

## Merensky Reef (ore grade) PGE Reference Material

### AMIS0013

## Certificate of Analysis

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

#### Certified Concentrations

Platinum	10.97 ± 0.94 g/t	Pt (NIS)
Platinum	10.85 ± 0.86 g/t	Pt (Pb Collection)
Palladium	4.98 ± 0.34 g/t	Pd (NIS)
Palladium	4.90 ± 0.41 g/t	Pd (Pb Collection)
Gold	0.49 ± 0.05 g/t	Au (NIS)
Gold	0.52 ± 0.06 g/t	Au (Pb Collection)
Ruthenium	1.43 ± 0.134 g/t	Ru (NiS)
Chromium	1.50 ± 0.12 %	Cr (XRF)
Chromium	1.41 ± 0.14 %	Cr (F)
Copper	2199 ± 150 ppm	Cu (P)
Copper	2302 ± 127 ppm	Cu (XRF)
Copper	2255 ± 230 ppm	Cu (F)
Nickel	3596 ± 380 ppm	Ni (P)
Nickel	4040 ± 460 ppm	Ni (T)
Nickel	4177 ± 340 ppm	Ni (XRF)
Nickel	4183 ± 310 ppm	Ni (F)
Cobalt	146 ± 17 ppm	Co (P)
Cobalt	213 ± 22 ppm	Co (XRF)
Specific Gravity	3.29 ± 0.14 gm/cc	Pycnometer

#### Provisional Concentrations

Rhodium	0.775 ± 0.094 g/t	Rh
Copper	2187 ± 284 ppm	Cu (T)
Cobalt	211 ± 37 ppm	Co (T)
Cobalt	207 ± 37 ppm	Co (F)

#### Indicated Means

Iridium	0.28 g/t	Ir (NiS)
Chromium	1.25%	Cr (Total)

**Intended Use:** AMIS-13 is suitable for monitoring the accuracy of a single analysis of PGE, Cu and Ni ores hosted by Merensky Reef or other similar mafic rocks. The material can be used for routine quality control by inserting within a batch of samples, for method development and for the calibration of equipment.

The recommended mean and "Between Lab" standard deviations for this standard reflect the average results from 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 Merensky Reef material supplied by Anglo Platinum Limited from the Western limb of the Bushveld Complex. The Merensky Reef is a Pt/Pd ore. This specific material was collected underground from 9 Level, No 57 Cross Cut, Panel 9A, Boschfontein Mine.

**Approximate Mineral and Chemical Composition:** AMIS-13 comprises Merensky Reef hand sorted underground with minor dilution from footwall and hanging wall. The Merensky Reef comprises components of feldspathic pyroxenite, pyroxenite and anorthosite. Peak PGE values are associated with a thin chromitite stringer. Mineralization in this Merensky Reef comprises 2-5% disseminated or net textured magmatic sulphides, predominantly pyrrhotite, pentlandite, chalcopyrite and pyrite. The PGE's occur as micron-sized satellite grains around but rarely within the sulphides.

**Appearance:** The material is a very fine powder medium light grey (Munsell N6) to medium dark grey (Corstor).

**Chemistry:** The chemical composition is set out below.

SiO <sub>2</sub> %	MgO %	Fe <sub>2</sub> O <sub>3</sub> %	Al <sub>2</sub> O <sub>3</sub> %	CaO %	Cr <sub>2</sub> O <sub>3</sub> %	S SQ %
48.45	18.85	12.8	7.6	5.22	2.08	1.22
Na <sub>2</sub> O %	LOI %	TiO <sub>2</sub> %	MnO %	K <sub>2</sub> O %	V <sub>2</sub> O <sub>5</sub> %	P <sub>2</sub> O <sub>5</sub> %
1.01	0.88	0.33	0.20	0.18	0.04	0.02

**Method of Preparation:** The material was crushed, dry-milled and air-classified to <54um. Wet sieve particle size analysis of random samples confirmed the material was 100% <54um. 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 for both homogeneity and the consensus test results were carried out by independent statisticians.

**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. 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 six 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 three laboratories that reported back timeously were used for the determinations. The following round robin results are displayed:

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

The mean and standard deviation for all data was calculated. Outliers were defined as samples beyond the mean  $\pm$  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 to calculate the Confidence Interval shown on many Government-produced standards 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 which quote a Confidence Interval.

