

CDN Resource Laboratories Ltd.

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REFERENCE MATERIAL: CDN-ME-1808

Recommended values and the “Between Lab” Two Standard Deviations

Gold	2.31 gpt	± 0.28 gpt	30 g FA, instrumental	Certified value
Silver	39.0 ppm	± 2.6 ppm	4-Acid / ICP	Certified value
Copper	0.212 %	± 0.010 %	4 Acid / ICP	Certified value
Lead	0.60 %	± 0.02 %	4 Acid / ICP	Certified value
Zinc	3.85 %	± 0.15 %	4 Acid / ICP	Certified value

Note 1: Standards with an RSD of near or less than 5% are certified; RSD's of between 5% and 15% are Provisional; RSD's over 15% are Indicated. Provisional and Indicated values cannot be used to monitor accuracy with a high degree of certainty.

Note 2: Standard CDN-ME-1808 is a high sulphide sample and has been pre-packaged in kraft bags which have been individually vacuum-sealed in nylon bags in either 60g or 100g quantities. It is available for purchase in lots of either 10 x 60g or 10 x 100g. High sulphide samples will stay valid indefinitely while vacuum sealed and should stay that way until the lab is ready to analyse the standard. After opening we cannot guarantee their accuracy for any length of time but resealing and storing in a cold dark place should reduce the oxidation rate.

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: September 10, 2018

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-ME-1808 was prepared by combining miscellaneous ores.

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270-mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone mixer. Splits were taken and sent to 15 commercial laboratories for round robin assaying.

Approximate chemical composition (from whole rock analysis) is as follows:

	Percent		Percent
SiO ₂	55.0	Na ₂ O	3.1
Al ₂ O ₃	11.0	MgO	1.5
Fe ₂ O ₃	11.0	K ₂ O	1.5
CaO	2.8	TiO ₂	0.3
MnO	0.2	LOI	7.0
S	8.3	C	0.5

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ± 2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual “between-laboratory” standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

Assay Procedures:

Au: 30 gr. fire assay pre-concentration, AA or ICP finish.
Ag, Cu, Pb, Zn: 4-acid digestion, AA or ICP finish.

Results from round-robin assaying:

Fire Assay	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
ME-1808-1	2.30	2.39	2.20	1.78	2.04	2.39	2.20	2.50	2.55	2.06	2.46	2.30	2.43	2.41	2.34
ME-1808-2	2.34	2.30	2.24	1.75	1.98	2.63	2.73	2.39	2.24	2.03	2.30	2.06	2.49	2.15	2.20
ME-1808-3	2.10	2.31	2.28	1.84	2.19	1.57	2.47	2.45	2.33	1.98	2.39	2.18	2.41	2.28	2.17
ME-1808-4	2.40	2.36	2.35	1.77	2.15	1.84	2.69	2.47	2.45	2.04	2.21	2.17	2.38	2.44	2.38
ME-1808-5	2.30	2.61	2.26	1.92	2.24	1.51	2.39	2.52	2.19	2.08	2.31	2.17	2.46	2.26	2.17
ME-1808-6	2.09	2.13	2.26	1.76	2.20	2.05	2.39	2.34	2.39	2.04	2.28	2.13	2.59	2.31	2.38
ME-1808-7	2.51	2.34	2.73	1.80	2.14	2.25	2.19	2.49	2.56	1.98	2.27	2.09	2.27	2.59	2.26
ME-1808-8	1.94	2.38	2.12	1.79	2.02	2.26	2.21	2.43	2.40	1.99	2.35	2.18	2.46	2.34	2.17
ME-1808-9	2.24	2.55	2.19	1.94	2.17	2.20	2.17	2.50	2.27	2.03	2.54	2.09	2.47	2.47	2.15
ME-1808-10	2.09	2.43	2.44	1.77	2.23	2.19	2.40	2.40	2.33	2.07	2.25	2.07	2.31	2.48	2.12
Mean	2.23	2.38	2.31	1.81	2.14	2.09	2.38	2.45	2.37	2.03	2.34	2.14	2.42	2.37	2.23
Std. Dev.	0.173	0.133	0.173	0.067	0.091	0.355	0.201	0.058	0.125	0.037	0.102	0.072	0.090	0.129	0.099
% RSD	7.76	5.61	7.48	3.68	4.27	16.98	8.45	2.39	5.27	1.81	4.37	3.34	3.70	5.44	4.43

