

CDN Resource Laboratories Ltd.

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REFERENCE MATERIAL: CDN-ME-1901

Recommended values and the “Between Lab” Two Standard Deviations

Gold	7.85 gpt	± 0.37 gpt	30 g FA, instrumental	Certified value
Gold	7.74 gpt	± 0.65 gpt	30 g FA, gravimetric	Certified value
Silver	371 ppm	± 18 ppm	30 g FA, gravimetric	Certified value
Silver	373 ppm	± 17 ppm	4 Acid / ICP	Certified value
Copper	0.637 %	± 0.020 %	4 Acid / ICP	Certified value
Lead	2.56 %	± 0.11 %	4 Acid / ICP	Certified value
Zinc	2.89 %	± 0.11 %	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: May 27, 2019

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-ME-1901 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	44.9	Na ₂ O	1.9
Al ₂ O ₃	8.8	MgO	2.3
Fe ₂ O ₃	17.3	K ₂ O	1.6
CaO	4.0	TiO ₂	0.4
MnO	0.2	LOI	11.4
S	10.8	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:

FA-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-1901-1	7.29	7.68	7.73	7.81	7.93	7.94	7.782	8.213	7.854	7.680	8.085	7.93	7.98	N/A	8.13
ME-1901-2	7.15	7.61	7.54	7.68	7.80	7.93	7.875	8.169	7.910	7.839	8.010	7.69	7.86	N/A	7.57
ME-1901-3	7.38	7.60	7.78	7.59	7.91	7.86	7.918	8.146	7.782	7.641	7.980	7.76	7.85	N/A	7.89
ME-1901-4	7.02	7.46	7.07	7.55	7.56	7.85	7.597	8.110	7.904	7.783	8.082	7.59	8.00	N/A	7.87
ME-1901-5	7.11	7.92	7.59	7.73	7.69	7.91	7.675	8.098	7.944	7.611	8.061	8.18	7.91	N/A	7.75
ME-1901-6	7.54	7.45	7.43	7.81	7.56	7.95	7.713	8.216	7.917	7.970	8.122	7.76	7.75	N/A	7.93
ME-1901-7	7.41	8.10	7.55	7.80	7.42	7.89	7.672	8.074	8.035	7.690	7.942	7.98	8.10	N/A	7.66
ME-1901-8	7.13	8.11	8.07	7.67	7.66	7.82	7.773	8.216	7.941	7.974	7.954	7.90	7.64	N/A	7.70
