

African Mineral Standards

Gold and Uranium Ore Witwatersrand Reference Material High Ore Grade

AMIS0076

Certificate of Analysis

Certified Concentration and two "Between Laboratory" Standard Deviations (trace elements)

Au (Pb Collection)	36.5	±	1.8	g/t
U (T/ICP)*	1502	±	166	ppm
U (XRF)*	1529	±	74	ppm
As (T/ICP)	556	±	58	ppm
Co (T/ICP)	119	±	12	ppm
Cu (T/ICP)	86	±	10	ppm
Specific Gravity	2.72	±	0.14	g/cc

Provisional Concentration and two "Between Laboratory" Standard Deviations (trace elements)

Ag (T)	4.2	±	0.800	ppm
Cd	0.82	±	0.16	ppm
Mo	8.6	±	1.6	ppm
Nb	9	±	2	ppm
Ni (T/ICP)	191	±	22	ppm
Pb (T/ICP)	697	±	94	ppm
Zn (T/ICP)	443	±	84	ppm

(* Or, by applying a chemical conversion factor of $U \times 1.1793 = U_3O_8$
 U_3O_8 by multi acid digestion: 1771 ± 196 ppm
 U_3O_8 by XRF: 1803 ± 87 ppm)

**Certified Concentration and two “Between Laboratory” Standard Deviations
(major elements)**

Al ₂ O ₃	3.22	±	0.14	%
CaO	0.31	±	0.02	%
Cr ₂ O ₃	0.15	±	0.02	%
Fe ₂ O ₃	5.44	±	0.18	%
K ₂ O	0.46	±	0.02	%
LOI	2.87	±	0.24	%
S	2.3	±	0.26	%
SiO ₂	85.8	±	2.1	%
TiO ₂	0.18	±	0.02	%

**Provisional Concentration and two “Between Laboratory” Standard Deviations
(major elements)**

MgO	0.55	±	0.12	%
MnO	0.05	±	0.008	%
P ₂ O ₅	0.04	±	0.01	%

Indicated Mean (major elements)

Na ₂ O	0.14	%
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Intended use: AMIS0076 was primarily produced to monitor the accuracy of a single analysis of gold ores hosted by siliceous rocks.

The additional geochemical data gathered however also enables its use as a uranium standard and for routine quality control during geochemical exploration programs, by insertion within a batch of stream sediment or soil samples.

It can also be used by laboratories 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 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 from grade-sorted pulp rejects sourced from Anglo Gold Ashanti mine assay laboratories in South Africa. It represents sample material from the basal contacts of the Vaal Reef and the Carbon Leader Reef collected during routine underground sampling.

Mineral and chemical composition: The major gangue mineral is quartz with minor pyrite, uraninite and thucolite. Gold occurs primarily as discrete grains.

Method of preparation: The material was crushed, dry-milled and air-classified to 100% <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. Samples were randomly selected for homogeneity testing and third party analysis. Statistical analysis for the consensus test results were carried out by an independent statistician. Explorer Packs are subdivided from the Laboratory packs as required.

Methods of analysis requested:

1. Au. ICP-OES, Pb collection.
2. SG (gas pycnometer)
3. Multi-acid total digestion, including HF, ICP-OES or MS multi-element scan.
4. XRF fusion whole rock analysis.

Method of certification: Twenty five laboratories were each given eight randomly selected packages of sample. The results from the nineteen laboratories that issued results timeously were used for the Au, U and SG determinations. Results from fifteen laboratories that reported multi-element scans and whole rock analyses were used for the major minor element determinations. Results for all of the methods are set out below:

