

APPENDIX A: CORE DESCRIPTION OF BOATWRIGHT

Depth								Facies	Lithology	Structures	Fractures
(ft)	S	VF	F	M	C	VC					
12935	1"							fBM	Interspersed coarse grains		N
	2"							fBM	Interspersed coarse grains		N
	3"							fBM	Interspersed coarse grains		N
	4"							fBM	Interspersed coarse grains		N
	5"							fBM	Interspersed coarse grains		N
	6"							fBM	Interspersed coarse grains		N
	7"							fBM	Interspersed coarse grains		N
	8"							fLM	Thick light grey band, capped by thinner light grey laminae	Wavy, Nonparallel, Noncontinuous	N
	9"							fLM			N

12936	10"					fLM	Single thick light grey laminae	Wavy, Nonparallel, Noncontinuous	N
	11"					fBM			N
	12"					fBM			N
	1"					fBM			N
	2"					fBM			N
	3"					fBM			N
	4"					fLM	light grey laminae	Wavy, Nonparallel, Noncontinuous	N
	5"					fLM	Interspersed coarse grains, single light grey-tan laminae	Planar, Parallel, Continuous	N
	6"					fBM			N
	7"					fLM	Interspersed coarse grains, light grey-tan laminae	Wavy, Nonparallel, Noncontinuous	N

8"						fBM			N
9"						fBM			N
10"						fBM			N
11"						fBM			N
12"						fBM	Interspersed coarse grains		N
1"						fBM			N
2"						fBM			N
3"						fBM			N
4"						fBM			N
5"						fBM			N

12937	6"						fBM			N
	7"						fBM			N
	8"						fBM			N
	9"						fBM			N
	10"						fBM			N
	11"						fBM			N
	12"						fBM			N
	1"						fBM			N
	2"						fBM			N
	3"						fBM			N

12938	4"						fBM			N
	5"						fBM	Interspersed coarse grains		N
	6"						fBM	Interspersed coarse grains		N
	7"						fBM	Interspersed coarse grains		N
	8"						fBM	Interspersed coarse grains		N
	9"						fBM	Interspersed coarse grains		N
	10"						fBM	Interspersed coarse grains		N
	11"						fBM	Interspersed coarse grains		N
	12"						fBM	Interspersed coarse grains		N
	1"						fBM			N


12939

2"						fBM			N
3"						fBM			N
4"						fLP	apatite at base		N
5"						LM	brown laminae	laminae thicken upwards, Planar, Parallel, Continuous	N
6"						LM	brown laminae	laminae thicken upwards, Planar, Parallel, Continuous	N
7"						BM			N
8"						BM			N
9"						BM			N
10"						BM			N
11"						BM			N

12941	10"						LM	Faint, Thick, Brown Laminae	Planar, Parallel, Continuous	N
	11"						LM	Faint, Thick, Brown Laminae	Planar, Parallel, Continuous	N
	12"						LM	Faint, Thick, Brown Laminae	Planar, Parallel, Continuous	N
	1"						BM			N
	2"						BM			N
	3"						BM			N
	4"						BM			N
	5"						LM	Faint, thick, brown laminae, thinning and fainter upwards	Parallel, planar, continuous	N
	6"						LM	Faint, thick, brown laminae, thinning and fainter upwards	Parallel, planar, continuous	N
	7"						LM	Faint, thick, brown laminae, thinning and fainter upwards	Parallel, planar, continuous	N

