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Huang, Y., Chen, Z.-Q., Wignall, P.B., and Zhao, L., 2016, Latest Permian to Middle Triassic redox condition variations in ramp settings, South China: Pyrite framboid evidence: GSA Bulletin, doi:10.1130/B31458.1.

SUPPLEMENTAL FILES

Table 1. Presence/absence, morphologic and size data of pyrites from all observed samples and their corresponding redox conditions.

Figure S1. Sunflower-like overgrowth pyrites showing tiny framboidal pyrite aggregates surrounded by broad overgrowth rims.

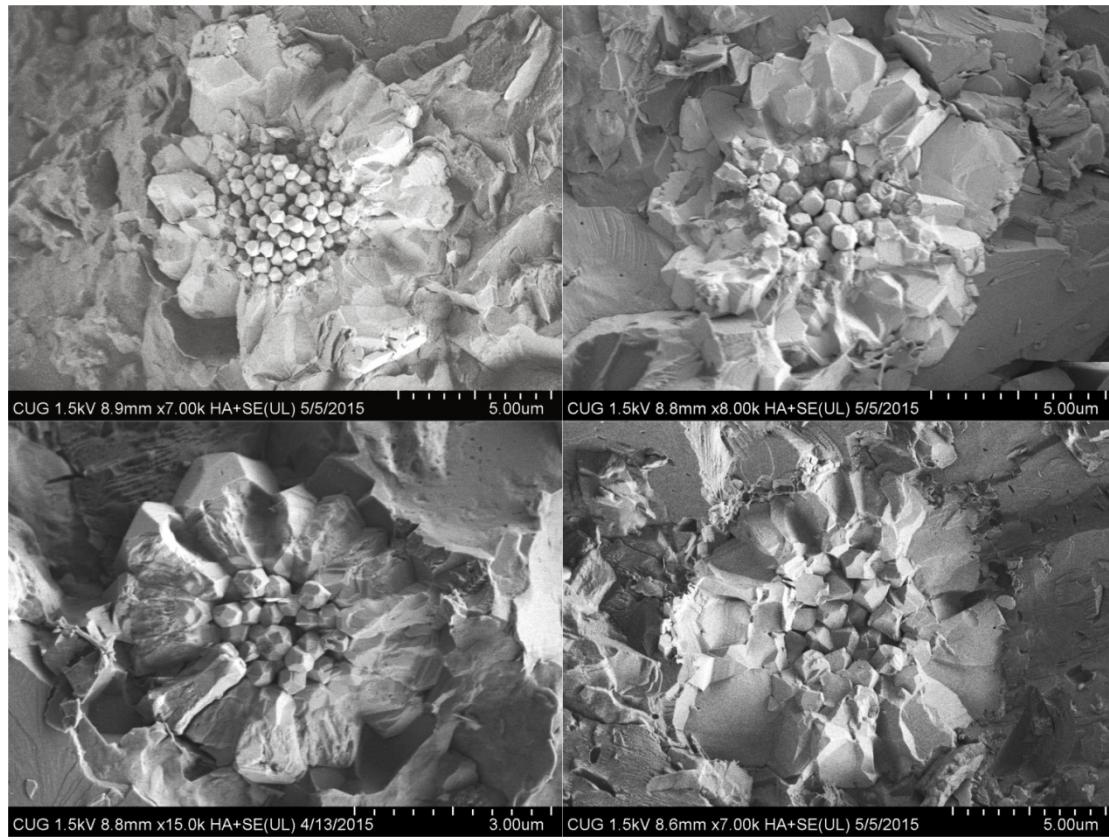


Figure S1. Sunflower-like overgrowth pyrites showing tiny framboidal pyrite aggregates surrounded by broad overgrowth rims.

TABLE S1. PYRITE SAMPLE PARAMETERS OF STUDY SAMPLES.

