CDN Resource Laboratories Ltd.

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REFERENCE MATERIAL: CDN-ME-2201

Recommended values and the "Between Lab" Two Standard Deviations

Gold	**1.52 gpt**	**±**	**0.17 gpt**	**30 g FA, instrumental**	**Certified value**
Silver	**135 ppm**	**±**	**8 ppm**	**4 Acid / ICP**	**Certified value**
Copper	**0.076 %**	**±**	**0.004 %**	**4 Acid / ICP**	**Certified value**
Lead	**1.93 %**	**±**	**0.07 %**	**4 Acid / ICP**	**Certified value**
Zinc	**4.62 %**	**±**	**0.17 %**	**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: Ali Alizadeh, MSc, MBA, P Geo
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: October 13th, 2022

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-ME-2201 was prepared from the ore provided by Hecla Mining's Greens Creek deposit blended with granitic rock.
The Greens Creek deposit is a polymetallic, stratiform, massive sulfide deposit. The host rock consists of predominantly marine sedimentary, and mafic to ultramafic volcanic and plutonic rocks, which have been subjected to multiple periods of deformation. Mineralization occurs discontinuously along the contact between a structural hanging wall of quartz mica carbonate phyllites, and a structural footwall of graphitic and calcareous argillite.

Ore lithologies fall into two broad groups: massive ores with over 50% sulfides and white ores with less than 50% sulfides. The massive ores are further subdivided as either being base-metal or pyrite dominant. Massive ores vary greatly in precious-metal grade from uneconomic to bonanza Au (>.5 opt) and Ag (>100 opt). White ores are subdivided into three groups by the dominant gangue mineralogy: white carbonate, white siliceous, and white baritic ore. These ores tend to be base-metal poor and precious-metal rich. Major sulfide minerals are pyrite, sphalerite, galena, and tetrahedrite/tennanite

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.

Assay Procedures:

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

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.

Quality Assurance and Quality Control Procedures:

Screening Test: After completion of homogenization, three samples, 300g each of homogenized material was randomly collected and was re-screened by a testing sieve. Over size material of this standard and based on CDN's screening test was ~%1.0.

Homogeneity Test:

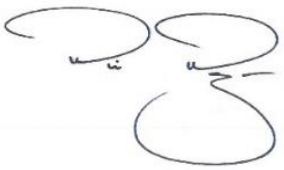
15 samples were selected selectively throughout the batch and were sent to an independent assay Laboratories for Homogeneity testing following directions of Annex B, Homogeneity and Stability of proficiency test items, ISO 13528:2015 Guidelines.

Assay results went through a statistical work-up by checking the mean, standard deviation, and %RSD. Based on performed statistical works outlined by ISO 13528; CDN-ME-2201 is statistically homogenized (Appendix III).

LEGAL NOTICE:

This certificate and the reference material described in it have been prepared with due care and attention. However, CDN Resource Laboratories Ltd. nor Barry Smee accept any 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



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Ali Alizadeh, MSc, MBA, P.Geo.

Geochemist

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Dr. Barry Smee, PhD, P. Geo.

APPENDIX I:
Whole rock analysis and 30 element ICP analysis (4-acid digestion) were also conducted on 3 samples.

APPROXIMATE CHEMICAL COMPOSITION (by whole rock analysis):

Analyte	Percent	Analyte	Percent
SiO_2	33.3	**Na_2O**	0.9
Al_2O_3	6.6	**MgO**	8.9
Fe_2O_3	16.9	**K2O**	1.1
CaO	7.0	**TiO_2**	0.3
MnO	<0.5	**LOI**	9.5
Total S	10.7	**Total C**	2.3

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

Activation Labs, Ancaster, Ontario, Canada	Bureau Veritas, Perth, Australia
Activation Labs, Thunder Bay, Ontario, Canada	Bureau Veritas, Vancouver, BC, Canada
AGAT Labs, Ontario, Canada	Certimin S.A., Lima, Peru
ALS, Brisbane, Australia	MS Analytical, Langley, BC, Canada
ALS, Perth, Australia	SGS Lakefield, ON, Canada
ALS Lima, Peru	SGS, Vancouver, BC, Canada
ALS, Loughrea, Ireland	
ALS Canada, North Vancouver, BC, Canada	

