

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Ore Grade Base Metal Reference Material Product Code

GBM311-14

Certified Control Values

Ore Grade Base Metal Analyses

Element	Grade	Standard Deviation	No of Analyses	Confidence Interval
Nickel (ppm)	45	nr	nr	nr
Copper (ppm)	17501	667	86	+/- 144
Zinc (ppm)	872	nr	nr	nr
Lead (ppm)	508	nr	nr	nr
Cobalt (ppm)	nr	nr	nr	nr
Silver (ppm)	4.5	nr	nr	nr
Sulphur (%)	2.0	0.1	61	+/- 0.03

CRM Details

Control Statistic Details

Control statistics were produced from results accumulated in the :

April-2011 Geostats Pty Ltd Laboratory Round Robin Program.
61 laboratories (at least) tested this material for base metal content.

Source Material

Prior to homogenisation and testing, this material was sourced from Copper Sulphide ore

Colour Designation

Medium Light Gray

Usage

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

Preparation and Packaging

All standards are dried in an oven for a minimum of 12 hours at 110C. 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

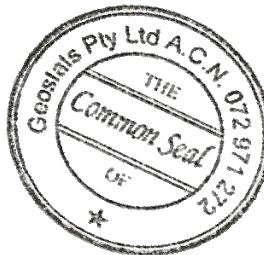
All standards are tested thoroughly in the Geostats bi-annual laboratory survey. This involves assaying by a minimum of 50 reputable laboratories selected from across the world using a variety of methods (including AR, 3AD, 4AD and ICP, AAS and XRF). Results are compiled into a comprehensive report detailing 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.

Neutron Activation Analysis Results (ppm)

Antimony	9.09
Arsenic	42.3
Barium	270
Bromine	1.43
Cadmium	75.8
Cerium	40.6
Caesium	2.14
Chromium	115
Cobalt	79.1
Europium	0.612
Gold ppb	2210
Hafnium	3.64
Iridium ppb	<20
Iron %	7.33
Lanthanum	21.4
Lutetium	nr
Molybdenum	24.2
Nickel	36.3
Rubidium	89.2
Samarium	4.7
Scandium	20.8
Selenium	6.14
Sodium %	2.13
Tantalum	1.27
Tellurium	<5
Terbium	0.815
Thorium	12.4
Tin	<100
Tungsten	<2
Uranium	7.24
Ytterbium	0.852
Zinc	900
Zirconium	<400
Calcium%	nr
Potassium %	nr
Silver	3
Mercury	nr
Neodymium	nr
Strontium	nr

Major Elements Fusion / XRF (%)

Fe	6.98
SiO ₂	57.5
Al ₂ O ₃	12.86
TiO ₂	1.139
MnO	0.11
CaO	6.12
P	0.062
S	1.95
MgO	3.04
K ₂ O	1.85
Na ₂ O	2.88472
LOI1000	1.67



10A Marsh Close, 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>

GBM311-14

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