Article:

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Supplementary Material

For "Application of pyrite trace-metal and S and Ni isotope signatures to distinguish sulfate- versus iron-driven anaerobic oxidation of methane" by Can Chen et al.

Contents:

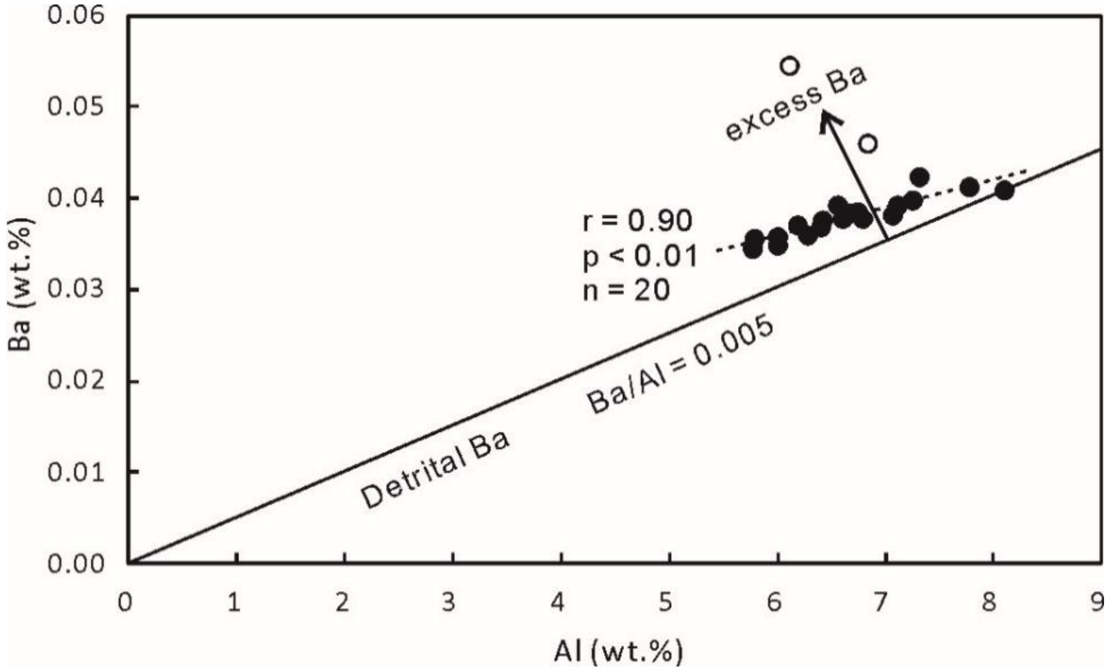

Fig. S1. Crossplot of Ba vs Al. The majority of samples plot above a line that passes through the origin, which is assumed to represent the detrital component of Ba. A strong positive relationship is shown by these data ($r = +0.90$, $p < 0.01$, $n = 20$). Two samples (open symbols) show distinct excess Ba.