ME-1901-9	7.17	7.91	7.63	7.91	7.95	7.88	7.594	8.186	7.981	7.805	8.057	7.73	7.56	N/A	7.72
ME-1901-10	7.30	7.57	7.64	7.86	8.02	7.90	7.739	8.191	7.809	7.816	7.945	7.81	7.89	N/A	7.55
Mean	7.25	7.74	7.60	7.74	7.75	7.893	7.734	8.162	7.908	7.781	8.024	7.83	7.85	N/A	7.78
Std. Devn.	0.161	0.249	0.256	0.117	0.202	0.042	0.107	0.052	0.076	0.127	0.066	0.169	0.165	N/A	0.179
% RSD	2.22	3.22	3.36	1.52	2.60	0.53	1.39	0.64	0.97	1.63	0.82	2.16	2.10	N/A	2.30
FA-Gravimetric	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-1901-1	7.07	7.57	7.73	8.28	N/A	7.42	6.95	8.1	7.96	7.980	7.90	7.80	8.09	7.54	7.77
ME-1901-2	7.20	7.46	7.48	7.85	N/A	7.54	7.73	8.1	7.91	7.933	8.10	7.19	7.89	7.16	7.67
ME-1901-3	7.50	7.34	8.38	7.61	N/A	7.66	7.50	8.2	7.69	7.856	7.93	7.58	8.03	6.82	7.59
ME-1901-4	7.09	7.72	7.36	7.84	N/A	7.66	7.97	8.2	7.86	7.827	7.97	7.59	7.67	7.58	7.57
ME-1901-5	7.46	7.71	7.17	7.38	N/A	7.49	7.44	8.3	8.05	7.749	7.95	7.15	7.78	8.26	7.76
ME-1901-6	7.14	7.36	7.78	8.13	N/A	8.10	7.57	8.0	8.01	7.761	8.14	7.43	7.55	7.13	7.77
ME-1901-7	7.32	7.38	8.11	8.26	N/A	7.53	7.69	8.1	7.56	7.857	8.14	7.52	7.67	7.23	7.59
ME-1901-8	7.14	7.56	8.24	8.23	N/A	7.95	7.63	8.2	7.82	7.603	7.92	7.84	7.85	8.19	8.01
ME-1901-9	7.31	7.09	8.38	7.88	N/A	7.93	7.89	8.2	7.71	7.709	8.11	7.91	8.00	6.75	7.79
ME-1901-10	7.50	7.29	7.61	8.02	N/A	7.71	7.43	8.3	8.08	7.613	7.91	7.16	7.88	6.89	7.22
Mean	7.27	7.45	7.82	7.95	N/A	7.70	7.58	8.2	7.87	7.789	8.01	7.52	7.84	7.36	7.67
Std. Devn.	0.169	0.196	0.433	0.296	N/A	0.225	0.285	0.095	0.171	0.126	0.102	0.284	0.174	0.535	0.206
% RSD	2.32	2.64	5.54	3.72	N/A	2.92	3.76	1.16	2.17	1.61	1.27	3.78	2.22	7.27	2.69