Trace Elements and Specific Gravity

Lab Code	Ag (T) ppm	As (T) ppm	Au g/t	Cd ppm	Co (T) ppm	Cu (T) ppm	Mo (T) ppm	Nb (T) ppm	Ni (T) ppm	Pb (T) ppm	U (T) ppm	U (XRF) ppm	Zn (T) ppm	SG g/cc
B			37.33									1409		2.67
B			36.44									1403		2.73
B			36.72									1403		2.56
B			36.19									1409		2.54
B			36.69									1435		2.73
B			36.51									1389		2.65
B			36.49									1411		2.73
B			36.83									1408		2.57
D			34.33											
D			33.15											
D			34.40											
D			33.70											
D			34.30											
D			33.48											
D			34.25											
D			32.38											
E		569	35.58	0.80	122	91	12.20	9.29	193	741	1519	1536	499	2.79
E		559	34.94	0.80	121	89	11.50	9.25	192	713	1475	1551	472	2.72
E		558	35.43	0.80	118	92	12.20	9.63	197	715	1471	1550	494	2.78
E		561	36.97	0.80	120	88	12.00	9.66	192	722	1480	1552	476	2.80
E		563	36.01	0.80	122	91	12.40	10.15	193	700	1452	1546	500	2.78
E		572	34.43	0.70	122	90	12.20	9.80	192	716	1476	1546	480	2.79
E		556	34.73	0.80	119	88	12.30	9.71	189	728	1508	1548	476	2.73
E		552	35.66	0.80	120	90	12.10	9.54	190	704	1442	1544	481	2.79
F	5.00	591	36.50		118	88	9.00	6.00	206	747			467	2.49
F	5.00	599	36.50		118	88	8.00	6.00	207	733			469	2.58
F	4.90	599	36.90		119	88	9.00	6.00	205	734			468	2.54
F	5.20	616	36.80		122	91	9.00	6.00	210	754			487	2.54
F	5.00	602	36.90		118	89	9.00	7.00	206	735			472	2.38
F	5.20	607	36.80		120	90	9.00	6.00	211	750			479	2.62
F	4.90	599	36.50		119	92	9.00	6.00	211	741			496	2.54
F	5.00	599	37.00		119	87	8.00	7.00	205	733			463	2.54
G	3.50	529	36.80		130	94	8.50	7.50	208	637	1510		470	2.81
G	3.50	529	36.90		130	96	8.50	7.50	208	653	1580		478	2.84
G	3.50	525	37.00		130	94	8.00	7.50	206	616	1500		472	2.82
G	3.50	528	36.80		130	88	8.00	7.00	208	635	1520		480	2.81
G	3.50	530	36.70		130	90	8.50	6.50	208	633	1540		472	2.81
G	3.50	519	36.60		125	92	8.00	7.00	206	625	1520		470	2.77
G	3.50	519	37.40		125	88	8.00	7.00	208	632	1530		480	2.78
G	3.50	538	36.80		130	88	8.00	7.50	210	637	1540		474	2.81

Trace Elements (cont)

