

# **CDN Resource Laboratories Ltd.**

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## **REFERENCE MATERIAL: CDN-ME-1312**

Recommended values and the “Between Lab” Two Standard Deviations

<b>Gold</b>	<b>1.27 g/t ± 0.15 g/t</b>	<b>Certified value</b>
<b>Silver</b>	<b>22.3 g/t ± 1.7 g/t</b>	<b>Certified value</b>
<b>Copper</b>	<b>0.446 % ± 0.026 %</b>	<b>Certified value</b>
<b>Lead</b>	<b>0.273 % ± 0.010 %</b>	<b>Certified value</b>
<b>Zinc</b>	<b>1.81 % ± 0.06 %</b>	<b>Certified value</b>

**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:** April 21, 2014

### **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:**

The ore is described as massive to semi-massive sulphides from the Izok Lake orebody, an archean aged VMS deposit in the Slave structural province of Canada. It consists of pyrite, pyrrhotite, chalcopyrite, sphalerite and minor galena. Gangue minerals include quartz, chlorite, feldspar, cordierite, biotite, magnetite, anthophyllite and grunerite. 800 kg of Izok Lake material was combined with 13 kg of a high grade gold, silver ore to make the final standard.

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

	Percent			Percent
SiO <sub>2</sub>	59.8		MgO	3.7
Al <sub>2</sub> O <sub>3</sub>	11.0		K <sub>2</sub> O	2.4
Fe <sub>2</sub> O <sub>3</sub>	12.4		TiO <sub>2</sub>	0.3
CaO	2.2		LOI	4.1
Na <sub>2</sub> O	0.8		S	4.3
C	0.1			

### **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:** Fire assay pre-concentration, AA or ICP finish.

**Ag, Cu, Pb, Zn:** 4-acid digestion, AA or ICP finish.

## **REFERENCE MATERIAL CDN-ME-1312**

### **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														
ME-1312-1	1.19	1.18	1.28	1.26	1.20	1.36	1.43	1.28	1.13	1.30	1.21	1.40	1.15	1.29	1.24
ME-1312-2	1.27	1.29	1.18	1.19	1.26	1.40	1.41	1.27	1.18	1.21	1.17	1.47	1.29	1.30	1.21
ME-1312-3	1.24	1.29	1.18	1.27	1.23	1.41	1.41	1.26	1.25	1.28	1.23	1.35	1.26	1.33	1.20
ME-1312-4	1.16	1.20	1.09	1.23	1.26	1.26	1.43	1.26	1.16	1.28	1.27	1.33	1.17	1.42	1.27
ME-1312-5	1.27	1.23	1.29	1.20	1.23	1.31	1.36	1.27	1.25	1.31	1.23	1.36	1.19	1.36	1.26
ME-1312-6	1.24	1.17	1.13	1.42	1.21	1.47	1.34	1.25	1.13	1.22	1.33	1.30	1.27	1.28	1.29
ME-1312-7	1.18	1.26	1.23	1.52	1.16	1.45	1.34	1.28	1.23	1.19	1.27	1.37	1.19	1.30	1.26
ME-1312-8	1.18	1.21	1.36	1.24	1.23	1.43	1.37	1.27	1.27	1.17	1.21	1.42	1.30	1.38	1.23
ME-1312-9	1.27	1.29	1.28	1.29	1.28	1.38	1.35	1.25	1.18	1.22	1.17	1.35	1.27	1.35	1.23
ME-1312-10	1.18	1.24	1.34	1.29	1.19	1.49	1.34	1.26	1.14	1.35	1.25	1.33	1.20	1.38	1.20
Mean	1.22	1.24	1.24	1.29	1.22	1.39	1.38	1.26	1.19	1.25	1.23	1.37	1.23	1.34	1.24
Std. Devn.	0.0436	0.0458	0.0893	0.1039	0.0359	0.0720	0.0379	0.0110	0.0537	0.0591	0.0485	0.0508	0.0545	0.0465	0.0307
% RSD	3.58	3.70	7.23	8.06	2.94	5.16	2.75	0.87	4.51	4.72	3.93	3.71	4.43	3.47	2.48
	Ag g/t														
ME-1312-1	24	23	22	23	23	22	22.1	21.5	23	18.3	18.8	20.6	22	22.0	22.0
ME-1312-2	24	22	23	22	23	22	21.7	21.2	22	19.2	19.1	20.7	21	23.0	22.5
ME-1312-3	25	22	23	23	23	23	22.9	21.3	23	19.5	19.2	20.8	21	22.5	22.0
ME-1312-4	23	22	23	23	23	23	21.1	21.4	22	19.0	19.6	21.3	21	23.1	22.5
ME-1312-5	22	22	23	23	23	23	21.4	21.2	23	19.1	18.6	21.1	22	23.0	22.5
ME-1312-6	23	23	22	22	23	23	22.8	21.7	22	18.5	18.3	21.5	21	23.5	22.5
ME-1312-7	22	22	23	22	23	24	23.0	21.1	22	18.6	19.4	21.6	22	22.8	22.5
ME-1312-8	23	22	22	21	25	24	22.6	21.7	22	19.1	18.5	21.4	21	23.2	22.5
ME-1312-9	23	23	23	23	24	22	22.9	21.7	23	18.8	18.8	21.7	21	22.5	22.5
ME-1312-10	23	21	23	22	23	24	23.3	21.3	21	18.8	19.2	21.1	21	22.7	23.0
Mean	23.2	22.2	22.7	22.4	23.3	23.0	22.4	21.4	22.3	18.9	19.0	21.2	21.3	22.8	22.5
Std. Devn.	0.9189	0.6325	0.4830	0.6992	0.6749	0.8165	0.7554	0.2283	0.6749	0.3604	0.4170	0.3853	0.4830	0.4270	0.2838
% RSD	3.96	2.85	2.13	3.12	2.90	3.55	3.38	1.07	3.03	1.91	2.20	1.82	2.27	1.87	1.26

