

# African Mineral Standards

## *Certificate of Analysis*

### Platreef Low Feed Grade Platinum Ore Reference Material **AMIS0056**

#### Recommended Concentrations and two "Between Laboratory" Standard Deviations

#### *Certified Concentrations*

Pt (NIS)	0.82	+ -	0.08	g/t
Pt (Pb Collection)	0.81	+ -	0.10	g/t
Pd (NIS)	0.88	+ -	0.06	g/t
Pd (Pb Collection)	0.88	+ -	0.08	g/t
Co (P)	78	+ -	9	ppm
Co (T/ICP)	99	+ -	10	ppm
Cr (XRF)	1280	+ -	101	ppm
Cu (P)	1377	+ -	107	ppm
Ni (P)	1940	+ -	165	ppm
Ni (T/ICP)	2009	+ -	176	ppm
Ni (XRF)	2118	+ -	152	ppm
Specific Gravity	3.09	+ -	0.24	g/cc

#### *Provisional Concentrations*

Au (NIS)	0.15	+ -	0.04	g/t
Au (Pb Collection)	0.16	+ -	0.02	g/t
Ir (NiS)	0.010	+ -	0.002	g/t
Rh	0.042	+ -	0.010	g/t
Co (XRF)	99	+ -	11	ppm
Cu (T/ICP)	1401	+ -	183	ppm
Cu (XRF)	1403	+ -	182	ppm

#### *Indicated Means*

Ru (NiS)	0.038	g/t
Cr (T/ICP)	1358	ppm

**Intended Use:** AMIS0056 is suitable for monitoring the accuracy of a single analysis of PGE, Cu and Ni ores hosted by Platreef or other similar mafic rocks. The material can be used for routine quality control by inserting within a batch of samples, method development and for the calibration of equipment.

The recommended mean and "Between Lab" standard deviations for this standard reflect the average results from the laboratories that participated in the round robin. Slight variations in analytical procedures between laboratories will reflect as slight biases to the recommended concentrations and this is acceptable. Good laboratories however will report results within the two standard deviation levels with a failure of <10 %.

**Origin of Material:** This standard was made using Platreef material from the northern limb of the Bushveld Complex supplied by Anglo Platinum Limited. Platreef is a Pt/Pd/Ni/Cu ore. This specific material was obtained from the open pit, PPRust Mine.

**Approximate Mineral and Chemical Composition:** Mineralization in this Platreef comprises 2-5% disseminated or net textured magmatic sulphides, mainly pyrrhotite, pentlandite and chalcopyrite. The PGE's occur as micron-sized satellite grains around but rarely within the sulphides.

The major element composition for this material has been determined by a thirteen laboratory round robin. Full information is available on a separate certificate. Concentrations and limits are set out in the table below.

	Al <sub>2</sub> O <sub>3</sub>	CaO	Cr <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	MnO
	%	%	%	%	%	%	%
mean	7.34	11.68	0.19	10.04	0.15	17.78	0.19
2SD	0.16	0.48	0.02	0.02	0.02	0.46	0.02
	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SiO <sub>2</sub>	SO <sub>3</sub>	TiO <sub>2</sub>	LOI	
	%	%	%	%	%	%	
mean	0.63	0.03	47.00	2.41	0.24	4.43	
2SD	0.06	0.03	0.62	0.22	0.02	0.40	

**Appearance:** The material is a very fine bluish grey powder (Corstor 5B 7/1).

**Method of Preparation:** The material was crushed, dry-milled and air-classified to 100% <54µm. It was then blended in a bi-conical mixer, systematically divided and then sealed into 1kg Laboratory Packs. Explorer Packs are subdivided from the Laboratory packs as required. Samples were randomly selected for homogeneity testing and third party analysis. Statistical analysis of both homogeneity and the consensus test results were carried out by an independent statistician.

