

CDN Resource Laboratories Ltd.

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REFERENCE MATERIAL: CDN-ME-1414

Recommended values and the “Between Lab” Two Standard Deviations

<i>Gold</i>	<i>0.284 g/t</i>	<i>±</i>	<i>0.026 g/t</i>	<i>Certified value</i>
<i>Silver</i>	<i>18.2 g/t</i>	<i>±</i>	<i>1.2 g/t</i>	<i>Certified value</i>
<i>Copper</i>	<i>0.219 %</i>	<i>±</i>	<i>0.010 %</i>	<i>Certified value</i>
<i>Lead</i>	<i>0.105 %</i>	<i>±</i>	<i>0.006 %</i>	<i>Certified value</i>
<i>Zinc</i>	<i>0.732 %</i>	<i>±</i>	<i>0.024%</i>	<i>Certified value</i>

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: February 20, 2015

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 laboratories for round robin assaying.

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-ME-1414 is made from ore supplied by MMG (Minerals & Metals Group). The ore is described as massive to semi-massive sulphides from an archaic aged VMS deposit in the Slave structural province of Canada. It consists of pyrite, pyrrhotite, chalcocopyrite, sphalerite and minor galena. Gangue minerals include quartz, chlorite, feldspar, cordierite, biotite, magnetite, anthophyllite and grunerite.

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

	Percent		Percent
SiO ₂	62.0	MgO	4.6
Al ₂ O ₃	6.5	K ₂ O	0.6
Fe ₂ O ₃	13.2	TiO ₂	0.2
CaO	3.2	LOI	8.0
Na ₂ O	0.1	S	7.0
C	1.3		

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.

REFERENCE MATERIAL CDN-ME-1414

Assay Procedures:

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

Results from round-robin assaying:

	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-1414-1	0.284	0.275	0.307	0.315	0.285	0.288	0.309	0.279	0.283	0.277	0.311	0.310	0.270	0.264	0.270
ME-1414-2	0.312	0.284	0.256	0.269	0.284	0.280	0.298	0.286	0.288	0.287	0.294	0.297	0.261	0.260	0.300
ME-1414-3	0.300	0.313	0.264	0.275	0.268	0.287	0.305	0.289	0.279	0.273	0.332	0.304	0.264	0.279	0.280
ME-1414-4	0.268	0.311	0.299	0.288	0.298	0.279	0.302	0.289	0.284	0.294	0.335	0.273	0.260	0.282	0.270
ME-1414-5	0.272	0.287	0.284	0.284	0.299	0.292	0.300	0.285	0.280	0.294	0.335	0.283	0.260	0.262	0.280
ME-1414-6	0.278	0.304	0.286	0.286	0.278	0.292	0.297	0.303	0.289	0.291	0.328	0.274	0.272	0.277	0.280
ME-1414-7	0.287	0.262	0.298	0.296	0.275	0.282	0.297	0.279	0.287	0.268	0.308	0.273	0.264	0.276	0.280
ME-1414-8	0.325	0.311	0.303	0.282	0.273	0.290	0.300	0.281	0.274	0.279	0.295	0.280	0.237	0.282	0.280
ME-1414-9	0.274	0.306	0.292	0.287	0.269	0.280	0.298	0.294	0.293	0.286	0.308	0.292	0.260	0.279	0.270
ME-1414-10	0.322	0.295	0.285	0.278	0.283	0.290	0.301	0.297	0.284	0.292	0.319	0.277	0.259	0.272	0.270
Mean	0.292	0.295	0.287	0.286	0.281	0.286	0.301	0.288	0.284	0.284	0.317	0.286	0.261	0.273	0.278
Std. Devn.	0.0212	0.0174	0.0165	0.0126	0.0109	0.0052	0.0038	0.0079	0.0055	0.0093	0.0157	0.0136	0.0094	0.0084	0.0092
% RSD	7.25	5.89	5.74	4.42	3.87	1.83	1.27	2.76	1.94	3.27	4.95	4.75	3.62	3.06	3.31
	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-1414-1	18.1	18.0	16.9	17.5	18.8	18.1	18.1	19.0	18.0	18.3	17.8	18	18.7	17.7	18.5
ME-1414-2	18.1	19.0	16.6	17.4	19.4	18.3	18.0	19.0	19.0	18.1	17.8	19	18.9	18.0	19.5
ME-1414-3	18.5	18.0	16.8	17.9	18.3	18.0	18.1	19.0	18.0	18.3	17.9	18	18.8	18.1	19.0
ME-1414-4	18.3	19.0	17.7	17.4	18.5	18.4	17.9	19.0	19.0	18.6	18.3	18	18.6	18.5	19.0
ME-1414-5	18.4	20.0	17.6	17.1	18.3	18.4	17.9	19.0	19.0	18.0	18.1	18	19.4	18.5	19.0
ME-1414-6	18.0	19.0	17.2	17.2	18.6	17.7	18.5	19.0	18.0	18.0	17.7	17	18.4	18.0	19.5
ME-1414-7	17.5	18.0	17.9	17.3	18.9	17.9	17.9	18.0	20.0	18.2	18.2	18	18.8	17.8	19.5
ME-1414-8	18.0	18.0	17.7	17.4	18.8	17.6	18.5	18.0	20.0	18.2	17.7	17	18.5	18.3	19.0
ME-1414-9	17.5	17.0	17.7	17.4	19.4	17.7	18.5	18.0	17.0	18.3	17.9	18	18.5	18.2	19.0
ME-1414-10	17.6	19.0	16.9	17.3	18.7	17.6	18.0	18.0	18.0	18.8	18.2	18	18.4	17.9	18.5
Mean	18.0	18.5	17.3	17.4	18.8	18.0	18.1	18.6	18.6	18.3	18.0	17.9	18.7	18.1	19.1
Std. Devn.	0.3621	0.8498	0.4714	0.2132	0.3889	0.3199	0.2591	0.5164	0.9661	0.2530	0.2221	0.5676	0.3018	0.2749	0.3689
% RSD	2.01	4.59	2.72	1.23	2.07	1.78	1.43	2.78	5.19	1.38	1.24	3.17	1.61	1.52	1.94

