Bureau Veritas Minerals

2015 Schedule of Services and Fees (CAD) V.4

BUREAU VERITAS

MINERALS

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Mining Life Cycle

Exploration

Ultra trace geochemistry
Trace geochemistry
Ore grade assays
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Ore grade assays
Geometallurgy
Mineralogy

Operations

Trade
Baseline Environmental
Assay Techniques
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Acid Mine Drainage
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Water Monitoring

Bureau Veritas Minerals Laboratories (BVML) services is a global full services provider for exploration, metallurgical and mining analytical testing through over 60 laboratories worldwide.

Bureau Veritas is a world leader in Testing, Inspection and Certification (TIC) services with over 1300 offices in 140 countries worldwide, providing services for marine, consumer products, petroleum, environmental, food, construction materials and mining.

GLOBAL NETWORK

140 COUNTRIES | 1330 OFFICES & LABS | OVER 66,000 EMPLOYEES

Established in 1828, Bureau Veritas is a global leader in Testing, Inspection and Certification services related to QHSE. Bureau Veritas support and protect people, environments, critical assets, major projects and businesses around the world.

EMEA

- **640** offices and laboratories
- **30,000** employees
- **88** countries

ASIA-PACIFIC

- **420** offices and laboratories
- **20,000** employees
- **22** countries

AMERICAS

- **270** offices and laboratories
- **16,000** employees
- **30** countries

Contents

The table of contents below provides some cross-refering of packages and services between our new codes and past codes used by Acme and Inpectorate.

Sample Preparation, Storage & Disposal

Sample preparation lays the groundwork for all the analysis which will be performed on your sample. With demanding and strict process controls, the superior quality of preparation of samples improves the measurable analytical values produced. A split is taken to represent the original sample. The preparation process and this split are subject to QA/QC control checks during the progression and prior to submission to the analytical portion. If there is a non-conformance to the quality standard the process is reviewed and corrected. This applies to the client standards and blank material, internal blanks and standards, duplicates and replicates that are analyzed. This strict policy is for any material that is reported or used in the analytical process.

To ensure the equipment is producing a quality product the reduction of the wear surfaces of plates and bowls is constantly monitored and recorded. No equipment is allowed to be used beyond its lifespan.

A sieve test is used to monitor the process on select and random samples at the primary crushing stage and pulverization. These tests are recorded and reported for your review. There is an all-encompassing training program that employees undergo that assures our staff understand the importance of their work and adherence to a high quality standard.

Sample Preparation, Storage & Disposal

The packages listed here are the most common practice in our industry. If you require sample preparation techniques specific to your needs please contact your local rep to discuss in more detail. You will find our team of professionals and technical group second to none in our ability to provide support with your project.

Rock and Core Preparation

CODE	DESCRIPTION	CAD
PRP70-250	Crush 1 kg to ≥70% passing 2mm ... Pulv 250 g ≥85% 75µm	**$7.20**
PRP70-500	Crush 1 kg to ≥70% passing 2mm ... Pulv 500 g ≥85% 75µm	**$8.25**
PRP70-1KG	Crush 1 kg to ≥70% passing 2mm ... Pulv 1 kg ≥85% 75µm	**$9.30**
CRU70	Crush to ≥70% passing 2mm per kg, includes first 1 kg	**$3.50**
	Extra crushing over 1 kg per kg	**+ $0.70**
CRUPR	Primary Crushing for large samples (eg. Whole Core) per kg	**$0.90**
PUL85	Dry and pulverize to ≥85% passing 75 µm	**$3.70**
	Extra pulverizing over 250 g, per 250 g	**+ $0.90**
PULCB	Pulverize by ceramic box, per 100 g	**$9.70**
DY105	Dry pulp at 105°C, per sample	**$0.60**
HOMOG	Homogenizing of pulps by light pulverizing	**$2.50**
SPTRF	Split by riffle splitter up to 5kg of –2 mm sample , per sample	**$2.20**
WGHT	Weigh sample	**$0.65**
CRUBW	Extra wash with barren material – crushing	**$2.50**
PULSW	Extra wash – silica – pulverizing	**$3.00**
SPTRS	Rotary split up to 5 kg	**$4.45**
SPTMR	Micro rotary split per 250 g	**$2.50**

Other size fractions / preparation requirements available upon request.

Sample Preparation, Storage & Disposal

Soil Preparation

CODE	DESCRIPTION	CAD
SS80	Dry at 60°C, sieve up to 100 g to -180 µm (80 mesh) up to 1/2 kg sample	**$2.35**
	Overweight sieving per 500 g	**$1.05**
SS230	Dry at 60°C, sieve 100 g to -63 µm (230 mesh), up to 1/2 kg sample	**$3.15**
	Overweight sieving per 500 g	**$1.60**
DYXS	Surcharge for extra wet samples	**$0.50**
SSXXX	Sieving at other mesh sizes, per 1/2 kg	**$1.60**
PULSL	Pulverize soils in mild steel pulverizer, per 100 g	**$3.15**
PULCB	Pulverize soils in ceramic pulverizer, per 100 g	**$9.70**
SVRJT	Saving all or part of soil reject	**$1.50**
CLYSP	Clay separation per 500 g	**$15.00**
SPTRF	Split by riffle splitter up to 5 kg	**$2.20**
DISP2	Heat Treatment of soils and sediments, per sample	**$0.50**

Important Note Regarding Soils: Importation regulations may apply; contact lab prior to shipment for details and shipment requirements.

For soil shipments to Canada: No soil, till or sediment pulps or rejects (excluding those from BC Mainland, Yukon and NWT) can be returned and must be incinerated upon disposal. A disposal fee (DISP2) is charged for these samples. Soil rejects are discarded immediately after preparation unless SVRJT is requested.

Miscellaneous Charges

CODE	DESCRIPTION	CAD
PULHP	Hand pulverize by mortar and pestle	**$8.40**
QCCHK	Additional QC Checks	**$3.15**
HANDX	Handling of special projects, per hour	**$60.00**
WGHT	Weigh samples	**$0.65**
SHP01	Shipping charge (pulps), per sample	**$2.00**
SPTPL	Split pulp for client extra charge	**$0.60**
PULSW	Extra wash with silica-pulverizing	**$3.00**
DYAIR	Air Dry samples (<40°C) per 2 kg	**$2.40**
SLBHP	Sorting, Labeling, boxing and handling samples received as pulps	**$0.60**
BAT01	Batch charge for <20 samples	**$50.00**

Warehouse Charges

CODE	DESCRIPTION	CAD
SPRTN	Cost of Shipping Returns	**at cost**
DRRJT	Dispose or return handling of reject	**$0.35**
DRPLP	Dispose or return handling of pulps	**$0.10**
WHRJT	Monthly storage of reject after 90 days, per sample	**$0.60**
WHPLP	Monthly storage of pulps after 90 days, per sample	**$0.20**
WHSRT	Monthly storage of soil rejects per sample	**$0.35**
VAC01	Vacuum seal samples, nitrogen purge	**$10.00**

Storage Information: All rock rejects are stored for 3 months at no charge. Clients may purchase additional storage time. A minimum charge of $10/quarter ($40/yr) will apply to all clients with rejects in storage after 90 days. When storage is requested on receipt the first 3 months of paid storage will be charged upfront.

BVML recognizes and applies the US and Canadian limits for the concentration of hazardous metals in waste materials. For samples exceeding these limits, BVML reserves the right to require clients to accept the return of their reject and pulp material or the expense of disposing of any sample material that is defined as hazardous. Concentrates and high NORM samples must be returned.

Precious Metals & Cu Au Leaches

Methods in this section include industry standard fire assay options for gold, platinum and palladium. From a basic 30 g charge to full metallic screen fire assay, reliable data are achieved for all sample types including those with coarse gold. Bulk leaching of gold bearing materials with cyanide is also available and provides an additional tool to evaluate systems with unevenly distributed Au and to test for extractability. Selective and sequential leaches are also included in this section to provide information on the distribution of Cu within various phases in the sample.

Aqua Regia Gold

Recommended for soils, sediments, vegetation or reconnaissance rock samples. Samples are digested in 1:1:1 aqua regia then analyzed by ICP-MS. Refractory, massive sulphide and graphitic samples can limit Au solubility. Rock samples are ignited at 550°C before aqua regia leaching.

CODE	ELEMENT	DETECTION	UPPER LIMIT	DESCRIPTION	CAD
AQ115	Au	0.5 ppb	10 ppm	15 g Aqua regia ICP-MS	**$10.50**
AQ130				30 g Aqua regia ICP-MS	**$14.45**
AQ115-IGN				Ignited 15 g Aqua regia ICP-MS	**$11.80**
AQ130-IGN				Ignited 30 g Aqua regia ICP-MS	**$15.75**

Fire Assay

Lead collection fire assay fusion for total sample decomposition, digestion of the Ag dore bead and this analysis by AA, ICP-ES, or ICP-MS.
*Require at least 2 g per sample weight.

ICP

FA330-Au	Au	2 ppb	10 ppm	30 g / fire assay / ICP-ES	**$16.50**
FA350-Au				50 g / fire assay / ICP-ES	**$19.50**
FA330	Au	2 ppb	10 ppm	30 g / fire assay / ICP-ES	**$17.65**
FA350	Pt	3 ppb	10 ppm	50 g / fire assay / ICP-ES	**$20.45**
	Pd	2 ppb	10 ppm		

ICP-MS

FA130	Au	1 ppb	1 ppm	30 g / fire assay / ICP-MS	**$21.00**
FA150	Pt	0.1 ppb	1 ppm	50 g / fire assay / ICP-MS	**$23.80**
	Pd	0.5 ppb	1 ppm		

AAS

FA430	Au	0.005 ppm	10 ppm	30 g / fire Assay / AAS	**$16.00**
FA450				50 g / fire Assay / AAS	**$18.80**
FA431	Au	0.01 ppb	100 ppm	30 g / fire Assay / AAS (Reno Only)	**$17.25**

Gravimetric

Au>10 ppm by FA330 & FA430 are automatically analyzed by gravimectric method.

FA530-Ag	Ag	50 ppm		30 g / fire Assay / gravimetric	**$19.60**
FA550-Ag				50 g / fire Assay / gravimetric	**$22.40**
FA530-Au	Au	0.9 ppm		30 g / fire Assay / gravimetric	**$19.60**
FA550-Au				50 g / fire Assay / gravimetric	**$22.40**
FA530	Au, Ag	as above		30 g / fire Assay / gravimetric	**$19.60**
FA550				50 g / fire Assay / gravimetric	**$22.40**

Combined Instrumentation Finishes

FA630	Au	0.005 ppm	10 ppm	Fire assay Ag Grav Au AA finish 30 g	**$23.00**
	Ag	50 ppm	10000 ppm		

Sulphide rich samples may require requested weights to be reduced to 15 g or smaller for proper fusion.

Fire Assay (continued)

CODE	ELEMENT	DETECTION	UPPER LIMIT	DESCRIPTION	CAD
Metallic Screen Fire Assay					
FS631	Au	0.1 ppm		Metallic Fire Assay – single fraction – 30 g - 500 g screen	**$44.00**
FS632	Au	0.1 ppm		Metallic Fire Assay – duplicate fraction – 30 g – 500 g screen	**$52.00**
FS651	Au	0.1 ppm		Metallic Fire assay – single minus – 50 g – 500 g screen	**$50.00**
FS652	Au	0.1 ppm		Metallic Fire assay – duplicate minus – 50 g – 500 g screen	**$59.00**

Metallic Screen Fire Assay prices include screening of sample to 106 µm. Additional preparation charges for crushing and pulverizing apply where applicable. Alternative screen sizes/weight available upon request. Pricing is based on gravimetric analysis of the plus fraction and instrumentation on the minus fraction. Additional charges for gravimetric analysis of minus fraction may apply. Please contact your local office for details.

CHPOT				Stipulate new crucible for fire assay fusion	**$1.50**
EN002				Environmental disposal charge-Fire assay lead waste	**$0.25**

Note: Fees for lead waste disposal may apply in some regions.

Wet Digestion Assay

Trace Level

AR400-Ag	Ag	0.1 ppm	200 ppm	Aqua Regia Digestion AA Finish	**$6.00**
MA402-Ag	Ag	0.5 ppm	500 ppm	4-Acid Digestion AA Finish	**$8.50**

Ore Grade

AR410-Ag	Ag	1 ppm	1000 ppm	Aqua Regia Digestion AA Finish	**$11.55**
MA410-Ag	Ag	1 ppm	1000 ppm	4-Acid Digestion AA Finish	**$12.85**

Carbons, Concentrates and High Grade

Concentrates

FA501-Au	Au	10 ppm	100000 ppm	2 g sample Fire Assay for Concentrates, duplicate analysis	**$76.00**
FA501-Ag	Ag	10 ppm	100000 ppm	2 g sample Fire Assay for Concentrates, duplicate analysis	**$76.00**
FA501	Au, Ag	as above	as above	2 g sample Fire Assay for Concentrates, duplicate analysis	**$99.00**

Carbon

FA502-Au	Au	0.1	10000	2 g sample Fire Assay for Carbons, duplicate analysis	**$41.50**
FA502-Ag	Ag	1	10000	2 g sample Fire Assay for Carbons, duplicate analysis	**$41.50**
FA502	Au, Ag	as above	as above	2 g sample Fire Assay for Carbons, duplicate analysis	**$63.00**

Cu Au Leach

Platinum Group Elements

CODE	ELEMENT	DETECTION	UPPER LIMIT	DESCRIPTION
FN001	Pt Pd Au Rh Ru Os Ir	1 ppb 1 ppb 1 ppb 1 ppb 1 ppb 1 ppb 1 ppb		Nickel sulfide collection fire assay with ICP-MS finish
FA004	Au Pt Rh	1 ppb 1 ppb 1 ppb		Lead Collection, Palladium Inquart Fire Assay with ICP-MS finish

Methods are available through our laboratory in Rustenburg, South Africa only. Please contact the laboratory regarding your specific analytical requirements.
See also page 31 for Nickel sulfide collection with neutron activation analysis through our Group Services.

