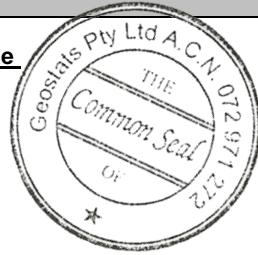


GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Ore Grade Base Metal Reference Material Product Code

GBM317-11



Certified Control Values

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	3227	114	87	+/- 25
Copper (ppm)	160746	4485	114	+/- 836
Zinc (ppm)	34916	1282	105	+/- 249
Lead (ppm)	4270	188	102	+/- 37
Cobalt (ppm)	nr	nr	nr	nr
Silver (ppm)	225.6	9.9	105	+/- 1.93
Sulphur (%)	24.41	0.79	88	+/- 0.17

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-2017 round robin. The number of results used to certify each analyte is shown in the table above.	Antimony	209	Fe
Material Description This material is described as a Composite Copper Sulphide Ore.	Arsenic	1200	SiO ₂	15.86
	Colour Designation (ISCC-NBS, SP440) This material is grayish black in colour.	Barium	<171	Al ₂ O ₃
Usage This product is for use in the mining industry as a reference material for monitoring and testing the accuracy of laboratory assaying.		Bromine	<2	TiO ₂
	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.	Cadmium	132	MnO
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.		Caesium	<2	CaO
	Stability This product remains stable in its original packaging, away from direct sunlight.	Calcium (%)	nr	P
Material Safety This product is not hazardous and non-toxic.		Cerium	<10	S
	Neutron Activation Analysis Results (ppm, unless otherwise noted)	Chromium	152	MgO
Major Elements by Fusion / XRF (%)		Cobalt	633	K ₂ O
	Neutron Activation	Europium	<2.2	Na ₂ O
Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.		Gold (ppb)	76600	LOI1000
	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Hafnium	<5	
Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.		Iridium (ppb)	<100	
	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Iron (%)	32.2	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Lutetium	<0.4	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Molybdenum	1170	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Nickel	3250	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Rubidium	<20	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Scandium	<0.5	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Silver	230	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Tellurium	<20	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Thorium	7.6	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Tungsten	69	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Ytterbium	<2.9	
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	Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	Zirconium	<500	

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