

B.C. Ministry of Environment - Environmental Sustainability Division

Knowledge Management Branch - Technical Services Section

Analytical Laboratory

*Partial Price Schedule - Effective April 1, 2011



Activity	Preparation Method	Analysis Method	Cost per Sample - Canadian \$			
			(1-10)	(11-50)	(51-100)	(> 100)
			Base	-5%	-10%	-15%
PLANT TISSUE						
Basic handling charge (Receiving, reporting, invoicing, etc.)		n/a	\$2.75	\$2.60	\$2.50	\$2.35
Oven Dry	Dry at 70 Degrees C, 24 Hours	n/a	\$0.50	\$0.50	\$0.45	\$0.45
Mill (Cyclotec)	Tecator Cyclotec Cyclone Mill	n/a	\$2.75	\$2.60	\$2.50	\$2.35
Mill (Wiley)	Wiley Intermediate Cutting Mill	n/a	\$3.25	\$3.10	\$2.95	\$2.75
CHEMICAL TESTS						
Total C and N	Combustion elemental analysis	Elemental analyzer	\$8.75	\$8.30	\$7.90	\$7.45
Al, B, Ca, Cu, Fe, Mg, Mn, P, K, S, Zn, total	VHP closed vessel microwave acid digestion	ICP spectrometer	\$13.50	\$12.85	\$12.15	\$11.50
Active Iron (Fe)	Hydrochloric acid extraction	ICP spectrometer	\$6.75	\$6.40	\$6.10	\$5.75
Sulphate-sulphur (SO4-S)	Water, dilute acid or weak salt extraction	Ion chromatography	\$13.00	\$12.35	\$11.70	\$11.05
Chlorophylls	N,N-dimethylformamide extraction	UV/visible spectrophotometer	\$7.50	\$7.15	\$6.75	\$6.40
Acid Detergent Fibre	Acid detergent method	Gravimetric	\$17.75	\$16.85	\$16.00	\$15.10
Non-structural carbohydrates (reducing sugars, starch)	Total non-structural carbohydrate method	UV/visible spectrophotometer	\$23.50	\$22.35	\$21.15	\$20.00
Sugars (fructose, galactose, glucose, etc.)	Extraction/derivitization if required	Liquid chromatography	\$18.50	\$17.60	\$16.65	\$15.75
Polyamines (agmatine, putrescine, spermine, etc.)	Extraction/derivitization if required	Liquid chromatography	\$20.50	\$19.50	\$18.45	\$17.45
Terpenes (camphor, borneol, bornyl acetate, etc)	Extraction/derivitization if required	Gas-liquid chromatography	\$17.50	\$16.65	\$15.75	\$14.90
Amino Acids	Extraction/derivitization if required	Liquid chromatography	\$23.75	\$22.55	\$21.40	\$20.20
PHYSIOLOGY / DENDROCHRONOLOGY TESTS						
100 needle weights	Direct measurement	Gravimetric	\$13.50	\$12.85	\$12.15	\$11.50
Pollen Testing - Conductivity	100mg:30 ml water	Conductivity Meter	\$6.75	\$6.40	\$6.10	\$5.75
Pollen Testing - Moisture Content	Direct measurement	Automated Moisture Analyzer	\$6.50	\$6.20	\$5.85	\$5.55
Pollen Testing - Germination	Incubation at 25 degrees C / 48 hours	Microscope	\$13.75	\$13.05	\$12.40	\$11.70
Seed Lots - Filled Seed Count	Direct measurement	Xray Photography	\$12.50	\$11.90	\$11.25	\$10.65
Core Sample Prep and Ring Count and Widths	Mounting/Sanding	Microscope / Windendro	\$11.25	\$10.70	\$10.15	\$9.55
SOIL						
Activity	Preparation Method	Analysis Method	Cost per Sample - Canadian \$			
			(1-10)	(11-50)	(51-100)	(> 100)
			Base	-5%	-10%	-15%
Basic handling charge (Receiving, reporting, invoicing, etc.)		n/a	\$2.75	\$2.60	\$2.50	\$2.35
Air-drying & crushing/sieving (Mineral Soils)	eg. Air-dry, crush, sieve to < 2mm	n/a	\$3.50	\$3.35	\$3.15	\$3.00
Air-drying & Milling (Forest Floor Soils)	eg. Hammer mill to < 2mm	n/a	\$3.50	\$3.35	\$3.15	\$3.00
CHEMICAL TESTS						
Total C and N	Combustion elemental analysis	Elemental analyzer	\$10.00	\$9.50	\$9.00	\$8.50