Instrumental 4 Acid	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t
ME-1808-1	42	39	37	36	37.0	36	41	40	39	40	39.4	40	40	38	39
ME-1808-2	39	40	37	35	37.0	36	41	39	39	40	39.6	41	39	38	40
ME-1808-3	40	44	37	36	39.0	40	42	39	40	40	38.3	42	39	40	36
ME-1808-4	41	40	38	35	39.0	37	44	41	38	39	38.6	39	39	38	39
ME-1808-5	39	39	38	35	38.5	37	44	39	40	39	39.2	40	38	38	37
ME-1808-6	39	40	37	35	38.0	39	42	40	40	40	38.9	40	39	38	37
ME-1808-7	39	40	38	34	40.0	38	41	39	37	39	39.4	38	38	39	38
ME-1808-8	41	41	38	37	38.5	36	42	39	41	39	38.3	41	38	38	38
ME-1808-9	40	39	39	38	38.5	35	44	39	38	39	38.6	39	40	38	39
ME-1808-10	39	38	38	37	37.5	38	39	38	39	40	38.9	39	38	41	38
Mean	40	40	38	36	38.3	37	42	39	39	40	38.9	40	39	39	38
Std. Dev.	1.101	1.633	0.675	1.229	0.949	1.549	1.633	0.823	1.197	0.527	0.469	1.197	0.789	1.075	1.197
% RSD	2.76	4.08	1.79	3.43	2.48	4.16	3.89	2.09	3.06	1.33	1.20	3.00	2.03	2.78	3.14

Notes:

Au results from Lab 4 and 10 were removed for failing the t test.
Ag results from Lab 4 were removed for failing the t test.

