

Table S1 Recovery rates for the analyses of certified reference material PACS-2 by NRCC for respective methods and LODs under the applied conditions

element	method	reference value (mg/kg)	measured mean (mg/kg)	recovery rate	LOD (mg/kg)
Cr	TXRF	90.7 ± 4.6	94.8 ± 5.2	104.5 %	0.4
Ni	TXRF	39.5 ± 2.3	35.6 ± 3.2	90.0 %	0.4
Cu	TXRF	310 ± 12	319 ± 21	102.9 %	0.8
Zn	TXRF	364 ± 23	107.2 ± 5.5	101.8 %	2.0
As	TXRF	26.2 ± 1.5	26.8 ± 2.0	102.3 %	2.0
Sr	TXRF	276 ± 30	272 ± 32	98.6 %	0.6
Ag	GF-AAS	1.22 ± 0.14	1.19 ± 0.28	99.5 %	0.008
Au [*]	GF-AAS				0.035
Cd	GF-AAS	2.11 ± 0.15	2.05 ±	101.5 %	0.003
Pb	TXRF	183 ± 8	182 ± 6	99.2 %	2.0
U [*]	TXRF				2.0

*no certified reference value available

Table S2. Limits of detection (LOD) for dissolved component in the water phase for the different methods used under applied conditions

element	method	LOD ($\mu\text{g/L}$)
Mn	TXRF	40
Fe	TXRF	50
Co	TXRF	40
Ni	GF-AAS	0.8
Cu	GF-AAS	0.2
Zn	GF-AAS	0.28
As	GF-AAS	0.4
Sr	TXRF	50
Ag	GF-AAS	0.03
Pt	ICP-MS	0.03
Au	ICP-MS	0.42
Cd	GF-AAS	0.07
Pb	GF-AAS	0.1
U	ICP-MS	0.051