

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM323-7

Certified Control Values

Total Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	299	11	114	+/- 2.1
Copper (ppm)	2993	86	124	+/- 15.3
Zinc (ppm)	371	17	120	+/- 3
Lead (ppm)	104	7	115	+/- 1.3
Arsenic (ppm)	1137	42	100	+/- 8.4
Cobalt (ppm)	36	2	107	+/- 0.4
Silver (ppm)	2.4	0.3	107	+/- 0.05

Partial Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	294	17	104	+/- 3.3
Copper (ppm)	3003	121	139	+/- 20.4
Zinc (ppm)	357	24	121	+/- 4.4
Lead (ppm)	103	8	114	+/- 1.4
Arsenic (ppm)	1141	59	116	+/- 10.9
Cobalt (ppm)	35	3	93	+/- 0.5
Silver (ppm)	2.4	0.2	119	+/- 0.03

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-2023, April-2013 round robins. The number of results used to certify each analyte is shown in the table above.		Antimony	14.8	Fe	9.18
		Arsenic	1180	SiO ₂	52.29
		Barium	183	Al ₂ O ₃	12.62
		Bromine	3	TiO ₂	0.68
		Cadmium	<10	MnO	0.13
		Caesium	11	CaO	4.92
		Calcium (%)	nr	P	0.05
		Cerium	34	S	1.89
		Chromium	357	MgO	2
		Cobalt	38	K ₂ O	2.06
		Europium	1	Na ₂ O	1.227
		Gold (ppb)	3470	LOH1000	6.83
		Hafnium	<5	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes. 'nr': Not Reported	
		Iridium (ppb)	<50		
		Iron (%)	9.7		
		Lanthanum	15		
		Lutetium	0.4		
		Mercury	nr		
		Molybdenum	<10		
		Neodymium	nr		
		Nickel	310		
		Potassium (%)	nr		
		Rubidium	103		
		Samarium	4		
		Scandium	23.3		
		Selenium	<10		
		Silver	<5		
		Sodium (%)	0.929		
		Strontium	nr		
		Tantalum	<2		
		Tellurium	<20		
		Terbium	<1		
		Thorium	4.9		
		Tin	<200		
		Tungsten	30		
		Uranium	2		
		Ytterbium	2.8		
		Zinc	380		
		Zirconium	<500		

Material Description	
This material is described as a Copper Gold ore.	
Colour Designation (ISCC-NBS, SP440)	
This material is pale yellowish brown 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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