

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM310-1

Certified Control Values



GBM310-1

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	37	9	163	+/- 1.4
Copper (ppm)	5792	227	186	+/- 33
Zinc (ppm)	9753	533	174	+/- 80
Lead (ppm)	3035	248	166	+/- 38.1
Arsenic (ppm)	351	32	156	+/- 5.1
Cobalt (ppm)	36	7	166	+/- 1.1
Silver (ppm)	19.0	1.5	181	+/- 0.22

CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the April-2010 & October-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 Cu Pb Zn .	Antimony	117.5	Fe
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is light gray in colour.	Arsenic	361	SiO ₂	57.13
<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	385	Al ₂ O ₃	13.84
<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	1.3	TiO ₂	1.173
<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	20	MnO	0.13
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Caesium	2	CaO	6.01
<u>Material Safety</u> This product is not hazardous and non-toxic.	Calcium (%)	nr	P	0.06
	Cerium	35.8	S	1.13
	Chromium	110.5	MgO	3.55
	Cobalt	44.3	K ₂ O	1.89
	Europium	1.335	Na ₂ O	3.181
	Gold (ppb)	516	LOI1000	1.17
	Hafnium	3.505		
	Iridium (ppb)	<5	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
	Iron (%)	6.37	'nr': Not Reported	
	Lanthanum	19.3		
	Lutetium	0.419		
	Mercury	nr		
	Molybdenum	73.5		
	Neodymium	nr		
	Nickel	51		
	Potassium (%)	nr		
	Rubidium	85		
	Samarium	4.385		
	Scandium	22		
	Selenium	6.825		
	Silver	17.5		
	Sodium (%)	2.345		
	Strontium	nr		
	Tantalum	1.075		
	Tellurium	<10		
	Terbium	1		
	Thorium	11.45		
	Tin	<100		
	Tungsten	3.5		
	Uranium	5.4		
	Ytterbium	2.695		
	Zinc	9950		
	Zirconium	<500		

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