

Laboratory Chemical Laboratory, Geological Survey of India, N.R., NH-5P, N.I.T, Faridabad, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6951

Page 1 of 3

Validity 30.08.2018 to 29.08.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I.	SOIL AND ROCK			
1.	Soil and Stream Sediment	SiO ₂	GSI/CL/FDB/SOP/01/ 1A/ XRF/Issue No. 02 Issue Date 15.05.2018	32 % to 89 %
		Al ₂ O ₃		3 % to 30 %
		TiO ₂		0.2 % to 3.5 %
		Fe ₂ O ₃		1.5 % to 19 %
		MnO		0.05 % to 1.5 %
		CaO		0.2 % to 8.5 %
		MgO		0.1 % to 4 %
		Na ₂ O		0.1 % to 3.5 %
		K ₂ O		0.1 % to 5.5 %
		P ₂ O ₅		0.05 % to 0.4 %
		Ba		50 mg/kg to 2000 mg/kg
		Co		5 mg/kg to 100 mg/kg
		Cr		20 mg/kg to 2000 mg/kg
		Cu		5 mg/kg to 1000 mg/kg
		Ga		5 mg/kg to 30 mg/kg
		Nb		5 mg/kg to 10 mg/kg
		Ni		5 mg/kg to 300 mg/kg
		Pb		10 mg/kg to 2700 mg/kg
		Rb		10 mg/kg to 470 mg/kg
		Sc	5 mg/kg to 30 mg/kg	
		Sr	10 mg/kg to 400 mg/kg	
		Th	5 mg/kg to 70 mg/kg	
		V	20 mg/kg to 250 mg/kg	
		Y	10 mg/kg to 40 mg/kg	
		Zn	30 mg/kg to 4000 mg/kg	
		Zr	70 mg/kg to 500 mg/kg	
		Be	GSI/CL/FDB/SOP/01/ ICPMS/1B/Issue No. 02 Issue Date 15.05.2018	0.9 mg/kg to 26 mg/kg
Ge		0.4 mg/kg to 3.2 mg/kg		
Sn		1.4 mg/kg to 370 mg/kg		

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Page 2 of 3

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		La	GSI/CL/FDB/SOP/01/ ICPMS/1B/Issue No. 02 Issue Date 15.05.2018	13 mg/kg to 164 mg/kg
		Ce		38 mg/kg to 402 mg/kg
		Pr		3.2 mg/kg to 57 mg/kg
		Nd		11.8 mg/kg to 210 mg/kg
		Eu		0.47 mg/kg to 3.4 mg/kg
		Sm		2.4 mg/kg 18 mg/kg
		Tb		0.42 mg/kg 1.8 mg/kg
		Gd		2.2 mg/kg to 11 mg/kg
		Dy		2.2 mg/kg to 9.5 mg/kg
		Ho		0.45 mg/kg to 2.6 mg/kg
		Er		1.3 mg/kg to 8.2 mg/kg
		Tm		0.2 mg/kg to 1.55 mg/kg
		Yb		1.2 mg/kg to 11 mg/kg
		Lu		0.19 mg/kg to 1.6 mg/kg
		Hf		1.8 mg/kg to 20 mg/kg
		Ta		0.5 mg/kg to 15.3 mg/kg
		U	1.3 mg/kg to 17 mg/kg	
2.	Rock	SiO ₂	GSI/CL/FDB/SOP/01/ XRF/1C/Issue No. 02 Issue Date 15.05.2018	35 % to 90 %
		Al ₂ O ₃		0.05 % to 23.5 %
		TiO ₂		0.01 % to 2.5 %
		Fe ₂ O ₃		0.02 % to 75 %
		MnO		0.05 % to 0.5 %
		CaO		0.3 % to 55 %
		MgO		0.1 % to 26 %
		Na ₂ O		0.1 % to 7 %
		K ₂ O		0.1 % to 15 %
		P ₂ O ₅		0.01 % to 2.5 %
		Ba		50 mg/kg to 2000 mg/kg
		Co		5 mg/kg to 110 mg/kg
		Cr		15 mg/kg to 2000 mg/kg
		Cu		5 mg/kg to 550 mg/kg
		Ga		5 mg/kg to 50 mg/kg
		Nb		5 mg/kg to 50 mg/kg
		Ni	5 mg/kg to 1000 mg/kg	

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Page 3 of 3

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		Pb	GSI/CL/FDB/SOP/01/ XRF/1C/Issue No. 02 Issue Date 15.05.2018	5 mg/kg to 1000 mg/kg
		Rb		5 mg/kg to 500 mg/kg
		Sc		5 mg/kg to 20 mg/kg
		Sr		5 mg/kg to 1200 mg/kg
		Th		5 mg/kg to 100 mg/kg
		V		20 mg/kg to 250 mg/kg
		Y		10 mg/kg to 1000 mg/kg
		Zn		20 mg/kg to 250 mg/kg
		Zr		10 mg/kg to 1500 mg/kg
		Be		0.9 mg/kg to 26 mg/kg
		Ge		0.4 mg/kg to 3.2 mg/kg
		Sn		1.4 mg/kg to 370 mg/kg
		La		13 mg/kg to 164 mg/kg
		Ce		38 mg/kg to 402 mg/kg
		Pr		3.2 mg/kg to 57 mg/kg
		Nd		11.8 mg/kg to 210 mg/kg
		Eu		0.47 mg/kg to 3.5 mg/kg
		Sm		2.4 mg/kg 18 mg/kg
		Tb		0.42 mg/kg 1.8 mg/kg
		Gd		2.2 mg/kg to 11 mg/kg
		Dy		2.2 mg/kg to 9.5 mg/kg
		Ho		0.45 mg/kg to 5.0 mg/kg
		Er		1.3 mg/kg to 8.2 mg/kg
		Tm		0.2 mg/kg to 3.0 mg/kg
		Yb		1.2 mg/kg to 11 mg/kg
		Lu		0.19 mg/kg to 2.0 mg/kg
		Hf		1.8 mg/kg to 20 mg/kg
		Ta		0.5 mg/kg to 15.3 mg/kg
		U	1.3 mg/kg to 17 mg/kg	