Sample numble	Stage/ Substage	Conodont zone	Lith.	FAP	FFP	N	SD	MD	Min	Max	Redox condition
Meishan											
24-a	Cha.	<i>C. yini</i>	lim.	none	none	0	*	*	*	*	Oxic
27-c	Gri.	<i>H. parvus</i>	lim.	none	none	0	*	*	*	*	Oxic
30-1	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	Oxic
30-2	Gri.	<i>C. planata</i>	mud.	a few	a few	25	2.52	5.43	2.5	8.39	Anoxic
30-3	Gri.	<i>C. planata</i>	mud.	rare	rare	1	2.14	2.52	4.03	4.03	Oxic
31	Gri.	<i>C. planata</i>	mud.	rare	rare	4	0.70	3.22	2.35	4	Oxic
33	Gri.	<i>C. planata</i>	mud.	rare	rare	1	*	3.87	3.87	3.87	Oxic
34	Gri.	<i>C. planata</i>	mud.	rare	rare	1	*	3.24	3.24	3.24	Oxic
38-1	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	Oxic
38-2	Gri.	<i>C. planata</i>	mud.	rare	none	0	*	*	*	*	Oxic
38-3	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	Oxic
40	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	Oxic
41-1	Gri.	<i>C. planata</i>	mud.	rare	rare	1	*	2.81	2.81	2.81	Oxic
41-2	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	Oxic
41-3	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	Oxic

42-2	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	*	Oxic
43	Gri.	<i>C. planata</i>	mud.	rare	rare	5	3.65	12.47	9.33	18.7		Oxic
44-1	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	*	Oxic
45-1	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	*	Oxic
45-2	Gri.	<i>C. planata</i>	mud.	rare	none	0	*	*	*	*	*	Oxic
46	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	*	Oxic
47	Gri.	<i>C. planata</i>	mud.	rare	rare	1	*	7.75	7.75	7.75		Oxic
51-2	Gri.	<i>C. planata</i>	mud.	rare	rare	1	*	3.00	3	3		Oxic
52-1	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	*	Oxic
52-3	Gri.	<i>C. planata</i>	mud.	none	none	0	*	*	*	*	*	Oxic
53	Gri.	<i>C. planata</i>	lim.	none	none	0	*	*	*	*	*	Oxic
54-1	Gri.	<i>C. planata</i>	lim.	rare	none	0	*	*	*	*	*	Oxic
54-2	Gri.	<i>C. planata</i>	lim.	none	none	0	*	*	*	*	*	Oxic
55-1	Gri.	<i>Nc. discreta</i>	lim.	none	none	0	*	*	*	*	*	Oxic
56	Gri.	<i>Nc. discreta</i>	lim.	none	none	0	*	*	*	*	*	Oxic

