

CDN Resource Laboratories Ltd.

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REFERENCE MATERIAL: CDN-ME-1707

Recommended values and the “Between Lab” Two Standard Deviations

Gold	2.020 g/t	±	0.214 g/t	30 g FA, instrumental	Certified value
Silver	27.9 ppm	±	2.9 ppm	4-Acid / ICP	Certified value
Copper	2.72 %	±	0.11 %	4 Acid / ICP	Certified value
Lead	0.097 %	±	0.006 %	4 Acid / ICP	Certified value
Zinc	0.539 %	±	0.016 %	4 Acid / ICP	Certified value

Note: 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: February 2nd, 2018

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-ME-1707 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	49.9	Na ₂ O	1.0
Al ₂ O ₃	9.8	MgO	3.6
Fe ₂ O ₃	17.1	K ₂ O	1.9
CaO	2.9	TiO ₂	0.4
MnO	0.12	LOI	9.3
S-Tot	9.2	C-Tot	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:

Instrumental	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-1707-1	1.95	1.83	2.18	2.03	2.07	2.01	2.24	2.19	2.02	2.01	2.15	1.98	1.90	2.02	2.02
ME-1707-2	1.94	2.18	2.02	2.03	2.07	1.90	2.09	1.81	2.11	2.06	2.17	1.98	1.92	1.97	1.85
ME-1707-3	1.94	1.88	2.20	2.08	2.25	2.15	1.97	1.87	2.06	1.98	2.10	2.06	2.03	1.99	1.91
ME-1707-4	1.87	1.94	2.05	1.74	2.16	1.82	2.04	1.91	2.05	2.04	2.04	2.08	1.90	2.18	2.10
ME-1707-5	1.98	1.83	1.95	1.99	2.09	2.07	2.30	1.80	2.11	2.00	1.91	2.00	2.00	2.05	1.79
ME-1707-6	1.91	2.01	2.16	2.01	2.16	1.96	2.11	2.00	2.09	2.07	1.91	1.94	2.07	1.93	2.11
ME-1707-7	1.82	1.88	2.08	1.97	2.14	2.07	2.06	2.07	2.12	1.97	2.19	1.93	1.86	2.06	1.83
ME-1707-8	1.83	1.82	2.07	1.70	2.08	2.06	2.02	1.98	2.07	2.01	1.82	2.04	1.85	1.99	1.97
ME-1707-9	1.86	1.82	2.17	2.11	1.93	1.96	2.19	2.22	2.03	2.02	2.14	1.92	1.91	2.04	2.02
ME-1707-10	1.82	1.87	2.33	2.08	2.24	1.87	2.16	2.10	2.03	2.04	2.03	2.03	1.95	2.12	2.03
Mean	1.89	1.91	2.12	1.97	2.12	1.99	2.12	1.99	2.07	2.02	2.05	2.00	1.94	2.04	1.96
Std. Dev.	0.059	0.114	0.109	0.142	0.093	0.104	0.104	0.147	0.036	0.032	0.128	0.056	0.072	0.074	0.113
% RSD	3.14	5.96	5.12	7.18	4.41	5.22	4.89	7.38	1.72	1.61	6.25	2.81	3.70	3.61	5.76
Instrumental	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-1707-1	27.0	28.0	25.0	27.0	27.0	27.0		30.0	32.0	30.0	28.0	24.0	29.0	27.0	27.3
ME-1707-2	27.0	28.0	23.8	26.0	26.0	27.0		32.0	29.2	30.0	29.0	25.0	31.0	27.0	27.9
ME-1707-3	26.0	28.0	25.0	26.0	28.0	29.0		28.0	27.8	29.0	28.0	26.0	28.0	30.0	27.2
ME-1707-4	30.0	28.0	24.7	28.0	29.0	29.0		28.0	31.0	30.0	28.0	24.0	29.0	26.0	27.8
ME-1707-5	28.0	28.0	24.3	27.0	28.0	26.5		28.0	29.1	30.0	28.0	26.0	29.0	29.0	26.9
ME-1707-6	27.0	27.0	24.2	27.0	27.0	28.5		28.0	29.6	31.0	29.0	26.0	30.0	29.0	27.0
ME-1707-7	27.0	31.0	24.7	27.0	27.0	26.5		28.0	29.5	29.0	29.0	24.0	27.0	29.0	27.0
ME-1707-8	26.0	27.0	23.4	25.0	28.0	27.0		28.0	30.8	31.0	28.0	25.0	28.0	26.0	26.8
ME-1707-9	27.0	30.0	23.9	26.0	28.0	26.0		27.0	29.0	30.0	27.0	25.0	30.0	27.0	27.2
ME-1707-10	27.0	28.0	23.9	28.0	28.0	27.0		28.0	31.0	30.0	28.0	25.0	28.0	29.0	26.9
Mean	27.20	28.30	24.29	26.70	27.60	27.35		28.50	29.90	30.00	28.20	25.00	28.90	27.90	27.20
Std. Dev.	1.135	1.252	0.547	0.949	0.843	1.081		1.434	1.258	0.667	0.632	0.816	1.197	1.449	0.377
% RSD	4.17	4.42	2.25	3.55	3.06	3.95		5.03	4.21	2.22	2.24	3.27	4.14	5.19	1.39

