

APPENDIX 1

Qualitative and semi-quantitative mineral compositions of the studied samples

Marks: Q - quartz; F - feldspars; Cl - clays; Sm - smectite, K - kaolinite (dickite), I - illite (sericite), P - pyrophyllite and Ch - chlorite; alunite group minerals: A - alunite, NA - natroalunite, J - jarosite and NJ - natrojarosite; C - cristobalite; T - tridymite; Am - amphiboles; carbonate group minerals: Ca - calcite, R - rhodochrosite and S - siderite; Z - zeolites; D - diaspore; H - hematite; G - goethite; Ap - apatite; Py - pyrite; and Gr - graphite. Symbols: ">" - more than; ">>" - dominate over; "~" - almost equal; and "?" - not completely certain.

N°	Composition	N°	Composition	N°	Composition	N°	Composition
13	Q~Cl>F>A	475	Q>F>>Cl	735	F>>C>Sm~Q	797	C>>Cl
23	Q>Cl~F>A	476	Q>>Cl~F	736	Z>F>C>Cl>Q~Am	798	C>>Cl~F~J
64	Q>>Cl	477	Q>>Cl	739	F>>C~Am~Sm~Z	799	F>C>>Cl
73	Q>>Cl>J	479	C>Q>>Cl	740	F>>Am~Sm	800	C>>Cl~F
89	Q~Cl~F>>A	483	C>F>>Cl	741	F>>Am>Cl	801	Q>>K
201	Q>>Cl~F	485	Q>>K>NA	745	T>Sm	802	Q>>K
206	Q>>Cl~F~A~Ap	489	F	746	C>Sm	803	Q>>K
210	Q>>Cl~F~A	614	Q>>Cl	748	F>Q>Sm	804	Q>>Cl~F
211	Q~Cl>>F~G	617	Q>>I	749	F>>T~Sm~A	805	Q>>K>NA
225	Q>>Cl~F	618	Q>>I	753	F>>R~Cl~Am	806	Q>>Cl~F
282	Q>>Cl>D?	619	Q>>F~Cl	760	F>T~C~Sm>Q	807	Sm
283	Q>>Cl~F	621	Q>F>>Cl	761	F>>Sm	808	Sm>C>Q>F
285	F>Q>Cl>>A	625	Q>>I	762	F>Q>>Sm	809	Sm>F>T>C
292	Q>>Cl>J	635	Q>>F>Cl	763	Q>F>Sm	810	Q>>K
308	Q>>Cl~J~H~Z~Py	643	Q>>F~Cl	764	Q>F>Ca~Cl~Am	811	Q>>K
400	F>>T?	701	F>>Am~Sm	764A	Q>>Sm	812	Q>>K
401	A>K~T	702	F>>Am>Cl~C	765	F>Q>Sm~A	817	Q>>Cl~J
401B	C>>F	703	F>C>Sm~T	766	Q>F>Cl~A	818	Q>>K
402	C>>Cl>>F	705	F>>Sm>Am~Q	768	Q>Sm~F	819	Q>>K
403	Q~NA	706	F>Q>R>Sm	769	F>>Q~Cl~A	823	P>>Q>D?
404	Q~NA	707	F>>Q~Am~Sm	770	F>C>>Sm	826	Q~K
407	Q>>Cl~NJ	708	Q	771	T>K>A~Q	827	Q>>F~K
407A	Q>>F~Cl	709	F>>R>Sm>Gr?~T?	772	C>F>>Sm	830	Q>>Cl
425	Q>>F~Cl	710	Q>Ca>F>Sm	772A	F>C>>Sm	833	Q>>K>>NA
427	Q>F>>Cl	711	Sm>C	773	C>K	834	Q
429	Q>>Cl~F	711A	Sm>C	773A	C>>Sm~F	834A	Q>>P~NA
432	Q>>I	712	C>>Sm~F	774	C>K~Q	917	Q
436	Q>F>>Cl	713	F>Sm>Am	775	C>Sm	935	Q>>D
437	Q>>Cl~F	714	F>>Sm	776	C>F>>Cl	946	Q>>K
442	Q>>Cl>F	715	F>C>T>>Sm	777	Q>>Sm~F	949	Q>>K
443	Q>>Cl~H	716	F>>T>Sm	778	Q>>Cl	951	Q>>I
446	Q>>Cl~J	717	F>>Q~Sm	779	Q>F>>Sm	955	Q>>K
451	Q>>Cl>F	718	F>Sm>T>C	780	Q>>Cl~F	956	Q>>D>K
452	Q>>Cl>F	719	F>Q>>Sm	781	Q>Cl~C>NA~F	966	Q>>F
455	Q>NA	720	F>Q>Ca>R>Sm>S	782	Q>>Sm~F	968	Q>>D
457	Q~NA>K	721	Q>R>F>Sm>Gr?	783	Q>>I	969	Q>>K~Ch
458A	Q~NA	722	Q>>I~F	784	Q>>I~F	970	Q>>K~P
462	Q>>Cl	724	Q>F>>Cl	784A	Q>>Cl~F	971	Q>>D>P
465	Q>>T~Cl	726	Q>>F~Sm	785	Q>>Cl	973	Q>>D~P
466	Q>F>Cl	727	F>>Sm~R	786	Q>>Cl	974	Q>>K~P~D
468	Q>>F>Cl	728	Q>>F~Cl~Ca	787	Q>>Cl	975	Q
472	Q>>F>Cl	729	Q>>Sm~F	789	Q>>Cl	976	Q>>K
473	Q>F>Am>>Cl	730	Q>>F~Ca~Cl	790	Q>>Cl~F	977	Q>>I
474	Q>F>>Cl	731	Q>F~Sm	791	Q>>I~A~J	978	Q>>K
474A	Q>F~Cl	733	Q>T>F>Ca~Cl	796	C>>Cl	979	Q>>K~P~NA