Chaohu

WPDS	CPW11	Gri.	<i>H. typicalis</i>	mud.	rare	locally abun.	180	1.47	3.69	1.09	9.67	Euxinic
	CPW12	Gri.	<i>H. typicalis</i>	lim.	none	none	*	*	*	*	*	Oxic
	CPW13	Gri.	<i>H. typicalis</i>	lim.	none	none	*	*	*	*	*	Oxic
	CPW14	Gri.	<i>H. typicalis</i>	lim.	none	none	*	*	*	*	*	Oxic
	CPW15	Gri.	<i>H. typicalis</i>	lim.	none	none	*	*	*	*	*	Oxic
	CPW16	Gri.	<i>H. typicalis</i>	lim.	rare	locally abun.	159	1.43	4.56	1.3	7.69	Euxinic
	CPW17-1	Gri.	<i>Nc. krystyni</i>	lim.	none	none	*	*	*	*	*	Oxic
	CPW17-2	Gri.	<i>Nc. krystyni</i>	mud.	none	none	*	*	*	*	*	Oxic
	CPW18-1	Gri.	<i>Nc. krystyni</i>	lim.	none	none	*	*	*	*	*	Oxic
	CPW18-2	Gri.	<i>Nc. krystyni</i>	mud.	rare	abun.	152	1.60	4.28	1.64	12.5	Anoxic
	CPW19	Die.	<i>Sw. kummeli</i>	lim.	rare	a few	144	1.24	3.70	1.4	6.82	Euxinic
	CPW20	Die.	<i>Sw. kummeli</i>	mud.	rare	abun.	150	1.12	3.14	1.63	7.51	Euxinic
	CPW21	Die.	<i>Ns. dieneri</i>	lim.	none	none	*	*	*	*	*	Oxic
	CPW22	Die.	<i>Ns. dieneri</i>	lim.	none	none	*	*	*	*	*	Oxic
	CPW23	Die.	<i>Ns. dieneri</i>	mud.	rare	locally abun.	176	2.60	4.25	1.38	19.4	Lower dysoxic
	CPW24-5	Die.	<i>Ns. dieneri</i>	mud.	rare	locally abun.	144	3.71	3.80	1.16	33.22	Lower dysoxic
	CPW25-2	Smi.	<i>Nv. waageni</i>	lim.	rare	a few	91	2.00	3.63	1.49	17.8	Lower dysoxic
	CPW26	Smi.	<i>Nv. waageni</i>	mud.	rare	a few	89	1.45	3.71	1.05	8.57	Euxinic
	CPW27	Smi.	<i>Nv. waageni</i>	mud.	rare	a few	70	1.67	4.97	2.3	8.37	Euxinic
	CPW28	Smi.	<i>Nv. waageni</i>	lim.	none	none	*	*	*	*	*	Oxic
	CPW29	Smi.	<i>Nv. waageni</i>	lim.	none	rare	*	*	*	*	*	Oxic
	CPW30	Smi.	<i>Nv. waageni</i>	mud.	none	none	*	*	*	*	*	Oxic

