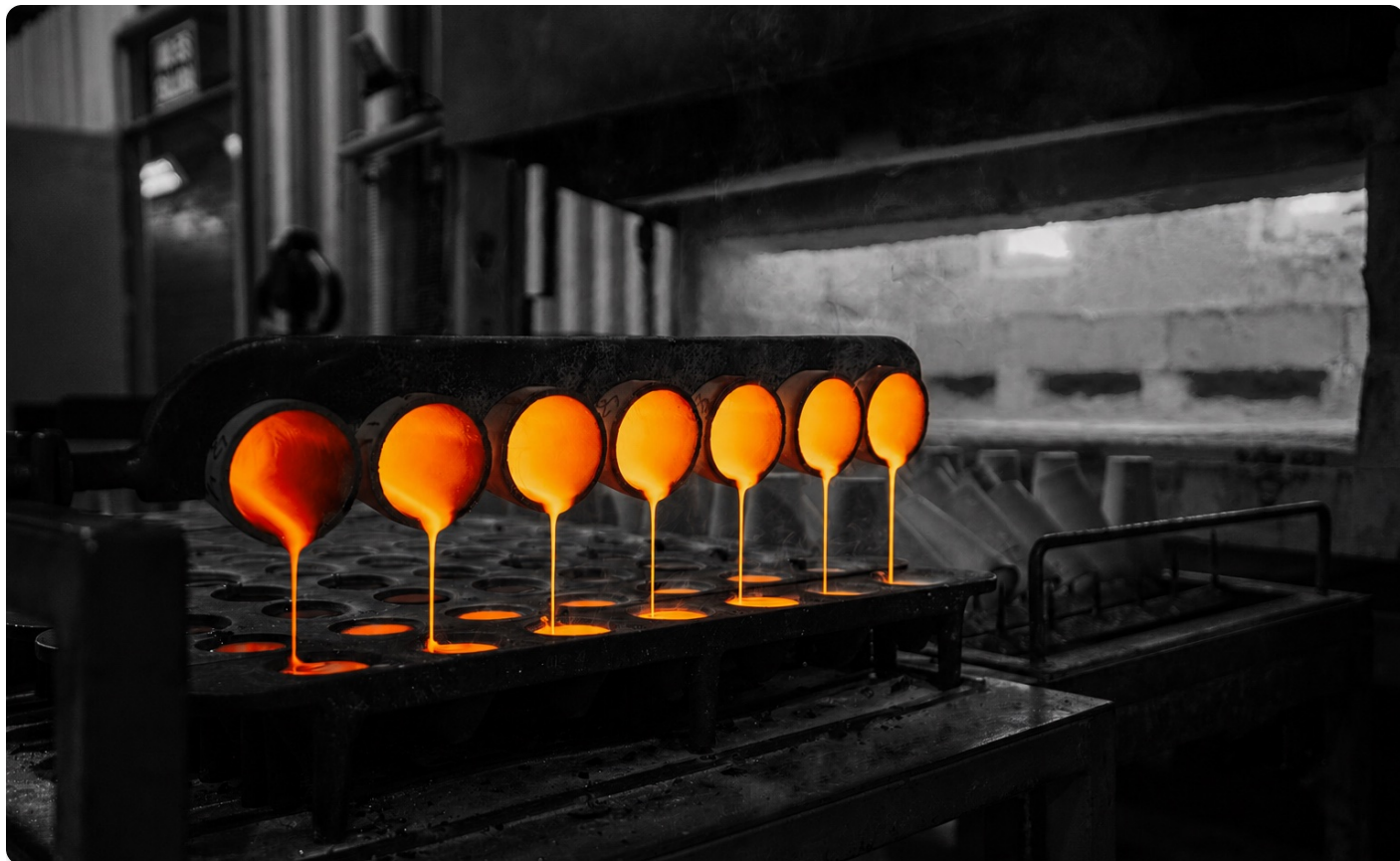




Independent commercial assay laboratory, established 1987.