Lab Code	Ag (T) ppm	As (T) ppm	Au g/t	Cd ppm	Co (T) ppm	Cu (T) ppm	Mo (T) ppm	Nb (T) ppm	Ni (T) ppm	Pb (T) ppm	U (T) ppm	U (XRF) ppm	Zn (T) ppm	SG g/cc
H		579	38.00	4.90		21					1567	1565		2.81
H		569	37.34	4.10		22					1581	1553		2.81
H		588	35.96	5.00		22					1587	1552		2.79
H		594	36.46	5.00		22					1552	1555		2.80
H		556	36.00	5.00		20					1532	1558		2.81
H		528	35.81	4.50		21					1521	1571		2.81
H		526	37.13	4.00		21					1496	1559		2.81
H		528	37.61	4.10		19					1519	1573		2.81
I			38.20											
I			37.80											
I			37.90											
I			36.90											
I			36.90											
I			37.40											
I			37.20											
I			37.00											
J			37.12											
J			38.24											
J			37.56											
J			36.80											
J			36.40											
J			35.16											
J			36.72											
J			36.40											
K	4.20	550	38.00		128	96	9.10	10.10	206	790		1540	521	
K	4.20	550	35.60		128	95	8.80	9.60	208	800		1530	517	
K	4.40	550	35.10		126	94	9.00	9.50	205	800		1550	509	
K	4.20	530	32.40		128	95	9.20	9.20	207	800		1550	519	
K	4.20	540	34.70		125	93	8.60	9.20	205	790		1540	511	
K	4.30	540	35.10		128	96	8.80	9.40	206	800		1520	514	
K	4.10	550	33.80		127	96	8.90	9.30	207	800		1540	514	
K	4.20	540	32.80		126	96	8.80	9.40	207	800		1510	513	
L														
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L														
M	5.00	470	35.70		110	87			180	650	1500	1700	410	2.75
M	4.00	440	35.90		110	85			180	630	1500	1700	380	2.71
M	4.00	490	37.30		110	88			180	630	1600	1600	380	2.73
M	4.00	460	36.90		110	88			180	640	1500	1700	390	2.75
M	4.00	470	37.00		110	87			180	630	1500	1700	400	2.74
M	3.00	510	36.90		110	88			180	650	1600	1700	390	2.75
M	4.00	490	37.10		110	89			180	650	1600	1700	400	2.75
M	4.00	420	36.30		110	89			180	650	1600	1700	400	2.76
N			36.70									1506		
N			36.20									1509		
N			36.40									1503		
N			37.40									1506		
N			37.10									1509		
N			36.90									1471		
N			37.10									1519		
N			36.80									1495		
O	0.16	546	36.30	0.70	107	89	8.10	8.30	235	547	1180	1578	539	2.73
O	0.74	460	36.10	0.80	118	102	6.90	8.80	173	584	1130	1544	399	2.78
O	0.82	506	34.20	0.60	94	74	7.30	7.10	204	409	903	1595	451	2.68
O	1.02	535	36.30	0.70	100	83	8.00	8.20	221	552	1140	1578	503	2.85
O	1.06	435	36.30	0.80	107	91	7.30	8.60	173	590	1120	1552	394	2.65
O	1.35	430	36.00	0.80	116	98	7.20	8.60	169	595	1120	1578	396	2.68
O	0.76	523	36.20	0.70	93	80	8.00	8.20	203	528	1050	1552	467	2.64
O	1.11	505	36.00	0.70	99	84	8.10	7.70	208	572	1150	1578	484	2.68
P	4.90	536	37.00	0.90	118	85	9.00	8.50	189	687	1480		420	
P	4.50	513	35.79	0.90	109	83	9.10	8.60	177	668	1460		408	
P	4.80	529	37.99	0.90	112	86	9.20	8.60	184	695	1500		421	
P	4.40	529	36.98	0.90	111	83	8.80	8.70	180	683	1490		420	
P	4.60	516	36.22	0.90	109	85	8.60	8.30	178	678	1470		413	
P	4.40	528	36.75	0.90	111	88	8.80	8.30	185	689	1500		425	
P	4.60	530	36.50	0.90	112	89	9.00	8.20	182	699	1560		427	
P	4.30	517	36.38	0.90	111	85	9.00	8.60	178	684	1490		411	

Trace Elements (cont)

