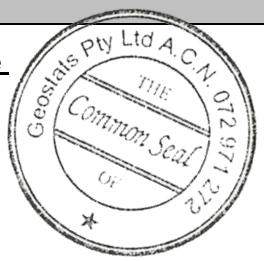
GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Ore Grade Base Metal Reference Material Product Code

GBM908-12



Certified Control Values

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	nr	nr	nr	nr
Copper (ppm)	2625	110	84	+/- 24
Zinc (ppm)	25161	883	54	+/- 243
Lead (ppm)	10924	445	105	+/- 87
Cobalt (ppm)	nr	nr	nr	nr
Silver (ppm)	22.0	1.4	78	+/- 0.32
Sulphur (%)	7.77	0.26	89	+/- 0.06

CRM Details

Control Statistic Details

Control statistics were produced from results accumulated in the October-2008 & April-2009 round robins. The number of results used to certify each analyte is shown in the table above.

Material Description

This material is described as a Zn Sulphide ore.

Colour Designation (ISCC-NBS, SP440)

This material is olive 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	21.7
Arsenic	62.3
Barium	570
Bromine	<1
Cadmium	64
Caesium	1.75
Calcium (%)	nr
Cerium	38
Chromium	26.5
Cobalt	43
Europium	1.25
Gold (ppb)	132.5
Hafnium	4
Iridium (ppb)	<20
Iron (%)	13.95
Lanthanum	19.5
Lutetium	0.5
Mercury	nr
Molybdenum	10
Neodymium	nr
Nickel	25
Potassium (%)	nr
Rubidium	53
Samarium	5.4
Scandium	25.05
Selenium	3
Silver	20.5
Sodium (%)	1.7
Strontium	nr
Tantalum	0.95
Tellurium	<10
Terbium	1.1
Thorium	5.75
Tin	<100
Tungsten	8
Uranium	3.05
Ytterbium	3.65
Zinc	25350
Zirconium	<100

Major Elements by Fusion / XRF (%)	
Fe	nr
SiO_2	nr
Al_2O_3	nr
TiO_2	nr
MnO	nr
CaO	nr
P	nr
S	nr
MgO	nr
K_2O	nr
Na_2O	nr
LOI1000	nr

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

GBM908-12

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