**Method of Analysis:**

1. Pt, Pd, Au and Ru. Nickel sulphide collection, ICP-OES or ICP-MS.
2. Pt, Pd and Au. Pb collection with Ag as a co-collector, ICP-OES or ICP-MS.
3. Pt, Pd, Au, Rh, Ru, Ir. NiS collection, ICP-OES or ICP-MS.
4. Co, Cu and Ni. Multi-acid total digestion, including HF, ICP-OES or ICP-MS.
5. Cr, Co, Cu and Ni. Fusion, ICP-OES or ICP-MS
6. Co, Cu and Ni. Aqua regia digestion with ICP-OES or ICP-MS.
7. Cr, Co, Cu and Ni. Fusion or Pressed Pellet, XRF.
8. XRF Fusion ( Majors ).
9. SG. Gas pycnometer.

**Information requested:**

1. Aliquots used for all determinations.
2. Results for individual PGM's reported in ppb.
3. Results for base metals reported in ppm.
4. QC data, to include replicates, blanks and certified reference materials used.
5. Analytical techniques used.

**Method of Certification:** Twenty five laboratories were each given nine samples including eight randomly selected packages of sample with one sample of certified reference material for QC purposes. Various results from the twenty four laboratories that reported back timeously were used for the determinations. The following round robin results are displayed on this certificate:

- Pt, Pd and Au analyses by the Pb collection method;
- Pt, Pd, Au, Ru and Ir by the NiS collection method;
- Rh analyses by NiS and Fire Assay;
- Cr, Cu and Ni by the Fusion (F) method.
- Co, Cu and Ni by the aqua regia (partial- P) digestion method.
- Co, Cu, Cr and Ni by the multi-acid (total -T) digestion method;
- Co, Cr, Cu and Ni by XRF;
- Specific gravity by water or gas Pycnometer.

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  $\pm 2$  standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. 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. Standards with an RSD of near or less than 5 % are certified, RSD's of between near 5 % and 15 % are Provisional, and RSD's over 15 % are Indicated. The tables below represent raw data received from the laboratories.

AMIS0056 Lab Code	Pt g/t NiS	Pd g/t NiS	Au g/t NiS	Rh g/t	Ru g/t NiS	Ir g/t NiS	Pt g/t	Pd g/t	Au g/t	Co ppm F	Co ppm P	Co ppm T-ICP	Co ppm XRF	Cu ppm F	Cu ppm P	Cu ppm T-ICP	Cu ppm XRF	Cr ppm T-ICP	Cr ppm XRF	Ni ppm F	Ni ppm P	Ni ppm T-ICP	Ni ppm XRF	SG g/cc
A							0.88	1.02	0.18							1560							2340	
A							0.72	0.84	0.17							1590							2380	
A							0.90	0.97	0.16							1540							2270	
A							0.90	0.94	0.16							1570							2340	
A							0.89	0.95	0.18							1580							2360	
A							0.87	0.93	0.18							1550							2340	
A							0.85	0.94	0.21							1520							2260	
A							0.88	0.93	0.21							1530							2260	
B	0.85	0.88	0.15	0.04	0.04	0.01	0.90	0.92	0.15	84	105				1410	1440		1250	1293		1940	2090		2.99
B	0.86	0.89	0.16	0.04	0.04	0.01	0.92	0.93	0.16	81	100				1430	1450		1250	1286		1910	2070		2.86
B	0.87	0.88	0.17	0.04	0.04	0.01	0.90	0.92	0.15	82	100				1440	1410		1300	1300		1920	2100		2.89
B	0.87	0.86	0.18	0.04	0.04	0.01	0.88	0.93	0.15	80	100				1440	1430		1300	1272		1910	2040		2.80
B	0.85	0.89	0.16	0.04	0.04	0.01	0.92	0.90	0.15	83	100				1390	1410		1300	1286		1910	2080		2.87
B	0.89	0.85	0.16	0.04	0.04	0.01	0.89	0.94	0.15	81	100				1390	1440		1350	1286		1900	2050		2.84
B	0.85	0.87	0.15	0.04	0.04	0.01	0.89	0.90	0.16	83	105				1440	1430		1250	1293		1950	2070		2.83
B	0.88	0.90	0.17	0.04	0.04	0.01	0.91	0.93	0.16	82	100				1430	1430		1250	1293		1930	2060		3.01
C							0.73	0.75	0.14	85					1430							2010		
C							0.78	0.80	0.22	85					1440							2020		
C							0.79	0.80	0.14	86					1420							2000		
C							0.77	0.78	0.14	85					1420							2000		
C							0.72	0.75	0.13	88					1440							2030		
C							0.77	0.79	0.14	87					1510							2120		
C							0.78	0.81	0.14	88					1410							1980		
C							0.78	0.80	0.14	88					1420							1980		
D	0.88	0.83	0.19	0.05			0.83	0.89	0.19	80	98				1430	1400					2030	2200		3.27
D	0.86	0.86	0.14	0.06			0.85	0.91	0.14	80	100				1430	1400					2030	2200		3.26
D	0.78	0.80	0.10	0.06			0.88	0.89	0.10	80	92				1450	1400					2060	2100		3.25
D	0.89	0.84	0.13	0.06			0.80	0.85	0.13	80	100				1440	1600					2040	2400		3.23
D	0.80	0.82	0.15	0.06			0.81	0.88	0.15	80	99				1450	1400					2050	2300		3.23
D	0.83	0.86	0.14	0.06			0.85	0.91	0.14	80	96				1460	1500					2060	2300		3.29
D	0.83	0.85	0.14	0.06			0.88	0.95	0.14	80	95				1440	1500					2040	2200		3.30
D	0.78	0.83	0.13	0.05			0.81	0.89	0.13	80	100				1480	1500					2080	2400		3.31

