

Certificate of Analysis

MEG, LLC

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Au.22.01

Certified Reference Material

MEAN =	0.299	ppm Au		
95% Confidence =	0.284	to		0.314

MEAN =	0.81	ppm Ag		
95% Confidence =	0.58	to		1.04

Prepared By: MEG, LLC
Analyzed By: Ajeet Milliard, PhD
Manufactured for: MEG LLC
Date of Certification: Tuesday, December 6, 2022

Origin of Reference Material:

Reference material Au.22.01 was created from ore grade silty limestone material from the Black Pine deposit, Idaho.

This material is not intended to be matrix-matched to any specific ore lithology.

Method of Preparation:

403 kg of ore was jaw crushed and roll crushed where necessary.

Three separate batches were comminuted to powder in a ceramic ball mill for 120 hours, each.

Powder was then sieved and rebled as a whole in the ceramic ball mill for 24 hours.

Sizing tests of the final product show greater than 95% pass -177um (-80 mesh).

The standard was packaged in 80 g envelopes, each envelope with a removable sticker-label.

Method of Analysis:

Homogeneity and characterization tests were done at one lab to estimate trace element distributions by aqua regia digestion (0.5 gram) from each of 10 samples.

Ten samples each to 10 laboratories were fire assayed for gold on 30 gram subsamples, and analyzed for silver by aqua regia and ICP-MS/OES on 0.5 gram subsamples. These data were used to certify the material for gold and silver concentration. New fire assay crucibles were used. One set of lab data was not used as it failed T-test criteria.

Summarized Assay Results:

PROJECT: Au.22.01

GOLD Au reported in ppm (parts per million)

DATA POINTS (LAB AVERAGE DATA)	10
MEAN (LABS)	0.299
STANDARD DEVIATION (LABS)	0.008
CV (% RSD)	2.6
RANGE OF VALUES - HIGH	0.310
RANGE OF VALUES - LOW	0.287
95% CONFIDENCE LIMITS	0.284 to 0.314

SILVER Ag reported in ppm (parts per million)

DATA POINTS (LAB AVERAGE DATA)	9
MEAN (LABS)	0.81
STANDARD DEVIATION (LABS)	0.11
% RSD	14.1
RANGE OF VALUES - HIGH	1.00
RANGE OF VALUES - LOW	0.70
95% CONFIDENCE LIMITS	0.58 to 1.04

Statistical Procedures:

Acceptable assay limits are based on the results of 10 samples shipped to each of 10 laboratories.

Some labs assayed submitted samples twice, in different months, or different years.

The samples were submitted with other MEG standards in randomized order, so that as much as possible, real operating conditions were obtained from the participating laboratories. All of the data were used to determine an acceptable range, based on the mean and standard deviation of the "Lab Average Data". The acceptable reporting range is the "95% Confidence Limit", which is the mean +/- 2 standard deviations. Other statistics are provided to help the user assign viable acceptance boundaries.

Standards with an RSD (Relative Standard Deviation) of near or less than 5% are termed "Certified", while RSD's 5% to 15% are designated "Provisional". RSD's over 15% are "Informational".

Instructions and Recommendations for Use:

Submit the entire contents of one 80 g envelope in random locations in the submittal, approximately every 10-20 samples. Use of blanks (samples with "below detection" concentration of analyte) are also recommended, randomly placed every 30-40 samples.

The analytical request should be the same as that used for the round robin assays that generated this certificate.

Intended Use:

The standard material can be used to validate the analysis of samples from ores with a similar grade. As a control sample in routine assay laboratory operations, it should behave within the limits as indicated statistically in this certificate of analysis. Its intended use is to monitor inter-laboratory and instrumental bias within these limits.

The recommended concentrations and limits for this material are based on multiple assays from several laboratories and reflects a consensus of the inherent chemical concentration. These values are a first attempt at a chemical characterization to which later data may be added as experience with the material increases. Later data may be added and recommended concentrations changed as experience with the material increases.

Slight variations in analytical procedures between laboratories will result in slight biases to the recommended statistical limits.

This standard material is not recommended for method development, nor instrumental calibration.

Handling Instructions:

The material is packaged in manila tin-top envelopes for easy open and close use. The material should be reblended just prior to use in the assay laboratory. This can be done with a micro-riffle splitter or rubber sheeting.

Simple agitation and shaking is not sufficient to rehomogenize prior to use.

Normal safety precautions for handling powders are recommended. The use of safety glasses, dust inhalation protection, gloves, and a laboratory coat are suggested.

Safety Notice:

A Material Safety Data Sheet (MSDS) is not required for this material. This material will not release or otherwise result in exposure to a hazardous chemical, under normal conditions of use. Use regular precautions as for any work with fine powder material.

Legal Notice:

This certificate and the referenced material have been prepared with due care and attention. However, MEG, LLC and Ajeet Milliard, PhD., accept no liability for any decisions or actions taken following the use of this geochemical reference material.

Lab Assay Data Used to Calculate "True" Gold and Silver Value:

	Au (ppm)	Ag (ppm)
LAB 1	0.277	0.82
LAB 2	0.303	0.70
LAB 3	0.289	0.77
LAB 4	0.292	0.72
LAB 5	0.303	1.00
LAB 6	0.312	0.76
LAB 7	0.294	
LAB 8	0.304	0.80
LAB 9	0.303	0.72
LAB 10	0.305	1.00

Major Constituents as Oxides

Average of 10 samples: 4-acid, ICPMS (Total Digestion)

Raw Data:	Al%	Ca%	Fe%	K%	Mg%	Na%	P%
ICP/MS Data (n=10):	1.87	10.01	1.34	0.84	0.66	0.01	0.12
Conversion Factor:	1.8899	1.3992	1.4297	1.2046	1.6579	1.348	2.2916
	Al ₂ O ₃	CaO	Fe ₂ O ₃	K ₂ O	MgO	Na ₂ O	P ₂ O ₅
% Oxide:	3.53	14.00	1.92	1.01	1.10	0.02	0.26

Raw Data:	S%	Ti%	Si%
ICP/MS Data (n=10):	0.02	0.01	-
Conversion Factor:	2.4953	1.6681	2.1392
	SO ₃	TiO ₂	SiO ₂
			estimated
% Oxide:	0.05	0.02	78.10

Participating Laboratories:

Activation Labs, Ancaster
Activation Labs, Kamloops
ALS, Loughrea
ALS, Vancouver
Bureau Veritas-Inspectorate, Sparks

Kappes Cassiday & Associates, Reno
McClelland, Reno
MSA Labs, Langley
Intertek, Perth
SGS Labs, Burnaby

Certified By:



Ajeet Milliard, PhD.