

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

GRE-06

Certified Pulp Rare Earth Reference Material

GRE-06

Certified Control Values

Method	Element	Units	Grade	Standard Deviation	No of Analyses	95% Confidence Interval	
Fusion XRF	Ce	%	15.88	0.08	40	+/- 0.03	
	La	%	9.63	0.03	40	+/- 0.02	
	Nd	%	7.13	0.07	50	+/- 0.02	
	Pr	%	1.94	0.04	40	+/- 0.02	
	Y	ppm	1461	42	40	+/- 14	
Fusion ICP	Ce	%	15.41	0.76	30	+/- 0.29	
	Dy	ppm	615	13	50	+/- 4	
	Er	ppm	111	6	40	+/- 3	
	Eu	ppm	1773	39	40	+/- 13	
	Gd	ppm	3197	364	50	+/- 104	
	Ho	ppm	70.67	2.17	50	+/- 0.62	
	La	%	9.14	0.48	30	+/- 0.18	
	Lu	ppm	6.81	1.57	50	+/- 0.45	
	Nd	%	7.12	0.26	30	+/- 0.1	
	Pr	%	1.92	0.09	30	+/- 0.04	
	Sc	ppm	114	29	40	+/- 10	
	Sm	%	0.83	Indicative Only			
	Tb	ppm	229	21	40	+/- 7	
	Th	ppm	1540	33	39	+/- 11	
	Tm	ppm	10.27	0.45	50	+/- 0.13	
	U	ppm	30.22	1.17	50	+/- 0.34	
	Y	ppm	1424	38	50	+/- 11	
	Yb	ppm	46.32	4.04	30	+/- 1.51	
	Al	%	1.22	0.05	40	+/- 0.02	
	Ba	ppm	3442	138	40	+/- 45	
	Ca	%	1.88	0.12	50	+/- 0.04	
	Fe	%	14.42	0.32	50	+/- 0.1	
	K	%	0.08	Indicative Only			
	Mg	%	0.34	0.04	50	+/- 0.02	
	Mn	ppm	7396	394	50	+/- 112	
	P	%	8.14	Indicative Only			
	S	%	0.35	0.03	50	+/- 0.01	
	Si	ppm	8388	359	38	+/- 118	
	Ti	ppm	0.53				
	TiO2	%	0.59	0.01	30	+/- 0.01	
	Zn	ppm	1450	64	50	+/- 19	
	Zr	ppm	168	Indicative Only			

CRM Details

<p>Control Statistic Details Control values for this material were determined during a certification program.</p> <p>Certification Date This material was certified with the above values on: 12th September 2014</p> <p>Source Material Prior to homogenisation and testing, this material was sourced from: Lanthanide Concentrate, Western Australia</p> <p>Material Type Pulp Rare Earth Concentrate, 10g samples.</p> <p>Usage This product is for use in the mining industry as reference materials for monitoring and testing the accuracy of laboratory assaying.</p> <p>Preparation and Packaging This reference material was dried in an oven for a minimum of 8 hours at 105°C. The dry material is then pulverised in a bowl and puck mill and homogenised in a vee-blender. The material is then stored in a sealed, stable container ready for final packaging. Materials are statistically sampled from stores, then packaged into heat sealed, air tight, plastic packets ready for distribution. All packaging has been chosen to ensure minimal contamination from outside sources during shipment, use and storage.</p> <p>Assay Testwork This standard was tested in a dedicated certification program. 10 x 20g samples were sent to 5 laboratories for fusion / XRF and fusion / ICP analyses. Assay distributions were checked and processed statistically, producing monitoring statistics for these standards. Materials are tested regularly to ensure stability and homogeneity.</p>

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Geostats Pty Ltd, Certified Rare Earth Reference Material, Product Code: