

# GEOSTATS PTY LTD

Mining Industry Consultants  
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

## GBM321-10



### Certified Control Values

#### Total Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	121	10	110	+/- 1.9
Copper (ppm)	3329	129	107	+/- 24.8
Zinc (ppm)	3417	135	107	+/- 26.1
Lead (ppm)	2592	126	108	+/- 24.1
Arsenic (ppm)	111	8	87	+/- 1.8
Cobalt (ppm)	33	2	52	+/- 0.5
Silver (ppm)	6.7	1.1	102	+/- 0.21

#### Partial Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	111	10	101	+/- 1.9
Copper (ppm)	3375	165	139	+/- 27.7
Zinc (ppm)	3428	200	122	+/- 35.9
Lead (ppm)	2657	142	116	+/- 26.2
Arsenic (ppm)	112	10	107	+/- 2
Cobalt (ppm)	21	4	97	+/- 0.8
Silver (ppm)	6.9	0.9	116	+/- 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-2013, April-2021 round robins. The number of results used to certify each analyte is shown in the table above.	Antimony	60.6	Fe
<b>Material Description</b> This material is described as a Low Cu Pb Zn Cuttings milled.	Arsenic	118	SiO <sub>2</sub>	59.1
	<b>Colour Designation (ISCC-NBS, SP440)</b> This material is medium light gray in colour.	Barium	300	Al <sub>2</sub> O <sub>3</sub>
<b>Usage</b> 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 <sub>2</sub>
	<b>Preparation and Packaging</b> 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	14.4	MnO
<b>Assay Testwork</b> 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
	<b>Stability</b> This product remains stable in its original packaging, away from direct sunlight.	Calcium (%)	nr	P
<b>Material Safety</b> This product is not hazardous and non-toxic.		Cerium	38	S
	<b>Neutron Activation Analysis Results (ppm, unless otherwise noted)</b>	Chromium	105	MgO
<b>Major Elements by Fusion / XRF (%)</b>		Cobalt	36	K <sub>2</sub> O
	Antimony	60.6	Na <sub>2</sub> O	3.258
Arsenic		118	LOH1000	0.66
	Barium	300	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	14.4		
Caesium		2		
	Calcium (%)	nr		
Cerium		38		
	Chromium	105		
Cobalt		36		
	Europium	1.1		
Gold (ppb)		1170		
	Hafnium	<5		
Iridium (ppb)		<50		
	Iron (%)	6		
Lanthanum		20		
	Lutetium	0.4		
Mercury		nr		
	Molybdenum	<10		
Neodymium		nr		
	Nickel	140		
Potassium (%)		nr		
	Rubidium	69		
Samarium		4.5		
	Scandium	20.2		
Selenium		<10		
	Silver	9.5		
Sodium (%)		2.33		
	Strontium	nr		
Tantalum		<2		
	Tellurium	<20		
Terbium		<1		
	Thorium	11.7		
Tin		<200		
	Tungsten	32		
Uranium		5		
	Ytterbium	2.7		
Zinc		3600		
	Zirconium	<500		

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