



Standards Council of Canada
Accredited Laboratory
Scope of Accreditation 538



Conseil canadien des normes
Laboratoire accrédité
Portée d'accréditation 538

TM

FEE SCHEDULE



2011

PRICES IN CANADIAN FUNDS

CANADA 

**SCOPE OF ACCREDITATION
TSL LABORATORIES INC.
#2-302 48th Street East
Saskatoon, SK S7K 6A4**

Accredited Laboratory No.538
(Conforms with requirements of
CAN-P-1579, CAN-P-4E (ISO/IEC 17025:2005))

Contact: Mr. Mark Acres TEL: (306) 931-1033
General Manager FAX: (306) 242-4717
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CLIENTS SERVED: All interested parties
FIELDS OF TESTING: Chemical/Physical
PROGRAM SPECIALTY AREA: Mineral Analysis
ISSUED ON: 2008-02-12 VALID TO: 2012-04-14

METALLIC ORES AND PRODUCTS

**Assay
Umpire Assay Work
Contract Settlement Assaying
Mineral Assaying
(Rock, Ores, Soils & Sediments)**

- A2 - Geochem analysis using Aqua Regia extraction with Atomic Absorption Finish
Only for: Silver, Arsenic, Cobalt, Copper, Nickel, Lead, Zinc**
- B5, B6, B7 - Assay analysis using Aqua Regia digestion with Atomic Absorption Finish
Only for: Silver, Arsenic, Cobalt, Copper, Nickel, Lead, Zinc**
- C18, C22 - Fire assay with Atomic Absorption or Inductively Coupled Plasma Finish
Only For: Gold ICP, Platinum ICP only, Palladium ICP only**
- D19, D21 - Fire Assay with Gravimetric Finish
Only for: Gold**
- E26 - Assay analysis using Hydrochloric, Nitric, Perchloric and Hydrofluoric acid digestion with Atomic Absorption Finish
Only for: Cobalt, Copper, Nickel, Lead, Zinc**

Notes:

CAN-P-4E (ISO/IEC 17025): General Requirements for the Competence of Testing and Calibration Laboratories ISO/IEC 17025-2005)
CAN-P-1579: Guidelines for the Accreditation of Mineral Analysis Testing Laboratories

P. Paladino, P. Eng., Director, Conformity Assessment

Date: 2008-02-12
Number of Scope Listings: 5
SCC 1003-15/676
Partner File #0
Partner: None

TSL Laboratories Since 1981

At TSL Laboratories, we endeavor to provide the best possible service to you, our client. We remember always that our real reason for growth is your satisfaction.

Our Commitment:

- Provide quality analyses, inserting repeats, certified and in-house standards at regular intervals
- Exceptional turnaround time

The procedures available at TSL are the most appropriate methods in terms of quality and cost. Special discounts can be arranged for larger projects.

Our management team at TSL Laboratories would be pleased to discuss terms with you.

SAMPLE PREPARATION

DRILL CORE / ROCK

STANDARD PREPARATIONS

Crush entire sample to 70% passing 10 mesh (1.70 mm)	\$ 7.65
Riffle split and pulverize ~250 g to 95% passing 150 mesh (106 µm)	
Surcharge for sample size above 2.5 kg	\$ 0.50/kg
Crush entire sample to 95% passing 10 mesh (1.70 mm)	\$11.45
Riffle split and pulverize ~1000 g to 95% passing 150 mesh (106 µm)	
Surcharge for sample size above 2.5 kg	\$ 1.00/kg

All equipment is cleaned with compressed air and brushes

INDIVIDUAL PREPARATIONS

Crush up to 2.5 kg, 70% passing 10 mesh (1.70 mm)	\$ 4.15
Second split of reject at initial crush	\$ 1.60
Second split from previously crushed reject	\$ 3.75
Pulverize up to 250 g, 95% passing 150 mesh (106 µm)	\$ 4.25
Pulverize up to 1000 g, 95% passing 150 mesh (106 µm)	\$ 6.35
Silica sand wash between samples	\$ 1.50

SOIL / SEDIMENT

Dry, sieve soils – Screened at 80 mesh (180 µm)	\$ 3.50
Dry, macerate vegetation	\$ 4.50

EXTRAS

Special preparation procedures may be adopted at the client's request. These prices will be set accordingly. No charge will be applied for handling pulps not prepared at TSL Laboratories. The client will be notified prior to analyses if prepared pulps do not meet our standard preparation criteria.