The tables below represent raw data received from the laboratories.

Lab	Pt (NIS) g/t	Pt (Pb Collection) g/t	Pd (NIS) g/t	Pd (Pb Collection) g/t	Au (NIS) g/t	Au (Pb Collection) g/t	Ru (NIS) g/t	Cr (XRF) %	Cr (F) %	Cu (P) ppm	Cu (XRF) ppm	Cu (F) ppm	Ni (P) ppm	Ni (T) ppm	Ni (XRF) ppm	Ni (F) ppm	Co (P) ppm	Co (XRF) ppm	Pycnometer g/cc
A	10.200	10.700	4.780	5.200	0.507	0.542	1.270	1.53	1.33	2280	2360	2280	3410	3900	4300	4300	138	230	3.00
A	11.200	10.300	5.340	5.140	0.528	0.516	1.370	1.53	1.48	2280	2350	2320	3450	3890	4300	4250	138	230	3.03
A	10.700	10.900	5.060	5.280	0.517	0.526	1.320	1.53	1.49	2290	2360	2240	3470	3950	4290	4300	140	220	3.02
A	10.700	10.700	5.320	5.280	0.491	0.508	1.340	1.54	1.49	2320	2360	2300	3520	3900	4290	4300	144	230	3.03
A	11.200	10.700	5.240	5.120	0.533	0.528	1.380	1.53	1.50	2300	2360	2320	3420	3900	4300	4350	136	230	3.05
A	10.800	10.900	5.060	5.180	0.530	0.532	1.360	1.54	1.50	2300	2360	2340	3330	3810	4290	4250	136	230	3.05
A	10.900	10.700	5.080	5.120	0.523	0.528	1.340	1.53	1.50	2280	2360	2320	3410	3890	4290	4300	138	230	3.01
A	10.500	10.700	4.910	5.040	0.515	0.516	1.340	1.54	1.49	2310	2350	2300	3460	3880	4290	4300	140	220	3.04
B		10.300		4.720		0.510				2120	2290		3350	4010	4110		135		
B		10.500		4.700		0.500				2190	2300		3470	4020	4090		141		
B		10.650		4.640		0.490				2230	2320		3440	4130	4170		142		
B		10.550		4.530		0.470				2180	2310		3480	4010	4100		138		
B		10.500		4.530		0.470				2150	2260		3370	3890	3980		138		
B		9.910		4.310		0.460				2200	2290		3490	3970	4010		140		
B		10.700		4.630		0.500				2200	2280		3480	4150	4050		142		
B		11.250		4.970		0.530				2200	2280		3510	3960	4030		141		