Notes: Au data from laboratory 11 was removed for failing the t test.

REFERENCE MATERIAL CDN-ME-1414

Results from round-robin assaying:

	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-1414-1	0.217	0.218	0.203	0.211	0.216	0.222	0.220	0.215	0.231	0.222	0.223	0.228	0.22	0.217	0.216
ME-1414-2	0.223	0.218	0.206	0.210	0.217	0.221	0.220	0.221	0.224	0.220	0.222	0.231	0.22	0.217	0.218
ME-1414-3	0.224	0.212	0.217	0.219	0.211	0.223	0.220	0.218	0.227	0.213	0.224	0.237	0.23	0.218	0.222
ME-1414-4	0.219	0.212	0.224	0.212	0.213	0.221	0.220	0.215	0.226	0.228	0.228	0.231	0.22	0.207	0.222
ME-1414-5	0.221	0.210	0.220	0.211	0.212	0.224	0.220	0.213	0.229	0.221	0.225	0.230	0.23	0.223	0.221
ME-1414-6	0.223	0.208	0.219	0.210	0.210	0.222	0.220	0.214	0.222	0.216	0.226	0.230	0.22	0.216	0.216
ME-1414-7	0.213	0.208	0.228	0.217	0.213	0.221	0.220	0.213	0.231	0.223	0.223	0.234	0.22	0.214	0.219
ME-1414-8	0.223	0.210	0.225	0.215	0.215	0.222	0.220	0.216	0.227	0.217	0.227	0.227	0.22	0.218	0.223
ME-1414-9	0.217	0.210	0.227	0.213	0.212	0.220	0.220	0.215	0.227	0.216	0.224	0.226	0.22	0.210	0.217
ME-1414-10	0.218	0.211	0.211	0.214	0.212	0.223	0.220	0.212	0.228	0.222	0.226	0.233	0.22	0.216	0.217
Mean	0.220	0.212	0.218	0.213	0.213	0.222	0.220	0.215	0.227	0.220	0.225	0.231	0.222	0.215	0.219
Std. Devn.	0.0033	0.0036	0.0088	0.0030	0.0022	0.0012	0.0000	0.0027	0.0028	0.0044	0.0019	0.0033	0.0042	0.0046	0.0027
% RSD	1.51	1.70	4.02	1.43	1.05	0.56	0.00	1.24	1.24	1.99	0.86	1.45	1.90	2.13	1.23
	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb
ME-1414-1	0.108	0.110	0.092	0.095	0.107	0.105	0.100	0.103		0.102	0.106	0.112	0.10	0.105	0.101
ME-1414-2	0.107	0.100	0.096	0.097	0.108	0.106	0.100	0.105		0.102	0.107	0.107	0.11	0.108	0.108
ME-1414-3	0.110	0.100	0.096	0.099	0.102	0.106	0.100	0.104		0.101	0.107	0.110	0.11	0.108	0.106
ME-1414-4	0.108	0.100	0.099	0.094	0.104	0.104	0.110	0.102		0.105	0.109	0.109	0.12	0.107	0.104
ME-1414-5	0.107	0.100	0.100	0.096	0.104	0.104	0.110	0.102		0.102	0.106	0.109	0.11	0.109	0.106
ME-1414-6	0.108	0.100	0.098	0.096	0.105	0.106	0.100	0.103		0.104	0.106	0.107	0.11	0.108	0.105
ME-1414-7	0.104	0.100	0.102	0.096	0.106	0.104	0.100	0.103		0.102	0.109	0.107	0.11	0.105	0.107
ME-1414-8	0.106	0.100	0.100	0.097	0.106	0.105	0.110	0.104		0.102	0.106	0.111	0.11	0.109	0.105
ME-1414-9	0.106	0.100	0.100	0.096	0.106	0.106	0.100	0.104		0.102	0.105	0.101	0.11	0.108	0.106
ME-1414-10	0.104	0.100	0.096	0.094	0.104	0.107	0.100	0.102		0.105	0.107	0.107	0.11	0.108	0.105
Mean	0.107	0.101	0.098	0.096	0.105	0.105	0.103	0.103		0.103	0.107	0.108	0.110	0.107	0.105
Std. Devn.	0.0019	0.0032	0.0030	0.0014	0.0018	0.0009	0.0048	0.0010		0.0014	0.0011	0.0031	0.0047	0.0013	0.0019
