

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM310-3

Certified Control Values



GBM310-3

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	73	11	137	+/- 1.8
Copper (ppm)	14443	597	164	+/- 92.4
Zinc (ppm)	30935	1475	149	+/- 239.6
Lead (ppm)	10687	594	150	+/- 96.2
Arsenic (ppm)	1276	104	134	+/- 17.8
Cobalt (ppm)	62	9	139	+/- 1.5
Silver (ppm)	19.4	1.6	155	+/- 0.26

CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the April-2010, October-2010, April-2011 & April-2012 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 Low copper zinc cap material.	Antimony	457	Fe
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is light gray in colour.	Arsenic	1330	SiO ₂	52.3
<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	364.5	Al ₂ O ₃	12.68
<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	3.92	TiO ₂	1.102
<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	72.95	MnO	0.14
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Caesium	<1	CaO	5.44
<u>Material Safety</u> This product is not hazardous and non-toxic.	Calcium (%)	nr	P	0.059
	Cerium	36.6	S	3.37
	Chromium	125	MgO	3.22
	Cobalt	73.7	K ₂ O	1.72
	Europium	1.34	Na ₂ O	3.044
	Gold (ppb)	1160	LOI1000	2.02
	Hafnium	3.35		
	Iridium (ppb)	<12		
	Iron (%)	7.17		
	Lanthanum	19.45		
	Lutetium	0.454		
	Mercury	nr		
	Molybdenum	29.5		
	Neodymium	nr		
	Nickel	117		
	Potassium (%)	nr		
	Rubidium	84		
	Samarium	4.205		
	Scandium	20.9		
	Selenium	24.5		
	Silver	23.2		
	Sodium (%)	2.26		
	Strontium	nr		
	Tantalum	0.993		
	Tellurium	<6.3		
	Terbium	0.741		
	Thorium	11.35		
	Tin	<260		
	Tungsten	<2		
	Uranium	5.42		
	Ytterbium	2.555		
	Zinc	32500		
	Zirconium	<500		

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