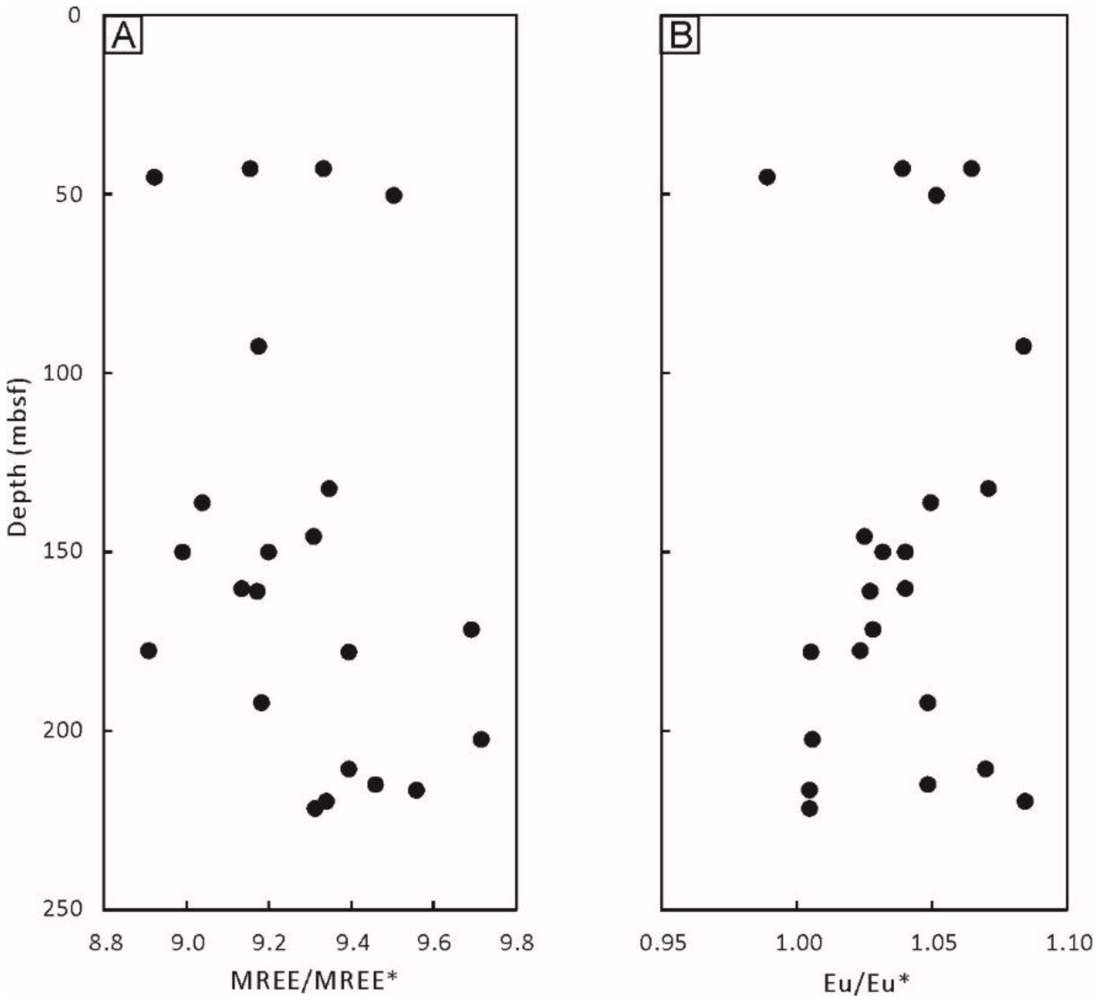

Fig. S2. (A) MREE/MREE*; (B) Eu/Eu*. These ratios do not exhibit any discernible change with depth.

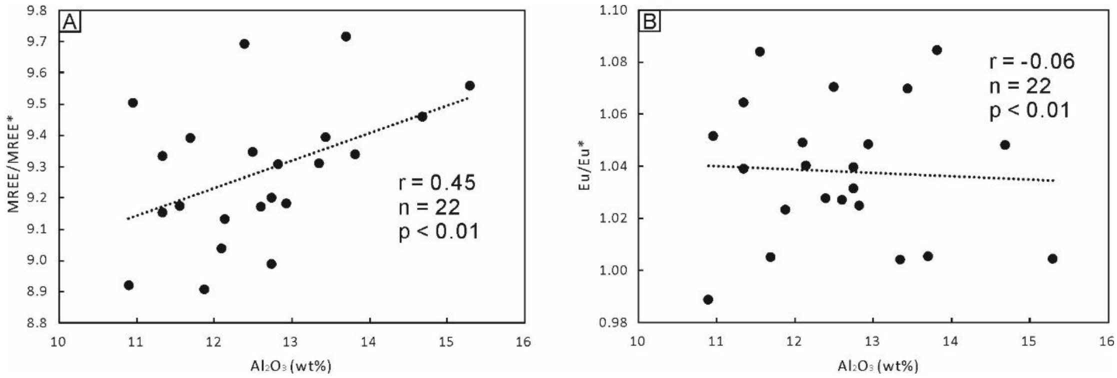

Fig. S3. Crossplots of MREE/MREE* and Eu/Eu* vs Al_2O_3 (wt%). These ratios do not exhibit any discernible change with clay content.

