

# CDN Resource Laboratories Ltd.

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## REFERENCE MATERIAL: CDN-CM-36

Recommended values and the “Between Lab” Two Standard Deviations

<i>Gold</i>	<i>0.316 g/t ± 0.034 g/t</i>	<i>Certified value</i>	<i>30g FA / ICP or AA</i>
<i>Silver</i>	<i>2.1 g/t ± 0.2 g/t</i>	<i>Certified value</i>	<i>4-acid / ICP or AA</i>
<i>Silver</i>	<i>2.0 g/t ± 0.2 g/t</i>	<i>Certified value</i>	<i>Aqua regia / ICP or AA</i>
<i>Copper</i>	<i>0.230 % ± 0.010 %</i>	<i>Certified value</i>	<i>4-acid / ICP or AA</i>
<i>Copper</i>	<i>0.227 % ± 0.012 %</i>	<i>Certified value</i>	<i>Aqua regia / ICP or AA</i>
<i>Sulphur</i>	<i>2.89 % ± 0.08 %</i>	<i>Certified value</i>	<i>Leco</i>

**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.

The certified value and between lab 2SD calculated for each element are done so for a specific analytical procedure. It is inappropriate to apply them to other techniques (eg. geochemical analyses).

**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 17, 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:**

Standard CDN-CM-36 was prepared using ore from a project in the south-central Far East. The ore is from K-silicate, silicic and sericitic altered intermediate volcanic and related intrusive rocks exhibiting porphyry-style copper and gold mineralization.

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

	Percent		Percent
SiO <sub>2</sub>	64.5	MgO	1.4
Al <sub>2</sub> O <sub>3</sub>	15.0	K <sub>2</sub> O	3.0
Fe <sub>2</sub> O <sub>3</sub>	7.7	TiO <sub>2</sub>	0.5
CaO	1.7	LOI	4.5
Na <sub>2</sub> O	1.0	S	2.9

### **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  $\pm 2$  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-CM-36*