CPW31	Smi.	<i>Nv. waageni</i>	mud.	none	none	*	*	*	*	*	*	Oxic
CPW32	Smi.	<i>Nv. waageni</i>	mud.	none	none	*	*	*	*	*	*	Oxic
CPW33	Smi.	<i>Nv. waageni</i>	mud.	rare	locally	126	1.38	4.37	1.99	7.64		Euxinic
					abun.							
CPW34	Smi.	<i>Nv. waageni</i>	mud.	none	none	*	*	*	*	*	*	Oxic
CPW35	Smi.	<i>Nv. waageni</i>	mud.	none	none	*	*	*	*	*	*	Oxic
CPW36	Smi.	<i>Nv. waageni</i>	mud.	none	a few	87	1.55	3.41	1.33	7.64		Euxinic
CPW37	Smi.	<i>Nv. waageni</i>	mud.	none	none	*	*	*	*	*	*	Oxic
CPW39	Smi.	<i>Nv. waageni</i>	mud.	none	a few	80	1.63	4.09	1.4	8.02		Euxinic
CPW40	Smi.	<i>Nv. waageni</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CPW41	Smi.	<i>Nv. waageni</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CPW42	Smi.	<i>Nv. waageni</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CPW43	Smi.	<i>Nv. waageni</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CPW44	Smi.	<i>Nv. waageni</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CPW45	Smi.	<i>Nv. waageni</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CPW46	Smi.	<i>Nv. waageni</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CPW48	Smi.	<i>Nv. waageni</i>	lim.	rare	a few	85	1.49	5.45	2.85	9.67		Anoxic
CPW49	Smi.	<i>Nv. waageni</i>	lim.	rare	abun.	160	1.58	3.43	1.14	8.89		Euxinic
CPW51-1	Smi.	<i>Nv. waageni</i>	mud.	rare	abun.	155	1.28	3.94	2.09	8.48		Euxinic
CPW52-7	Spa.	<i>Nv. Pingdingshanensis</i>	lim.	rare	abun.	138	1.51	3.63	1.2	8.65		Euxinic
CPW53-1	Spa.	<i>Nv. Pingdingshanensis</i>	lim.	a few	abun.	164	3.83	6.62	1.52	22		Lower Dysoxic
CPW54	Spa.	<i>Nv. Pingdingshanensis</i>	lim.	rare	abun.	139	1.86	5.52	1.45	12.4		Anoxic
CPW55	Spa.	<i>Nv. Pingdingshanensis</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CPW56	Spa.	<i>Tr. homeri</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CPW57	Spa.	<i>Tr. homeri</i>	lim.	none	rare	*	*	*	*	*	*	Oxic
CPW58	Spa.	<i>Tr. homeri</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CPW59	Spa.	<i>Tr. homeri</i>	lim.	rare	a few	87	2.30	5.49	1.34	13.2		Anoxic
												Oxic
SMJS	CMS23	Spa.	<i>Nv. Pingdingshanensis</i>	lim.	rare	abun.	130	2.52	6.07	2.48	17.9	Lower dysoxic
	CMS26	Spa.	<i>Tr. homeri</i>	lim.	rare	a few	73	1.88	5.26	2.04	9.6	Anoxic
	CMS28-1	Spa.	<i>Tr. homeri</i>	lim.	a few	none	*	*	*	*	*	Oxic
	CMS32	Spa.	<i>Tr. homeri</i>	lim.	none	rare	*	*	*	*	*	Oxic
	CMS33	Spa.	<i>Tr. homeri</i>	lim.	rare	rare	*	*	*	*	*	Oxic
	CMS35	Spa.	<i>Tr. homeri</i>	lim.	rare	a few	70	2.48	5.56	2.69	13.6	Anoxic
	CMS36	Spa.	<i>Tr. homeri</i>	lim.	none	none	*	*	*	*	*	Oxic
	CMS39	Spa.	<i>Tr. homeri</i>	lim.	rare	a few	72	2.96	5.70	2.7	17.4	Anoxic
	CMS41-1	Spa.	<i>Ns. anhuiensis</i>	muddy	rare	abun.	140	1.59	4.65	1.29	9.74	Euxinic
	CMS41-2	Spa.	<i>Ns. anhuiensis</i>	lim.	abun.	none	*	*	*	*	*	Oxic

