

# GEOSTATS PTY LTD

Mining Industry Consultants  
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

## GBM319-6



Certified Control Values

### Total Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	225	12	61	+/- 3.1
Copper (ppm)	2186	82	70	+/- 19.7
Zinc (ppm)	1842	78	66	+/- 19.4
Lead (ppm)	1887	93	65	+/- 23.3
Arsenic (ppm)	375	17	51	+/- 4.9
Cobalt (ppm)	271	13	64	+/- 3.3
Silver (ppm)	3.5	0.6	60	+/- 0.15

### Partial Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	214	15	61	+/- 4
Copper (ppm)	2199	81	77	+/- 18.4
Zinc (ppm)	1839	90	67	+/- 22.1
Lead (ppm)	1895	119	66	+/- 29.4
Arsenic (ppm)	375	18	58	+/- 4.9
Cobalt (ppm)	257	18	60	+/- 4.7
Silver (ppm)	3.4	0.4	70	+/- 0.1

### CRM Details

<u>Control Statistic Details</u>	<u>Neutron Activation Analysis Results (ppm, unless otherwise noted)</u>		<u>Major Elements by Fusion / XRF (%)</u>	
	Control statistics were produced from results accumulated in the April-2019 round robin. The number of results used to certify each analyte is shown in the table above.	Antimony	171	Fe
<u>Material Description</u> This material is described as a Cut-off copper ore.	Arsenic	375	SiO <sub>2</sub>	55.88
	Barium	236	Al <sub>2</sub> O <sub>3</sub>	14.14
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is light gray in colour.	Bromine	<2	TiO <sub>2</sub>	1.55
	Cadmium	<10	MnO	0.15
<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.	Caesium	<2	CaO	7.72
	Calcium (%)	nr	P	0.071
<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.	Cerium	29	S	0.33
	Chromium	154	MgO	4.46
<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.	Cobalt	286	K <sub>2</sub> O	1.09
	Europium	1.4	Na <sub>2</sub> O	3.05
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.	Gold (ppb)	853	LOH000	0.55
	Hafnium	<5	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
<u>Material Safety</u> This product is not hazardous and non-toxic.	Iridium (ppb)	<50	'nr': Not Reported	
	Iron (%)	6.9		
	Lanthanum	13		
	Lutetium	0.4		
	Mercury	nr		
	Molybdenum	63		
	Neodymium	nr		
	Nickel	240		
	Potassium (%)	nr		
	Rubidium	35		
	Samarium	4.7		
	Scandium	26.2		
	Selenium	<10		
	Silver	<5		
	Sodium (%)	2.23		
	Strontium	nr		
	Tantalum	<2		
	Tellurium	<20		
	Terbium	<1		
	Thorium	5.8		
	Tin	<200		
	Tungsten	<5		
	Uranium	3		
	Ytterbium	2.9		
	Zinc	1800		
	Zirconium	<500		

20 Hines Road, O'Connor, Western Australia 6163  
Phone: +61 8 9314 2566 | Email: info@geostats.com.au  
Website: www.geostats.com.au

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