## 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
FA AA/ICP	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
CM-36-1	0.362	0.358	0.327	0.335	0.36	0.334	0.384	0.31	0.299	0.31	0.328	0.350	0.299	0.307	0.30
CM-36-2	0.352	0.320	0.298	0.297	0.35	0.326	0.340	0.33	0.305	0.33	0.297	0.335	0.303	0.325	0.32
CM-36-3	0.355	0.316	0.322	0.337	0.29	0.343	0.351	0.31	0.299	0.31	0.306	0.326	0.315	0.306	0.31
CM-36-4	0.356	0.305	0.324	0.317	0.29	0.308	0.367	0.34	0.303	0.31	0.301	0.322	0.331	0.311	0.29
CM-36-5	0.355	0.326	0.316	0.311	0.32	0.323	0.319	0.30	0.297	0.34	0.357	0.344	0.329	0.319	0.31
CM-36-6	0.307	0.322	0.317	0.314	0.34	0.307	0.300	0.31	0.303	0.31	0.309	0.379	0.319	0.317	0.31
CM-36-7	0.322	0.316	0.296	0.309	0.30	0.289	0.300	0.31	0.307	0.32	0.299	0.322	0.362	0.306	0.30
CM-36-8	0.386	0.319	0.297	0.302	0.30	0.358	0.316	0.32	0.302	0.34	0.330	0.349	0.311	0.307	0.29
CM-36-9	0.322	0.329	0.318	0.320	0.35	0.345	0.324	0.34	0.306	0.29	0.301	0.327	0.307	0.302	0.29
CM-36-10	0.333	0.326	0.296	0.302	0.29	0.310	0.336	0.30	0.306	0.32	0.313	0.321	0.329	0.304	0.30
Mean	0.345	0.324	0.311	0.314	0.319	0.324	0.334	0.317	0.303	0.318	0.314	0.338	0.321	0.310	0.302
Std. Devn.	0.0235	0.0138	0.0128	0.0134	0.0285	0.0212	0.0276	0.0149	0.0034	0.0155	0.0190	0.0184	0.0184	0.0075	0.0103
% RSD	6.82	4.27	4.11	4.27	8.92	6.52	8.28	4.71	1.13	4.87	6.04	5.46	5.74	2.41	3.42
4-acid	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
CM-36-1	2.0	2.2	2.2	2.0	1.9	2.0	2.2	1.5	2.2	2.2	2.1	1.9	<2	2.2	2.0
CM-36-2	2.0	2.2	2.3	2.0	1.9	2.0	2.2	1.5	2.1	2.3	2.1	2.0	2.0	2.3	2.0
CM-36-3	<2	2.0	2.2	2.1	1.9	2.0	2.2	1.5	2.1	2.1	2.0	2.0	<2	1.9	2.0
CM-36-4	2.0	2.1	2.2	1.9	1.8	1.9	2.4	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.5
CM-36-5	<2	2.1	2.2	2.0	1.9	2.0	2.3	1.9	2.1	2.1	2.2	2.0	2.0	1.9	1.5
CM-36-6	<2	2.0	2.1	1.9	1.9	2.0	2.1	1.6	2.1	2.2	2.1	2.0	<2	2.1	2.0
CM-36-7	2.0	2.1	2.2	2.1	2.1	2.0	2.3	1.8	2.1	2.1	2.0	1.9	2.0	1.9	2.0
CM-36-8	2.0	2.1	2.3	2.0	1.8	2.0	2.1	1.9	2.1	2.2	2.1	2.1	2.0	2.1	1.5
CM-36-9	<2	2.0	2.3	2.2	2.0	2.0	2.2	1.4	2.1	2.0	1.8	2.1	<2	2.3	1.5
CM-36-10	<2	2.1	2.1	2.0	2.0	2.0	2.2	1.7	2.1	2.0	1.9	1.9	<2	1.9	1.5
Mean	2.0	2.1	2.2	2.0	1.9	2.0	2.2	1.7	2.1	2.1	2.0	2.0	2.0	2.1	1.8
Std. Devn.	0.0000	0.0738	0.0738	0.0919	0.0919	0.0316	0.0919	0.2283	0.0316	0.0948	0.1174	0.0738	0.0000	0.1716	0.2635
% RSD	0.00	3.53	3.34	4.55	4.79	1.59	4.14	13.51	1.50	4.46	5.75	3.71	0.00	8.37	15.06
4-acid	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu
CM-36-1	0.230	0.235	0.237	0.221	0.224	0.223	0.238	0.210	0.23	0.228	0.23	0.226	0.228	0.232	0.246
CM-36-2	0.228	0.236	0.224	0.228	0.221	0.224	0.234	0.214	0.23	0.229	0.23	0.223	0.235	0.234	0.239
CM-36-3	0.231	0.229	0.243	0.223	0.221	0.221	0.235	0.208	0.23	0.236	0.22	0.229	0.231	0.229	0.239
CM-36-4	0.227	0.236	0.231	0.220	0.225	0.225	0.242	0.215	0.23	0.225	0.23	0.227	0.226	0.228	0.236
CM-36-5	0.230	0.230	0.241	0.216	0.224	0.223	0.239	0.214	0.23	0.226	0.23	0.228	0.228	0.241	0.236
CM-36-6	0.231	0.227	0.230	0.227	0.227	0.221	0.243	0.216	0.23	0.228	0.23	0.228	0.226	0.234	0.241
CM-36-7	0.229	0.232	0.229	0.228	0.228	0.220	0.235	0.215	0.23	0.236	0.23	0.23	0.228	0.238	0.236
CM-36-8	0.235	0.231	0.226	0.236	0.222	0.224	0.245	0.217	0.23	0.234	0.23	0.23	0.228	0.231	0.236
CM-36-9	0.234	0.230	0.223	0.239	0.221	0.223	0.243	0.212	0.23	0.230	0.23	0.232	0.226	0.240	0.235
CM-36-10	0.231	0.221	0.216	0.228	0.225	0.219	0.245	0.214	0.23	0.229	0.23	0.225	0.225	0.238	0.233
Mean	0.231	0.231	0.230	0.227	0.224	0.222	0.240	0.213	0.230	0.230	0.229	0.228	0.228	0.234	0.238
Std. Devn.	0.0025	0.0046	0.0084	0.0071	0.0025	0.0019	0.0043	0.0028	0.0000	0.0040	0.0032	0.0027	0.0030	0.0047	0.0037
% RSD	1.07	1.98	3.66	3.11	1.13	0.88	1.77	1.31	0.00	1.74	1.38	1.17	1.30	2.00	1.56

