Shea Clark Smith / MEG, Inc., P.O. Box 18325, Reno, Nevada, USA 89511
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MEG 2020 COPPER LEACH STANDARDS (updated: 03-FEB-2020)

AVAILABLE in 50 gram Kraft Envelopes with removable sticky label
Sold with Certificates of Copper Assay (based on 7 laboratories, 70-75 samples)
Cost: $7.25 for Multi-Element
CERTIFIED COPPER CONCENTRATIONS IN PERCENT Other Data: Average of 5 - 25 samples

MEG-Cu.18.01 (0.25% TCu)

SAMPLES AVG = 0.249 MAX = 0.258
LABS AVG = 0.249 MIN = 0.241
MEAN + 10% = 0.274 STDEV = 0.006
MEAN - 10% = 0.224 %RSD = 2.32
n = 81
95% Confidence = 0.237- 0.260

MEG-Cu.18.01 (0.047% QLTCu)

SAMPLES AVG =0.047 MAX = 0.054
LABS AVG = 0.047 MIN =0.041
MEAN + 10% = 0.052 STDEV = 0.004
MEAN - 10% = 0.042 %RSD = 9.45
n= 79
95% Confidence = 0.038- 0.056

MEG-Cu.18.01 (0.044% ASCu)

SAMPLES AVG = 0.044 MAX = 0.051
LABS AVG = 0.044 MIN = 0.037
MEAN + 10% = 0.048 STDEV = 0.005
MEAN - 10% = 0.040 %RSD = 10.40
n= 78
95% Confidence = 0.035- 0.053

Au	Al	Ba	Ca	Fe	K	La	Mg	Mn	Mo	Na	P	S	Sr	Zn
ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm
0.099	5.8	766	1.4	4.3	4.3	23	0.7	765	89	0.65	0.13	2.1	423	178

Source = Robinson Mine, Ely, NV
CERTIFIED FOR TOTAL COPPER, QLTCu, ASCu

MEG-Cu.18.02 (0.24% TCu)

SAMPLES AVG = 0.238 MAX = 0.245
LABS AVG = 0.239 MIN = 0.231
MEAN + 10% = 0.263 STDEV = 0.006
MEAN - 10% = 0.215 %RSD = 2.38
n = 81
95% Confidence = 0.227- 0.250

MEG-Cu.18.02 (0.039% QLTCu)

SAMPLES AVG = 0.039 MAX = 0.046
LABS AVG = 0.039 MIN =0.034
MEAN + 10% = 0.043 STDEV = 0.004
MEAN - 10% = 0.035 %RSD = 9.44
n= 74
95% Confidence = 0.032- 0.047

MEG-Cu.18.02 (0.037% ASCu)

SAMPLES AVG = 0.037 MAX = 0.040
LABS AVG = 0.037 MIN = 0.031
MEAN + 10% = 0.041 STDEV = 0.004
MEAN - 10% = 0.033 %RSD = 9.44
n= 75
95% Confidence = 0.030- 0.044

Au	Al	Ba	Ca	Fe	K	La	Mg	Mn	Mo	Na	P	S	Sr	Zn
ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm
0.104	6.2	818	1.7	4	4.3	21	0.77	710	94	0.73	0.12	1.9	468	118

Source = Robinson Mine, Ely, NV
CERTIFIED FOR TOTAL COPPER, QLTCu, ASCu

MEG-Cu.18.03 (0.34% TCu)

SAMPLES AVG = 0.338 MAX = 0.348
LABS AVG = 0.338 MIN = 0.324
MEAN + 10% = 0.371 STDEV = 0.008
MEAN - 10% = 0.304 %RSD = 2.32
n = 72
95% Confidence = 0.323- 0.354

MEG-Cu.18.03 (0.138% QLTCu)

SAMPLES AVG = 0.137 MAX = 0.164
LABS AVG = 0.138 MIN =0.127
MEAN + 10% = 0.152 STDEV = 0.014
MEAN - 10% = 0.124 %RSD = 9.95
n= 72
95% Confidence = 0.110- 0.165

MEG-Cu.18.03 (0.131% ASCu)

SAMPLES AVG = 0.131 MAX = 0.144
LABS AVG = 0.131 MIN = 0.121
MEAN + 10% = 0.144 STDEV = 0.008
MEAN - 10% = 0.118 %RSD = 5.86
n= 70
95% Confidence = 0.115- 0.146

Au	Al	Ba	Ca	Fe	K	La	Mg	Mn	Mo	Na	P	S	Sr	Zn
ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm
0.133	4.7	600	0.5	5.7	4.4	14	0.5	645	57	0.39	0.08	2.8	269	278

Source = Robinson Mine, Ely, NV
CERTIFIED FOR TOTAL COPPER, QLTCu, ASCu

MEG-Cu.18.04 (0.36% TCu)

SAMPLES AVG = 0.360 MAX = 0.371
LABS AVG = 0.360 MIN = 0.345
MEAN + 10% = 0.396 STDEV = 0.009
MEAN - 10% = 0.324 %RSD = 2.39
n = 75
95% Confidence = 0.343- 0.377

MEG-Cu.18.04 (0.174% QLTCu)

SAMPLES AVG = 0.174 MAX = 0.188
LABS AVG = 0.174 MIN =0.161
MEAN + 10% = 0.191 STDEV = 0.012
MEAN - 10% = 0.157 %RSD = 6.64
n= 76
95% Confidence = 0.151- 0.197

MEG-Cu.18.04 (0.165% ASCu)