CMS43	Spa.	<i>Ns. anhuiensis</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CMS45	Spa.	<i>Ns. anhuiensis</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CMS47	Spa.	<i>Ns. anhuiensis</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CMS51	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	a few	71	1.67	5.06	2.12	9.96	Anoxic	
CMS53	Spa.	<i>Ns. anhuiensis</i>	muddy	rare	rare	*	*	*	*	*	*	Oxic
					lim.							
CMS56-1	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	a few	87	1.60	4.60	1.48	8.35	Euxinic	
CMS56-2	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	abun.	114	2.02	5.59	2.58	13.4	Anoxic	
CMS58	Spa.	<i>Ns. anhuiensis</i>	muddy	none	none	*	*	*	*	*	*	Oxic
					lim.							
CMS61	Spa.	<i>Ns. anhuiensis</i>	lim.	a few	abun.	110	2.54	6.28	2.22	14.6	Lower	
											dysoxic	
CMS62	Spa.	<i>Ns. anhuiensis</i>	muddy	a few	abun.	170	2.92	6.41	1.71	20.6	Lower	
					lim.						dysoxic	
CMS63	Spa.	<i>Ns. anhuiensis</i>	muddy	rare	abun.	120	2.21	5.16	2.17	14	Anoxic	
					lim.							
CMS64	Spa.	<i>Ns. anhuiensis</i>	mud.	none	none	*	*	*	*	*	*	Oxic
CMS65	Spa.	<i>Ns. anhuiensis</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CMS66	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	abun.	156	1.68	4.54	1.08	12.7	Euxinic	
CMS68	Spa.	<i>Ns. anhuiensis</i>	muddy	none	none	*	*	*	*	*	*	Oxic
					lim.							
CMS69	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	abun.	172	1.45	3.90	1.4	8.88	Euxinic	
CMS70	Spa.	<i>Ns. anhuiensis</i>	lim.	none	rare	*	*	*	*	*	*	Oxic
CMS71	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	abun.	158	1.37	4.44	1.84	8.64	Euxinic	
CMS72	Spa.	<i>Ns. anhuiensis</i>	lim.	none	a few	73	1.67	4.09	2.16	8.89	Euxinic	
CMS73	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	abun.	150	2.73	4.06	1.55	25.4	Anoxic	
CMS74	Spa.	<i>Ns. anhuiensis</i>	lim.	none	none	*	*	*	*	*	*	Oxic
CMS75	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	abun.	124	1.44	4.40	1.37	8.91	Euxinic	
CMS76	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	locally	126	1.64	4.11	0.91	10.5	Euxinic	
					abun.							
CMS77	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	abun.	122	1.59	4.59	1.8	10.6	Euxinic	
CMS78-1	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	a few	76	2.19	4.67	2.08	15.4	Anoxic	
CMS78-2	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	a few	84	1.59	5.15	2.26	9.75	Anoxic	
CMS79-2	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	a few	94	1.77	3.91	1.66	12.7	Euxinic	
CMS80-1	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	a few	67	1.64	5.77	3.22	8.41	Anoxic	
CMS80-2	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	abun.	101	1.80	4.80	1.73	9.1	Euxinic	
CMS81-2	Spa.	<i>Ns. anhuiensis</i>	mud.	rare	abun.	114	1.35	4.73	1.95	7.22	Euxinic	
CMS82	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	a few	51	2.22	4.79	2.04	8.9	Euxinic	
CMS83-2	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	abun.	168	1.29	4.17	2.37	10.1	Euxinic	
CMS83-5	Spa.	<i>Ns. anhuiensis</i>	lim.	rare	a few	79	1.26	4.15	1.64	8.19	Euxinic	
CMS83-8	Spa.	<i>Ns. anhuiensis</i>	lim.	a few	a few	89	2.53	6.67	2.3	13.1	Lower	
											dysoxic	
CMS84	Spa.	<i>Ns. anhuiensis</i>	lim.	none	rare	*	*	*	*	*	*	Oxic
CMS85-1	Spa.	<i>Ns. anhuiensis</i>	lim.	a few	abun.	107	3.17	6.58	2.13	19.6	Lower	