Lab	Pt (NIS) g/t	Pt (Pb Collection) g/t	Pd (NIS) g/t	Pd (Pb Collection) g/t	Au (NIS) g/t	Au (Pb Collection) g/t	Ru (NIS) g/t	Cr (XRF) %	Cr (F) %	Cu (P) ppm	Cu (XRF) ppm	Cu (F) ppm	Ni (P) ppm	Ni (T) ppm	Ni (XRF) ppm	Ni (F) ppm	Co (P) ppm	Co (XRF) ppm	Pycnometer g/cc
C		11.450		4.990		0.530			1.47	2180		2150	3880	3850		4220	153		
C		11.450		5.000		0.520			1.47	2250		2170	3950	4080		4230	155		
C		11.250		4.900		0.520			1.49	2220		2170	3960	4000		4230	155		
C		10.900		4.860		0.490			1.45	2230		2120	3880	4080		4200	155		
C		11.650		5.120		0.520			1.48	2190		2130	3880	4020		4310	153		
C		11.150		4.900		0.500			1.47	2200		2140	3900	4270		4220	153		
C		11.800		5.100		0.540			1.47	2170		2090	3850	4150		4230	151		
C		10.900		4.680		0.500			1.48	2100		2130	3770	4030		4210	144		
D		10.394		4.393							2110				3900				
D		10.145		4.498							2111				3939				
D		10.147		4.502							2115				3959				
D		9.590		4.248							2082				3873				
D		9.657		4.379							2080				3900				
D		9.133		4.265							2089				3909				
D		9.699		4.398							2100				3910				
D																			
E		11.100		4.920		0.483				2100			3550	4460			138		
E		10.500		4.660		0.470				2120			3590	4420			138		
E		10.900		4.880		0.487				2110			3550	4510			137		
E		11.100		4.940		0.492				2110			3610	4510			138		
E		10.900		4.850		0.489				2090			3540	4360			136		
E		11.100		4.910		0.495				2100			3550	4310			136		
E		10.800		4.900		0.510				2130			3610	4420			138		
E		11.100		4.840		0.478				2100			3570	4350			138		
F	11.400	11.300	4.840	4.880	0.530	0.520	1.320	1.44	1.14	2070		2200	3510	3800		3800	130		
F	10.700	11.100	4.820	4.740	0.520	0.520	1.370	1.46	1.35	2230		2200	3520	3400		4000	140		
F	10.900	10.700	4.880	4.770	0.490	0.520	1.350	1.43	1.28	2150		2100	3440	3900		3700	130		
F	11.300	11.100	4.790	4.990	0.450	0.500	1.320	1.45	1.36	2220		2100	3400	3800		4200	140		
F	11.600	11.300	4.890	5.050	0.470	0.500	1.310	1.44	1.33	2120		2100	3590	3600		4000	130		
F	11.000	11.200	4.950	4.930	0.450	0.460	1.330	1.44	1.21	2140		2000	3480	3800		3800	130		
F	11.200	10.900	4.790	4.850	0.430	0.460	1.320	1.45	1.40	2240		2400	3480	4200		4200	140		
F	10.700	10.900	4.900	4.920	0.410	0.460	1.350	1.45	1.30	2120		2100	3410	4000		3800	130		
G		10.720		4.920		0.480			1.44	2160		2300	3539	4310		4100	150		
G		11.010		4.970		0.520			1.46	2199		2300	3639	4299		4200	152		
G		11.520		4.910		0.520			1.41	2187		2200	3611	4273		4200	150		
G		11.280		4.970		0.520			1.38	2181		2200	3622	4202		4100	155		
G		11.230		4.940		0.520			1.40	2174		2300	3658	4399		4200	152		
G		11.410		4.820		0.520			1.45	2199		2200	3683	4358		4200	156		
G		11.160		4.890		0.520			1.40	2167		2300	3683	4331		4200	152		
G		11.520		5.020		0.520			1.39	2159		2300	3695	4333		4300	156		
H		10.559		3.948		0.395				2177	2390	2579	3903		4340	4314	150	74	
H		10.333		3.863		0.381				2178	2390	2475	3930		4340	4098	145	74	
H		10.274		3.839		0.385				2294	2470	2359	3971		4430	4148	142	77	
H		10.393		4.060		0.402				2230	2460	2602	3908		4360	4571	164	75	
H		11.404		4.260		0.434				2165	2440	2414	3891		4430	4297	147	76	
H		10.172		3.824		0.378				2176	2430	2206	3989		4360	4044	126	75	
H		9.716		3.949		0.408				2212	2400	2641	4002		4320	4492	175	74	
H		10.635		3.796		0.411				2192	2420	2494	3980		4370	4528	133	75	
I	11.348	11.129	5.113	5.014	0.500	0.523	1.452		1.51	2250		2232	3908	4022		4082	156		3.35
I	11.236	10.866	5.021	4.991	0.496	0.521	1.486		1.53	2246		2211	3865	3978		4108	154		3.35
I	11.154	10.519	5.002	5.088	0.492	0.515	1.473		1.49	2240		2229	3894	3997		4097	157		3.34
I	10.746	10.788	4.877	4.960	0.486	0.516	1.430		1.48	2232		2230	3913	4109		3971	158		3.36
I	11.469	10.675	5.132	4.980	0.512	0.515	1.445		1.50	2239		2235	3862	3966		4070	156		3.33
I	11.168	10.672	4.985	5.025	0.487	0.513	1.455		1.49	2299		2243	3961	3999		4015	160		3.34
I	11.465	10.767	5.155	4.956	0.509	0.517	1.492		1.53	2288		2223	3999	4025		4305	161		3.36
I	11.639	10.840	5.207	4.979	0.527	0.520	1.518		1.43	2208		2123	3883	3973		3836	154		3.34
J																			
J		10.020		4.820		0.450			2.12			2300				4100			
J		10.130		4.650		0.480			2.11			2500				4200			
J		10.180		4.560		0.490			2.13			2300				4100			
J		10.000		4.600		0.480			2.01			2400				4200			
J		9.950		4.630		0.540			2.16			2300				4100			
J		10.200		4.690		0.530			2.18			2300				4200			
J		10.300		4.660		0.500			2.10			2300				4100			

