African Mineral Standards

Certificate of Analysis

Platreef Low Feed Grade
Platinum Ore Reference Material

Supplementary Certificate for the Major Elements

AMIS0056

Recommended Concentrations and two "Between Laboratory" Standard Deviations

Certified Concentrations

Al_2O_3	7.34	+-	0.16	%
CaO	11.68	+-	0.48	%
Cr_2O_3	0.19	+-	0.02	%
Fe_2O_3	10.04	+-	0.02	%
K_2O	0.15	+-	0.02	%
MgO	17.78	+-	0.46	%
MnO	0.19	+-	0.02	%
Na_2O	0.63	+-	0.06	%
SiO_2	47.00	+-	0.62	%
$S0_3$	2.41	+-	0.22	%
TiO_2	0.24	+-	0.02	%
LOI	4.43	+-	0.40	%

Provisional Concentrations

P_2O_5	0.03	+-	0.03	%

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SET POINT TECHNOLOGY

Intended Use: AMIS0056 is suitable for monitoring the accuracy of a single analysis for the major elements in the 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.

AMIS0056, has also been certified for the PGE's, Co, Cu, Cr, Ni and Specific Gravity.

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. It is primarily a PGE standard, but has also been certified for these other elements at the request of customers.

Mineral Composition: The other currently certified values for this material are:

Certified Concentrations*

Pt (Pb Collection)	0.81	+-	0.10	g/t
Pt (NIS)	0.82	+-	0.08	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
Ir (NiS)	0.010	+-	0.002	g/t
Rh	0.042	+-	0.010	g/t
Au (Pb Collection)	0.16	+-	0.02	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

data for these elements are available on a separate certificate.

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% <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 of the consensus test results were carried out by an independent statistician Dr BW Smee.

Method of Analysis:

1. Multi element XRF scan.
2. Multi element ICP scan (results K, L and M).

Method of Certification: Thirteen laboratories were each given eight packages of sample selected from throughout the batch.

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 ±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.

Lab Code	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	SO3 %	TiO2 %	LOI %
A	7.28	12.04		10.12	0.15	17.71	0.19	0.60	0.03	47.33		0.26	3.59
A	7.33	12.04		10.14	0.15	17.71	0.19	0.58	0.03	47.27		0.27	3.60
A	7.31	12.07		10.14	0.15	17.74	0.19	0.59	0.03	47.20		0.26	3.58
A	7.25	11.97		10.05	0.14	17.68	0.19	0.58	0.03	47.07		0.27	3.70
A	7.33	12.10		10.11	0.14	17.81	0.19	0.60	0.03	47.43		0.28	3.75
A	7.22	12.05		10.09	0.14	17.73	0.19	0.60	0.03	47.07		0.27	3.63
A	7.34	12.01		10.05	0.15	17.62	0.19	0.58	0.03	47.12		0.26	3.85
A	7.34	12.08		10.15	0.15	17.82	0.19	0.60	0.03	47.25		0.26	3.73
B	7.11	11.58	0.15	10.06	0.20	17.77	0.16	0.69	0.03	47.15	2.73	0.23	4.30
B	6.89	11.52	0.15	10.03	0.14	17.86	0.16	0.66	0.01	47.03	2.79	0.23	4.23
B	6.79	11.36	0.15	9.91	0.14	17.67	0.16	0.68	0.01	47.04	2.78	0.22	4.18
B	6.94	11.62	0.15	10.07	0.14	17.96	0.16	0.66	0.01	47.36	2.78	0.23	4.30
B	6.94	11.53	0.15	10.04	0.14	17.98	0.16	0.63	0.01	47.24	2.73	0.23	4.33
B	6.77	11.34	0.15	9.94	0.14	17.72	0.16	0.64	0.01	47.17	2.74	0.22	4.29
B	6.97	11.53	0.15	10.07	0.14	17.83	0.16	0.66	0.02	47.11	2.78	0.22	4.24
B	6.89	11.52	0.16	10.05	0.14	17.94	0.16	0.66	0.01	47.13	2.77	0.23	4.38
C	7.30	11.90	0.19	9.89	0.14	17.50	0.19	0.62	0.03	46.98	2.44	0.25	
C	7.30	11.90	0.19	9.97	0.14	17.50	0.19	0.63	0.03	46.94	2.43	0.25	
C	7.31	11.90	0.19	9.97	0.14	17.50	0.19	0.63	0.03	47.02	2.45	0.25	
C	7.31	12.00	0.19	9.97	0.14	17.60	0.19	0.62	0.03	46.94	2.43	0.25	
C	7.30	11.90	0.19	9.97	0.14	17.50	0.19	0.63	0.03	46.97	2.44	0.25	
C	7.30	11.90	0.19	9.89	0.14	17.50	0.19	0.63	0.03	46.96	2.44	0.25	
C	7.30	11.90	0.19	9.89	0.14	17.50	0.19	0.63	0.03	47.03	2.44	0.25	
C	7.33	12.00	0.19	9.97	0.14	17.50	0.19	0.63	0.03	47.17	2.44	0.25	

