African Mineral Standards

REFERENCE MATERIAL FOR AFRICAN ORES

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Certificate of Analysis

Gold Ore Reference Material.
Low grade, siliceous matrix;
from Navachab Gold Mine,
Namibia.

AMIS0024

Recommended Concentration and two "Between Laboratory" Standard Deviations

Certified Concentrations

Gold: 0.42 ± 0.04 g/t

Specific Gravity: 2.79 ± 0.19 g/cc.

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SET POINT TECHNOLOGY

Intended Use: AMIS0024 is suitable for monitoring the accuracy of a single analysis of gold ores hosted by siliceous matrix 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 ore sourced from the AngloGold Ashanti (Namibia) Ltd - Navachab Gold Mine. This mine is located in Namibia, 10km southwest of Karibib and 170km west northwest of Windhoek. The orebody is located in the Central Zone of the Pan-African Damara Orogen. Gold mineralization is hosted by a steeply dipping metamorphosed sequence of interbedded siliciclastic and carbonate rocks. All lithological units contain mineralization to some extent within sheeted quartz veins. The calc-silicate/marble unit (MC) hosts higher-grade replacement skarnoid mineralization. Si-rich ore for this material was blended from selected RC borehole chips.

Approximate Mineral and Chemical Composition: The major gangue minerals are quartz, calcite, feldspar and dolomite with minor garnet, hornblende, diopside, ilmenite, biotite and tremolite. Sulphides comprise pyrrhotite; subordinate pyrite, chalcopyrite and traces of bismuth, bismuthinite, sphalerite and galena. Gold occurs as free gold with minor maldonite (gold-bismuth alloy). Approximately ±75% of the gold is <54µ.

Chemical composition is as follows.

SiO_2	Al_2O3	K_2O	Na_2O	Fe_2O_3	MgO	CaO
%	%	%	%	%	%	%
73.40	12.90	4.07	3.35	2.32	0.92	0.90
MnO	TiO_2	Cr_2O_3	SO_3	P_2O_5	V_2O_5	LOI
%	%	%	%	%	%	%
0.23	0.18	0.08	0.07	0.06	0.004	0.83

Appearance: The material is a very fine powder coloured Yellowish Grey - Munsell 5Y 8/1, to Pale Yellowish Brown - Corstor 10YR 6/4).

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. 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 independent statisticians.

Method of Analysis: ICP-OES or ICP-MS, Pb collection for Au. Specific gravity either by gas pycnometer or by water displacement using a pycmometer bottle.

Method of Certification: Fourteen laboratories were each given eight randomly selected packages of sample. The results were used for the Au and SG determinations below:

Lab Code	Au ppm	SG gm/cc
A	0.730	
A	0.460	
A	0.600	
A	0.360	
A	0.320	
A	0.420	
A	0.580	
A	0.460	
B	0.442	
B	0.376	
B	0.400	
B	0.410	
B	0.327	
B	0.404	
B	0.408	
B	0.414	
C	0.417	2.700
C	0.419	2.700
C	0.410	2.700
C	0.415	2.700
C	0.419	2.700
C	0.418	2.700
C	0.418	2.700
C	0.416	2.700
D	0.432	2.920
D	0.426	2.930
D	0.430	2.920
D	0.432	2.930
D	0.434	2.930
D	0.427	2.940
D	0.432	2.950
D	0.434	2.950
E	0.435	
E	0.436	
E	0.428	
E	0.429	
E	0.436	
E	0.442	
E	0.434	
E	0.429	
F		2.780
F		2.780
F		2.780
F		2.790
F		2.790
F		2.800
F		2.800
F		2.800
G	0.460	
G	0.440	
G	0.450	
G	0.370	
G	0.330	
G	0.440	
G	0.550	
G	0.380	

Lab Code	Au ppm	SG gm/cc
H	0.440	
H	0.430	
H	0.440	
H	0.470	
H	0.460	
H	0.450	
H	0.430	
H	0.430	
I	0.440	2.900
I	0.430	2.850
I	0.430	2.840
I	0.440	2.830
I	0.430	2.850
I	0.440	2.950
I	0.430	2.930
I	0.440	2.920
J	0.410	3.130
J	0.408	3.120
J	0.415	3.110
J	0.416	3.130
J	0.415	3.170
J	0.416	3.130
J	0.416	3.100
J	0.408	3.130
K	0.388	2.640
K	0.424	2.690
K	0.366	2.700
K	0.409	2.670
K	0.412	2.640
K	0.420	2.630
K	0.406	2.590
K	0.418	2.640
L	0.410	2.761
L	0.410	2.764
L	0.415	2.755
L	0.410	2.750
L	0.410	2.746
L	0.420	2.764
L	0.425	2.750
L	0.425	2.751
M	0.404	2.840
M	0.413	2.850
M	0.413	2.860
M	0.413	2.840
M	0.415	2.820
M	0.422	2.830
M	0.416	2.840
M	0.419	2.870
N	0.633	
N	0.570	
N	0.536	
N	0.585	
N	0.467	
N	0.550	
N	0.600	
N	0.585	

The mean and standard deviation for all data was calculated. Outliers were defined as samples beyond the mean ± 2 Standard Deviations from all data. These outliers were removed from the data (italicized) 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.

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

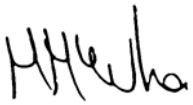
Anglo American Research Laboratories (Pty) Ltd
ACME Analytical Laboratories Ltd
ALS Chemex South Africa (Pty) Ltd
ALS Chemex Labs Ltd. (Vancouver)
Assayers Canada
Genalysis Laboratory Services (Pty) Ltd
Mintek Analytical Services
Navachab Gold Mine Assay Laboratory (Anglogold Ashanti)
Performance Laboratories
Set Point Laboratories (Pty) Ltd
SGS Lakefield Research Africa - Johannesburg
SGS Lakefield Research Africa – Barberton
SGS Welshpool Minerals - Perth
Ultra Trace (Pty) Ltd

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.

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.

29 September 2006

Certifying Officers:



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