8"							LM	Faint, thick, brown laminae, thinning and fainter upwards	Parallel, planar, continuous	N
9"							LM	Faint, thick, brown laminae, thinning and fainter upwards	Parallel, planar, continuous	N
10"							LM	Faint, thick, brown laminae, thinning and fainter upwards	Parallel, planar, continuous	N
11"							LM	Faint, thick, brown laminae, thinning and fainter upwards	Parallel, planar, continuous	N
12"							LM	Faint, thick, brown laminae, thinning and fainter upwards	Parallel, planar, continuous	N
1"							LM	Faint, thick, brown laminae	Parallel, planar, continuous	N
2"							LM	Faint, thick, brown laminae	Parallel, planar, continuous	N
3"							LM	Faint light grey laminae	Parallel, planar, continuous	N
4"							LM	Faint light grey laminae	Parallel, planar, continuous	N
5"							LM	Faint light grey laminae	Parallel, planar, continuous, small, thin, white clasts	N

12942	6"							LM	Faint light grey laminae	Parallel, planar, continuous	N
	7"							LM	Faint light grey laminae	Parallel, planar, continuous	N
	8"							LM	Faint light grey laminae	Parallel, planar, continuous	N
	9"							LM	Faint light grey laminae	Parallel, planar, continuous, single coarser grained laminae, small, thin, white clasts	N
	10"							LM	Faint light grey laminae	Parallel, planar, continuous	N
	11"							LM	Faint light grey laminae	Parallel, planar, continuous	N
	12"							LM		Parallel, planar, noncontinuous	N
	1"							fBM			N
	2"							fBM			N
	3"							fBM			N

12943	4"						fBM			N
	5"						fBM	Light band with several brown nodules around a central, larger, brown nodule		N
	6"						fBM			N
	7"						fBM			N
	8"						fBM			N
	9"						fBM			N
	10"						fBM			N
	11"						fBM			N
	12"						fBM			N
	1"						fBM			N

12944	2"						fBM			N
	3"						fBM			N
	4"						fBM			N
	5"						fLM	fine white laminae	Planar, parallel, noncontinuous	N
	6"						fBM			N
	7"						fBM			N
	8"						fBM			N
	9"						fBM			N
	10"						fBM			N
	11"						fBM			N

12946	10"					fBM	Interspersed coarse grains		N
	11"					fBM	Interspersed coarse grains		N
	12"					fBM			N
	1"					fBM	Interspersed coarse grains		N
	2"					fLM	Interspersed coarse grains	Wavy, nonparallel, continuous	N
	3"					fBM	Interspersed coarse grains		N
	4"					fBM	Interspersed coarse grains		N
	5"					fBM	Interspersed coarse grains		N
	6"					fBM	Interspersed coarse grains		N
	7"					fBM	Interspersed coarse grains		N









8"						fBM	Interspersed coarse grains		N
9"						fBM	Interspersed coarse grains		N
10"						fBM			N
11"						fBM			N
12"						fBM			N
1"						fBM			N
2"						fBM			N
3"						fBM			N
4"						fBM			N
5"						fBM			N

12947	6"						fBM			N
	7"						fBM			N
	8"						fBM	Very fine pyrite		N
	9"						CPB	apatite		N
	10"						fLM	thin white laminae	Planar, parallel, noncontinuous	N
	11"						fBM			N
	12"						fBM			N
	1"						fBM			N
	2"						fBM			N
	3"						fBM			N


12948	4"						fBM			N
	5"						fBM			N
	6"						fBM			N
	7"						fBM			N
	8"						fBM			N
	9"						fBM			N
	10"						fBM			N
	11"						fBM			N
	12"						fBM			N
	1"						fBM			N

12949

2"						fBM			N
3"						fBM			N
4"						fBM			N
5"						BM			N
6"						BM			N
7"						BM			N
8"						BM			N
9"						BM			N
10"						BM			N
11"						BM			N


12951	10"						BM			N
	11"						LM	light grey laminae	Wavy, nonparallel, noncontinuous	N
	12"						BM			N
	1"						LP	Reduction in amount of pyrite upwards		N
	2"						LP	Reduction in amount of pyrite upwards		N
	3"						LP	Reduction in amount of pyrite upwards		N
	4"						LP	Reduction in amount of pyrite upwards		N
	5"						LP	Reduction in amount of pyrite upwards		N
	6"						LP	Reduction in amount of pyrite upwards		N
	7"						LP	Reduction in amount of pyrite upwards		N

