

# GEOSTATS PTY LTD

Mining Industry Consultants  
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

## GBM398-1

Certified Control Values



GBM398-1

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	9436	411	165	+/- 63.3
Copper (ppm)	14823	608	206	+/- 83.7
Zinc (ppm)	20295	994	190	+/- 142.6
Lead (ppm)	26669	1360	184	+/- 198.4
Arsenic (ppm)	7	3	85	+/- 0.7
Cobalt (ppm)	24	3	153	+/- 0.5
Silver (ppm)	5.1	0.7	176	+/- 0.1

### CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the April-1998, April-2006, April-2008 & April-2010 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>	
<u>Material Description</u> This material is described as a Cu/Pb/Zn cap rock .	Antimony	5.84	Fe	nr
	Arsenic	5.575	SiO <sub>2</sub>	nr
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is light brown in colour.	Barium	<50	Al <sub>2</sub> O <sub>3</sub>	nr
	Bromine	<0.5	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	8	MnO	nr
	Caesium	23.725	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 (%)	1.11	P	nr
	Cerium	10.015	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	5010	MgO	nr
	Cobalt	24.65	K <sub>2</sub> O	nr
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Europium	0.3	Na <sub>2</sub> O	nr
	Gold (ppb)	183.25	LOI1000	nr
<u>Material Safety</u> This product is not hazardous and non-toxic.	Hafnium	6.353	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
	Iridium (ppb)	<5	nr: Not Reported	
	Iron (%)	3.765		
	Lanthanum	2.3		
	Lutetium	0.082		
	Mercury	nr		
	Molybdenum	<1		
	Neodymium	nr		
	Nickel	9600		
	Potassium (%)	2.9		
	Rubidium	709		
	Samarium	0.819		
	Scandium	4.253		
	Selenium	<1.9		
	Silver	4.8		
	Sodium (%)	1.365		
	Strontium	nr		
	Tantalum	0.779		
	Tellurium	<3.7		
	Terbium	<0.35		
	Thorium	0.5		
	Tin	<100		
	Tungsten	1		
	Uranium	0.6		
	Ytterbium	0.539		
	Zinc	20175		
	Zirconium	240		

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>