

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM998-4

Certified Control Values



GBM998-4

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	25	5	133	+/- 0.9
Copper (ppm)	7529	311	148	+/- 50.7
Zinc (ppm)	38	10	144	+/- 1.7
Lead (ppm)	357	97	154	+/- 15.5
Arsenic (ppm)	247	26	130	+/- 4.6
Cobalt (ppm)	48	5	126	+/- 0.9
Silver (ppm)	4.5	0.8	144	+/- 0.1

CRM Details

<u>Control Statistic Details</u> Control statistics were produced from results accumulated in the October-1998 & October-2009 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 oxide ex Pilbara.	Antimony	9.72	Fe
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is light brown in colour.	Arsenic	257	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	1370	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	<2	MnO	nr
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Caesium	3.26	CaO	nr
<u>Material Safety</u> This product is not hazardous and non-toxic.	Calcium (%)	nr	P	nr
	Cerium	52.3	S	nr
	Chromium	234.5	MgO	nr
	Cobalt	49.5	K ₂ O	nr
	Europium	1.19	Na ₂ O	nr
	Gold (ppb)	2990	LOI1000	nr
	Hafnium	3.21		
	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 (%)	4.76	nr: Not Reported	
	Lanthanum	26		
	Lutetium	0.265		
	Mercury	nr		
	Molybdenum	<1		
	Neodymium	nr		
	Nickel	25		
	Potassium (%)	1.18		
	Rubidium	63.95		
	Samarium	4.9		
	Scandium	12		
	Selenium	<2		
	Silver	5		
	Sodium (%)	0.082		
	Strontium	nr		
	Tantalum	0.9		
	Tellurium	<5		
	Terbium	0.8		
	Thorium	9.895		
	Tin	<50		
	Tungsten	4.38		
	Uranium	5.32		
	Ytterbium	1.6		
	Zinc	50		
	Zirconium	220		

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