

TABLE S1. REAR EARTH ELEMENT CONCENTRATIONS OF THE TAILINGS SAMPLES 6a TO 6d AND THE CERTIFIED REFERENCE MATERIAL IF-G.

	Unit	Chemical composition of the tailings samples				CRM	LLoD	Unit
		6a	6b	6c	6d	IFG		
La	[mg kg <sup>-1</sup> ]	6.80	3.17	7.61	3.13	2.69	0.255	[µg kg <sup>-1</sup> ]
Ce	[mg kg <sup>-1</sup> ]	9.73	4.56	12.78	4.21	3.96	0.789	[µg kg <sup>-1</sup> ]
Pr	[mg kg <sup>-1</sup> ]	1.18	0.569	1.54	0.505	0.436	0.372	[µg kg <sup>-1</sup> ]
Nd	[mg kg <sup>-1</sup> ]	4.47	2.03	5.81	1.86	1.77	1.00	[µg kg <sup>-1</sup> ]
Sm	[mg kg <sup>-1</sup> ]	1.00	0.399	1.28	0.365	0.412	0.963	[µg kg <sup>-1</sup> ]
Eu	[mg kg <sup>-1</sup> ]	0.173	0.074	0.219	0.065	0.381	0.247	[µg kg <sup>-1</sup> ]
Gd	[mg kg <sup>-1</sup> ]	1.03	0.301	1.24	0.250	0.743	0.249	[µg kg <sup>-1</sup> ]
Tb	[mg kg <sup>-1</sup> ]	0.156	0.042	0.190	0.035	0.114	0.290	[µg kg <sup>-1</sup> ]
Dy	[mg kg <sup>-1</sup> ]	0.998	0.276	1.19	0.214	0.860	0.712	[µg kg <sup>-1</sup> ]
Ho	[mg kg <sup>-1</sup> ]	0.196	0.049	0.226	0.036	0.212	0.186	[µg kg <sup>-1</sup> ]
Er	[mg kg <sup>-1</sup> ]	0.539	0.140	0.661	0.103	0.653	0.474	[µg kg <sup>-1</sup> ]
Tm	[mg kg <sup>-1</sup> ]	0.077	0.023	0.098	0.016	0.096	0.213	[µg kg <sup>-1</sup> ]
Yb	[mg kg <sup>-1</sup> ]	0.516	0.160	0.621	0.108	0.602	0.642	[µg kg <sup>-1</sup> ]
Lu	[mg kg <sup>-1</sup> ]	0.077	0.024	0.094	0.016	0.098	0.318	[µg kg <sup>-1</sup> ]
Y	[mg kg <sup>-1</sup> ]	5.68	1.31	6.69	0.88	9.14	0.974	[µg kg <sup>-1</sup> ]

Fig. S1. RIETVELD ANALYSIS OF THE SAMPLES 6a - 6d.

