

CDN Resource Laboratories Ltd.

10945-B River Road, Delta, B.C., V4C 2R8, 604 596-2245, Fax: 604 588-3960

PLATINUM GROUP ORE REFERENCE STANDARD: CDN-PGMS-4

Recommended values and 95% Confidence Intervals

Platinum concentration: 1.28 ± 0.11 g/tonne

Palladium concentration: 5.83 ± 0.34 g/tonne

Gold concentration: 3.24 ± 0.35 g/tonne

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.

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 325 mesh screen. The +325 material was discarded. The -325 material was mixed for 10 days in a rotary mixer. After internal assaying to test for homogeneity, splits were taken and sent to 12 laboratories for round robin assaying.

ORIGIN OF REFERENCE MATERIAL:

This standard was made by blending ore from the Stillwater Complex in Montana supplied by Stillwater Mining Corporation with standard CDN-GS-5 (in the ratio of approximately 85:15). 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 (PtFe₃) and Moncheite (Pt,Pd)(Te,Bi)₂. The majority of the palladium is hosted as solid solution within the pentlandite ((Fe,Ni)₉S₈); less than 15 % as Vysotskite (Pd,Ni,Pt)S, Bragite, Cooperite and Moncheite.

Approximate chemical composition is as follows:

	Percent			Percent
SiO ₂	48.0		MgO	6.7
Al ₂ O ₃	20.8		K ₂ O	1.1
Fe ₂ O ₃	7.0		TiO ₂	0.2
CaO	10.2		LOI	4.0
Na ₂ 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:

Platinum Group Ore Reference Standard: CDN-PGMS-4

	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au
	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt
	3.43	3.39	3.00	3.38	3.25	3.10	3.21	2.97	3.56	3.34	3.36	3.30
	3.01	3.19	3.02	3.39	2.99	3.42	3.20	2.99	3.33	3.18	3.41	3.13
	3.17	3.30	3.06	3.45	3.14	3.02	3.19	3.08	3.22	3.24	3.44	3.32
	3.06	3.31	3.09	3.53	3.31	3.33	3.45	3.09	3.12	3.24	3.03	3.18
	3.09	3.23	3.13	3.18	3.27	3.35	3.27	3.03	3.64	3.12	3.39	3.41
	3.05	3.58	3.23	3.53	3.16	3.26	3.09	3.11	3.65	3.23	3.78	3.20
	2.93	3.27	2.99	3.71	3.09	3.31	3.33	3.01	3.64	3.39	3.44	3.27
	3.20	3.01	3.04	3.73	3.36	3.60	3.28	2.96	3.62	3.30	3.70	3.24
	3.21	3.24	3.15	3.54	3.18	3.22	3.22	2.96	3.97	3.10	3.42	2.69
	3.57	3.20	3.10	3.43	3.03	3.53	3.12	3.04	3.86	3.32	3.36	3.26
Mean	3.17	3.27	3.08	3.49	3.18	3.31	3.24	3.02	3.56	3.25	3.43	3.20
Std. Dev.	0.196	0.147	0.075	0.163	0.121	0.178	0.104	0.055	0.268	0.094	0.202	0.196
% RSD	6.18	4.49	2.43	4.66	3.80	5.37	3.21	1.83	7.52	2.90	5.89	6.13
	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt
	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt
	1.32	1.28	1.22	1.44	1.27	1.27	1.23	1.21	1.23	1.28	1.37	1.35
	1.22	1.23	1.27	1.23	1.38	1.25	1.22	1.28	1.24	1.25	1.33	1.33
	1.22	1.28	1.25	1.41	1.31	1.26	1.29	1.25	1.19	1.27	1.36	1.34
	1.22	1.24	1.26	1.43	1.28	1.27	1.31	1.25	1.22	1.22	1.28	1.32
	1.22	1.23	1.38	1.35	1.25	1.30	1.21	1.28	1.41	1.27	1.36	1.38
	1.17	1.26	1.30	1.47	1.31	1.28	1.24	1.27	1.32	1.23	1.39	1.39
	1.15	1.29	1.30	1.36	1.30	1.27	1.25	1.26	1.34	1.31	1.37	1.39
	1.22	1.22	1.25	1.43	1.32	1.29	1.25	1.20	1.37	1.30	1.37	1.42
	1.27	1.27	1.21	1.36	1.33	1.25	1.23	1.24	1.39	1.24	1.33	1.40
	1.23	1.28	1.24	1.42	1.26	1.25	1.20	1.27	1.41	1.25	1.40	1.35
Mean	1.22	1.26	1.27	1.39	1.30	1.27	1.24	1.25	1.31	1.26	1.36	1.37
Std. Dev.	0.047	0.025	0.049	0.069	0.038	0.017	0.034	0.028	0.086	0.029	0.035	0.033
% RSD	3.84	1.99	3.88	4.97	2.95	1.36	2.76	2.21	6.55	2.33	2.56	2.43
	Pd	Pd	Pd	Pd	Pd	Pd	Pd	Pd	Pd	Pd	Pd	Pd
	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt
	5.93	5.98	5.51	5.64	5.86	5.95	5.79	5.71	5.73	5.90	5.92	6.11
	5.71	5.51	6.03	5.27	6.15	5.90	5.76	5.70	5.72	5.85	5.85	5.94
	5.79	5.77	5.97	5.50	6.04	5.83	5.87	5.75	5.70	6.06	5.69	6.07
	5.67	5.64	5.76	5.58	5.71	6.00	5.91	5.83	5.95	5.84	5.44	6.02
	5.69	5.57	6.14	5.37	5.82	6.03	5.77	5.81	6.58	5.66	6.07	6.11
	5.27	5.84	5.81	5.67	5.91	6.01	5.81	5.81	6.14	5.86	5.81	6.12
	5.31	5.82	5.69	5.45	5.85	5.75	5.77	5.78	6.11	6.06	5.98	6.14
	5.77	5.55	5.66	5.66	6.00	5.88	5.81	5.78	6.40	5.96	5.94	6.15
	5.60	5.77	5.53	5.45	5.90	5.88	5.92	5.73	6.54	5.82	5.67	6.10
	5.73	5.77	5.38	5.52	5.85	5.74	5.76	5.78	6.34	5.81	5.81	5.97
Mean	5.65	5.72	5.75	5.51	5.91	5.90	5.82	5.77	6.12	5.88	5.82	6.07
Std. Dev.	0.207	0.150	0.244	0.130	0.125	0.103	0.061	0.044	0.339	0.121	0.182	0.073
% RSD	3.67	2.61	4.25	2.36	2.11	1.74	1.05	0.77	5.53	2.05	3.12	1.20

Platinum Group Ore Reference Standard: CDN-PGMS-4

Participating Laboratories:

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

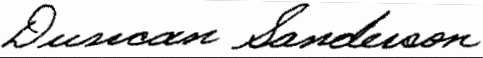
Acme Analytical Laboratories Ltd.
Alex Stewart Assayers Ltd., Kyrgyz Republic
SGS-Analabs, Perth
Assayers Canada Ltd., Vancouver
ALS Chemex Laboratories, North Vancouver
Genalysis Laboratory Services Pty. Ltd., Australia
GTK Laboratory, Finland
International Plasma Laboratories Ltd., Vancouver
Loring Laboratories Ltd., Calgary
OMAC Laboratories Ltd., Ireland
Stillwater Mining Corporation, Montana
TSL Laboratories, Saskatoon

Availability: Lots of 500g, 1 kg, 2 kg, or as per request.
Minimum order: 1 kg.


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.