC)
- Anion scan and Elemental analysis
- pH, EC, turbidity, and Hardness
- *E. coli*, total coliforms, and heterotrophic plate
- Total and free chloride
- TSS and TDS

Material Science

- Elemental analysis / chemical composition
- Particle size distribution of powdered and suspended materials
- Microstructure and compositional analysis of materials, including minerals and rocks, clays, sand, limestone, gravels, cement by XRD
- Elemental analysis by XRF
- Heating value determination and calorimetry
- Thermal analyses by TGA, DSC and DMA
- Surface area and average pore size by BET

Plant Tissues/ Wood

- Micro- and macro-nutrients
- Elemental analysis
- LA-ICP-MS micro analysis
- Isotope ratio analysis: 13C/12C, 15N/14N
- Total C/N/S analysis
- Moisture content, loss on ignition, and ashing



UNBC-NALS Equipment

- Inductively coupled plasma-triple quad mass spectrometer (ICP-QQQ-MS)
- Inductively coupled plasma- optical emission spectrometer (ICP-OES)
- Microwave plasma-atomic emission spectrometer (MP-AES)
- Laser ablation inductively coupled plasma-mass spectrometer (LA-ICP-MS)
- High-performance liquid chromatograph-mass spectrometer (HPLC-MS)
- Ion chromatograph (IC)
- Gas chromatograph (GC/FID)
- Gas analyzer (syngas, sulfur species, atmospheric gases)
- Gas chromatograph-mass spectrometer (GC-MS/MS); thermal desorption, headspace, liquid injection, SPME, ITEX
- Isotopic ratio mass spectrometer (IR-MS)
- X-ray diffractometer (XRD)
- X-ray fluorescence (XRF)
- Fourier transform infrared spectrometer (FTIR)
- Particle size analyzer (PSA)
- Combustion elemental analyzer (EA) (C, N, S)
- Total organic/ total inorganic analyzer (TOC/TIC)
- Auto-analyzer system
- Block Digester/Microwave Digester
- pH, conductivity, DO, CO₂, and Ammonia meters
- Colony counters and optical microscopes
- Freeze dryer
- Surface area analyzer (BET)
- Thermal gravimetric analyzer (TGA)
- Dynamic mechanical analyzer (DMA)
- Differential scanning calorimeter (DSC)