PRECIOUS METALS

GEOCHEMICAL ANALYSIS

Gold	FA/AA	30 g	\$ 13.95
Gold	FA/AA	50 g	\$ 16.95
Gold, Platinum, Palladium	FA/ICP	30 g	\$ 19.55

ASSAYS

Gold	FA/Gravimetric	1 AT	\$ 16.95
Gold	FA/Gravimetric	2 AT	\$ 20.25
Silver	FA/Gravimetric	1 AT	\$ 17.45
Gold & Silver	FA/Gravimetric	1 AT	\$ 20.75
Gold Concentrate	FA/Gravimetric	1 AT	\$ 47.00
Silver Concentrate	FA/Gravimetric	1 AT	\$ 47.00
Bullion Fineness	Gold or Silver		\$ 79.00
Screen Metallic up to 1 kg			\$ 59.95

Screen Metallic Assay includes:

- Crush entire sample
- Pulverize entire sample to 95% passing 150 mesh
- Screen entire sample through 150 mesh
- Assay entire +150 mesh fraction
- Duplicate assay of -150 mesh fraction
- Weighted average of Gold for entire sample

TRACE LEVEL GEOCHEMICAL ANALYSIS
AQUA REGIA AA FINISH

Antimony	Sb	Manganese	Mn		
Arsenic	As	Molybdenum	Mo		
Cadmium	Cd	Nickel	Ni	First Element	\$ 3.95
Cobalt	Co	Silver	Ag	Each Additional Element	\$ 1.75
Copper	Cu	Vanadium	V	(on same sample solution)	
Iron	Fe	Zinc	Zn		
Lead	Pb				

SINGLE ELEMENT GEOCHEM ANALYSIS

Antimony	Sb	\$ 7.00
Arsenic	As	\$ 7.00
Barium	Ba	\$ 12.00
Beryllium	Be	\$ 7.00
Bismuth	Bi	\$ 6.50
Boron	B	\$ 10.00
Chromium	Cr	\$ 10.00
Copper-Oxide		\$ 10.00
Fluorine	F	\$ 10.00
Gallium	Ga	\$ 7.00
Germanium	Ge	\$ 10.00
Mercury	Hg	\$ 6.50
Niobium	Nb	\$ 10.00
Phosphorous	P	\$ 10.00
Selenium	Se	\$ 7.00
Strontium	Sr	\$ 6.00
Tellurium	Te	\$ 7.00
Tin	Sn	\$ 9.50
Tungsten	W	\$ 6.00

ORE GRADE ASSAY PACKAGE - AA FINISH

		Detection Limit		AQUA REGIA	MULTIACID
Cobalt	Co	.01			
Copper	Cu	.01	First Metal	\$ 8.90	\$ 9.90
Nickel	Ni	.01	Each Additional	\$ 4.50	\$ 4.50
Lead	Pb	.01	(on same sample solution)		
Silver	Ag	.01			
Zinc	Zn	.01			

SINGLE ELEMENT ASSAYS

Aluminum (as oxide)	Al ₂ O ₃	\$ 12.50	Molybdenum	Mo	\$ 9.90
Antimony	Sb	\$ 10.00	Niobium	Nb	\$ 25.00
Arsenic	As	\$ 12.50	Phosphorous (as oxide)	P ₂ O ₅	\$ 12.50
Barium	Ba	\$ 12.50	Potassium (as oxide)	K ₂ O	\$ 12.50
Beryllium	Be	\$ 16.00	Silica (insoluble)	SiO ₂	\$ 10.00
Bismuth	Bi	\$ 12.50	Silica (as oxide) (fusion)	SiO ₂	\$ 12.50
Boron	B	\$ 18.00	Sodium (as oxide)	Na ₂ O	\$ 12.50
Cadmium	Cd	\$ 9.00	Specific Gravity	S.G.	\$ 11.00
Calcium (as oxide)	CaO	\$ 12.50	Strontium	Sr	\$ 12.50
Chromium (as oxide)	Cr ₂ O ₃	\$ 11.00	Sulphur (elemental)	S	\$ 21.00
Gallium	Ga	\$ 30.00	Sulphur (total)	S	\$ 11.00
Iron (Total-Triacid)	Fe	\$ 9.90	Sulphate	SO ₄	\$ 13.00
Iron Acid Soluble	Fe	\$ 9.50	Sulphide		\$ 20.00
Loss on Ignition	LOI	\$ 8.00	Tin	Sn	\$ 11.00
Magnesium (as oxide)	MgO	\$ 9.90	Titanium (as oxide)	TiO ₂	\$ 12.50
Manganese (as oxide)	MnO	\$ 9.90	Vanadium	V	\$ 12.50
Moisture	H ₂ O	\$ 7.00			

Control assays, concentrates, metallurgical samples and Umpire Assays - Prices upon Request

ICP MULTIELEMENT PACKAGE

The Aqua Regia Leach digestion liberates most of the metals except those marked with an asterisk, where the digestion will not be complete.

Multiacid (HNO₃-HClO₄-HF-HCl) digestion prices upon request.

