

# CDN Resource Laboratories Ltd.

10945-B River Road, Delta, B.C., V4C 2R8, 604-540-2233, Fax: 604-540-2237

## PLATINUM GROUP ORE REFERENCE STANDARD: CDN-PGMS-13

Recommended values and the "Between Lab" Two Standard Deviations

Gold concentration: 1.41 ± 0.11 g/t  
Platinum concentration: 1.25 ± 0.08 g/t  
Palladium concentration: 4.51 ± 0.25 g/t

**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 17, 2007

### **METHOD OF PREPARATION:**

The ore was supplied by Stillwater Mining Corporation from the Stillwater Complex in Montana.

The mineralogy of the Stillwater Pt/Pd ore consists of up to 1 % sulphides comprising chalcopyrite, pentlandite, pyrrhotite, ± pyrite hosted by a chromite-rich ultramafic layer. The main platinum-bearing minerals are Braggite (Pt,Pd,Ni)S, Cooperite (Pt, Pd ,Ni)S as well as Isoferroplatinum (PtFe<sub>3</sub>) and Moncheite (Pt,Pd)(Te,Bi)<sub>2</sub>. The majority of the palladium is hosted as solid solution within the pentlandite ((Fe,Ni)<sub>9</sub>S<sub>8</sub>); less than 15 % as Vysotskite (Pd,Ni,Pt)S, Braggite, Cooperite and Moncheite.

This standard was prepared by combining 500 kg of the Stillwater ore (screened to -325) with 5 kg of a high grade gold-bearing ore (screened to -200). The material was mixed for 6 days in a double-cone blender. Splits were sent to 12 laboratories for round robin assaying.

### **Approximate chemical composition is as follows:**

	Percent			Percent
SiO <sub>2</sub>	46.5		MgO	6.6
Al <sub>2</sub> O <sub>3</sub>	24.0		K <sub>2</sub> O	0.1
Fe <sub>2</sub> O <sub>3</sub>	6.4		TiO <sub>2</sub>	0.1
CaO	13.2		LOI	1.6
Na <sub>2</sub> O	1.4		S	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. 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 Confidence Limits published on other standards.