8"						LP	Reduction in amount of pyrite upwards; higher pyrite here		N
9"						LP	Reduction in amount of pyrite upwards		N
10"						LP	Reduction in amount of pyrite upwards		N
11"						LP	Reduction in amount of pyrite upwards		N
12"						LM		Wavy, nonparallel, noncontinuous & Planar, parallel, continuous	N
1"						LM			N
2"						LM		Wavy to planar, parallel, continuous	N
3"						LM	Very faint, light laminae	Wavy, nonparallel, noncontinuous	N
4"						LM	Very faint, light laminae	Wavy, nonparallel, noncontinuous	N
5"						LM	Very faint, light laminae	Wavy, nonparallel, noncontinuous	N





12952	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM	Single laminae of coarse quartz		N
	12"						BM			N
	1"						LP			N
	2"						LP			N
	3"						BM			N











12953	4"							BM				N	
	5"							BM				N	
	6"							BM				N	
	7"							BM				N	
	8"							BM				N	
	9"							LP	Sparse pyrite				N
	10"							LP	Sparse pyrite				N
	11"							LP	Sparse pyrite, light nodule				N
	12"							LP	Sparse pyrite				N
	1"							LP	Sparse pyrite				N

12954	2"						LP	Sparse pyrite		N
	3"						LP	Sparse pyrite		N
	4"						LP	Sparse pyrite		N
	5"						LP	Sparse pyrite		N
	6"						LP	Sparse pyrite		N
	7"						LP	Sparse pyrite		N
	8"						LP	Sparse pyrite		N
	9"						LP	Sparse pyrite		N
	10"						LP	Sparse pyrite		N
	11"						LP	Sparse pyrite		N

12956	10"						fBM	Interspersed coarse grains			N
	11"						fBM	Interspersed coarse grains			N
	12"						fBM	Interspersed coarse grains			N
	1"						fLM	mud clasts	Wavy, parallel, noncontinuous		N
	2"						fBM				N
	3"						fBM	Interspersed coarse grains			N
	4"						fBM				N
	5"						fBM	Interspersed coarse grains			N
	6"						fBM				N
	7"						fBM				N

8"						fBM			N
9"						fBM	Interspersed coarse grains		N
10"						fBM	Interspersed coarse grains		N
11"						fBM	Interspersed coarse grains		N
12"						fBM	Interspersed coarse grains		N
1"						fBM			N
2"						fBM			N
3"						fBM			N
4"						fBM			N
5"						fBM			N


12957	6"						fBM				N	
	7"						fBM				N	
	8"						fBM	Interspersed coarse grains			N	
	9"						fBM	Interspersed coarse grains			N	
	10"						fBM	Interspersed coarse grains			N	
	11"						fBM	Interspersed coarse grains			N	
	12"						fLM	Interspersed coarse grains			N	
	1"											
	1"						fLM	Interspersed coarse grains	Parallel, planar, continuous			N
	2"						fLM	Interspersed coarse grains	Parallel, planar, continuous			N
	3"						fLM	Interspersed coarse grains	Parallel, planar, continuous			N

12958	4"						fLM		Parallel, planar, continuous	N
	5"						fLM	deformed laminae	Parallel, planar, continuous	N
	6"						CPB			N
	7"						CPB			N
	8"						fBM			N
	9"						fBM			N
	10"						fBM			N
	11"						fBM			N
	12"						fBM	Interspersed coarse grains		N
	1"						fBM			N

12959	2"						fBM			N
	3"						fBM	Interspersed coarse grains		N
	4"						fBM			N
	5"						fBM			N
	6"						fBM			N
	7"						CB	large clasts		N
	8"						fBM			N
	9"						fBM			N
	10"						fLM		Wavy, nonparallel, continuous	N
	11"						fBM			N

