African Mineral Standards

REFERENCE MATERIAL FOR AFRICAN ORES

Soil and stream sediment material
(Burundian)

AMIS0047, 48 and 57
Laboratory Standards

Certificate of Analysis

Indicated values (consensus data)

AMIS0047 **Burundi soil HG**

Consensus values	Mean ppm (or %)	2SD	Total RSD%	n
Cu	1383	70	2.5	11
Ni	3606	652	9.0	13
Co	210	34	8.2	13
Cr	11513	3644	15.8	14
Ti	7016	1882	13.4	12
V	319	28	4.3	14
Fe (%)	25	1.9	3.8	13
Mn	1733	250	7.2	13
Zn	222	21	4.8	12
LOI	14.05	0.2	0.7	10

AMIS0057 **Burundi soil MG**

Consensus values	Mean ppm (or %)	2SD	Total RSD%	n
Cu	474	7	0.8	10
Ni	1537	118	3.8	10
Co	96	10	5.1	9
Cr	2447	319	6.5	10
Ti	7106	1486	10.5	10
V	194	26	6.8	10
Fe (%)	14.9	0.5	1.8	10
Mn	1384	105	3.8	10
Zn	151	3	1.0	9
LOI	12.27	0.5	2.1	10

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SET POINT TECHNOLOGY

AMIS0048 Consensus values	**Burundi soil LG** Mean ppm (or %)	2SD	Total RSD%	n
Cu	290	20	3.5	13
Ni	159	10	3.2	10
Co	33	4	6.7	14
Cr	461	45	4.9	10
Ti	7583	1862	12.3	10
V	158	21	6.6	14
Fe (%)	7.5	0.6	4.2	12
Mn	1048	149	7.1	13
Zn	90	3	1.9	10
LOI	10.74	0.3	1.5	10

Intended use: AMIS0047, 48 and 57 are Laboratory Standards suitable for monitoring the accuracy of a single stream sediment or soil sample. They have not been subjected to sufficient round robin analysis as Certified Reference Materials. By inserting within a batch of samples, the material can be used for routine sample quality control of a geochemical exploration program. The mean and standard deviation data for each of these standards is a guide only. The RSD% gives an indication only of the accuracy of these calculated values. Assay results from the use of this material should be carefully scrutinized, particularly for primary and secondary laboratory biases.

Origin of material: This standard was made from sample pulp rejects. The samples were originally all collected during regional stream sediment and soil exploration programs in Burundi.

Appearance: The material comprises a fine reddish brown powder.

Method of preparation: The AMIS0047 and AMIS0048 material was dry milled and air-classified to 100% < 54µ. The lots were then blended separately in a bi-conical mixer, systematically divided and then sealed into 1kg Laboratory Packs. Two samples of each were submitted to an independent commercial laboratory for grade analysis (in duplicate). AMIS0057 was then blended from portions of the other two lots and homogenized. 5 samples of each of the three lots were sent for to two additional independent commercial laboratories for third party analysis. Statistical analysis of the test results were then carried out.

Methods of analysis: The analyses requested were:

1. Multi-acid total digestion, including HF. Full ICP- MS (including Cu, Ni, Co, Cr, Ti, V, Fe, Mn, Zn).
2. LOI.

Statistical treatment of the data: AMIS0047 and AMIS0048 were tested by three independent commercial laboratories. Sampling was from throughout the batches. Two of the laboratories assayed five samples; the other laboratory did duplicate analyses of two grade control samples from each batch. AMIS0057 was blended from AMIS0047 and AMIS0048 then tested by two laboratories given five samples each.

The consensus value is the mean of the data within z-scores of +2% and -2%, excluding a laboratory if the majority of its data fell outside the 2 x standard deviation of the data from the other two labs (AMIS0047 and 48 only).

Major element analyses: The chemical composition, based on an average of 10 analyses of each material from 2 laboratories, is as follows.

	SiO2 %	Al2O3 %	CaO %	Fe2O3 %	K2O %	MgO %	MnO %	P2O5 %
AMIS0047	25.60	19.23	0.30	33.64	0.27	2.39	0.22	0.15
AMIS0048	60.75	15.58	0.19	9.59	1.00	0.36	0.13	0.15
AMIS0057	47.42	16.94	0.34	18.76	0.73	1.16	0.17	0.15

Additional analyses: The additional useful data below is based on the average of five analyses by one laboratory.

ELEMENTS	UNITS	AMIS0047	AMIS0057	AMIS0048
Ag	ppm	0.4	0.2	0.1
Al	%	10.9	9.5	8.5
As	ppm	255	220	24
Ba	ppm	164	261	319
Be	ppm	2.4	1.9	1.6
Bi	ppm	0.6	0.5	0.4
Ca	%	0.2	0.3	0.1
Cd	ppm	0.5	0.5	0.2
Ce	ppm	88	119	133
Cs	ppm	3.7	4.8	5.1
Dy	ppm	8.4	6.2	4.7
Er	ppm	4.2	3.0	2.1
Eu	ppm	2.3	1.9	1.6
Ga	ppm	31	28	27
Gd	ppm	8.4	7.0	5.9
Ge	ppm	2.9	2.2	1.8
Hf	ppm	4.3	5.5	6.3
Ho	ppm	1.4	1.3	1.1
In	ppm	0.2	0.1	0.1
K	%	0.3	0.7	0.9
La	ppm	52	56	55
Li	ppm	33	30	29
LOD	%	2.2	1.6	1.5
Lu	ppm	0.6	0.4	0.3
Mg	%	1.5	0.7	0.2
Mo	ppm	4.1	3.5	3.4
Na	ppm	310	630	690
Nb	ppm	38	39	42
Nd	ppm	48	46	43
P	ppm	680	670	640
Pb	ppm	40	30	24
Pr	ppm	13.4	13.3	12.5
Rb	ppm	24	66	86
S	%	0.1	0.2	0.0
Sb	ppm	39	38	16
Sc	ppm	56	37	25
Sm	ppm	9.5	8.9	7.9
Sn	ppm	3.4	4.1	4.1
Sr	ppm	16	30	36
Ta	ppm	2.6	2.4	2.6
Tb	ppm	1.1	1.0	0.9
Th	ppm	16	16	16
Tl	ppm	1.0	1.1	1.1
Tm	ppm	0.6	0.5	0.5
U	ppm	22	15	9
W	ppm	2.1	2.4	2.0
Y	ppm	39	28	20
Yb	ppm	4.1	2.7	1.8
Zr	ppm	176	221	240

Laboratories: The laboratories used in the testing of this material were:

1. Genalysis Laboratory Services (Pty) Ltd., Australia.
2. Set Point Laboratories (Pty) Ltd., South Africa.
3. Ultra Trace (Pty) Ltd., Australia.

Certification: This material has been carefully prepared and tested but has not been submitted to a full inter-laboratory round robin.

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

16 February 2007

Certifying officer:

African Mineral Standards:_____

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