Lab Code	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	SO3 %	TiO2 %	LOI %
D	7.29	11.70	0.19	10.10	0.15	17.70	0.19	0.64	0.03	47.30	2.51	0.24	4.22
D	7.29	11.70	0.19	10.10	0.14	17.60	0.19	0.62	0.03	47.20	2.43	0.25	4.17
D	7.29	11.80	0.19	10.10	0.14	17.60	0.19	0.63	0.03	47.30	2.48	0.24	4.19
D	7.25	11.80	0.19	10.20	0.14	17.60	0.19	0.63	0.03	47.00	2.49	0.25	4.21
D	7.28	11.70	0.19	10.10	0.14	17.60	0.18	0.63	0.03	47.30	2.47	0.25	4.16
D	7.33	11.80	0.19	10.10	0.15	17.70	0.19	0.63	0.03	47.40	2.49	0.25	4.10
D	7.28	11.70	0.19	10.10	0.15	17.60	0.19	0.64	0.03	47.30	2.50	0.24	4.18
D	7.30	11.70	0.19	10.10	0.15	17.70	0.19	0.63	0.03	47.20	2.49	0.24	4.13
E	7.28	11.30	0.15	5.95	0.13	16.80	0.14		0.02	45.40	2.45	0.23	4.68
E	7.22	11.25	0.15	5.93	0.13	16.65	0.14		0.01	45.30	2.40	0.23	4.66
E	7.19	11.25	0.15	5.95	0.13	16.75	0.15		0.02	45.45	2.45	0.23	4.56
E	7.26	11.25	0.15	5.94	0.13	16.80	0.15		0.02	45.50	2.45	0.23	4.53
E	7.24	11.25	0.15	5.89	0.13	16.65	0.15		0.01	45.35	2.40	0.22	4.56
E	7.27	11.30	0.15	5.96	0.13	16.80	0.14		0.01	45.60	2.42	0.23	2.73
E	7.30	11.25	0.15	5.92	0.14	16.75	0.15		0.01	45.55	2.45	0.22	3.76
E	7.19	11.25	0.15	5.92	0.13	16.70	0.15		0.01	45.25	2.42	0.23	4.65
F	7.40	11.70	0.19	9.92	0.14	17.80	0.18	0.63	0.03	46.60		0.23	4.56
F	7.36	11.70	0.19	9.98	0.15	17.70	0.19	0.63	0.03	46.70		0.24	4.53
F	7.48	11.90	0.19	10.10	0.15	18.00	0.18	0.64	0.02	47.20		0.24	4.53
F	7.42	12.00	0.19	10.20	0.14	17.90	0.19	0.65	0.03	47.50		0.23	4.24
F	7.40	11.80	0.19	10.00	0.14	17.80	0.18	0.64	0.03	46.80		0.24	4.52
F	7.42	12.00	0.19	10.20	0.15	17.90	0.19	0.66	0.02	47.60		0.23	3.71
F	7.40	11.90	0.19	10.10	0.16	17.80	0.19	0.64	0.03	47.10		0.24	4.49
F	7.44	12.00	0.19	10.10	0.14	17.90	0.19	0.64	0.03	47.60		0.25	4.44
G	7.42	11.37	0.18	10.00	0.14	18.10	0.17	0.56	0.02	46.40	2.22	0.24	
G	7.45	11.45	0.18	10.06	0.13	18.20	0.17	0.56	0.03	46.60	2.24	0.24	
G	7.47	11.42	0.18	10.05	0.14	18.10	0.17	0.55	0.03	46.40	2.22	0.24	
G	7.46	11.45	0.18	10.07	0.13	18.20	0.17	0.55	0.03	46.60	2.23	0.24	
G	7.43	11.43	0.18	10.04	0.13	18.20	0.17	0.56	0.02	46.60	2.22	0.24	
