

# CDN Resource Laboratories Ltd.

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## ORE REFERENCE STANDARD: CDN-W-1

Recommended values and the "Between Lab" Two Standard Deviations

*Tungsten concentration: 1.04 ± 0.10 %*

*Copper concentration: 0.458 ± 0.042%*

**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 8, 2006

### **METHOD OF PREPARATION:**

Reject ore material was dried, crushed, pulverized and then passed through a 200 mesh screen. The +200 material was discarded. The -200 material was mixed for 5 days in a rotary mixer. After internal assaying to test for homogeneity, splits were taken and sent to 11 laboratories for round robin assaying.

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

The ore was supplied from underground workings at North America Tungsten's Cantung mine in the NWT. It is high sulphide consisting primarily of pyrite containing chalcopyrite. Native gold and bismuth are associated with the chalcopyrite. The tungsten occurs as scheelite.

### **Approximate chemical composition:**

Standard CDN-W-1 is a high sulphide material with approximately 17.5% sulphur.

Whole rock analysis as follows:

	Percent			Percent
SiO <sub>2</sub>	25.0		MgO	4.7
Al <sub>2</sub> O <sub>3</sub>	3.2		K <sub>2</sub> O	0.8
Fe <sub>2</sub> O <sub>3</sub>	46.3		TiO <sub>2</sub>	0.2
CaO	10.3		LOI	6.1
Na <sub>2</sub> O	1.0			

### **Statistical Procedures:**

The mean and standard deviation for all data was calculated. Outliers were defined as samples beyond the mean ± 2 Standard Deviations from all data. These outliers were removed from the data and a new mean and standard deviation was determined. 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 Certified Limits published on other standards.

### **Results from round-robin assaying are presented on the following page:**

**Assay Procedures:** **W:** Variety of methods: a) fusion, XRF b) digestion, ICP  
c) fusion, ICP-MS d) fusion, ICP

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

**STANDARD REFERENCE MATERIAL CDN-W-1**

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11
	W %	W %	W %	W %	W %	W %	W %	W %	W %	W %	W %
	0.97	0.97	1.11	1.11	0.53	1.00	1.00	0.90	1.07	1.00	1.02
	0.93	0.97	1.11	1.09	0.53	1.00	1.00	0.90	1.08	1.00	1.06
	0.95	0.98	1.08	1.08	0.53	1.03	1.01	0.95	1.08	1.01	1.04
	0.93	0.97	1.12	1.11	0.53	1.00	0.98	0.94	1.07	1.00	1.03
	0.94	0.97	1.09	1.10	0.50	1.01	1.05	0.92	1.06	1.00	1.04
	0.94	0.97	1.10	1.07	0.50	1.06	1.05	0.92	1.08	1.00	1.06
	0.92	0.97	1.12	1.10	0.51	1.01	1.06	0.95	1.06	0.98	1.04
	0.94	0.98	1.11	1.12	0.50	1.01	1.02	0.94	1.05	1.00	1.05
	0.94	0.95	1.10	1.12	0.50	1.02	1.05	0.95	1.06	1.02	1.06
	0.93	0.98	1.12	1.10	0.53	1.03	1.04	0.95	1.07	0.98	1.04
Mean	0.94	0.97	1.11	1.10	0.52	1.02	1.03	0.93	1.07	1.00	1.04
Std Dev	0.009	0.009	0.014	0.017	0.014	0.019	0.028	0.018	0.011	0.013	0.011
% RSD	0.94	0.96	1.29	1.54	2.76	1.87	2.69	1.94	1.02	1.27	1.07

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11
	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %
	0.449	0.46	0.436	0.47	0.453	0.470	0.487	0.437	0.43	0.480	0.439
	0.447	0.48	0.428	0.47	0.451	0.468	0.496	0.435	0.43	0.485	0.470
	0.442	0.46	0.433	0.47	0.450	0.472	0.488	0.434	0.43	0.478	0.453
	0.448	0.46	0.440	0.48	0.453	0.482	0.485	0.427	0.43	0.475	0.472
	0.443	0.46	0.442	0.48	0.451	0.479	0.499	0.403	0.43	0.461	0.469
	0.450	0.45	0.432	0.47	0.462	0.487	0.493	0.429	0.43	0.471	0.470
	0.447	0.46	0.435	0.47	0.455	0.472	0.484	0.424	0.43	0.466	0.487
	0.449	0.46	0.431	0.48	0.453	0.481	0.487	0.423	0.43	0.474	0.485
	0.445	0.47	0.435	0.48	0.457	0.478	0.497	0.422	0.43	0.466	0.458
	0.447	0.46	0.439	0.48	0.463	0.475	0.496	0.419	0.43	0.471	0.471
Mean	0.447	0.462	0.435	0.475	0.455	0.476	0.491	0.425	0.430	0.473	0.467
Std Dev	0.003	0.008	0.005	0.005	0.005	0.006	0.006	0.010	0.000	0.007	0.011
% RSD	0.59	1.80	1.05	1.11	1.05	1.24	1.16	2.24	0.00	1.52	2.33

Tungsten results from Lab. 5 were removed from the data set.

**STANDARD REFERENCE MATERIAL CDN-W-1**

**Participating Laboratories:**

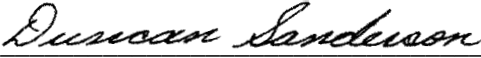
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver  
Assayers Canada Ltd., Vancouver  
ALS Chemex Laboratories, North Vancouver  
EcoTech Laboratory, Kamloops, B.C.  
Genalysis Laboratory Services Pty. Ltd., Australia  
GTK Laboratory, Finland  
International Plasma Labs. Ltd., Vancouver  
OMAC Laboratories Ltd., Ireland  
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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.