Gold / Base Metal Leaches

CODE	ELEMENT	DETECTION	UPPER LIMIT	DESCRIPTION	CAD
BL001	Au	0.1 ppb 0.01 ppm	100ppm 200ppm	BLEG, Cyanide leach (500 g – 1 kg sample for 12–24 hour) – Organic extraction/AAS Finish – AAS Finish	**$26.50**
CN400	Au, Ag, Cu			Cyanide Leach (various options)	**Contact for Pricing**
PL415 PL430	Au	0.03 ppm	50 ppm	Preg Rob Leach - Cyanide leach with Au spiked solution – <15 g sample – 30 g sample	 **$14.10** **$15.00**
GC4CN	Au, Ag	0.03 ppm	50 ppm	Direct Read of Cyanide solutions by AAS – one element – both elements	 **$8.15** **$10.50**
GC850		0.01 kg H_2SO_4/TON		Sulfuric leach, Net Acid Consumption	**$30.25**
EN003				Cyanide waste disposal charge * may apply in some regions	**$0.65**

Additional base metal elements (Fe, Zn, Pb) may be added to some leaches for an additional analytical charge. Please contact the laboratory regarding your specific analysis requirements.

Copper Leaches

The methods below, allow determination of Cu leachability, mineralogy and mineral solubility. These methods utilize Inspectorate's standard leach conditions, however client specific conditions can be negotiated on request.

CODE	ELEMENT	DETECTION	UPPER LIMIT	DESCRIPTION	CAD
LH401	CuS	0.001%	10%	1M Citric Acid leach with AAS finish - Cu Oxides	**$12.85**
LH402	CuSH	0.001%	10%	Sulfuric acid leach with AAS finish - Nonsulfide Cu	**$12.85**
LH403	CuCN	0.01%	10%	Cyanide Leach with AAS finish	**$12.85**
LHSEQ	CuSH CuCN CuRes			Sample is sequentially leached in H_2SO_4(LH402) , CN (LH403) then Multi Acid, with Cu from each leach reported. Total Copper can be reported as a sum of the leaches.	**$34.90**
LH425	CuSAP	0.01%	100%	Quick ferric sulfate leach for 1hr @ 167°F, Cu by AAS	**$12.00**

The methods above, allow determination of Cu leachability, mineralogy and mineral solubility. These methods utilize laboratory standard leach conditions, however client specific conditions can be negotiated on request.

Ore & High Grade Analysis

Methods in this section are designed to provide the extremely high precision and accuracy required to quantify commodity elements for resource evaluation. Digestion schemes and reagents are chosen to effectively deal with high analyte concentrations and are coupled with the most stable and matrix tolerant analytical platforms available to produce data of the highest quality. A variety of classical wet assay techniques are also available for samples that exceed the maximum concentrations that can be determined instrumentally.

AA Analysis

CODE	ELEMENT	DETECTION LIMIT		UPPER LIMIT		CAD
AR400 – AR410 Aqua Regia	Ag	1	ppm	1000	ppm	**$11.55** First Element **$3.95** Each Additional Element
	Cu	0.001	%	10	%	
	Mo	0.001	%	10	%	
	Fe	0.01	%	30	%	
	Zn	0.01	%	10	%	
	Pb	0.01	%	10	%	
	As	0.01	%	10	%	
MA400-MA410 Multi acid	Ag	1	ppm	1000	ppm	**$12.85** First Element **$3.95** Each Additional Element
	Cu	0.001	%	10	%	
	Mo	0.001	%	10	%	
	Fe	0.01	%	30	%	
	Zn	0.01	%	10	%	
	Pb	0.01	%	10	%	
	As	0.01	%	10	%	
3A400 3 acid	Ag	1	ppm	1000	ppm	**$11.55** First Element **$3.95** Each Additional Element
	Cu	0.001	%	10	%	
	Mo	0.001	%	10	%	
	Fe	0.01	%	30	%	
	Zn	0.01	%	10	%	
	Pb	0.01	%	10	%	

* Note not all elements may be possible from the same digestion – different weight volumes may be required and will incur additional charge. Please enquire with laboratory prior to sending samples.

ICP Analysis

The following multi-element assays provide optimum precision and accuracy for high grade rock and drill core samples with a selection of digestion methods to best suit the ore type. AQ370, MA370, LF370 report %-level concentrations as determined by ICP-ES. AQ270 and MA270 combine both ICP-ES and ICP-MS analysis to extend the lower detection limits and provide a broader spectrum of elements.

CODE		CAD
AQ370-X	Aqua Regia – ICP-ES – Any Element	**$11.15**
AQ370	Aqua Regia – ICP-ES – Standard suite – 24 elements	**$15.45**
AQ270	Aqua Regia – ICP-ES/MS – Standard Suite – 34 elements	**$21.00**
MA370-X	Multi Acid – ICP-ES – Any element	**$13.25**
MA370	Multi Acid – ICP-ES – Standard suite – 23 elements	**$17.65**
MA270	Multi Acid – ICP-ES/MS – Standard Suite – 40 elements	**$25.45**
PF370-X	Peroxide Fusion – ICP-ES – Any element	**$14.95**
PF370	Peroxide Fusion – ICP-ES – Standard suite – 17 elements	**$19.30**
KP300-X	Phosphoric Acid – ICP-ES – Any element	**$13.90**
KP300	Phosphoric Acid – ICP-ES – Standard suite – 5 elements	**$17.65**

AQ370 - AQUA REGIA ICP-ES

CAD$ 15.45

Hot Aqua Regia digestion for base-metal sulphide and precious-metal ores. ICP-ESanalysis.

ELEMENT	DETECTION LIMIT	UPPER LIMIT
Ag	2 GM/T	300 GM/T
Al	0.01 %	
As	0.01 %	10 %
Bi	0.01 %	
Ca	0.01 %	
Cd	0.001 %	
Co	0.001 %	
Cr	0.001 %	
Cu	0.001 %	10 %
Fe	0.01 %	
Hg	0.001 %	
K	0.01 %	
Mg	0.01 %	
Mn	0.01 %	
Mo	0.001 %	20 %
Na	0.01 %	
Ni	0.001 %	
P	0.001 %	
Pb	0.01 %	4 %
S	0.05 %	
Sb	0.001 %	
Sr	0.001 %	
W	0.001 %	
Zn	0.01 %	20 %

Aqua Regia digestion is considered a partial digestion. Solubility of some elements will be limited by mineral species present.
*Requires at least 2 g per sample weight.

In our ongoing quest to push technical boundaries, BVML is always looking to collaborate on interesting projects that require outside the box thinking. Please speak with one of our technical representatives if you have a unique analytical challenge. Working together to succeed together is the BVML way, and we look forward to working with you soon.

AQ270 - AQUA REGIA ICP-ES/MS

CAD$ 21.00

Same digestion as AQ370 but includes ICP-ES and ICP-MS analysis.

ELEMENT	DETECTION LIMIT	UPPER LIMIT
Ag	0.5 ppm	300 ppm
Al	0.01 %	
As	5 ppm	100000 ppm
Ba	5 ppm	
Bi	0.5 ppm	
Ca	0.01 %	
Cd	0.5 ppm	
Co	0.5 ppm	
Cr	0.5 ppm	
Cu	0.5 ppm	100000 ppm
Fe	0.01 %	
Ga	5 ppm	
Hg	0.05 ppm	
K	0.01 %	
La	0.5 ppm	
Mg	0.01 %	
Mn	5 ppm	
Mo	0.5 ppm	200000 ppm
Na	0.01 %	
Ni	0.5 ppm	
P	0.001 %	
Pb	0.5 ppm	40000 ppm
S	0.05 %	
Sb	0.5 ppm	
Sc	0.5 ppm	
Se	2 ppm	500 ppm
Sr	5 ppm	
Th	0.5 ppm	
Ti	0.001 %	
Tl	0.5 ppm	
U	0.5 ppm	
V	10 ppm	
W	0.5 ppm	
Zn	5 ppm	200000 ppm

*Requires at least 2 g per sample weight.

KP300 - PHOSPHORIC ACID

CAD$17.65

Phosphoric acid digestion for select elements.

ELEMENT	DETECTION LIMIT	UPPER LIMIT
Mo	0.001 %	100 %
Nb	0.001 %	100 %
Ta	0.001 %	100 %
U	0.001 %	100 %
W	0.005 %	100 %

*Requires at least 2 g per sample weight.

MA370 - MULTI ACID ICP-ES

CAD$17.65

Hot Multi-Acid digestion for sulphide and silicate ores. ICP-ES analysis.

ELEMENT	DETECTION LIMIT	UPPER LIMIT
Ag	2 GM/T	300 GM/T
Al	0.01 %	
As	0.02 %	
Bi	0.01 %	
Ca	0.01 %	
Cd	0.001 %	
Co	0.001 %	
Cr	0.001 %	
Cu	0.001 %	
Fe	0.01 %	
K	0.01 %	
Mg	0.01 %	
Mn	0.01 %	
Mo	0.001 %	
Na	0.01 %	
Ni	0.001 %	
P	0.01 %	
Pb	0.02 %	10 %
S	0.05 %	
Sb	0.01 %	
Sr	0.01 %	
W	0.01 %	
Zn	0.01 %	40 %

*Requires at least 1 g per sample weight.

PF370 - PEROXIDE FUSION ICP-ES

CAD$19.30

Sodium peroxide fusion for refractory mineral ores.

ELEMENT	DETECTION LIMIT	UPPER LIMIT
Al	0.01 %	50 %
As	0.007 %	10 %
Ca	0.006 %	50 %
Co	0.001 %	100 %
Cr	0.006 %	100 %
Cu	0.008 %	100 %
Fe	0.02 %	100 %
K	0.02 %	30 %
Li	0.001 %	100 %
Mg	0.01 %	30 %
Mn	0.001 %	100 %
Ni	0.002 %	100 %
Pb	0.03 %	30 %
S	0.01 %	60 %
Sn	0.005 %	100 %
Ti	0.002 %	30 %
Zn	0.002 %	100 %

*Requires at least 2 g per sample weight.

MA270 - MULTI ACID ICP-ES/MS

CAD$25.45

Same digestion as MA370 but includes ICP-ES and ICP-MS analysis.

ELEMENT	DETECTION LIMIT	UPPER LIMIT
Ag	0.5 ppm	300 ppm
Al	0.01 %	
As	5 ppm	
Ba	5 ppm	
Be	5 ppm	
Bi	0.5 ppm	
Ca	0.01 %	
Cd	0.5 ppm	
Ce	5 ppm	
Co	1 ppm	
Cr	1 ppm	
Cu	0.5 ppm	
Fe	0.01 %	
Hf	0.5 ppm	
K	0.01 %	
La	0.5 ppm	
Li	0.5 ppm	
Mg	0.01 %	
Mn	5 ppm	
Mo	0.5 ppm	
Na	0.01 %	
Nb	0.5 ppm	
Ni	0.5 ppm	
P	0.01 %	
Pb	0.5 ppm	100000 ppm
Rb	0.5 ppm	
S	0.05 %	
Sb	0.5 ppm	
Sc	1 ppm	
Sn	0.5 ppm	
Sr	5 ppm	
Ta	0.5 ppm	
Th	0.5 ppm	
Ti	0.001 %	
U	0.5 ppm	
V	10 ppm	
W	0.5 ppm	
Y	0.5 ppm	
Zn	5 ppm	400000 ppm
Zr	0.5 ppm	

While multi-acid digestion is considered to be a near total digestion this digestion is only partial for some Cr and Ba minerals and oxides of Al, Fe, Hf, Mn, Sn, Ta and Zr. Additionally volatilizatin during fuming may result in some loss of As, S and Sb.

*Requires at least 1 g per sample weight.