Lab Code	Ag (T) ppm	As (T) ppm	Au g/t	Cd ppm	Co (T) ppm	Cu (T) ppm	Mo (T) ppm	Nb (T) ppm	Ni (T) ppm	Pb (T) ppm	U (T) ppm	U (XRF) ppm	Zn (T) ppm	SG g/cc
Q				0.37	111	79	9.26	10.67	184	135			362	
Q				0.35	114	80	9.61	10.67	189	136			381	
Q				0.35	112	78	10.28	10.71	183	135			370	
Q				0.37	112	80	9.78	10.93	189	135			376	
Q				0.37	115	77	9.66	10.62	185	134			365	
Q				0.34	117	80	9.58	10.81	186	129			378	
Q				0.35	114	78	9.58	10.87	188	129			372	
Q				0.35	118	83	9.75	10.82	190	128			377	
R	4.15	568	32.30	0.87	120	80	8.97	9.80	179	585	1320		438	2.68
R	4.43	590	33.90	0.89	123	82	9.50	10.00	184	695	1560		451	2.65
R	4.37	583	36.90	0.90	125	83	9.41	10.20	180	716	1590		440	2.71
R	4.29	591	33.80	0.89	122	81	9.09	10.00	182	663	1470		445	2.67
R	4.75	598	34.80	0.91	128	83	9.25	10.10	185	715	1620		455	2.66
R	4.51	569	34.90	0.84	122	82	9.03	9.90	177	691	1520		442	2.66
R	4.28	577	34.60	0.87	123	81	8.99	9.80	181	681	1500		446	2.68
R	4.31	560	36.60	0.88	121	80	9.32	10.10	179	705	1570		438	2.67
S	4.29	552	38.10	0.89	125	89	8.72	9.20	188	663	1390	1470	423	2.61
S	4.29	559	38.50	0.91	124	87	8.61	9.10	186	663	1430	1480	426	2.62
S	4.30	552	38.70	0.90	121	87	8.57	9.00	186	666	1410	1470	424	2.60
S	4.19	550	38.40	0.90	121	87	8.42	8.80	186	661	1360	1490	419	2.61
S	4.34	543	37.50	0.89	121	87	8.38	8.90	183	656	1380	1460	411	2.61
S	4.23	563	38.70	0.93	125	90	9.04	9.10	188	681	1450	1480	429	2.62
S	4.35	557	38.30	0.89	124	89	8.67	9.10	187	674	1410	1490	423	2.62
S	4.44	558		0.90	126	89	8.61	9.10	190	683	1380	1480	427	2.60
T	4.44	589	35.40	0.89	126	83	9.92	9.20	191	687	1490	1500	461	2.64
T	3.59	579	35.80	0.82	108	76	8.02	8.40	184	679	1470	1600	456	2.62
T	4.48	594	36.90	0.85	125	83	9.63	9.50	191	692	1510	1600	463	2.78
T	4.51	605	36.30	0.87	127	82	9.89	9.40	194	699	1540	1500	471	2.72
T	4.26	584	36.70	0.84	121	80	9.51	9.20	182	678	1440	1500	452	2.73
T	4.11	586	37.40	0.80	121	80	9.42	8.80	188	694	1490	1500	468	2.74
T	4.36	559	36.90	0.86	122	81	9.77	9.30	187	691	1470	1500	457	2.77
T	4.30	536	36.20	0.79	116	77	9.15	8.90	176	652	1410	1600	428	2.79
U		433	33.76	1.20	121	85	7.10	8.20	191	761	1396		464	2.72
U		412	32.29	1.20	117	80	8.30	9.80	186	713	1371		443	2.71
U		416	31.19	0.80	117	84	8.00	10.60	189	721	1271		452	2.72
U		418	30.63	1.20	116	84	7.20	9.50	182	738	1361		437	2.70
U		433	33.56	0.90	118	83	7.80	8.60	182	701	1285		449	2.72
U		427	34.18	1.30	119	92	8.90	8.40	187	714	1330		446	2.74
U		412	33.32	0.70	117	83	8.00	7.00	188	724	1332		435	2.73
U		409	37.39	0.90	118	86	7.80	6.70	179	721	1334		431	2.74
V	4.01	588	36.48	0.77	120	89	8.89	8.25	198	685	1626		470	2.70
V	3.95	586	36.32	0.76	121	89	8.66	8.37	202	697	1648		470	2.73
V	3.95	585	36.32	0.79	120	90	8.73	8.31	199	693	1627		465	2.65
V	3.86	589	36.19	0.79	122	92	8.71	8.45	206	703	1655		473	2.66
V	3.90	583	36.08	0.80	121	91	8.83	8.52	203	694	1642		474	2.69
V	3.97	586	36.52	0.82	120	90	8.72	8.64	201	692	1632		472	2.67
V	4.08	570	36.17	0.79	120	89	8.55	8.45	197	692	1620		471	2.72
V	3.84	578	36.02	0.79	120	89	8.58	8.24	199	687	1628		465	2.65
W		532	36.30	0.79	114	82	7.46		179	126	1210	1527	395	
W		507	35.40	0.75	107	78	6.38		169	120	1190	1526	370	
W		513	34.40	0.78	107	78	6.79		171	118	1210	1486	378	
W		518	36.20	0.66	111	81	6.81		177	122	1230	1490	381	
W		553	35.20	0.66	115	84	8.14		185	130	1220	1502	405	
W		517	35.80	0.68	112	80	7.13		176	120	1220	1495	390	
W		530	36.10	0.61	110	81	7.01		177	122	1230	1501	390	
W		532	35.80	0.39	112	81	7.20		178	121	1250	1489	392	

