

Laboratory **Chemical Laboratory, Geological Survey of India, Western Region,
15-16, Jhalana Dungri, Jaipur, Rajasthan**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-8245**

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Validity **01.01.2019 to 31.12.2020**

Last Amended on --

"In view of the transition for ISO/IEC 17025:2017, the validity of this accreditation certificate will cease on 30.11.2020"

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 & Stream Sediment	SiO ₂	GSI/CL/JPR /SOP/01/XRF/1A Issue No. 02 Issue Date: 17.10.2018	32 % to 89 %
		Al ₂ O ₃		2.80 % to 30 %
		TiO ₂		0.20 % to 3.4 %
		Fe ₂ O ₃		2.00 % to 18.76 %
		MnO		0.03 % to 0.23 %
		CaO		0.20 % to 8.27 %
		MgO		0.12 % to 4.1 %
		Na ₂ O		0.10 % to 3.4 %
		K ₂ O		0.13 % to 5.00 %
		P ₂ O ₅		0.05 % to 0.38 %
		Ba		42 mg/kg to 2000 mg/kg
		Co		3 mg/kg to 97 mg/kg
		Cr		22 mg/kg to 4310 mg/kg
		Cu		5.00 mg/kg to 390 mg/kg
		Ga		6.4 mg/kg to 40 mg/kg
		Nb		5 mg/kg to 95 mg/kg
		Ni		3 mg/kg to 276 mg/kg
		Pb		10 mg/kg to 2700 mg/kg
		Rb		10 mg/kg to 470 mg/kg
		Sc		4 mg/kg to 28 mg/kg
		Sr		24 mg/kg to 525 mg/kg
Th	3.7 mg/kg to 70 mg/kg			
V	17 mg/kg to 247 mg/kg			
Y	11 mg/kg to 60 mg/kg			
Zn	31 mg/kg to 3800 mg/kg			
Zr	70 mg/kg to 500 mg/kg			
	Be	GSI/CL/JPR /SOP/01/ ICPMS/1B, Issue No. 01 Issue Date: 25.06.2014	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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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		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
		Sm		2.4 mg/kg to 18 mg/kg
		Eu		0.47 mg/kg to 3.4 mg/kg
		Gd		2.2 mg/kg to 11 mg/kg
		Tb		0.42 mg/kg to 1.8 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/JPR/SOP/02/XRF/ 2A	38.2 % to 76.83 %
		Al ₂ O ₃	Issue No. 02	0.66 % to 28.9 %
		TiO ₂	Issue Date: 17.10.2018	0.01 % to 2.60 %
		Fe ₂ O ₃		0.47 % to 15.06 %
		MnO		0.02 % to 0.22 %
		CaO		0.50 % to 15.90 %
		MgO		0.10 % to 44.60 %
		Na ₂ O		0.1 % to 8.90 %
		K ₂ O		0.13 % to 15.35 %
		P ₂ O ₅		0.01 % to 2.44 %
		Ba		40 mg/kg to 1882 mg/kg
		Co		3 mg/kg to 116 mg/kg
		Cr		3 mg/kg to 2800 mg/kg
		Cu		5 mg/kg to 225 mg/kg
		Ga		5 mg/kg to 59 mg/kg
		Nb		5 mg/kg to 267 mg/kg

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Ni		3 mg/kg to 2460 mg/kg
		Pb		2 mg/kg to 55 mg/kg
		Rb		5 mg/kg to 3600 mg/kg
		Sc		4 mg/kg to 35 mg/kg
		Sr		8 mg/kg to 1370 mg/kg
		Th		4 mg/kg to 79 mg/kg
		V		17 mg/kg to 630 mg/kg
		Y		10 mg/kg to 86 mg/kg
		Zn		10 mg/kg to 223 mg/kg
		Zr		20 mg/kg to 1280 mg/kg
		Be	GSI/CL/JPR /SOP/02/	0.9 mg/kg to 26 mg/kg
		Ge	ICPMS/2B	0.4 mg/kg to 3.2 mg/kg
		Sn	Issue No. 01	1.4 mg/kg to 370 mg/kg
		Mo	Issue Date: 25.06.2014	0.30 mg/kg to 92 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
		Sm		2.4 mg/kg to 18 mg/kg
		Eu		0.47 mg/kg to 3.4 mg/kg
		Gd		2.2 mg/kg to 11 mg/kg
		Tb		0.42 mg/kg to 1.8 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
		W		0.95 mg/kg to 126 mg/kg
		U		1.3 mg/kg to 17 mg/kg