

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM320-3



Certified Control Values

Total Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	829	44	59	+/- 11.5
Copper (ppm)	2718	91	62	+/- 23.2
Zinc (ppm)	254	18	57	+/- 4.7
Lead (ppm)	13	2	50	+/- 0.5
Arsenic (ppm)	309	14	51	+/- 3.9
Cobalt (ppm)	55	3	58	+/- 0.9
Silver (ppm)	11.5	0.6	58	+/- 0.15

Partial Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	753	80	52	+/- 22.6
Copper (ppm)	2695	104	67	+/- 25.5
Zinc (ppm)	167	14	46	+/- 4.3
Lead (ppm)	10	2	48	+/- 0.7
Arsenic (ppm)	301	15	53	+/- 4.1
Cobalt (ppm)	51	4	49	+/- 1.1
Silver (ppm)	10.9	0.7	64	+/- 0.17

CRM Details

Control Statistic Details	Neutron Activation Analysis Results (ppm, unless otherwise noted)		Major Elements by Fusion / XRF (%)	
	Control statistics were produced from results accumulated in the April-2020 round robin. The number of results used to certify each analyte is shown in the table above.	Antimony	553	Fe
Material Description This material is described as an Acurite and Malachite, with Carbonate, Quartz, Talc and Fuchsite ex Turkey.	Arsenic	331	SiO ₂	38.7
	Colour Designation (ISCC-NBS, SP440) This material is grayish orange in colour.	Barium	6040	Al ₂ O ₃
Usage This product is for use in the mining industry as a reference material for monitoring and testing the accuracy of laboratory assaying.		Bromine	<2	TiO ₂
	Preparation and Packaging 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.	Cadmium	<10	MnO
Assay Testwork 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.		Caesium	<2	CaO
	Stability This product remains stable in its original packaging, away from direct sunlight.	Calcium (%)	nr	P
Material Safety This product is not hazardous and non-toxic.		Cerium	9	S
	Neutron Activation Analysis Results (ppm, unless otherwise noted)	Chromium	1440	MgO
Major Elements by Fusion / XRF (%)		Cobalt	60	K ₂ O
	Antimony	553	Na ₂ O	0.04
Arsenic		331	LOH1000	23.96
	Barium	6040	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
Bromine		<2	'nr': Not Reported	
	Cadmium	<10		
Caesium		<2		
	Calcium (%)	nr		
Cerium		9		
	Chromium	1440		
Cobalt		60		
	Europium	<0.5		
Gold (ppb)		14.6		
	Hafnium	<5		
Iridium (ppb)		<50		
	Iron (%)	5.1		
Lanthanum		3		
	Lutetium	<0.2		
Mercury		nr		
	Molybdenum	<10		
Neodymium		nr		
	Nickel	860		
Potassium (%)		nr		
	Rubidium	<20		
Samarium		0.7		
	Scandium	9.4		
Selenium		<10		
	Silver	11		
Sodium (%)		0.05		
	Strontium	nr		
Tantalum		<2		
	Tellurium	<20		
Terbium		<1		
	Thorium	<0.5		
Tin		<200		
	Tungsten	<5		
Uranium		<1		
	Ytterbium	<0.5		
Zinc		270		
	Zirconium	<500		

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