

Certificate of Analysis

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MEG-Au.17.21

Certified Reference Material

MEAN = 1.107 ppm Au

95% Confidence = 0.983 - 1.231

Prepared By: Shea Clark Smith / Minerals Exploration & Environmental Geochemistry

Certified By: Shea Clark Smith, MSc.(Geochemistry)

Manufactured for: MEG LABS

Date of Certification: January 9, 2017

Origin of Reference Material:

Certified Reference Material MEG-Au.17.21 was created from mineralized rock from the Hycroft (Brimstone oxide) pit, Humboldt County, NV.

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

Method of Preparation:

163 Kg of rock (with a natural concentration of 0.65 ppm Au and 23 ppm Ag) was dried at 100C, jaw crushed, and roll crushed to -400 um.

Gold was added to the batch to achieve a concentration of about 1.1 ppm

The batch was comminuted to powder in a ceramic ball mill for 192 hours.

Sizing tests of the final product show greater than 90% pass -74um (-200 mesh).

The standard was packaged in 50 g envelopes, each envelope with a removable sticky-label.

Method of Analysis:

Using the ICPMS capabilities of just one laboratory, homogeneity tests were done to estimate multielement distributions from a 4-acid digestion (0.5 gram) from each of ten samples.

Then, ten samples each to ten laboratories were fire assayed on 30 gram subsamples, and these data were used to certify the material for gold concentration.

Summarized Assay Results:

PROJECT: MEG-Au.17.21 reported in ppm (parts per million)

DATA POINTS (ALL DATA)	104
MEAN (ALL DATA)	1.107
STANDARD DEVIATION (ALL DATA)	0.067
% RSD	6.065
RANGE OF VALUES - HIGH	1.219
RANGE OF VALUES - LOW	0.851
95% CONFIDENCE LIMITS	0.973 to 1.241

DATA POINTS (LAB AVERAGE DATA)	10
MEAN (LABS)	1.107
STANDARD DEVIATION (LABS)	0.062
CV (% RSD)	5.598
RANGE OF VALUES - HIGH	1.193
RANGE OF VALUES - LOW	0.969
95% CONFIDENCE LIMITS	0.983 to 1.231

Statistical Procedures:

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

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 between 5% to 15% are designated "Provisional". RSD's over 15% are "Informational".

Instructions and Recommendations for Use:

Submit the entire contents of one 50 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 gold 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 certification. 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 reflect 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.

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, Minerals Exploration & Environmental Geochemistry (MEG Labs), and Shea Clark Smith, MSc, P.G., accept no liability for any decisions or actions taken following the use of this geochemical reference material.

Assay Data Used to Calculate "True" Gold Value:

Sample	Lab 1 ppm Au	Lab 2 ppm Au	Lab 3 ppm Au	Lab 4 ppm Au	Lab 5 ppm Au	Lab 6 ppm Au	Lab 7 ppm Au	Lab 8 ppm Au	Lab 9 ppm Au	Lab 10 ppm Au
1	1.010	1.14	1.11	1.095	1.135	1.14	1.173	1.091	1.16	1.054
2	1.060	1.09	1.105	1.05	1.13	1.144	1.199	1.106	1.12	1.005
3	1.040	1.12	1.115	1.08	1.125	1.127	1.165	1.134	1.13	0.988
4	1.020	1.11	1.14	1.085	1.115	1.148	1.208	1.102	1.14	1.057
5	1.020	1.11	1.065	1.13	1.115	1.177	1.191	1.096	1.11	0.995
6	1.070	1.16	1.09	1.115	1.125	1.166	1.219	1.043	1.12	0.891
7	1.040	1.15	1.135	1.16	1.155	1.121	1.202	1.059	1.08	0.974
8	1.040	1.17	1.115	1.145	1.135	1.165	1.201	0.989	1.13	0.935
9	1.070	1.15	1.09	1.16	1.145	1.189	1.200	1.127	1.14	0.937
10	1.040	1.16	1.11	1.115	1.15	1.149	1.189	1.143	1.16	0.851
11	1.090					1.146	1.176			
12	1.060									

Major Constituents as Oxides

Average of 10 samples: 4-acid, ICPMS

Raw Data:	Al%	Ca%	Fe%	K%	Mg%	Na%	S%	Ti%	Si%
ICP/MS Data (n=10)	8.00	0.05	2.73	2.27	0.03	0.34	4.98	0.05	
Conversion Factor	1.8899	1.3992	1.4297	1.2046	1.6579	1.348	2.4953	1.6681	2.1392
	AlO2	CaO	Fe2O3	K2O	MgO	Na2O	SO3	TiO2	SiO2
% Oxide:	15.12	0.07	3.90	2.73	0.05	0.45	12.42	0.09	65.16 estimated

Participating Laboratories:

AMERICAN ASSAY (Sparks, NV)
 ACTLABS-ANCASTER
 ALS-LIMA PERU
 ALS-LOUGHREA
 ALS-VANCOUVER

BV-INSPECTORATE (Sparks, NV)
 BV-VANCOUVER
 MCCLELLAND (Sparks, NV)
 SGS-BURNABY
 SKYLINE-TUCSON

Certified By:



Shea Clark Smith, MSc., P.G.