Notes: Four acid Ag results from Lab 8 were removed for failing the t test.  
 Four acid Cu results from Lab 8 were removed for failing the t test.  
 Four acid Ag results from Labs 1 and 13 were not used as they could not provide results to one decimal place.

# REFERENCE MATERIAL *CDN-CM-36*

## 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
Leco	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S	% S
CM-36-1	2.87	2.86	2.93	2.84	2.83		2.99	2.94	2.94	2.82	2.62	2.90	2.89	2.89	2.70
CM-36-2	2.95	2.83	2.91	2.87	2.92		2.92	2.91	2.95	2.84	2.96	2.89	2.90	2.90	2.68
CM-36-3	2.87	2.84	2.95	2.85	2.87		2.93	2.84	2.96	2.82	2.74	2.90	2.88	2.88	2.70
CM-36-4	2.88	2.83	2.94	2.88	2.80		2.92	2.85	2.96	2.87	2.77	2.91	2.90	2.91	2.72
CM-36-5	2.89	2.82	2.93	2.97	2.87		2.87	2.88	2.94	2.97	2.58	2.89	2.89	2.96	2.70
CM-36-6	2.91	2.72	2.94	2.83	2.82		2.90	2.92	2.93	2.96	2.74	2.90	2.89	2.87	2.72
CM-36-7	2.91	2.84	2.97	2.82	2.83		2.89	2.90	2.93	2.77	2.69	2.90	2.90	2.86	2.67
CM-36-8	2.90	2.85	2.85	2.87	2.88		2.90	2.89	2.93	2.94	2.74	2.90	2.87	2.88	2.78
CM-36-9	2.96	2.82	2.89	2.83	2.83		2.99	2.88	2.94	2.87	2.67	2.90	2.89	2.91	2.72
CM-36-10	2.91	2.87	2.90	2.87	2.86		2.93	2.86	2.97	2.87	2.73	2.91	2.92	2.98	2.81
Mean	2.91	2.83	2.92	2.86	2.85		2.92	2.89	2.95	2.87	2.72	2.90	2.89	2.90	2.72
Std. Devn.	0.0306	0.0413	0.0345	0.0430	0.0354		0.0395	0.0316	0.0143	0.0657	0.1023	0.0067	0.0134	0.0386	0.0435
% RSD	1.05	1.46	1.18	1.50	1.24		1.35	1.10	0.49	2.29	3.76	0.23	0.46	1.33	1.60
Aqua regia	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
CM-36-1	2.0	2.1	2.4	2.1	1.8	2.1	2.7	2.1	2.0	1.9	2.4	1.9	<2	2.1	1.9
CM-36-2	<2	2.1	2.6	2.1	1.8	2.1	2.5	2.0	1.9	2.1	1.9	1.9	2.0	2.1	1.8
CM-36-3	2.0	2.0	2.3	2.0	1.9	2.0	2.4	2.0	1.9	2.0	2.1	1.9	<2	2.0	1.8
CM-36-4	2.0	2.0	2.2	2.0	2.0	2.0	2.6	2.0	2.1	2.1	2.2	1.8	<2	2.1	1.9
CM-36-5	2.0	2.0	2.1	2.2	1.9	1.9	3.0	2.1	2.1	2.0	2.4	1.9	<2	2.1	1.8
CM-36-6	2.0	2.0	2.3	1.9	1.9	2.0	2.4	2.0	2.1	2.0	2.0	1.8	<2	2.1	1.9
CM-36-7	<2	1.9	2.3	2.2	1.8	2.1	2.5	2.0	2.0	2.1	2.1	1.9	<2	2.1	1.8
CM-36-8	<2	2.0	2.1	2.1	1.8	1.9	3.4	2.0	1.9	2.0	1.9	1.9	<2	2.0	1.8
CM-36-9	2.0	2.0	2.0	2.0	1.9	2.1	1.5	1.9	2.1	1.9	2.1	1.8	<2	2.1	1.8
CM-36-10	<2	2.0	2.2	2.2	1.9	2.0	2.1	2.0	2.0	2.0	2.2	1.9	<2	2.1	1.9
Mean	2.0	2.0	2.3	2.1	1.9	2.0	2.5	2.0	2.0	2.0	2.1	1.9	2.0	2.1	1.8