Major Elements

Lab Codes	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	LOI %	MgO %	MnO %	Na2O %	P2O5 %	S %	SiO2 %	TiO2 %
E	3.33	0.33	0.15	5.43	0.47	3.01	0.56	0.04	0.17	0.04	1.89	86.98	0.18
E	3.33	0.30	0.15	5.33	0.47	3.01	0.57	0.04	0.18	0.04	1.99	86.60	0.17
E	3.28	0.30	0.15	5.36	0.47	3.02	0.55	0.04	0.18	0.04	2.02	86.84	0.18
E	3.26	0.30	0.15	5.33	0.47	3.01	0.56	0.04	0.17	0.04	2.02	86.59	0.17
E	3.25	0.30	0.15	5.35	0.47	2.99	0.56	0.04	0.17	0.04	2.06	86.30	0.18
E	3.27	0.30	0.16	5.36	0.47	2.98	0.56	0.04	0.17	0.04	1.86	86.97	0.18
E	3.26	0.30	0.15	5.33	0.47	2.96	0.56	0.04	0.17	0.04	1.95	86.80	0.17
E	3.26	0.30	0.15	5.35	0.47	2.94	0.55	0.04	0.17	0.04	2.00	86.67	0.17
F	3.22	0.28	0.15	5.49	0.47	2.90	0.44	0.05	0.15	0.04		84.40	0.17
F	3.16	0.29	0.14	5.50	0.45	2.90	0.47	0.05	0.15	0.04		84.60	0.17
F	3.20	0.29	0.14	5.51	0.45	2.90	0.50	0.05	0.15	0.04		84.50	0.16
F	3.17	0.28	0.13	5.41	0.45	3.00	0.43	0.05	0.15	0.04		84.60	0.16
F	3.19	0.28	0.13	5.49	0.46	3.00	0.43	0.05	0.15	0.04		84.40	0.17
F	3.20	0.29	0.13	5.50	0.46	2.90	0.45	0.05	0.15	0.04		84.50	0.17
F	3.16	0.28	0.15	5.45	0.46	3.00	0.41	0.05	0.15	0.04		84.00	0.16
F	3.18	0.28	0.16	5.49	0.45	3.00	0.42	0.05	0.15	0.04		84.60	0.17
G	3.23	0.31	0.16	5.45	0.47	2.72	0.55	0.05	0.14		2.38	86.40	0.18
G	3.23	0.31	0.16	5.45	0.47	2.70	0.56	0.05	0.14		2.42	86.45	0.18
G	3.24	0.30	0.16	5.45	0.47	2.79	0.56	0.05	0.14		2.40	86.46	0.18
G	3.24	0.31	0.16	5.44	0.47	2.73	0.56	0.05	0.14		2.39	86.38	0.18
G	3.23	0.31	0.16	5.45	0.47	2.75	0.56	0.05	0.15		2.40	86.38	0.18
G	3.25	0.31	0.16	5.45	0.47	2.81	0.55	0.05	0.14		2.36	86.46	0.18
G	3.24	0.31	0.16	5.45	0.47	2.75	0.56	0.05	0.15		2.36	86.44	0.18
G	3.24	0.31	0.16	5.45	0.47	2.74	0.56	0.05	0.14		2.40	86.45	0.18
H	2.88	0.33	0.14	5.40	0.43	2.84	0.43	0.04	0.17	0.02	2.20	85.10	0.17
H	2.92	0.34	0.14	5.41	0.42	2.78	0.45	0.04	0.18	0.02	2.19	85.07	0.18
H	2.88	0.33	0.13	5.38	0.41	2.81	0.44	0.04	0.16	0.02	2.18	84.86	0.17
H	3.06	0.33	0.14	5.37	0.42	2.78	0.44	0.04	0.16	0.02	2.16	84.29	0.17
H	2.85	0.33	0.13	5.35	0.41	2.83	0.43	0.04	0.16	0.02	2.15	84.51	0.17
H	2.80	0.33	0.14	5.42	0.43	2.77	0.46	0.04	0.19	0.02	2.15	85.03	0.18
H	2.92	0.34	0.14	5.46	0.45	2.80	0.42	0.04	0.17	0.02	2.15	85.15	0.18
H	2.83	0.34	0.14	5.44	0.44	2.79	0.43	0.04	0.15	0.02	2.19	85.05	0.18
K	3.14	0.30	0.15	5.46	0.47	2.91	0.56	0.05	0.13	0.03	1.89	85.50	0.18
K	3.15	0.30	0.15	5.46	0.48	2.97	0.57	0.05	0.13	0.03	1.99	85.50	0.18
K	3.17	0.31	0.15	5.45	0.47	2.85	0.56	0.05	0.13	0.03	2.02	85.60	0.18
K	3.14	0.30	0.15	5.45	0.47	2.95	0.56	0.05	0.13	0.03	2.02	85.60	0.19
K	3.19	0.30	0.16	5.44	0.47	2.90	0.58	0.05	0.14	0.03	2.06	85.60	0.18