Lab	Pt (NIS) g/t	Pt (Pb Collection) g/t	Pd (NIS) g/t	Pd (Pb Collection) g/t	Au (NIS) g/t	Au (Pb Collection) g/t	Ru (NIS) g/t	Cr (XRF) %	Cr (F) %	Cu (P) ppm	Cu (XRF) ppm	Cu (F) ppm	Ni (P) ppm	Ni (T) ppm	Ni (XRF) ppm	Ni (F) ppm	Co (P) ppm	Co (XRF) ppm	Pycnometer g/cc
K	10.687		4.657		0.470		1.428		1.37			2128				3998			3.28
K	10.825		4.772		0.477		1.467		1.36			2126				4062			3.28
K	11.006		4.876		0.481		1.503		1.37			2128				4102			3.28
K	10.886		4.751		0.483		1.492		1.39			2121				4035			3.28
K	10.666		4.725		0.484		1.463		1.37			2139				4131			3.25
K	10.680		4.622		0.454		1.418		1.38			2154				4181			3.28
K	9.962		4.421		0.457		1.359		1.38			2147				4052			3.29
K	11.220		4.946		0.493		1.514		1.34			2062				3898			3.27
L	11.231	9.555	4.982	4.160		0.430	1.432	1.55		2382	2256		3691	4564	3947		156	226	3.18
L	11.516	10.750	5.052	4.725		0.470	1.404	1.55		2541	2259		3911	4417	3964		164	221	3.18
L	11.412	10.450	5.058	4.570		0.465	1.385	1.56		2346	2275		3604	4261	3967		153	214	3.18
L	11.248	10.695	4.988	4.720		0.460	1.426	1.55		2317	2300		3603	4360	3980		154	218	3.19
L	11.388	9.740	5.025	4.310		0.425	1.445	1.55		2261	2267		3503	4474	4007		151	226	3.19
L	11.455	9.950	4.979	4.290		0.445	1.390	1.55		2471	2279		3792	4356	3994		161	214	3.19
L	11.505	9.750	5.038	4.315		0.425	1.426	1.55		2190	2295		3437	4465	4017		148	228	3.19
L	11.396	10.535	4.990	4.625		0.455	1.451	1.56		2351	2284		3651	4461	4016		157	217	3.19
M		10.640		4.730		0.550				2120						4240	135		3.23
M		10.520		4.960		0.530				2120						4430	135		3.29
M		10.480		4.870		0.530				2090						4580	142		3.35
M		10.800		4.880		0.520				2040						4330	138		3.31
M		10.140		4.870		0.530				2100						4360	139		3.31
M		10.560		4.930		0.530				2140						4080	137		3.25
M		11.070		5.050		0.530				2050						3930	130		3.36
M		10.410		4.820		0.500				2140						4340	137		3.26
N		11.474		5.710			1.869												
N		11.336		5.652			1.772												
N		11.516		5.699			1.777												
N		11.208		5.586			1.795												
N		11.215		5.578			1.728												
N		11.297		5.623			1.726												
N		11.193		5.603			1.661												
N		11.570		5.751			1.805												
O	10.900	11.500	4.890	5.110	0.460	0.534	1.310	1.43	1.33	2120	2323	2250	3530	3750	4423	3980	143		
O	11.600	10.900	5.190	4.890	0.489	0.518	1.390	1.43	1.33	2110	2299	2260	3510	3740	4396	4000	142		
O	11.500	11.400	5.230	4.980	0.489	0.512	1.240	1.42	1.34	2110	2330	2230	3490	3780	4382	3980	143		
O	11.200	11.700	5.010	5.180	0.470	0.542	1.430	1.43	1.34	2100	2314	2240	3490	3730	4357	3990	142		
O	12.000	11.100	5.400	4.970	0.508	0.519	1.440	1.42	1.35	2090	2317	2280	3470	3770	4367	4050	142		
O	10.700	11.500	4.680	5.130	0.448	0.529	1.280	1.42	1.33	2100	2323	2280	3490	3760	4414	3970	143		
O	12.400	11.100	5.620	4.980	0.528	0.522	1.510	1.43	1.34	2090	2314	2210	3460	3730	4404	3980	141		
O	11.600	11.000	5.220	4.900	0.508	0.534	1.450	1.43	1.35	2080	2319	2270	3450	3740	4389	3980	141		
P	10.870		4.913	4.803	0.475	0.512	1.410	1.54			2225		3191	3931	4007		140	208	
P	10.796		4.866	4.772	0.463	0.506	1.426	1.59			2320		3207	3910	4039		140	206	
P	11.132		5.057	4.891	0.488	0.550	1.439	1.60			2308		3195	3869	4023		141	202	
P	11.360		5.141	4.905	0.491	0.559	1.451	1.59			2317		3241	3911	4043		144	209	
P	11.139		5.067	4.827	0.494	0.519	1.449	1.58			2323		3189	3859	4021		140	212	
P	11.009		5.030	4.876	0.482	0.521	1.416	1.58			2326		3185	3976	4037		140	213	
P	11.262		5.108	4.930	0.501	0.536	1.467	1.60			2316		3200	3933	4044		143	201	
P	11.606		5.157	4.937	0.505	0.826	1.476	1.60			2310		3222	3932	4049		142	201	
Q	10.870		4.870		0.500		1.460					2160				4351			3.25
Q	11.170		4.980		0.500		1.490					2194				4438			3.24
Q	11.360		5.090		0.520		1.510					2199				4492			3.24
Q	11.240		5.030		0.500		1.480					2195				4491			3.23
Q	11.240		5.050		0.500		1.490					2200				4491			3.23
Q	11.320		5.050		0.500		1.510					2172				4419			3.25
Q	11.000		4.930		0.480		1.460					2168				4441			3.24
Q	11.470		5.130		0.510		1.530					2184				4466			3.24
R	10.900		5.320		0.562	0.556	1.400								4130				
R	11.100		5.150		0.557	0.553	1.500								4160				
R	10.300		5.140		0.540	0.558	1.400								4180				
R	9.450		4.940		0.494	0.560	1.300								4080				
R	9.240		4.830		0.476	0.547	1.200								4100				
R	11.300		4.700		0.541	0.566	1.500								3930				
R	10.000		5.680		0.496	0.565	1.300								3980				
R	10.300		5.180		0.538	0.596	1.400								4000				
S	10.897		4.843		0.467		1.459					2390				4830			
S	10.939		4.883		0.461		1.461					2729				5137			
S	10.685		4.798		0.471		1.429					2613				5217			
S	11.129		4.901		0.490		1.488					2507				5160			
S	11.055		4.908		0.477		1.493					2379				4938			
S	10.800		4.794		0.477		1.497					2525				5098			
S	10.702		4.793		0.477		1.465					2478				5278			