Instrumental	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-1901-1	N/A	378	365	378	370	385	377	370	352	361.4	371	353	366	N/A	371
ME-1901-2	N/A	373	375	378	360	410	379	373	357	371.3	367	352	365	N/A	381
ME-1901-3	N/A	378	392	381	363	401	379	373	361	370.7	373	355	358	N/A	371
ME-1901-4	N/A	382	401	375	381	403	378	373	361	360.7	368	351	372	N/A	375
ME-1901-5	N/A	378	386	375	379	405	384	374	368	369.4	370	350	388	N/A	369
ME-1901-6	N/A	384	375	384	394	411	378	371	367	363.9	373	354	361	N/A	387
ME-1901-7	N/A	386	374	372	381	403	381	371	369	373.8	364	352	352	N/A	374
ME-1901-8	N/A	382	376	385	375	408	379	372	359	364.1	370	355	371	N/A	383
ME-1901-9	N/A	383	380	380	372	420	378	371	363	382.6	364	346	361	N/A	380
ME-1901-10	N/A	386	379	379	374	413	380	372	355	386.0	372	350	360	N/A	377
Mean	N/A	381	380	379	375	406	379	372	361	370.4	369	352	365	N/A	377
Std. Devn.	N/A	4.163	10.264	4.057	9.735	9.279	2.003	1.247	5.673	8.581	3.360	2.741	9.935	N/A	5.865
% RSD	N/A	1.09	2.70	1.07	2.60	2.29	0.53	0.34	1.57	2.32	0.91	0.78	2.72	N/A	1.56
Gravimetric	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-1901-1	330	388	365	367	350	381	358	367	358	369.6	380.3	370	364	393	361
ME-1901-2	330	371	362	377	342	378	376	374	362	372.8	375.7	367	367	392	364
ME-1901-3	320	381	354	373	353	378	375	372	365	375.0	374.9	368	365	383	362
ME-1901-4	337	371	361	377	310	384	362	370	368	372.5	376.2	361	374	387	370
ME-1901-5	326	364	360	379	332	376	379	371	368	368.7	376.1	334	378	397	375
ME-1901-6	311	399	396	389	337	379	363	370	366	368.4	375.6	350	374	395	364
ME-1901-7	335	388	358	389	337	376	368	372	362	366.7	377.0	354	367	408	348
ME-1901-8	331	377	362	364	300	376	370	368	366	371.9	376.1	367	365	399	364
ME-1901-9	337	390	357	389	358	375	365	368	362	373.1	372.5	366	364	395	366
ME-1901-10	342	371	365	365	352	374	355	368	350	371.8	373.9	374	363	394	365
Mean	330	380	364	377	337	378	367	370	363	371.1	375.8	361	368	394	364
Std. Devn.	9.098	11.045	11.757	9.803	18.970	3.020	7.951	2.261	5.458	2.578	2.040	11.995	5.259	6.717	6.919
% RSD	2.76	2.91	3.23	2.60	5.63	0.80	2.17	0.61	1.50	0.69	0.54	3.32	1.43	1.70	1.90
Instrumental	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu
ME-1901-1	0.643	0.638	0.636	0.641	0.646	0.782	0.631	0.63	0.632	0.605	0.639	0.641	0.63	0.65	0.620
ME-1901-2	0.638	0.632	0.629	0.635	0.623	0.661	0.636	0.63	0.636	0.612	0.628	0.633	0.65	0.65	0.638
ME-1901-3	0.638	0.637	0.646	0.642	0.630	0.650	0.634	0.63	0.648	0.612	0.642	0.633	0.65	0.65	0.625
ME-1901-4	0.649	0.642	0.673	0.633	0.657	0.647	0.631	0.63	0.636	0.620	0.634	0.628	0.65	0.66	0.622
ME-1901-5	0.647	0.637	0.654	0.629	0.643	0.638	0.631	0.62	0.636	0.618	0.626	0.638	0.66	0.65	0.623
ME-1901-6	0.643	0.642	0.633	0.651	0.665	0.635	0.627	0.63	0.638	0.616	0.646	0.630	0.66	0.62	0.648
ME-1901-7	0.643	0.647	0.623	0.628	0.652	0.640	0.635	0.64	0.636	0.633	0.637	0.642	0.65	0.63	0.634
ME-1901-8	0.642	0.643	0.632	0.649	0.646	0.641	0.633	0.63	0.620	0.604	0.635	0.635	0.66	0.62	0.636
ME-1901-9	0.643	0.639	0.628	0.644	0.644	0.654	0.637	0.63	0.629	0.624	0.636	0.645	0.66	0.62	0.635
ME-1901-10	0.640	0.648	0.638	0.647	0.639	0.639	0.633	0.63	0.637	0.637	0.638	0.635	0.64	0.62	0.628
Mean	0.643	0.641	0.639	0.640	0.645	0.659	0.633	0.63	0.635	0.618	0.636	0.636	0.65	0.64	0.631
Std. Devn.	0.003	0.005	0.015	0.008	0.012	0.044	0.003	0.005	0.007	0.011	0.006	0.005	0.010	0.016	0.009
% RSD	0.54	0.76	2.33	1.29	1.90	6.69	0.46	0.75	1.12	1.77	0.94	0.85	1.53	2.57	1.40

