

# GEOSTATS PTY LTD

Mining Industry Consultants  
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

## GBM904-3

Certified Control Values



GBM904-3

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	323	30	167	+/- 4.6
Copper (ppm)	515	32	193	+/- 4.5
Zinc (ppm)	464	31	181	+/- 4.5
Lead (ppm)	489	33	172	+/- 4.9
Arsenic (ppm)	270	31	161	+/- 4.8
Cobalt (ppm)	82	13	167	+/- 2
Silver (ppm)	1.8	0.5	145	+/- 0.1

### CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the October-2004 & April-2005 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 Sulphide ore from Metallurgical Composites.	Antimony	4.98	Fe	nr
	Arsenic	281	SiO <sub>2</sub>	nr
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is light olive gray in colour.	Barium	245	Al <sub>2</sub> O <sub>3</sub>	nr
	Bromine	1.75	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	<6.2	MnO	nr
	Caesium	3.9	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 (%)	nr	P	nr
	Cerium	25.6	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	215.5	MgO	nr
	Cobalt	96.25	K <sub>2</sub> O	nr
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Europium	1.225	Na <sub>2</sub> O	nr
	Gold (ppb)	5767.5	LOI1000	nr
<u>Material Safety</u> This product is not hazardous and non-toxic.	Hafnium	8.745	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
	Iridium (ppb)	<50	nr: Not Reported	
	Iron (%)	9.88		
	Lanthanum	13.35		
	Lutetium	0.308		
	Mercury	<0.17		
	Molybdenum	6.85		
	Neodymium	14.5		
	Nickel	362.5		
	Potassium (%)	1		
	Rubidium	132.5		
	Samarium	4.23		
	Scandium	21.925		
	Selenium	1.9		
	Silver	1.7		
	Sodium (%)	1.63		
	Strontium	nr		
	Tantalum	14.1		
	Tellurium	<10		
	Terbium	0.735		
	Thorium	2.365		
	Tin	<100		
	Tungsten	9.295		
	Uranium	1.975		
	Ytterbium	2.52		
	Zinc	485		
	Zirconium	315		

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