Current Services & Pricing

ACCREDITATION

CALA · ISO/IEC 17025

CALA Client ID 1003902

Effective

January 2025

(709) 673-3909 info@easternanalytical.ca 403 Little Bay Road, P.O. Box 187, Springdale, NL A0J 1T0

Analytical services



Fire Assay

Gold by classical lead-collection fire assay on 30 g charges — fused, cupelled, and finished by AA, ICP, or gravimetrically. The workhorse method for exploration and grade control, with the AA finish inside the lab's ISO/IEC 17025 accredited scope.

Samples are fused in batches of 24 — each batch carrying a blank and a certified reference standard — with a lead-oxide flux matched to the sample's mineralogy. In the fusion the entire 30 g charge dissolves into molten lead, which collects the precious metals and settles to the bottom of the melt. The lead button is separated from the slag and cupelled in a second furnace, where the lead oxidizes away to leave a silver doré bead carrying the gold.

The bead is parted in nitric acid to take up the silver, then hydrochloric acid is added to form aqua regia — one of the few reagents that dissolves gold. The solution is made to volume and read by atomic absorption. A gravimetric finish, where the gold is weighed directly on a microbalance, is available for high-grade material, and a gold–platinum–palladium suite with ICP finish covers PGE work.

Because the whole charge is consumed in the fusion, fire assay measures total gold regardless of how it is held in the rock. Where gold is coarse or nuggety and a single 30 g charge may not represent the sample, total pulp metallics screening is the better tool.

Total Pulp Metallics

Whole-sample screened fire assay for coarse-gold mineralization, where any single 30 g scoop can miss — or wildly overstate — the nugget effect.

Coarse, free gold never distributes evenly through a pulverized sample, so a single subsample can under- or over-call the true grade. The metallics procedure removes that lottery. The entire sample is crushed and pulverized, then screened at 150 mesh; because native gold is malleable, it smears rather than milling fine, and coarse particles report to the oversize fraction.

The complete +150 mesh fraction is fire assayed as one charge, so every coarse gold particle is captured in the result. A 30 g charge of the homogenized –150 mesh fraction is assayed alongside it, both fraction weights are recorded, and the reported value is the weight-averaged total gold for the whole sample, with the individual fraction assays included for transparency. Screening at 200 mesh and duplicate assays of the minus fraction are available on request.

Ore Grade Assay

Percent-level assays by multi-acid digestion with an AA finish — for mineralized intercepts, concentrates, and ore that read past the range of trace geochemistry.

Trace methods are calibrated for background and anomaly-scale concentrations; run ore through them and the numbers top out or lose precision. The ore grade assay is scaled for high-grade material instead. A small, precisely weighed charge is digested in nitric and perchloric acid on a hot plate, hydrochloric acid is added on a second heating, and the solution is made to volume and read by atomic absorption against ore-grade calibrations. Silver assays use a larger charge for representivity, and antimony digestions add tartaric acid to hold the metal in solution.

The result is assay-grade precision from low fractions of a percent up to concentrate-level metal content. Every batch is digested and analysed with blanks, duplicates, and certified reference standards, and the copper, lead, nickel, silver, and zinc determinations anchor part of the lab's ISO/IEC 17025 accredited scope.

Geochemistry Trace

Single-element trace determinations of copper, lead, zinc, and silver by four-acid digestion with AA finish — plus a water-and-solutions package — for programs that need specific pathfinders rather than a full scan.

A 0.5 g split is digested in nitric, perchloric, hydrofluoric, and hydrochloric acids — the four-acid attack that breaks down silicates as well as sulphides — heated gradually in a water bath, made to volume, and read element by element on atomic absorption. Racks of 24 carry a blank and a CANMET certified standard every run.

The digestion is partial for some resistant mineral species, which is worth keeping in mind when interpreting results from unusual matrices, and once mineralization reaches percent level the ore grade assay is the better tool. A companion package for waters and solutions — pH plus dissolved copper, iron, lead, and zinc by AA — covers monitoring wells, drainage, and process solutions.