Other Analysis

CODE	DESCRIPTION	DETECTION LIMIT	UPPER LIMIT	CAD
Mercury				
AQ200-Hg	Hg – ICP-MS	0.01 ppm	50 ppm	**$11.55**
CV400	Trace Hg – CVAA	0.01 ppm	100 ppm	**$8.50**
CV410	Ore Grade Hg – CVAA	0.01 %	20 %	**$9.00**
Water and General Chemistry				
GC901	Moisture (105°C)			**$6.80**
TG001	LOI	0.1 %	100 %	**$9.20**
GC902	Lattice water			**$27.30**
GC002-pH	pH of solids	0.1 units		**$9.20**
GC002-Cond	Conductivity of solids	3 uS/cm		**$9.20**
GC002	pH and conductivity on solids			**$13.10**
INSOL	Acid Insoluble	0.02 %	100 %	**$20.00**
Specific Gravity				
SPG01	Specific Gravity on Pulp Sample			**$13.25**
SPG02	Specific Gravity on Core			**$13.25**
SPG03	Specific Gravity on Waxed Core			**$16.00**
SPG04	Specific Gravity on Pycnometry			**$11.80**
Other Trace and Ore Grade Analysis Requires				
GC820	Cu Titration	0.01 %	100 %	**$36.75**
GC816	Zn titration	0.01 %	100 %	**$29.95**
GC817	Pb titration	0.01 %	100 %	**$29.95**
GC818	Fe titration	0.01 %	100 %	**$29.95**
BR425	Fe – high grade assay, AAS	0.01 %	100 %	**$20.00**
GC806	FeO	0.01 %	100 %	**$22.80**
GC410	NiS	0.001 %	100 %	**$27.30**
GC921	CuO	0.01 %	10 %	**$17.30**
GC922	MoO	0.001 %	100 %	**$17.30**
GC923	Pb and/or Zn Oxide **+ CAD$3.95 extra element**	0.01 %	10 %	**$25.00**
GC519	SiO_2 gravimetric	0.02 %	100 %	**$26.25**
GC320	Ba by Na_2CO_3/K_2CO_3 fusion, ICP-ES	0.01 %	30 %	**$27.55**
GC520	Ba by Na_2CO_3/K_2CO_3 fusion, grav.	0.1 %	100 %	**$27.55**
BR405	Sb – high grade assay, AAS	0.01 %	100 %	**$12.85**
PF100	B	3 ppm	2000 ppm	**$11.00**
GC840	F – Trace Level	10 ppm	10000 ppm	**$11.00**
GC841	F – Ore Grade	0.01 %	15 %	**$18.10**
	Surcharge samples > 15%	10 %	40 %	**$12.60**
GC304-Ga	Ga by ICP-ES	0.01 %	100 %	**$18.10**
GC304-Ge	Ge by ICP-ES	0.01 %	100 %	**$17.20**

*Requires at least 5 g per sample weight.

Exploration Geochemistry

Methods in this section are designed for non-mineralized to weakly mineralized material and have been optimized to provide extremely low detection limits and maximum anomaly to background contrast. Methods include modified Aqua Regia packages that target labile elements in soil, to more aggressive multi acid digestions that give near total results in all sample matrices. For projects with a gold focus, larger sample sizes are available to provide the most representative sample possible.

AQ300 & AQ200-ICP/ICP-MS

	ELEMENT	AQ300 DETECTION	AQ200 DETECTION	UPPER LIMIT
Standard Package	Ag	0.3 ppm	0.1 ppm	100 ppm
	Al	0.01 %	0.01 %	10 %
	As	2 ppm	0.5 ppm	10000 ppm
	Au		0.5 ppb	100000 ppb
	B⁺	20 ppm	20 ppm	2000 ppm
	Ba	1 ppm	1 ppm	10000 ppm
	Bi	3 ppm	0.1 ppm	2000 ppm
	Ca	0.01 %	0.01 %	40 %
	Cd	0.5 ppm	0.1 ppm	2000 ppm
	Co	1 ppm	0.1 ppm	2000 ppm
	Cr	1 ppm	1 ppm	10000 ppm
	Cu	1 ppm	0.1 ppm	10000 ppm
	Fe	0.01 %	0.01 %	40 %
	Ga	5 ppm	1 ppm	1000 ppm
	Hg	1 ppm	0.01 ppm	50 ppm
	K	0.01 %	0.01 %	10 %
	La	1 ppm	1 ppm	10000 ppm
	Mg	0.01 %	0.01 %	30 %
	Mn	2 ppm	1 ppm	10000 ppm
	Mo	1 ppm	0.1 ppm	2000 ppm
	Na	0.01 %	0.001 %	5 %
	Ni	1 ppm	0.1 ppm	10000 ppm
	P	0.001 %	0.001 %	5 %
	Pb	3 ppm	0.1 ppm	10000 ppm
	S	0.05 %	0.05 %	10 %
	Sb	3 ppm	0.1 ppm	2000 ppm
	Sc	5 ppm	0.1 ppm	100 ppm
	Se		0.5 ppm	100 ppm
	Sr	1 ppm	1 ppm	10000 ppm
	Te		0.2 ppm	1000 ppm
	Th	2 ppm	0.1 ppm	2000 ppm
	Ti	0.001 %	0.001 %	5 %
	Tl	5 ppm	0.1 ppm	1000 ppm
	V	1 ppm	2 ppm	10000 ppm
	W	2 ppm	0.1 ppm	100 ppm
	Zn	1 ppm	1 ppm	10000 ppm
	U	8 ppm	0.1 ppm	2000 ppm

Available upon request

Aqua Regia

Economically priced ICP-ES (AQ300) or ICP-ES/MS (AQ200) analysis to complement your exploration project. Sample splits of 0.5 g are leached in hot modified Aqua Regia. Select a larger split size for more representative Au analysis. Refractory and graphitic samples can limit Au solubility.

CODE		CAD
AQ300	33 elements - Aqua Regia - ICP-ES	**$9.40**
AQ300+U	34 elements - Aqua Regia - ICP-ES	**$9.90**
AQ200+U	available upon request	
AQ200	36 element 0.5 g - ICP-ES/MS	**$15.75**
AQ201	36 element 15 g - ICP-ES/MS	**$19.95**
AQ202	36 element 30 g - ICP-ES/MS	**$23.60**

Aqua regia digestion is considered a partial digestion. Solubility of some elements will be limited by mineral species present.

AQ250 – Ultratrace by ICP Mass Spec.

	ELEMENT	AQ250 DETECTION	UPPER LIMIT
Standard Package	Ag	2 ppb	100000 ppb
	Al	0.01 %	10 %
	As	0.1 ppm	10000 ppm
	Au	0.2 ppb	100 ppm
	B+	20 ppm	2000 ppm
	Ba	0.5 ppm	10000 ppm
	Bi	0.02 ppm	2000 ppm
	Ca	0.01 %	40 %
	Cd	0.01 ppm	2000 ppm
	Co	0.1 ppm	2000 ppm
	Cr	0.5 ppm	10000 ppm
	Cu	0.01 ppm	10000 ppm
	Fe	0.01 %	40 %
	Ga	0.1 ppm	1000 ppm
	Hg	5 ppb	50000 ppb
	K	0.01 %	10 %
	La	0.5 ppm	10000 ppm
	Mg	0.01 %	30 %
	Mn	1 ppm	10000 ppm
	Mo	0.01 ppm	2000 ppm
	Na	0.001 %	5 %
	Ni	0.1 ppm	10000 ppm
	P	0.001 %	5 %
	Pb	0.01 ppm	10000 ppm
	S	0.02 %	10 %
	Sb	0.02 ppm	2000 ppm
	Sc	0.1 ppm	100 ppm
	Se	0.1 ppm	100 ppm
	Sr	0.5 ppm	10000 ppm
	Te	0.02 ppm	1000 ppm
	Th	0.1 ppm	2000 ppm
	Ti	0.001 %	5 %
	Tl	0.02 ppm	1000 ppm
	U	0.1 ppm	2000 ppm
	V	2 ppm	10000 ppm
	W	0.1 ppm	100 ppm
	Zn	0.1 ppm	10000 ppm

+ Detection limit = 1 ppm for 15/30 g analysis
Aqua regia digestion is considered a partial digestion. Solubility of some elements will be limited by mineral species present

Aqua Regia

ICP-MS analysis of a 0.5, 15 or 30 g sample after modified Aqua Regia digestion for low to ultra-low determination on soils, sediments and lean rocks. Larger splits (15 or 30 g) give a more representative analysis of elements subject to nugget effect (e.g. Au). Au solubility can be limited in refractory and graphitic samples. Lead Isotope Add on adds Pb isotopes (^{204}Pb, ^{206}Pb, ^{207}Pb, ^{208}Pb) suitable for geochemical exploration of U and other commodities where gross differences in natural to radiogenic Pb ratios, is a benefit.

CODE		CAD
AQ250	37 element 0.5 g - Standard Pkg	**$19.40**
AQ251	37 element 15 g - Standard Pkg	**$23.60**
AQ252	37 element 30 g - Standard Pkg	**$27.30**
+PGM	Pt Pd add on for Standard Pkg	**+ $2.10**
AQ250-EXT	53 element 0.5 g - Extended Pkg	**$22.85**
AQ251-EXT	53 element 15 g - Extended Pkg	**$27.05**
AQ252-EXT	53 element 30 g - Extended Pkg	**$30.70**
+REE	Rare Earth Element add on	**+ $6.30**
+ISO	Lead Isotope add on	**+ $12.60**

	ELEMENT	AQ250 DETECTION	UPPER LIMIT
Extended Package	Be	0.1 ppm	1000 ppm
	Ce	0.1 ppm	2000 ppm
	Cs	0.02 ppm	2000 ppm
	Ge	0.1 ppm	100 ppm
	Hf	0.02 ppm	1000 ppm
	In	0.02 ppm	1000 ppm
	Li	0.1 ppm	2000 ppm
	Nb	0.02 ppm	2000 ppm
	Pd	10 ppb	100000 ppb
	Pt	2 ppb	100000 ppb
	Rb	0.1 ppm	2000 ppm
	Re	1 ppb	10000 ppb
	Sn	0.1 ppm	100 ppm
	Ta	0.05 ppm	2000 ppm
	Y	0.01 ppm	2000 ppm
	Zr	0.1 ppm	2000 ppm
REE Add on	Dy	0.02 ppm	2000 ppm
	Er	0.02 ppm	2000 ppm
	Eu	0.02 ppm	2000 ppm
	Gd	0.02 ppm	2000 ppm
	Ho	0.02 ppm	2000 ppm
	Lu	0.02 ppm	2000 ppm
	Nd	0.02 ppm	2000 ppm
	Pr	0.02 ppm	2000 ppm
	Sm	0.02 ppm	2000 ppm
	Tb	0.02 ppm	2000 ppm
	Tm	0.02 ppm	2000 ppm
	Yb	0.02 ppm	2000 ppm

	MA300 DETECTION	MA200 DETECTION	UPPER LIMIT	MA250 DETECTION	UPPER LIMIT
Ag	0.5 ppm	0.1 ppm	200 ppm	20 ppb	200000 ppb
Al	0.01 %	0.01 %	20 %	0.01 %	20 %
As	5 ppm	1 ppm	10000 ppm	0.2 ppm	10000 ppm
Ba	1 ppm	1 ppm	10000 ppm	1 ppm	10000 ppm
Be	1 ppm	1 ppm	1000 ppm	1 ppm	1000 ppm
Bi	5 ppm	0.1 ppm	4000 ppm	0.04 ppm	4000 ppm
Ca	0.01 %	0.01 %	40 %	0.01 %	40 %
Cd	0.4 ppm	0.1 ppm	4000 ppm	0.02 ppm	4000 ppm
Ce		1 ppm	2000 ppm	0.02 ppm	2000 ppm
Co	2 ppm	0.2 ppm	4000 ppm	0.2 ppm	4000 ppm
Cr	2 ppm	1 ppm	10000 ppm	1 ppm	10000 ppm
Cs				0.1 ppm	2000 ppm
Cu	2 ppm	0.1 ppm	10000 ppm	0.1 ppm	10000 ppm
Dy				0.1 ppm	2000 ppm
Er				0.1 ppm	2000 ppm
Eu				0.1 ppm	2000 ppm
Fe	0.01 %	0.01 %	60 %	0.01 %	60 %
Ga				0.02 ppm	100 ppm
Gd				0.1 ppm	2000 ppm
Hf		0.1 ppm	1000 ppm	0.02 ppm	1000 ppm
Ho				0.1 ppm	2000 ppm
In		0.05 ppm	1000 ppm	0.01 ppm	1000 ppm
K	0.01 %	0.01 %	10 %	0.01 %	10 %
La	2 ppm	0.1 ppm	2000 ppm	0.1 ppm	2000 ppm
Li		0.1 ppm	2000 ppm	0.1 ppm	2000 ppm
Lu				0.1 ppm	2000 ppm
Mg	0.01 %	0.01 %	30 %	0.01 %	30 %
Mn	5 ppm	1 ppm	10000 ppm	1 ppm	10000 ppm
Mo	2 ppm	0.1 ppm	4000 ppm	0.05 ppm	4000 ppm
Na	0.01 %	0.001 %	10 %	0.001 %	10 %
Nb	2 ppm	0.1 ppm	2000 ppm	0.04 ppm	2000 ppm
Nd				0.1 ppm	2000 ppm
Ni	2 ppm	0.1 ppm	10000 ppm	0.1 ppm	10000 ppm
P	0.002 %	0.001 %	5 %	0.001 %	5 %
Pb	5 ppm	0.1 ppm	10000 ppm	0.02 ppm	10000 ppm
Pr				0.1 ppm	2000 ppm
Rb		0.1 ppm	2000 ppm	0.1 ppm	2000 ppm
Re		0.005 ppm	100 ppm	0.002 ppm	100 ppm
S	0.1 %	0.1 %	10 %	0.04 %	10 %
Sb	5 ppm	0.1 ppm	4000 ppm	0.02 ppm	4000 ppm
Sc	1 ppm	1 ppm	200 ppm	0.1 ppm	200 ppm
Se		1 ppm	1000 ppm	0.3 ppm	1000 ppm
Sm				0.1 ppm	2000 ppm
Sn	2 ppm	0.1 ppm	2000 ppm	0.1 ppm	2000 ppm
Sr	2 ppm	1 ppm	10000 ppm	1 ppm	10000 ppm
Ta		0.1 ppm	2000 ppm	0.1 ppm	2000 ppm
Tb				0.1 ppm	2000 ppm
Te		0.5 ppm	1000 ppm	0.05 ppm	1000 ppm
Th	2 ppm	0.1 ppm	4000 ppm	0.1 ppm	4000 ppm
Ti	0.01 %	0.001 %	10 %	0.001 %	10 %
Tl		0.5 ppm	10000 ppm	0.05 ppm	10000 ppm
Tm				0.1 ppm	2000 ppm
U	20 ppm	0.1 ppm	4000 ppm	0.1 ppm	4000 ppm
V	2 ppm	4 ppm	10000 ppm	1 ppm	10000 ppm
W	4 ppm	0.1 ppm	200 ppm	0.1 ppm	200 ppm
Y	2 ppm	0.1 ppm	2000 ppm	0.1 ppm	2000 ppm
Yb				0.1 ppm	2000 ppm
Zn	2 ppm	1 ppm	10000 ppm	0.2 ppm	10000 ppm
Zr	2 ppm	0.1 ppm	2000 ppm	0.2 ppm	2000 ppm

Multi Acid

Multi-acid digestion packages combine a strong multi-acid digestion that dissolves most minerals with a choice of ICP-ES (MA300), ICP-ES/MS (MA200) or Ultra Trace ICP-MS (MA250) analysis to give near total values for all elements. A 0.25 g split is heated in HNO3-HClO4-HF to fuming and taken to dryness. The residue is dissolved in HCl.