AMIS0056 Lab Code	Pt g/t NIS	Pd g/t NIS	Au g/t NIS	Rh g/t	Ru g/t NIS	Ir g/t NIS	Pt g/t	Pd g/t	Au g/t	Co ppm F	Co ppm P	Co ppm T-ICP	Co ppm XRF	Cu ppm F	Cu ppm P	Cu ppm T-ICP	Cu ppm XRF	Cr ppm T-ICP	Cr ppm XRF	Ni ppm F	Ni ppm P	Ni ppm T-ICP	Ni ppm XRF	SG g/cc	
E	0.82	0.91		0.04	0.04		0.83	0.91	0.17		78	100		1310	1300	1500	1200				1790	2000	2100	3.08	
E	0.83	0.92		0.05	0.04		0.81	0.87	0.16		76	97		1350	1300	1500	1300				1830	2000	2000	3.13	
E	0.78	0.88		0.04	0.04		0.83	0.91	0.17		77	96		1310	1300	1400	1300				1780	2000	2200	3.08	
E	0.79	0.93		0.04	0.04		0.87	0.91	0.18		77	93		1310	1300	1400	1300				1790	1900	2200	3.10	
E	0.81	0.92		0.04	0.04		0.83	0.91	0.17		80	98		1360	1400	1500	1300				1870	2000	2100	3.09	
E	0.84	0.90		0.04	0.04		0.84	0.90	0.16		78	95		1340	1300	1400	1200				1830	2000	2100	3.11	
E	0.83	0.98		0.05	0.04		0.85	0.91	0.16		80	95		1370	1200	1400	1200				1880	1900	2100	3.13	
E	0.83	0.91		0.05	0.05		0.79	0.89	0.18		78	97		1330	1300	1500	1200				1820	1900	2200	3.09	
F							0.75	0.85	0.15		74	99	100	1390	1480	1440	1170	1290				1870	2070	2190	3.24
F							0.75	0.84	0.14		73	96	100	1380	1460	1410	1170	1300				1850	2070	2200	3.26
F							0.75	0.85	0.15		73	94	100	1370	1440	1420	1160	1320				1850	2020	2210	3.25
F							0.75	0.83	0.14		77	94	100	1420	1440	1480	1150	1300				1890	2040	2190	3.23
F							0.72	0.83	0.15		75	94	90	1410	1450	1470	1020	1280				1880	2040	2180	3.23
F							0.73	0.85	0.15		75	95	110	1430	1440	1460	1130	1310				1920	2030	2190	3.24
F							0.67	0.75	0.14		75	94	100	1430	1450	1470	1020	1300				1910	2050	2200	3.21
F							0.72	0.83	0.15		77	95	100	1420	1450	1470	1200	1310				1910	2060	2190	3.22
G	0.81	0.89	0.17	0.05	0.06	0.02	0.80	0.90	0.16		70	86	94	1284	1301	1318		1060				1732	1846	1920	3.04
G	0.86	0.88	0.14	0.04	0.05	0.02	0.81	0.93	0.16		69	87	91	1293	1291	1321		1058				1728	1857	1921	3.04
G	0.84	0.90	0.15	0.04	0.05	0.01	0.80	0.97	0.17		73	91	106	1329	1329	1312		1057				1805	1930	1912	3.05
G	0.84	0.90	0.15	0.05	0.06	0.01	0.81	0.92	0.19		70	91	94	1288	1363	1311		1056				1764	1950	1912	3.05
G	0.85	0.87	0.15	0.04	0.05	0.01	0.85	0.97	0.16		68	90	95	1269	1368	1309		1052				1728	1934	1896	3.05
G	0.80	0.88	0.18	0.05	0.05	0.01	0.82	0.93	0.17		74	92	103	1351	1385	1307		1053				1838	1953	1902	3.05
G	0.80	0.86	0.16	0.05	0.06	0.01	0.81	0.95	0.18		72	89	99	1347	1348	1323		1058				1811	1942	1929	3.05
G	0.82	0.89	0.15	0.04	0.05	0.01	0.80	0.94	0.15		76	90	100	1411	1351	1307		1062				1903	1939	1907	3.05
H											81				1633				1538				2299		
H											1649								1585				2403		
H											80				1648				1247				2355		
H											78				1590				1148				2336		
H											72				1580				1771				2251		
H											74				1558				1336				2218		
H											73				1585				1710				2279		
H											81				1507				1308				1990		
