

# CDN Resource Laboratories Ltd.

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## STANDARD REFERENCE MATERIAL: CDN-CM-12

Recommended values and the “Between Lab” Two Standard Deviations

*Gold:*            0.686 ± 0.072 g/t  
*Copper:*         0.917 ± 0.044 %  
*Molybdenum:*  0.112 ± 0.012 %

**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:** January 31, 2011

### **ORIGIN OF REFERENCE MATERIAL:**

Standard CDN-CM-12 was prepared using a North American calc-alkalic copper-gold-molybdenum porphyry ore. It is derived from altered granodiorite, mafic to intermediate volcanic and volcanoclastic sedimentary rocks. Mineralization is principally pyrite, chalcopyrite and molybdenite that occurs in veins, stockworks and disseminations. 710 kg of this ore was blended with 20 kg of a Cu-Au-Mo concentrate.

### **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 blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying.

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

	Percent			Percent
SiO <sub>2</sub>	61.6		MgO	2.5
Al <sub>2</sub> O <sub>3</sub>	14.1		K <sub>2</sub> O	4.2
Fe <sub>2</sub> O <sub>3</sub>	7.9		TiO <sub>2</sub>	0.6
CaO	2.4		LOI	3.1
Na <sub>2</sub> O	2.1		S	2.0
C	0.3			

### **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.

**Results from round-robin assaying are displayed on the following page.**

## STANDARD REFERENCE MATERIAL CDN-CM-12

**Assay Procedures:**    **Au:** Fire assay pre-concentration, AA or ICP finish (30g sub-sample).  
                                   **Cu, Mo:** 4-acid digestion, AA or ICP finish.