Inorganic C (acid pre-treatment) requires Total C and N	Combustion elemental analysis	Elemental analyzer	\$10.75	\$10.20	\$9.70	\$9.15
pH (water)	1:1 for mineral soil or 1:2 for forest floor	pH/ion meter	\$3.25	\$3.10	\$2.95	\$2.75
pH (calcium chloride)	1:1 for mineral soil or 1:2 for forest floor	pH/ion meter	\$3.25	\$3.10	\$2.95	\$2.75
Phosphorus (PO4-P), available	Bray P-1	UV/visible spectrophotometer	\$6.00	\$5.70	\$5.40	\$5.10
Nitrogen (NH4-N), mineralizable	Anaerobic incubation , 1N KCl extraction	Colorimetric – Auto-analyzer	\$7.75	\$7.35	\$7.00	\$6.60
Cations Al, Ca, Fe, K, Mg, Mn, Na, and CEC, effective	0.1 N barium chloride extraction	ICP spectrometer	\$9.75	\$9.25	\$8.80	\$8.30
Cations Ca, K, Mg and CEC (pH 7.0)	Neutral Ammonium Acetate	ICP spectrometer/Auto-analyzer	\$18.25	\$17.35	\$16.45	\$15.50
Sulphur (S), total	Combustion elemental analysis	Elemental analyzer	\$7.00	\$6.65	\$6.30	\$5.95
Sulphate-Sulphur (SO4-S)	Water, dilute acid or weak salt extraction	Ion chromatography	\$12.00	\$11.40	\$10.80	\$10.20
Ammonium (NH4-N) Nitrate (NO3-N), available	Extraction with 2N KCl	Colorimetric – Auto-analyzer	\$7.00	\$6.65	\$6.30	\$5.95
Conductivity	Saturated paste	Conductivity meter	\$5.75	\$5.45	\$5.20	\$4.90
Conductivity	1:2 soil:water ratio	Conductivity meter	\$4.75	\$4.50	\$4.30	\$4.05
Al, B, Ca, Cu, Fe, K, Mg, Mn, Na, P, Zn, extractable	Mehlich III extraction	ICP spectrometer	\$10.00	\$9.50	\$9.00	\$8.50
Al, B, Ca, Cu, Fe, Mg, Mn, P, K, S, Zn, total	VHP closed vessel microwave acid digestion	ICP spectrometer	\$13.50	\$12.85	\$12.15	\$11.50
Al, Fe, Mn, Si, extractable	Sodium pyrophosphate extraction	ICP spectrometer	\$9.75	\$9.25	\$8.80	\$8.30
Al, Fe, Mn, Si, extractable	Acid ammonium oxalate extraction	ICP spectrometer	\$9.75	\$9.25	\$8.80	\$8.30
Al, Fe, Mn, Si, extractable	Dithionite - citrate extraction	ICP spectrometer	\$9.75	\$9.25	\$8.80	\$8.30
Carbonate (CaCO3) Equivalent	Empirical - acid neutralization	Automatic Titrator	\$9.25	\$8.80	\$8.35	\$7.85
Ergosterol (Fungal Steroid)	Ethanol extraction	Liquid chromatography	\$21.75	\$20.65	\$19.60	\$18.50
PHYSICAL TESTS						
Soil Moisture Content (required for reporting on Odry Basis)	Oven Dry 105 C	Gravimetric	\$2.50	\$2.40	\$2.25	\$2.15
Organic Matter (LOI)	Loss on ignition	Gravimetric	\$5.00	\$4.75	\$4.50	\$4.25
Water Retention Curve (6 point)	Pressure Plate Apparatus	Gravimetric	\$35.00	\$33.25	\$31.50	\$29.75
Aeration Porosity	Pressure Plate Apparatus	Gravimetric	\$15.75	\$14.95	\$14.20	\$13.40
Particle Density	Fluid Displacement	Gravimetric	\$11.00	\$10.45	\$9.90	\$9.35
Particle Size Analysis	Sedimentation Rate	Hydrometer	\$11.50	\$10.95	\$10.35	\$9.80
Bulk Density	Oven Dry	Gravimetric	\$5.00	\$4.75	\$4.50	\$4.25

