Shea Clark Smith / MEG, Inc., P.O. Box 18325, Reno, Nevada, USA 89511
www.SheaClarkSmith.com Tel: 775-849-2235 Email: SheaClarkSmith@aol.com

MEG 2020 GOLD+SILVER+COPPER STANDARDS (updated: 03-FEB-2020)

AVAILABLE in 50 gram Kraft Envelopes with removable sticky label
Sold with Certificates of Assay Gold & Silver & Copper (based on 5-10 laboratories, 20-100 samples)
Cost: $7.25 for Au + Multi-element
GOLD, SILVER, COPPER CONCENTRATIONS IN PPM **Other Data: Average of 5 - 25 samples**

MEG-Au.13.01 (0.31 ppm Au)

SAMPLES AVG = 0.308	MAX = 0.334
LABS AVG = 0.308	MIN = 0.282
MEAN +10% = 0.322	STDEV = 0.014
MEAN - 10% = 0.294	%RSD = 4.6
n = 57	

95% Confidence = 0.279 - 0.337

MEG-Au.13.01 SILVER

SAMPLES AVG = 0.821	MAX = 1.200
LABS AVG = 0.833	MIN = 0.600
MEAN + SD = 0.916	STDEV = 0.181
MEAN - SD = 0.750	%RSD = 21.8
n = 51	

95% Confidence = 0.470 - 1.195

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
0.833	70	30	2.7	1400	50	1.50	4	130

Source = Springpole, Ontario

MEG-Au.17.01 (0.38 ppm Au)

SAMPLES AVG = 0.382	MAX = 0.471
LABS AVG = 0.381	MIN = 0.320
MEAN + 10% = 0.419	STDEV = 0.015
MEAN - 10% = 0.343	%RSD = 3.9
n = 108	

95% Confidence = 0.351 - 0.410

MEG-Au.17.01 SILVER

SAMPLES AVG = 6.525	MAX = 7.6
LABS AVG = 6.522	MIN = 5.8
MEAN + 10% = 7.174	STDEV = 0.203
MEAN - 10% = 5.870	%RSD = 3.1

95% Confidence = 6.115 - 6.929

MEG-Au.17.01 COPPER

SAMPLES AVG = 723	MAX = 766
LABS AVG = 723	MIN = 654
MEAN + 10% = 795	STDEV = 19
MEAN - 10% = 651	%RSD = 2.6

95% Confidence = 686 - 761

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
6.52	115	723	5.2	3700	55	0.20	40	85

Source = Walker Mine, Portola, CA

MEG-Au.17.02 (0.51 ppm Au)

n =

SAMPLES AVG = 0.511	MAX = 0.654
LABS AVG = 0.511	MIN = 0.405
MEAN + 10% = 0.562	STDEV = 0.030
MEAN - 10% = 0.460	%RSD = 5.8
n= 112	

95% Confidence = 0.452 - 0.571

MEG-Au.17.02 SILVER

SAMPLES AVG = 4.993	MAX = 6.0
LABS AVG = 4.988	MIN = 4.2
MEAN + 10% = 5.487	STDEV = 0.236
MEAN - 10% = 4.489	%RSD = 4.7

95% Confidence = 4.517 - 5.460

MEG-Au.17.02 COPPER

SAMPLES AVG = 1084	MAX = 1151
LABS AVG = 1084	MIN = 980
MEAN + 10% = 1192	STDEV = 23
MEAN - 10% = 976	%RSD = 2.1

95% Confidence = 1039 - 1130

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
4.99	12	1084	6.6	5700	110	0.20	20	110

Source = Walker Mine, Portola, CA

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MEG-Au.17.03 (0.57 ppm Au)

SAMPLES AVG = 0.565	MAX = 0.720
LABS AVG = 0.566	MIN = 0.424
MEAN + 10% = 0.562	STDEV = 0.067
MEAN - 10% = 0.460	%RSD = 11.9
n = 113	PROVISIONAL

95% Confidence = 0.431 - 0.701

MEG-Au.17.03 COPPER

SAMPLES AVG = 224	MAX = 262
LABS AVG = 222	MIN = 198
MEAN + 10% = 246	STDEV = 16
MEAN - 10% = 200	%RSD = 7.2

95% Confidence = 190 - 253

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
<0.4	<3	222	0.9	30	<5	0.12	<5	7

Source = Blend of AZ Porphyry ores

MEG-Au.12.25 (0.72 ppm Au)

SAMPLES AVG = 0.720	MAX = 0.769
LABS AVG = 0.719	MIN = 0.656
MEAN + 10% = 0.791	STDEV = 0.032
MEAN - 10% = 0.647	%RSD = 4.4
n = 48	

