Table 5.6. Trace elements in final leach column effluent from one laboratory.

[1 and 2 represent duplicate columns. Methods: MS, ICP-MS; OES, ICP-OES used when ICP-MS concentrations exceed upper limits of the method; FIMS for mercury. Element concentrations are reported in micrograms per liter (µg/L), milligrams per liter (mg/L), and (or) nanograms per liter (ng/L)]

Element		D.L.	Method	HCS-IN		LKFC-PA		KBF-WV	BCS3-PA		MKSS	
	units			1	2	1	2	1	1	2	1	2
Ag	µg/L	0.2	MS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Al	µg/L	2	MS	3	7	2	3	< 2	9	5	8	11
As	µg/L	0.03	MS	0.5	0.28	0.04	0.1	0.16	0.27	0.11	0.12	0.08
Au	µg/L	0.002	MS	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Ba	µg/L	0.1	MS	25.7	26.6	54	68.5	106	70.8	65.5	66.4	75.3
Be	µg/L	0.1	MS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bi	µg/L	0.3	MS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Br	µg/L	3	MS	192	190	230	228	235	202	132	168	162
Ca	µg/L	700	MS	> 20000	> 20000	> 20000	> 20000	> 20000	> 20000	> 20000	> 20000	> 20000
Ca	mg/L	0.1	OES	628	580	171	218	205	320	196	89.6	111
Cd	µg/L	0.01	MS	48.1	56.1	0.73	1.24	0.1	0.19	0.23	0.12	0.18
Ce	µg/L	0.001	MS	0.266	0.269	0.235	1.49	0.019	0.036	0.037	0.029	0.009
Co	µg/L	0.005	MS	> 200	194	70.8	122	0.277	1.43	0.048	1.41	1.79
Co	µg/L	2	OES	207	--	--	--	--	--	--	--	--
Cr	µg/L	0.5	MS	< 0.5	< 0.5	< 0.5	< 0.5	1.5	1.2	< 0.5	< 0.5	< 0.5
Cs	µg/L	0.001	MS	0.201	0.169	0.068	0.096	0.129	0.045	0.032	0.059	0.047
Cu	µg/L	0.2	MS	0.7	3.4	1.5	1.7	< 0.2	< 0.2	0.5	1.3	1.7
Dy	µg/L	0.001	MS	0.069	0.033	0.017	0.131	0.003	0.008	0.004	0.004	< 0.001
Er	µg/L	0.001	MS	0.048	0.019	0.01	0.061	0.003	0.007	0.002	0.003	0.001
Eu	µg/L	0.001	MS	0.009	0.005	0.006	0.03	0.01	0.006	0.003	0.006	0.003
Fe	µg/L	10	MS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	10
Ga	µg/L	0.01	MS	0.14	0.16	0.47	0.62	< 0.01	0.04	< 0.01	0.03	0.03
Gd	µg/L	0.001	MS	0.063	0.04	0.021	0.211	0.004	0.007	0.004	0.005	0.001
Ge	µg/L	0.01	MS	0.26	0.28	0.31	0.37	0.03	0.03	0.05	0.04	0.02
Hf	µg/L	0.001	MS	0.002	0.003	< 0.001	0.002	0.007	0.006	< 0.001	0.002	< 0.001
Hg	µg/L	0.2	MS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hg	ng/L	6	FIMS	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
Ho	µg/L	0.001	MS	0.017	0.009	0.003	0.029	< 0.001	0.002	0.001	< 0.001	< 0.001
I	µg/L	1	MS	41	81	68	99	17	31	10	130	18
In	µg/L	0.001	MS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
K	µg/L	30	MS	5000	4780	9690	10800	18400	8000	6350	9120	7990
La	µg/L	0.001	MS	0.162	0.241	0.229	1.07	0.016	0.021	0.021	0.034	0.009
Li	µg/L	1	MS	131	140	57	76	59	24	16	11	11
Lu	µg/L	0.001	MS	0.005	0.001	< 0.001	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Mg	µg/L	1	MS	> 20000	> 20000	> 20000	> 20000	> 20000	> 20000	> 20000	> 20000	> 20000
Mg	mg/L	0.1	OES	192	228	133	173	124	106	96.5	18.9	23.9
Mn	µg/L	0.1	MS	> 10000	> 10000	> 10000	> 10000	150	2500	8.6	1320	1410
Mn	mg/L	0.01	OES	11.6	10.6	42.8	43	--	--	--	--	--
Mo	µg/L	0.1	MS	101	54.5	0.1	0.3	0.2	0.6	0.9	0.4	0.4
Na	µg/L	5	MS	19400	21700	4810	6420	2200	8030	8290	1280	1520
Nb	µg/L	0.005	MS	0.015	0.011	< 0.005	< 0.005	0.007	0.015	0.006	< 0.005	< 0.005
Nd	µg/L	0.001	MS	0.164	0.111	0.068	0.52	0.009	0.022	0.013	0.028	0.006