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

**Assay Procedure: 30g fire assay, AA or ICP finish.**

**PLATINUM GROUP ORE REFERENCE STANDARD: CDN-PGMS-13**

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12
SAMPLE	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
PG13-1	1.39	1.42	1.42	1.35	1.30	1.39	1.30	1.36	1.19	1.36	1.36	1.40
PG13-2	1.37	1.37	1.48	1.42	1.27	1.39	1.39	1.46	1.25	1.34	1.53	1.43
PG13-3	1.48	1.39	1.47	1.30	1.38	1.51	1.39	1.36	1.18	1.45	1.49	1.40
PG13-4	1.44	1.48	1.49	1.42	1.44	1.51	1.49	1.52	1.19	1.38	1.31	1.41
PG13-5	1.40	1.42	1.41	1.39	1.42	1.41	1.38	1.39	1.32	1.37	1.32	1.40
PG13-6	1.40	1.38	1.44	1.39	1.35	1.42	1.38	1.48	1.12	1.36	1.48	1.46
PG13-7	1.43	1.49	1.50	1.34	1.30	1.42	1.41	1.49	1.16	1.36	1.60	1.43
PG13-8	1.37	1.41	1.54	1.39	1.37	1.35	1.38	1.43	1.14	1.30	1.55	1.52
PG13-9	1.49	1.38	1.47	1.43	1.36	1.42	1.54	1.49	1.21	1.31	1.46	1.47
PG13-10	1.43	1.41	1.49	1.39	1.41	1.45	1.40	1.43	1.18	1.38	1.45	1.46
Mean	1.42	1.42	1.47	1.38	1.36	1.43	1.41	1.44	1.19	1.36	1.45	1.44
Std. Dev'n	0.042	0.041	0.039	0.041	0.056	0.051	0.067	0.056	0.057	0.041	0.097	0.039
%RSD	2.94	2.89	2.65	2.97	4.13	3.57	4.76	3.86	4.77	3.05	6.68	2.74
	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t
PG13-1	1.30	1.27	1.24	1.21	1.23	1.26	1.21	1.22	1.14	1.20	1.13	1.37
PG13-2	1.30	1.31	1.27	1.25	1.16	1.30	1.28	1.26	1.19	1.23	1.17	1.32
PG13-3	1.26	1.34	1.31	1.25	1.21	1.24	1.30	1.27	1.17	1.23	1.25	1.35
PG13-4	1.24	1.26	1.27	1.26	1.20	1.31	1.39	1.24	1.21	1.24	1.23	1.37
PG13-5	1.26	1.31	1.23	1.25	1.23	1.22	1.26	1.28	1.18	1.21	1.22	1.37
PG13-6	1.25	1.30	1.27	1.25	1.21	1.26	1.26	1.34	1.13	1.19	1.22	1.38
PG13-7	1.25	1.34	1.27	1.26	1.24	1.24	1.25	1.32	1.19	1.19	1.26	1.40
PG13-8	1.25	1.33	1.27	1.22	1.23	1.24	1.30	1.26	1.15	1.21	1.25	1.36
PG13-9	1.30	1.32	1.27	1.28	1.20	1.27	1.42	1.30	1.18	1.16	1.27	1.34
PG13-10	1.25	1.30	1.29	1.24	1.23	1.20	1.29	1.21	1.20	1.14	1.26	1.33
Mean	1.26	1.31	1.27	1.25	1.21	1.25	1.30	1.27	1.17	1.20	1.23	1.36
Std. Dev'n	0.023	0.027	0.022	0.020	0.024	0.034	0.062	0.042	0.026	0.033	0.045	0.024
%RSD	1.85	2.06	1.76	1.63	1.95	2.69	4.76	3.31	2.24	2.77	3.65	1.78
	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t
PG13-1	4.61	4.50	4.50	4.35	4.36	4.35	4.42	4.59	4.11	4.36	4.62	4.69
PG13-2	4.66	4.60	4.58	4.54	4.15	4.34	4.62	4.54	4.33	4.27	4.52	4.73
PG13-3	4.58	4.71	4.58	4.40	4.39	4.41	4.73	4.50	4.26	4.32	4.57	4.74
PG13-4	4.50	4.51	4.56	4.47	4.31	4.44	5.16	4.52	4.35	4.28	4.59	4.66
PG13-5	4.63	4.64	4.46	4.48	4.40	4.33	4.56	4.48	4.25	4.45	4.49	4.73
PG13-6	4.58	4.56	4.54	4.42	4.29	4.35	4.66	4.47	4.09	4.41	4.50	4.67
PG13-7	4.51	4.74	4.53	4.47	4.37	4.34	4.54	4.58	4.32	4.46	4.45	4.79
PG13-8	4.49	4.67	4.46	4.39	4.42	4.36	4.66	4.54	4.19	4.29	4.59	4.80
PG13-9	4.60	4.63	4.50	4.54	4.35	4.46	5.17	4.38	4.32	4.46	4.45	4.64
PG13-10	4.50	4.64	4.62	4.37	4.39	4.35	4.58	4.52	4.26	4.26	4.56	4.63
Mean	4.57	4.62	4.53	4.44	4.34	4.37	4.71	4.51	4.25	4.36	4.53	4.71
Std. Dev'n	0.061	0.079	0.053	0.066	0.079	0.046	0.254	0.059	0.091	0.083	0.060	0.060
%RSD	1.35	1.71	1.18	1.48	1.81	1.06	5.39	1.30	2.15	1.90	1.32	1.27

*Note 1. Au data from Lab 9 removed for failing the "t" test.*

*Note 2. Pt data from Lab 12 removed for failing the "t" test.*

*Note 3. Pd data from Lab 9 removed for failing the "t" test.*

**PLATINUM GROUP ORE REFERENCE STANDARD: CDN-PGMS-13**

**Participating Laboratories:**

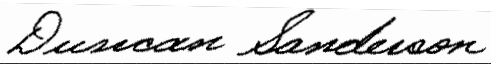
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver  
Assayers Canada Ltd., Vancouver  
ALS Chemex Laboratories, North Vancouver  
Alaska Assay Laboratories, USA  
Actlabs, Ancaster, Ontario  
EcoTech Laboratory, Kamloops, B.C.  
Genalysis Laboratory Services Pty Ltd., Perth  
Global Discovery Labs. (Teck Cominco, Vancouver)  
GTK Laboratory, Geological Survey of Finland  
OMAC Laboratories Ltd., Ireland  
Stillwater Mining Corporation, Montana  
TSL Laboratories, Saskatoon


Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no 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.

Certified by

  
Duncan Sanderson, Certified Assayer of B.C.

Geochemist

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