Std. Devn.	0.0000	0.0568	0.1716	0.1033	0.0675	0.0789	0.5043	0.0568	0.0876	0.0614	0.1767	0.0483		0.0422	0.0486
% RSD	0.00	2.82	7.63	4.97	3.61	3.91	20.09	2.82	4.36	3.07	8.30	2.58		2.03	2.66
Aqua regia	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu
CM-36-1	0.236	0.231	0.218	0.232	0.220	0.221	0.215	0.222	0.23	0.229	0.22	0.223	0.232	0.229	0.243
CM-36-2	0.235	0.230	0.226	0.227	0.216	0.218	0.236	0.224	0.23	0.231	0.22	0.226	0.236	0.228	0.238
CM-36-3	0.236	0.234	0.224	0.228	0.228	0.225	0.226	0.218	0.23	0.233	0.22	0.228	0.233	0.231	0.230
CM-36-4	0.236	0.222	0.226	0.233	0.222	0.223	0.228	0.220	0.23	0.235	0.22	0.224	0.226	0.225	0.237
CM-36-5	0.236	0.218	0.219	0.233	0.223	0.223	0.228	0.222	0.23	0.232	0.22	0.228	0.230	0.231	0.231
CM-36-6	0.237	0.225	0.220	0.233	0.221	0.223	0.228	0.225	0.23	0.233	0.22	0.228	0.231	0.233	0.233
CM-36-7	0.235	0.219	0.218	0.233	0.215	0.225	0.228	0.226	0.23	0.233	0.22	0.231	0.229	0.232	0.235
CM-36-8	0.239	0.221	0.218	0.224	0.217	0.225	0.230	0.225	0.23	0.235	0.22	0.229	0.235	0.229	0.239
CM-36-9	0.237	0.226	0.216	0.229	0.226	0.222	0.214	0.221	0.23	0.223	0.22	0.232	0.236	0.235	0.237
CM-36-10	0.238	0.223	0.221	0.245	0.223	0.221	0.224	0.222	0.23	0.229	0.22	0.225	0.234	0.231	0.236
Mean	0.237	0.225	0.221	0.232	0.221	0.223	0.226	0.222	0.230	0.231	0.220	0.227	0.232	0.230	0.236
Std. Devn.	0.0013	0.0053	0.0036	0.0056	0.0042	0.0022	0.0067	0.0024	0.0000	0.0037	0.0000	0.0029	0.0033	0.0029	0.0039
% RSD	0.54	2.38	1.62	2.43	1.91	1.00	2.95	1.10	0.00	1.62	0.00	1.28	1.40	1.26	1.64

Notes: Aqua regia Ag results from Lab 7 were removed for failing the t test.  
Aqua regia Ag results from Labs 1 and 13 were not used as they could not provide results to one decimal place  
Leco sulphur results from Labs 11 and 15 were removed for failing the t test.  
Laboratory 6 could not provide Leco sulphur results.

**REFERENCE MATERIAL CDN-CM-36**

**Participating Laboratories:**

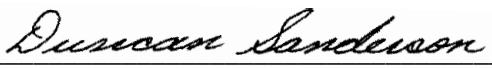
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada  
Actlabs, Ancaster, Ontario, Canada  
Actlabs, Thunder Bay, Ontario, Canada  
ALS Canada, North Vancouver, B.C., Canada  
ALS, Brisbane, Queensland, Australia  
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Certified by

  
\_\_\_\_\_  
Duncan Sanderson, Certified Assayer of B.C.

Geochemist

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