12961	10"					fBM	Interspersed coarse grains		N
	11"					fBM			N
	12"					fBM			N
	1"					fLM	Spotty laminae of quartz		N
	2"					fBM			N
	3"					fBM			N
	4"					fBM			N
	5"					fBM			N
	6"					fBM			N
	7"					fBM			N

8"						fBM			N
9"						fBM			N
10"						fBM			N
11"						fBM			N
12"						fBM	nodules of pyrite/apatite		N
1"						fBM			N
2"						fBM			N
3"						fBM			N
4"						fLM			N
5"						fLP			N

12962	6"						fLP			N
	7"						fLP			N
	8"						fLP	tan nodule surrounded by white		N
	9"						fLP			N
	10"						fLP			N
	11"						fLP			N
	12"						fLP			N
	1"						LP			N
	2"						LP			N
	3"						LP			N

12963	4"						LP				N
	5"						LP				N
	6"						LP				N
	7"						LP				N
	8"						LP				N
	9"						LP				N
	10"						LP				N
	11"						LP	light band			N
	12"						LP				N
	1"						LP				N

12964	2"						LP			N
	3"						LP			N
	4"						LP			N
	5"						LP	variation in thickness of laminae		N
	6"						LP	medium pyrite grains		N
	7"						LP			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM			N

8"							BM				N
9"							BM				N
10"							BM				N
11"							BM				N
12"							BM				N
1"							BM				N
2"							BM				N
3"							BM				N
4"							BM				N
5"							LM				N

12967	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM			N
	12"						BM			N
	1"						BM			N
	2"						BM			N
	3"						BM			N

12968	4"						BM				N	
	5"						BM				N	
	6"						BM				N	
	7"						BM				N	
	8"						BM				N	
	9"						BM				N	
	10"						BM				N	
	11"						BM				N	
	12"						BM				N	
	1"						LM				N	

12969

2"								LM				N
3"								LM		Fine, parallel, planar, noncontinuous		N
4"								BM				N
5"								BM				N
6"								N		large nodule with fine pyrite, and 2 small pyrite nodules		Y
7"								N		large nodule with fine pyrite, and 2 small pyrite nodules		Y
8"								N		large nodule with fine pyrite, and 2 small pyrite nodules		Y
9"								N		large nodule with fine pyrite, and 2 small pyrite nodules		Y
10"								BM				N
11"								BM				N

8"							BM				N
9"							BM				N
10"							BM				N
11"							BM				N
12"							BM				N
1"							BM				N
2"							BM				N
3"							BM				N
4"							BM				N
5"							BM				N



12972	6"					fLP	reduction in amount of pyrite upwards		N
	7"					fLP	reduction in amount of pyrite upwards		N
	8"					fLP	reduction in amount of pyrite upwards		N
	9"					fBM			N
	10"					fBM			N
	11"					fBM			N
	12"					fBM			N
	1"					fBM	fine black reflective clasts		N
	2"					fBM			N
	3"					fBM			N





12973	4"						fBM			N
	5"						fBM			N
	6"						fBM			N
	7"						fBM			N
	8"						fBM			N
	9"						fBM	very fine clasts		N
	10"						fBM	very fine clasts		N
	11"						fBM	very fine clasts		N
	12"						fBM	very fine clasts		N
	1"						fBM			N




12974	2"							N	nodule with pyritization and recemented nodules		Y
	3"							N	nodule with pyritization and recemented nodules		Y
	4"							fBM			N
	5"							fBM			N
	6"							fLM		Wavy, nonparallel, continuous/noncontinuous	N
	7"							fBM			N
	8"							fBM			N
	9"							fBM			N
	10"							fBM			N
	11"							fLM		Wavy, nonparallel, continuous/noncontinuous	N

