

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-7

Recommended values and 95% Confidence Intervals ($\pm 2SD$)

Gold concentration: 2.59 ± 0.30 g/tonne

Platinum concentration: 1.01 ± 0.16 g/tonne

Palladium concentration: 3.71 ± 0.47 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:

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, \pm 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.

This standard was prepared by combining a quantity of the Stillwater ore (screened to -325) with a quantity of gold-bearing ore from the Misty Mountain Specogna deposit (screened to -200) and diluting with a blank granitic material that had been screened to -200 mesh. The material was mixed for 6 days in a rotary mixer. Splits were sent to 12 laboratories for round robin assaying.

Approximate chemical composition is as follows:

	Percent			Percent
SiO ₂	59.9		MgO	4.2
Al ₂ O ₃	14.8		K ₂ O	1.3
Fe ₂ O ₃	8.0		TiO ₂	0.4
CaO	6.0		LOI	2.5
Na ₂ O	1.8			

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

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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	Lab 12
	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
	2.31	2.36	2.86	2.59	2.78	2.48	2.60	2.66	2.40	2.49	2.68	2.68
	2.42	2.52	2.66	2.54	2.68	2.60	2.81	2.71	2.34	2.43	2.59	2.60
	2.18	2.41	2.47	2.77	2.75	2.45	2.65	2.65	2.28	2.67	2.61	2.75
	2.46	2.44	2.35	2.67	2.65	2.50	2.77	2.65	2.22	2.68	2.72	2.75
	2.37	2.42	2.78	2.60	2.62	2.48	2.84	2.58	2.37	2.48	2.73	2.75
	2.23	2.41	2.58	2.74	2.71	2.55	2.64	2.57	2.21	2.65	2.63	2.69
	2.41	2.39	2.90	2.57	2.65	2.61	2.65	2.62	2.28	2.57	2.71	2.68
	2.55	2.34	2.71	2.83	2.68	2.57	2.59	2.69	2.23	2.46	2.84	2.60
	2.48	2.63	2.75	2.84	2.78	2.54	2.47	2.70	2.32	2.52	2.74	2.63
	2.48	2.49	2.81	2.74	2.62	2.46	2.72	2.73	2.33	2.42	2.70	2.61
Mean	2.39	2.44	2.69	2.69	2.69	2.52	2.67	2.66	2.30	2.54	2.69	2.67
Std. Dev'n	0.118	0.086	0.175	0.110	0.061	0.058	0.112	0.052	0.065	0.099	0.075	0.062
%RSD	4.92	3.51	6.52	4.09	2.26	2.30	4.21	1.94	2.83	3.92	2.77	2.32
	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
	0.96	1.04	0.88	1.05	1.10	0.98	1.12	1.12	0.94	0.79	1.04	0.97
	0.96	1.00	0.88	0.98	1.05	0.98	1.07	1.08	0.89	0.79	1.00	1.01
	0.84	0.99	0.88	1.07	1.08	1.05	1.08	1.16	0.90	0.74	1.07	1.02
	1.03	1.00	0.87	1.02	0.99	1.01	1.17	1.11	0.90	0.80	1.02	1.02
	0.84	0.99	0.90	1.04	1.00	1.01	1.12	1.19	0.92	0.79	1.09	1.03
	0.85	1.01	0.92	1.07	0.98	1.01	1.14	1.15	0.94	0.79	1.05	1.07
	0.95	0.97	0.90	1.07	1.03	0.98	1.13	1.09	0.93	0.78	1.02	1.06
	0.99	0.98	0.94	1.13	1.06	1.02	1.13	1.10	0.89	0.81	1.05	1.04
	1.01	1.04	0.87	1.05	0.97	0.99	1.11	1.13	0.92	0.81	1.05	1.09
	1.01	1.00	0.91	1.05	1.00	1.02	1.13	1.09	0.92	0.80	1.06	1.02
Mean	0.94	1.00	0.90	1.05	1.03	1.01	1.12	1.12	0.92	0.79	1.05	1.03
Std. Dev'n	0.073	0.023	0.023	0.039	0.045	0.023	0.029	0.036	0.019	0.020	0.027	0.034
%RSD	7.78	2.30	2.59	3.67	4.36	2.26	2.56	3.20	2.08	2.53	2.55	3.29
	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
	3.40	3.72	4.04	3.85	3.98	3.56	3.66	4.04	3.68	3.44	4.03	3.99
	3.34	3.78	3.66	3.66	3.65	3.64	3.65	4.04	3.52	3.34	3.95	3.91
	2.97	3.60	3.46	3.90	3.79	3.65	3.58	4.09	3.46	3.52	4.02	4.03
	3.55	3.62	3.36	3.87	3.54	3.60	3.69	3.99	3.52	3.70	4.03	4.15
	3.06	3.76	3.56	3.88	3.58	3.62	3.62	3.99	3.62	3.38	4.03	4.14
	3.05	3.68	3.69	3.91	3.62	3.63	3.66	3.96	3.46	3.38	4.05	3.93
	3.39	3.53	3.68	3.90	3.67	3.63	3.66	3.82	3.42	3.32	3.95	4.38
	3.41	3.57	3.66	3.95	3.72	3.59	3.77	3.96	3.42	3.24	3.98	4.07
	3.55	3.70	3.47	3.87	3.60	3.55	3.40	4.02	3.68	3.32	4.10	4.11
	3.40	3.71	3.59	4.01	3.55	3.66	3.84	3.92	3.46	3.26	4.04	4.14
Mean	3.31	3.67	3.62	3.88	3.67	3.61	3.65	3.98	3.52	3.39	4.02	4.09
Std. Dev'n	0.209	0.083	0.185	0.090	0.133	0.037	0.116	0.076	0.101	0.136	0.045	0.135
%RSD	6.32	2.27	5.12	2.32	3.64	1.03	3.17	1.92	2.87	4.02	1.11	3.31

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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 Ltd., Kamloops
Genalysis Laboratory Services Pty Ltd., Perth
GTK Laboratory, Geological Survey of Finland
International Plasma Laboratories Ltd., Vancouver
Loring Laboratories Ltd., Calgary
OMAC Laboratories Ltd., Ireland
SGS-Perth, Australia
TSL Laboratories, Saskatoon
Stillwater Mining Corporation, Montana


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Certified by


Duncan Sanderson, Certified Assayer of B.C.

Geochemist


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