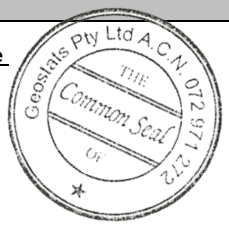
GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM913-7



Certified Control Values

Total Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	10	2	61	+/- 0.6
Copper (ppm)	7990	180	66	+/- 44.5
Zinc (ppm)	431	20	66	+/- 4.9
Lead (ppm)	633	25	63	+/- 6.3
Arsenic (ppm)	2052	100	55	+/- 27.4
Cobalt (ppm)	17	2	65	+/- 0.4
Silver (ppm)	7.0	0.5	59	+/- 0.12

Partial Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	9	2	56	+/- 0.7
Copper (ppm)	7951	299	70	+/- 71.9
Zinc (ppm)	412	28	65	+/- 7
Lead (ppm)	528	54	63	+/- 13.8
Arsenic (ppm)	2132	133	61	+/- 34.3
Cobalt (ppm)	17	2	56	+/- 0.6
Silver (ppm)	6.8	0.5	70	+/- 0.12

CRM Details

Control Statistic Details
Control statistics were produced from results accumulated in the October-2013 round robin. The number of results used to certify each analyte is shown in the table above.

Material Description
This material is described as a Massive silica from Peru.

Colour Designation (ISCC-NBS, SP440)
This material is medium gray in colour.

Usage
This product is for use in the mining industry as a reference material for monitoring and testing the accuracy of laboratory assaying.

Preparation and Packaging
All CRMs are dried in an oven for a minimum of 12 hours at 110°C. The dry material is then pulverised to better than 75 micron (nominal mean of 45 micron) using an air classifier. The material is then homogenised and stored in a sealed, stable container ready for final packaging.

Materials are statistically sampled from stores, then packaged into either heat sealed, air tight, plastic pulp packets or screw top sealed plastic containers ready for distribution. All packaging has been chosen to ensure minimal contamination from outside sources during shipment, use and storage.

Assay Testwork
All standards are tested thoroughly in the Geostats bi-annual laboratory survey. This involves assaying by multiple laboratories from around the world. Results are compiled into a comprehensive report detailing statistics for each standard. Assay distributions are checked and processed statistically, producing monitoring statistics for these standards. Materials are tested regularly to ensure stability and homogeneity.

Stability
This product remains stable in its original packaging, away from direct sunlight.

Material Safety
This product is not hazardous and non-toxic.

Neutron Activation Analysis Results (ppm, unless otherwise noted)	
Antimony	87.7
Arsenic	2090
Barium	56.4
Bromine	<0.619
Cadmium	9.9
Caesium	<0.27
Calcium (%)	nr
Cerium	6
Chromium	<36.7
Cobalt	17
Europium	nr
Gold (ppb)	370
Hafnium	<1.51
Iridium (ppb)	<20
Iron (%)	5.9
Lanthanum	4.94
Lutetium	0.167
Mercury	nr
Molybdenum	39.1
Neodymium	nr
Nickel	<10
Potassium (%)	nr
Rubidium	<5.61
Samarium	0.569
Scandium	2.01
Selenium	<5.64
Silver	6.1
Sodium (%)	<0.0271
Strontium	nr
Tantalum	<0.178
Tellurium	nr
Terbium	<0.121
Thorium	1.57
Tin	nr
Tungsten	15.8
Uranium	1.33
Ytterbium	nr
Zinc	440
Zirconium	nr

Major Elements by Fusion / XRF (%)	
Fe	5.61
SiO_2	82.96
Al_2O_3	2.01
TiO_2	0.649
MnO	0.03
CaO	0.02
P	0.022
S	6.52
MgO	0.06
K_2O	0.12
Na_2O	0.04
LOI1000	4.84

Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.

'nr': Not Reported

20 Hines Road, O'Connor, Western Australia 6163
Phone : +61 8 9314 2566, Fax : +61 8 9314 3699
e-mail : pjh@geostats.com.au, srr@geostats.com.au
Website http://www.geostats.com.au

GBM913-7

Geostats Pty Ltd, Certified Geochem Base Metal Reference Material, Product Code: