

CDN Resource Laboratories Ltd.

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PLATINUM GROUP ORE REFERENCE STANDARD: CDN-PGMS-5

Recommended values and 95% Confidence Intervals

Platinum concentration: 1.24 ± 0.11 g/t

Palladium concentration: 5.76 ± 0.30 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 11 laboratories for round robin assaying.

ORIGIN OF REFERENCE MATERIAL:

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 (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, Braggite, Cooperite and Moncheite.

Approximate chemical composition is as follows:

	Percent			Percent
SiO ₂	44.2		MgO	7.3
Al ₂ O ₃	22.7		K ₂ O	0.1
Fe ₂ O ₃	8.2		TiO ₂	0.1
CaO	12.1		LOI	3.5
Na ₂ O	1.1			

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:

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	Lab. 1	Lab. 2	Lab. 3	Lab. 4	Lab. 5	Lab. 6	Lab. 7	Lab. 8	Lab. 9	Lab. 10	Lab. 11
	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt	Pt
	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt
	1.07	1.26	1.24	1.22	1.26	1.26	1.18	1.12	1.24	1.30	1.27
	1.15	1.30	1.16	1.27	1.29	1.25	1.19	1.18	1.22	1.28	1.26
	1.05	1.33	1.13	1.25	1.25	1.28	1.16	1.23	1.22	1.28	1.32
	1.02	1.30	1.23	1.23	1.29	1.28	1.20	1.20	1.20	1.29	1.29
	1.09	1.23	1.21	1.20	1.29	1.30	1.21	1.23	1.16	1.33	1.30
	1.12	1.31	1.15	1.27	1.26	1.24	1.20	1.18	1.17	1.29	1.30
	1.02	1.22	1.14	1.19	1.31	1.27	1.22	1.28	1.17	1.28	1.31
	1.03	1.33	1.17	1.21	1.31	1.27	1.20	1.23	1.16	1.34	1.26
	1.08	1.24	1.13	1.22	1.27	1.24	1.18	1.29	1.19	1.26	1.28
	1.06	1.28	1.14	1.27	1.23	1.23	1.19	1.24	1.16	1.24	1.32
Mean	1.07	1.28	1.17	1.23	1.28	1.26	1.19	1.22	1.19	1.29	1.29
Std. Devn.	0.043	0.040	0.042	0.030	0.027	0.022	0.017	0.050	0.030	0.030	0.022
% RSD	4.00	3.16	3.56	2.45	2.15	1.74	1.43	4.13	2.49	2.30	1.73
	Pd	Pd	Pd	Pd	Pd	Pd	Pd	Pd	Pd	Pd	Pd
	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt	gpt
	5.34	5.75	5.85	5.69	5.82	5.73	5.82	5.64	5.87	5.82	5.86
	5.58	5.80	5.64	5.80	5.76	5.61	5.77	5.58	5.86	5.96	5.76
	5.31	6.09	5.48	5.92	5.95	5.60	5.79	5.84	5.92	5.82	5.87
	5.44	5.85	5.89	5.88	6.03	5.79	5.79	5.59	5.86	5.91	5.87
	5.53	5.54	5.85	5.69	5.87	5.96	5.92	5.58	5.75	5.94	5.83
	5.61	5.92	5.60	5.84	6.00	5.57	5.84	5.34	5.77	5.85	5.79
	5.24	5.59	5.44	5.58	5.91	5.84	5.86	5.55	5.74	5.86	5.88
	5.24	6.02	5.60	5.72	5.82	5.87	5.88	5.56	5.73	6.20	5.73
	5.56	5.85	5.60	5.71	5.97	5.70	5.86	5.64	5.77	5.75	5.83
	5.52	6.00	5.64	5.75	5.89	5.56	5.83	5.46	5.78	5.78	5.79
Mean	5.44	5.84	5.66	5.76	5.90	5.72	5.84	5.58	5.81	5.89	5.82
Std. Devn.	0.143	0.179	0.155	0.102	0.088	0.139	0.046	0.128	0.066	0.128	0.052
% RSD	2.63	3.07	2.75	1.78	1.48	2.43	0.79	2.30	1.14	2.18	0.90

Assay Procedures:

Pt, Pd: Fire assay pre-concentration, AA or ICP finish (15g sub-sample).

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Participating Laboratories:

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

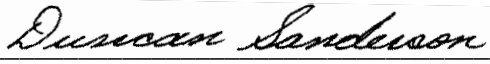
Acme Analytical Laboratories Ltd.
Alex Stewart Assayers Ltd., Kyrgyz Republic
Assayers Canada Ltd., Vancouver
ALS Chemex Laboratories, North Vancouver
Genalysis Laboratory Services Pty. Ltd., Australia
GTK Laboratory, (Geological Survey of Finland)
International Plasma Laboratories Ltd., Vancouver
Loring 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.


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Certified by


Duncan Sanderson, Certified Assayer of B.C.

Geochemist


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