

# CDN Resource Laboratories Ltd.

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## PLATINUM GROUP ORE REFERENCE STANDARD: CDN-PGMS-11

Recommended values and the "Between Lab" Two Standard Deviations

Gold concentration: 0.219 ± 0.030 g/t

Platinum concentration: 0.107 ± 0.016 g/t

Palladium concentration: 0.405 ± 0.038 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.

### **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, 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 11 laboratories for round robin assaying.

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

	Percent			Percent
SiO <sub>2</sub>	67.9		MgO	1.4
Al <sub>2</sub> O <sub>3</sub>	13.5		K <sub>2</sub> O	3.6
Fe <sub>2</sub> O <sub>3</sub>	5.1		TiO <sub>2</sub>	0.7
CaO	1.0		LOI	5.4
Na <sub>2</sub> O	0.6			

### **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
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
PG11-1	0.205	0.20	0.261	0.205	0.20	0.192	0.219	0.237	0.205	I.S.	0.25
PG11-2	0.250	0.22	0.239	0.212	0.25	0.230	lost	0.222	0.203	0.21	0.21
PG11-3	0.217	0.25	0.224	0.212	0.22	0.199	0.215	0.221	0.213	0.23	0.22
PG11-4	0.204	0.24	0.235	0.201	0.21	0.216	0.216	0.239	0.201	0.22	0.21
PG11-5	0.223	0.23	0.244	0.208	0.23	0.250	0.214	0.215	0.205	0.21	0.22
PG11-6	0.258	0.20	0.223	0.199	0.21	0.282	0.218	0.228	0.224	I.S.	0.22
PG11-7	0.218	0.20	0.216	0.213	0.23	0.238	0.209	0.227	0.180	0.22	0.25
PG11-8	0.213	0.20	0.228	0.191	0.23	0.213	0.226	0.233	0.197	0.23	0.20
PG11-9	0.216	0.23	0.224	0.204	0.27	0.180	0.205	0.231	0.182	I.S.	0.22
PG11-10	0.258	0.22	0.229	0.193	0.23	0.192	0.215	0.225	0.251	0.22	0.21
Mean	0.226	0.219	0.232	0.204	0.228	0.219	0.215	0.228	0.206	0.220	0.221
Std. Dev'n	0.0210	0.0185	0.0130	0.0078	0.0204	0.0313	0.0058	0.0075	0.0205	0.0082	0.0166
%RSD	9.29	8.46	5.62	3.83	8.96	14.29	2.70	3.27	9.93	3.71	7.53
	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
PG11-1	0.108	0.10	0.109	0.106	0.11	0.110	0.153	0.110	0.110	0.105	0.10
PG11-2	0.114	0.11	0.100	0.110	0.12	0.132	lost	0.096	0.104	0.103	0.10
PG11-3	0.104	0.12	0.098	0.102	0.10	0.104	0.124	0.105	0.100	0.106	0.12
PG11-4	0.099	0.12	0.111	0.112	0.09	0.114	0.104	0.103	0.108	0.113	0.10
PG11-5	0.124	0.11	0.137	0.109	0.10	0.105	0.096	0.102	0.105	0.109	0.11
PG11-6	0.110	0.12	0.107	0.097	0.12	0.126	0.101	0.097	0.100	0.102	0.11
PG11-7	0.114	0.12	0.105	0.100	0.10	0.118	0.111	0.096	0.106	0.105	0.11
PG11-8	0.114	0.12	0.096	0.118	0.12	0.112	0.102	0.097	0.095	0.104	0.11
PG11-9	0.097	0.11	0.111	0.102	0.10	0.105	0.115	0.101	0.104	0.085	0.08
PG11-10	0.100	0.12	0.100	0.108	0.10	0.107	0.116	0.098	0.095	0.114	0.10
Mean	0.108	0.115	0.107	0.106	0.106	0.113	0.114	0.101	0.103	0.105	0.104
Std. Dev'n	0.0085	0.0071	0.0117	0.0063	0.0107	0.0095	0.0173	0.0046	0.0051	0.0080	0.0107
%RSD	7.83	6.15	10.92	5.91	10.14	8.37	15.23	4.58	5.01	7.64	10.34
	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
PG11-1	0.404	0.43	0.396	0.400	0.40	0.379	0.473	0.415	0.418	0.425	0.41
PG11-2	0.407	0.44	0.403	0.398	0.40	0.395	lost	0.397	0.422	0.381	0.38
PG11-3	0.410	0.43	0.403	0.391	0.39	0.371	0.502	0.420	0.424	0.396	0.39
PG11-4	0.402	0.45	0.406	0.398	0.40	0.395	0.392	0.408	0.425	0.391	0.40
PG11-5	0.410	0.43	0.393	0.396	0.40	0.404	0.398	0.410	0.429	0.388	0.38
PG11-6	0.401	0.44	0.407	0.366	0.41	0.390	0.409	0.411	0.435	0.381	0.39
PG11-7	0.396	0.45	0.394	0.391	0.39	0.399	0.408	0.405	0.442	0.382	0.37
PG11-8	0.398	0.44	0.398	0.406	0.39	0.392	0.423	0.419	0.441	0.382	0.38
PG11-9	0.411	0.45	0.416	0.389	0.40	0.409	0.403	0.404	0.444	0.302	0.36
PG11-10	0.413	0.44	0.402	0.398	0.41	0.386	0.379	0.414	0.422	0.397	0.38
Mean	0.405	0.440	0.402	0.393	0.399	0.392	0.421	0.410	0.430	0.383	0.384
Std. Dev'n	0.0059	0.0082	0.0070	0.0108	0.0074	0.0113	0.0404	0.0071	0.0095	0.0312	0.0143
%RSD	1.45	1.86	1.73	2.75	1.85	2.88	9.60	1.74	2.22	8.17	3.72

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**Participating Laboratories:**

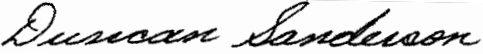
(not in same order as listed in table of results)

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