<i>timorensis</i>												
							*	*	*	*	*	Oxic
	XS-31	Ani.	<i>Chiosella</i> <i>timorensis</i>	lim.	rare	rare	*	*	*	*	*	Oxic
	XS-34	Ani.	<i>Chiosella</i> <i>timorensis</i>	lim.	a few	a few	73	3.47	6.71	2.55	18.9	Lower dysoxic
	XS-37	Ani.	?	mud.	none	none	*	*	*	*	*	Oxic
	XS-40	Ani.	?	mud.	none	none	*	*	*	*	*	Oxic
	XS-43	Ani.	?	mud.	none	none	*	*	*	*	*	Oxic
MFP Mem.	MFP-58	Ani.	?	muddy	none	none	*	*	*	*	*	Oxic
				lim.								
	MFP-53	Ani.	?	muddy	rare	a few	89	1.08	4.08	2.05	6.96	Euxinic
				lim.								
	MFP-47	Ani.	?	muddy	rare	abun.	114	1.35	3.67	1	7	Euxinic
				lim.								
	MFP-46	Ani.	?	lim.	none	none	*	*	*	*	*	Oxic
	MFP-45	Ani.	?	lim.	none	rare	*	*	*	*	*	Oxic
	MFP-43	Ani.	?	lim.	abun.	none	*	*	*	*	*	Oxic
	MFP-41	Ani.	?	lim.	rare	a few	71	1.32	4.32	2.56	8.35	Euxinic
	MFP-36	Ani.	?	muddy	a few	rare	*	*	*	*	*	Oxic
				lim.								
	MFP-35	Ani.	?	lim.	none	none	*	*	*	*	*	Oxic
	MFP-33	Ani.	<i>Ng. cf. bugarica</i>	lim.	none	none	*	*	*	*	*	Oxic
	MFP-29	Ani.	<i>Ng. cf. bugarica</i>	lim.	rare	a few	78	1.46	3.74	1.45	8.11	Euxinic
	MFP-25	Ani.	<i>Ng. cf. bugarica</i>	lim.	rare	abun.	161	1.66	4.08	1.09	9.84	Euxinic
	MFP-23	Ani.	<i>Ng. cf. bugarica</i>	muddy	none	none	*	*	*	*	*	Oxic
				lim.								
	MFP-21	Ani.	<i>Ng. cf. bugarica</i>	lim.	rare	locally abun.	120	1.69	5.29	1.85	10.6	Anoxic
	MFP-19	Ani.	<i>Ng. cf. bugarica</i>	mud.	none	none	*	*	*	*	*	Oxic
	MFP-17	Ani.	<i>Ng. cf. bugarica</i>	mud.	none	none	*	*	*	*	*	Oxic
	MFP-15	Ani.	<i>Ng. cf. bugarica</i>	mud.	none	none	*	*	*	*	*	Oxic
	MFP-13	Ani.	<i>Ng. cf. bugarica</i>	lim.	none	none	*	*	*	*	*	Oxic
	MFP-4	Ani.	<i>Ng. cf. bugarica</i>	lim.	none	none	*	*	*	*	*	Oxic
	MFP-2	Ani.	<i>Ng. cf. bugarica</i>	lim.	rare	none	*	*	*	*	*	Oxic
YSP Mem.	YSP-1	Ani.	<i>Ng. cf. bugarica</i>	lim.	none	none	*	*	*	*	*	Oxic
	YSP-5	Ani.	<i>Ng. cf. bugarica</i>	lim.	rare	abun.	108	2.35	4.98	2.9	14.2	Euxinic
	YSP-9	Ani.	<i>Ng. cf. bugarica</i>	lim.	rare	abun.	116	2.19	5.61	3.4	14.2	Anoxic
	YSP-13	Ani.	<i>Ng. cf. bugarica</i>	lim.	rare	abun.	122	1.42	5.03	2.82	8.99	Anoxic
	YSP-17	Ani.	<i>Ng. cf. bugarica</i>	lim.	a few	abun.	104	5.67	8.11	3.36	29	Lower dysoxic
	YSP-19	Ani.	<i>Ng. cf. bugarica</i>	lim.	rare	a few	75	1.05	3.54	1.42	5.16	Euxinic
	TSP-20	Ani.	<i>Ng. cf. bugarica</i>	lim.	rare	none	*	*	*	*	*	Oxic
	YSP-24	Ani.	<i>Ng. cf. bugarica</i>	lim.	rare	rare	*	*	*	*	*	Oxic

