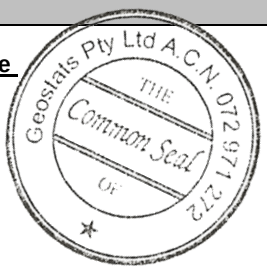
GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Ore Grade Base Metal Reference Material Product Code

GBM323-14



Certified Control Values

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	47118	2583	174	+/- 388
Copper (ppm)	61400	2382	229	+/- 311
Zinc (ppm)	98	14	155	+/- 2
Lead (ppm)	317	37	195	+/- 5
Cobalt (ppm)	nr	nr	nr	nr
Silver (ppm)	66.5	3.4	209	+/- 0.46
Sulphur (%)	7.33	0.39	185	+/- 0.06

CRM Details

Control Statistic Details

Control statistics were produced from results accumulated in the April-2023, October-2017 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 Nickel filtercake concentrate.

Colour Designation (ISCC-NBS, SP440)

This material is moderate brown 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	135
Arsenic	20700
Barium	<100
Bromine	<2
Cadmium	<31.4
Caesium	<2
Calcium (%)	nr
Cerium	<32
Chromium	<111
Cobalt	13000
Europium	<3.4
Gold (ppb)	4300
Hafnium	<5
Iridium (ppb)	2060
Iron (%)	40.7
Lanthanum	<2
Lutetium	<0.4
Mercury	nr
Molybdenum	<10
Neodymium	nr
Nickel	48600
Potassium (%)	nr
Rubidium	<55
Samarium	0.6
Scandium	4.8
Selenium	339
Silver	68
Sodium (%)	<0.165
Strontium	nr
Tantalum	<2
Tellurium	156
Terbium	<1
Thorium	<1.5
Tin	<566
Tungsten	<9
Uranium	<1
Ytterbium	<3.9
Zinc	<200
Zirconium	<1240

Major Elements by Fusion / XRF (%)	
Fe	34.18
SiO_2	1.03
Al_2O_3	0.26
TiO_2	0.097
MnO	0.295
CaO	0.271
P	0.03
S	7.42
MgO	0.247
K_2O	0.02
Na_2O	0.14
LOI1000	25.87

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

'nr': Not Reported

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