95% Confidence = 0.655 - 0.782

MEG-Au.12.25 SILVER

SAMPLES AVG = 4.4	MAX = 7.2
LABS AVG = 4.4	MIN = 1.3
MEAN +10% = 4.84	STDEV = 0.5
MEAN - 10% = 3.96	%RSD = 11.1
n = 45	

95% Confidence = 3.4 - 5.4

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
4.40	210	60	4.8	25	710	4.5	7	10

Source = Borealis Mine, NV

MEG-Au.13.02 (0.75 ppm Au)

SAMPLES AVG = 0.746	MAX = 0.824
LABS AVG = 0.746	MIN = 0.697
MEAN +10% = 0.821	STDEV = 0.039
MEAN - 10% = 0.671	%RSD = 5.3
n = 56	

95% Confidence = 0.667 - 0.824

MEG-Au.13.02 SILVER

SAMPLES AVG = 3.943	MAX = 5.200
LABS AVG = 3.962	MIN = 3.400
MEAN +10% = 4.358	STDEV = 0.352
MEAN - 10% = 3.566	%RSD = 8.9
n = 56	

95% Confidence = 3.258 - 4.665

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
3.96	30	95	4	500	210	2.8	3	310

Source = Springpole, Ontario

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MEG-Au.12.13 (0.90 ppm Au)

SAMPLES AVG = 0.891	MAX = 0.940
LABS AVG = 0.879	MIN = 0.750
MEAN +10% = 0.967	STDEV = 0.059
MEAN - 10% = 0.791	%RSD = 6.7
n = 50	

95% Confidence = 0.761 - 0.997

MEG-Au.12.13 SILVER

SAMPLES AVG = 33.49	MAX = 41.1
LABS AVG = 33.40	MIN = 28.6
MEAN +10% = 36.74	STDEV = 3.23
MEAN - 10% = 30.06	%RSD = 9.67
n = 51	

95% Confidence = 26.94 - 39.85

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
33.4	1060	60	4.8	900	145	0.3	150	100

Source = Borealis Mine ore + pediment

MEG-Au.13.03 (1.8 ppm Au)

SAMPLES AVG = 1.823	MAX = 2.019
LABS AVG = 1.823	MIN = 1.626
MEAN +10% = 2.005	STDEV = 0.107
MEAN - 10% = 1.641	%RSD = 5.9
n = 57	

95% Confidence = 1.609 - 2.038

MEG-Au.13.03 SILVER

SAMPLES AVG = 4.482	MAX = 5.600
LABS AVG = 4.476	MIN = 3.200
MEAN +10% = 4.924	STDEV = 0.560
MEAN - 10% = 4.028	%RSD = 12.5
n = 56	

95% Confidence = 3.356 - 5.596

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
4.48	100	85	9.60	540	270	0.40	22	420

Source = Springpole, Ontario

MEG-Au.11.13 (1.8 ppm Au)

SAMPLES AVG = 1.806	MAX = 1.932
LABS AVG = 1.806	MIN = 1.669
MEAN +10% = 1.987	STDEV = 0.081
MEAN - 10% = 1.625	%RSD = 4.5
n = 50	

95% Confidence = 1.644 - 1.969

MEG-Au.11.13 TOTAL SILVER

SAMPLES AVG = 20.6	MAX = 22.4
LABS AVG = 20.5	MIN = 18.1
MEAN +10% = 22.55	STDEV = 1.3
MEAN - 10% = 18.45	%RSD = 6.5
n = 24	

95% Confidence = 17.8 - 23.2

MEG-Au.11.13 AQ. REGIA SILVER

SAMPLES AVG = 10.7	MAX = 11.5
LABS AVG = 10.6	MIN = 9.7
MEAN +10% = 11.66	STDEV = 0.7
MEAN - 10% = 9.54	%RSD = 7.0
n = 17	

95% Confidence = 9.1 - 12.1

TAg	AR-Ag	As	Cu	Fe	Pb	S	Sb	Zn
ppm	ppm	ppm	ppm	%	ppm	%	ppm	ppm
20.5	10.6	2500	130	7.9	80	2.3	490	11

Source = 0.45 ppm Au ore, Freedom Flats, NV

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MEG-LWA-34 (2.3 ppm Au)

SAMPLES AVG = 2.264	MAX = 2.420
LABS AVG = 2.263	MIN = 1.963
MEAN +10% = 2.489	STDEV = 0.123
MEAN - 10% = 2.037	%RSD = 5.4
n = 51	

95% Confidence = 2.017 - 2.509

MEG-LWA-34 SILVER

SAMPLES AVG = 1.833	MAX = 2.905
LABS AVG = 1.854	MIN = 1.000
MEAN +10% = 2.039	STDEV = 0.419
MEAN - 10% = 1.669	%RSD = 22.6
n = 39	

95% Confidence = 1.015 - 2.693

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
1.85	200	900	22	750	15	4.0	10	350

Source = 2 ppm Au, Lone Pine Mine, WA
(previously MEG-S106007X)

MEG-Au.12.27 (2.9 ppm Au)