*Requires at least 0.5g per sample weight.

CODE		CAD
MA300	35 element ICP-ES	**$13.25**
MA200	45 element - ICP-ES/MS	**$18.75**
AQ200-HG	Hg add on	**+ $11.55**
MA250	Ultratrace ICP-MS	**$25.05**

While multi-acid digestion is considered to be near total digestion this digestion is only partial for some Cr and Ba minerals and oxides of Al, Fe, Hf, Mn, Sn, Ta and Zr. Additionally volatilization during fuming may result in some loss of As, S and Sb.

CODE	ELEMENT			DESCRIPTION	RATE
GENX10	Au †	0.005 – 3	ppm	Au determined by 1AT Fire Assay/AA, Hg determined by Cold Vapour/AA or ICP MS All other elements determined by Multi-Element ICP with AR Digest	**$24.35**
	Ag	0.1 – 100	ppm		
	As	5 – 10,000	ppm		
	Bi	2 – 10,000	ppm		
	Cu	1 – 10,000	ppm		
	Pb	2 – 10,000	ppm		
	Hg	0.01 – 100	ppm		
	Mo	1 – 10,000	ppm		
	Sb	2 – 10,000	ppm		
	Zn	2 – 10,000	ppm		

† Detection limit = 1 ppm for 15/30 g analysis

Aqua regia digestion is considered a partial digestion. Solubility of some elements will be limited by mineral species present

Selective Leaches

Selective or sequential extractions can target elements held in specific soil phase or range of phases thus allowing better interpretation of geochemical processes.

Used Sequentially, the leaches can determine elements occurring in surface soils as salts or adsorbed ions on clays, organic compounds and amorphous Mn and Fe hydroxides. Used singularly, the stronger leaches are less selective. Analysis by ICP-MS. Contact our geochemists for further information.

CODE	DESCRIPTION	CAD
LH101	Demineralized H_2O leach water soluble components	
LH102	1 M ammonium acetate - exchangeable cations adsorbed by clay and elements co-precipitated with carbonates	
LH103	0.1 M sodium pyrophosphate - elements adsorbed by organic matter (humic and fulvic compounds)	
LH104	0.1 M hydroxylamine - elements adsorbed by amorphous Mn hydroxide, often the most reactive soil phase for scavanging mobile elements.	
LH105	0.25 M hydroxylamine - elements adsorbed by amorphous Fe hydroxide and more crystaline Mn hydroxide	
	Prices	
	Separate leach, per leach	**$40.00**
	Sequential leach, per leach	**$45.00**
	Setup, per leach on submissions of <35 samples	**$100.00**

Vegetation Analysis

Preparation

CODE	DESCRIPTION	CAD
VGMAS	Dry and macerate vegetation, per 100 g	**$8.80**
VA475	Ashing 50 g dry vegetation at 475°C	**$8.80**
VGWSH	Wash plant samples with Type-1 water, dry at 60°C, per 100 g	**$2.95**
SVRJT	Saving all or part of reject fraction	**$1.50**
WGHT	Weigh samples	**$0.65**
DRPLP	Dispose or Return Handling of Pulps	**$0.10**

Only dry plant material free of any soil. Importation permits may apply; contact the laboratory prior to shipment.

Dry Plant Material Analysis

ICP-MS analysis of vegetation samples using a 1 g split digested in HNO_3 then Aqua Regia and analyzed by ICP-MS for ultralow detection limits. Washing with de-mineralized water is recommended if samples are coated with inorganic material.
(See VGWSH under Sample Preparation.)

VG101	Standard Suite – 37 elements	**$24.70**
VG101-EXT	Extended Suite – 53 elements	**$28.65**
VG105	Standard Suite – 37 elements -5 g sample option	**$28.00**
VG105 - EXT	Extended Suite – 53 elements	**$31.95**
+PGM	Pt/Pd add on for Standard Suite	**+$2.20**
+REE	Rare Earth Element Add on	**+ $6.30**
+ISO	Lead isotope add on	**+ $13.25**

Ashed Plant Material Analysis

This group analyses 0.25 g of the vegetation ash of a 50 g dry plant sample that has undergone controlled ignition to minimize volatilization (see VA475 under Sample Preparation). Weights of ashing will be reported and all results are reported as concentration in ash.

VG104	Ultratrace ICP-MS analysis on 0.25 g ash – Standard Package	**$19.40**
VG104-EXT	Extended package	**$22.85**
+REE	Rare Earth Element Add on	**+ $6.30**

BVML also has an in house team dedicated to research and development. Building on our external collaborations, this team leverages academic discoveries into new packages and services that benefit the exploration and mining sector. From novel sample preparation methods, to new digestions and improved analytical techniques this group focuses on delivering continuous improvement to our clients.

VG101/VG105 – Dry Plant Material Analysis

	ELEMENT	VG101 DETECTION	UPPER LIMIT
Standard Package	Ag	2 ppb	100000 ppb
	Al	0.01 %	10 %
	As	0.1 ppm	10000 ppm
	Au	0.2 ppb	100000 ppb
	B	1 ppm	2000 ppm
	Ba	0.1 ppm	10000 ppm
	Bi	0.02 ppm	2000 ppm
	Ca	0.01 %	40 %
	Cd	0.01 ppm	2000 ppm
	Co	0.01 ppm	2000 ppm
	Cr	0.1 ppm	10000 ppm
	Cu	0.01 ppm	10000 ppm
	Fe	0.001 %	40 %
	Ga	0.1 ppm	1000 ppm
	Hg	1 ppb	100000 ppb
	K	0.01 %	10 %
	La	0.01 ppm	10000 ppm
	Mg	0.001 %	30 %
	Mn	1 ppm	10000 ppm
	Mo	0.01 ppm	2000 ppm
	Na	0.001 %	10 %
	Ni	0.1 ppm	10000 ppm
	P	0.001 %	5 %
	Pb	0.01 ppm	10000 ppm
	S	0.01 %	10 %
	Sb	0.02 ppm	2000 ppm
	Sc	0.1 ppm	100 ppm
	Se	0.1 ppm	100 ppm
	Sr	0.5 ppm	10000 ppm
	Te	0.02 ppm	1000 ppm
	Th	0.01 ppm	2000 ppm
	Ti	1 ppm	100000 ppm
	Tl	0.02 ppm	1000 ppm
	U	0.01 ppm	2000 ppm
	V	2 ppm	10000 ppm
	W	0.1 ppm	100 ppm
	Zn	0.1 ppm	10000 ppm

VG101/VG105 – EXT

	ELEMENT	VG101 DETECTION	UPPER LIMIT
Extended Package	Be	0.1 ppm	1000 ppm
	Ce	0.01 ppm	2000 ppm
	Cs	0.005 ppm	2000 ppm
	Ge	0.01 ppm	100 ppm
	Hf	0.001 ppm	1000 ppm
	In	0.02 ppm	1000 ppm
	Li	0.01 ppm	2000 ppm
	Nb	0.01 ppm	2000 ppm
	Pd	2 ppb	100000 ppb
	Pt	1 ppb	100000 ppb
	Rb	0.1 ppm	2000 ppm
	Re	1 ppb	1000 ppb
	Sn	0.02 ppm	100 ppm
	Ta	0.001 ppm	2000 ppm
	Y	0.001 ppm	2000 ppm
	Zr	0.01 ppm	2000 ppm

VG104 – Ashed Plant Analysis CAD$19.40

	ELEMENT	VG104 DETECTION	UPPER LIMIT
Standard Package	Ag	2 ppb	100000 ppb
	Al	0.01 %	10 %
	As	0.1 ppm	10000 ppm
	Au	0.2 ppb	100000 ppb
	B	1 ppm	2000 ppm
	Ba	0.5 ppm	10000 ppm
	Bi	0.02 ppm	2000 ppm
	Ca	0.01 %	40 %
	Cd	0.01 ppm	2000 ppm
	Co	0.1 ppm	2000 ppm
	Cr	0.5 ppm	10000 ppm
	Cu	0.01 ppm	10000 ppm
	Fe	0.01 %	40 %
	Ga	0.1 ppm	1000 ppm
	Hg		
	K	0.01 %	10 %
	La	0.5 ppm	10000 ppm
	Mg	0.01 %	30 %
	Mn	1 ppm	10000 ppm
	Mo	0.01 ppm	2000 ppm
	Na	0.001 %	5 %
	Ni	0.1 ppm	10000 ppm
	P	0.001 %	5 %
	Pb	0.01 ppm	10000 ppm
	S	0.02 %	10 %
	Sb	0.02 ppm	2000 ppm
	Sc	0.1 ppm	100 ppm
	Se	0.1 ppm	100 ppm
	Sr	0.5 ppm	10000 ppm
	Te	0.02 ppm	1000 ppm
	Th	0.1 ppm	2000 ppm
	Ti	0.001 %	5 %
	Tl	0.02 ppm	1000 ppm
	U	0.1 ppm	2000 ppm
	V	2 ppm	10000 ppm
	W	0.1 ppm	100 ppm
	Zn	0.1 ppm	10000 ppm

VG104-EXT- Extended package CAD$22.85

	ELEMENT	VG104 DETECTION	UPPER LIMIT
Extended Package	Be	0.1 ppm	1000 ppm
	Ce	0.1 ppm	2000 ppm
	Cs	0.02 ppm	2000 ppm
	Ge	0.1 ppm	100 ppm
	Hf	0.02 ppm	1000 ppm
	In	0.02 ppm	1000 ppm
	Li	0.1 ppm	2000 ppm
	Nb	0.02 ppm	2000 ppm
	Pd	10 ppb	100000 ppb
	Pt	2 ppb	100000 ppb
	Rb	0.1 ppm	2000 ppm
	Re	1 ppb	1000 ppb
	Sn	0.1 ppm	100 ppm
	Ta	0.05 ppm	2000 ppm
	Y	0.01 ppm	2000 ppm
	Zr	0.1 ppm	2000 ppm
REE Add on	Dy	0.02 ppm	2000 ppm
	Er	0.02 ppm	2000 ppm
	Eu	0.02 ppm	2000 ppm
	Gd	0.02 ppm	2000 ppm
	Ho	0.02 ppm	2000 ppm
	Lu	0.02 ppm	2000 ppm
	Nd	0.02 ppm	2000 ppm
	Pr	0.02 ppm	2000 ppm
	Sm	0.02 ppm	2000 ppm
	Tb	0.02 ppm	2000 ppm
	Tm	0.02 ppm	2000 ppm
	Yb	0.02 ppm	2000 ppm

+REE- Rare Earth Element Add on - + CAD$6.30

ELEMENT	DETECTION LIMIT
Ag	0.05 ppb
Al	1 ppb
As	0.5 ppb
Au	0.05 ppb
B	5 ppb
Ba	0.05 ppb
Be	0.05 ppb
Bi	0.05 ppb
Br	5 ppb
Ca	0.05 ppm
Cd	0.05 ppb
Ce	0.01 ppb
Cl	1 ppm
Co	0.02 ppb
Cr	0.5 ppb
Cs	0.01 ppb
Cu	0.1 ppb
Dy	0.01 ppb
Er	0.01 ppb
Eu	0.01 ppb
Fe	10 ppb
Ga	0.05 ppb
Gd	0.01 ppb
Ge	0.05 ppb
Hf	0.02 ppb
Hg	0.1 ppb
Ho	0.01 ppb
In	0.01 ppb
K	0.05 ppm
La	0.01 ppb
Li	0.1 ppb
Lu	0.01 ppb
Mg	0.05 ppm
Mn	0.05 ppb
Mo	0.1 ppb

ELEMENT	DETECTION LIMIT
Na	0.05 ppm
Nb	0.01 ppb
Nd	0.01 ppb
Ni	0.2 ppb
P	10 ppb
Pb	0.1 ppb
Pd	0.2 ppb
Pr	0.01 ppb
Pt	0.01 ppb
Rb	0.01 ppb
Re	0.01 ppb
Rh	0.01 ppb
Ru	0.05 ppb
S	1 ppm
Sb	0.05 ppb
Sc	1 ppb
Se	0.5 ppb
Si	40 ppb
Sm	0.02 ppb
Sn	0.05 ppb
Sr	0.01 ppb
Ta	0.02 ppb
Tb	0.01 ppb
Te	0.05 ppb
Th	0.05 ppb
Ti	10 ppb
Tl	0.01 ppb
Tm	0.01 ppb
U	0.02 ppb
V	0.2 ppb
W	0.02 ppb
Y	0.01 ppb
Yb	0.01 ppb
Zn	0.5 ppb
Zr	0.02 ppb

SO200 – ICP-MS Analysis of Natural Waters

Surface and groundwater surveys are an effective means of exploration for remote and blind ore deposits. ICP-MS provides the low detection limits needed to define background and anomalous levels.

