

Table S2. Methods of analysis, detection limits, analytical results and recovery of certified reference material “Trapp ST-2a (Russian standard GSO 8671-2005).

Element	Method	Detection limit	Certified value	Found	Recovery.%
Na	AES	0.005	2.32	2.5	93
Mg	AES	0.008	7.51	7.5	100
Al	AES	0.007	14.63	14.8	99
P	AES	0.005	0.17	0.17	100
S	AES	0.002	0.026	0.029	90
K	AES	0.001	0.46	0.47	98
Ca	AES	0.007	10.42	10.5	99
Ti	AES, MS	0.0007	1.59	1.6	99
Mn	AES, MS	0.0001	0.21	0.23	91
Fe	AES	0.006	14.62	14.6	100
Li	MS	0.03	9	10.4	87
Be	MS	0.01	0.8	0.72	111
Sc	MS	0.1	41	39.8	103
V	AES, MS	0.8	315	320	98
Cr	AES, MS	0.7	213	230	93
Co	MS	0.2	52	54.6	95
Ni	AES, MS	0.7	126	123	102
Cu	AES, MS	0.6	180	188	96
Zn	AES, MS	0.9	112	111	101
Ga	MS	0.04	17	20.1	85
As	MS	0.08	-	< DL	-
Se	MS	0.8	-	< DL	-
Rb	MS	0.06	11	11.1	99
Sr	AES, MS	0.06	197	200	99
Y	MS	0.08	29	30.0	97
Zr	MS	0.07	125	108	116
Nb	MS	0.03	6.0	5.2	115
Mo	MS	0.06	1.0	0.67	149
Rh	MS	0.08	-	< DL	-
Pd	MS	0.06	-	< DL	-
Ag	MS	0.03	0.05	0.065	77
Cd	MS	0.04	-	0.1	-
Sn	MS	0.08	2.6	1.04	250
Sb	MS	0.03	-	0.149	-
Te	MS	0.07	-	< DL	-
Cs	MS	0.01	0.5	0.35	143
Ba	AES, MS	0.07	227	153	148
La	MS	0.02	8	8.2	98
Ce	MS	0.03	22	19.8	111
Pr	MS	0.006	2.6	2.7	96
Nd	MS	0.008	13.2	13.1	101
Sm	MS	0.007	4.0	3.9	103

Eu	MS	0.007	1.4	1.3	108
Gd	MS	0.005	4.5	4.7	96
Tb	MS	0.006	0.8	0.8	100
Dy	MS	0.004	5.1	5.2	98
Ho	MS	0.006	1	1.1	91
Er	MS	0.007	2.9	3.2	91
Tm	MS	0.004	0.44	0.45	98
Yb	MS	0.004	3.3	3.1	106
Lu	MS	0.004	0.44	0.44	100
Hf	MS	0.02	2.7	2.9	93
Ta	MS	0.01	0.4	0.31	129
W	MS	0.03	0.4	0.21	190
Re	MS	0.007	-	< DL	-
Ir	MS	0.005	-	< DL	-
Pt	MS	0.006	-	< DL	-
Au	MS	0.03	0.0026	< DL	-
Hg	MS	0.01	-	0.016	-
Tl	MS	0.004	-	0.051	-
Pb	MS	0.053	3.0	2.4	124
Bi	MS	0.005	-	< DL	-
Th	MS	0.009	1.0	1.1	111
U	MS	0.004	0.5	0.47	106

<DL - under limit of detection; ND – not determined

Detection limits and certified value, for Na- Fe in %, for Li – U in $\mu\text{g g}^{-1}$

The MS measurements (ICP-MS (X-7, Thermo Scientific, USA) were made using the standard parameters: a RF generator power of 1250 W; a PolyCon nebulizer; a plasma-forming Ar flow rate of 12 L/min; an auxiliary Ar flow rate of 0.9 L/min; an Ar flow rate into the nebulizer of 0.9 L/min; an analysed sample flow rate of 0.8 mL/ min

The AES measurements (iCAP-6500, Thermo Scientific, USA) were made using the standard parameters: a RF generator power of 1200 W; a PolyCon nebulizer; a plasma-forming Ar flow rate of 13 L/min; an auxiliary Ar flow rate of 0.8 L/min; an Ar flow rate into the nebulizer of 0.8 L/min; an analysed sample flow rate of 1.5 mL/ min