K	3.13	0.30	0.15	5.45	0.47	2.83	0.57	0.05	0.14	0.03	1.86	85.70	0.18
K	3.15	0.30	0.15	5.46	0.47	2.89	0.57	0.05	0.14	0.03	1.95	85.60	0.18
K	3.15	0.30	0.15	5.48	0.48	2.86	0.57	0.05	0.14	0.03	2.00	85.80	0.18
M	3.18	0.30	0.15	5.35	0.46	2.91	0.58	0.05	0.15	0.03		84.90	0.18
M	3.21	0.29	0.14	5.32	0.46	2.95	0.59	0.04	0.16	0.04		85.30	0.19
M	3.25	0.31	0.14	5.40	0.46	2.98	0.63	0.04	0.11	0.04		85.60	0.19
M	3.23	0.30	0.15	5.40	0.47	2.94	0.61	0.05	0.11	0.05		85.00	0.18
M	3.20	0.31	0.15	5.37	0.45	2.79	0.65	0.04	0.14	0.04		85.30	0.18
M	3.19	0.30	0.15	5.39	0.47	2.91	0.60	0.05	0.11	0.05		85.10	0.18
M	3.22	0.31	0.15	5.42	0.47	2.97	0.63	0.06	0.12	0.04		85.20	0.18
M	3.22	0.31	0.15	5.37	0.45	2.94	0.58	0.05	0.10	0.05		85.70	0.18
O	3.30	0.32	0.13	5.49	0.50	3.17	0.60	0.05	0.16	0.05		86.03	0.18
O	3.22	0.30	0.14	5.43	0.48	3.09	0.58	0.05	0.16	0.04		85.49	0.18
O	3.19	0.31	0.13	5.44	0.47	3.08	0.59	0.05	0.16	0.05		85.33	0.18
O	3.30	0.32	0.14	5.48	0.48	3.00	0.60	0.05	0.15	0.04		86.47	0.19
O	3.28	0.31	0.14	5.51	0.50	2.96	0.57	0.05	0.18	0.05		86.52	0.18
O	3.23	0.30	0.13	5.44	0.48	3.04	0.58	0.05	0.14	0.04		86.06	0.18
O	3.22	0.32	0.13	5.47	0.49	3.09	0.58	0.05	0.15	0.04		86.14	0.18
O	3.24	0.31	0.14	5.50	0.49	3.01	0.60	0.05	0.21	0.04		86.13	0.18
P	4.36	0.42	0.25	7.64	0.65	3.66	0.77	0.07	0.15	0.06	2.41	80.33	0.25
P	4.52	0.43	0.26	7.95	0.65	3.69	0.80	0.07	0.16	0.06	2.46	79.61	0.25
P	4.28	0.42	0.23	7.52	0.65	3.50	0.74	0.06	0.16	0.06	2.44	80.74	0.24
P	4.28	0.41	0.24	7.49	0.65	3.57	0.75	0.06	0.15	0.06	2.48	80.74	0.24
P	4.21	0.40	0.23	7.36	0.62	3.47	0.72	0.06	0.15	0.06	2.47	81.17	0.24
P	4.47	0.46	0.25	7.83	0.66	3.23	0.78	0.07	0.16	0.06	2.47	80.25	0.25
P	4.56	0.43	0.25	7.97	0.68	3.09	0.78	0.07	0.17	0.06	2.46	80.12	0.26
P	4.55	0.43	0.25	8.05	0.68	3.13	0.79	0.07	0.17	0.06	2.42	79.97	0.26
Q	3.19	0.33		5.50	0.47	2.83	0.54	0.05	0.15	0.04		86.53	0.17
Q	3.29	0.32		5.51	0.47	2.79	0.54	0.05	0.15	0.04		87.25	0.18
Q	3.26	0.32		5.50	0.47	2.84	0.56	0.05	0.15	0.04		86.93	0.18
Q	3.21	0.33		5.51	0.49	2.84	0.56	0.05	0.16	0.04		86.95	0.18
Q	3.21	0.32		5.52	0.48	2.76	0.55	0.05	0.16	0.04		86.87	0.18
Q	3.23	0.32		5.51	0.47	2.79	0.55	0.05	0.16	0.04		86.76	0.17
Q	3.24	0.32		5.52	0.49	2.72	0.56	0.05	0.15	0.04		87.31	0.17
Q	3.26	0.32		5.51	0.47	2.76	0.55	0.05	0.16	0.04		87.00	0.17
R	2.76	0.27		4.68	0.43		0.46		0.09		1.96		0.14
R	3.25	0.32		5.33	0.45		0.55		0.12		2.30		0.14
R	3.35	0.32		5.68	0.45		0.55		0.12		2.35		0.14
R	3.06	0.31		5.13	0.45		0.51		0.11		2.17		0.14
R	3.36	0.34		5.60	0.45		0.56		0.12		2.36		0.14
R	3.16	0.31		5.40	0.43		0.55		0.11		2.24		0.13
R	3.18	0.32		5.38	0.45		0.53		0.11		2.23		0.14
R	3.31	0.32		5.59	0.43		0.55		0.12		2.31		0.14

