

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Geochem Base Metal Reference Material Product Code

GBM913-3

Certified Control Values



GBM913-3

Total Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	13	1	57	+/- 0.3
Copper (ppm)	34	4	63	+/- 0.9
Zinc (ppm)	51	3	61	+/- 0.8
Lead (ppm)	20	3	59	+/- 0.7
Arsenic (ppm)	5	3	30	+/- 1
Cobalt (ppm)	12	1	64	+/- 0.3
Silver (ppm)	0.6	nr	nr	nr

Partial Digest

Element	Grade	Standard Deviation	Num of Analyses	Confidence Interval
Nickel (ppm)	12	2	54	+/- 0.5
Copper (ppm)	33	3	64	+/- 0.8
Zinc (ppm)	49	5	66	+/- 1.3
Lead (ppm)	16	3	57	+/- 0.8
Arsenic (ppm)	3	2	35	+/- 0.6
Cobalt (ppm)	13	1	54	+/- 0.4
Silver (ppm)	0.4	nr	nr	nr

CRM Details

Control Statistic Details	Neutron Activation Analysis Results (ppm, unless otherwise noted)	Major Elements by Fusion / XRF (%)	
		Fe	3
Control statistics were produced from results accumulated in the October-2013 round robin. The number of results used to certify each analyte is shown in the table above.	Antimony 0.18	SiO ₂	74.78
Material Description This material is described as a Basalt.	Arsenic 1.47	Al ₂ O ₃	10.63
Colour Designation (ISCC-NBS, SP440) This material is very light gray in colour.	Barium 2420	TiO ₂	0.41
Usage This product is for use in the mining industry as a reference material for monitoring and testing the accuracy of laboratory assaying.	Bromine 0.494	MnO	0.06
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 <1.82	CaO	1.31
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 1	P	0.08
Stability This product remains stable in its original packaging, away from direct sunlight.	Calcium (%) nr	S	0.19
Material Safety This product is not hazardous and non-toxic.	Cerium 139	MgO	0.94
	Chromium 16.1	K ₂ O	4.56
	Cobalt 11.8	Na ₂ O	1.55
	Europium nr	LOI1000	0.83
	Gold (ppb) <0.974	Neutron Activation Analyses and Fusion / XRF Analyses are single results and are indicative only. These are provided for matrix identification purposes.	
	Hafnium 5.86	'nr': Not Reported	
	Iridium (ppb) <20		
	Iron (%) 3.01		
	Lanthanum 84.4		
	Lutetium 0.329		
	Mercury nr		
	Molybdenum 6.95		
	Neodymium nr		
	Nickel 12		
	Potassium (%) nr		
	Rubidium 116		
	Samarium 9.51		
	Scandium 4.41		
	Selenium <1.05		
	Silver <1		
	Sodium (%) 1.12		
	Strontium nr		
	Tantalum 0.481		
	Tellurium nr		
	Terbium 0.937		
	Thorium 24.7		
	Tin nr		
	Tungsten 5.63		
	Uranium 2.48		
	Ytterbium nr		
	Zinc 65		
	Zirconium nr		

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