Table S2. Results of isotope homogeneity testing of JC-Po pyrrhotite

Grain	$^{34}S/^{32}S$			$^{33}S/^{32}S$			$^{56}Fe/^{54}Fe$			$^{57}Fe/^{54}Fe$		
NO.	X_{i1}	X_{i2}	$\overline{X}$	X_{i1}	X_{i2}	$\overline{X}$	X_{i1}	X_{i2}	$\overline{X}$	X_{i1}	X_{i2}	$\overline{X}$
3	0.044172	0.044163	0.044167	0.007876	0.007875	0.007875	16.77915	16.77737	16.77826	0.399875	0.399813	0.399844
9	0.044163	0.044172	0.044168	0.007876	0.007876	0.007876	16.77877	16.77911	16.77894	0.399837	0.399839	0.399838
18	0.044177	0.044171	0.044174	0.007877	0.007876	0.007877	16.77891	16.77822	16.77856	0.399858	0.399801	0.399829
21	0.044164	0.044164	0.044164	0.007876	0.007877	0.007877	16.77650	16.77733	16.77691	0.399849	0.399850	0.399850
32	0.044161	0.044177	0.044169	0.007876	0.007877	0.007876	16.77903	16.78005	16.77954	0.399888	0.399887	0.399888
33	0.044172	0.044163	0.044167	0.007877	0.007875	0.007876	16.77857	16.77965	16.77911	0.399820	0.399924	0.399872
43	0.044167	0.044169	0.044168	0.007877	0.007877	0.007877	16.78111	16.77960	16.78036	0.399907	0.399895	0.399901
47	0.044168	0.044170	0.044169	0.007877	0.007876	0.007876	16.77823	16.77902	16.77862	0.399834	0.399874	0.399854
57	0.044172	0.044167	0.044170	0.007875	0.007877	0.007876	16.78108	16.77862	16.77985	0.399857	0.399826	0.399842
65	0.044169	0.044170	0.044169	0.007875	0.007877	0.007876	16.77651	16.77737	16.77694	0.399812	0.399778	0.399795
73	0.044169	0.044161	0.044165	0.007877	0.007875	0.007876	16.77848	16.77646	16.77747	0.399922	0.399730	0.399826
77	0.044167	0.044174	0.044171	0.007877	0.007877	0.007877	16.77828	16.78400	16.78114	0.399916	0.400080	0.399998
82	0.044170	0.044166	0.044168	0.007876	0.007876	0.007876	16.77908	16.77684	16.77796	0.399878	0.399903	0.399891
95	0.044171	0.044162	0.044167	0.007877	0.007877	0.007877	16.77799	16.77797	16.77798	0.399854	0.399876	0.399865
98	0.044166	0.044163	0.044165	0.007877	0.007876	0.007876	16.77797	16.77809	16.77803	0.399825	0.399783	0.399804

Table S3. Results of isotope homogeneity testing of JC-Pn pentlandite

Grain	$^{34}S/^{32}S$			$^{33}S/^{32}S$			$^{56}Fe/^{54}Fe$			$^{57}Fe/^{54}Fe$		
NO.	X_{i1}	X_{i2}	$\overline{X}$	X_{i1}	X_{i2}	$\overline{X}$	X_{i1}	X_{i2}	$\overline{X}$	X_{i1}	X_{i2}	$\overline{X}$
3	0.044182	0.044182	0.044182	0.007878	0.007878	0.007878	16.82689	16.82742	16.82715	0.401486	0.401449	0.401468
9	0.044192	0.044184	0.044188	0.007878	0.007878	0.007878	16.82726	16.82675	16.82701	0.401413	0.401388	0.401400
18	0.044173	0.044181	0.044177	0.007878	0.007878	0.007878	16.82735	16.82673	16.82704	0.401527	0.401410	0.401468
21	0.044181	0.044182	0.044182	0.007878	0.007878	0.007878	16.82705	16.82740	16.82722	0.401274	0.401535	0.401405
32	0.044184	0.044183	0.044184	0.007878	0.007878	0.007878	16.82752	16.82670	16.82711	0.401426	0.401381	0.401403
33	0.044185	0.044179	0.044182	0.007879	0.007878	0.007879	16.82749	16.82610	16.82680	0.401370	0.401402	0.401386
43	0.044185	0.044184	0.044184	0.007878	0.007878	0.007878	16.82777	16.82916	16.82847	0.401479	0.401461	0.401470
47	0.044179	0.044187	0.044183	0.007877	0.007877	0.007877	16.83666	16.82703	16.83184	0.401627	0.401442	0.401534
57	0.044184	0.044183	0.044184	0.007878	0.007878	0.007878	16.82716	16.82432	16.82574	0.401425	0.401349	0.401387
65	0.044192	0.044189	0.044190	0.007878	0.007878	0.007878	16.82167	16.82208	16.82188	0.401230	0.401437	0.401333
73	0.044181	0.044182	0.044181	0.007878	0.007878	0.007878	16.82317	16.82413	16.82365	0.401369	0.401286	0.401328
77	0.044176	0.044182	0.044179	0.007878	0.007878	0.007878	16.82855	16.82727	16.82791	0.401544	0.401294	0.401419
82	0.044184	0.044183	0.044184	0.007878	0.007878	0.007878	16.82613	16.82536	16.82574	0.401311	0.401390	0.401350
95	0.044186	0.044191	0.044189	0.007878	0.007878	0.007878	16.82576	16.82841	16.82709	0.401457	0.401542	0.401500
98	0.044182	0.044187	0.044184	0.007878	0.007878	0.007878	16.82473	16.82886	16.82679	0.401337	0.401501	0.401419