ICP-34 Multi-Element

34 elements in one scan by four-acid digestion and ICP-OES — the cost-effective first look at lithogeochemistry and pathfinder elements, commonly paired with fire assay gold.

A 200 mg charge is weighed out and digested in nitric, perchloric, and hydrofluoric acids, taken to dryness, then brought back into solution with hydrochloric acid. The four-acid attack achieves near-total dissolution of most geological matrices, and the finished solution is read on an ICP optical emission spectrometer, which measures the full suite simultaneously from a single aspiration.

The suite spans the rock-forming majors — Al, Ca, Fe, K, Mg, Na, P, S, and Ti — and an exploration-focused trace set including Ag, As, Ba, Be, Bi, Cd, Ce, Co, Cr, Cu, In, La, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, U, V, W, Zn, and Zr. A handful of elements hosted in highly refractory minerals, tungsten, tin, and chromium among them, may dissolve incompletely in some rock types.

Gold is not read from the ICP solution — a 200 mg charge is far too small to represent gold distribution in most samples. The Au + ICP combination package pairs the scan with a 30 g fire assay instead, giving multi-element context and a defensible gold number from one submission. The multi-element scan is run by ICP-OES and is outside the lab's accredited scope.

Lithium Package

Lithium, niobium, tin, and tantalum in a single scan — the LCT-pegmatite suite by four-acid digestion and ICP-OES on a 1 g charge.

Lithium ore minerals — spodumene, petalite, lepidolite — are silicates, so the digestion has to break silicate lattices rather than just leach sulphides. This package uses a full four-acid attack including hydrofluoric acid on a 1 g charge, larger than a standard ICP split, to keep the subsample representative of coarse-grained pegmatite material.

The solution is read by ICP-OES for lithium together with the elements that vector lithium–cesium–tantalum pegmatite systems: niobium, tantalum, and tin. It runs as a standalone package or alongside the ICP-34 scan when broader lithogeochemistry is wanted.



Sample Preparation

Drying, crushing, splitting, and pulverizing for rock, core, soils, tills, and sediments — with documented cleaning between clients to control carry-over.

Rock and core samples are logged against the submittal form, dried at about 60 °C, and jaw-crushed to roughly 80 % passing 10 mesh. The full crushed sample is riffle-split to a ~250 g subsample and the remainder is bagged and stored as coarse reject. The split is pulverized to approximately 95 % passing 150 mesh — the pulp that all downstream assays draw from.

Crushers and pulverizers are cleaned between clients, and between samples where the material warrants it; flagging high-grade samples on the submittal form helps the lab sequence work to keep carry-over risk down. Soils, tills, and stream and lake sediments are dried and sieved or pulverized to spec, and heavy mineral concentrates are handled to order. Prep-only service is available for samples analysed elsewhere, and pulps and rejects are stored after analysis so follow-up work can start from the same material.

Current services & pricing

All prices in CAD and exclude applicable taxes.

Analytical Services

Accredited and non-accredited analytical determinations. Gold by fire assay with AA finish and ore-grade Cu, Pb, Ni, Ag and Zn determinations fall within the lab's ISO/IEC 17025 accredited scope; all other methods, including ICP multi-element scans, are outside scope — ask about accreditation status for a specific determination.

DESCRIPTION	PRICE
FIRE ASSAY	
Au 30g AA Au 30g AA finish - Lower detection limit 5ppb · per sample	\$20.15
Au/Pt/Pd 30g ICP Au, Pt, Pd 30g ICP finish - 3-2500ppb · per sample	\$27.00
Au 30g GRAV Au 30g 30g Gravimetric finish · per sample	\$27.50
TOTAL PULP METALLICS	
Au (TPM) Au (TPM) Analysis Only · per sample	\$37.80
Au (TPM) 2 -30g minus fractions · per sample	\$57.70
Au (TPM) 2 -40g minus fractions · per sample	\$61.05
GEOCHEMISTRY TRACE - MULTI-ACID DIGESTION	
First Element · per sample (1 element)	\$11.00
Per additional Elements · per element	\$5.25
GEOCHEMISTRY WATER/SOLUTIONS - AA FINISH	
First Element · per sample (1 element)	\$16.70
Per additional Elements · per element	\$5.70
ORE GRADE ASSAY - MULTI-ACID DIGESTION	
First element (Choose one of Co, Cu, Pb, Ni, Zn or Fe) · per sample (1 element)	\$14.80
Per additional Elements (Co, Cu, Pb, Ni, Zn or Fe) · per element	\$6.25
Ag · per element	\$17.10
Sb · per element	\$17.10
LITHIUM ANALYSIS	