% RSD	1.82	3.13	3.03	1.41	1.66	0.88	4.69	1.00		1.38	1.06	2.83	4.29	1.24	1.79
	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn
ME-1414-1	0.732	0.720	0.633	0.669	0.719	0.743	0.730	0.739	0.792	0.730	0.741	0.719	0.75	0.713	0.721
ME-1414-2	0.745	0.730	0.663	0.681	0.716	0.748	0.730	0.753	0.751	0.729	0.744	0.721	0.74	0.726	0.727
ME-1414-3	0.753	0.700	0.659	0.698	0.727	0.741	0.730	0.743	0.765	0.728	0.744	0.715	0.74	0.731	0.724
ME-1414-4	0.732	0.700	0.688	0.671	0.713	0.757	0.730	0.734	0.775	0.748	0.742	0.739	0.74	0.723	0.712
ME-1414-5	0.746	0.700	0.701	0.679	0.719	0.743	0.730	0.730	0.792	0.722	0.746	0.734	0.74	0.735	0.715
ME-1414-6	0.752	0.690	0.682	0.675	0.715	0.734	0.730	0.726	0.761	0.735	0.749	0.732	0.74	0.722	0.711
ME-1414-7	0.705	0.690	0.689	0.685	0.705	0.734	0.730	0.726	0.806	0.724	0.738	0.737	0.74	0.714	0.717
ME-1414-8	0.741	0.700	0.690	0.688	0.709	0.749	0.730	0.740	0.789	0.718	0.745	0.716	0.74	0.730	0.719
ME-1414-9	0.737	0.700	0.689	0.683	0.703	0.743	0.740	0.734	0.788	0.723	0.748	0.725	0.74	0.728	0.718
ME-1414-10	0.740	0.700	0.649	0.670	0.720	0.741	0.730	0.721	0.788	0.751	0.742	0.737	0.74	0.738	0.717
Mean	0.738	0.703	0.674	0.680	0.715	0.743	0.731	0.735	0.781	0.731	0.744	0.728	0.741	0.726	0.718
Std. Devn.	0.0137	0.0125	0.0220	0.0091	0.0073	0.0068	0.0032	0.0095	0.0171	0.0110	0.0034	0.0093	0.0032	0.0082	0.0050
% RSD	1.86	1.78	3.26	1.34	1.03	0.91	0.43	1.29	2.19	1.50	0.46	1.28	0.43	1.13	0.69

Notes: **Cu data from laboratory 12 was removed for failing the t test.**
Pb data from laboratories 3 and 4 was removed for failing the t test.
Zn data from laboratories 3, 4 and 9 was removed for failing the t test.
Laboratory 9 did not provide Pb data.

REFERENCE MATERIAL CDN-ME-1414

Participating Laboratories:

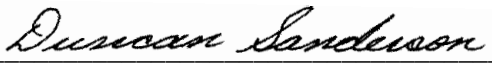
(not in same order as listed in table of results)

Bureau Veritas (Acme), Vancouver, BC, Canada
Activation Laboratories, Ancaster, Ontario, Canada
Activation Laboratories, Thunder Bay, Ontario, Canada
AGAT, Mississauga, Ontario, Canada
ALS Canada, North Vancouver, BC, Canada
American Assay Laboratories Inc., Sparks, Nevada, USA
Certimin, Lima, Peru
Intertek – Genalysis, Perth, Australia
Met-Solve Analytical Services, Langley, BC, Canada
ALS Loughrea (Omac), Ireland
SGS, Lima, Peru
SGS, Vancouver, BC, Canada
Skyline Laboratories, Arizona, USA
TSL Laboratories Ltd., Saskatoon, SK, Canada
Ultra Trace Laboratories Ltd., Perth, Australia


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Certified by


Duncan Sanderson, Certified Assayer of B.C.

Geochemist


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