

# Certificate of Analysis

## Shea Clark Smith

Minerals Exploration & Environmental Geochemistry  
P.O. Box 18325 Reno, Nevada, U.S.A. 89511-0325  
Tel: 775-849-2235 Fax: 775-849-2335  
Email: SheaClarkSmith@aol.com Website: SheaClarkSmith.com

### GEOCHEMICAL REFERENCE STANDARD: **A106014X**

MEAN = 1.428% Cu  
95% Confidence = 1.384 - 1.472

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

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

**Manufactured for:** MEG LABS

**Date of Certification:** February 1, 2007

#### Origin of Reference Material:

Geochemical Reference Standard A106012X was prepared from assayed drill cuttings derived from the Rosemont Mine in 2005. This is a typical Arizona porphyry copper system.

#### Method of Preparation:

The composites were dried at 100C for 24 hours, jaw crushed, and roll crushed to -420 um.

The entire amount was ball milled together for 10 hours.

Sizing tests of the final product show >95% pass -105 um (-140 mesh). Five samples of the final product were submitted to 5 laboratories for round robin assaying by 4-acid digestion / ICP/OES and AAS. Data reported in percent (%).

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

#### Summarized Assay Results:

##### PROJECT: A106014X COPPER STANDARD PERCENT (%)

DATA POINTS (ALL DATA)	26
MEAN (ALL DATA)	1.426
STANDARD DEVIATION (ALL DATA)	0.032
% RSD	2.23
RANGE OF VALUES - HIGH	1.488
RANGE OF VALUES - LOW	1.370
95% CONFIDENCE LIMITS	1.363 to 1.388

DATA POINTS (LAB AVERAGE DATA)	5
MEAN (LABS)	1.428
STANDARD DEVIATION (LABS)	0.022
CV (% RSD)	1.56
RANGE OF VALUES - HIGH	1.450
RANGE OF VALUES - LOW	1.388
95% CONFIDENCE LIMITS	1.384 to 1.472

#### Trace Metal Data (Not Certified): 5 Labs each 5 Samples

Ag	Mo
ppm	%
7.08	0.033

#### Statistical Procedures:

Acceptable assay limits for copper are based on the results of 5 samples shipped to each of 5 laboratories located in North America. 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.

**Instructions and Recommendations for Use:**

Submit the entire contents of one 50 g envelope in random locations in the submittal, approximately every 20-30 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.

**Raw Data Use to Calculate "True" Copper Value:** (ordered randomly)

Sample	Lab 1 Cu %	Lab 2 Cu %	Lab 3 Cu %	Lab 4 Cu %	Lab 5 Cu %
1	1.37	1.46	1.44	1.39	1.456
2	1.40	1.44	1.48	1.39	1.441
3	1.43	1.46	1.41	1.4	1.428
4	1.46	1.46	1.47	1.38	1.4
5	1.46	1.42	1.45	1.38	1.421
6				1.39	

**Major Constituents as Oxides (Not Available)**

Average of 1 sample: ALS Chemex ME-MS61

Raw Data:	Al%	Ca%	Fe%	K%	Mg%	Na%	S%	Ti%	Si%
ICP/MS Data (1)									
Conversion Factor	1.8899	1.3992	1.4297	1.2046	1.6579	1.348	2.4953	1.6681	2.1392
	<b>AlO2</b>	<b>CaO</b>	<b>Fe2O3</b>	<b>K2O</b>	<b>MgO</b>	<b>Na2O</b>	<b>SO3</b>	<b>TiO2</b>	<b>SiO2</b> estimated
% Oxide:	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>100.00</b>

**Participating Laboratories:**

Acme Analytical Laboratories Ltd. (Vancouver, BC)  
ALS Chemex (Reno, NV)  
Assayers Canada (Vancouver, BC))

Eco-Tech (Kamloops, BC)  
SGS Canada Inc. (Toronto, ON)

**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.

**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.

**Certified By:** \_\_\_\_\_  
**Shea Clark Smith, MSc., P.G.**