Notes: Ag results from Lab were removed for failing the t test.
 Lab 7 only reported Au values

Results from round-robin assaying-Continue:

Instrumental	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-1707-1	2.79	2.84	2.64	2.65	2.74	0.55		2.79	2.72	2.65	2.78	2.77	2.77	2.86	2.71
ME-1707-2	2.72	2.89	2.56	2.62	2.62	0.55		2.75	2.72	2.67	2.73	2.69	2.74	2.83	2.72
ME-1707-3	2.71	2.79	2.57	2.60	2.64	0.54		2.76	2.72	2.61	2.68	2.73	2.75	2.88	2.72
ME-1707-4	2.71	2.92	2.59	2.67	2.73	0.55		2.70	2.71	2.68	2.77	2.77	2.71	2.79	2.66
ME-1707-5	2.75	2.92	2.68	2.62	2.71	0.55		2.77	2.71	2.72	2.75	2.77	2.75	2.81	2.64
ME-1707-6	2.77	2.83	2.65	2.69	2.69	0.53		2.77	2.71	2.70	2.73	2.80	2.74	2.88	2.66
ME-1707-7	2.75	2.80	2.64	2.68	2.63	0.55		2.76	2.71	2.65	2.80	2.80	2.69	2.83	2.67
ME-1707-8	2.74	2.87	2.56	2.65	2.71	0.53		2.85	2.72	2.70	2.77	2.78	2.70	2.78	2.67
ME-1707-9	2.78	2.83	2.51	2.64	2.68	0.54		2.78	2.73	2.71	2.79	2.69	2.71	2.83	2.68
ME-1707-10	2.73	2.87	2.59	2.65	2.67	0.54		2.80	2.72	2.72	2.76	2.76	2.71	2.82	2.73
Mean	2.75	2.86	2.60	2.65	2.68	0.54		2.77	2.72	2.68	2.76	2.75	2.73	2.83	2.69
Std. Dev.	0.03	0.05	0.05	0.03	0.04	0.01		0.04	0.01	0.04	0.04	0.04	0.03	0.03	0.03
% RSD	1.03	1.60	2.01	1.07	1.56	1.14		1.34	0.25	1.36	1.28	1.41	0.96	1.21	1.18
Instrumental	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-1707-1	0.100	0.103	0.089	0.095	0.098	0.095		0.100	0.110	0.100	0.091	0.100	0.095	0.100	0.098
ME-1707-2	0.095	0.102	0.086	0.094	0.094	0.095		0.100	0.100	0.100	0.095	0.096	0.095	0.090	0.096
ME-1707-3	0.097	0.100	0.086	0.093	0.094	0.100		0.100	0.100	0.100	0.092	0.097	0.095	0.100	0.096
ME-1707-4	0.095	0.101	0.087	0.096	0.096	0.095		0.100	0.100	0.100	0.096	0.098	0.095	0.090	0.096
ME-1707-5	0.096	0.104	0.088	0.095	0.097	0.100		0.100	0.100	0.100	0.094	0.099	0.094	0.100	0.094
ME-1707-6	0.098	0.099	0.088	0.096	0.095	0.095		0.100	0.100	0.100	0.095	0.098	0.094	0.100	0.096
ME-1707-7	0.098	0.105	0.087	0.096	0.098	0.100		0.090	0.100	0.100	0.096	0.100	0.095	0.100	0.095
ME-1707-8	0.097	0.099	0.086	0.096	0.097	0.095		0.100	0.100	0.090	0.095	0.099	0.094	0.100	0.093
ME-1707-9	0.096	0.103	0.084	0.094	0.095	0.095		0.100	0.100	0.100	0.093	0.095	0.094	0.090	0.095
ME-1707-10	0.096	0.103	0.087	0.096	0.093	0.100		0.100	0.100	0.100	0.097	0.100	0.093	0.090	0.095
Mean	0.097	0.102	0.533	0.095	0.096	0.097		0.099	0.101	0.099	0.094	0.098	0.094	0.096	0.095