	12"					fLM		Wavy, nonparallel, continuous/noncontinuous	N
	1"					fLM		Wavy, nonparallel, continuous/noncontinuous	N
	2"					fLM		Wavy, nonparallel, continuous/noncontinuous	N
	3"					fLM		Wavy, nonparallel, continuous/noncontinuous	N
	4"					fLM		Wavy, nonparallel, continuous/noncontinuous	N
	5"					fLM		Wavy, nonparallel, continuous/noncontinuous	N
12975	6"					fBM			N
	7"					fBM			N
	8"					fBM			N
	9"					fBM			N

12976	10"						fBM	grouped small clasts		N
	11"						fBM			N
	12"						fBM			N
	1"						fBM			N
	2"						fBM			N
	3"						fBM			N
	4"						fBM	single light laminae, small light clasts grouped		N
	5"						fBM	single light laminae		N
	6"						fBM			N
	7"						fBM			N

8"						fBM			N
9"						fBM			N
10"						fLM			N
11"						fLM		Wavy, nonparallel, noncontinuous	N
12"						fBM			N
1"						fLM		Planar, parallel, continuous	N
2"						fBM			N
3"						fBM			N
4"						fBM			N
5"						fBM			N


12977	6"						fBM			N
	7"						fBM			N
	8"						fLM		Wavy, nonparallel, noncontinuous	N
	9"						fBM			N
	10"						fBM			N
	11"						fLM		Planar, parallel, continuous	N
	12"						fLM		Wavy, nonparallel, noncontinuous	N
	1"						fBM			N
	2"						fBM			N
	3"						fBM	small light lens		N



12978	4"						fBM				N
	5"						fBM				N
	6"						fBM				N
	7"						fBM				N
	8"						fBM				N
	9"						fLM		Wavy, nonparallel, noncontinuous		N
	10"						fBM				N
	11"						fBM				N
	12"						fLM		Wavy, nonparallel, noncontinuous		N
	1"						fLM	Light laminae	Nonparallel, wavy, noncontinuous		N

12979








2"						fLM	Light laminae	Nonparallel, wavy, noncontinuous, laminae very faint	N
3"						fLM	Light laminae	Nonparallel, wavy, noncontinuous, laminae very faint	N
4"						fLM	Light laminae	Nonparallel, wavy, noncontinuous, laminae very faint	N
5"						fLM	Light laminae	Nonparallel, wavy, noncontinuous, laminae very faint	N
6"						fLM	Light laminae	Nonparallel, wavy, noncontinuous, laminae very faint	N
7"						fLM	Light laminae	Nonparallel, wavy, noncontinuous, laminae very faint	N
8"						fLM	Light laminae	Nonparallel, wavy, noncontinuous, laminae very faint	N
9"						fLM	Light laminae	Nonparallel, wavy, noncontinuous, laminae very faint	N
10"						fLM	Light laminae	Nonparallel, wavy, noncontinuous, laminae very faint, small light clast	N
11"						fBM			N

12981	10"						FLM	light laminae	Wavy, nonparallel, noncontinuous	N
	11"						fBM			N
	12"						fBM	small nodules	flame-like structures	N
	1"						fBM			N
	2"						fBM			N
	3"						fBM			N
	4"						fLM	light laminae		N
	5"						fBM			N
	6"						fBM			N
	7"						fLM	some small mud clasts	planar, parallel, continuous	N

8"						fLM	light laminae	wavy, nonparallel, noncontinuous	N
9"						fBM			N
10"						fLM			N
11"						fBM			N
12"						fLM	light laminae	wavy, nonparallel, noncontinuous	N
1"						fLM			N
2"						fLM	several light lenses	wavy, nonparallel, noncontinuous	N
3"						fBM			N
4"						fBM			N
5"						fBM			N

12983	4"						CB	light and tan clasts			N
	5"						fBM				N
	6"						fBM				N
	7"						fBM				N
	8"						fBM				N
	9"						fBM				N
	10"						fBM	small light lenses			N
	11"						fBM	light colored lense w/ brown round center			N
	12"						fBM				N
	1"						fBM				N