For this analysis all water samples must have less than 0.1% total dissolved solids. Minimum 50ml required. Solutions are analyzed as received

CODE	DESCRIPTION	CAD
SO200	Full Suite (70 elements)	**$30.45**

Lithogeochemistry

Lithogeochemical methods employ fusion techniques to completely decompose even the most refractory matrices to provide total element concentrations. These methods account for structural water and provide quantitative results for silicon and are therefore the only methods that provide data suitable for plotting whole rock classification diagrams and molar element ratio studies. ICP-ES, ICP-MS and XRF options are available to suite all elements, concentration ranges and professional preferences.

ICP / ICP MS

*Requires at least 5g per sample weight.

CODE	DESCRIPTION	CAD
Whole Rock Major And Minor Elements		
LF300-X	Any 1 element, lithium borate fusion ICP-ES	**$16.05**
LF302	Standard suite Major Oxides ICP-ES (21 parameters includes Leco C & S)	**$30.00**
LF302-EXT	Extended package	**$33.60**
LF300	Standard w/o Leco	**$25.60**
Whole Rock Trace Elements		
LF100-X	Any 1 element, lithium borate fusion ICP-MS	**$18.75**
LF100-EXT	Standard suite Trace Elements ICP-MS (45 elements) LF100 + AQ200 add on	**$40.15**
LF100	Refractory and Rare Earth Elements Only	**$29.40**
Total Whole Rock Characterization		
LF202	Total Whole Rock Characterization with AQ200 add on (LF302 + LF100-EXT)	**$58.80**
LF200	Total Whole Rock Characterization w/o AQ200 add on (LF302 + LF100)	**$48.05**
LF600	LF702+LF100-EXT - Total Whole Rock Characterization	**$60.15**

XRF

*Requires at least 12g per sample weight.

CODE	DESCRIPTION	CAD
Whole Rock by XRF		
LF702	Major Oxides Standard Package	**$34.65**
LF700	Standard Package - No Leco C&S	**$30.45**
LF702-EXT	Extended Package	**$37.80**
Ni Laterite Package		
LF320	lithium borate fusion ICP-ES 23 elements, includes Ni, Cu and Co by MA300	**$37.80**
LF322	LF320 + Leco C & S add on	**$43.05**
LF720	Laterite standard suite by XRF	**$42.50**
LF722	LF720 + Leco C & S add on	**$47.80**
XRF Package		
LF710	Bauxite	**$37.80**
LF730	FeOre_ISO method	**$48.80**
LF732	Fe Ore	**$45.65**
LF740	Phosphate Rock	**$37.80**
LF700-X	Elements by Fusion XRF, First Element	**$16.55**
	Each additional element	**+ $5.00**

C & S Analysis

*Requires at least 5g per sample weight.

CODE	DESCRIPTION	DETECTION LIMITS	UPPER LIMITS	CAD
TC001	Leco – Total C	0.02 %	100 %	**$13.40**
TC005	Graphite C – nitric leach	0.02 %	20 %	**$18.10**
TC007	Organic C (TC001-TC005-TC006)	0.02 %	100 %	**$29.90**
TC006	Inorganic Carbon, direct CO_2 evolution and Leco analysis	0.02 %	100 %	**$13.40**
TC003	Leco – Total C and S	0.02 %	100 %	**$14.70**
TC002	Leco – Total S	0.02 %	20 %	**$13.40**
	Surcharge samples >20%	20 %	100 %	**+ $6.30**
TC008	Sulphate – Leco after ignition at 550°C	0.05 %	100 %	**$18.10**
TC009	Sulphide – by difference	0.05 %	100 %	**$19.70**
TC508	Sulphate – gravimetric	0.05 %	100 %	**$25.00**
TC901	Elemental S	0.01 %	14 %	**$23.07**

ICP / ICP MS (LF100- CAD$ 29.40, LF200-CAD$48.05, LF202 - CAD$58.80, LF300 - CAD$25.60)

		ELEMENT	DETECTION LIMIT	UPPER LIMIT
LF200	LF300	SiO_2	0.01 %	100 %
		Al_2O_3	0.01 %	100 %
		CaO	0.01 %	100 %
		Cr_2O_3	0.002 %	100 %
		Fe_2O_3	0.04 %	100 %
		K_2O	0.01 %	100 %
		MgO	0.01 %	100 %
		MnO	0.01 %	100 %
		Na_2O	0.01 %	100 %
		P_2O_5	0.01 %	100 %
		TiO_2	0.01 %	100 %
		Ba	5 ppm	5 %
		Nb	5 ppm	10,000 ppm
		Ni	20 ppm	10,000 ppm
		Sc	1 ppm	10,000 ppm
		Sr	2 ppm	50,000 ppm
		Y	3 ppm	50,000 ppm
		Zr	5 ppm	50,000 ppm
		LOI	0.1 %	100 %
		Sum	0.01 %	100 %
	LF300EXT	Ce	30 ppm	50 000 ppm
		Co	20 ppm	10 000 ppm
		Cu	5 ppm	10 000 ppm
		Zn	5 ppm	10 000 ppm
	LF100	Ba	1 ppm	50,000 ppm
		Be	1 ppm	10,000 ppm
		Ce	0.1 ppm	50,000 ppm
		Co	0.2 ppm	10,000 ppm
		Cs	0.1 ppm	10,000 ppm
		Dy	0.05 ppm	10,000 ppm
		Er	0.03 ppm	10,000 ppm
		Eu	0.02 ppm	10,000 ppm
		Ga	0.5 ppm	10,000 ppm
		Gd	0.05 ppm	10,000 ppm
		Hf	0.1 ppm	10,000 ppm
		Ho	0.02 ppm	10,000 ppm
		La	0.1 ppm	50,000 ppm
		Lu	0.01 ppm	10,000 ppm
		Nb	0.1 ppm	10,000 ppm
		Nd	0.3 ppm	10,000 ppm
		Pr	0.02 ppm	10,000 ppm
		Rb	0.1 ppm	10,000 ppm
		Sm	0.05 ppm	10,000 ppm
		Sn	1 ppm	10,000 ppm
		Sr	0.5 ppm	50,000 ppm
		Ta	0.1 ppm	10,000 ppm
		Tb	0.01 ppm	10,000 ppm
		Th	0.2 ppm	10,000 ppm
		Tm	0.01 ppm	10,000 ppm
		U	0.1 ppm	10,000 ppm

		ELEMENT	DETECTION LIMIT	UPPER LIMIT
LF200	LF100	V	8 ppm	10,000 ppm
		W	0.5 ppm	10,000 ppm
		Y	0.1 ppm	50,000 ppm
		Yb	0.05 ppm	10,000 ppm
		Zr	0.1 ppm	50,000 ppm

Add on Elements from AQ200

	ELEMENT	DETECTION LIMIT	UPPER LIMIT
LF202	Ag	0.1 ppm	100 ppm
	As	0.5 ppm	10,000 ppm
	Au	0.5 ppb	100,000 ppb
	Bi	0.1 ppm	2,000 ppm
	Cd	0.1 ppm	2,000 ppm
	Cu	0.1 ppm	10,000 ppm
	Hg	0.01 ppm	50 ppm
	Mo	0.1 ppm	2,000 ppm
	Ni	0.1 ppm	10,000 ppm
	Pb	0.1 ppm	10,000 ppm
	Sb	0.1 ppm	2,000 ppm
	Se	0.5 ppm	100 ppm
	Tl	0.1 ppm	1,000 ppm
	Zn	1 ppm	10,000 ppm

Leco from TC000

	ELEMENT	DETECTION LIMIT	UPPER LIMIT
LF202	C	0.02 %	100 %
	S	0.02 %	100 %

LF700 – Major Oxides – XRF

CAD$30.45
(LF702 CAD$ 34.65, LF702-EXT CAD$37.80)

	ELEMENT	DETECTION LIMIT	UPPER LIMIT
LF700	SiO_2	0.01 %	100 %
LF700	Al_2O_3	0.01 %	100 %
LF700	Fe_2O_3	0.01 %	100 %
LF700	CaO	0.01 %	100 %
LF700	MgO	0.01 %	100 %
LF700	Na_2O	0.01 %	100 %
LF700	K_2O	0.01 %	100 %
LF700	MnO	0.01 %	93 %
LF700	TiO_2	0.01 %	50 %
LF700	P_2O_5	0.01 %	100 %
LF700	Cr_2O_3	0.01 %	10 %
LF700	Ba	0.01 %	58.8 %
LF702	LOI	0.1 %	
LF702	C*	0.02 %	100 %
LF702	S*	0.02 %	100 %
LF702	Cu	0.001 %	6.4 %
LF702	Ni	0.001 %	7.9 %
LF702	Pb	0.001 %	9.3 %
LF702-EXT	SO_3	0.002 %	20 %
LF702-EXT	Sr	0.002 %	33 %
LF702-EXT	V_2O_5	0.002 %	10.0 %
LF702-EXT	Zn	0.001 %	8 %
LF702-EXT	Zr	0.002 %	37 %

*From Leco TC000

LF740 – PHOSPHATE ROCK

CAD$37.80

ELEMENT	DETECTION LIMIT	UPPER LIMIT
SiO_2	0.01 %	100.0 %
Al_2O_3	0.01 %	80.0 %
Fe_2O_3	0.01 %	100.0 %
CaO	0.01 %	80.0 %
MgO	0.01 %	80.0 %
K_2O	0.01 %	40.0 %
MnO	0.01 %	75.0 %
Na_2O	0.01 %	60.0 %
TiO_2	0.01 %	40.0 %
P_2O_5	0.01 %	40.0 %
Cr_2O_3	0.001 %	10.0 %
Ba	0.01 %	35.8 %
Cu	0.001 %	6.4 %
Ni	0.001 %	7.9 %
Pb	0.01 %	9.3 %
S	0.01 %	24 %
Sr	0.001 %	33.8 %
Zn	0.002 %	8.0 %
Zr	0.002 %	29.6 %
V_2O_5	0.10 %	10.0 %
LOI (1000)	0.1 %	

LF700-X

CAD$16.55 Additional element +CAD$5.00

ELEMENT	DETECTION LIMIT	UPPER LIMIT
BaO	0.01 %	65.0 %
SrO	0.01 %	40.0 %
Zr	0.01 %	45.0 %
HfO	0.01 %	10.0 %
Ce	0.01 %	8.0 %
La	0.01 %	4.5 %
Nd	0.01 %	4.5 %
Sm	0.01 %	4.5 %
Y	0.01 %	4.0 %
Rb	0.01 %	3.5 %
U	0.01 %	3.5 %
Th	0.01 %	3.0 %
Nb_2O_5	0.01 %	10.0 %
Cs	0.01 %	25.0 %
Sn	0.01 %	3.0 %
Ta_2O_5	0.01 %	4.0 %

LF710 – BAUXITE

CAD$37.80

ELEMENT	DETECTION LIMIT	UPPER LIMIT
SiO_2	0.01 %	100.0 %
Al_2O_3	0.01 %	100.0 %
Fe_2O_3	0.01 %	100.0 %
CaO	0.01 %	100.0 %
MgO	0.01 %	100.0 %
Na_2O	0.01 %	100.0 %
K_2O	0.01 %	100.0 %
MnO	0.01 %	93.0 %
TiO_2	0.01 %	50.0 %
P_2O_5	0.01 %	100.0 %
Cr_2O_3	0.001 %	10.0 %
Ba	0.01 %	44.8 %
LOI (1000)	0.1 %	
Zn	0.001 %	8 %
Zr	0.004 %	37 %
Sr	0.002 %	33.8 %
V_2O_5	0.002 %	10 %
SO_3	0.002 %	20 %

Ni Laterite Analysis

Exploration and evaluation of nickel laterite requires total determination and mass balance accounting of the major rock-forming elements and the commodity elements Ni, Cu and Co. BVML delivers these requirements with that combines a cost effective ICP-ES whole-rock determination and a total digestion, multi-element assay or by analysis by XRF.

Package L320 contains four separate analytical tests that report 23 parameters (11 major oxides, 10 minor and trace elements, loss on ignition and SUM). SUM is the sum total of these constituents that gives a mass balance close to 100% when all the major constituents are accurately determined and accounted for.

The redundancy of two separate Ni determinations (LF320 and MA370) provides an additional check on accuracy.

Package LF720 A predetermined amount of sample is dried at 105°C to remove the moisture, then roasted at 1000°C to determine the loss on ignition (LOI).

The roasted sample is then fused in a platinum-gold crucible with a commercial lithium tetraborate/metaborate flux and cast into a disc. Fused discs are analyzed by XRF.

Samples must be dried (prep method D105) prior to analysis, to ensure that the hygroscopic nature of these materials do not add analytical error due to highly variable moisture contents.