Instrumental 4 Acid	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu
ME-1808-1	0.213	0.212	0.203	0.215	0.210	0.220	0.222	0.220	0.210	0.216	0.216	0.217	0.210	0.210	0.210
ME-1808-2	0.209	0.210	0.205	0.214	0.218	0.210	0.220	0.220	0.208	0.212	0.212	0.214	0.207	0.200	0.211
ME-1808-3	0.213	0.214	0.206	0.218	0.222	0.220	0.226	0.220	0.209	0.212	0.204	0.210	0.206	0.210	0.214
ME-1808-4	0.210	0.216	0.210	0.214	0.222	0.210	0.235	0.220	0.204	0.208	0.207	0.213	0.210	0.200	0.213
ME-1808-5	0.211	0.210	0.206	0.215	0.219	0.220	0.232	0.220	0.212	0.204	0.204	0.212	0.207	0.200	0.211
ME-1808-6	0.216	0.215	0.206	0.213	0.216	0.210	0.221	0.220	0.212	0.215	0.203	0.210	0.205	0.200	0.211
ME-1808-7	0.216	0.212	0.207	0.217	0.220	0.220	0.220	0.210	0.203	0.211	0.217	0.217	0.206	0.200	0.213
ME-1808-8	0.211	0.210	0.211	0.214	0.240	0.210	0.221	0.220	0.209	0.210	0.205	0.213	0.204	0.200	0.215
ME-1808-9	0.214	0.212	0.221	0.213	0.225	0.210	0.235	0.220	0.207	0.212	0.209	0.214	0.205	0.200	0.213
ME-1808-10	0.212	0.205	0.215	0.215	0.224	0.210	0.213	0.210	0.201	0.209	0.210	0.212	0.204	0.200	0.212
Mean	0.213	0.212	0.209	0.215	0.222	0.214	0.225	0.218	0.207	0.211	0.209	0.213	0.206	0.202	0.212
Std. Dev.	0.002	0.003	0.005	0.002	0.008	0.005	0.007	0.004	0.004	0.003	0.005	0.002	0.002	0.004	0.002
% RSD	1.11	1.48	2.61	0.71	3.51	2.41	3.26	1.93	1.74	1.63	2.41	1.14	1.05	2.09	0.74
Instrumental 4 Acid	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb
ME-1808-1	0.62	0.57	0.59	0.60	0.61	0.65	0.61	0.62	0.59	0.60	0.61	0.61	0.59	0.59	0.61
ME-1808-2	0.61	0.59	0.60	0.60	0.61	0.67	0.62	0.62	0.60	0.60	0.61	0.60	0.59	0.59	0.60
ME-1808-3	0.61	0.59	0.60	0.61	0.61	0.65	0.62	0.61	0.60	0.61	0.60	0.59	0.58	0.58	0.60
ME-1808-4	0.60	0.60	0.62	0.57	0.61	0.65	0.65	0.61	0.58	0.59	0.60	0.62	0.59	0.58	0.60
ME-1808-5	0.61	0.60	0.62	0.60	0.62	0.67	0.64	0.61	0.61	0.60	0.60	0.58	0.59	0.59	0.60
ME-1808-6	0.61	0.60	0.60	0.58	0.61	0.65	0.61	0.62	0.61	0.61	0.59	0.58	0.59	0.59	0.60
ME-1808-7	0.62	0.59	0.60	0.60	0.62	0.64	0.62	0.60	0.60	0.62	0.61	0.59	0.58	0.58	0.60
ME-1808-8	0.61	0.58	0.59	0.57	0.62	0.64	0.62	0.61	0.61	0.60	0.59	0.59	0.60	0.57	0.60
ME-1808-9	0.61	0.59	0.61	0.58	0.60	0.65	0.66	0.61	0.59	0.60	0.60	0.58	0.59	0.58	0.60
ME-1808-10	0.61	0.58	0.61	0.60	0.62	0.65	0.58	0.61	0.58	0.59	0.61	0.61	0.59	0.58	0.59
Mean	0.61	0.59	0.60	0.59	0.61	0.65	0.62	0.61	0.60	0.60	0.60	0.60	0.59	0.58	0.60
Std. Dev.	0.005	0.008	0.011	0.013	0.007	0.010	0.023	0.006	0.010	0.009	0.007	0.014	0.005	0.007	0.005
% RSD	0.77	1.35	1.84	2.25	1.13	1.58	3.63	1.03	1.68	1.53	1.24	2.41	0.78	1.16	0.80
Instrumental 4 Acid	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn
ME-1808-1	3.87	3.74	3.80	3.75	3.92	4.35	4.02	3.84	3.85	3.91	3.94	3.76	3.86	3.89	3.85
ME-1808-2	3.83	3.75	3.83	3.75	3.86	4.47	3.96	3.88	3.89	3.98	3.94	3.72	3.88	3.76	3.82
ME-1808-3	3.86	3.79	3.90	3.79	3.86	4.34	4.10	3.88	3.91	3.98	3.86	3.79	3.82	3.84	3.87
ME-1808-4	3.84	3.83	3.98	3.77	3.88	4.32	4.20	3.87	3.79	3.89	3.90	3.71	3.82	3.86	3.89
ME-1808-5	3.84	3.76	3.89	3.80	3.83	4.46	4.24	3.86	4.00	3.88	3.87	3.74	3.86	3.81	3.87
ME-1808-6	3.89	3.83	3.89	3.82	3.82	4.31	3.94	3.88	4.01	3.99	3.85	3.72	3.85	3.75	3.85
ME-1808-7	3.90	3.77	3.87	3.81	3.87	4.28	3.95	3.87	4.02	4.01	3.97	3.79	3.80	3.80	3.87
ME-1808-8	3.88	3.75	3.82	3.79	3.94	4.26	3.97	3.84	3.98	3.93	3.83	3.73	3.83	3.77	3.89
ME-1808-9	3.89	3.71	4.00	3.80	3.93	4.29	4.22	3.88	3.83	3.97	3.90	3.74	3.81	3.78	3.86
ME-1808-10	3.88	3.69	3.94	3.84	3.90	4.32	3.89	3.87	3.74	3.88	3.92	3.72	3.78	3.82	3.86
Mean	3.87	3.76	3.89	3.79	3.88	4.34	4.05	3.87	3.90	3.94	3.90	3.74	3.83	3.81	3.86
Std. Dev.	0.024	0.046	0.066	0.029	0.041	0.071	0.130	0.016	0.097	0.050	0.044	0.029	0.031	0.045	0.021
% RSD	0.63	1.21	1.71	0.76	1.06	1.64	3.22	0.41	2.48	1.26	1.13	0.77	0.81	1.19	0.53

Notes:

Cu results from Lab 14 were removed for failing the t test.

Pb and Zn results from Lab 6 were removed for failing the t test.

Participating Laboratories: (not in same order as table of assays)

Argetest, Ankara, Turkey	Intertek, Genalysis, Western Australia
ALS Canada, North Vancouver, BC, Canada	MS Analytical, Langley, BC, Canada
ALS, Loughrea, Ireland	SGS, Vancouver, BC, Canada
ALS, Lima, Peru	SGS, Lima, Peru
ALS, Perth Australia	SGS, Lakefield, Ontario, Canada
Bureau Veritas, Perth, Australia	Skyline Assayers & Laboratories, AZ, USA
Bureau Veritas, Vancouver, BC, Canada	TSL Laboratories Ltd., Saskatoon, SK, Canada
Certimin S.A., Lima, Peru	

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Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



Dr. Barry Smee, Ph.D., P. Geo.