Table S1. Calibration curves and detection limits of target elements determined.

Element	Calibration Curve	R	Detection Limit ($\mu g \cdot L^{-1}$)
As	$Y = 33.7 - 112.8 + 729.5x$	0.9991	0.533
Ca	$Y = 1989.0 - 1768 + 5993x$	0.9997	6.173
Fe	$Y = 1096.0 - 1324 + 238.5x$	0.9994	5.988
Pb	$Y = 2767.0 - 12769 + 33212x$	0.9991	0.926
S	$Y = 8987.0 - 18790 + 9324x$	0.9996	4.767
Se	$Y = 20.6 - 1873 + 5123x$	0.9992	5.982
Zn	$Y = 2687.0 - 556.5 + 1477x$	0.9991	4.688

Table S2. Determined concentrations of Ca, Fe, S and Se in samples collected.

Sample		Ca ($\mu g \cdot L^{-1}$)	Fe ($\mu g \cdot L^{-1}$)	S ($\mu g \cdot L^{-1}$)	Se ($\mu g \cdot L^{-1}$)
Soil	1	10825 ± 2309 [abc]	98950 ± 9550 [ac]	133356 ± 82 [bfi]	5.1 ± 0.5 [bf]
	2	10060 ± 1063 [abc]	108521 ± 19824 [ac]	133457 ± 147 [afi]	9.0 ± 2.9 [a]
	3	5780 ± 1147 [ab]	134242 ± 39215 [ac]	133569 ± 149 [afi]	9.0 ± 1.6 [a]
	4	22177 ± 7353 [c]	110210 ± 22873 [ac]	133362 ± 103 [cfi]	8.9 ± 0.1 [a]
	5	7298 ± 485 [ab]	83619 ± 6451 [ac]	133622 ± 112 [afi]	9.4 ± 1.1 [a]
	6	3511 ± 1327 [ab]	69277 ± 20318 [bc]	133697 ± 89 [afi]	9.2 ± 4.1 [a]
	7	6517 ± 798 [ab]	127177 ± 4396 [ac]	133804 ± 79 [af]	8.7 ± 0.6 [a]
	8	6812 ± 1103 [ab]	148405 ± 9462 [ad]	133911 ± 73 [a]	11.4 ± 0.8 [a]
	9	6996 ± 1539 [ab]	135180 ± 17733 [ac]	133796 ± 109 [afi]	17.6 ± 3.6 [a]
	10	9876 ± 1563 [ab]	133226 ± 10706 [ac]	133693 ± 135 [afi]	17.4 ± 1.9 [ae]
	11	2878 ± 82 [ab]	1207 ± 15 [b]	1921 ± 10 [dgjl]	1.9 ± 0.1 [cg]
	12	2588 ± 86 [ab]	1264 ± 18 [b]	1918 ± 7 [ehkl]	1.8 ± 0.3 [dh]
Chinese standard for soil		-	-	-	3
leachates	1	175 ± 1 [ac]	62 ± 2 [a]	135 ± 3 [a]	0.54 ± 0.01 [af]
	2	187 ± 1 [b]	55 ± 1 [ace]	86 ± 2 [bf]	0.44 ± 0.01 [b]
	3	176 ± 2 [c]	47 ± 1 [bdf]	98 ± 2 [cfg]	0.62 ± 0.02 [cg]
	4	206 ± 2 [d]	56 ± 1 [ace]	95 ± 2 [dfg]	0.58 ± 0.02 [dfg]
	5	224 ± 3 [e]	60 ± 2 [ac]	107 ± 5 [eg]	0.47 ± 0.02 [eg]
Chinese standard for surface waters		-	0.3	1.0	0.03

Each value is the mean of three replicates ± the standard error of the mean (SEM). Numbers are the names of different sampling sites. Details as in Table 1.

Table S3. Determined values of nutrition elements.

Total N Content ($g \cdot kg^{-1}$)	Total P content ($g \cdot kg^{-1}$)	Total·K Content ($g\ kg^{-1}$)	Available N ($mg \cdot kg^{-1}$)	Available P ($mg \cdot kg^{-1}$)	Available K ($mg \cdot kg^{-1}$)
0.36 ± 0.07	0.59 ± 0.03	1.30 ± 0.07	69.7 ± 29.1	34 ± 21	28 ± 3

Each value is the mean of soil sample 1 to 10.