I							0.81	0.86	0.17		84	105		1407	1420			1733				1991	2096		2.99
I							0.82	0.82	0.20		83	106		1408	1431			1746				1987	2069		2.94
I							0.83	0.86	0.17		85	106		1416	1412			1727				1997	2073		3.08
I							0.82	0.88	0.16		84	106		1408	1429			1716				1994	2081		2.97
I							0.82	0.88	0.19		83	106		1410	1425			1721				1999	2087		2.97
I							0.81	0.84	0.16		84	105		1407	1410			1710				2000	2072		2.97
I							0.81	0.84	0.16		84	107		1414	1432			1722				1999	2087		2.96
I							0.82	0.85	0.17		83	105		1392	1422			1712				1995	2058		2.97
J							0.88	0.92	0.18		80	100		1370	1450							1940	2110		2.84
J							0.78	0.84	0.16		80	100		1360	1400							1940	2030		2.62
J							0.85	0.90	0.17		80	100		1370	1420							1940	2070		2.57
J							0.88	0.92	0.17		80	110		1360	1430							1920	2080		2.80
J							0.87	0.91	0.16		80	100		1360	1380							1950	1960		2.49
J							0.86	0.89	0.16		80	100		1370	1380							1930	2010		2.67
J							0.84	0.89	0.16		80	100		1370	1380							1960	2000		2.54
J							0.81	0.84	0.17		80	100		1390	1380							1970	1980		2.65
K							0.70	0.72	0.17		72	110		1330	1600			1470				2040	2120		
K							0.68	0.71	0.17		74	107		1370	1590			1460				2060	2110		
K							0.71	0.70	0.17		72	113		1340	1580			1490				2050	2140		
K							0.70	0.69	0.17		75	113		1390	1560			1440				2110	2120		
K							0.75	0.77	0.16		73	112		1340	1650			1500				2050	2180		
K							0.71	0.75	0.17		73	112		1330	1570			1450				2060	2140		
K							0.73	0.73	0.16		73	115		1320	1460			1370				2020	2120		
K							0.74	0.75	0.16		74	112		1360	1570			1530				2060	2140		
L	0.65	0.87	0.13	0.04	0.03	0.01					77	95	90	1240	1260	1300		1163				1900	1970	2130	3.21
L	0.64	0.87	0.11	0.04	0.03	0.01					74	96	97	1210	1240	1290		1163				1880	1930	2140	3.08
L	0.72	0.92	0.12	0.04	0.03	0.01					78	91	91	1280	1230	1290		1094				1970	1910	2140	3.19
L	0.66	0.84	0.13	0.04	0.03	0.01					79	92	89	1260	1230	1300		1163				1890	1910	2180	2.98
L	0.69	0.88	0.13	0.04	0.03	0.01					75	91	89	1250	1210	1300		1163				1870	1870	2210	2.97
L	0.67	0.87	0.13	0.04	0.03	0.01					75	88	90	1220	1190	1300		1163				1860	1840	2170	3.02
L	0.72	0.87	0.13	0.04	0.03	0.01					78	88	92	1240	1200	1300		1094				1880	1850	2150	3.11
L	0.69	0.92	0.12	0.04	0.03	0.01					78	91	95	1220	1240	1300		1094				1800	1910	2170	3.05
M							0.85	0.91	0.16		74	100	100	1725	1540	1580		1260				2040	2060	2080	3.00
M							0.85	0.91	0.17		72	102	100	1525	1630	1570		1260				1790	2150	2070	2.89
M							0.88	0.90	0.19		74	100	100	1605	1510	1580		1290				1895	2050	2070	2.88
M							0.86	0.91	0.18		72	104	100	1625	1550	1580		1300				1905	2060	2080	2.89
M							0.85	0.90	0.16		71	101	100	1560	1590	1560		1250				1865	2090	2090	2.89
M							0.86	0.90	0.17		71	105	100	1615	1590	1570		1240				1885	2110	2070	2.80
M																									

