

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM311-7

Certified Control Values



GBM311-7

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	126	10	139	+/- 1.8
Copper (ppm)	947	44	177	+/- 6.5
Zinc (ppm)	452	34	173	+/- 5.1
Lead (ppm)	134	11	164	+/- 1.7
Arsenic (ppm)	830	50	143	+/- 8.3
Cobalt (ppm)	28	3	138	+/- 0.4
Silver (ppm)	2.0	0.3	146	+/- 0.05

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	12.45	Fe
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is pale yellowish brown in colour.	Arsenic	825	SiO ₂	60.13
<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	420	Al ₂ O ₃	12.85
<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	0.731
<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	0.095
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Caesium	5.425	CaO	4.115
<u>Material Safety</u> This product is not hazardous and non-toxic.	Calcium (%)	nr	P	0.049
	Cerium	45.25	S	1.12
	Chromium	155	MgO	2.035
	Cobalt	31.5	K ₂ O	2.695
	Europium	0.861	Na ₂ O	2.243
	Gold (ppb)	3770	LOI1000	4.15
	Hafnium	3.6		
	Iridium (ppb)	<20		
	Iron (%)	6.285		
	Lanthanum	23.5		
	Lutetium	0.41		
	Mercury	nr		
	Molybdenum	13.55		
	Neodymium	nr		
	Nickel	130.5		
	Potassium (%)	nr		
	Rubidium	117.5		
	Samarium	4.13		
	Scandium	18.25		
	Selenium	<5		
	Silver	1.5		
	Sodium (%)	1.585		
	Strontium	nr		
	Tantalum	1.425		
	Tellurium	<5		
	Terbium	0.522		
	Thorium	11.25		
	Tin	<100		
	Tungsten	24.85		
	Uranium	6.815		
	Ytterbium	2.4		
	Zinc	485		
	Zirconium	<400		

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