

# GEOSTATS PTY LTD

Mining Industry Consultants  
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

## GBM309-2

Certified Control Values



GBM309-2

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	27	12	71	+/- 3
Copper (ppm)	5286	193	74	+/- 45
Zinc (ppm)	19204	781	74	+/- 182.1
Lead (ppm)	2047	112	79	+/- 25.3
Arsenic (ppm)	49	6	65	+/- 1.6
Cobalt (ppm)	45	13	72	+/- 3
Silver (ppm)	25.0	1.6	78	+/- 0.4

### CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the April-2009 round robin. 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>	
	<u>Material Description</u> This material is described as a Cu/Pb/Zn/Ag massive sulphide ore.	Antimony	20.1	Fe
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is medium dark gray in colour.	Arsenic	51.6	SiO <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.	Barium	110	Al <sub>2</sub> O <sub>3</sub>	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.	Bromine	<1	TiO <sub>2</sub>	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.	Cadmium	44	MnO	nr
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Caesium	<0.5	CaO	nr
<u>Material Safety</u> This product is not hazardous and non-toxic.	Calcium (%)	nr	P	nr
	Cerium	21	S	nr
	Chromium	170	MgO	nr
	Cobalt	57	K <sub>2</sub> O	nr
	Europium	1.6	Na <sub>2</sub> O	nr
	Gold (ppb)	158	LOI1000	nr
	Hafnium	3		
	Iridium (ppb)	<20		
	Iron (%)	11.8		
	Lanthanum	9		
	Lutetium	0.4		
	Mercury	nr		
	Molybdenum	<1.8		
	Neodymium	nr		
	Nickel	39		
	Potassium (%)	nr		
	Rubidium	12		
	Samarium	4.7		
	Scandium	30.5		
	Selenium	13		
	Silver	28		
	Sodium (%)	2		
	Strontium	nr		
	Tantalum	0.6		
	Tellurium	<10		
	Terbium	0.8		
	Thorium	1.1		
	Tin	<200		
	Tungsten	5		
	Uranium	<0.4		
	Ytterbium	2.9		
	Zinc	20000		
	Zirconium	<100		

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