Lab	Pt (NIS) g/t	Pt (Pb Collection) g/t	Pd (NIS) g/t	Pd (Pb Collection) g/t	Au (NIS) g/t	Au (Pb Collection) g/t	Ru (NIS) g/t	Cr (XRF) %	Cr (F) %	Cu (P) ppm	Cu (XRF) ppm	Cu (F) ppm	Ni (P) ppm	Ni (T) ppm	Ni (XRF) ppm	Ni (F) ppm	Co (P) ppm	Co (XRF) ppm	Pycnometer g/cc
T		10.985		4.931		0.498		1.49		2229	2250				4200		166	206	3.34
T		11.120		4.931		0.512		1.49		2253	2200				4130		161	210	3.33
T		11.192		4.942		0.509		1.51		2190	2290				4280		159	209	3.33
T		11.129		4.967		0.504		1.51		2174	2250				4210		157	213	3.34
T		11.446		4.989		0.496		1.53		2240	2310				4330		165	215	3.43
T		10.956		5.055		0.500		1.49		2188	2230				4190		163	205	3.42
T		10.775		4.986		0.504		1.57		2170	2330				4340		156	221	3.41
T		10.930		5.187		0.493		1.45		2200	2230				4170		160	203	3.38
U		10.800		5.090		0.510		1.47		2270	2080			3460	3710	4290	147	200	3.36
U		11.000		5.290		0.524		1.46		2300	2240			3450	3750	4310	146	200	3.34
U		11.200		5.330		0.548		1.47		2300	2160			3450	3810	4260	148	200	3.39
U		10.900		5.170		0.526		1.47		2310	2110			3460	3830	4300	152	200	3.41
U		11.200		5.270		0.537		1.46		2290	2200			3470	3810	4280	148	200	3.41
U		10.800		5.140		0.527		1.47		2310	2140			3440	3860	4280	147	200	3.38
U		11.300		5.410		0.551		1.46		2320	2090			3480	3770	4220	148	200	3.36
U		10.900		5.230		0.534		1.46		2310	2140			3470	3790	4240	148	200	3.40
V		10.800		4.940		0.577			1.39	2264					3571			150	
V		11.000		5.020		0.593			1.37	2235					3486			143	
V		11.100		5.010		0.580			1.38	2247					3537			146	
V		10.000		5.060		0.661			1.40	2222					3496			145	
V		11.100		5.100		0.653			1.38	2247					3560			147	
V		11.000		4.910		0.569			1.36	2262					3549			145	
V		10.700		5.060		0.612			1.41	2341					3680			145	
V		11.200		5.020		0.564			1.44	2223					3479			151	
W	9.960	8.780	4.380	4.110	0.370	0.370	1.530		1.46			2400				4100			3.23
W	9.890	10.200	4.350	4.940	0.330	0.410	1.490		1.46			2400				4100			3.25
W	9.900	9.440	4.770	4.490	0.400	0.400	1.620		1.46			2400				4100			3.26
W	10.100	10.400	4.520	4.730	0.370	0.490	1.520		1.45			2400				4100			3.24
W	10.200	9.330	4.570	4.450	0.360	0.380	1.550		1.46			2400				4100			3.26
W	9.600	9.270	4.430	4.430	0.360	0.390	1.430		1.45			2400				4200			3.24
W	9.990	8.570	4.470	4.270	0.320	0.350	1.540		1.36			2200				3800			3.21
W	10.500	10.100	4.790	4.840	0.390	0.420	1.590		1.45			2400				4200			3.30

