

CDN Resource Laboratories Ltd.

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REFERENCE MATERIAL: CDN-ME-1810

Recommended values and the “Between Lab” Two Standard Deviations

Gold	4.41 gpt	± 0.33 gpt	30 g FA, instrumental	Certified value
Silver	154 ppm	± 9 ppm	4-Acid / ICP	Certified value
Silver	151 ppm	± 12 ppm	30 g FA, gravimetric	Certified value
Copper	0.581 %	± 0.027 %	4 Acid / ICP	Certified value
Lead	1.46 %	± 0.07 %	4 Acid / ICP	Certified value
Zinc	0.96 %	± 0.04 %	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.

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-1810 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	56.5	Na ₂ O	1.2
Al ₂ O ₃	10.4	MgO	2.9
Fe ₂ O ₃	7.6	K ₂ O	2.7
CaO	5.2	TiO ₂	0.3
MnO	0.2	LOI	7.5
S	3.1	C	1.2

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.
- Au and Ag:** 30 gr. fire assay pre-concentration, gravimetric 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-1810-1	4.08	4.35	4.29	4.28	4.24	4.53	4.43	4.47	4.19	4.42	4.64	4.37	4.27	4.38	4.60
ME-1810-2	4.08	4.56	4.64	4.37	4.21	4.65	4.52	4.30	4.22	4.46	4.44	4.25	4.57	4.18	4.56
ME-1810-3	4.04	4.55	4.57	4.14	4.30	4.62	4.50	4.26	4.16	4.55	4.62	4.24	4.08	4.41	4.73
ME-1810-4	3.94	4.49	4.53	4.01	4.19	4.39	4.63	4.43	4.27	4.44	4.46	4.20	3.98	4.47	4.53
ME-1810-5	4.05	4.43	4.47	3.98	4.23	4.43	4.53	4.44	4.37	4.61	4.45	4.28	4.48	4.21	4.51
ME-1810-6	3.99	4.69	4.15	4.05	4.29	4.62	4.99	4.36	4.34	4.44	4.53	4.41	4.12	4.41	4.60
ME-1810-7	4.00	4.37	4.53	3.90	4.16	4.68	4.65	4.52	4.17	4.63	4.62	4.39	4.34	4.20	4.32
ME-1810-8	3.99	4.57	4.49	4.48	4.24	4.68	4.73	4.41	4.19	4.43	4.59	4.18	4.46	4.35	4.44
ME-1810-9	4.03	4.45	4.14	4.09	4.35	4.44	4.65	4.44	4.20	4.43	4.66	4.29	4.38	4.40	4.65
ME-1810-10	4.03	4.17	4.41	4.11	4.34	4.51	4.56	4.45	4.38	4.62	4.46	4.31	4.07	4.27	4.36
Mean	4.02	4.46	4.42	4.14	4.26	4.55	4.62	4.41	4.25	4.50	4.55	4.29	4.27	4.33	4.53
Std. Dev.	0.042	0.145	0.173	0.182	0.063	0.109	0.157	0.077	0.084	0.089	0.088	0.079	0.203	0.102	0.128
% RSD	1.04	3.25	3.92	4.41	1.48	2.39	3.41	1.75	1.98	1.98	1.94	1.83	4.76	2.36	2.82

