

### **Certificate of Analysis**

### STANDARD REFERENCE MATERIAL: CDN-GR-1

Graphitic carbon concentration 3.	.12 ± 0.11 % C	Certified value
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Recommended values and the "Between Lab" Two Standard Deviations

**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: PREPARATION CERTIFIED BY: CERTIFIED BY INDEPENDENT GEOCHEMIST: DATE OF CERTIFICATION:

CDN Resource Laboratories Ltd. Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia Dr. Barry Smee., Ph.D., P. Geo. March 20, 2014

### **ORIGIN OF MATERIAL:**

Standard CDN-GR-1 was prepared using ore supplied by Noram Ventures Inc. from their Kokanee Graphite property near Crawford Bay on Kootenay Lake in southeastern British Columbia. Metamorphic graphite is hosted in pelitic and epiclastic sedimentary rocks of the Paleozoic Index Formation of the Lardeau Group within the Kootenay Arc Metamorphic Complex. These rocks are amphibolite facies quartzites and quartz-muscovite-biotite ± garnet and sillimanite schists.

### **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 8 commercial laboratories for round robin assaying. Round robin results are displayed below:

### **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 mean and standard deviation 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.

### APPROXIMATE CHEMICAL COMPOSITION (by whole rock analysis):

Analyte	Percent	Analyte	Percent	
SiO <sub>2</sub>	65.3	K <sub>2</sub> O	3.0	
Al <sub>2</sub> O <sub>3</sub>	8.6	TiO <sub>2</sub>	0.4	
Fe <sub>2</sub> O <sub>3</sub>	4.2	MnO	<0.1	
CaO	6.3	LOI	6.8	
MgO	<0.1	Total S	1.0	
Na₂O	0.3			



#### **Participating Laboratories:** (not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, BC, Canada	Amdel, Australia
Activation Laboratories, Ancaster, Ontario, Canada	Intertek – Genalysis, Perth, Australia
ALS Canada, North Vancouver, B.C., Canada	SGS, Vancouver, BC, Canada
ALS Brisbane, Australia	SGS – Lakefield, Ontario, Canada

CERTIFIED BY:

Duncan Sanderson

Duncan Sanderson, Certified Assayer of B.C

CERTIFIED BY INDEPENDENT GEOCHEMIST:

**LEGAL NOTICE:** 

Dr. Barry Smee, PhD, P. Geo.

This certificate and the reference material described in it have been prepared with due care and attention. However, CDN Resource Laboratories Ltd. nor Barry Smee accept any liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.



Sample	Lab 1	Lab 2	Lab 3	Lab 8	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8
	3.06	3.19	3.03	3.08	2.70	3.20	3.14	3.10	3.06
	3.09	3.21	3.04	3.17	2.55	3.10	3.12	3.11	3.09
	3.12	3.22	3.04	3.19	2.65	3.20	3.06	3.16	3.12
	3.14	3.20	3.07	3.06	2.55	3.40	3.07	3.06	3.14
÷	3.03	3.21	3.07	3.18	2.55	3.20	3.09	3.09	3.03
GR-1	3.09	3.21	3.09	3.13	2.60	2.90	3.15	3.11	3.09
	3.11	3.21	3.07	3.16	2.60	3.10	3.15	3.13	3.11
	3.08	3.20	3.04	3.16	2.65	3.20	3.13	3.15	3.08
	3.12	3.19	3.05	3.10	2.55	3.10	3.06	3.04	3.12
	3.11	3.21	3.03	3.17	2.50	2.90	3.10	3.06	3.11
Mean	3.10	3.21	3.05	3.14	2.59	3.13	3.11	3.10	3.10
Std. Dev	0.032	0.010	0.021	0.045	0.061	0.149	0.036	0.039	0.032
% RSD	1.05	0.30	0.67	1.44	2.37	4.77	1.16	1.28	1.05

### **APPENDIX I: Results from round-robin assaying:**

Notes: Results from Lab 5 was removed for failing the t test.

### **APPENDIX II: General Notes**

#### Intended Use

This Certified Reference Material, CRM, fit for use as a control sample in routine assay laboratory quality control when inserted within runs of test samples and measured in parallel to test samples. This material can also be used for method development, use as independent calibration verification check standard or for validation of accuracy in a method validation exercise.

This Certified Reference Material can also be used to assess inter-laboratory or instrument bias and establish within-laboratory precision and within-laboratory reproducibility. The certified concentrations and expanded uncertainty for this material are property values based on an inter-laboratory measurement campaign and reflect consensus results from the laboratories that took part in the exercise.

#### Handling

Do not use the product if the seal is broken or there are any signs of contamination. The material is packaged in either Tin Tie envelopes, foil envelopes or jars that must be shaken before use.

### **Storage information**

The material should be stored in a dry place, in such a way that it does not compromise the integrity of the CRM. The material should be stored in conditions which will ensure it does not absorb moisture. Certificate is not valid if re-packaged by a third party.

### **Metrological Traceability**



The values quoted herein are based on the consensus values derived from statistical analysis of the data from an inter-laboratory measurement program. Traceability to SI units is via the standards used by the individual laboratories all of which are accredited to the ISO17025 general requirements for the competence of testing and calibration laboratories and who have maintained measurement traceability during the analytical process.

### **Period of Validity**

The certified values are valid for this product, while still sealed in its original packaging, until notification to the contrary. The stability of the material will be subject to continuous testing for every five the duration of the inventory. Should product stability become an issue, all customers will be notified and notification to that effect will be placed on the <a href="http://www.cdnlabs.com/">http://www.cdnlabs.com/</a> website.

### Minimum Sample Size

Most of the laboratory's reporting used a 0.5g sample size for the ICP and a 30g sample size for the fire assay. Our certified gold values are based on 30 g Fire Assay determinations. For optimal results, we strongly recommend you assay our standards with similar methods using "at least" 30 g of material. Using a smaller sample weight may result in erratic values. These are the recommended minimum sample sizes for the use of this material.