Major Elements (Cont)

Lab Codes	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	LOI %	MgO %	MnO %	Na2O %	P2O5 %	S %	SiO2 %	TiO2 %
S	3.04	0.27	0.14	5.01	0.44	2.68	0.41	0.02	0.04		2.26	82.40	0.14
S	3.10	0.26	0.14	5.02	0.45	2.81	0.42	0.02	0.04		2.28	82.20	0.15
S	3.10	0.29	0.15	5.12	0.44	2.40	0.42	0.02	0.03		2.28	82.60	0.16
S	3.06	0.28	0.14	5.02	0.43	2.61	0.41	0.02	0.03		2.24	82.60	0.15
S	3.03	0.26	0.15	5.00	0.43	3.07	0.42	0.02	0.03		2.22	82.20	0.15
S	3.03	0.26	0.14	4.94	0.43	2.82	0.40	0.02	0.02		2.32	82.50	0.15
S	3.04	0.27	0.14	5.04	0.44	2.91	0.41	0.02	0.02		2.30	82.20	0.15
S	3.13	0.27	0.14	5.04	0.44	2.89	0.40	0.02	0.03		2.30	82.30	0.14
T	3.20	0.30	0.15	5.49	0.44	2.83	0.65	0.04	0.15	0.04	2.31	86.26	0.14
T	3.22	0.31	0.15	5.51	0.44	2.86	0.64	0.04	0.14	0.04	2.31	86.13	0.14
T	3.22	0.30	0.15	5.50	0.45	2.81	0.66	0.05	0.15	0.04	2.34	86.00	0.14
T	3.16	0.31	0.15	5.52	0.45	2.84	0.64	0.04	0.13	0.04	2.37	86.13	0.14
T	3.22	0.30	0.15	5.48	0.45	2.85	0.65	0.05	0.15	0.04	2.29	85.95	0.15
T	3.18	0.30	0.15	5.48	0.44	2.85	0.64	0.04	0.14	0.04	2.35	86.48	0.14
T	3.21	0.30	0.15	5.46	0.45	2.88	0.64	0.04	0.14	0.04	2.33	86.16	0.14
T	3.22	0.30	0.15	5.50	0.44	2.84	0.65	0.04	0.15	0.04	2.17	85.98	0.14
U	3.35	0.32	0.15	5.79	0.47	3.50	0.56	0.05	0.11	0.06	2.27	84.34	0.18
U	3.27	0.36	0.15	5.56	0.45	3.20	0.55	0.05	0.10	0.04	2.31	84.90	0.18
U	3.33	0.36	0.15	5.70	0.47	3.60	0.56	0.05	0.11	0.05	2.29	84.43	0.18
U	3.34	0.36	0.15	5.70	0.47	3.50	0.56	0.05	0.11	0.05	2.28	84.47	0.18
U	3.31	0.33	0.15	5.46	0.46	3.30	0.55	0.05	0.11	0.04	2.24	84.94	0.18
U	3.24	0.29	0.15	5.50	0.46	3.20	0.52	0.05	0.11	0.03	2.30	84.87	0.18
U	3.42	0.36	0.15	5.65	0.46	3.00	0.56	0.05	0.11	0.05	2.31	84.80	0.19
U	3.29	0.36	0.15	5.56	0.47	3.10	0.55	0.05	0.11	0.05	2.25	84.94	0.18
V	3.12	0.30	0.18	5.23	0.49	3.08	0.55	0.04	0.11	0.03	2.51	82.27	0.18
V	3.30	0.32	0.17	5.43	0.50	2.98	0.57	0.05	0.11	0.02	2.52	83.66	0.19
V	3.17	0.30	0.17	5.25	0.51	2.96	0.56	0.04	0.11	0.02	2.52	85.74	0.18
V	3.11	0.30	0.16	5.27	0.50	3.00	0.54	0.04	0.11	0.02	2.52	84.45	0.18
V	3.24	0.32	0.17	5.36	0.52	3.00	0.57	0.04	0.11	0.02	2.49	83.23	0.18
V	3.26	0.31	0.17	5.42	0.53	2.76	0.56	0.05	0.11	0.01	2.50	83.47	0.19
V	3.31	0.31	0.18	5.45	0.52	2.98	0.59	0.05	0.12	0.01	2.47	82.12	0.19