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

1. ACME Analytical Laboratories Ltd. (Canada).
2. ALS Chemex (Canada).
3. ALS Chemex South Africa ( Pty ) Ltd.
4. Ammtec Ltd (Australia).
5. Anglo Research. (South Africa).
6. Anglo Platinum PPL (South Africa).
7. Anglo Platinum Research Center (ARC, South Africa).
8. Assayers Canada.
9. Barplats (South Africa).
10. Eastern Bushveld Research Laboratory (EBRL, Anglo Platinum, South Africa).
11. Genalysis Laboratory Services ( Pty ) Ltd. (Australia).
12. Geoscience Laboratories (Geo Labs, Canada).
13. Geological Survey of Finland (GTK) Geoservices, Assay Laboratory.
14. Innovative Metallurgical Products (Pty) Ltd. (South Africa).
15. Mintek (South Africa).
16. Quality Laboratory Services International (South Africa).
17. Anglo Platinum RPM Union (South Africa).
18. Set Point Laboratories ( Pty ) Ltd (South Africa).
19. SGS Lakefield Research Africa ( Pty ) Ltd. (South Africa).
20. SGS Welshpool Minerals (Australia).
21. SGS Lakefield Research (Canada).
22. Tati Nickel Laboratory (Botswana).
23. Ultra Trace ( Pty ) Ltd. (Australia).

**Availability:** This product is available in Laboratory Packs containing 1kg of material and Explorer Packs containing custom weights (of <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.

**Legal Notice:** This certificate and the reference material described in it have been prepared with due care and attention. However AMIS, Set Point Technology (Pty) Ltd, Mike McWha, Dr Barry Smee and Smee and Associates Ltd; accept no liability for any decisions or actions taken following the use of the reference material.

24 May 2006

**Certifying Officers:**



**African Mineral Standards:** \_\_\_\_\_

**Mike McWha**  
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**Geochemist:** \_\_\_\_\_

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