

APPENDIX 2

Chemical analyses of the samples (rows "a"; columns "a") and alunite minerals (rows "b"; columns "a"); calculated apfu with $\text{SO}_4=2$ basis of alunite minerals (rows "a"; columns "b") and excess (marked as "+") or deficit (marked as "-") from the stoichiometric values (rows "b"; columns "b"); and ratios $\text{SO}_3/\text{H}_2\text{O}^+$ (marked as "¹") and $(\text{Na}+\text{K}+\text{H})/\text{S}$ (marked as "²"). Sample compositions with major (XRPD method at Appendix 1, rows "a") and minor (ore microscopy method, rows "b") determined minerals: Q - quartz; A - alunite; NA - natroalunite; K - kaolinite (dickite); T - tridymite; G - goethite; H - hematite; Py - pyrite; and M - magnetite. Determined Au contents and measured pH values of the samples are also reported

N°		401		403		404		455		457		458A	
wt. %		a	b	a	b	a	b	a	b	a	b	a	b
SiO ₂	a	56.02	n. c.	50.38	n. c.	50.26	n. c.	58.66	n. c.	56.16	n. c.	49.00	n. c.
	b	17.86	4.24	17.68	3.00	18.26	3.30	14.90	2.94	17.12	3.81	16.31	2.81
Al ₂ O ₃	a	41.80	+1.24	36.10	0.00	37.46	+0.30	36.40	0.00	39.55	+0.81	32.46	0.00
	b	3.28	0.50	1.42	0.15	1.09	0.13	0.90	0.11	0.78	0.11	4.86	0.53
Fe ₂ O ₃	a	7.68	+0.50	2.90	+0.15	2.24	+0.13	2.20	+0.05	1.80	+0.11	9.67	+0.34
	b	0.32	n. c.	0.40	n. c.	0.44	n. c.	0.29	n. c.	0.32	n. c.	0.40	n. c.
CaO	a	0.05	n. c.	0.05	n. c.	0.08	n. c.	0.05	n. c.	0.07	n. c.	0.09	n. c.
MgO	a	0.11	n. c.	0.09	n. c.	0.10	n. c.	0.10	n. c.	0.08	n. c.	0.11	n. c.
Na ₂ O	a	1.10	0.43	0.96	0.27	1.34	0.40	0.94	0.31	1.30	0.48	1.54	0.44
	b	2.57	-0.05	1.96	-0.46	2.75	-0.12	2.30	-0.33	3.00	-0.17	3.06	-0.21
K ₂ O	a	3.39	0.87	4.52	0.83	4.52	0.88	4.69	1.00	3.39	0.82	4.52	0.84
	b	7.93	+0.35	9.23	+0.56	9.27	+0.40	11.46	+0.64	7.83	+0.47	9.00	+0.49
SO ₃	a	13.22	2.00	18.51	2.00	17.37	2.00	15.90	2.00	14.13	2.00	18.24	2.00
	b	30.94	0.00	37.79	0.00	35.64	0.00	38.85	0.00	32.64	0.00	36.31	0.00
LOI ⁻	a	0.84	n. c.	0.14	n. c.	0.18	n. c.	0.04	n. c.	0.09	n. c.	0.10	n. c.
H ₂ O ⁺	a	3.88	5.22	5.89	5.65	6.16	6.30	3.60	4.03	6.57	8.27	4.77	4.65
	b	9.08	-0.78	12.02	-0.35	12.64	+0.30	8.80	-1.97	15.18	+2.27	9.49	-1.35
O _{calc.}	a	n. c.	16.37	n. c.	14.11	n. c.	14.93	n. c.	13.25	n. c.	16.65	n. c.	13.98
	b	n. c.	+2.37	n. c.	+0.11	n. c.	+0.93	n. c.	-0.75	n. c.	+2.65	n. c.	-0.02
Ratios	a	3.41 ¹	3.26 ²	3.14 ¹	3.38 ²	2.82 ¹	3.79 ²	4.41 ¹	2.67 ²	2.15 ¹	4.78 ²	3.83 ¹	2.96 ²
	b	100.07	n. c.	100.04	n. c.	99.80	n. c.	100.07	n. c.	100.01	n. c.	99.94	n. c.
Σ	a	100.00	n. c.	100.00	n. c.	100.00	n. c.	100.01	n. c.	100.00	n. c.	99.99	n. c.
	b	A>K~T		Q~NA		Q~NA		Q>NA		Q~NA>K		Q~NA	
Mineral	a	G, H, Py		G, Py, M		G, H, M		Py, H		G		Py, H	
	b												
Au (ppm)		0.40		<0.01		<0.01		<0.01		<0.01		<0.01	
pH		5.41		4.85		5.50		5.33		5.27		5.35	

n. c.—not calculated