				HCS-IN		LKFC-PA		KBF-WV	BCS3-PA		MKSS	
Ni	µg/L	0.3	MS	> 1000	> 1000	256	485	3.2	4.5	1.4	2.8	5.6
Ni	µg/L	5	OES	3550	2710	--	--	--	--	--	--	--
Os	µg/L	0.002	MS	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Pb	µg/L	0.01	MS	0.91	4.33	0.22	0.33	0.27	0.17	0.51	0.3	0.3
Pd	µg/L	0.01	MS	< 0.01	< 0.01	0.03	0.02	0.03	0.13	0.03	0.02	0.01
Pr	µg/L	0.001	MS	0.035	0.027	0.017	0.13	0.003	0.005	0.004	0.006	< 0.001
Pt	µg/L	0.3	MS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Rb	µg/L	0.005	MS	12.2	11.2	13.7	15.1	30.8	5.12	4	6.75	6.35
Re	µg/L	0.001	MS	0.331	0.263	0.002	0.002	0.004	0.004	0.002	0.004	0.004
Ru	µg/L	0.01	MS	0.03	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sb	µg/L	0.01	MS	1.19	0.73	0.1	0.18	0.1	0.19	0.24	0.24	0.28
Sc	µg/L	1	MS	1	< 1	< 1	< 1	3	2	< 1	< 1	< 1
Se	µg/L	0.2	MS	48.8	56.9	79.1	93.1	0.5	4.3	7.6	0.6	0.6
Si	µg/L	200	MS	5300	3100	1900	2000	9400	7000	2100	1700	1300
Sm	µg/L	0.001	MS	0.035	0.017	0.009	0.103	0.003	0.002	0.002	0.004	< 0.001
Sn	µg/L	0.1	MS	0.7	2.1	0.8	2.8	1.2	2.1	6	3.6	1.8
Sr	µg/L	0.04	MS	> 200	> 200	> 200	> 200	> 200	> 200	> 200	129	149
Sr	µg/L	10	OES	1040	1080	450	550	2380	990	690	--	--
Ta	µg/L	0.001	MS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tb	µg/L	0.001	MS	0.011	0.005	0.003	0.027	< 0.001	0.001	< 0.001	< 0.001	< 0.001
Te	µg/L	0.1	MS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Th	µg/L	0.001	MS	0.002	0.002	< 0.001	< 0.001	0.002	0.001	0.001	< 0.001	< 0.001
Ti	µg/L	0.1	MS	0.6	0.4	0.2	0.2	0.8	0.5	0.2	0.1	< 0.1
Tl	µg/L	0.001	MS	7.81	7.67	0.148	0.135	0.153	0.069	0.048	0.064	0.057
Tm	µg/L	0.001	MS	0.005	0.001	< 0.001	0.005	< 0.001	0.001	< 0.001	< 0.001	< 0.001
U	µg/L	0.001	MS	> 200	41.3	0.148	0.1	2.26	5.47	3.91	1.75	1.9
U	mg/L	0.05	OES	0.23	--	--	--	--	--	--	--	--
V	µg/L	0.1	MS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
W	µg/L	0.02	MS	0.12	0.07	0.12	0.04	< 0.02	0.03	0.03	0.08	0.05
Y	µg/L	0.003	MS	1.51	1.02	0.44	2.76	0.05	0.117	0.041	0.054	0.019
Yb	µg/L	0.001	MS	0.035	0.01	0.006	0.024	0.005	0.008	0.002	0.003	0.002
Zn	µg/L	0.5	MS	> 250	> 250	> 250	> 250	> 250	> 250	231	> 250	> 250
Zn	µg/L	5	OES	2350	1610	969	712	496	386	--	323	460
Zr	µg/L	0.01	MS	0.13	0.14	0.03	0.03	0.38	0.24	0.06	0.07	0.07