DESCRIPTION	PRICE
ICP Li,Nb,Ta,Sn 4 element analysis - Li, Nb, Sn, Ta · per sample	\$23.90
ICP -34 MULTI ACID	
ICP-34 Analysis of up to 34 elements per sample · per sample	\$19.25
AU + ICP PACKAGE	
Au 30g + ICP-34 Au 30g + ICP-34 · per sample	\$37.45
Au/Pt/Pd 30g + ICP-34 Au/Pt/Pd 30g + ICP-34 · per sample	\$43.95

Sample Preparation

Drying, crushing, pulverizing, sieving, and splitting, priced by sample matrix and target mesh. Preparation is billed separately from analysis.

DESCRIPTION	PRICE
SOILS AND SILTS	
PC.SOIL Dry at 60°C and sieve to -80mesh (initial 500g) · per 500 g	\$4.75
PC.SOIL Dry and sieve (per additional 500g) · per additional 500 g	\$1.30
PC.SOIL Dry at 60°C and pulverize to -100mesh (up to 250g) · per 250 g	\$6.40
PC.SOIL Sample preparation for 3rd-party analysis · per sample	\$3.90
Excessively wet sample surcharge (initial sample) · per sample	\$3.70
Excessively wet sample surcharge (per additional 1kg) · per additional kg	\$0.85
TILLS AND STREAMS	
PC.TILL80 Dry at 60°C and sieve to -80mesh (initial 500g) · per 500 g	\$5.80
PC.TILL80 Dry and sieve (per additional 500g) · per additional 500 g	\$1.25
PC.TILL150 Dry at 60°C and pulverize to -150mesh (up to 250g) · per 250 g	\$7.20
HEAVY MINERAL CONCENTRATES	
PC.HMC Dry at 60°C and transfer to sample envelope · per sample	\$5.80
PC.HMC Dry at 60°C and pulverizing to -100mesh (per 250 g) · per 250 g	\$4.20
LAKE BOTTOMS OR SEDIMENTS	

DESCRIPTION	PRICE
PC.SED Dry at 60°C and sieve to -80mesh (initial 500g) · per 500 g	\$6.65
PC.SED Dry and sieve (per additional 500g) · per additional 500 g	\$2.15
ROCK AND DRILL CORE	
PC.ROCK	\$11.50
Crush to 80% -10mesh, split 250g and pulverize to 95% 150mesh (up to 3kg) · per sample (≤3 kg)	
PC.ROCK	\$13.90
Crush to 80% -10mesh, split 250g and pulverize to 95% 150mesh (up to an additional 3kg) · per sample (3–6 kg)	
Extra crushing of oversized samples (per kg) · per kg	\$3.00
Pulverizing only (per 250g) · per 250 g	\$5.20
Sample preparation for 3rd-party analysis · per sample	\$4.10
Sample drying for rock chips & sludge (up to 2kg) · per sample (≤2 kg)	\$4.75
Sample drying for rock chips & sludge (per additional 1kg) · per additional kg	\$1.00
METALLIC SIEVE PREP, 150 MESH	
PC.MET	\$29.70
Crush to 80% -10mesh, pulverize and sieve to -150mesh, save fractions for analysis (first 1kg) · per sample	
PC.MET	\$14.85
Crush, pulverize, sieve to -150mesh and save fractions (per additional 500g) · per sample	
METALLIC SIEVE PREP, 200 MESH	
PC.MET	\$31.90
Crush to 80% -10mesh, pulverize and sieve to -200mesh, save fractions for analysis (first 1kg) · per sample	
PC.MET	\$16.50
Crush, pulverize, sieve to -200mesh and save fractions (per additional 500g) · per sample	
METALLIC SIEVE PREP, PRE-CRUSHED SAMPLES	
PC.MET Pulverize, sieve to -150mesh and save fractions for analysis (first 1kg) · per kg	\$27.50