AMIS0056 Lab Code	Pt g/t NIS	Pd g/t NIS	Au g/t NIS	Rh g/t	Ru g/t NIS	Ir g/t NIS	Pt g/t	Pd g/t	Au g/t	Co ppm F	Co ppm P	Co ppm T-ICP	Co ppm XRF	Cu ppm F	Cu ppm P	Cu ppm T-ICP	Cu ppm XRF	Cr ppm T-ICP	Cr ppm XRF	Ni ppm F	Ni ppm P	Ni ppm T-ICP	Ni ppm XRF	SG g/cc
Q				0.06			1.03	0.86									1450		1000				2170	3.05
Q				0.06			0.87	0.85									1450						2170	3.06
Q				0.07			1.05	0.90									1440						2180	3.08
Q				0.07			0.80	0.90									1440						2170	3.13
Q				0.07			1.04	0.87									1450						2170	3.13
Q				0.06			1.03	0.86									1450						2180	3.07
Q				0.06			0.91	0.87									1450						2170	3.07
Q				0.06			1.10	0.86									1450						2180	3.13
R							0.83	0.90	0.16															3.17
R							0.82	0.88	0.14															3.16
R							0.82	0.87	0.15															3.15
R							0.82	0.89	0.15															3.17
R							0.83	0.90	0.16															3.17
R							0.82	0.89	0.16															3.18
R							0.82	0.89	0.16															3.16
R							0.83	0.87	0.15															3.16
S																								
S																								
S																								
S																								
S																								
S																								
T	0.88	0.86	0.21	0.05	0.07		0.72	0.79	0.15	96				1398					2815		2296			
T	0.87	0.85	0.19	0.05	0.05		0.71	0.78	0.14	84				1420					1578		2179			
T	0.81	0.86	0.17	0.04	0.03		0.71	0.78	0.14	102				1465					1510		2342			
T	0.87	0.86	0.25	0.04	0.05		0.75	0.82	0.14	99				1444					1465		2149			
T	0.80	0.79	0.18	0.05	0.05		0.75	0.80	0.15	116				1497					1543		2436			
T	0.74	0.77	0.15	0.06	0.04		0.74	0.80	0.15	113				1528					1552		2401			
T	0.78	0.80	0.15	0.03	0.04		0.74	0.76	0.14															
T	0.73	0.69	0.15	0.07	0.03		0.71	0.78	0.15	109				1488					1534		2389			
U							0.75	0.82	0.17	108	91			1403	1360						2132	2140		
U							0.79	0.85	0.17	116	93			1494	1370						2265	2150		
U							0.77	0.85	0.17	112	90			1442	1350						2199	2140		
U							0.80	0.87	0.17	109	95			1413	1410						2149	2220		
U							0.78	0.86	0.19	110	96			1420	1380						2159	2190		
U							0.79	0.86	0.20	116	94			1488	1380						2267	2180		
U							0.81	0.87	0.15	109	92			1403	1370						2146	2170		
U							0.80	0.86	0.15	113	93			1460	1370						2220	2180		
V			0.17			0.01								104						1280				2160
V			0.17			0.01								104						1280				2150
V			0.17			0.01								107						1310				2210
V			0.17			0.01								105						1300				2160
V			0.18			0.01								107						1300				2190