LF720 – XRF

CAD$42.50

ELEMENT	DETECTION LIMIT	UPPER LIMIT
SiO_2	0.01 %	100.0 %
Al_2O_3	0.01 %	80.0 %
Fe_2O_3	0.01 %	100.0 %
CaO	0.01 %	80.0 %
MgO	0.01 %	80.0 %
Na_2O	0.01 %	60.0 %
K_2O	0.01 %	40.0 %
MnO	0.01 %	74.0 %
TiO_2	0.01 %	40.0 %
P_2O_5	0.01 %	40.0 %
Cr_2O_3	0.01 %	10.0 %
Ba	0.01 %	35 %
Ni	0.001 %	7.8 %
Co	0.001 %	2.3 %
Cu	0.001 %	6.4 %
Pb	0.001 %	9 %
SO_3	0.002 %	20 %
Sn	0.01 %	2.4 %
Sr	0.002 %	16.9 %
Zn	0.001 %	8 %
Zr	0.002 %	33 %
V_2O_5	0.002 %	10 %
LOI	0.1 %	100 %

LF320 - ICP-ES

CAD$37.80

ELEMENTS	DETECTION LIMIT
SiO_2	0.01 %
Al_2O_3	0.01 %
Fe_2O_3	0.04 %
CaO	0.01 %
MgO	0.01 %
Na_2O	0.01 %
K_2O	0.01 %
MnO	0.01 %
TiO_2	0.01 %
P_2O_5	0.01 %
Cr_2O_3	0.002 %
LOI	0.01 %
SUM	0.01 %
Ba	5 ppm
Co	0.001 %
Cu	0.001 %
Nb	5 ppm
Ni	20 ppm
Ni	0.001 %
Sc	1 ppm
Sr	2 ppm
Y	3 ppm
Zr	5 ppm

OPTIONAL ELEMENTS	DETECTION LIMIT
C	0.02 %
S	0.02 %

Iron Ore Analysis

Using the ISO-9516 method, fused disc XRF analyses provide robust and precise data for all iron ore matrices. Moisture and loss on ignition (LOI) are determined separately at 105C and 1000C to provide critical mineralogical information about Fe bearing phases in the sample. Dried ores are mixed with a lithium metaborate/tetraborate and sodium nitrate flux in a humidity controlled environment to eliminate variability caused by water absorption, followed by fusion and casting into glass discs. Fused discs are entirely homogeneous and eliminate matrix and grain size variability thus presenting an ideal sample to an extremely stable analytical platform. The data produced is of the highest assay quality and is verified with a full spectrum of iron ore specific certified reference material.

LF730 – Following the ISO-9516 guideline using lithium tetraborate, lithium metaborate and sodium nitrate to fuse dried iron ore

samples. Moisture and LOI will be done separately at 105°C and 1000°C.

The fused sample is cast into a disc and analyzed by XRF (PANalytical Axios).

LF732 – Standard fusion protocol for iron ore allows the analysis of Na_2O in addition to elements analyzed using the ISO-9516 method.

LF732 FE ORE PACKAGE

CAD$45.65

ELEMENT	DETECTION LIMIT	UPPER LIMIT
SiO_2	0.01 %	100.0 %
Al_2O_3	0.01 %	80.0 %
Fe_2O_3	0.01 %	100.0 %
CaO	0.01 %	40.0 %
MgO	0.01 %	50.0 %
K_2O	0.01 %	40.0 %
MnO	0.01 %	60.0 %
Na_2O	0.01 %	30.0 %
TiO_2	0.01 %	40.0 %
P_2O_5	0.01 %	25.0 %
Cr_2O_3	0.001 %	10.0 %
As	0.003 %	3.8 %
Ba	0.001 %	22.4 %
Co	0.001 %	3.9 %
Cu	0.005 %	6.4 %
Ni	0.005 %	3.9 %
Pb	0.001 %	9.3 %
S	0.001 %	5.0 %
Sn	0.005 %	3.9 %
Sr	0.002 %	8.5 %
Zn	0.005 %	8.0 %
Zr	0.001 %	29.6 %
V_2O_5	0.001 %	10.0 %
LOI	0.1 %	

LF730 – FE ORE PACKAGE – ISO-9516

CAD$48.80

ELEMENT	DETECTION LIMIT	UPPER LIMIT
SiO_2	0.01 %	80.0 %
Al_2O_3	0.01 %	80.0 %
Fe_2O_3	0.01 %	100.0 %
CaO	0.01 %	40.0 %
MgO	0.01 %	80.0 %
K_2O	0.01 %	40.0 %
MnO	0.01 %	80.0 %
TiO_2	0.01 %	40.0 %
P_2O_5	0.01 %	40.0 %
Cr_2O_3	0.004 %	10.0 %
As	0.003 %	3.8 %
Ba	0.004 %	17.9 %
Co	0.001 %	3.9 %
Cu	0.001 %	6.4 %
Ni	0.001 %	3.9 %
Pb	0.001 %	9.3 %
S	0.001 %	4.0 %
Sn	0.003 %	3.9 %
Sr	0.002 %	8.5 %
Zn	0.001 %	8.0 %
Zr	0.002 %	33.0 %
V_2O_5	0.002 %	10.0 %
LOI (1000)	0.10 %	

Laser Ablation Packages

Fused Bead Laser Ablation ICP-MS

Fused Bead Laser Ablation ICP-MS utilises high productivity robotic fusion technology with state of the art laser ablation and ICP-MS instruments to provide a fully extracted quantitative analysis for all elements. Detection limits are comparable to traditional multi acid digestion methods. The technique offers safety and environmental advantages as there are no acids used in digestion, and it is fast and repeatable.

LA001

CAD$42.50

50 ELEMENT PACKAGE					
Ag (0.1)	As (0.2)	Ba (0.5)	Be (0.2)	Bi (0.2)	Br (10)
Cd (0.1)	Ce (0.02)	Co (0.1)	Cr (1)	Cs (0.01)	Cu (2)
Dy (0.01)	Er (0.01)	Eu (0.01)	Ga (0.1)	Gd (0.01)	Hf (0.01)
Ho (0.01)	In (0.05)	La (0.01)	Lu (0.01)	Mn (1)	Mo (0.2)
Nb (0.01)	Nd (0.01)	Ni (2)	Pb (1)	Pr (0.01)	Rb (0.05)
Re (0.01)	Sb (0.1)	Sc (0.1)	Se (5*)	Sm (0.01)	Sn (0.2)
Sr (0.1)	Ta (0.01)	Tb (0.01)	Te (0.2)	Th (0.01)	Ti (1)
Tl (0.2)	Tm (0.01)	U (0.01)	V (0.1)	W (0.05)	Y (0.02)
Yb (0.01)	Zn (5)	Zr (0.5)			

Detection limits in ppm

*partially volatilized

LA002

CAD$32.65

BASIC 35 ELEMENT PACKAGE					
Ag (0.1)	As (0.2)	Ba (0.5)	Be (0.2)	Bi (0.2)	Br (10)
Cd (0.1)	Ce (0.02)	Co (0.1)	Cr (1)	Cs (0.01)	Cu (2)
Ga (0.1)	Hf (0.01)	In (0.05)	La (0.01)	Mn (1)	Mo (0.2)
Nb (0.01)	Ni (2)	Pb (1)	Sb (0.1)	Sc (0.1)	Sn (0.2)
Sr (0.1)	Ta (0.01)	Te (0.2)	Th (0.01)	Ti (1)	U (0.01)
V (0.1)	W (0.05)	Y (0.02)	Zn (5)	Zr (0.5)	

Detection limits in ppm

Fused Bead XRF Laser Ablation ICP-MS

Fused Bead Laser Ablation ICP-MS couples high productivity robotic fusion technology with wavelength dispersive XRF and laser ablation-ICP-MS instruments to provide a fully extracted quantitative analysis. Where elements are available by both XRF and ICP-MS, a matrix dependent determination will made for the most appropriate reporting instrument.

LX001

CAD$61.95

62 ELEMENT COMBO PACKAGE				
Al_2O_3 (100)	Ag (0.1)	As (0.2)	BaO (10)	Be (0.2)
Bi (0.2)	Br (10)	CaO (100)	Cd (0.1)	Ce (0.02)
Cl (10)	Co (0.1)	Cr (10)	Cs (0.01)	Cu (10)
Dy (0.01)	Er (0.01)	Eu (0.01)	Fe_2O_3 (100)	Ga (0.1)
Gd (0.01)	Hf (0.01)	Ho (0.01)	In (0.05)	K_2O (100)
La (0.01)	Lu (0.01)	MgO (100)	MnO (10)	Mo (0.2)
Na_2O** (100)	Nb (0.01)	Nd (0.01)	Ni (10)	P_2O_5 (10)
Pb (10)	Pr (0.01)	Rb (0.05)	Re (0.01)	SO_3 (10)
Sb (0.1)	Sc (0.1)	Se (5*)	SiO_2 (100)	Sm (0.01)
Sn (0.2)	Sr (0.1)	Ta (0.01)	Tb (0.01)	Te (0.2)
Th (0.01)	TiO_2 (10)	Tl (0.2	Tm (0.01)	U (0.01)
V (0.1)	W (0.05)	Y (0.02)	Yb (0.01)	Zn (10)
Zr (0.5)	LOI (100)	Sum (100)		

Detection limits in ppm

*partially volatilized

**may not be available for some sample types

LX002

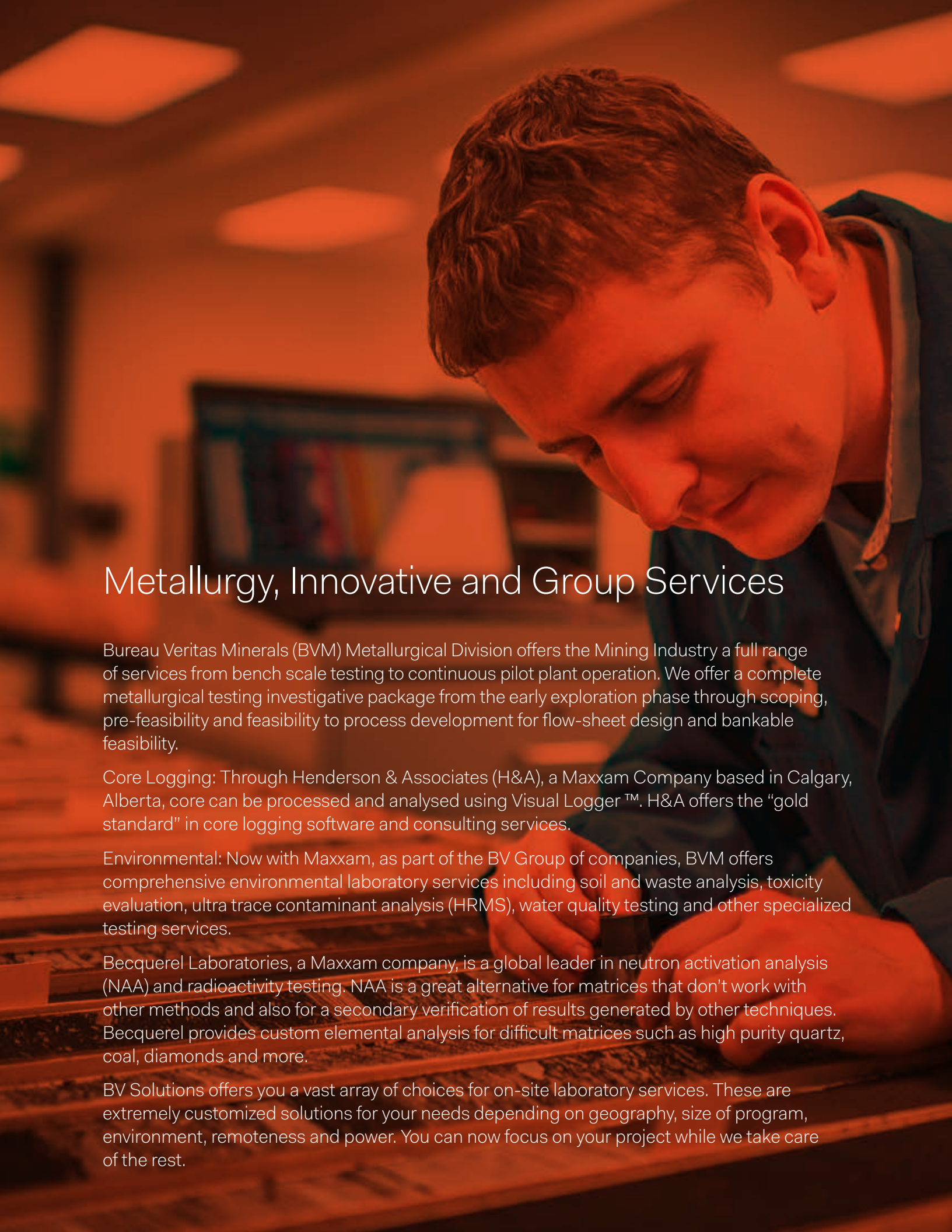
CAD$48.95

46 BASIC ELEMENT COMBO PACKAGE				
Al_2O_3 (100)	Ag (0.1)	As (0.2)	BaO (10)	Be (0.2)
Bi (0.2)	Br (10)	CaO (100)	Cd (0.1)	Ce (0.02)
Cl (10)	Co (0.1)	Cr (10)	Cs (0.01)	Cu (10)
Fe_2O_3 (100)	Ga (0.1)	Hf (0.01)	In (0.05)	K_2O (100)
La (0.01)	MgO (100)	MnO (10)	Mo (0.2)	Na_2O** (100)
Nb (0.01)	Ni (10)	P_2O_5 (10)	Pb (10)	SO_3 (10)
Sb (0.1)	Sc (0.1)	SiO_2 (100)	Sn (0.2)	Sr (0.1)
Ta (0.01)	Te (0.2)	Th (0.01)	TiO_2 (10)	U (0.01)
V (0.1)	W (0.05)	Y (0.02)	Zn (10)	Zr (0.5)
LOI (100)	Sum (100)			

Detection limits in ppm

*partially volatilized

**may not be available for some sample types



Metallurgy, Innovative and Group Services

Bureau Veritas Minerals (BVM) Metallurgical Division offers the Mining Industry a full range of services from bench scale testing to continuous pilot plant operation. We offer a complete metallurgical testing investigative package from the early exploration phase through scoping, pre-feasibility and feasibility to process development for flow-sheet design and bankable feasibility.

