

# GEOSTATS PTY LTD

Mining Industry Consultants  
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

## GBM399-10

Certified Control Values



GBM399-10

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	45821	1913	104	+/- 373.8
Copper (ppm)	1406	91	142	+/- 15.1
Zinc (ppm)	513	60	124	+/- 10.8
Lead (ppm)	936	59	122	+/- 10.6
Arsenic (ppm)	59	11	91	+/- 2.3
Cobalt (ppm)	66	9	102	+/- 1.8
Silver (ppm)	1.9	0.6	102	+/- 0.1

### CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the April-1999 & April-2002 round robins. The number of results used to certify each analyte is shown in the table above.	<u>Neutron Activation Analysis Results (ppm, unless otherwise noted)</u>		<u>Major Elements by Fusion / XRF (%)</u>	
	Element	Value	Element	Value
<u>Material Description</u> This material is described as a Nickel Sulphide Ore.	Antimony	0.91	Fe	nr
	Arsenic	63.75	SiO <sub>2</sub>	nr
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is medium gray in colour.	Barium	133	Al <sub>2</sub> O <sub>3</sub>	nr
	Bromine	<1	TiO <sub>2</sub>	nr
<u>Usage</u> This product is for use in the mining industry as a reference material for monitoring and testing the accuracy of laboratory assaying.	Cadmium	nr	MnO	nr
	Caesium	6.765	CaO	nr
<u>Preparation and Packaging</u> 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.	Calcium (%)	3.17	P	nr
	Cerium	11.15	S	nr
<u>Assay Testwork</u> 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.	Chromium	1050	MgO	nr
	Cobalt	70.25	K <sub>2</sub> O	nr
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Europium	0.59	Na <sub>2</sub> O	nr
	Gold (ppb)	3070	LOI1000	nr
<u>Material Safety</u> This product is not hazardous and non-toxic.	Hafnium	2.675	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
	Iridium (ppb)	<20	'nr': Not Reported	
	Iron (%)	16.6		
	Lanthanum	4.9		
	Lutetium	<0.2		
	Mercury	nr		
	Molybdenum	11.8		
	Neodymium	nr		
	Nickel	nr		
	Potassium (%)	0.525		
	Rubidium	46.9		
	Samarium	1.335		
	Scandium	10.85		
	Selenium	<5		
	Silver	<5		
	Sodium (%)	0.508		
	Strontium	nr		
	Tantalum	<1		
	Tellurium	<5		
	Terbium	nr		
	Thorium	1.225		
	Tin	nr		
	Tungsten	5.905		
	Uranium	<2		
	Ytterbium	1.02		
	Zinc	605		
	Zirconium	<500		

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