12984	2"						fBM			N
	3"						fBM			N
	4"						fBM			N
	5"						fBM			N
	6"						fBM			N
	7"						fBM			N
	8"						fBM			N
	9"						fBM			N
	10"						fBM			N
	11"						fBM			N



	12"						fBM				N
	1"						fBM				N
	2"						CB	pyrite nodule			N
	3"						CB				N
	4"						fLM		Wavy, nonparallel, continuous		N
	5"						fLM		Planar, parallel, noncontinuous		N
	6"						fLM		Planar, parallel, noncontinuous		N
	7"						fLM		Planar, parallel, noncontinuous		N
	8"						fLM		Planar, parallel, noncontinuous		N
	9"						fLM		Planar, parallel, noncontinuous		N

12985





12986	10"					fLM		Planar, parallel, noncontinuous	N
	11"					fLM		Planar, parallel, noncontinuous	N
	12"					fLM		Planar, parallel, noncontinuous	N
	1"					fBM			N
	2"					fBM			N
	3"					fBM			N
	4"					fBM			N
	5"					fLM		wavy laminae	N
	6"					fLM			N
	7"					fLM			N

8"						fLM			N
9"						fLM			N
10"						fLM			N
11"						fLM			N
12"						fLM			N
1"						fBM			N
2"						fBM			N
3"						fBM			N
4"						fBM			N
5"						fBM			N

12987	6"					fLM			N
	7"					fBM			N
	8"					fBM			N
	9"					fBM			N
	10"					fBM			N
	11"					fBM			N
	12"					fBM			N
	1"					fBM			N
	2"					fBM			N
	3"					fBM			N

12988	4"						fBM				N
	5"						CPB	apatite	noncontinuous white laminae condensed above CPB		N
	6"						fBM				N
	7"						fBM				N
	8"						fBM				N
	9"						fLM		2 thin light laminations		N
	10"						fBM				N
	11"						fBM				N
	12"						fBM				N
	1"						fBM				N



12989


2"						fBM				N
3"						N	large nodule w/ smaller pyrite nodules and recemented fractures			Y
4"						N				Y
5"						N				Y
6"						N				Y
7"						fBM				N
8"						fBM				N
9"						fBM				N
10"						fBM				N
11"						fBM				N

12991	10"						fBM			N
	11"						fBM		noncontinuous white laminae	N
	12"						fBM			N
	1"						fBM			N
	2"						fBM			N
	3"						fBM			N
	4"						fLP			N
	5"						fLM		parallel, planar, noncontinuous white laminae becoming fainter upwards	N
	6"						fLM		parallel, planar, noncontinuous white laminae becoming fainter upwards	N
	7"						fLM	light band with small nodules	parallel, planar, noncontinuous white laminae becoming fainter upwards	N

8"						fLM		parallel, planar, noncontinuous white laminae becoming fainter upwards	N
9"						fLM		parallel, planar, noncontinuous white laminae becoming fainter upwards	N
10"						fLM		parallel, planar, noncontinuous white laminae becoming fainter upwards	N
11"						fLM		parallel, planar, noncontinuous white laminae becoming fainter upwards	N
12"						fLM		parallel, planar, noncontinuous white laminae becoming fainter upwards	N
1"						fLP		parallel, planar, noncontinuous white laminae becoming fainter upwards	N
2"						fLP		parallel, planar, noncontinuous white laminae becoming fainter upwards	N
3"						fLP		parallel, planar, noncontinuous white laminae becoming fainter upwards	N
4"						fBM			N
5"						fBM			N







12992	6"						fBM			N
	7"						fBM			N
	8"						fLP			N
	9"						fLP			N
	10"						fLP			N
	11"						fLP			N
	12"						fLP			N
	1"						LP			N
	2"						LP			N
	3"						LP			N

