

Supplementary Materials:

Table S1. Parameter of the detection limits and relative errors.

Elements	Analytic method	Detection limit	Unit	Relative Error
As	AFS	0.5	µg/g	3.3%
Hg	AFS	0.005	µg/g	4.3%
Cd	ICP-MS	0.03	µg/g	5.0%
Cr	ICP-MS	3	µg/g	4.3%
Ni	ICP-MS	1.5	µg/g	2.4%
Cu	ICP-MS	1	µg/g	4.7%
Pb	ICP-MS	2	µg/g	1.5%
Zn	ICP-MS	2	µg/g	3.0%

Table S2. The analysis results of heavy metals in the surface sediment from the Chagan Lake.

Sample No.	As	Cd	Hg	Cu	Pb	Zn	Cr	Ni
1	4.22	0.05	0.038	4.80	21.90	31.10	24.90	17.20
2	11.77	0.31	0.087	21.10	21.70	72.40	64.00	26.90
3	13.40	0.34	0.111	28.00	8.00	89.20	69.20	39.70
4	12.20	0.32	0.077	27.20	32.30	85.90	68.60	37.80
5	12.30	0.32	0.080	29.70	31.50	94.10	72.40	39.40
6	12.68	0.28	0.119	27.80	30.00	86.50	67.10	38.90
7	14.20	0.21	0.130	26.70	25.20	83.10	67.90	36.30
8	14.35	0.30	0.079	27.80	31.00	88.20	69.50	37.40
9	8.55	0.23	0.057	19.20	8.50	62.50	50.20	27.90
10	12.12	0.33	0.079	26.90	29.90	84.60	63.40	37.60
11	13.87	0.26	0.107	27.10	13.70	83.60	66.10	38.40
12	11.09	0.26	0.049	21.60	32.70	67.70	52.00	32.40
13	11.49	0.24	0.066	23.10	29.40	73.80	59.00	32.70
14	14.36	0.24	0.083	25.90	28.60	83.10	65.00	39.50
15	8.97	0.18	0.059	18.50	26.30	62.80	51.20	22.10
16	12.77	0.28	0.074	28.20	38.00	89.10	69.30	39.30
17	9.26	0.25	0.096	24.10	37.40	79.20	64.40	33.30
18	10.23	0.25	0.107	25.80	15.30	79.00	61.60	28.50
19	11.58	0.16	0.053	22.40	26.70	72.40	59.20	31.90
20	11.27	0.20	0.077	22.20	69.90	69.80	52.00	33.90
21	11.60	0.20	0.065	18.40	33.10	64.50	57.30	25.50
22	11.83	0.20	0.057	23.70	19.40	74.60	60.40	33.50
23	10.65	0.17	0.066	22.40	27.60	68.20	54.90	31.80
24	10.39	0.19	0.051	21.10	15.90	64.30	52.60	29.60
25	8.90	0.18	0.101	19.10	23.60	60.90	54.80	24.10
26	8.10	0.13	0.049	17.30	22.70	34.60	45.20	27.00
27	3.10	0.05	0.040	5.10	11.80	25.60	32.10	18.50
28	6.70	0.12	0.061	16.40	26.70	53.90	53.20	26.60
29	13.10	0.22	0.071	21.40	4.90	71.90	66.80	32.10
30	9.43	0.08	0.043	19.20	42.90	58.30	53.20	27.80
31	6.42	0.06	0.055	17.70	24.70	54.70	52.60	21.60
32	3.77	0.05	0.026	6.60	62.20	32.00	41.00	17.80
33	2.90	0.06	0.017	8.45	21.25	34.90	56.50	13.75
34	8.20	0.15	0.051	20.25	19.40	61.50	64.70	22.15
35	4.70	0.06	0.020	10.38	15.45	40.95	53.65	15.85