

# GEOSTATS PTY LTD

Mining Industry Consultants  
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

## GBM311-5

Certified Control Values



GBM311-5

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	300	15	65	+/- 3.8
Copper (ppm)	3001	121	92	+/- 25.3
Zinc (ppm)	367	24	80	+/- 5.5
Lead (ppm)	105	11	81	+/- 2.4
Arsenic (ppm)	1153	65	70	+/- 15.6
Cobalt (ppm)	36	3	65	+/- 0.6
Silver (ppm)	2.5	0.5	75	+/- 0.12

### CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the April-2011 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>	
		Antimony	14.9	Fe
	Arsenic	1150	SiO <sub>2</sub>	52.29
	Barium	240	Al <sub>2</sub> O <sub>3</sub>	12.62
<u>Material Description</u> This material is described as a Copper Gold ore.	Bromine	0.96	TiO <sub>2</sub>	0.68
	Cadmium	<5	MnO	0.13
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is pale yellowish brown in colour.	Caesium	10.6	CaO	4.92
	Calcium (%)	nr	P	0.05
<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.	Cerium	22.8	S	1.89
	Chromium	331	MgO	2
<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.	Cobalt	39	K <sub>2</sub> O	2.06
	Europium	0.67	Na <sub>2</sub> O	1.227
	Gold (ppb)	3490	LOI1000	6.83
	Hafnium	2.87		
	Iridium (ppb)	<20	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
	Iron (%)	8.65	'nr': Not Reported	
	Lanthanum	14.2		
	Lutetium	nr		
	Mercury	nr		
	Molybdenum	7.15		
	Neodymium	nr		
	Nickel	302		
	Potassium (%)	nr		
	Rubidium	113		
	Samarium	3.67		
	Scandium	21.1		
<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.	Selenium	<5		
	Silver	3		
	Sodium (%)	0.815		
	Strontium	nr		
	Tantalum	0.572		
	Tellurium	<5		
	Terbium	0.638		
	Thorium	4.55		
	Tin	<100		
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Tungsten	28.2		
	Uranium	2.41		
	Ytterbium	<1		
<u>Material Safety</u> This product is not hazardous and non-toxic.	Zinc	380		
	Zirconium	<400		

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