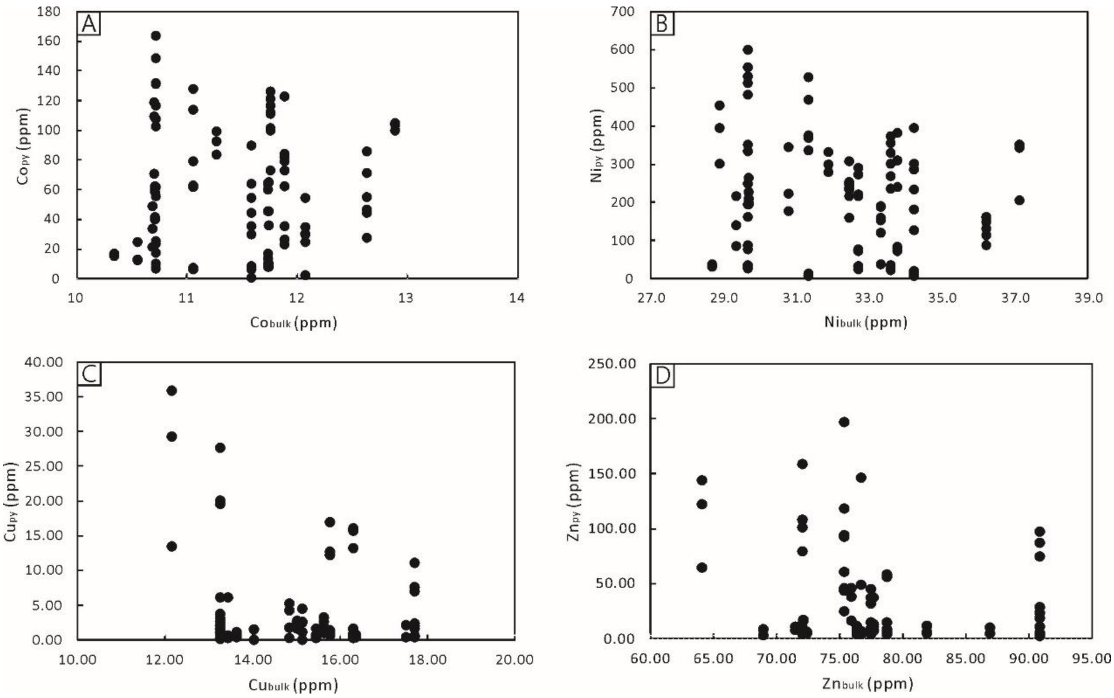

Fig. S4. Crossplots of pyrite geochemistry vs. bulk-rock geochemistry. No discernible correlation is observed.

Table S1. Uncertainties (2σ) in the data for selected elemental concentrations in pyrite aggregates from SC03.

Sample No.	Depth (mbsf)	FeS_2 (wt.%)	Co (ppm)	Ni (ppm)	Cu (ppm)	Zn (ppm)	As (ppm)
1-01	44.37	1.02	0.81	7.94	0.43	0.43	10.21
1-02	44.37	0.73	0.37	3.88	0.12	0.23	3.13
1-03	44.37	0.82	0.65	2.75	0.05	0.34	8.63
2-01	45.22	1.53	0.45	1.15	1.09	5.02	54.06
2-02	45.22	2.89	1.07	2.22	2.13	8.41	120.14
2-03	45.22	1.50	0.63	1.38	1.55	4.92	37.84
8-01	48.43	0.86	2.90	8.24	0.30	0.58	37.05
8-02	48.43	1.19	3.99	13.75	0.13	0.45	19.05
8-03	48.43	1.05	1.87	8.05	0.10	0.36	9.58
4-01	92.69	1.87	2.21	9.43	1.45	1.26	15.01
4-02	92.69	1.39	1.79	8.08	0.26	0.73	12.94
4-03	92.69	1.55	3.22	12.42	0.20	0.83	12.82
9-01	96.46	0.74	0.91	3.33	0.05	0.28	7.80
9-02	96.46	0.77	1.79	5.98	0.04	0.26	3.34
9-03	96.46	0.77	1.71	5.23	0.04	0.29	11.39
7-01	132.40	1.33	2.50	9.37	0.10	1.74	11.10
7-02	132.40	1.18	2.46	7.04	0.18	2.95	5.14
7-03	132.40	1.34	3.24	12.28	0.14	1.34	8.78
6-01	135.31	0.77	1.80	6.20	0.08	0.65	8.10
6-02	135.31	0.65	2.23	7.13	0.09	0.38	8.53
6-03	135.31	0.68	2.07	10.65	0.11	0.32	5.85
5-01	138.13	1.87	6.77	23.98	0.21	0.51	26.43
5-02	138.13	1.25	4.00	14.22	0.24	0.51	26.92
5-03	138.13	1.57	4.95	14.50	0.14	8.14	50.41
10-01	138.18	2.35	1.27	1.94	0.97	5.06	77.44
10-02	138.18	1.80	1.02	1.77	1.17	5.06	38.05
10-03	138.18	2.13	1.19	1.65	1.21	5.95	113.62
11-01	138.65	2.34	3.83	10.63	0.19	0.66	21.93
11-02	138.65	2.10	2.60	9.07	0.13	0.52	15.26
11-03	138.65	1.81	7.91	22.85	0.27	0.55	20.35
12-01	139.29	1.15	1.70	7.09	0.10	0.43	8.64
12-02	139.29	0.81	0.33	2.50	0.04	0.24	3.46
12-03	139.29	0.73	0.59	3.78	0.04	0.26	5.41
13-01	145.74	0.85	3.39	13.19	0.18	1.21	8.31
13-02	145.74	0.85	1.80	7.61	0.07	0.24	6.32
13-03	145.74	0.86	1.76	7.07	0.09	0.77	5.23
17-01	146.70	1.92	1.08	1.43	0.50	1.33	32.48
17-02	146.70	1.17	0.96	0.98	0.68	1.69	12.53
17-03	146.70	2.10	2.30	2.33	0.61	2.46	27.34
14-01	147.24	0.98	1.85	4.68	0.14	0.25	2.27

