

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM914-5

Certified Control Values



GBM914-5

Total Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	210	22	77	+/- 5
Copper (ppm)	12970	497	74	+/- 116
Zinc (ppm)	592	38	80	+/- 8.5
Lead (ppm)	94	9	70	+/- 2.1
Arsenic (ppm)	43	6	66	+/- 1.4
Cobalt (ppm)	40	3	74	+/- 0.7
Silver (ppm)	4.1	0.4	69	nr

Partial Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	208	27	54	+/- 7.4
Copper (ppm)	13032	582	63	+/- 147.7
Zinc (ppm)	581	37	63	+/- 9.5
Lead (ppm)	96	15	61	+/- 3.9
Arsenic (ppm)	41	7	54	+/- 1.9
Cobalt (ppm)	39	4	51	+/- 1.2
Silver (ppm)	4.1	0.4	68	+/- 0.1

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-2014 round robin. The number of results used to certify each analyte is shown in the table above.	Antimony	1.3	Fe
Material Description This material is described as a Copper rougher feed - This material also certified for partial digests.	Arsenic	49	SiO ₂	36.39
	Barium	470	Al ₂ O ₃	8.77
Colour Designation (ISCC-NBS, SP440) This material is medium gray in colour.	Bromine	1.3	TiO ₂	0.25
	Cadmium	<5	MnO	0.18
Usage This product is for use in the mining industry as a reference material for monitoring and testing the accuracy of laboratory assaying.	Caesium	1.39	CaO	4.45
	Calcium (%)	nr	P	0.073
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	70	S	6.21
	Chromium	70	MgO	1.71
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	44	K ₂ O	3.04
	Europium	<1.04	Na ₂ O	2.25
Stability This product remains stable in its original packaging, away from direct sunlight.	Gold (ppb)	1480	LOI1000	6.68
	Hafnium	<1	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 (%)	23.4		
	Lanthanum	38.2		
	Lutetium	<0.2		
	Mercury	nr		
	Molybdenum	119		
	Neodymium	nr		
	Nickel	251		
	Potassium (%)	nr		
	Rubidium	80		
	Samarium	3.93		
	Scandium	3.9		
	Selenium	17		
	Silver	5		
	Sodium (%)	1.69		
	Strontium	nr		
	Tantalum	0.5		
	Tellurium	nr		
	Terbium	<0.5		
	Thorium	4.6		
	Tin	nr		
	Tungsten	24.4		
	Uranium	6.2		
	Ytterbium	<2		
	Zinc	610		
	Zirconium	nr		

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