

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM319-8

Certified Control Values



GBM319-8

Total Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	57	4	60	+/- 1.1
Copper (ppm)	69613	2597	63	+/- 659.2
Zinc (ppm)	23	4	54	+/- 1.2
Lead (ppm)	5	2	35	+/- 0.8
Arsenic (ppm)	115	10	53	+/- 2.8
Cobalt (ppm)	53	4	62	+/- 0.9
Silver (ppm)	8.8	0.7	60	+/- 0.17

Partial Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	49	4	56	+/- 1.1
Copper (ppm)	69738	2545	62	+/- 651.5
Zinc (ppm)	18	3	46	+/- 0.8
Lead (ppm)	5	3	32	+/- 1
Arsenic (ppm)	103	6	55	+/- 1.6
Cobalt (ppm)	50	3	58	+/- 0.9
Silver (ppm)	8.6	0.6	70	+/- 0.14

CRM Details

<u>Control Statistic Details</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.	<u>Neutron Activation Analysis Results (ppm, unless otherwise noted)</u>		<u>Major Elements by Fusion / XRF (%)</u>	
		Antimony	3.6	Fe
	Arsenic	114	SiO ₂	56.04
	Barium	<100	Al ₂ O ₃	18.47
	Bromine	4	TiO ₂	1.56
	Cadmium	<10	MnO	<0.01
	Caesium	2	CaO	0.56
	Calcium (%)	nr	P	0.028
	Cerium	33	S	0.04
	Chromium	224	MgO	0.8
	Cobalt	55	K ₂ O	0.55
	Europium	2.3	Na ₂ O	0.33
	Gold (ppb)	159	LOH000	10.04
	Hafnium	<5		
	Iridium (ppb)	<50	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
	Iron (%)	1.6	'nr': Not Reported	
	Lanthanum	15		
	Lutetium	0.5		
	Mercury	nr		
	Molybdenum	<10		
	Neodymium	nr		
	Nickel	60		
	Potassium (%)	nr		
	Rubidium	22		
	Samarium	6.4		
	Scandium	45.2		
	Selenium	15		
	Silver	9		
	Sodium (%)	0.2		
	Strontium	nr		
	Tantalum	<2		
	Tellurium	<20		
	Terbium	1		
	Thorium	1.2		
	Tin	<200		
	Tungsten	6		
	Uranium	5		
	Ytterbium	3.4		
	Zinc	<200		
	Zirconium	<500		

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Material Description

This material is described as an Oxide copper (bleached basalt), Pilbara Western Australia.

Colour Designation (ISCC-NBS, SP440)

This material is yellowish gray in colour.

Usage

This product is for use in the mining industry as a reference material for monitoring and testing the accuracy of laboratory assaying.

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.

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.

Stability

This product remains stable in its original packaging, away from direct sunlight.

Material Safety

This product is not hazardous and non-toxic.

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