Element		ICP - AES Aqua Regia	ICP - MS Aqua Regia
Silver	Ag	0.3 ppm	0.1 ppm
Aluminum	Al*	0.01%	0.01%
Arsenic	As	2 ppm	0.5 ppm
Gold	Au		0.5 ppb
Boron	B*		1 ppm
Barium	Ba*	1 ppm	1 ppm
Beryllium	Be*	1 ppm	
Bismuth	Bi	3 ppm	0.1 ppm
Calcium	Ca*	0.01%	0.01%
Cadmium	Cd	0.5 ppm	0.1 ppm
Cobalt	Co	1 ppm	0.1 ppm
Chromium	Cr*	1 ppm	1 ppm
Copper	Cu	1 ppm	0.1 ppm
Iron	Fe*	0.01%	0.01%
Gallium	Ga*		1 ppm
Mercury	Hg		0.01 ppm
Potassium	K*	0.01%	0.01%
Lanthanum	La*		1 ppm
Magnesium	Mg*	0.01%	0.01%
Manganese	Mn*	2 ppm	1 ppm
Molybdenum	Mo	1 ppm	0.1 ppm
Sodium	Na*	0.01%	0.001%
Nickel	Ni	1 ppm	0.1 ppm
Phosphorous	P*	0.001%	0.001%
Lead	Pb	3 ppm	0.1 ppm
Sulfur	S		0.05%
Antimony	Sb	3 ppm	0.1 ppm
Scandium	Sc		0.1 ppm
Selenium	Se		0.5 ppm
Tin	Sn*	5 ppm	
Strontium	Sr*	1 ppm	1 ppm
Tellurium	Te		1 ppm
Thorium	Th*		0.1 ppm
Titanium	Ti*	0.01%	0.001%
Thallium	Tl		0.1 ppm
Uranium	U*		0.1 ppm
Vanadium	V*	1 ppm	2 ppm
Tungsten	W*	2 ppm	0.1 ppm
Yttrium	Y	1 ppm	
Zinc	Zn	1 ppm	1 ppm
Zirconium	Zr*	1 ppm	
All Elements		\$9.35	\$15.25

WHOLE ROCK BY ICP-AES
LiBO₂ - FUSION

Basic Package Features:		Detection Limit
Silica Oxide	SiO ₂	0.02%
Aluminum Oxide	Al ₂ O ₃	0.03%
Iron Oxide	Fe ₂ O ₃	0.04%
Magnesium Oxide	MgO	0.01%
Calcium Oxide	CaO	0.01%
Sodium Oxide	Na ₂ O	0.01%
Potassium Oxide	K ₂ O	0.04%
Titanium Oxide	TiO ₂	0.01%
Phosphorous Oxide	P ₂ O ₅	0.01%
Manganese Oxide	MnO	0.01%
Chromium Oxide	Cr ₂ O ₃	0.001%
Loss on Ignition	LOI	0.1%
Barium	Ba	5 ppm
Nickel	Ni	20 ppm
Strontium	Sr	10 ppm
Zirconium	Zr	10 ppm
Yttrium	Y	10 ppm
Niobium	Nb	10 ppm
Scandium	Sc	1 ppm

Price per sample \$32.90

SAMPLE SHIPPING

Shipping labels and submittal forms are supplied without cost upon request. Proper numbering of samples with either sample tags or indelible pens is encouraged to help staff in handling of samples.

International shipments should be clearly marked:

Geological Materials for Analysis Only
No Commercial Value

SAMPLE STORAGE

First 3 months of sample storage - Free

Longer than 3 months - To be arranged

Pulp Storage:	250 gram	\$ 0.05 / month
	1 kg	\$ 0.15 / month
Reject is dependent on sample size - typically at		\$ 0.20 / month

TSL Laboratories will take all reasonable precautions to protect samples and rejects during analyses and storage, but will not incur any liability for loss, deterioration, or damage to samples from any cause.

Prices are subject to change without notice.

DATA TRANSFER

The following services are available to the client without cost.

- Faxing (within North America)
- E-mail
- Signed Certificate sent via Canada Post.

EQUIVALENCES

Selected Weights, Measures and Conversion Factors
used in the Precious Metals Industry

parts per million (ppm)
parts per billion (ppb)
1 assay ton (A.T.)

1 ppm = 1 g/tonne = 1000 ppb = .0001 %
 10,000 ppm = 1 %
 1 Short ton = 2000 pounds = 29,166.7 Troy ounces
 1 Troy ounce = 31.1035 grams
 1 Metric tonne = 1000 Kilograms = 2204.6 pounds

CONVERSION CHART

$$\frac{1 \text{ ppm}}{34.285714} = \text{Troy ounces per ton}$$

ppb	oz/ton
5	0.00015
10	0.00029
20	0.00058
30	0.00088
40	0.00117
50	0.00146
60	0.00175
70	0.00204
80	0.00233
90	0.00263
100	0.00292
200	0.0058
300	0.0088
400	0.0117
500	0.0146
600	0.0175
700	0.0204
800	0.0233
900	0.0263
1000	0.0292

ppm or g/tonne	oz/ton	%
1	0.029	0.0001
2	0.058	
3	0.088	
4	0.117	
5	0.146	
6	0.175	
7	0.204	
8	0.233	
9	0.263	
10	0.292	0.001
100	2.92	0.01
1000	29.2	0.1
10000	292	1



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