V	3.26	0.32	0.17	5.47	0.52	2.81	0.57	0.05	0.11	0.03	2.43	83.82	0.19
W	3.32	0.30		5.43	0.46	2.60	0.51	0.04	0.08	0.04	2.12	87.70	0.18
W	3.30	0.30		5.39	0.45	2.66	0.50	0.04	0.08	0.04	2.09	87.50	0.18
W	3.29	0.29		5.38	0.45	2.68	0.50	0.04	0.08	0.04	2.07	87.40	0.18
W	3.28	0.29		5.38	0.45	2.67	0.49	0.04	0.08	0.04	2.07	87.10	0.18
W	3.30	0.30		5.42	0.46	2.61	0.49	0.04		0.04	2.09	87.70	0.18
W	3.30	0.30		5.41	0.46	2.71	0.49	0.04		0.04	2.08	87.60	0.18
W	3.28	0.30		5.43	0.45	2.64	0.49	0.05		0.04	2.10	87.70	0.18
W	3.29	0.29		5.41	0.45	2.68	0.48	0.04		0.04	2.08	87.70	0.18

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. Total results from some laboratories that reported significant failures were also removed. 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.

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

1. ACME Analytical Laboratories Ltd., (Canada).
2. Activation Laboratories Ltd., (ActLabs, Ancaster, ON, Canada).
3. AGA - Navachab Gold Mine Laboratory, (Namibia).
4. AGA - Vaal River Laboratory (South Africa).
5. ALS Chemex South Africa (Pty) Ltd.
6. ALS Chemex, (Perth, Australia).
7. ALS Chemex, (Vancouver, Canada).
8. Assayers Canada, (Vancouver).
9. Genalysis Laboratory Services (Pty) Ltd., (Australia).
10. Labtium Inc. (Finland)
11. MAED Laboratories - Knights (South Africa)
12. OMAC Laboratories (Ireland).
13. Performance Laboratories, (South Africa).
14. Pt Intertek Utama Services (Intertek, Indonesia)
15. Set Point Laboratories (Pty) Ltd (South Africa)

16. SGS Lakefield Research (Canada)
17. SGS Mineral Services - Barberton, (South Africa).
18. SGS Welshpool (Australia).
19. Ultra Trace (Pty) Ltd. (Australia)

Availability: This product is available in Laboratory Packs containing 1kg of material or in Explorer Packs containing client specified weights of material from 50g up to 250g. Laboratory Packs are sealed bottles delivered in sealed foil pouches. Explorer Packs contain material in standard geochem envelopes placed into foil pouches that are nitrogen flushed and vacuum sealed.

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18 February 2008

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