



Northern BC's Environment and Climate Solutions Innovation Hub

Soil Analysis Package

Date: April 2024

Contact Information

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Direction on Google maps: <https://goo.gl/mun6v1>

Total Metals ^a	Units	Reportable Limit ^b
Aluminum	mg/kg	<20
Arsenic	mg/kg	<20
Boron	mg/kg	<1
Barium	mg/kg	<0.3
Calcium	mg/kg	<4
Cadmium	mg/kg	<0.3
Cobalt	mg/kg	<1
Chromium	mg/kg	<0.3
Copper	mg/kg	<2
Iron	mg/kg	<3
Potassium	mg/kg	<3
Magnesium	mg/kg	<1
Manganese	mg/kg	<1
Molybdenum	mg/kg	<3
Sodium	mg/kg	<2
Nickel	mg/kg	<1
Phosphorus	mg/kg	<8
Lead	mg/kg	<3
Sulfur	mg/kg	<60
Antimony	mg/kg	<8
Selenium	mg/kg	<20
Tin	mg/kg	<8
Uranium	mg/kg	<8
Vanadium	mg/kg	<1
Zinc	mg/kg	<1
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

Physical Parameters	Units
pH ^e	n/a
Electrical Conductivity ^e	µS/cm
Moisture Content ^f	%
Organic Matter Content ^g	%
Effective Cation Exchange Capacity ^h	meq/100g

Percent Base Saturation	Units
Sodium	%
Magnesium	%
Aluminum	%
Potassium	%
Calcium	%
Manganese	%
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	%

Notes:

- a. Strong mineral acid block digestion followed by metals analysis (modified EPA 200.2)
- b. Reportable limits have the potential to change and will be updated accordingly
- c. Combustion by Elemental Analyzer
- d. Water: Solid 10:1 extraction followed by Ion Chromatography (modified EPA300.0)
- e. Water to soil solution 2:1 (highly organic soils 4:1)
- f. Percent weight fraction of oven dried bulk sample
- g. Muffle furnace determination according to loss on ignition
- h. Ammonium Acetate or Barium Chloride Extraction, followed by metals analysis
- 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
- o. For testing other parameters of your soil sample(s) that are not included in this package, or if you need to discuss your specific analytical needs, please contact the NALS

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/LINKS. 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 in order 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 NALS may request further sample(s) to be resubmitted on an as-needed basis for 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 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 of this report is not permissible and 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.

Pricing for Soils Package:

A. Total Metals: (25 elements): \$90.00/sample
B. Total Elements (Carbon and Nitrogen): \$35.00/sample
C. Anions Scan (7 anions suite): \$80.00/sample
D. Physical Parameters: \$55.00/sample
E. Effective Cation Exchange Capacity and Percent Base Saturation: \$100.00/sample
F. Particle Size Distribution (dry in air): \$80.00/sample
G. Full Soils Package: \$350.00/sample

* All samples are subject to a sample handling/admin fee of 8% which is not included in the package price.

If you need to ship your samples to us, find the address below:

Attn: Northern Analytical Laboratory Services (NALS); University of Northern British Columbia (UNBC), 3333 University Way, Prince George, BC, Canada V2N 4Z9

You can also drop your sample at the lab - UNBC Prince George Campus - Room # 4-234

Direction on Google maps: <https://goo.gl/mun6v1>