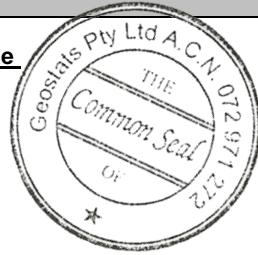


GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Ore Grade Base Metal Reference Material Product Code

GBM917-11



Certified Control Values

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	1706	83	92	+/- 17
Copper (ppm)	184574	3307	106	+/- 640
Zinc (ppm)	20668	735	109	+/- 140
Lead (ppm)	2085	120	106	+/- 23
Cobalt (ppm)	nr	nr	nr	nr
Silver (ppm)	94.5	5.0	114	+/- 0.92
Sulphur (%)	21.92	0.85	90	+/- 0.18

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 October-2017 round robin. The number of results used to certify each analyte is shown in the table above.	Antimony	125	Fe
Material Description This material is described as a Copper Concentrate.	Arsenic	456	SiO ₂	16.26
	Barium	195	Al ₂ O ₃	3.67
Colour Designation (ISCC-NBS, SP440) This material is grayish black in colour.	Bromine	<2	TiO ₂	0.261
	Cadmium	75	MnO	0.055
Usage 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	1.59
	Calcium (%)	nr	P	0.05
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.	Cerium	49	S	21.2
	Chromium	94	MgO	1.51
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.	Cobalt	299	K ₂ O	0.543
	Europium	<0.5	Na ₂ O	0.76
Stability This product remains stable in its original packaging, away from direct sunlight.	Gold (ppb)	48600	LOI1000	15.57
	Hafnium	<5	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
Material Safety This product is not hazardous and non-toxic.	Iridium (ppb)	<50	nr: Not Reported	
	Iron (%)	22.7		
	Lanthanum	27		
	Lutetium	<0.2		
	Mercury	nr		
	Molybdenum	1270		
	Neodymium	nr		
	Nickel	1800		
	Potassium (%)	nr		
	Rubidium	27		
	Samarium	2.8		
	Scandium	4.5		
	Selenium	107		
	Silver	100		
	Sodium (%)	0.54		
	Strontium	nr		
	Tantalum	16.3		
	Tellurium	<20		
	Terbium	<1		
	Thorium	7		
	Tin	<400		
	Tungsten	28		
	Uranium	4		
	Ytterbium	<0.5		
	Zinc	21600		
	Zirconium	<500		

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