Instrumental	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb
ME-1901-1	2.50	2.58	2.56	2.56	2.62	2.53	2.48	2.62	2.55	2.402	2.57	2.63	2.68	2.56	2.55
ME-1901-2	2.50	2.54	2.56	2.55	2.56	2.53	2.61	2.62	2.60	2.439	2.61	2.54	2.71	2.55	2.57
ME-1901-3	2.44	2.55	2.63	2.60	2.57	2.58	2.61	2.59	2.61	2.445	2.59	2.73	2.76	2.58	2.53
ME-1901-4	2.47	2.58	2.74	2.58	2.62	2.57	2.58	2.61	2.59	2.418	2.55	2.46	2.72	2.56	2.55
ME-1901-5	2.47	2.56	2.64	2.58	2.62	2.57	2.53	2.60	2.57	2.475	2.51	2.52	2.74	2.54	2.54
ME-1901-6	2.55	2.60	2.56	2.65	2.71	2.55	2.49	2.58	2.61	2.456	2.53	2.62	2.70	2.43	2.60
ME-1901-7	2.47	2.60	2.55	2.58	2.66	2.55	2.54	2.58	2.61	2.500	2.61	2.48	2.70	2.47	2.57
ME-1901-8	2.46	2.61	2.55	2.64	2.63	2.53	2.61	2.62	2.56	2.438	2.52	2.63	2.71	2.45	2.60
ME-1901-9	2.46	2.59	2.57	2.59	2.62	2.52	2.55	2.60	2.62	2.555	2.56	2.58	2.72	2.47	2.58
ME-1901-10	2.47	2.61	2.57	2.60	2.58	2.53	2.52	2.60	2.57	2.579	2.54	2.51	2.69	2.44	2.57
Mean	2.479	2.58	2.59	2.59	2.62	2.55	2.55	2.60	2.59	2.471	2.56	2.57	2.71	2.51	2.57
Std. Devn.	0.031	0.025	0.061	0.032	0.044	0.021	0.049	0.015	0.025	0.058	0.036	0.083	0.024	0.058	0.024
% RSD	1.24	0.96	2.34	1.22	1.68	0.83	1.92	0.60	0.95	2.34	1.40	3.25	0.87	2.31	0.92
Instrumental	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn
ME-1901-1	2.85	2.88	2.82	2.94	2.91	2.89	2.92	2.90	2.78	2.897	2.86	2.98	2.88	2.92	2.80
ME-1901-2	2.84	2.84	2.87	2.91	2.84	2.79	2.95	2.91	2.84	2.903	2.84	2.99	2.92	2.93	2.86
ME-1901-3	2.83	2.88	2.93	2.95	2.86	2.80	2.94	2.92	2.86	2.888	2.89	2.96	2.96	2.96	2.82
ME-1901-4	2.75	2.88	3.08	2.96	2.99	2.88	2.92	2.94	2.84	2.892	2.85	2.93	2.95	2.93	2.81
ME-1901-5	2.90	2.85	2.99	2.96	3.00	2.88	2.92	2.94	2.83	2.876	2.84	3.03	2.99	2.92	2.83
ME-1901-6	2.88	2.89	2.90	3.01	3.08	2.86	2.89	2.91	2.87	2.895	2.89	2.92	2.89	2.79	2.93
ME-1901-7	2.89	2.90	2.81	2.94	3.02	2.88	2.94	2.90	2.88	2.864	2.83	2.95	2.91	2.79	2.86
ME-1901-8	2.75	2.91	2.88	3.03	3.01	2.83	2.93	2.91	2.80	2.898	2.88	2.92	2.94	2.80	2.87
ME-1901-9	2.92	2.87	2.89	2.99	3.00	2.84	2.94	2.94	2.87	2.903	2.85	3.01	2.93	2.81	2.87
ME-1901-10	2.75	2.92	2.90	2.99	2.98	2.83	2.93	2.90	2.83	2.930	2.79	2.90	2.88	2.82	2.84
Mean	2.84	2.88	2.91	2.97	2.97	2.85	2.93	2.92	2.84	2.895	2.85	2.96	2.93	2.87	2.85
Std. Devn.	0.065	0.025	0.079	0.036	0.075	0.036	0.017	0.017	0.032	0.017	0.030	0.043	0.036	0.070	0.038
% RSD	2.30	0.86	2.73	1.23	2.54	1.25	0.58	0.58	1.13	0.60	1.07	1.45	1.24	2.44	1.33

Notes:

Labs 14 did not report Au assayed by fire assay and Ag 4 acid digestion with instrumental finish.

Labs 5 did not report Au assayed by fire assay with gravimetric finish.

Au results assayed by fire assay with instrumental finish from Lab 1 were removed for failing the t test.

Ag results assayed by 4 Acid digestion with instrumental finish from Labs 6 and 12 were removed for failing the t test.

Ag results assayed by fire assay gravimetric finish from Labs 1 and 5 were removed for failing the t test.

Pb results from Lab 13 were removed for failing the t test.

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

AGAT Labs, ON, Canada	Certimin S.A., Lima, Peru
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
ALS, Reno, USA	Skyline Assayers & Laboratories, AZ, USA
Bureau Veritas, Perth, Australia	TSL Laboratories Ltd., Saskatoon, SK, Canada
Bureau Veritas, Vancouver, BC, Canada	

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Certified by



 Duncan Sanderson, Certified Assayer of B.C.

Geochemist



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