

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM399-1

Certified Control Values



GBM399-1

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	76	8	60	+/- 2.1
Copper (ppm)	86	7	73	+/- 1.6
Zinc (ppm)	97	9	62	+/- 2.3
Lead (ppm)	125	19	67	+/- 4.7
Arsenic (ppm)	45	8	54	+/- 2.2
Cobalt (ppm)	60	5	57	+/- 1.3
Silver (ppm)	1.1	0.4	48	+/- 0.1

CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the April-1999 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 Soil.	Antimony	4.35	Fe
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is pale reddish brown in colour.	Arsenic	44.3	SiO ₂	nr
<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	<100	Al ₂ O ₃	nr
<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	TiO ₂	nr
<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	nr	MnO	nr
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Caesium	30.9	CaO	nr
<u>Material Safety</u> This product is not hazardous and non-toxic.	Calcium (%)	1.1	P	nr
	Cerium	6.81	S	nr
	Chromium	62	MgO	nr
	Cobalt	66	K ₂ O	nr
	Europium	<0.5	Na ₂ O	nr
	Gold (ppb)	56.2	LOI1000	nr
	Hafnium	9.47		
	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 (%)	3.33	'nr': Not Reported	
	Lanthanum	2.16		
	Lutetium	<0.2		
	Mercury	nr		
	Molybdenum	26.3		
	Neodymium	nr		
	Nickel	nr		
	Potassium (%)	4.45		
	Rubidium	1110		
	Samarium	1.05		
	Scandium	5.89		
	Selenium	<5		
	Silver	<5		
	Sodium (%)	1.62		
	Strontium	nr		
	Tantalum	<1		
	Tellurium	<5		
	Terbium	nr		
	Thorium	0.79		
	Tin	nr		
	Tungsten	<2		
	Uranium	<2		
	Ytterbium	0.78		
	Zinc	125		
	Zirconium	<500		

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