

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM311-6

Certified Control Values



GBM311-6

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	336	22	142	+/- 3.7
Copper (ppm)	1037	46	181	+/- 6.8
Zinc (ppm)	571	33	172	+/- 5
Lead (ppm)	302	19	165	+/- 2.9
Arsenic (ppm)	1540	80	142	+/- 13.4
Cobalt (ppm)	40	3	135	+/- 0.5
Silver (ppm)	4.2	0.6	168	+/- 0.09

CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the April-2011 & October-2011 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 Copper Gold ore.	Antimony	15.9	Fe
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is pale yellowish brown in colour.	Arsenic	1525	SiO ₂	55.02
<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	463	Al ₂ O ₃	12.67
<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	<0.5	TiO ₂	0.729
<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	<5	MnO	0.115
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Caesium	9.495	CaO	4.305
<u>Material Safety</u> This product is not hazardous and non-toxic.	Calcium (%)	nr	P	0.054
	Cerium	42.85	S	1.77
	Chromium	232.5	MgO	2.21
	Cobalt	42.5	K ₂ O	2.43
	Europium	1.2	Na ₂ O	1.392
	Gold (ppb)	6880	LOI1000	6.405
	Hafnium	3.125		
	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 (%)	7.255	'nr': Not Reported	
	Lanthanum	22.75		
	Lutetium	0.35		
	Mercury	nr		
	Molybdenum	63.85		
	Neodymium	nr		
	Nickel	353		
	Potassium (%)	nr		
	Rubidium	110		
	Samarium	4.72		
	Scandium	16.05		
	Selenium	6.45		
	Silver	3		
	Sodium (%)	0.842		
	Strontium	nr		
	Tantalum	1.605		
	Tellurium	<5		
	Terbium	0.504		
	Thorium	6.525		
	Tin	<100		
	Tungsten	28.95		
	Uranium	3.87		
	Ytterbium	2.2		
	Zinc	585		
	Zirconium	<200		

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>