G	7.43	11.43	0.18	10.03	0.13	18.20	0.17	0.57	0.03	46.50	2.22	0.24	
G	7.41	11.40	0.18	10.01	0.13	18.10	0.17	0.56	0.03	46.50	2.21	0.24	
G	7.46	11.44	0.18	10.06	0.13	18.20	0.17	0.55	0.03	46.50	2.22	0.24	
H	7.23	11.65	0.19	9.96	0.15	17.65	0.19	0.38	0.03	47.03		0.30	4.42
H	7.24	11.66	0.19	9.97	0.15	17.74	0.19	0.38	0.03	46.93		0.31	4.43
H	7.25	11.70	0.19	9.99	0.15	17.64	0.19	0.39	0.03	46.98		0.31	4.44
H	7.24	11.70	0.19	9.95	0.15	17.65	0.19	0.39	0.03	46.94		0.31	4.39
H	7.24	11.68	0.19	9.99	0.15	17.69	0.19	0.39	0.03	46.98		0.31	4.36
H	7.25	11.68	0.19	9.97	0.15	17.63	0.19	0.39	0.03	46.95		0.31	4.38
H	7.22	11.68	0.19	9.98	0.15	17.69	0.19	0.38	0.03	47.04		0.30	4.39
H	7.24	11.67	0.18	9.96	0.15	17.65	0.19	0.38	0.03	46.91		0.31	4.36
I	7.34	11.70	0.18	10.06	0.14	17.59	0.18	0.59	0.03	46.66	2.52	0.25	3.25
I	7.39	11.81	0.19	10.14	0.14	17.72	0.18	0.61	0.02	47.14	2.52	0.25	3.30
I	7.45	11.85	0.19	10.24	0.14	17.77	0.18	0.62	0.03	47.24	2.57	0.25	3.39
I	7.47	11.87	0.19	10.21	0.15	17.83	0.18	0.62	0.03	47.29	2.55	0.25	3.42
I	7.43	11.75	0.19	10.08	0.15	17.71	0.18	0.61	0.03	47.05	2.55	0.25	3.76
I	7.53	12.02	0.19	10.33	0.15	18.07	0.18	0.63	0.02	47.82	2.60	0.26	3.65
I	7.48	11.91	0.19	10.26	0.15	17.91	0.18	0.62	0.03	47.50	2.57	0.26	3.34
I	7.54	11.97	0.19	10.31	0.15	18.03	0.18	0.63	0.03	47.93	2.57	0.25	3.09
J	7.36	11.59	0.17	9.94	0.15	17.78	0.18	0.59	0.03	46.40	2.42	0.24	4.74
J	7.33	11.62	0.17	9.97	0.16	17.80	0.18	0.60	0.03	46.18	2.42	0.24	4.70
J	7.41	11.72	0.16	10.02	0.16	17.93	0.18	0.60	0.03	46.49	2.25	0.24	4.63
J	7.40	11.69	0.17	10.02	0.16	17.91	0.18	0.59	0.03	46.74	2.27	0.24	4.70
J	7.43	11.71	0.17	10.02	0.16	17.96	0.18	0.58	0.03	46.62	2.27	0.24	4.70
J	7.40	11.54	0.17	9.95	0.16	17.82	0.18	0.60	0.03	46.42	2.35	0.24	4.56
J	7.36	11.55	0.16	9.87	0.16	17.77	0.18	0.59	0.03	46.37	2.32	0.24	4.70
J	7.39	11.56	0.16	9.92	0.16	17.75	0.18	0.60	0.03	46.51	2.37	0.24	4.64
K	7.31	11.54		10.20	0.15	18.12	0.19	0.66	0.03			0.24	
K	7.35	11.52		10.33	0.15	18.19	0.19	0.66	0.03			0.24	
K	7.24	11.40		10.13	0.14	17.98	0.19	0.65	0.03			0.23	
K	7.29	11.44		10.24	0.15	18.04	0.19	0.66	0.03			0.24	