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-1810-1	158	157	148	150	162	160	154	161	151	150	152	150		158	159
ME-1810-2	155	154	154	155	161	158	158	163	148	149	149	150		157	152
ME-1810-3	159	154	155	154	167	163	159	157	148	151	153	150		157	152
ME-1810-4	156	154	158	151	168	165	155	160	146	152	147	150		158	155
ME-1810-5	161	159	151	150	165	161	156	160	146	153	150	150		156	150
ME-1810-6	159	148	153	151	159	156	161	163	147	152	149	150		157	155
ME-1810-7	155	153	149	156	157	155	158	163	148	151	149	150		155	157
ME-1810-8	152	155	148	154	154	158	162	165	151	153	151	150		156	154
ME-1810-9	159	152	159	153	168	160	153	164	149	153	148	150		155	155
ME-1810-10	159	160	152	152	168	159	155	161	152	151	147	150		158	154
Mean	157	155	153	153	163	160	157	162	149	152	150	150		157	154
Std. Dev.	2.726	3.471	3.889	2.119	5.087	3.028	2.998	2.359	2.119	1.476	2.014	0.000		158	2.584
% RSD	1.74	2.24	2.55	1.39	3.12	1.90	1.91	1.46	1.43	0.97	1.35	0.00		157	1.67
Gravimetric	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-1810-1		155	160	148	154	134	144		143	168	154	154	159	151	148
ME-1810-2		152	143	149	152	149	145		146	168	155	155	155	151	149
ME-1810-3		170	151	149	150	139	144		143	167	152	155	149	159	146
ME-1810-4		169	145	147	153	138	148		144	165	153	157	151	156	146
ME-1810-5		148	147	144	152	140	152		143	161	154	153	153	160	147
ME-1810-6		149	157	149	151	152	144		149	168	149	162	151	157	147
ME-1810-7		159	148	151	151	125	148		149	159	151	161	149	155	147
ME-1810-8		179	153	148	153	142	143		148	165	154	158	149	157	149
ME-1810-9		160	154	149	151	151	148		146	166	152	157	147	159	149
ME-1810-10		171	144	149	150	130	149		147	168	156	163	151	162	147
Mean		161	150	148	154	140	147		146	165	153	158	151	157	148
Std. Dev.		10.560	5.750	1.829	152	8.919	2.915		2.440	3.240	2.055	3.472	3.502	3.501	1.179
% RSD		6.55	3.83	1.23	150	6.37	1.99		1.67	1.96	1.34	2.20	2.31	2.23	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
	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu
ME-1810-1	0.558	0.575	0.563	0.579	0.574	0.609	0.573	0.614	0.573	0.581	0.575	0.580	0.580	0.615	0.564
ME-1810-2	0.540	0.571	0.573	0.595	0.569	0.610	0.578	0.617	0.571	0.582	0.574	0.580	0.580	0.615	0.566
ME-1810-3	0.535	0.569	0.563	0.588	0.581	0.620	0.581	0.611	0.564	0.580	0.569	0.570	0.580	0.601	0.563
ME-1810-4	0.528	0.573	0.571	0.580	0.580	0.616	0.589	0.606	0.564	0.588	0.564	0.590	0.580	0.605	0.571
ME-1810-5	0.534	0.574	0.566	0.579	0.576	0.604	0.590	0.610	0.562	0.589	0.569	0.580	0.580	0.615	0.590
ME-1810-6	0.525	0.561	0.573	0.579	0.580	0.595	0.579	0.619	0.571	0.577	0.569	0.570	0.580	0.597	0.580
ME-1810-7	0.550	0.565	0.564	0.588	0.577	0.600	0.575	0.617	0.562	0.587	0.571	0.580	0.580	0.596	0.592
ME-1810-8	0.540	0.568	0.565	0.589	0.571	0.607	0.582	0.603	0.552	0.589	0.567	0.600	0.580	0.602	0.580
ME-1810-9	0.548	0.565	0.596	0.578	0.576	0.620	0.582	0.601	0.565	0.584	0.561	0.590	0.580	0.596	0.590
ME-1810-10	0.537	0.573	0.577	0.589	0.575	0.613	0.592	0.600	0.576	0.582	0.562	0.580	0.580	0.581	0.573
Mean	0.540	0.569	0.571	0.584	0.576	0.609	0.582	0.610	0.566	0.584	0.568	0.582	0.580	0.602	0.577
Std. Dev.	0.010	0.005	0.010	0.006	0.004	0.008	0.006	0.007	0.007	0.004	0.005	0.009	0.000	0.011	0.011
% RSD	1.88	0.81	1.76	1.03	0.68	1.35	1.10	1.15	1.23	0.72	0.83	1.58	0.00	1.81	1.93
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-1810-1	1.43	1.46	1.41	1.44	1.39	1.52	1.45	0.61	1.44	1.48	1.43	1.45	1.41	1.46	1.44
ME-1810-2	1.42	1.46	1.44	1.51	1.38	1.51	1.44	0.62	1.45	1.47	1.44	1.46	1.43	1.51	1.44
ME-1810-3	1.43	1.46	1.46	1.49	1.40	1.54	1.45	0.61	1.44	1.49	1.41	1.48	1.43	1.48	1.44
ME-1810-4	1.42	1.44	1.43	1.46	1.43	1.54	1.46	0.61	1.45	1.49	1.42	1.49	1.44	1.48	1.44
ME-1810-5	1.43	1.47	1.43	1.47	1.42	1.51	1.47	0.61	1.43	1.48	1.41	1.49	1.42	1.51	1.45
ME-1810-6	1.42	1.39	1.44	1.45	1.41	1.47	1.45	0.62	1.44	1.48	1.42	1.50	1.42	1.48	1.46
ME-1810-7	1.41	1.44	1.44	1.50	1.41	1.48	1.47	0.62	1.45	1.48	1.44	1.50	1.43	1.45	1.48
ME-1810-8	1.42	1.45	1.43	1.48	1.39	1.50	1.46	0.60	1.44	1.49	1.42	1.51	1.43	1.47	1.45
ME-1810-9	1.43	1.44	1.50	1.45	1.37	1.53	1.46	0.60	1.45	1.48	1.41	1.54	1.41	1.48	1.47
ME-1810-10	1.42	1.45	1.46	1.47	1.41	1.50	1.47	0.60	1.43	1.48	1.42	1.50	1.42	1.45	1.43
Mean	1.42	1.44	1.44	1.47	1.40	1.51	1.46	0.61	1.44	1.48	1.42	1.49	1.42	1.48	1.45
Std. Dev.	0.006	0.023	0.025	0.023	0.019	0.024	0.010	0.007	0.008	0.007	0.011	0.025	0.010	0.023	0.015
% RSD	0.40	1.61	1.74	1.55	1.32	1.56	0.65	1.15	0.55	0.44	0.80	1.70	0.68	1.52	1.07