	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
CM-12-1	0.719	0.753	0.613	0.623	0.70	0.649	0.673	0.683	0.688	0.67	0.71	0.647	0.741	0.784	0.643
CM-12-2	0.699	0.674	0.633	0.613	0.69	0.686	0.676	0.670	0.686	0.74	0.72	0.648	0.708	0.717	0.574
CM-12-3	0.707	0.696	0.715	0.632	0.66	0.663	0.653	0.672	0.674	0.79	0.72	0.687	0.693	0.698	0.635
CM-12-4	0.742	0.653	0.597	0.671	0.70	0.656	0.679	0.681	0.759	0.69	0.75	0.599	0.699	0.748	0.629
CM-12-5	0.712	0.661	0.643	0.680	0.69	0.686	0.642	0.672	0.757	0.67	0.78	0.677	0.731	0.697	0.598
CM-12-6	0.671	0.703	0.601	0.630	0.70	0.677	0.645	0.674	0.739	0.62	0.79	0.652	0.708	0.704	0.586
CM-12-7	0.682	0.659	0.646	0.596	0.73	0.679	0.627	0.669	0.783	0.72	0.73	0.61	0.704	0.789	0.711
CM-12-8	0.764	0.713	0.611	0.619	0.68	0.679	0.687	0.682	0.692	0.69	0.71	0.633	0.742	0.716	0.578
CM-12-9	0.684	0.693	0.671	0.627	0.70	0.648	0.686	0.662	0.701	0.70	0.74	0.649	0.708	0.732	0.613
CM-12-10	0.683	0.686	0.646	0.653	0.68	0.689	0.69	0.660	0.736	0.76	0.71	0.679	0.697	0.757	0.711
Mean	0.706	0.689	0.638	0.634	0.693	0.671	0.666	0.673	0.722	0.705	0.736	0.648	0.713	0.734	0.628
Std. Devn.	0.0293	0.0301	0.0359	0.0261	0.0183	0.0158	0.0222	0.0079	0.0379	0.0493	0.0291	0.0287	0.0181	0.0340	0.0498
% RSD	4.15	4.37	5.63	4.12	2.64	2.35	3.34	1.17	5.25	6.99	3.96	4.43	2.54	4.63	7.94
	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu
CM-12-1	0.911	0.936	0.939	0.90	0.90	0.949	0.950	0.909	0.844	0.844	0.911	0.895	0.926	0.900	0.92
CM-12-2	0.908	0.954	0.904	0.92	0.89	0.943	0.884	0.956	0.839	0.893	0.906	0.896	0.920	0.910	0.93
CM-12-3	0.914	0.948	0.929	0.96	0.90	0.963	0.918	0.930	0.816	0.894	0.917	0.888	0.906	0.893	0.92
CM-12-4	0.910	0.959	0.922	0.95	0.91	0.954	0.918	0.943	0.819	0.890	0.908	0.871	0.928	0.900	0.93
CM-12-5	0.888	0.975	0.929	0.94	0.89	0.943	0.890	0.940	0.825	0.904	0.909	0.883	0.909	0.896	0.93
CM-12-6	0.907	0.926	0.906	0.93	0.91	0.935	0.934	0.899	0.817	0.902	0.912	0.869	0.912	0.899	0.92
CM-12-7	0.921	0.955	0.940	0.93	0.91	0.953	0.901	0.861	0.816	0.877	0.918	0.899	0.894	0.898	0.93
CM-12-8	0.913	0.942	0.929	0.93	0.92	0.983	0.937	0.930	0.831	0.871	0.918	0.905	0.924	0.898	0.92
CM-12-9	0.901	0.966	0.944	0.93	0.91	0.935	0.846	0.853	0.822	0.860	0.908	0.878	0.915	0.909	0.92
CM-12-10	0.906	0.954	0.925	0.91	0.91	0.934	0.912	0.958	0.808	0.833	0.918	0.881	0.928	0.904	0.92
Mean	0.908	0.952	0.927	0.930	0.905	0.949	0.909	0.918	0.824	0.877	0.913	0.887	0.916	0.901	0.924
Std. Devn.	0.0088	0.0143	0.0134	0.0176	0.0097	0.0152	0.0303	0.0371	0.0112	0.0247	0.0048	0.0121	0.0110	0.0055	0.0052
% RSD	0.97	1.50	1.44	1.90	1.07	1.60	3.34	4.04	1.36	2.81	0.53	1.37	1.20	0.61	0.56
	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo	% Mo
CM-12-1	0.108	0.105	0.121	0.11	0.114	0.109	0.117	0.120	0.107	0.102	0.120	0.125	0.109	0.113	0.105
CM-12-2	0.111	0.108	0.117	0.12	0.111	0.109	0.115	0.118	0.106	0.108	0.121	0.129	0.114	0.112	0.104
CM-12-3	0.110	0.104	0.123	0.12	0.112	0.107	0.120	0.120	0.105	0.106	0.113	0.120	0.113	0.111	0.106
CM-12-4	0.108	0.103	0.110	0.12	0.114	0.107	0.116	0.118	0.104	0.107	0.119	0.126	0.111	0.110	0.104
CM-12-5	0.113	0.109	0.122	0.12	0.112	0.106	0.119	0.115	0.106	0.109	0.131	0.125	0.110	0.110	0.104
CM-12-6	0.109	0.103	0.116	0.12	0.111	0.107	0.114	0.118	0.102	0.113	0.127	0.124	0.108	0.113	0.105
CM-12-7	0.116	0.107	0.116	0.12	0.113	0.107	0.120	0.121	0.105	0.106	0.121	0.127	0.109	0.112	0.102
CM-12-8	0.110	0.106	0.117	0.12	0.111	0.108	0.115	0.117	0.106	0.106	0.119	0.127	0.112	0.114	0.104
CM-12-9	0.108	0.108	0.114	0.12	0.115	0.107	0.116	0.116	0.105	0.105	0.123	0.125	0.111	0.112	0.104
CM-12-10	0.110	0.107	0.113	0.12	0.113	0.108	0.117	0.121	0.104	0.102	0.127	0.124	0.110	0.116	0.101
Mean	0.110	0.106	0.117	0.119	0.113	0.108	0.117	0.118	0.105	0.106	0.122	0.125	0.111	0.112	0.104
Std. Devn.	0.0025	0.0022	0.0041	0.0032	0.0014	0.0010	0.0021	0.0021	0.0014	0.0033	0.0051	0.0024	0.0019	0.0019	0.0014
% RSD	2.30	2.04	3.53	2.66	1.27	0.90	1.82	1.74	1.35	3.15	4.20	1.91	1.76	1.66	1.39

**Note:** "Au" data from laboratory 15 was excluded from the calculations for failing the t test.  
 "Cu" data from laboratory 9 was excluded from the calculations for failing the t test.

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### Participating Laboratories:

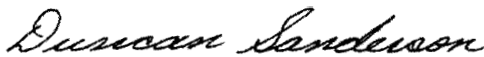
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada  
Activation Laboratories, Ancaster, Ontario, Canada  
Activation Laboratories, Thunder Bay, Ontario, Canada  
AGAT laboratories, Mississauga, Ontario, Canada  
AHK Geochem, Alaska, USA  
ALS Chemex, North Vancouver, B.C., Canada  
Genalysis, Perth, Australia  
Inspectorate, B.C., Canada  
Omac, Ireland  
Skyline Laboratory, Arizona, USA  
SGS - Vancouver, B.C., Canada  
Stewart Group, Kamloops, B.C., Canada  
Alex Stewart Argentina SA  
TSL Laboratories Ltd., Saskatoon, SK, Canada  
Ultra Trace, Perth, Australia

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Certified by



Duncan Sanderson, Certified Assayer of B.C.

Geochemist



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