

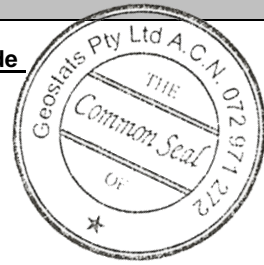
GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Ore Grade Base Metal Reference Material Product Code

GBM319-12

Certified Control Values



GBM319-12

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

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	2069	125	96	+/- 25
Copper (ppm)	195549	5019	116	+/- 927
Zinc (ppm)	8434	307	108	+/- 59
Lead (ppm)	2128	114	107	+/- 22
Cobalt (ppm)	nr	nr	nr	nr
Silver (ppm)	112.9	5.0	112	+/- 0.95
Sulphur (%)	13.42	0.45	87	+/- 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 176	Fe	13.6
	Arsenic 479	SiO ₂	26.77
	Barium 240	Al ₂ O ₃	5.51
	Bromine <2	TiO ₂	0.36
	Cadmium 25	MnO	0.07
	Caesium 2	CaO	1.56
	Calcium (%) nr	P	0.076
	Cerium 81	S	13.6
	Chromium 102	MgO	0.91
	Cobalt 286	K ₂ O	1.06
	Europium 1.4	Na ₂ O	1.26
	Gold (ppb) 35200	LOI1000	14.63
	Hafnium 6	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 (%) 13.4		
	Lanthanum 45		
	Lutetium 0.3		
	Mercury nr		
	Molybdenum 795		
	Neodymium nr		
	Nickel 2100		
	Potassium (%) nr		
	Rubidium 31		
	Samarium 5.9		
	Scandium 4.8		
	Selenium 53		
	Silver 110		
	Sodium (%) 0.91		
	Strontium nr		
	Tantalum 2		
	Tellurium <20		
	Terbium <1		
	Thorium 14		
	Tin <200		
	Tungsten 25		
	Uranium 6		
	Ytterbium 1.5		
	Zinc 8500		
	Zirconium <500		
<u>Material Description</u> This material is described as a Copper ore.			
<u>Colour Designation (ISCC-NBS, SP440)</u> This material is medium dark gray in colour.			
<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.			
<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.			
<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.			
<u>Stability</u> This product remains stable in its original packaging, away from direct sunlight.			
<u>Material Safety</u> This product is not hazardous and non-toxic.			

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