14-02	147.24	1.20	1.46	4.18	0.11	0.27	61.93
14-03	147.24	0.87	2.00	7.13	0.13	0.29	4.57
15-01	147.86	0.89	0.49	2.45	0.07	0.71	4.05
15-02	147.86	0.76	0.89	3.88	0.12	0.34	3.74
15-03	147.86	0.76	0.69	3.13	0.14	33.59	4.16
18-01	152.19	0.74	0.10	1.13	0.04	0.24	5.88
18-02	152.19	0.82	0.51	3.18	0.05	0.26	3.62
18-03	152.19	1.14	2.95	10.84	0.07	2.11	8.61
19-01	159.65	1.45	4.25	6.10	0.11	2.29	115.91
19-02	159.65	0.84	1.52	3.59	0.14	0.99	24.96
19-03	159.65	1.29	3.78	6.82	0.19	4.52	70.97
21-01	161.67	1.62	4.20	6.78	0.18	10.76	41.18
21-02	161.67	1.24	2.43	5.38	0.20	4.03	42.82
21-03	161.67	0.97	2.74	4.09	0.11	4.90	75.41
20-01	160.93	1.07	2.53	5.79	0.15	4.10	42.63
20-03	160.93	0.88	2.92	3.92	0.21	4.95	22.23
22-01	169.12	1.32	2.92	12.84	0.26	3.64	11.64
22-02	169.12	1.16	0.67	3.28	0.19	0.49	5.24
22-03	169.12	0.96	0.99	4.29	0.10	0.60	5.21
23-01	169.62	1.55	0.56	2.53	0.09	0.60	8.64
23-02	169.62	0.72	0.23	0.90	0.12	0.56	4.85
23-03	169.62	1.07	0.32	0.86	0.10	0.75	4.08
24-01	170.13	0.85	1.95	7.91	0.09	0.57	7.40
24-02	170.13	0.82	1.62	6.66	0.06	0.38	6.50
24-03	170.13	0.83	1.63	6.16	0.10	0.35	5.04
25-01	172.21	0.75	0.26	2.28	0.20	0.42	2.79
25-02	172.21	0.70	0.34	2.17	0.08	0.29	3.19
25-03	172.21	1.19	0.70	4.03	0.17	0.49	5.16
26-01	175.72	0.89	0.55	3.25	0.25	0.42	3.09
26-02	175.72	0.74	1.03	5.37	0.13	0.29	6.45
26-03	175.72	1.11	1.86	14.42	0.35	0.62	8.31
27-01	177.89	0.85	1.16	8.67	0.10	0.25	2.06
27-02	177.89	0.84	1.09	5.63	0.04	0.24	1.44
27-03	177.89	1.05	1.38	6.73	0.10	0.41	3.51
29-01	188.82	0.92	1.89	16.09	0.10	0.43	7.01
29-02	188.82	1.06	2.03	12.29	0.10	0.80	7.36
29-03	188.82	0.79	1.93	8.99	0.13	0.33	5.37
16-01	192.32	0.81	5.33	16.86	0.21	0.26	13.82
16-02	192.32	0.79	2.82	11.96	0.06	0.35	11.59
16-03	192.32	0.70	2.58	9.67	0.06	0.37	6.63
28-01	195.45	0.81	0.23	0.27	0.28	0.61	0.82
28-02	195.45	0.65	0.26	0.63	0.29	2.50	1.56
28-03	195.45	1.09	0.24	1.39	0.37	1.81	2.23
30-01	209.88	0.83	2.66	5.78	0.06	0.57	9.69

30-02	209.88	0.79	1.57	3.79	0.07	0.29	14.97
30-03	209.88	0.61	2.66	5.57	0.08	0.33	11.26
31-01	210.92	0.75	1.29	3.30	0.10	0.82	26.29
31-02	210.92	0.90	1.47	4.18	0.07	0.34	22.18
31-03	210.92	0.97	0.76	2.00	0.05	0.28	52.66
32-01	215.08	0.85	1.54	5.13	0.05	0.23	3.03
32-02	215.08	0.78	1.98	6.02	0.04	0.23	4.37
32-03	215.08	0.61	2.93	4.41	0.16	0.55	28.22
33-01	219.80	1.99	0.27	0.37	0.52	3.42	4.50
33-02	219.80	2.42	0.37	0.62	1.06	3.43	8.60
33-03	219.80	2.17	0.42	0.54	0.88	3.75	10.51
34-01	220.05	0.81	2.21	9.12	0.12	1.44	2.69
34-02	220.05	1.22	1.76	9.03	0.09	1.24	4.69
34-03	220.05	0.79	1.12	4.74	0.04	0.34	3.94
35-01	221.35	0.69	1.29	5.98	0.07	0.32	4.71
35-02	221.35	0.69	1.76	8.51	0.10	3.40	5.71
35-03	221.35	1.03	0.67	3.25	0.12	0.90	4.05
36-01	221.96	0.80	0.04	0.52	0.05	0.20	2.05
36-02	221.96	0.77	0.05	0.47	0.03	0.20	1.21
36-03	221.96	0.93	0.05	0.67	0.05	0.20	1.97

Table S2. Major element oxide contents (wt.%) of bulk sediments.