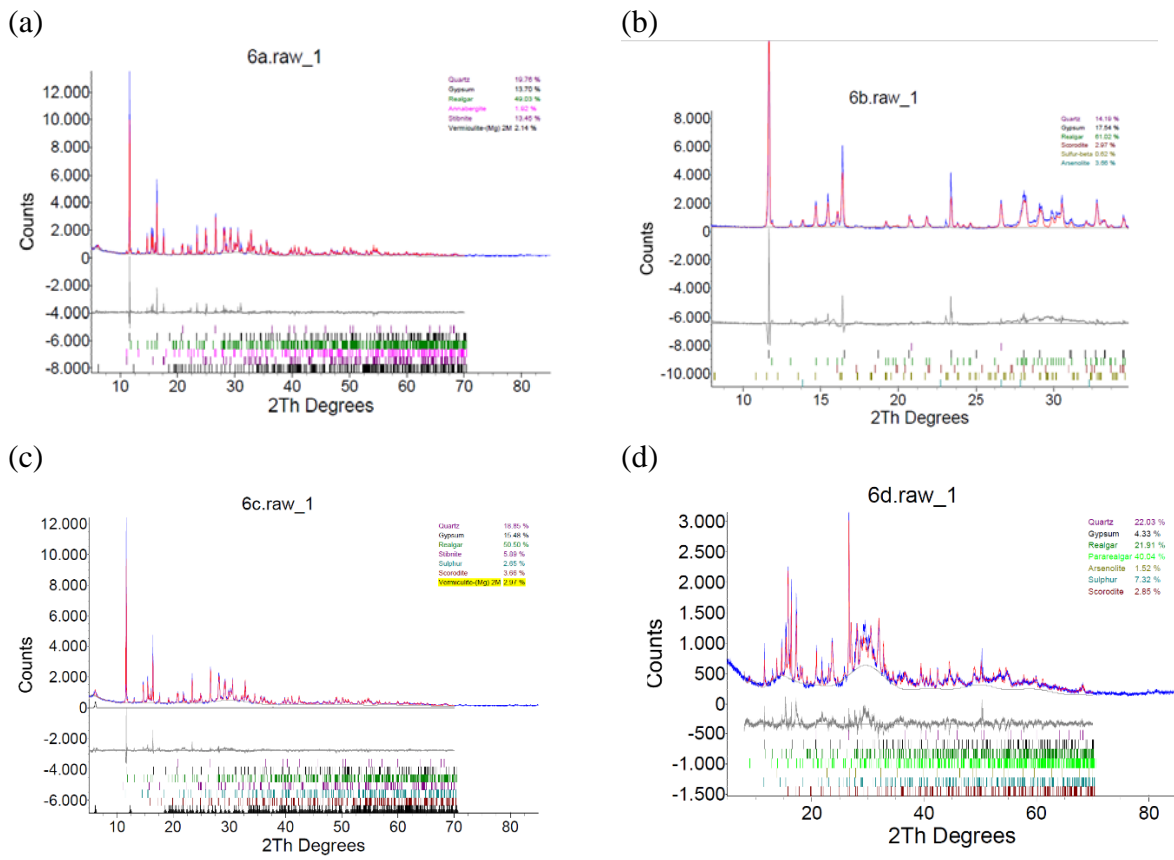


FIG. S2. SELECTED RAMAN SPECTRA OF THE PRIMARY SULFIDES.

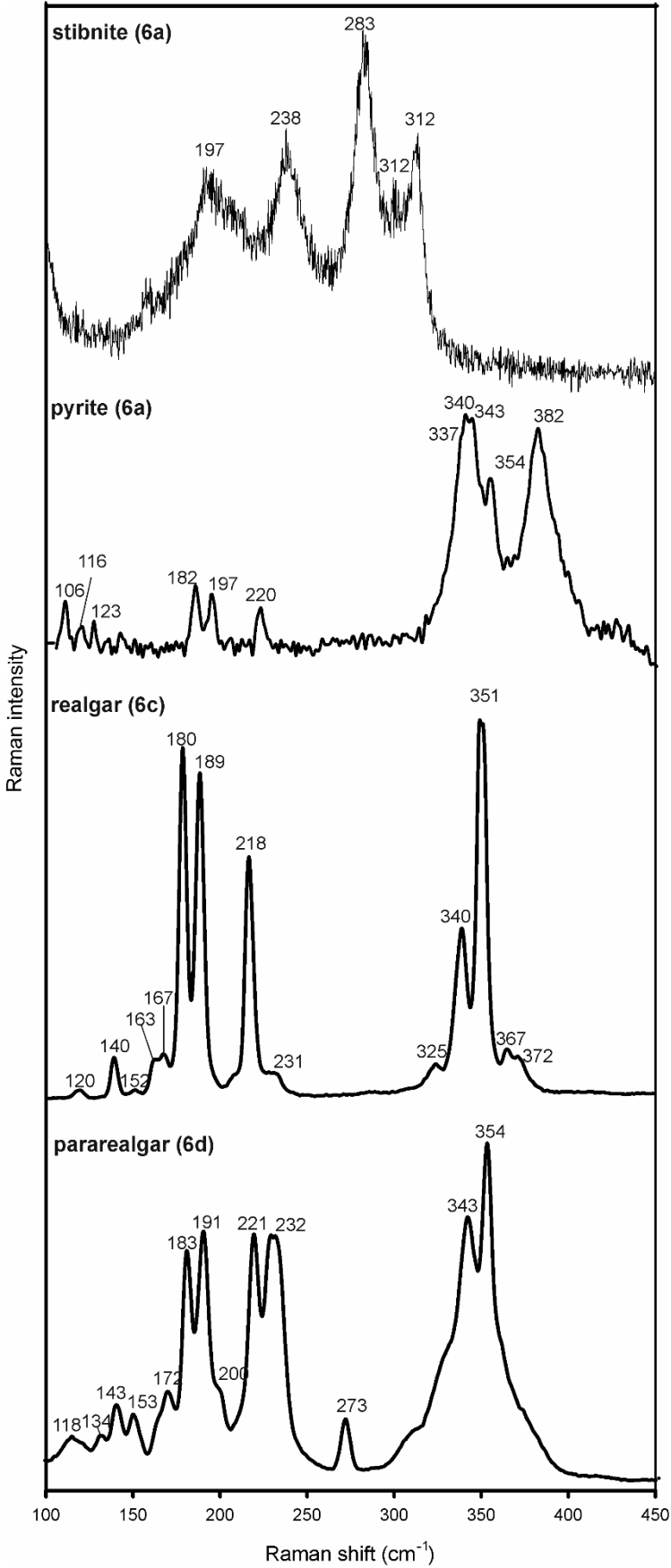


FIG. S3. SELECTED RAMAN SPECTRA OF ARSENOHITE AND SECONDARY SULFATE MINERALS.