APPENDIX II: Results from round-robin assaying:

Sample	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) by Fire Assay, 30g sample size and Instrumental finish														
ME-2201	1.38	1.25	1.42	1.53	1.625	1.400	1.550	1.485	1.63	1.452	1.457	1.559	1.61	1.39	1.61
	1.23	1.27	1.46	1.63	1.485	1.565	1.475	1.505	1.64	1.568	1.462	1.567	1.53	1.50	1.52
	1.55	1.55	1.56	1.43	1.500	1.560	1.375	1.535	1.52	1.550	1.457	1.620	1.41	1.52	1.59
	1.27	1.52	1.64	1.39	1.530	1.570	1.535	1.380	1.58	1.411	1.459	1.475	1.36	1.47	1.69
	1.79	1.43	1.55	1.54	1.425	1.480	1.460	1.610	1.43	1.629	1.571	1.567	1.64	1.40	1.46
	1.70	1.55	1.54	1.27	1.440	1.445	1.490	1.450	1.47	1.442	1.472	1.667	1.79	1.46	1.64
	1.56	1.46	1.81	1.47	1.355	1.680	1.515	1.595	1.61	1.681	1.542	1.340	1.55	1.52	1.40
	1.36	1.54	1.63	1.62	1.430	1.570	1.660	1.515	1.62	1.567	1.521	1.257	1.44	1.55	1.54
	1.49	1.40	1.67	1.59	1.405	1.570	1.460	1.585	1.40	1.466	1.575	1.561	1.61	1.38	1.46
	1.72	1.60	1.54	1.53	1.390	1.655	1.425	1.500	1.53	1.580	1.509	1.552	1.62	1.41	1.45
Mean	1.51	1.46	1.58	1.50	1.459	1.550	1.495	1.516	1.543	1.535	1.503	1.517	1.56	1.46	1.54
Std. Devn.	0.19	0.12	0.11	0.11	0.08	0.09	0.08	0.07	0.09	0.09	0.05	0.13	0.13	0.06	0.09
% RSD	12.88	8.26	7.04	7.49	5.40	5.60	5.20	4.63	5.63	5.75	3.18	8.33	8.18	4.23	6.16
	Ag (g/t) by 4 Acid digestion /Instrumental finish														
ME-2201	129	129	155	138	125	133	139	135	130	141	135	132	134	124	131
	137	138	150	131	129	135	140	134	132	136	136	136	133	130	132
	129	140	154	136	125	143	137	133	129	133	138	131	133	127	129
	126	138	160	135	126	134	137	132	136	138	133	132	133	134	131
	134	144	149	136	130	138	140	134	134	135	134	134	133	129	130
	124	134	166	143	130	138	135	138	137	140	137	134	132	130	132
	133	134	163	137	135	138	144	139	132	143	135	132	140	130	135
	125	137	151	136	131	140	159	131	132	143	132	138	137	131	136
	127	133	146	137	135	140	143	135	132	139	137	138	141	138	134
	129	134	152	142	133	134	146	132	129	136	135	133	132	141	132
Mean	129	136	155	137	130	137	142	134	132	138	135	134	135	131.4	132
Std. Devn.	4.19	4.20	6.47	3.41	3.75	3.23	6.88	2.584	2.71	3.41	1.87	2.54	3.33	5.04	2.20
% RSD	3.24	3.09	4.18	2.49	2.89	2.36	4.85	1.924	2.05	2.46	1.39	1.89	2.47	3.83	1.66
	Cu (%) by 4 Acid digestion Instrumental finish														
ME-2201	0.079	0.072	0.075	0.079	0.074	0.077	0.080	0.079	0.076	0.076	0.080	0.071	0.078	0.08	0.0744
	0.074	0.075	0.074	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.080	0.073	0.077	0.08	0.0744
	0.074	0.077	0.075	0.077	0.074	0.075	0.075	0.076	0.075	0.077	0.080	0.074	0.077	0.08	0.0747
	0.074	0.077	0.074	0.076	0.074	0.078	0.077	0.078	0.072	0.078	0.080	0.073	0.075	0.08	0.0762
	0.074	0.077	0.073	0.078	0.076	0.076	0.077	0.076	0.072	0.076	0.080	0.073	0.077	0.08	0.0744
	0.074	0.075	0.075	0.077	0.076	0.075	0.074	0.077	0.074	0.076	0.080	0.074	0.078	0.08	0.0741
	0.073	0.075	0.072	0.076	0.077	0.075	0.077	0.076	0.077	0.077	0.080	0.072	0.078	0.08	0.0746
	0.074	0.076	0.074	0.076	0.074	0.076	0.081	0.076	0.076	0.076	0.080	0.071	0.080	0.08	0.0748
	0.074	0.076	0.075	0.076	0.076	0.075	0.079	0.076	0.077	0.078	0.080	0.076	0.078	0.08	0.0755
	0.074	0.075	0.073	0.077	0.078	0.077	0.078	0.078	0.077	0.077	0.080	0.072	0.079	0.08	0.0764
Mean	0.074	0.076	0.074	0.077	0.076	0.076	0.078	0.077	0.075	0.077	0.080	0.073	0.078	0.08	0.07
Std. Devn.	0.002	0.002	0.001	0.001	0.002	0.001	0.002	0.001	0.002	0.001	0.000	0.002	0.001	0.000	0.001
% RSD	2.213	1.999	1.316	1.293	1.991	1.446	2.737	1.431	2.660	1.027	0.000	2.090	1.721	0.000	1.072