DESCRIPTION	PRICE
PC.MET	\$12.65
Pulverize, sieve to -150mesh and save fractions (per additional 500g) · per additional 500 g	

Miscellaneous Charges

Reporting, special handling, and sample storage or disposal. Applied per job or per sample as noted.

DESCRIPTION	PRICE
REPORTS AND HANDLING	
First Sample · per report	\$7.50
Additional samples · per sample	\$0.35
SPECIAL HANDLING	
Transferring samples from plastic bags · per sample	\$3.90
Weighing & reporting weight of sample · per sample	\$2.50
Saving soil reject · per sample	\$3.05
Pulp/Reject retrieval from storage (per hr) · per hour	\$60.00
STORAGE AND DISPOSAL	
Storage of pulp sample after 3 months (per month) · per sample / month	\$0.20
Storage of reject sample after 3 months (per month) · per sample / month	\$0.30
Return or Disposal of sample · at cost	Cost

Supplies

Sample bags, bottles, tags, and shipping materials available for purchase. Assay tags are included at no charge with an analysis order.

DESCRIPTION	PRICE
3 PART (WATER PROOF) ASSAY TAGS	
50/book (NOTE: Tags included with analysis order) · per book of 50	\$10.50
FIBRE SHIPPING BAGS	
per bag · per bag	\$2.35
SOIL BAGS (KRAFT PAPER)	

DESCRIPTION	PRICE
per bag · per bag	\$0.90
per case of 500 · per case of 500	\$394.00
PLASTIC SAMPLE BAGS (6MIL) 10X16	
per bag · per bag	\$0.53
per case of 250 · per case of 250	\$100.00
PLASTIC SAMPLE BAGS (6MIL) 12X18	
per bag · per bag	\$0.58
per case of 200 · per case of 200	\$92.00
PLASTIC SAMPLE BAGS (6MIL) 18X27	
per case of 200 · per case of 200	\$133.00
PLASTIC BOTTLES	
1 L · each	\$5.25
ACID DRIPPER BOTTLES	
125mL · each	\$5.25
60mL · each	\$3.15
FLAGGING TAPE	
per roll · per roll	\$3.15

Terms & notes

- Prices are in Canadian dollars and exclude applicable taxes.
- Prices are subject to change without notice; contact the lab to confirm current rates for large programs.
- Turnaround, rush service, and third-party subcontract analyses are quoted on request.

Eastern Analytical Ltd.

403 Little Bay Road PO Box 187
Springdale, NL A0J 1T0
Canada

Email: info@easternanalytical.ca
Website: www.easternanalytical.ca
Phone: 709-673-3909
Fax: 709-673-3408



Sample Submittal Form

INTERNAL USE ONLY	
Job Number	_____
Date Received	_____

R results To:

Invoice To:

Same as results ☐ ☒

Company	Company
Address	Address
E-mail	E-mail
Phone	Fax
	Phone
	Fax

Additional Copies To:

Name	E-mail

Submitted By:
Project #:
Date:

Analysis R requested

# Samples	Type of Sample	Sample Sequence (from-to)	Element or Package	Priority/ Service (1.5x Price)

Special Instructions

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Storage & Disposal:

Rejects:	Type of Sample:	
		Return after analysis @cost
		Return after 3 Months @cost
		Discard after 3 Months @cost
		Paid Storage after 3 Months
		Pickup by Sender

R return Address:

Same as results ☐ ☒

Company:
Address:

Note: Rejects and pulps will be disposed after 3 months unless requested.
Charges will apply for disposal and storage of both pulps and rejects.

Authorization:

A signed requisition, becomes a binding contract based on our current prices, for the above services.

Signature of Clients Representative	Date
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