SAMPLES AVG = 2.933	MAX = 3.239
LABS AVG = 2.931	MIN = 2.453
MEAN +10% = 3.224	STDEV = 0.258
MEAN - 10% = 2.638	%RSD = 8.8
n = 49	

95% Confidence = 2.415 - 3.446

MEG-Au.12.27 SILVER

SAMPLES AVG = 608.3	MAX = 662
LABS AVG = 607.3	MIN = 549
MEAN +10% = 668	STDEV = 38.7
MEAN - 10% = 547	%RSD = 6.4
n = 32	

95% Confidence = 530 - 685

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
607	50	15	1.4	295	60	0.06	5	85

Source = 0.4 ppm oxidized host ore

MEG-Au.11.15 (3.4 ppm Au)

SAMPLES AVG = 3.457	MAX = 3.667
LABS AVG = 3.445	MIN = 3.194
MEAN +10% = 3.790	STDEV = 0.133
MEAN - 10% = 3.101	%RSD = 3.9
n = 48	

95% Confidence = 3.179 - 3.711

MEG-Au.11.15 SILVER

SAMPLES AVG = 52.14	MAX = 60.3
LABS AVG = 52.15	MIN = 45.9
MEAN +10% = 57.37	STDEV = 3.42
MEAN - 10% = 46.94	%RSD = 6.6
n = 52	

95% Confidence = 45.31 - 58.98

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
52.2	80	7	3	135	25	2.5	20	95

Source = 0.6 ppm Au, Rosebud Mine, NV

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MEG-Au.11.29 (3.6 ppm Au)

SAMPLES AVG = 3.689	MAX = 4.310
LABS AVG = 3.651	MIN = 3.276
MEAN +10% = 4.016	STDEV = 0.319
MEAN - 10% = 3.286	%RSD = 8.7
n = 51	

95% Confidence = 3.013 - 4.289

MEG-Au.11.29 SILVER

SAMPLES AVG = 13.4	MAX = 15.4
LABS AVG = 13.4	MIN = 11.2
MEAN +10% = 14.74	STDEV = 0.9
MEAN - 10% = 12.06	%RSD = 6.7
n = 44	

95% Confidence = 11.6 - 15.2

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
13.4	70	10	2.9	140	20	2.5	10	90

Source = 0.6 ppm Au, Rosebud Mine, NV

MEG-LWA-25 (6.9 ppm Au)

SAMPLES AVG = 6.842	MAX = 7.348
LABS AVG = 6.887	MIN = 6.136
MEAN +10% = 7.576	STDEV = 0.370
MEAN - 10% = 6.198	%RSD = 5.4
n = 55	

95% Confidence = 6.147 - 7.627

n = MEG-LWA-25 SILVER

SAMPLES AVG = 3.136	MAX = 5.000
LABS AVG = 3.149	MIN = 1.100
MEAN +10% = 3.464	STDEV = 0.276
MEAN - 10% = 2.834	%RSD = 8.8
n = 61	

95% Confidence = 2.597 - 3.700

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
3.15	1400	2070	22	570	20	4.1	35	340

Source = 6.5 ppm Au, Lone Pine Mine, WA
(previously MEG-S106008X)

MEG-Au.12.46 (7.5 ppm Au)

SAMPLES AVG = 7.551	MAX = 7.880
LABS AVG = 7.543	MIN = 7.188
MEAN +10% = 8.297	STDEV = 0.276
MEAN - 10% = 6.789	%RSD = 3.7
n = 53	

95% Confidence = 6.991 - 8.094

MEG-Au.12.46 SILVER

SAMPLES AVG = 25.43	MAX = 30.54
LABS AVG = 25.27	MIN = 22.20
MEAN +10% = 27.80	STDEV = 1.77
MEAN - 10% = 22.74	%RSD = 7.0
n = 53	

95% Confidence = 21.72 - 28.81

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
25.3	8200	360	27	50	700	1.2	1050	30

Source = 7.1 ppm Au ore, Borealis Mine, NV

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MEG-Au.11.16 (7.5 ppm Au)

SAMPLES AVG = 7.498	MAX = 7.774
LABS AVG = 7.501	MIN = 7.158
MEAN +10% = 8.251	STDEV = 0.196
MEAN - 10% = 7.751	%RSD = 2.6
n = 53	

95% Confidence = 7.109 - 7.893

MEG-Au.11.16 SILVER

SAMPLES AVG = 26.01	MAX = 33.4
LABS AVG = 26.04	MIN = 19.0
MEAN +10% = 28.64	STDEV = 1.33
MEAN - 10% = 23.44	%RSD = 5.1
n = 75	

95% Confidence = 23.38 - 28.70

Ag	As	Cu	Fe	Mn	Pb	S	Sb	Zn
ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
26.0	8500	375	25	47	750	1.3	1000	30

Source = 7.1 ppm Au ore, Freedom Flats, NV

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 (974 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.