

**Table ST-3: Trace element concentration within reference materials analysed along with the studied samples.**

MES	V	Cr	Co	Ni	As	Rb	Sr	Y	Zr	Nb	Mo	Cd	Ba	Hf	Ta	Pb	Th	U	Ce
Average (n=9)	50.50	50.67	48.41	49.90	49.92	49.90	49.74	50.22	49.34	49.23	45.28	49.66	50.81	49.61	48.17	48.43	48.56	48.96	50.35691
Stdev 1σ	6.21	5.25	5.36	8.22	7.95	5.03	4.52	4.38	6.57	6.14	6.22	4.19	6.48	7.76	3.86	4.46	3.94	4.20	3.879388
Reported value	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50
error %	-1.00	-1.34	3.18	0.20	0.16	0.20	0.53	-0.44	1.32	1.55	9.45	0.67	-1.61	0.78	3.67	3.14	2.89	2.09	-0.71382
Measured Values	V	Cr	Co	Ni	As	Rb	Sr	Y	Zr	Nb	Mo	Cd	Ba	Hf	Ta	Pb	Th	U	Ce
SBC-1_Avg (n=5)	283.13	131.64	25.96	85.76	15.71	177.27	221.09	42.11	128.86	20.12	4.50	0.50	880.34	4.95	3.47	36.84	19.14	6.94	137.5563
Stdev 1σ	52.20	23.55	4.59	18.96	2.39	23.79	28.95	5.71	25.84	4.28	4.89	0.07	147.38	2.00	1.24	3.99	2.37	0.83	16.48084
WGB-1_Average (n=5)	251.78	302.07	26.96	74.29	2.93	17.56	110.80	13.48	28.80	12.94	BDL	0.10	856.36	1.59	4.35	5.55	0.87	0.55	16.13743
Stdev 1σ	34.35	39.42	3.55	13.13	3.95	2.22	13.46	1.71	6.15	8.79	BDL	0.01	130.11	1.49	1.61	0.67	0.18	0.06	2.015328
SCO-1_Avg (n=5)	143.48	71.54	11.32	25.85	12.40	112.80	167.61	22.36	117.67	11.05	BDL	0.18	574.29	3.07	1.04	27.97	9.20	3.01	58.75852
Stdev 1σ	18.35	8.24	1.56	6.11	1.72	14.54	17.49	2.26	20.49	1.52	BDL	0.02	48.75	0.41	0.27	2.66	0.75	0.28	4.019938
CRM_Reported Value	V	Cr	Co	Ni	As	Rb	Sr	Y	Zr	Nb	Mo	Cd	Ba	Hf	Ta	Pb	Th	U	Ce
SBC-1	220 ± 1.4	109 ± 1	22.7 ± 0.3	82.8 ± 0.8	25.7 ± 0.7	147 ± 1	178 ± 1.4	36.5 ± 0.3	134 ± 1.6	15.3 ± 0.2	2.4 ± 0.07	NA	788 ± 7.7	3.7 ± 0.1	1.1 ± 0.03	35 ± 0.3	15.8 ± 0.2	5.76 ± 0.11	108 ± 0.9
WGB-1	222 ± 17	NA	29.8 ± 1.7	NA	1.5 ± 5	19.5 ± 1.5	118 ± 9	14.6 ± 2.7	44 ± 16	8 ± 4	1.2 ± 0.5	0.1 - 0.4	851 ± 61	1.5 ± 0.2	0.3 - 1	4.0 - 14	1.0 ± 0.1	1.0 ± 0.1	14 - 20
SCO-1	130 ± 13	68 ± 5	11 ± 0.8	27 ± 4	12 ± 1	110 ± 4	170 ± 16	26 ± 4	160 ± 30	11.00	1.4 ± 0.2	NA	570 ± 30	NA	NA	31 ± 3	9.7 ± 0.5	NA	62 ± 6