Std. Dev.	0.002	0.002	0.006	0.001	0.002	0.003		0.003	0.003	0.003	0.002	0.002	0.001	0.005	0.001
% RSD	1.60	2.04	1.12	1.16	1.85	2.66		3.19	3.13	3.19	2.01	1.78	0.89	5.38	1.37
Instrumental	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-1707-1	0.561	0.555	0.507	0.530	0.559	0.546		0.530	0.530	0.530	0.547	0.528	0.540	0.550	0.553
ME-1707-2	0.545	0.562	0.505	0.526	0.538	0.547		0.530	0.530	0.530	0.537	0.531	0.540	0.530	0.543
ME-1707-3	0.546	0.566	0.496	0.529	0.529	0.541		0.530	0.530	0.530	0.534	0.532	0.540	0.560	0.552
ME-1707-4	0.545	0.569	0.501	0.535	0.546	0.546		0.530	0.540	0.540	0.543	0.535	0.540	0.550	0.545
ME-1707-5	0.551	0.580	0.514	0.523	0.560	0.547		0.540	0.540	0.530	0.550	0.537	0.550	0.550	0.538
ME-1707-6	0.557	0.570	0.512	0.536	0.537	0.534		0.540	0.540	0.530	0.547	0.542	0.540	0.560	0.543
ME-1707-7	0.550	0.574	0.523	0.539	0.531	0.552		0.540	0.530	0.520	0.553	0.539	0.530	0.540	0.540
ME-1707-8	0.550	0.568	0.497	0.542	0.551	0.534		0.540	0.540	0.530	0.550	0.540	0.550	0.540	0.533
ME-1707-9	0.557	0.582	0.489	0.533	0.533	0.537		0.540	0.540	0.530	0.546	0.533	0.550	0.540	0.539
ME-1707-10	0.547	0.567	0.508	0.537	0.532	0.539		0.540	0.530	0.530	0.542	0.541	0.550	0.540	0.537
Mean	0.551	0.569	0.505	0.533	0.542	0.542		0.536	0.535	0.530	0.545	0.536	0.543	0.546	0.542
Std. Dev.	0.006	0.008	0.010	0.006	0.012	0.006		0.005	0.005	0.005	0.006	0.005	0.007	0.010	0.006
% RSD	1.02	1.40	1.96	1.12	2.15	1.14		0.96	0.99	0.89	1.10	0.88	1.24	1.77	1.17

Notes: Cu, Pb results from Lab 3 were removed for failing the t test.
 Zn results from Labs 2 and 3 were removed for failing the t test.
 Lab 7 only reported Au values

Participating Laboratories:

(not in same order as table of assays)

- Activation Laboratories, Ancaster, Ontario, Canada
- Activation Laboratories, Thunder Bay, Ontario, Canada
- AGAT Labs, Mississauga, Ontario, Canada
- ALS Canada, North Vancouver, BC, Canada
- ALS, Loughrea, Ireland
- ALS, Lima, Peru
- Bureau Veritas, Perth, Australia
- Bureau Veritas, Reno, Nevada, USA
- Bureau Veritas, Vancouver, BC, Canada
- Certimin S.A., Lima, Peru
- MS Analytical, Langley, BC, Canada
- SGS, Lakefield, Ontario, Canada
- SGS, Lima, Peru
- SGS, Vancouver, BC, Canada
- TSL Laboratories Ltd., Saskatoon, SK, Canada

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This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



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