Sample No.	depth	SiO_2	TiO_2	Al_2O_3	TFe_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	LOI
003	42.8	58.9	0.7	11.3	4.3	0.1	2.0	8.2	1.5	2.2	0.1	9.7
008	45.2	62.0	0.7	10.9	4.0	0.1	1.9	7.1	1.4	2.1	0.1	8.7
018	50.2	61.1	0.7	11.0	4.3	0.1	2.0	7.2	1.5	2.2	0.2	8.9
021	92.4	60.8	0.7	11.6	4.5	0.1	2.1	6.8	1.3	2.2	0.2	9.0
036	132.4	60.1	0.8	12.5	4.7	0.1	2.2	6.4	1.4	2.4	0.1	8.8
042	136.2	60.4	0.7	12.1	4.5	0.1	2.1	6.6	1.3	2.3	0.1	9.0
052	145.7	57.7	0.7	12.8	5.0	0.1	2.2	7.1	1.3	2.4	0.2	9.8
060	150.2	57.1	0.7	12.7	5.0	0.1	2.2	7.2	1.4	2.5	0.2	9.9
076	160.3	59.4	0.7	12.1	4.8	0.1	2.2	6.9	1.4	2.4	0.2	9.2
076-1	160.3	59.1	0.7	12.2	4.8	0.1	2.2	6.9	1.4	2.4	0.2	9.2
079	161.1	57.9	0.7	12.6	5.0	0.1	2.2	7.3	1.4	2.5	0.2	9.7
089	171.6	59.0	0.7	12.4	4.8	0.1	2.2	7.0	1.4	2.4	0.1	9.2
104	177.7	59.1	0.7	11.9	4.6	0.1	2.1	7.3	1.3	2.3	0.1	9.4
105	177.9	59.6	0.7	11.7	4.6	0.1	2.1	7.2	1.3	2.2	0.1	9.2
121	192.3	58.1	0.8	12.9	4.9	0.1	2.2	6.9	1.2	2.4	0.1	9.6
133	202.3	58.3	0.8	13.7	5.4	0.1	2.3	5.8	1.3	2.6	0.1	8.9
145	210.9	57.4	0.8	13.4	5.1	0.1	2.3	6.5	1.3	2.6	0.2	9.3
153	215.1	55.7	0.8	14.7	5.6	0.1	2.4	6.4	1.3	2.7	0.1	9.8
156	216.7	56.1	0.8	15.3	5.6	0.1	2.4	5.6	1.4	2.8	0.1	9.4
160	219.8	55.1	0.7	13.8	5.0	0.1	2.2	8.1	1.2	2.5	0.1	10.9
165	221.8	55.2	0.7	13.3	5.1	0.1	2.2	8.0	1.4	2.5	0.1	10.9
165-1	221.8	54.8	0.7	13.4	5.1	0.1	2.2	8.0	1.4	2.5	0.1	11.0

Table S3. Trace elements (ppm), rare earth elements (ppm), Y/Ho, Ni_{EF}, Ba_{bio} (ppm), Mn×Co (wt.% × ppm), Eu/Eu*, and MREE/MREE* of bulk sediment at Site SC03

