

Supplementary Materials

Table S1. Major element sediment compositions determined by XRF and content in total organic carbon (TOC) (in weight percent).

Sample	SiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	TiO ₂	P ₂ O ₅	LOI	TOC
SW segment. Upstream La Playa dam												
1	76.44	10.19	4.77	0.02	0.27	0.61	0.09	0.34	0.48	0.33	5.73	1.91
2	82.66	7.85	3.08	0.03	0.23	0.34	0.10	0.35	0.80	0.08	4.25	1.42
3	73.60	13.32	5.40	0.01	0.26	0.18	0.07	0.46	0.62	0.33	5.66	1.89
4	80.67	6.79	2.89	0.01	0.27	0.61	0.09	0.34	0.48	0.33	7.48	2.49
5	84.01	7.35	3.06	0.04	0.24	0.32	0.10	0.35	0.56	0.07	3.66	1.22
6	81.68	6.83	2.96	0.02	0.22	0.29	0.11	0.31	0.58	0.30	6.65	2.12
Central segment. La Playa reservoir												
7A	60.21	17.21	3.89	0.01	0.17	0.61	0.09	1.01	0.48	0.59	15.33	13.80
7	63.24	18.24	4.11	0.01	0.14	0.58	0.10	1.21	0.43	0.61	10.51	4.29
8	61.31	15.99	3.81	0.01	0.12	0.20	0.02	0.91	0.31	0.51	16.22	11.00
9	60.18	17.22	4.38	0.01	0.12	0.18	0.04	1.35	0.44	0.59	15.43	13.80
NE segment. Downstream La Playa dam												
10	77.06	11.57	3.12	0.01	0.21	0.16	0.08	0.60	0.73	0.10	6.26	1.01
11	84.08	4.97	2.47	0.06	0.17	0.35	0.09	0.30	0.50	0.36	6.04	2.46
12	81.37	7.13	3.08	0.07	0.22	0.22	0.10	0.56	0.51	0.32	5.90	1.97
13	87.64	3.46	1.19	0.02	0.14	0.16	0.10	0.29	0.31	0.12	6.50	2.17
14	69.62	10.55	5.01	0.13	0.41	0.38	0.18	1.23	0.87	0.31	10.83	3.61
15	96.25	1.45	0.78	0.01	0.06	0.06	0.15	0.22	0.19	0.07	0.72	0.24
16	94.90	1.83	0.79	0.01	0.08	0.06	0.12	0.26	0.12	0.04	1.23	0.41
17	91.56	1.27	0.57	0.01	0.09	0.55	0.08	0.23	0.16	0.03	0.82	0.15
18	93.77	1.99	1.06	0.01	0.10	0.12	0.18	0.28	0.09	0.07	1.31	0.44
18m	92.87	2.33	2.25	0.02	0.10	0.07	0.08	0.46	0.14	0.09	1.55	0.52
19	82.81	1.86	1.59	0.01	0.13	0.19	0.10	0.26	0.33	0.09	2.50	0.83
20	95.44	1.43	0.68	0.01	0.06	0.09	0.20	0.20	0.16	0.06	1.28	0.43

Table S2. Trace element sediment compositions determined by ICP-MS (for Cr, Ni, Cu and Pb) and XRF (for Zn) (in mg/kg).

Sample	Cr	Ni	Cu	Zn	Pb
SW segment. Upstream La Playa dam					
1	50	42	66	67	17
2	28	22	54	43	5
3	45	39	61	75	18
4	133	130	142	264	35
5	39	39	47	51	21
6	75	73	84	74	25
Central segment. La Playa reservoir					
7A	180	140	459	534	37
7	192	190	220	328	38
8	188	135	180	394	29
9	175	112	188	436	54
NE segment. Downstream La Playa dam					
10	66	70	87	72	21
11	19	18	21	49	8
12	25	22	61	57	12
13	27	21	47	60	16
14	161	81	110	191	28
15	6	5,5	8	11	5
16	8	5	11	13	5
17	5	5	6	5	5
18	5	5	6	5	5
18m	10	5	13	10	5
19	22	20	30	35	9
20	5	5	6	5	5

Table S3. Trace element water compositions at the sampling sites determined ICP-MS (in µg/L).

Sample	P	Cr	Ni	Cu	Zn	Pb
SW segment. Upstream La Playa dam						
1	485	1	3	7	32	1
2	336	1	3	6	29	1
3	317	0	2	6	28	1
4	680	1	5	10	78	1
5	30	1	4	7	38	0
6	667	1	4	9	56	2
Central segment. La Playa reservoir						
7A	8078	6	8	33	459	5
7	7237	5	7	27	290	5
8	6847	1	5	12	115	2
9	6960	2	7	19	209	3
NE segment. Downstream La Playa dam						
10	49	1	4	8	42	1
11	192	0	1	3	24	1
12	262	0	2	3	27	2
13	216	0	1	3	25	1
14	675	1	4	10	61	2
15	171	0	1	3	15	1
16	183	0	1	3	19	1
17	183	0	1	3	24	0
18	175	0	1	3	18	3
19	311	0	2	5	27	0
20	14	0	1	1	14	1

Table S4. Physicochemical properties of the UCRB waters. R.P.: Redox potential. E.C.: Electrical conductivity.

Segments of the UCRB	pH	R.P. (mV)	E.C. (µS/cm)
SW segment. Upstream La Playa dam	7.2	81	267
Central segment. La Playa reservoir	7.0	-21	1478
NE segment. Downstream La Playa dam	7.2	94	151