YSP-29	Ani.	?	lim.	rare	abun.	184	3.70	5.63	1.44	26.7	Anoxic		
YSP-33	Ani.	?	lim.	rare	a few	66	1.38	4.83	2.58	8.08	Euxinic		
YSP-39	Ani.	?	lim.	rare	abun.	128	1.15	4.27	2.04	7.68	Euxinic		
YSP-46	Ani.	?	lim.	rare	a few	77	1.56	5.11	2.6	11	Anoxic		
YSP-53	Ani.	?	lim.	rare	abun.	108	2.77	5.52	1.64	16.1	Anoxic		
YSP-65	Ani.	?	lim.	rare	abun.	184	1.92	6.78	2.94	12.4	Lower		
											dysoxic		
YSP-67	Ani.	?	lim.	rare	none	*	*	*	*	*	Oxic		
YSP-69	Ani.	?	lim.	none	none	*	*	*	*	*	Oxic		
YSP-72	Ani.	?	lim.	none	none	*	*	*	*	*	Oxic		
YSP-75	Ani.	?	lim.	none	none	*	*	*	*	*	Oxic		
YSP-78	Ani.	?	lim.	none	none	*	*	*	*	*	Oxic		
YSP-81	Ani.	?	lim.	none	none	*	*	*	*	*	Oxic		
YSP-84	Ani.	?	lim.	rare	none	*	*	*	*	*	Oxic		
YSP-87	Ani.	?	lim.	none	none	*	*	*	*	*	Oxic		
YSP-90	Ani.	?	lim.	none	locally	134	1.30	3.71	1.03	5.79	Euxinic		
					abun.								
YSP-93	Ani.	?	mud.	none	none	*	*	*	*	*	Oxic		
YSP-97	Ani.	?	mud.	none	none	*	*	*	*	*	Oxic		
YSP-100	Ani.	?	lim.	none	none	*	*	*	*	*	Oxic		
YSP-103	Ani.	?	mud.	rare	abun.	120	1.64	4.54	1.94	12.8	Euxinic		
LDP	LDP-40	Ani.	?	mud.	none	none	*	*	*	*	Oxic		
Mem.													
LDP-45	Ani.	?	lim.	rare	none	*	*	*	*	*	Oxic		
LDP-51	Ani.	?	lim.	none	none	*	*	*	*	*	Oxic		
LDP-56	Ani.	?	mud.	none	rare	*	*	*	*	*	Oxic		
LDP-60	Ani.	?	mud.	none	none	*	*	*	*	*	Oxic		
LDP-65	Ani.	?	mud.	none	none	*	*	*	*	*	Oxic		
LDP-70	Ani.	?	mud.	none	none	*	*	*	*	*	Oxic		
FH-1	Ani.	?	lim.	none	a few	73	3.07	5.69	3.19	19.6	Anoxic		
FH-5	Ani.	?	lim.	a few	abun.	190	3.38	6.55	1.94	31.8	Lower		
											dysoxic		
FH-6	Ani.	?	lim.	abun.	abun.	120	4.33	6.70	1.38	30.5	Lower		
											dysoxic		
FH-11	Ani.	?	lim.	rare	abun.	82	0.95	3.55	2.11	7.1	Euxinic		
FH-16	Ani.	?	lim.	a few	abun.	118	3.41	7.51	2.75	17	Lower		
											dysoxic		
FH-19	Ani.	?	lim.	abun.	abun.	232	4.82	10.90	1.99	24.3	Upper		
											dysoxic		
FH-22	Ani.	?	lim.	a few	a few	61	4.55	11.47	6.42	20	Upper		
											dysoxic		

Footnote: WPSD= West Pingdingshan section, SMJS= south Majiashan section, Cha. = Changxingian, Gri. = Grisbachian,

Die. = Dienerian, Smi. = Smithian, Spa. =Spathian, FAP = Frequency of authigenic pyrite, FFP = Frequency of frambooid pyrite,

abun. = abundant, means hundreds of frambooids, a few means dozens of frambooids, rare means less than 10 frambooids, * =

no data, NF = number of framboids in sample, SD = standard deviation of framboid diameters, MD = mean diameters (μm), Min = minimum framboid diameter (μm), Max = maximum framboids diameter (μm). The Pyrite Framboid data of Meishan section is from Shen et al. (2007), Chen et al. (2014) and our new data. AS Fm. = Anshun formation, XS Mem. = Xiaoshan member, MFP Mem. = Xiaoshan member, YSP Mem = Yingshanpo member, LDP Mem. = Leidapo member, FH Mem. = Fossil hill member, Ani.=Ani.sian, ? means no conodont zone record.