Sample No.	003	008	018	021	036	042	052	060	076	079	089	104	105	121	133	145	153	156	160	165	003-1	060-1
Depth (mbsf)	42.8	45.2	50.2	92.4	132.4	136.2	145.7	150.2	160.3	161.1	171.6	177.7	177.9	192.3	202.3	210.9	215.1	216.7	219.8	221.8	42.8	150.2
Li	48.8	44.8	44.8	49.4	52.7	49.3	55.1	52.8	50.2	52.1	53.0	48.3	48.6	52.1	57.7	55.5	61.1	64.3	60.9	59.2	45.4	53.6
Be	1.68	1.54	1.67	1.76	1.73	1.89	1.98	2.09	1.91	1.90	1.79	1.63	1.67	1.68	2.29	2.24	2.08	2.37	1.86	1.98	1.95	1.93
Sc	9.75	9.27	9.31	9.96	10.8	9.88	11.1	11.1	10.6	10.8	10.9	9.83	9.83	10.6	11.6	11.6	12.3	12.6	11.3	11.3	9.36	11.1
V	79.5	75.3	77.6	84.6	87.8	81.7	92.5	90.6	88.9	92.1	89.0	81.3	82.0	86.9	96.9	96.4	100	103	95.0	94.7	77.8	92.9
Cr	61.5	58.5	60.6	63.5	66.5	62.2	68.4	69.2	65.5	66.8	69.0	62.7	62.3	65.8	69.9	70.2	74.3	76.1	69.9	69.9	60.3	70.4
Co	10.6	10.3	10.7	10.7	11.3	10.7	11.9	12.1	11.8	11.7	11.7	10.7	10.7	11.1	12.6	12.6	12.9	13.7	11.6	11.7	10.4	11.8
Ni	29.4	28.7	28.9	29.7	31.9	29.7	33.6	33.3	32.5	32.7	33.8	30.5	30.8	31.4	35.0	36.2	37.1	40.2	34.2	35.3	29.6	34.9
Cu	13.4	12.1	13.3	14.8	14.0	13.3	15.8	15.4	15.0	15.6	15.1	13.7	13.6	17.7	15.8	16.3	17.5	17.4	16.3	15.9	13.0	15.5
Zn	68.9	64.1	71.4	72.1	75.9	72.0	77.5	76.7	75.3	77.6	76.3	71.9	72.4	78.7	83.8	81.9	86.9	88.6	90.8	84.0	70.1	80.4
Ga	14.4	13.8	13.9	15.1	16.4	14.7	16.7	16.3	15.5	16.1	16.1	14.9	15.4	16.3	17.7	17.1	18.8	19.2	17.4	17.2	14.2	16.3
Rb	98.7	91.1	93.4	99.7	108	101	110	111	106	110	110	101	102	107	118	116	124	128	120	117	96.1	111
Sr	293	249	251	241	237	235	257	266	244	258	257	262	265	247	227	245	244	228	308	305	288	268
Y	25.3	24.4	25.3	26.6	25.3	24.5	25.3	24.6	24.5	24.2	24.8	24.5	24.4	24.3	25.4	24.1	24.3	24.2	25.0	24.9	24.5	25.3
Zr	213	226	237	231	205	197	195	188	201	190	204	196	198	190	183	177	172	168	169	175	209	186
Nb	14.7	14.4	14.9	15.5	15.8	15.4	15.4	15.1	14.9	15.0	15.2	15.2	15.5	15.4	16.2	15.5	16.1	16.1	15.6	15.6	14.4	15.2
Mo	0.23	0.29	0.50	0.75	0.35	0.35	0.37	0.39	0.36	0.37	0.40	0.47	0.43	0.55	0.36	0.34	0.35	0.61	0.40	0.40	0.26	0.49
Sn	2.64	2.48	2.48	2.74	2.83	3.05	2.78	2.80	2.59	2.72	2.68	2.61	2.54	2.95	2.94	2.88	3.04	3.23	3.30	3.14	2.55	2.93
Cs	6.33	5.81	5.89	6.45	7.15	6.63	7.68	7.63	7.37	7.77	7.51	6.46	6.65	7.34	8.34	8.37	9.01	9.37	8.78	8.60	6.37	7.75
Ba	356	343	354	544	377	366	375	381	375	382	391	358	369	456	396	391	411	407	422	379	347	384
La	34.9	34.6	35.1	35.9	36.2	35.0	36.0	34.7	34.7	34.4	36.6	34.4	35.4	35.3	37.8	36.0	37.2	37.8	36.7	36.9	35.3	36.5
Ce	68.7	67.5	69.6	70.9	71.5	68.5	71.1	68.6	69.0	68.1	73.1	67.5	69.6	68.3	73.8	69.5	72.6	73.0	70.7	71.3	68.1	69.8
Pr	7.92	7.83	7.91	8.14	8.21	7.90	8.13	7.92	7.98	7.85	8.41	7.81	8.06	8.02	8.58	8.08	8.42	8.51	8.15	8.11	7.78	8.08
Nd	28.3	27.9	29.2	29.0	29.2	27.9	29.2	28.5	28.4	27.8	29.9	27.5	28.4	28.0	30.3	28.9	29.9	29.9	28.6	29.1	27.9	29.3
Sm	5.83	5.71	6.03	5.76	5.85	5.58	5.99	5.49	5.75	5.67	6.12	5.57	6.01	5.70	6.09	5.84	5.71	5.89	5.56	5.69	5.54	5.64
Eu	1.15	1.07	1.20	1.22	1.19	1.12	1.16	1.11	1.13	1.11	1.19	1.09	1.15	1.15	1.18	1.17	1.16	1.15	1.18	1.11	1.15	1.13
Gd	5.09	4.82	5.02	5.22	5.03	4.78	5.10	4.80	4.79	4.80	5.05	4.73	4.82	4.84	5.20	5.03	4.94	5.05	4.93	5.12	4.94	5.21
Tb	0.76	0.74	0.78	0.80	0.76	0.74	0.77	0.76	0.74	0.74	0.79	0.74	0.79	0.76	0.83	0.73	0.79	0.81	0.79	0.79	0.77	0.77
Dy	4.92	4.53	4.77	5.03	4.94	4.74	4.81	4.70	4.77	4.73	4.82	4.62	4.62	4.57	4.97	4.65	4.62	4.82	4.78	4.68	4.51	4.66
Ho	0.93	0.91	0.91	1.00	0.92	0.88	0.93	0.87	0.89	0.88	0.96	0.92	0.91	0.93	0.95	0.92	0.95	0.91	0.92	0.93	0.92	0.95
Er	2.58	2.45	2.41	2.71	2.52	2.50	2.53	2.53	2.47	2.43	2.55	2.63	2.51	2.58	2.65	2.43	2.54	2.61	2.55	2.60	2.59	2.73
Tm	0.38	0.38	0.38	0.41	0.38	0.37	0.40	0.37	0.38	0.36	0.37	0.38	0.37	0.37	0.39	0.38	0.37	0.38	0.39	0.37	0.38	0.38
Yb	2.55	2.52	2.56	2.81	2.64	2.49	2.61	2.46	2.49	2.40	2.50	2.41	2.41	2.45	2.56	2.49	2.47	2.49	2.54	2.60	2.43	2.56
Lu	0.37	0.38	0.37	0.41	0.39	0.37	0.38	0.38	0.37	0.36	0.39	0.37	0.37	0.37	0.38	0.36	0.38	0.37	0.37	0.37	0.36	0.37
Hf	5.88	6.22	6.55	6.38	5.85	5.59	5.65	5.41	5.81	5.48	5.94	5.55	5.78	5.40	5.36	5.18	5.01	4.82	4.92	4.94	5.91	5.25
Ta	1.11	1.07	1.10	1.17	1.17	1.11	1.14	1.14	1.09	1.08	1.10	1.13	1.20	1.16	1.23	1.14	1.16	1.18	1.18	1.23	1.08	1.14
Tl	0.51	0.47	0.50	0.54	0.60	0.57	0.60	0.62	0.60	0.62	0.66	0.61	0.58	0.62	0.68	0.64	0.72	0.69	0.66	0.60	0.50	0.55
Pb	15.1	14.1	15.6	17.1	17.4	15.9	18.1	17.8	17.0	17.9	16.7	15.1	15.3	17.6	19.5	19.3	20.3	21.3	22.1	18.3	14.9	18.7
Th	12.2	11.8	12.1	12.6	13.2	12.3	13.3	12.7	12.6	13.4	13.1	12.3	12.2	13.0	14.3	13.4	14.1	14.3	14.1	13.8	11.8	12.7
U	2.41	2.34	2.44	2.48	2.48	2.43	2.52	2.52	2.47	2.48	2.56	2.45	2.51	2.40	2.65	2.46	2.62	2.57	2.79	2.66	2.38	2.61
Y/Ho	27.2	26.7	27.7	26.7	27.5	27.9	27.0	28.2	27.6	27.4	25.8	26.8	26.9	26.2	26.7	26.3	25.5	26.6	27.1	26.9	26.7	26.7