V			0.18			0.01								107						1300				2180
V			0.17			0.01								104						1280				2200
V			0.19			0.01								104						1290				2170
W	0.78	0.76	0.14	0.04	0.03	0.01	0.82	0.89	0.17		100	96		1370	1260	1389				1231	1880	1930	2136	
W	0.78	0.77	0.14	0.03	0.03	0.01	0.82	0.90	0.21		92	94		1400	1250	1397				1249	1920	1910	2149	
W	0.80	0.78	0.13	0.03	0.03	0.01	0.82	0.89	0.17		91	96		1410	1280	1401				1240	1930	1960	2146	
W	0.75	0.76	0.13	0.04	0.03	0.01	0.87	0.90	0.16		95	98		1430	1250	1373				1238	1970	1940	2150	
W	0.78	0.76	0.13	0.03	0.03	0.01	0.82	0.88	0.18		90	97		1400	1240	1387				1242	1920	1940	2139	
W	0.80	0.78	0.12	0.04	0.03	0.01	0.82	0.89	0.17		92	96		1400	1250	1379				1251	1920	1940	2155	
W	0.80	0.78	0.13	0.03	0.03	0.01	0.83	0.87	0.18		90	95		1390	1230	1372				1244	1920	1920	2120	
W	0.83	0.79	0.14	0.03	0.03	0.01	0.78	0.88	0.16		92	93		1410	1220	1389				1229	1940	1890	2134	
X	0.79	0.87	0.17	0.04	0.03	0.01	0.84	0.88	0.15		77	104	90	1381	1365	1430	1057	1260			1952	2031	2110	3.23
X	0.86	0.88	0.18	0.04	0.04	0.01	0.82	0.89	0.14		75	105	100	1345	1380	1450	1057	1280			1922	2060	2130	3.20
X	0.77	0.82	0.17	0.04	0.03	0.01	0.78	0.82	0.13		76	102	100	1350	1397	1450	1098	1270			1953	2078	2150	3.10
X	0.74	0.82	0.14	0.04	0.04	0.01	0.85	0.75	0.12		75	103	100	1305	1394	1460	1055	1270			1862	2059	2150	3.18
X	0.82	0.86	0.20	0.04	0.04	0.01	0.80	0.86	0.16		78	102	100	1359	1417	1450	1297	1280			1965	2085	2120	3.15
X	0.76	0.80	0.15	0.04	0.03	0.01	0.79	0.84	0.14		77	102	120	1357	1370	1470	1031	1300			1961	2024	2170	3.19
X	0.82	0.90	0.16	0.04	0.04	0.01	0.79	0.83	0.16		76	102	90	1395	1392	1450	999	1310			1963	2088	2170	3.13
X	0.81	0.87	0.14	0.04	0.04	0.01	0.78	0.80	0.15		75	104	90	1303	1408	1470	1003	1320			1892	2107	2190	3.22
Y	0.85	0.91	0.18	0.04	0.03	0.01	0.79	0.78	0.14		88		100	1328		1319					1361		1898	1971
Y	0.82	0.91	0.16	0.04	0.02	0.01	0.59	0.62	0.11		86		100	1333		1314					1359		1907	1984
Y	0.81	0.91	0.19	0.04	0.03	0.01	0.62	0.61	0.12		87		101	1337		1316					1361		1901	1974
Y	0.85	0.91	0.14	0.04	0.03	0.01	0.77	0.74	0.14		90		100	1382		1310					1362		1973	2004
Y	0.82	0.91	0.16	0.04	0.03	0.01	0.81	0.75	0.15		86		102	1338		1306					1367		1881	1988
Y	0.85	0.90	0.15	0.04	0.02	0.01	0.82	0.82	0.23		87		102	1333		1314					1367		1876	1974
Y	0.84	0.91	0.15	0.04	0.02	0.01	0.84	0.83	0.17		84		101	1327		1314					1367		1794	1967
Y	0.83	0.91	0.16	0.04	0.02	0.01	0.86	0.81	0.15		90		100	1363		1318					1361		1951	1983