Pb (%) by 4 Acid digestion Instrumental finish															
ME-2201	1.93	1.92	1.75	1.900	1.870	1.940	1.955	1.905	1.94	1.91	1.97	1.85	1.95	1.99	1.92
	1.90	2.00	1.74	1.895	1.915	1.885	1.970	1.910	1.94	1.90	1.97	1.88	1.90	1.94	1.91
	1.90	2.02	1.72	1.890	1.865	1.960	1.955	1.885	1.95	1.94	1.98	1.93	1.93	1.99	1.91
	1.89	1.98	1.73	1.910	1.885	1.980	1.940	1.905	1.91	1.93	1.99	1.91	1.93	1.93	1.93
	1.90	1.98	1.71	1.905	1.935	1.915	1.965	1.905	1.92	1.92	1.98	1.90	1.93	1.89	1.89
	1.91	1.96	1.74	1.910	1.935	1.890	1.905	1.905	1.91	1.98	1.98	1.91	1.97	1.92	1.89
	1.90	1.96	1.66	1.915	1.975	1.895	2.000	1.895	1.98	1.97	1.98	1.84	1.93	1.98	1.90
	1.91	2.01	1.73	1.905	1.860	1.925	2.150	1.890	1.94	1.93	1.97	1.86	1.93	1.93	1.87
	1.90	1.98	1.75	1.905	1.925	1.910	1.965	1.900	1.95	1.92	1.97	1.98	1.94	1.95	1.83
	1.92	1.99	1.71	1.915	1.985	1.935	2.030	1.935	1.95	1.96	1.99	1.87	1.95	1.95	1.93
Mean	1.91	1.980	1.72	1.905	1.915	1.924	1.984	1.904	1.94	1.94	1.98	1.89	1.94	1.95	1.90
Std. Devn.	0.01	0.03	0.03	0.01	0.04	0.03	0.07	0.01	0.02	0.03	0.01	0.04	0.02	0.03	0.03
% RSD	0.62	1.45	1.55	0.43	2.33	1.61	3.39	0.71	1.10	1.36	0.40	2.23	0.95	1.66	1.61
Zn (%) by 4 Acid digestion Instrumental finish															
ME-2201	4.54	4.44	4.38	4.62	4.42	4.57	4.80	4.64	4.54	4.73	4.62	4.57	4.50	4.70	4.55
	4.61	4.59	4.41	4.61	4.55	4.53	4.68	4.60	4.59	4.75	4.68	4.62	4.57	4.70	4.66
	4.59	4.64	4.36	4.56	4.44	4.63	4.58	4.53	4.56	4.68	4.64	4.73	4.45	4.71	4.79
	4.56	4.56	4.32	4.59	4.49	4.66	4.62	4.60	4.46	4.79	4.60	4.69	4.53	4.76	4.68
	4.60	4.55	4.38	4.67	4.62	4.62	4.68	4.56	4.42	4.71	4.61	4.67	4.45	4.60	4.66
	4.61	4.51	4.39	4.66	4.62	4.54	4.54	4.64	4.57	4.73	4.69	4.66	4.62	4.59	4.56
	4.59	4.51	4.19	4.64	4.68	4.55	4.78	4.57	4.71	4.80	4.72	4.53	4.49	4.82	4.64
	4.59	4.58	4.37	4.56	4.44	4.66	5.18	4.56	4.67	4.76	4.68	4.58	4.60	4.74	4.69
	4.58	4.57	4.39	4.61	4.61	4.60	4.72	4.59	4.65	4.82	4.68	4.90	4.54	4.68	4.68
	4.62	4.57	4.31	4.63	4.77	4.60	4.87	4.68	4.65	4.81	4.69	4.59	4.53	4.62	4.86
Mean	4.59	4.55	4.35	4.62	4.56	4.60	4.75	4.60	4.58	4.76	4.66	4.65	4.53	4.69	4.68
Std. Devn.	0.02	0.05	0.06	0.04	0.12	0.05	0.18	0.05	0.09	0.05	0.04	0.11	0.06	0.07	0.09
% RSD	0.53	1.20	1.48	0.81	2.55	1.03	3.87	0.99	2.02	0.97	0.87	2.28	1.27	1.56	1.99

