

UNBC

UNIVERSITY OF
NORTHERN BRITISH COLUMBIA

**Northern Analytical
Laboratory Services**

Soil Analysis Package

3333 University Way
Prince George, BC, V2N 4Z9
nals@unbc.ca
250-960-5713

nals.unbc.ca

SCC Accredited
LAB



LAB
Accrédité CCN

An ISO/IEC 17025:2017
Accredited and Provincial Health
Officer Approved Lab

Visit our scope at "nals.unbc.ca"

NALS Soils Routine Analysis Package:

Metals ^a	Units	Reportable Limit ^b
Aluminum	mg/kg	9
Arsenic	mg/kg	10
Boron	mg/kg	1
Barium	mg/kg	0.8
Calcium	mg/kg	3
Cadmium	mg/kg	0.53
Cobalt	mg/kg	0.7
Chromium	mg/kg	0.4
Copper	mg/kg	0.53
Iron	mg/kg	2
Potassium	mg/kg	1.5
Magnesium	mg/kg	0.53
Manganese	mg/kg	0.53
Molybdenum	mg/kg	2
Sodium	mg/kg	1
Nickel	mg/kg	0.7
Phosphorus	mg/kg	8.3
Lead	mg/kg	4
Sulfur	mg/kg	26
Antimony	mg/kg	8.3
Selenium	mg/kg	14
Tin	mg/kg	7.5
Uranium	mg/kg	9
Vanadium	mg/kg	0.6
Zinc	mg/kg	0.53

Total Elements ^c	Units	Reportable Limit ^b
Total Carbon	%	<1
Total Nitrogen	%	<1

Anions ^d	Units	Reportable Limit ^b
Fluoride	mg/L	<1
Chloride	mg/L	<1
Nitrite	mg/L	<1
Sulphate	mg/L	<1
Bromide	mg/L	<1
Nitrate	mg/L	<1
Phosphate	mg/L	<3

Effective Cation Exchange Capacity ^e	meq/100g
Percent Base Saturation	Units
Sodium	%
Magnesium	%
Aluminum	%
Potassium	%
Calcium	%
Manganese	%

Physical Parameters	Units
pH ^f	n/a
Electrical Conductivity ^f	µS/cm
Moisture Content ^g	%
Organic Matter Content ^h	%

Particle Size Distribution ⁱ	Units
Dx (10) ^j	µm
Dx (50) ^j	µm
Dx (90) ^j	µm
Mode ^k	µm
Clay ^l	%
Silt ^m	%
Sand ⁿ	%

Table Footnotes:

- a. Strong mineral acid block digestion followed by metals analysis (modified EPA 200.2)
- b. Reportable limits might subject to change and will be updated accordingly
- c. Combustion by Elemental Analyzer
- d. Water: Soil 10:1 extraction followed by Ion Chromatography (modified EPA300.0)
- e. Ammonium Acetate or Barium Chloride Extraction, followed by metals analysis
- f. Water to Soil solution 2:1 extraction (4:1 for highly organic soils)
- g. Percent weight fraction of oven dried bulk sample
- h. Muffle furnace determination according to loss on ignition
- i. Using a Particle Size Analyzer (wet in water)
- j. Standard percentile readings (i.e., Dx (10) is the size of particle below which 10% of the sample lies)
- k. The particle size most-commonly found in the distribution
- l. Less than 2µm
- m. Between 2 and 50µm
- n. Between 50 and 2000µm

To test any other parameter in your water sample(s) that are not included in the above packages, or if you need to discuss your specific analytical needs, please contact NALS at nals@unbc.ca.

Price Schedule:

Label	Parameter/Test Type	Price per Sample (CAD)
A	Metals (25 elements)	90.00
B	Anions Scan (7-Anion Suite)	80.00
C	Total Elements (Carbon and Nitrogen)	35.00
D	Physical Parameters	55.00
E	Effective Cation Exchange Capacity and Percent Base Saturation	100.00
F	Particle Size Distribution (Wet in Water)	50.00
F	NALS Soils Routine Package (A+B+C+D+E)	350.00

All prices are subject to GST (5%), PST (7%), and Environmental & Admin Fee (5%) which are not included in the package price.

Service Disclaimer:

Please be informed that the Northern Analytical Lab Services (NALS) is a lab certified by an external body. The NALS is certified for water microbiology testing with the BC Provincial Health Officer and is accredited to ISO 17025:2017 with the Standards Council of Canada. To view a complete list of testing under our Scope of Accreditation, please visit: nals.unbc.ca/accreditation.

Accredited parameters are defined only for sample matrices conforming to our scope. NALS testing packages and any associated analyses are not offered as commercial services. NALS at UNBC is a community resource and has developed its services to help local communities who do not have access to other testing facilities in their region. Acceptance of samples for analysis does not guarantee service. At any time, the NALS may request further sample(s) to be resubmitted on an as-needed basis for the completion of any requested services. Any such costs associated with re-sampling are not the responsibility of NALS and are assumed by the client. Data in any report prepared by NALS refers strictly to the supplied sample(s) at the time and place of testing without reference to any other matter. All such data will be regarded as confidential but specific data security requirements are the responsibility of the client. Clients retain responsibility for all oversight of sampling procedures not performed by the NALS. NALS is not responsible for losses or damage incurred by use of its services, including but not limited to loss or damage of supplied sample(s). Editing this report is not permissible, and the client assumes all responsibility for conveyance of data outside of this report. The results in this report relate only to the items calibrated or sampled as specified in this report. All revised reports will supersede all prior reports. Any data generated and/or acquired by the NALS will be discarded after a specified retention period, in compliance with regulatory and organizational standards.