Core Logging: Through Henderson & Associates (H&A), a Maxxam Company based in Calgary, Alberta, core can be processed and analysed using Visual Logger ™. H&A offers the “gold standard” in core logging software and consulting services.

Environmental: Now with Maxxam, as part of the BV Group of companies, BVM offers comprehensive environmental laboratory services including soil and waste analysis, toxicity evaluation, ultra trace contaminant analysis (HRMS), water quality testing and other specialized testing services.

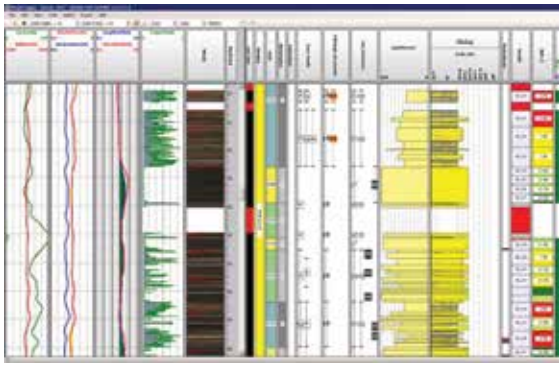
Becquerel Laboratories, a Maxxam company, is a global leader in neutron activation analysis (NAA) and radioactivity testing. NAA is a great alternative for matrices that don't work with other methods and also for a secondary verification of results generated by other techniques. Becquerel provides custom elemental analysis for difficult matrices such as high purity quartz, coal, diamonds and more.

BV Solutions offers you a vast array of choices for on-site laboratory services. These are extremely customized solutions for your needs depending on geography, size of program, environment, remoteness and power. You can now focus on your project while we take care of the rest.

MineDSI

MineDSI is a new digital core logging solution from BV Minerals. The software is designed to improve workflow efficiency by seamlessly integrating digitally captured logging data and high resolution core photographs with all lab and field acquired analytical data. The system also reduces time consuming manual data entry resulting in lower error rates and higher confidence in the data. The versatile MineDSI on-site database is also fully scalable, operating as a standalone product or with full integration with your existing database solution. Speak to a customer service representative today to discuss in detail how MineDSI can benefit your program.

Through ongoing collaboration with universities and researchers from around the world, we strive to stay at the cutting edge of the analytical sciences to provide the highest quality analyses targeted at the most up to date exploration methods. To this end we are proud to be the exclusive sponsor of the Acme Industrial Research Chair in Exploration Geochemistry at the University of British Columbia. The next five years will be a very exciting time as Dr. Peter Winterburn focuses a world class team on topics designed to reduce exploration costs and increase the rate of discovery for new ore deposits.



FOURIER TRANSFORM INFRA-RED (FTIR) SPECTROMETRY

The Fourier Transform Infra-Red (FTIR) technique measures light absorbed by a sample in the Infra-Red (IR) region of the light spectrum. To use the FTIR technique for the analysis of mineral samples, the spectrum of a number of samples that have been analysed by classical methods is collected. By using chemometric regression analysis, a mathematical correlation for each analyte is determined from the spectra, and then used to analyse unknown samples. Normal sample preparation schemes are used with the sample to produce a dried pulp. The FTIR spectra are collected without any additional preparation. There are no digests, fusions or other processes required.

FTIR is a well-accepted analysis technique in the Bauxite industry; Bureau Veritas has successfully completed Bauxite programs using FTIR. Other ore types can be tested; however a consultative approach between the customer and laboratory will be needed to design the calibration set and analytes. Please contact your laboratory representative should you wish to design an analysis trial.

BUREAU VERITAS MINERALS

LASER ABLATION ICP-MS ANALYSIS

FOR LITHOGEOCHEMISTRY & MINERAL SPECIFIC CHEMISTRY

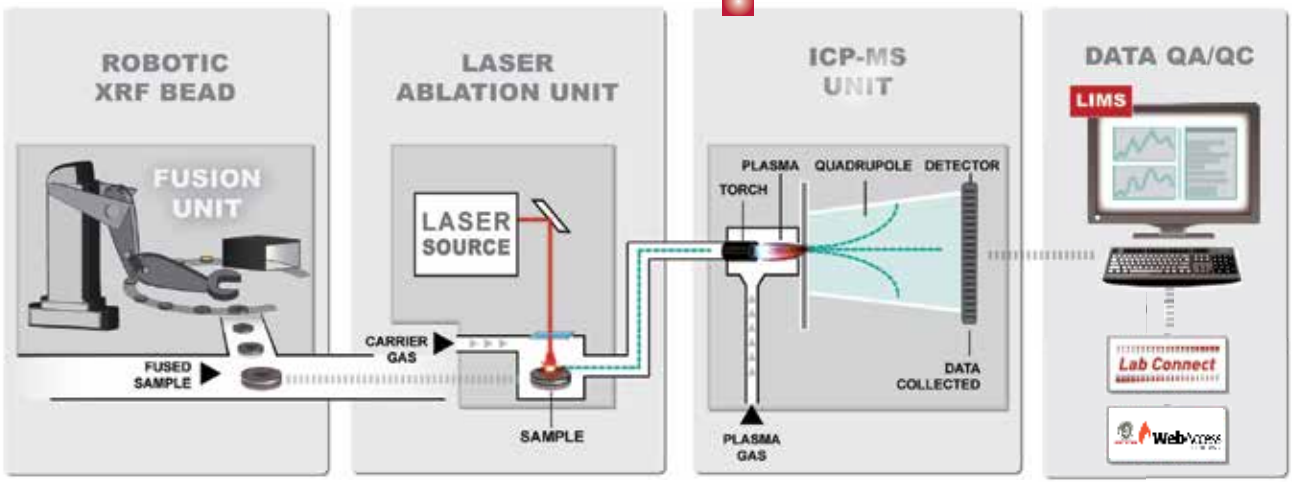
Lithogeochemistry Mode

Bureau Veritas Laser Ablation ICP-MS analysis is designed to meet a broad range of analytical requirements with a single cost effective method. In Lithogeochemistry Mode LA-ICP-MS capitilises on BV's high productivity robotic fusion technology with state of the art laser ablation and ICP-MS instruments to provide a fully extracted quantitative analysis for all elements Detection limits are comparable to industry leading mixed acid trace element ICP-MS packages.

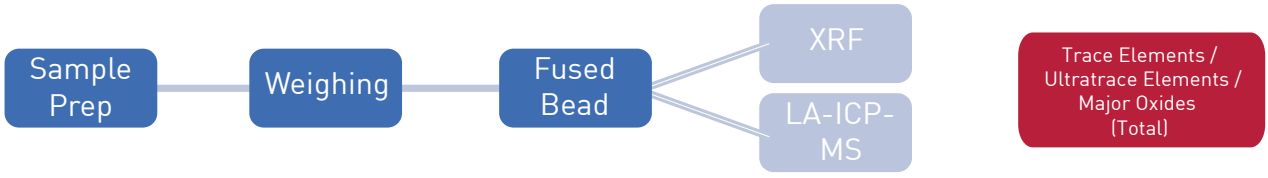
LASER TECHNOLOGY

LA-ICP-MS BENEFITS

- Total analysis at trace and ultra trace detection limits equivalent to mixed acid ICP-MS packages.
- Simplifies the analysis process to a single, cost effective fusion.
- XRF and ICP-MS capabilities can be combined to extend the dynamic range in one analysis (eg. U from 10ppb to % level.)
- Minimises hazards and waste due to elimination of corrosive acids.



Bureau Veritas Minerals' **XRF-LA-ICP-MS combo package** requires only a single lithium borate fusion which provides major elements from XRF and trace and ultratrace elements from LA-ICP-MS.



For more details and prices please see page 30.

INAA Laboratories (BQ-NAA-01)

Total determination of Au plus 34 elements by gamma ray analysis after nuclear irradiation. Requires 10–30 g pulp.

ELEMENT	DETECTION LIMIT
Ag	5 ppm
As	0.5 ppm
Au	2 PPB
Ba	50 ppm
Br	0.5 ppm
Ca	1 %
Ce	3 ppm
Co	1 ppm
Cr	5 ppm
Cs	1 ppm
Eu	0.2 ppm
Fe	0.01 %
Hf	1 ppm
Hg	1 ppm
Ir	5 PPB
La	0.5 ppm
Lu	0.05 ppm
Mo	1 ppm
Na	0.01 %
Nd	5 ppm
Ni	100 ppm
Rb	15 ppm
Sb	0.1 ppm
Sc	0.1 ppm
Se	3 ppm
Sm	0.1 ppm
Sn	0.01 %
Sr	0.05 %
Ta	0.5 ppm
Tb	0.5 ppm
Th	0.2 ppm
U	0.5 ppm
W	1 ppm
Yb	0.2 ppm
Zn	50 ppm

REMOTE SERVICES

On site laboratory services are very difficult to manage and require a high amount of resources, time and management. When it is more feasible to handle samples on site we are capable of presenting a solution that will have the backing of a global laboratory that is ISO certified. With 62,000 employees working in all regions of the world we have the resources to be able to offer a high degree of support, knowledge and skill no matter where your project is.

All site labs are customized according to your location, environment, volume and personnel needs. We are able to provide various services depending on each individual need including

Sample preparation
Fire assay
XRF and handheld XRF
Core logging
Core cutting
Spectroscopy

Having BV Solutions managing your site lab will allow you to focus on your project and we can take care of buying power for reagents and equipment, single monthly invoice, our expertise and knowledge in dust control, assaying and productivity as well as QA/QC control, HS&E, a global laboratory certified under ISO requirements, any lab personnel issues, trouble shooting, depth, continued innovation and R&D. This is what we do.

OTHER ANALYTICAL SERVICES

Becquerel
A Maxxam Company

CODE	DESCRIPTION	CAD
	Anion Analysis of water	
	Cl, SO_4, Br, NO_2, NO_3, PO_4	call for details

Analysis at Becquerel Laboratories

BQ-NAA-02 FULL	Becquerel – PGE – NiS – Full Package	call for details
BQ-NAA-01	Neutron Activation – Full Suite	$22.05

INAA Becquerel Laboratories (BQ-NAA-02)

A nickel-sulfide fire assay pre-concentration followed by irradiation and analysis on the sulfide precipitate.

		ELEMENT	LOWER DETECTION LIMIT	UPPER DETECTION LIMIT
PARTIAL PACKAGE	FULL PACKAGE	Au	1 ppb	1 ppm
		Pt	20 ppb	10 ppm
		Pd	20 ppb	10 ppm
		Rh	5 ppb	1 ppm
		Ru	50 ppb	20 ppm
		Ir	1 ppb	1 ppm
		Os	10 ppb	1 ppm

ENVIRONMENTAL SERVICES:

Maxxam provides independent analytical data to protect the value of assets, improve the safety and quality of products, and improve the health and safety of people and our environment. Maxxam's analytical capabilities in environmental testing services, control and risk mitigation are packaged to meet regulatory approvals and incorporate stringent quality components, regardless of project scope. Customers include consulting engineers, hydrogeologists, oil and gas companies, mining companies, and all levels of government.

The Environmental Services group offers comprehensive analyses for a wide range of inorganic, organic, radiological and physical parameters in water, waste water, soil, sediment, vegetation, tissue and air. Our analytical services include:

1. **Soil Vapour & Industrial Hygiene**
2. **Hydrocarbon Forensics**
3. **Ultra Trace (dioxins and furans)**
4. **Radiological & Hazardous Materials**
5. **ARD static and kinetic testing**
6. **Soil Characterization (physical properties)**
7. **Ecotoxicology and Toxicity Analysis**
8. **Emergency Spill Response and Mobile Laboratory Services**

CORE SERVICES

Maxxam's Oil Sands Core Processing facility in Calgary is designed for safe and efficient core movement from receiving to slabbing and frozen sample storage, and from photography, to viewing and analysis.

In January 2013, Maxxam acquired Henderson and Associates, the leading provider of geological services for analysis and interpretation of core drilling projects. H&A provides customized software and time-saving geological services to assist clients with the review of their drilling programs. H&A's proprietary Visual Logger™ software facilitates and expedites drill core description and logging for more efficient and accurate results. Visual Logger's flexible, intuitive layout with side-by-side view of your data enables quick, accurate comparisons and thorough analysis. Visual Logger can be adapted to your projects needs with personalized support as requested.

Mineral Processing
Hydrometallurgy
Mineralogy – Petrographic
Environmental Studies
Sample Preparation & Storage

MINERAL PROCESSING

Our Mineral Processing Laboratories are fully equipped to perform all metallurgical investigations required for ore evaluation and mill design. Testing services include:

Comminution
Crushing
Grinding
Bond Rod & Ball Mill Work Index
Abrasion Index
Size Classification & Screening
Starkey SAG Design Test

Gravity Concentration
Jigs
Shaking tables
Elutriation
Spirals
Cone
Heavy media cones
Centrifugal heavy media separation
Centrifugal concentrators (Falcon and Knelson)
Mozley Separator

Flotation
Batch flotation tests
Locked cycle tests
Column flotation
Special gas media flotation
Reverse & flash flotation
Agglomeration flotation

Magnetic Separation
(wet & dry, variable intensity)
Drum separator
Belt separator
High gradient separator

Solid-Liquid Separation
Standard thickening procedures
Differential settling
Vacuum & pressure filtration

PILOT PLANT

A complete ore treatment pilot plant, can be assembled for any circuit combination, from crushing through to final product with throughput ranging from 1 to 5 tonnes per day, depending on ore hardness.