Ni_{EF}	0.82	0.83	0.83	0.81	0.80	0.77	0.83	0.82	0.84	0.82	0.86	0.81	0.83	0.76	0.81	0.85	0.80	0.83	0.78	0.83	0.82	0.86
Ba_{bio}	55.6	54.6	64.3	-	46.3	46.3	36.2	44.2	53.3	48.3	62.9	43.8	59.5	-	33.8	35.8	22.6	2.0	55.9	26.0	46.8	46.5
Mn × Co	0.46	0.41	0.44	0.51	0.54	0.49	0.65	0.68	0.68	0.68	0.55	0.43	0.43	0.47	0.70	0.77	0.90	1.04	0.55	0.54	0.45	0.67
Eu/Eu*	1.04	0.99	1.05	1.08	1.07	1.05	1.02	1.04	1.04	1.03	1.03	1.02	1.01	1.05	1.01	1.07	1.05	1.00	1.08	1.00	1.06	1.03
MREE/MREE*	9.3	8.9	9.5	9.2	9.3	9.0	9.3	9.0	9.1	9.2	9.7	8.9	9.4	9.2	9.7	9.4	9.5	9.6	9.3	9.3	9.2	9.2

Table S4 Pyrite framboidal overgrowth width, nucleus diameter, and the ratio of overgrowth width to nucleus diameter at Site SC03.

Sample No.	$\delta^{34}S$ (VCDT‰)	Overgrowth width (μm)	Nucleus diameter (μm)	Overgrowth fraction	Mean fraction
025	-33.8	1.1	6.8	0.14	0.15
		1.5	6.8	0.18	
		0.4	2.7	0.13	
065	-0.9	1.6	5.2	0.24	0.28
		2.1	6.1	0.26	
		1.8	4.8	0.27	
		2.2	4.0	0.35	
067	10.8	2.2	4.1	0.35	0.40
		3.8	6.2	0.38	
		3.9	6.0	0.39	
		2.8	4.1	0.41	
		3.5	5.1	0.41	
		4.5	6.0	0.43	
		3.7	4.3	0.46	
075	-12.2	2.6	6.9	0.27	0.23
		1.6	6.6	0.20	
		2.6	9.6	0.21	
080	-6.2	4.5	10.4	0.30	0.29
		3.6	10.7	0.25	
		3.8	11.9	0.24	
		2.8	4.8	0.37	
		5.2	12.1	0.30	
		2.7	7.4	0.27	
083	-17.8	3.3	8.5	0.28	0.23
		3.3	11.5	0.22	
		2.4	11.7	0.17	
		3.6	11.4	0.24	
084	-7.0	1.3	5.2	0.20	0.22
		1.6	4.7	0.25	
		1.5	5.5	0.21	
089	-26.1	1.3	9.9	0.12	0.17
		1.8	10.3	0.15	
		2.3	13.3	0.15	
		1.7	10.0	0.15	
		1.8	7.0	0.20	
		1.9	7.0	0.21	
		1.7	11.4	0.13	
		2.7	9.7	0.22	
125	-32.6	0.9	6.7	0.12	0.18

