

Supplementary material

Table S1. Quality control and assurance of the elements determined by INAA.

Element	Reference material	Certified values	Error, %	Determined value	Error, %	Recovery
As	2710	626	6.1	615	5.9	98.21
Au	2710	0.6	10	0.595	7	99.16
Ba	1633b	709	3.8	715	3.7	100.84
Br	1632c	18.7	2.1	18.9	2.4	101.06
Ca	1515	15260	1.0	15340	2	100.52
Ce	1632c	11.9	1.7	11.8	2	99.15
Cl	1633c	1139	3.6	1153	3.9	101.21
Co	1632c	3.48	5.7	3.44	5.5	98.84
Cr	1633b	198.2	2.4	196.4	3	99.08
Cs	1632c	0.594	1.7	0.592	2.4	99.66
Fe	1633b	77800	3	77845	2.7	100.06
Hf	1632c	0.585	1.8	0.583	2	99.66
I	1515	0.3	10	0.29	7.4	96.55
K	1633b	19500	1.5	19430	1.7	99.64
La	1633b	94	10	92	8.3	97.83
Mg	1515	2710	3	2719	3.2	100.33
Mn	1575a	488	2.5	476	2.9	97.48
Mo	2710	19	10	18.4	7.8	96.74
Na	2710	11400	5.3	11340	4.8	99.47
Nd	1633b	85	10	84.6	5.7	99.53
Ni	1633b	120	1.5	124	2.2	103.23
Rb	1632c	7.52	4.4	7.5	4.2	99.73
Sb	2710	38.4	7.8	37.7	7.4	98.14
Sc	1632c	2.9	1.2	2.91	2.2	100.34
Se	1633b	10.26	1.7	10.43	2.5	101.63
Sm	1632c	1.078	2.7	1.05	3.6	97.33
Sr	1633b	1041	1.3	1054	2.2	101.23
Ta	1633b	1.8	10	1.76	8.9	97.73
Tb	1633b	2.6	10	2.54	8.5	97.64
Th	1633b	25.7	5.1	26.1	5	101.53
Ti	1632c	517	6.2	514	6.8	99.42
U	1633b	8.79	4.1	8.8	4.3	100.11
V	1632c	23.72	2.2	23.4	1.1	98.63
W	1633b	93	10	95	8.6	102.11
Zn	2710	6952	1.3	6958	1.7	100.09

Standard Reference Materials (SRM), produced by the National Institute of Standards and Technology (NIST): NIST SRM 1633c-Coal Fly Ash, NIST SRM 1633b-Coal Fly Ash, NIST SRM 2710-Montana Soil, NIST SRM 1575a-Pine Needles, NIST SRM 1515-Apple Leaves.

Table S2. Quality control and assurance of the elements determined by ICP_AES and cold vapor AAS.

Element	M2 [35]		M3 [35]	
	Certified value \pm SD	Found value \pm SD	Certified value \pm SD	Found value \pm SD
Cd*	0.454 \pm 0.019	0.420 \pm 0.04	0.106 \pm 0.005	0.100 \pm 0.014
Cu*	68.7 \pm 2.5	68.2 \pm 5.7	3.76 \pm 0.23	3.81 \pm 0.35
Hg**	0.058 \pm 0.005	0.060 \pm 0.020	0.035 \pm 0.004	0.0345 \pm 0.001
Pb*	6.37 \pm 0.43	6.10 \pm 0.90	3.33 \pm 0.25	3.40 \pm 0.07

* Analysed by ICP-AES; ** analysed by cold vapor AAS

[35] Steinnes, E.; Rühling, Å.; Lippo, H.; Mäkinen, A.; Reference materials for large-scale metal deposition surveys. *Accred Qual Assur.* **1997**, 2, 243–249.