

## Supplementary materials A

**Table A.1:** Triplicates on one nodule, concentrations are ppm.

	Acetic Acidc leaching						Residue					
	NSNO1AL	NSNO1BL	NSNO1CL	Average	$\sigma$	RSD %	NSNO1AR	NSNO1BR	NSNO1CR	Average	$\sigma$	RSD %
Al	367.2	365.7	403.5	378.8	21.44	5.66	18762.6	20740.3	n.a.	19751.4	988.85	5.01
Ca	266 591.8	268 736.1	271 304.8	268 877.6	2 359.69	0.88	2744.4	3330.5	n.a.	3037.4	293.07	9.65
Na	111.7	101.2	103.0	105.3	5.62	5.33	2785.4	2648.1	n.a.	2716.8	68.66	2.53
K	474.8	507.1	531.0	504.3	28.20	5.59	7163.7	7107.2	n.a.	7135.5	28.28	0.40
Fe	332.5	297.9	356.1	328.9	29.25	8.90	7366.7	7645.2	n.a.	7506.0	139.25	1.86
Mg	4 073.0	3 951.5	4 105.9	4 043.5	81.34	2.01	1555.3	1504.6	n.a.	1530.0	25.31	1.65
Mn	219.2	216.8	240.6	225.5	13.08	5.80	1757.9	1911.6	n.a.	1834.7	76.85	4.19
Ti	3.3	4.7	6.2	4.7	1.47	31.23	1316.9	1336.3	n.a.	1326.6	9.70	0.73
Zr	0.3	0.3	0.3	0.3	0.00	1.32	75.8	66.5	n.a.	71.1	4.64	6.52
Ba	119.7	117.2	120.0	119.0	1.52	1.27	262.6	271.5	n.a.	267.1	4.46	1.67
Sr	313.0	313.3	316.2	314.1	1.77	0.56	52.5	53.7	n.a.	53.1	0.62	1.17
Rb	0.7	0.7	0.7	0.7	0.03	4.25	36.0	35.5	n.a.	35.7	0.26	0.72
V	1.0	0.7	0.8	0.8	0.17	19.83	19.0	18.2	n.a.	18.6	0.42	2.24
Y	84.9	86.3	87.2	86.2	1.16	1.34	7.4	7.1	n.a.	7.3	0.13	1.80
U	3.8	3.6	3.7	3.7	0.06	1.49	0.7	0.7	n.a.	0.7	0.00	0.17
La	182.9	188.6	194.0	188.5	5.56	2.95	16.2	16.5	n.a.	16.3	0.17	1.02
Ce	10.1	10.3	10.4	10.3	0.19	1.84	53.5	54.6	n.a.	54.1	0.56	1.04
Pr	28.1	27.9	28.1	28.0	0.08	0.27	2.8	3.1	n.a.	2.9	0.13	4.53
Nd	110.0	113.3	114.8	112.7	2.46	2.19	10.4	11.2	n.a.	10.8	0.37	3.39
Sm	16.7	16.9	17.3	16.9	0.30	1.78	1.7	1.9	n.a.	1.8	0.09	4.95
Eu	3.3	3.2	3.3	3.2	0.08	2.54	0.4	0.4	n.a.	0.4	0.00	0.80
Gd	16.6	17.0	17.2	16.9	0.33	1.96	1.9	2.0	n.a.	1.9	0.03	1.68
Tb	2.0	1.9	2.0	1.9	0.05	2.35	0.2	0.2	n.a.	0.2	0.00	1.36
Dy	9.3	9.2	9.3	9.3	0.05	0.49	1.3	1.3	n.a.	1.3	0.01	0.61
Ho	2.0	1.9	1.9	1.9	0.04	1.99	0.3	0.3	n.a.	0.3	0.00	0.86
Er	5.2	4.9	5.0	5.0	0.14	2.85	0.8	0.7	n.a.	0.8	0.02	3.02
Tm	0.7	0.6	0.6	0.6	0.05	7.60	0.1	0.1	n.a.	0.1	0.01	10.33
Yb	2.7	2.6	2.7	2.7	0.03	1.04	0.7	0.7	n.a.	0.7	0.05	6.42
Lu	0.5	0.4	0.4	0.4	0.04	10.66	0.1	0.1	n.a.	0.1	0.01	6.80