Major element analysis results are displayed on a separate certificate.

**Participating Laboratories:** (Not in the same order as in the table of assays)

1. ACME Analytical Laboratories Ltd., (Canada).
2. Activation Laboratories Ltd., (ActLabs, Ancaster, ON, Canada).
3. ALS Chemex South Africa ( Pty ) Ltd.
4. ALS Chemex, (Vancouver, Canada).
5. Amdel Limited, (Perth, Australia).
6. Ammtec Ltd., (Western Australia).
7. Anglo Platinum, Eastern Bushveld Regional Laboratory (South Africa).
8. Anglo Research (Crown Campus, South Africa).
9. Anglo Research (Germiston Campus, South Africa)
10. Assayers Canada, (Vancouver).
11. Barplats Laboratory, (South Africa).
12. Becquerel Laboratories, (Canada).
13. Genalysis Laboratory Services ( Pty ) Ltd., (Australia).

14. Geoscience Laboratories, (Geo Labs, Sudbury, Canada).
15. Geoservice Centre, Geolaboratory, (GTK. Finland).
16. Nkomati JV Laboratory
17. OMAC Laboratories (Ireland).
18. Pt Intertek Utama Services (Intertek, Indonesia)
19. Set Point Laboratories ( Pty ) Ltd (South Africa)
20. SGS Lakefield Research (Canada)
21. SGS Lakefield Research Africa ( Pty ) Ltd. (Joburg, South Africa)
22. SGS Welshpool (Australia).
23. SRC Labs., (Canada).
24. Ultra Trace ( Pty ) Ltd. (Australia)
25. Zimplats Assay Laboratory (Zimbabwe)

**Availability:** This product is available in Laboratory Packs containing 1kg of material and Explorer Packs containing custom weights (from 50g to 250g) of material. The Laboratory Packs are sealed bottles delivered in sealed foil pouches. The Explorer Packs contain material in standard geochem envelopes, nitrogen flushed and vacuum sealed in foil pouches.

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18 September 2007

**Certifying Officers:**



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**Geochemist:** \_\_\_\_\_

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