HYDROMETALLURGY

We have extensive laboratory facilities to conduct a wide range of hydrometallurgical and bio-hydrometallurgical studies. These include the full scale up from individual batch tests through continuous bench tests to commercial sized pilot plant reactors. The testing capabilities include:

Cyanidation studies (Merrill Crowe, CIP and CIL procedures)
Pressure leaching
Bottle roll and tank leaching
Counter current closed circuit tank leaching
Column leaching up to one meter diameter (4 tonnes)
Diagnostic / sequential leaching
Solvent extraction
Ion exchange
Electrowinning
Differential precipitation
Bio-oxidation of refractory gold ores and concentrates
Biological leaching of base metal ores and concentrates
Biological heap leach simulation
Cyanide and ammonia detoxification
Standard electrowinning technology
Galvanox copper recovery process

BANKABLE FEASIBILITIES

Inspectorate is well recognized in the mining industry for value-added input and quality work. The Metallurgical Division is fully qualified to complete "bankability" testing and mill design. Over the past 21 years, our firm has provided this level of service to most of the major engineering firms working within the mining industry. Our independence, reliability and accountability has been firmly established.

MINERALOGICAL – PETROGRAPHIC STUDIES

Mineralogical studies are critical to successful geological exploration and the processing of ores. We offer a full range of packages including: bulk mineralogical analysis (BMA), particle mineralogical analysis (PMA), modal analysis, trace mineral search (TMS), and sparse phase liberation (SPL) using QEMSCAN, MLA Express and optical mineralogy for both thin and polished sections.

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"The Company" is the legal entity with whom the Client is providing instructions.

1. (a) Unless otherwise specifically agreed in writing, the Company undertakes services in accordance with these general conditions (hereinafter called "General Conditions") and accordingly all offers or tenders of service are made subject to these General Conditions. All resulting contracts, agreements or other arrangements will in all respects be governed by these General Conditions. (b) These General Conditions shall be governed by the law of the Jurisdiction in which the Company is registered. (c) The parties (being the Company and the Client collectively), hereby agree that the courts of the Jurisdiction of registration shall have exclusive Jurisdiction to settle any dispute or claim that arises out of or in connection with these General Conditions or the underlying contract or arrangement except that the Company shall have the option to pursue money claims against the Client in any jurisdiction where the client has assets or funds or a place of business.
2. The Company is an enterprise principally engaged in mineral preparation and laboratory testing services for mining, minerals exploration and research, as such it:
   2.1. carries out such "standard services" as are referred to in General Condition 6;
   2.2. issue reports as may be relevant to the standard services.
3. The Company acts for the persons or bodies from whom the instructions to act have originated (herein called "the Client "). No other party is entitled to give instructions, particularly on the delivery of report, unless so pre-authorized by the Client and agreed to by the Company.
   3.1 The Company will however be deemed irrevocably authorized to deliver at its discretion the report to a third party if following instructions by the Client a promise in this sense has been given to this third party.
4. The Company will provide services in accordance with the Client's specific instructions as accepted and confirmed by the Company so far as such testing methods as the Company shall deem appropriate in its detection limit and confidence interval.
5.
   5.1 All enquiries and orders for the supply of services must be accompanied by sufficient information, specifications and instructions to enable the Company to evaluate and/or perform the services required.
   5.2 The client to inform the Company in advance of any known hazards or dangers, actual or potential, associated with any order or samples or testing including, for example, presence or risk of radiation, toxic or noxious or explosive elements or materials, environmental pollution or poisons. The client will be liable for cost of disposal of samples considered hazardous or dangerous.
6. The Company's standard service may include all or any of the following:-
   6.1 laboratory analysis or other testing related to Exploration and Mining;
   6.2 Supply of technicians or other personnel related to Exploration and Mining.
7. Whereas the Company provides and/or sells goods or equipment (as opposed to services) to the Client (whether combined with or separately from any services), and such goods or equipment have been acquired by the Company from a Third Party, the Company gives no express or implied warranty as to the quality of such goods or equipment for their fitness for purpose. However, upon written request by the client, the Company will assign (as far as possible), its rights against such third party.
8. Subject to the Client's instructions as accepted by the Company, the Company will issue reports which reflect statements of opinion made with due care within the limitation of instructions received but the Company is under no obligation to refer to or report upon any facts or circumstances which are outside the specific instructions received.
   8.1 Reports issued following testing or analysis of such samples as are submitted to the Company for analysis (but not drawn from the bulk by the Company) contain the Company's specific opinion on those samples only but do not express or imply any opinion upon the bulk from which the samples were drawn.
   8.2 The Company will not be liable the Client or any third party for any samples so altered, lost, damaged or destroyed.
9. For sample pickup a nd/or services provided at the Client's site by the Company's employees, subcontractors and or agents, the Client will ensure the following:
   9.1 instructions and sufficient information are given in due time to enable the required services to be performed effectively;
   9.2 all necessary measures are taken for safety and security of working conditions, sites and installations during the performance of service and will not rely, in this respect, on the Company's advice whether requested or not; But the Client accepts that the Company and its employees may exercise a "stop work authority" in any circumstances where working conditions are considered by its employee (or other representative of the Company) to be unsafe and contrary to safe working conditions;

   Such "Stop Work Notice" may be issued verbally by the Company without notice (subject to being confirmed in writing within 48 working hours). Once issued the Company is discharged from any obligation to continue to provide its contracted services until such working conditions have been fully rectified by the Client to the satisfaction of the Company. During the period of suspension of its services, the Company shall be free of any liability for any additional costs or liabilities incurred or potentially incurred by the Client.

   9.3 take all necessary steps to eliminate or remedy any obstruction to or interruptions in the performance of the required services and carry adequate business liability insurance in place during the term of the services provided by the Company.

10. The Company with consent from the Client to delegate the performance of the whole or any part of the services contracted for with the Client to any agent or subcontractor. The Company will pass on the result of the analysis but without responsibility for its accuracy.

11. All technicians and other personnel supplied by the Company in the performance of any services shall at all times remain employees, agents or sub-contractors (as the case may be) of the Company. As such, all such persons shall be answerable to and subject to the instructions of the Company at all times. Unless otherwise agreed by the Company, such persons shall not be obliged to follow any instructions of the Client.

12. The Company undertakes to exercise due care and skill in the performance of its services and accepts responsibility only where such skill and care is not exercised and negligence against the Company is proven.

    12.1 The liability of the Company in respect of any claims for loss, damage or expense of whatsoever nature and howsoever arising in respect of any breach of contract and/or any failure to exercise due skill and care by the Company shall in no circumstances exceed a total aggregate sum equal to the amount of the fee in respect of the specific service required under the particular contract with the Company which gives rise to such claims.

    12.2 The limit of liability of the Company under the terms of Condition 12.1 may (at the sole discretion of the Company) be increased upon request received by the Company in advance of the performance of the service to such figure as may be agreed upon.

    12.3 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from these General Conditions.

    12.4 This Condition 12 sets out the entire financial liability of the Company (including any liability for the acts or omissions of its employees, agents and sub-contractors) to the Client in respect of any breach of these General Conditions, any use made by the Client of the services and any representation, statement or tortious act or omission (including negligence) arising in connection with these General Conditions.

13. The Client shall guarantee, hold harmless and indemnify the Company and its officers, employees, agents or subcontractors against all claims made by any third party for loss, damage or expense of whatsoever nature and howsoever arising relating to the performance, purported performance or non-performance of any services to the extent that the aggregate of any such claims relating to any one service exceed the limit mentioned in Condition 12.

14. Every officer, employee, agent or subcontractor of the Company shall have the benefit of the limitation of compensation and the indemnity contained in these General Conditions and so far as relates to such limitations any contract entered into by the Company is entered into not only on its own behalf but also as agent and trustee for every such person as aforesaid.

15. In the event that any unforeseen problems or expenditure arise in the course of carrying out any of the contracted services the Company shall be entitled to make additional charges to cover additional time and cost necessarily incurred to complete the service.

16. The Client will punctually pay not later than 30 (thirty) days after the relevant invoice date (or within such other period as may have been agreed in writing by the Company) all proper charges rendered by the Company failing which, and without prejudice to any other rights or remedies available to the Company, interest will become due at the rate of 15 (fifteen) per cent per annum from the date of invoice until payment.

    16.1 All prices quoted and charges due under these General Conditions shall, unless the Company confirms otherwise in writing, be exclusive of any value added or sales tax which shall be charged in addition at the prevailing rate.

    16.2 The Client shall not be entitled to retain or defer payment of any sums due to the Company on account of any dispute, cross claim or set off which it may allege against the Company.

    16.3 In the event of any suspension of payment, arrangement with creditors, bankruptcy, insolvency, receivership or cessation of business by the Client the Company shall be entitled to suspend all further performance of its services forthwith and without liability and all sums payable to the Company shall become immediately due and payable.

17. In the event of the Company being prevented by reason of any cause whatsoever outside the Company's control from performing or completing any service for which an order has been given or an agreement made, the Company shall be relieved of all responsibility whatsoever for the partial or total non-performance of the required service.

    17.1 The Company may seek compensation for any lost suffered due to the Client not fulfilling its obligations from the Contract.

18. The Company is neither an insurer nor a guarantor and disclaims all liability in such capacity. Clients seeking a guarantee against loss or damage should obtain appropriate insurance.

19. No alteration, amendment or waiver of any of these General Conditions shall have any effect unless agreed to in writing and signed by an officer of the Company.

20. Notwithstanding 19, the Client agrees that the Company has the right to modify these Terms and Conditions. The Client further agrees that such modification will be effective immediately upon notice being given by posting notice of such changes on the Company's website (or by communicating such notice to the Client by e-mail)

Conversions

CONVERSION FOR WEIGHTS

	TROY OZ.	AVOIRDUPOIS OZ.	GRAMS
1 Troy oz.	1	1.0971	31.104
1 Avoirdupois oz.	0.91146	1	28.35
1 Gram	0.03215	0.03527	1

1 Metric Tonne (MT) = 1000 kilograms = 2204.6 pounds
1 Short Ton (ST) = 907.2 kilograms = 2000 pounds
1 Long Ton (LT) = 1016 kilograms = 2240 pounds

ASSAY VALUATIONS

VALUE	PARTS PER MILLION (ppm)	METRIC TONNE	SHORT TON	LONG TON
1 Gram / MT	1	0.03215	0.02917	0.03266
1 Troy oz / MT	31.104	1	0.9072	1.106
1 Troy oz / ST	34.286	1.1023	1	1.120
1 Troy oz / LT	30.612	0.9842	0.8929	1

OXIDES CONVERSION FACTORS

ELEMENT	CONVERSION FACTOR	OXIDE
Al	1.889	Al_2O_3
Ba	1.669	$BaSO_4$
	1.116	BaO
Be	2.775	BeO
C	3.666	CO_2
Ca	1.399	CaO
	2.497	$CaCO_3$
Cr	1.461	Cr_2O_3
F	2.055	CaF_2
Fe	1.286	FeO
	1.430	Fe_2O_3
K	1.205	K_2O
Mg	1.658	MgO
	3.468	$MgCO_3$
Mn	1.291	MnO
Na	1.348	Na_2O
Nb	1.431	Nb_2O_5
Ni	1.273	NiO
P	2.291	P_2O_5
Rb	1.094	Rb_2O
Si	2.139	SiO_2
Sn	1.270	SnO_2
Sr	1.185	SrO
Ta	1.221	Ta_2O_5
Th	1.138	ThO_2
Ti	1.668	TiO_2
U	1.179	U_3O_8
V	1.785	V_2O_5
W	1.261	WO_3
Y	1.270	Y_2O_3
Zr	1.351	ZrO_2

WEB ACCESS

Web Access is a secure web interface for our customers to obtain direct access to the Bureau Veritas Upstream Minerals laboratory database.

Web Access is a fully compliant .NET application designed for Microsoft Internet Explorer. Using this system, our customers may gain access to their data any time of the day or night. In addition customers are provided access to:

- All PDF documents pertaining to each sample submission such as the original sample submission form, certificates, invoices, and facturas (for Latin America);
- PDF documents that apply to the project such as the pricing quote and template submission forms;
- PDF documents that describe the analytical methods;
- Quality Control documents reviewing standard and replicate performance.

SAMPLE TRACKING SYSTEM

Upstream Minerals uses the LIMS (Laboratory Information Management System) to track the flow of every sample through each stage of sample handling and analysis. When received, each sample is bar coded and labeled. This unique barcode is used to build an audit trail that documents the complete history of work performed on each sample. This includes recording each and every person that has touched each sample and the work that they performed. This provides the laboratories with a very high level of control but also provides our clients with an unprecedented level of traceability and sample tracking.

BOX TRACKING SYSTEM

Each bar coded sample is allocated into a bar coded sample box, typically 36 samples per box, but this could be up to several hundred per box. This allows BVML to track each box as it moves from one laboratory to another and allows our clients to monitor the progress of their samples from a remote sample preparation facility to the main laboratory. More importantly, this system speeds the flow of the samples through the laboratory by utilizing bar coding to eliminate time consuming manual steps.

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"Industry Leading Solutions for the Exploration & Mining Community"

BUREAU VERITAS
MINERALS