SAMPLES AVG = 0.165 MAX = 0.174
LABS AVG = 0.165 MIN = 0.150
MEAN + 10% = 0.182 STDEV = 0.008
MEAN - 10% = 0.149 %RSD = 4.86
n= 74
95% Confidence = 0.149- 0.181

Au	Al	Ba	Ca	Fe	K	La	Mg	Mn	Mo	Na	P	S	Sr	Zn
ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm
0.072	5.2	122	2.2	11.8	1.6	27	0.78	463	40	0.03	0.13	>10	57	175
												SULFIDE		

Source = Robinson Mine, Ely, NV
CERTIFIED FOR TOTAL COPPER, QLTCu, ASCu

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MEG-Cu.18.05 (0.22% TCu)

SAMPLES AVG = 0.218	MAX = 0.224
LABS AVG = 0.218	MIN = 0.208
MEAN + 10% = 0.240	STDEV = 0.006
MEAN - 10% = 0.196	%RSD = 2.53
n = 72	

95% Confidence = 0.207- 0.229

MEG-Cu.18.05 (0.133% QLTCu)

SAMPLES AVG = 0.133	MAX = 0.154
LABS AVG = 0.133	MIN =0.120
MEAN + 10% =0.146	STDEV = 0.012
MEAN - 10% = 0.120	%RSD = 8.83
n= 75	

95% Confidence = 0.109- 0.156

MEG-Cu.18.05 (0.126% ASCu)

SAMPLES AVG = 0.125	MAX = 0.136
LABS AVG = 0.126	MIN = 0.116
MEAN + 10% = 0.139	STDEV = 0.007
MEAN - 10% = 0.113	%RSD = 5.77
n= 75	

95% Confidence = 0.111- 0.140

Au	Al	Ba	Ca	Fe	K	La	Mg	Mn	Mo	Na	P	S	Sr	Zn
ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm
0.063	5.1	124	2.4	11	1.6	27	1	516	39	0.03	0.10	>10	55	145
												SULFIDE		

Source = Robinson Mine, Ely, NV
CERTIFIED FOR TOTAL COPPER, QLTCu, ASCu

MEG-Cu.18.06 (0.36% TCu)

SAMPLES AVG = 0.361	MAX = 0.368
LABS AVG = 0.360	MIN = 0.350
MEAN + 10% = 0.396	STDEV = 0.007
MEAN - 10% = 0.324	%RSD = 1.95
n = 71	

95% Confidence = 0.346- 0.374

MEG-Cu.18.06 (0.215% QLTCu)

SAMPLES AVG = 0.215	MAX = 0.238
LABS AVG = 0.215	MIN =0.196
MEAN + 10% = 0.237	STDEV = 0.016
MEAN - 10% = 0.194	%RSD = 7.51
n= 70	

95% Confidence = 0.183- 0.248

MEG-Cu.18.06 (0.207% ASCu)

SAMPLES AVG = 0.207	MAX = 0.213
LABS AVG = 0.207	MIN = 0.203
MEAN + 10% = 0.228	STDEV = 0.004
MEAN - 10% = 0.186	%RSD = 1.88
n= 71	

95% Confidence = 0.199- 0.214

Au	Al	Ba	Ca	Fe	K	La	Mg	Mn	Mo	Na	P	S	Sr	Zn
ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm
0.052	5.7	326	2.0	6.6	2.3	20	0.8	267	70	0.56	0.11	6.1	178	85

Source = Robinson Mine, Ely, NV
CERTIFIED FOR TOTAL COPPER, QLTCu, ASCu

Preparation Methods

Mineralized source rock is dried, crushed, blended, and reduced to powder using either (or both) ring & puck pulverizers and ceramic ball mill. Prior to 2018, product from the mill was sieved through an 80 mesh (177um) screen. The -80 mesh product is tested for particle size distribution, with an acceptable criterion of 95% pass 200 mesh. After 2018, product from the mill is sieved through a 200 mesh (74 um) sieve with 100% passing 200 mesh. If the product is known to contain metal sulfides, futher blending is done with a rotary splitter to assure homogenous particle distribution. The product is immediately packaged into tintop envelopes of 50 grams to reduce and isolate gravity separation and redistribution that may occur in bulk packaging. To each envelope is attached a removable sticky label for the accuracy of assay submittal records.

Statistical Methods

Numerical parameters are determined and presented for each standard. The mean of all samples is stated as "Samples Avg". "Samples Avg" disregards between-lab bias and includes a measure of variance for the entire population comprised of individual samples. The mean of all labs is stated as "Labs Avg", which incorporates a measure of laboratory bias, yet reduces the affects of within-lab variance. The best estimate of the True Mean is considered to be the "Labs Avg", and from this mean are calculated Standard Deviation, Min, Max, %Relative Standard Deviation, and the 95%Confidence Limits of +/- 2 standard deviations.

5%RSD = Excellent for measurements of accuracy with high degree of certainty.
5%RSD - 10%RSD = Good for measurements of accuracy with moderate degree of certainty.
10%RSD - 15%RSD = Provisional for measurements of accuracy with low degree of certainty.

Users are encouraged to refine these initial statistical parameters by adding their own data .

Liability Statement

MEG Standards are intended for use as QAQC monitors for analytical submittals, and not for use in the calibration of instrumental methods. These geochemical reference materials and the statistics that charaterize them have been prepared with professional care and attention to detail. Shea Clark Smith / MEG, Inc. and Shea Clark Smith, MSc. accept no liability for any decisions or actions that have been taken following the use of these reference materials. Liability is limited to only the cost of the reference material.