WATER and SOLUTIONS		Cost per Sample - Canadian \$				
Activity	Preparation Method	Analysis Method	(1-10) Base	(11-50) -5%	(51-100) -10%	(> 100) -15%
CHEMICAL TESTS						
Basic handling charge (Receiving, reporting, invoicing, etc.)		n/a	\$2.75	\$2.60	\$2.50	\$2.35
Al, B, Ca, Cu, Fe, Mg, Mn, P, K, Si, Na, S, Zn, element scan	Dilution to analytical range	ICP spectrometer	\$9.25	\$8.80	\$8.35	\$7.85
Br, Cl, F, NO3, NO2, PO4, SO4, anion scan	Dilution to analytical range, microfiltration	Ion chromatography	\$13.00	\$12.35	\$11.70	\$11.05
Ammonium (NH4+) and Nitrate (NO3-)	Dilution to analytical range	Alpkem Flow Analyzer	\$5.25	\$5.00	\$4.75	\$4.45
pH	Direct measurement	pH/ion meter	\$2.75	\$2.60	\$2.50	\$2.35
Conductivity	Direct measurement	Conductivity meter	\$2.75	\$2.60	\$2.50	\$2.35
Alkalinity	Direct measurement	Automatic titrator	\$7.50	\$7.15	\$6.75	\$6.40
Total Organic Carbon	UV-Persulphate of Combustion	Automated TOC Analyzer	\$9.25	\$8.80	\$8.35	\$7.85
Total Suspended Solids (TSS)	Filtration	Gravimetry	\$5.75	\$5.45	\$5.20	\$4.90
Total Dissolved Solids (in conjunction with TSS)	Evaporation	Gravimetry	\$4.00	\$3.80	\$3.60	\$3.40

*Please contact the laboratory directly concerning any other testing requirements not on this list.

Important Notes:

PRICES and HST:

- . HST will be added to all non-Province of B.C. Invoices
- . prices should be used as a budgetary guideline only - additional discounts or surcharges may apply in special circumstances.
- . base prices may be changed or updated at any time without notice.
- . formal quotations can be provided upon request and will be valid for one year from the date of issuance.

SAMPLE SUBMISSION:

- . samples should be sequentially numbered from 1 to n and packed in a logical order.
- . an Excel spreadsheet with cross reference information (which will appear on the analysis report)should be E-mailed to the lab.
- . samples that are not labelled sequentially and/or packed logically will be sorted/cross-referenced by lab staff at an additional cost.
- . as analysis procedures differ, samples should be grouped by type. Eg forest floor soils should be kept separate from mineral soils.
- . different sample types will be assigned separate requisition numbers and invoiced seperately.
- . samples may be submitted to the lab air-dried, oven-dried, frozen, or on ice. Please contact the lab for appropriate procedures.
- . shipping arrangements should be confirmed with the lab to ensure staff are available to receive the samples.
- . samples will normally be retained for one year after completion of analysis
- . requests for sample return or longer term archiving should be made at the time the samples are submitted.

QUARANTINE:

- . the laboratory endeavours to maintain phyto-sanitary certification by the Canadian Food Inspection Agency.
- . CFIA Import permits are required for samples coming from outside of Canada. Please contact the lab at least 6 weeks before the planned shipment date to allow the appropriate import permits to be obtained.
- . CFIA Movement Certificates are required for plant and soil samples being shipped from certain areas within Canada. **It is the client's responsibility to check with their local CFIA inspector prior to shipping samples.**
- . samples covered by import permits or movement certificates can not be returned to the client.

Contact Information

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