Notes:

Ag results assayed by 4 Acid digestion with instrumental finish from Labs 3 were removed for failing the t test.

Pb results assayed by 4 Acid digestion with instrumental finish from Lab 3 were removed for failing the t test.

Zn results assayed by 4 Acid digestion with instrumental finish from Lab 3 were removed for failing the t test.

APPENDIX III: QAQC

Table below illustrates percentages of over size (+275 mesh) material in CDN-ME-2201

Standard	Study Date	Total weight Screened (g)	Total weight Over size (g)	Percentage
ME-2201	2/23/2022	300	2	0.7%
	2/23/2022	300	2	1.0%
	2/23/2022	300	3	1.0%

Table below shows homogeneity test results of CDN-ME-2201

	Au Original	Au Repeat	Between Sample Variance Wt	Sample Avg. Xt	Stdev of Sample Avg	Within-Sample Std.
ME-2201	1.57	1.50	0.070	1.535	0.002	0.005
	1.61	1.55	0.060	1.580	0.000	0.004
	1.54	1.47	0.070	1.505	0.006	0.005
	1.60	1.50	0.100	1.550	0.001	0.010
	1.65	1.67	0.020	1.660	0.006	0.000
	1.47	1.58	0.110	1.525	0.003	0.012
	1.60	1.49	0.110	1.545	0.001	0.012
	1.63	1.62	0.010	1.625	0.002	0.000
	1.47	2.41	0.940	1.940	0.128	0.884
	1.43	1.56	0.130	1.495	0.008	0.017
	1.45	2.11	0.660	1.780	0.039	0.436
	1.56	1.44	0.120	1.500	0.007	0.014
	1.55	1.51	0.040	1.530	0.003	0.002
	1.57	1.34	0.230	1.455	0.016	0.053
	1.46	1.57	0.110	1.515	0.005	0.012
Statistics			**Gavg**	**SX**	**SS**	
Mean	1.544	1.621	**1.583**	**0.127**	**0.091**	
SD	0.0711	0.2765	**C**	**C SQRT**		
RSD	4.605	17.054	**0.0620**	**0.25**		
Proof of Homogeneity	Based on Statistical procedures outlined in Annex B, ISO 13528:2015 guidelines, If "SS is < square root of C" Standard is considered homogeneous. **ME-2201 is statistically homogenous**					