

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM912-1

Certified Control Values



GBM912-1

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	119	12	98	+/- 2.4
Copper (ppm)	3332	139	113	+/- 26
Zinc (ppm)	3414	165	106	+/- 32
Lead (ppm)	2638	150	101	+/- 29.7
Arsenic (ppm)	110	11	93	+/- 2.3
Cobalt (ppm)	28	7	97	+/- 1.4
Silver (ppm)	7.2	1.4	101	+/- 0.27

CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the October-2012 round robin. 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 Cuttings milled.	Antimony	64	Fe
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is light gray in colour.	Arsenic	119	SiO ₂	59.1
<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	350	Al ₂ O ₃	14.38
<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	0.6	TiO ₂	1.111
<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	10	MnO	0.13
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Caesium	2.2	CaO	6.15
<u>Material Safety</u> This product is not hazardous and non-toxic.	Calcium (%)	nr	P	0.057
	Cerium	38	S	0.506
	Chromium	117	MgO	3.52
	Cobalt	36	K ₂ O	1.94
	Europium	1.4	Na ₂ O	3.258
	Gold (ppb)	1050	LOI1000	0.66
	Hafnium	3.7		
	Iridium (ppb)	<10	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
	Iron (%)	6.05	'nr': Not Reported	
	Lanthanum	21		
	Lutetium	0.4		
	Mercury	nr		
	Molybdenum	10		
	Neodymium	nr		
	Nickel	129		
	Potassium (%)	nr		
	Rubidium	95		
	Samarium	4.4		
	Scandium	22.4		
	Selenium	3		
	Silver	8		
	Sodium (%)	2.46		
	Strontium	nr		
	Tantalum	1.2		
	Tellurium	<10		
	Terbium	0.9		
	Thorium	12.6		
	Tin	<200		
	Tungsten	36		
	Uranium	5.9		
	Ytterbium	2.9		
	Zinc	3600		
	Zirconium	<500		

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