Notes: Ag data from laboratories 10 and 11 was removed for failing the t test.

## **REFERENCE MATERIAL CDN-ME-1312**

**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														
ME-1312-1	0.443	0.441	0.449	0.445	0.451	0.455	0.428	0.42	0.451	0.46	0.47	0.430	0.42	0.448	0.459
ME-1312-2	0.449	0.446	0.442	0.438	0.459	0.453	0.427	0.42	0.444	0.46	0.46	0.430	0.42	0.449	0.456
ME-1312-3	0.445	0.442	0.447	0.457	0.459	0.453	0.423	0.42	0.447	0.45	0.46	0.428	0.42	0.453	0.458
ME-1312-4	0.436	0.446	0.449	0.445	0.456	0.459	0.427	0.42	0.453	0.47	0.46	0.434	0.40	0.460	0.461
ME-1312-5	0.434	0.438	0.442	0.440	0.451	0.451	0.427	0.42	0.443	0.46	0.46	0.432	0.41	0.457	0.464
ME-1312-6	0.441	0.443	0.429	0.436	0.453	0.454	0.422	0.43	0.445	0.47	0.47	0.439	0.41	0.448	0.457
ME-1312-7	0.439	0.444	0.441	0.439	0.444	0.462	0.423	0.44	0.444	0.46	0.46	0.434	0.42	0.450	0.465
ME-1312-8	0.436	0.435	0.445	0.437	0.452	0.458	0.425	0.42	0.453	0.46	0.46	0.431	0.40	0.447	0.458
ME-1312-9	0.439	0.446	0.440	0.437	0.458	0.456	0.424	0.42	0.460	0.46	0.46	0.441	0.42	0.453	0.467
ME-1312-10	0.443	0.432	0.446	0.435	0.450	0.453	0.427	0.42	0.446	0.47	0.46	0.431	0.42	0.448	0.462
Mean	0.441	0.441	0.443	0.441	0.453	0.455	0.425	0.423	0.448	0.462	0.462	0.433	0.414	0.451	0.461
Std. Devn.	0.0046	0.0049	0.0059	0.0066	0.0048	0.0034	0.0022	0.0067	0.0055	0.0063	0.0042	0.0040	0.0084	0.0044	0.0037
% RSD	1.05	1.11	1.33	1.50	1.05	0.74	0.51	1.60	1.22	1.37	0.91	0.93	2.04	0.97	0.81
	% Pb														
ME-1312-1	0.27	0.282	0.267	0.276	0.273	0.275	0.276	0.27	0.280	0.28	0.28	0.256	0.26	0.269	0.269
ME-1312-2	0.28	0.277	0.267	0.259	0.272	0.278	0.279	0.27	0.274	0.29	0.28	0.256	0.27	0.272	0.274
ME-1312-3	0.28	0.277	0.270	0.269	0.270	0.280	0.276	0.27	0.278	0.28	0.27	0.254	0.26	0.272	0.273
ME-1312-4	0.27	0.278	0.270	0.270	0.270	0.275	0.281	0.27	0.278	0.28	0.28	0.263	0.25	0.271	0.270
ME-1312-5	0.27	0.278	0.266	0.273	0.268	0.277	0.276	0.27	0.270	0.27	0.28	0.257	0.27	0.269	0.276
ME-1312-6	0.27	0.280	0.263	0.263	0.272	0.273	0.271	0.27	0.273	0.29	0.28	0.263	0.25	0.273	0.272
ME-1312-7	0.27	0.282	0.265	0.267	0.264	0.275	0.272	0.28	0.274	0.28	0.28	0.262	0.27	0.273	0.269
ME-1312-8	0.28	0.276	0.265	0.264	0.270	0.275	0.268	0.28	0.274	0.28	0.27	0.258	0.25	0.272	0.270
ME-1312-9	0.27	0.278	0.263	0.268	0.274	0.272	0.273	0.28	0.273	0.28	0.28	0.264	0.27	0.273	0.276
ME-1312-10	0.27	0.277	0.265	0.262	0.268	0.282	0.279	0.27	0.273	0.28	0.28	0.259	0.27	0.272	0.271
