SUPPLEMENTARY DATA

Thallium contamination of desert soil in Namibia: chemical, mineralogical and isotopic insights

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4 Tables

TABLE S1. Information and measured Tl values (1 SD) for standard reference material, NIST 2711a (Montana II Soil) (National Institute of Standards and Technology, USA).

	Information (mg kg^{-1})	Measured (mg kg^{-1})
NIST 2711a	3	2.90 ± 0.20

TABLE S2. Measured and reference Tl concentration and Tl isotope results for USGS standard reference material, AGV-2 (Andesite).

	Tl (μg kg^{-1})	2 SD	ε^{205}Tl	2 SD	n	Digestions	Reference
AGV-2	282	35	–2.8	0.7	2	1	This study
AGV-2	239	30	–3.2	0.6	2	2	[1]
AGV-2	245	32	–3.4	0.7	6	6	[2]
AGV-2	267	35	–3.0	0.6	15	8	[3]
AGV-2			–2.7	0.4	1	1	[4]
AGV-2			–1.9	0.5	1	1	[5]

TABLE S3. Measured concentrations of Zn, Pb and Cd (representing main contaminants) in selected layers of the studied soil profiles (P1, P2 and P3) and the flotation wastes (FW1 and FW2). The data are means (n = 3) ± 1 SD.

Soil Profile/Waste/Depth	Zn (mg kg^{-1})	Pb (mg kg^{-1})	Cd (mg kg^{-1})	As (mg kg^{-1})
P1/0-5 cm	5180 ± 210	1670 ± 85	13.1 ± 0.8	68.9 ± 8.2
P1/5-10 cm	2070 ± 130	625 ± 74	5.37 ± 0.4	41.0 ± 3.5
P1/10-30 cm	81 ± 12	42 ± 2	0.18 ± 0.03	12.5 ± 0.5
P1/100-130 cm	59 ± 5	32 ± 4	0.05 ± 0	3.83 ± 0.1
P2/4-0 cm	16500 ± 1000	7750 ± 360	38.5 ± 2.0	37.3 ± 2.8
P2/0-5 cm	2970 ± 280	463 ± 38	4.84 ± 0.35	33.5 ± 2.2
P2/5-10 cm	973 ± 85	138 ± 11	2.63 ± 0.2	12.9 ± 1.4
P2/10-20 cm	1280 ± 130	223 ± 15	3.0 ± 0.12	21.4 ± 2.5
P2/20-30 cm	318 ± 27	63 ± 5	1.81 ± 0.14	13.9 ± 1.8
P2/80-90 cm	103 ± 8	47 ± 6	0.21 ± 0.01	10.9 ± 2
P3/0-5 cm	485 ± 26	149 ± 10	1.34 ± 0.08	7.38 ± 0.80
P3/70-80 cm	72 ± 8	31.2 ± 2.5	0.18 ± 0.02	6.65 ± 0.54
FW1 (bulk)/100-120 cm	11800 ± 600	1270 ± 100	29.6 ± 2.4	120 ± 26
FW2 (bulk)/100-120 cm	32000 ± 1500	2220 ± 160	78.5 ± 5.0	257 ± 38
FW2 (<0.05 mm)	29400 ± 1500	4330 ± 270	75.1 ± 4.3	512 ± 100
FW2 (0.05-0.25 mm)	34400 ± 1800	4720 ± 190	82.7 ± 3.8	101 ± 24
FW2 (>0.25 mm)	9340 ± 670	2150 ± 200	22.1 ± 2.7	67.5 ± 12.9

TABLE S4. BCR sequential extraction data for Zn and Pb, i.e., main contaminants, in selected (highly-contaminated) soil layers. Relative data (%) are means (n = 3).

Soil Sample/Fraction	Zn (%)	Pb (%)
P1/0-5 cm (weak acid-extractable)	38	39
P1/0-5 cm (reducible)	8	48
P1/0-5 cm (oxidizable)	28	12
P1/0-5 cm (residual)	26	1
P2/4-0 cm (weak acid-extractable)	45	51
P2/4-0 cm (reducible)	14	33
P2/4-0 cm (oxidizable)	10	13
P2/4-0 cm (reducible)	31	3

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