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-1810-1	0.88	0.97	0.95	0.96	0.92	1.02	0.93	0.983	0.96	0.95	0.95	1.01	0.97	0.97	0.94
ME-1810-2	0.91	0.95	0.99	1.00	0.91	1.02	0.92	0.966	0.97	0.95	0.96	1.01	0.98	0.97	0.95
ME-1810-3	0.91	0.95	1.00	0.97	0.93	1.04	0.94	0.975	0.96	0.95	0.94	1.03	0.98	0.97	0.93
ME-1810-4	0.89	0.97	0.99	0.97	0.93	1.03	0.94	0.971	0.97	0.95	0.95	1.03	0.99	0.95	0.95
ME-1810-5	0.87	0.95	0.98	0.97	0.93	1.02	0.94	0.963	0.95	0.96	0.95	1.02	0.98	0.98	0.97
ME-1810-6	0.89	0.94	0.99	0.97	0.93	1.00	0.93	0.978	0.97	0.94	0.96	1.03	0.98	0.95	0.97
ME-1810-7	0.89	0.94	0.94	0.98	0.92	1.00	0.93	0.991	0.97	0.95	0.96	1.04	0.99	0.97	0.98
ME-1810-8	0.91	0.95	0.95	0.98	0.91	1.02	0.94	0.982	0.97	0.95	0.95	1.03	0.99	0.96	0.96
ME-1810-9	0.89	0.94	1.05	0.96	0.93	1.03	0.95	0.971	0.97	0.94	0.94	1.01	0.97	0.95	0.98
ME-1810-10	0.89	0.95	0.96	0.98	0.92	1.02	0.94	0.975	0.95	0.95	0.95	1.03	0.98	0.96	0.94
Mean	0.89	0.95	0.98	0.97	0.92	1.02	0.94	0.975	0.96	0.95	0.95	1.02	0.98	0.96	0.96
Std. Dev.	0.013	0.010	0.032	0.012	0.007	0.012	0.007	0.008	0.008	0.005	0.006	0.011	0.007	0.009	0.017
% RSD	1.46	1.05	3.25	1.21	0.77	1.22	0.72	0.86	0.87	0.53	0.59	1.05	0.75	0.95	1.83

Notes:

- Labs 1 and 8 did not report Ag assayed by fire assay with gravimetric finish.**
- Labs 13 did not report Ag assayed by 4 Acid digestion with instrumental finish methods.**
- Au results from Lab 1 were removed for failing the t test.**
- Cu results from Lab 1 were removed for failing the t test.**
- Zn results from Labs 1, 6 and 12 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.