		0.9	4.4	0.17	
		0.9	4.6	0.16	
		1.0	4.4	0.19	
		1.1	5.6	0.16	
		1.3	5.1	0.20	
		1.0	3.8	0.21	
		1.5	7.6	0.16	
		1.0	4.2	0.19	
		1.4	6.3	0.18	
		0.7	4.3	0.14	
		1.0	4.6	0.18	
		1.5	6.2	0.19	
		1.1	4.4	0.20	
128	6.0	6.6	12.9	0.34	0.34
		7.7	16.0	0.32	
		8.9	17.1	0.34	
137	-10.4	4.0	11.6	0.26	0.25
		8.6	30.8	0.22	
		3.6	8.0	0.31	
		3.0	7.6	0.28	
		4.4	15.0	0.23	
		6.6	20.6	0.24	
		4.3	12.6	0.25	
		2.6	10.0	0.21	
		3.4	11.4	0.23	
		3.1	6.9	0.31	
		3.1	12.9	0.19	
		6.3	17.1	0.27	
		5.4	18.9	0.22	
138	4.0	3.4	9.4	0.27	0.30
		3.0	6.3	0.32	
		2.4	6.3	0.28	
		3.0	6.2	0.33	
139	-2.5	4.1	13.9	0.23	0.28
		4.5	15.1	0.23	
		4.4	14.2	0.24	
		3.0	9.3	0.24	
		1.4	4.2	0.25	
		4.5	13.1	0.26	
		3.9	10.3	0.27	
		2.8	7.2	0.28	
		3.9	9.9	0.28	
		5.6	13.4	0.29	

		3.4	7.9	0.30	
		4.2	9.6	0.30	
		3.9	8.5	0.31	
		3.4	6.9	0.33	
		5.8	11.7	0.33	
		3.6	7.2	0.33	
140	-5.3	4.6	16.8	0.21	0.25
		4.2	11.8	0.26	
		3.6	15.1	0.19	
		3.9	15.3	0.20	
		2.8	5.9	0.32	
		2.1	5.9	0.26	
		3.1	8.0	0.28	
		2.3	8.7	0.21	
		3.5	9.3	0.27	
		3.1	8.0	0.28	
		4.7	11.6	0.29	
		3.1	10.0	0.24	
		5.9	21.2	0.22	
		4.4	14.4	0.23	
		4.0	10.0	0.29	
141	4.1	2.4	3.5	0.41	0.40
		3.8	5.1	0.43	
		3.9	6.6	0.37	
147	-9.7	1.1	5.5	0.17	0.27
		1.7	3.7	0.31	
		1.7	4.8	0.26	
		2.5	5.4	0.32	
		1.5	4.1	0.27	
		1.7	6.3	0.21	
		1.7	3.8	0.31	
		1.4	4.4	0.24	
		1.9	3.9	0.33	
		1.4	5.9	0.19	
		1.3	4.1	0.24	
		1.1	2.1	0.34	
		1.5	3.3	0.31	
		1.4	3.7	0.27	
		1.9	5.9	0.24	
		1.5	3.5	0.30	
		1.7	4.5	0.27	
		1.9	5.6	0.25	
		1.5	3.6	0.29	

		1.5	3.4	0.31	
160	-18.4	0.8	3.9	0.17	0.16
		1.4	11.5	0.11	
		3.0	13.5	0.18	
		2.2	12.5	0.15	
		2.8	10.0	0.22	
		2.1	10.5	0.17	
		2.0	12.6	0.14	
		3.6	19.6	0.16	
		2.1	12.3	0.15	
		2.8	11.4	0.20	
		2.5	12.7	0.16	
		1.9	8.6	0.18	
164	16.1	5.8	8.2	0.41	0.41
		5.4	8.2	0.40	
		5.2	6.3	0.45	
		3.5	5.2	0.40	
		3.6	5.2	0.41	
		4.3	6.0	0.42	
		3.5	6.0	0.37	
		5.5	8.3	0.40	
		4.7	8.3	0.36	
		5.6	8.0	0.41	
		5.4	8.1	0.40	
		5.4	7.0	0.44	
		4.2	5.7	0.42	
		5.1	6.7	0.43	
		3.2	5.2	0.38	
		5.8	8.3	0.41	
		6.1	9.5	0.39	
		7.3	8.6	0.46	