Mean	0.273	0.279	0.266	0.267	0.270	0.276	0.275	0.273	0.275	0.281	0.278	0.259	0.262	0.271	0.272
Std. Devn.	0.0048	0.0021	0.0025	0.0052	0.0029	0.0031	0.0041	0.0048	0.0031	0.0057	0.0042	0.0035	0.0092	0.0015	0.0027
% RSD	1.77	0.76	0.93	1.95	1.08	1.12	1.49	1.77	1.14	2.02	1.52	1.37	3.51	0.53	0.98
	% Zn														
ME-1312-1	1.82	1.84	1.86	1.80	1.86	1.82	1.83	1.77	1.87	1.79	1.78	1.84	1.72	1.81	1.87
ME-1312-2	1.84	1.84	1.84	1.77	1.89	1.82	1.83	1.77	1.82	1.77	1.75	1.85	1.74	1.82	1.88
ME-1312-3	1.82	1.83	1.84	1.84	1.90	1.81	1.83	1.77	1.80	1.75	1.73	1.88	1.74	1.82	1.90
ME-1312-4	1.79	1.84	1.84	1.80	1.88	1.83	1.84	1.77	1.83	1.77	1.78	1.85	1.65	1.82	1.90
ME-1312-5	1.81	1.83	1.83	1.78	1.86	1.81	1.83	1.77	1.79	1.76	1.79	1.83	1.73	1.81	1.91
ME-1312-6	1.80	1.83	1.80	1.77	1.88	1.83	1.84	1.79	1.79	1.80	1.80	1.86	1.71	1.82	1.93
ME-1312-7	1.80	1.84	1.84	1.78	1.83	1.84	1.83	1.79	1.81	1.77	1.76	1.87	1.73	1.82	1.93
ME-1312-8	1.82	1.83	1.81	1.77	1.86	1.83	1.83	1.77	1.82	1.77	1.74	1.86	1.66	1.82	1.91
ME-1312-9	1.80	1.82	1.82	1.76	1.89	1.82	1.83	1.79	1.84	1.74	1.79	1.86	1.72	1.83	1.93
ME-1312-10	1.79	1.82	1.84	1.76	1.86	1.81	1.83	1.79	1.78	1.79	1.79	1.85	1.75	1.83	1.92
Mean	1.81	1.83	1.83	1.78	1.87	1.82	1.83	1.78	1.82	1.77	1.77	1.86	1.72	1.82	1.91
Std. Devn.	0.0160	0.0079	0.0175	0.0249	0.0211	0.0102	0.0041	0.0103	0.0261	0.0185	0.0242	0.0143	0.0337	0.0082	0.0210
% RSD	0.88	0.43	0.96	1.40	1.13	0.56	0.22	0.58	1.44	1.05	1.37	0.77	1.97	0.45	1.10

Notes: Cu data from laboratory 13 was removed for failing the t test.

Pb data from laboratory 12 was removed for failing the t test.

Zn data from laboratories 13 and 15 was removed for failing the t test.

## REFERENCE MATERIAL CDN-ME-1312

### **Participating Laboratories:**

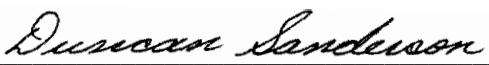
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, BC, Canada  
Actlabs, Ancaster, Ontario, Canada  
Actlabs, Thunder Bay, Ontario, Canada  
ALS Brisbane, Australia  
ALS Canada Inc., North Vancouver, BC, Canada  
ALS, Loughrea, Ireland (Omac)  
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SGS, Lima, Peru  
SGS Canada Inc., Burnaby, BC, Canada  
Skyline Assayers and Laboratories, Arizona, USA  
Skyline Assayers and Laboratories, Nevada, USA  
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Certified by

  
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Duncan Sanderson, Certified Assayer of B.C.

Geochemist

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