K	7.29	11.40		10.62	0.15	18.13	0.19	0.66	0.03			0.24	
K	7.23	11.30		10.20	0.14	17.89	0.18	0.65	0.03			0.23	
K	7.33	11.47		10.31	0.15	18.14	0.19	0.66	0.03			0.24	
K	7.30	11.43		10.26	0.15	18.05	0.19	0.66	0.03			0.24	
L	7.37	11.72	0.18	10.01	0.15	17.55	0.18	0.65	0.03	46.79		0.24	4.60
L	7.44	11.78	0.19	10.04	0.15	17.59	0.18	0.65	0.04	47.10		0.24	4.20
L	7.31	11.67	0.18	9.88	0.15	17.29	0.18	0.64	0.04	47.53		0.24	4.50
L	7.44	11.81	0.19	10.02	0.15	17.49	0.18	0.65	0.03	46.88		0.24	4.40
L	7.40	11.66	0.19	9.82	0.14	17.34	0.18	0.64	0.03	47.13		0.24	4.70
L	7.43	11.68	0.19	9.94	0.14	17.34	0.18	0.64	0.02	47.15		0.24	4.50
L	7.43	11.76	0.19	9.98	0.14	17.38	0.18	0.65	0.04	46.88		0.24	4.60
L	7.37	11.74	0.19	9.91	0.15	17.18	0.18	0.64	0.03	47.28		0.24	4.60
M	7.37	11.63	0.18	10.47	0.16	17.36	0.18	0.66	0.04			0.23	
M	7.94	12.55	0.20	11.25	0.16	18.75	0.20	0.71	0.04			0.25	
M	7.67	12.08	0.19	10.84	0.16	18.05	0.19	0.69	0.04			0.23	
M	7.45	11.75	0.19	10.59	0.14	17.57	0.19	0.66	0.04			0.23	
M	7.47	11.77	0.19	10.61	0.14	17.62	0.19	0.66	0.04			0.23	
M	7.88	12.44	0.20	11.17	0.16	18.60	0.20	0.70	0.04			0.25	
M	7.47	11.75	0.19	10.57	0.14	17.59	0.19	0.66	0.04			0.23	
M	7.73	12.12	0.19	10.89	0.16	18.09	0.19	0.69	0.04			0.23	

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, (Vancouver, Canada).
4. Amdel Limited, (Perth, Australia).
5. Assayers Canada, (Vancouver).
6. Genalysis Laboratory Services (Pty) Ltd., (Australia).
7. Geoscience Laboratories, (Geo Labs, Sudbury, Canada).
8. Geoservice Centre, Geolaboratory, (GTK. Finland).
9. OMAC Laboratories (Ireland).
10. Set Point Laboratories (Pty) Ltd (South Africa)
11. SGS Lakefield Research (Canada)
12. SGS Welshpool (Australia).
13. Ultra Trace (Pty) Ltd. (Australia)

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.

Legal Notice: This certificate and the reference material described in it have been prepared with due care and attention. However African Mineral Standards, 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.

18 October 2007

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