12993	4"							CPB	apatite			N
	5"							CPB	apatite			N
	6"							MC	brown and white clasts			N
	7"							MC				N
	8"							BM				N
	9"							BM				N
	10"							BM				N
	11"							BM				N
	12"							BM				N
	1"							BM				N

12994	2"						BM			N
	3"						BM			N
	4"						BM			N
	5"						BM			N
	6"						PM	mud clasts, apatite		N
	7"						PM			N
	8"						PM			N
	9"						PM	dark, non-pyritized lense 1/2"		N
	10"						PM			N
	11"						BM			N



12995	12"						BM			N
	1"						LM			N
	2"						BM			N
	3"						BM			N
	4"						BM			N
	5"						LM			N
	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N

12996	10"						LP			N
	11"						LP			N
	12"						LP	light band with stylolites		N
	1"						LP			N
	2"						LP			N
	3"						MC			N
	4"						LP			N
	5"						LP			N
	6"						LP			N
	7"						LP			N

8"						LP				N
9"						LP				N
10"						LP				N
11"						LP				N
12"						LP				N
1"						LP		parallel, planar, continuous		N
2"						LP		parallel, planar, continuous		N
3"						LP		parallel, planar, continuous		N
4"						LP		parallel, planar, continuous		N
5"						LP		wavy, nonparallel, continuous		N

12997	6"							LP		wavy, nonparallel, continuous	N	
	7"							LP		parallel, planar, continuous	N	
	8"							LP		parallel, planar, continuous	N	
	9"							N	large nodule containing several smaller pyrite nodules		N	
	10"							N	large nodule containing several smaller pyrite nodules		N	
	11"							N	large nodule containing several smaller pyrite nodules		Y	
	12"							N	large nodule containing several smaller pyrite nodules		N	
	1"							BM				N
	2"							BM				N
	3"							BM				N




12998	4"						BM			N
	5"						BM			N
	6"						BM			N
	7"						BM			N
	8"						LP			N
	9"						LP			N
	10"						LP			N
	11"						MC			N
	12"						MC			N
	1"						MC			N

12999	2"						MC			N
	3"						LP	thick light band w/ pyrite nodule		N
	4"						LP			N
	5"						BM			N
	6"						BM			N
	7"						MC			N
	8"						MC			N
	9"						LM			N
	10"						LM			N
	11"						LP	faint		N

13001	10"						BM				N
	11"						BM				N
	12"						LP	fine and faint			N
	1"						BM				N
	2"						BM				N
	3"						BM				N
	4"						BM				N
	5"						BM				N
	6"						BM				N
	7"						BM				N

8"							BM				N
9"							BM				N
10"							BM				N
11"							BM				N
12"							BM				N
1"							LP				N
2"							LP				N
3"							LP				N
4"							MC				N
5"							BM				N

13002	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM			N
	12"						BM			N
	1"						BM			N
	2"						BM			N
	3"						BM			N

13003	4"						BM				N
	5"						BM				N
	6"						BM				N
	7"						BM				N
	8"						BM				N
	9"						BM				N
	10"						BM				N
	11"						LP	very faint pyrite	very fine laminations		N
	12"						LP	very faint pyrite	very fine laminations		N
	1"						LP	very faint pyrite	very fine laminations		N

13004	2"						LP	very faint pyrite	very fine laminations	N
	3"						LP	very faint pyrite	very fine laminations	N
	4"						BM			N
	5"						BM			N
	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM			N

13006	10"						LP	very faint pyrite			N
	11"						LP	very faint pyrite			N
	12"						LP	very faint pyrite			N
	1"						BM				N
	2"						BM				N
	3"						BM				N
	4"						BM				N
	5"						BM				N
	6"						BM				N
	7"						BM				N

8"							BM				N
9"							BM				N
10"							BM				N
11"							BM				N
12"							BM				N
1"							BM				N
2"							BM				N
3"							BM				N
4"							BM				N
5"							BM				N

13007	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM			N
	12"						BM			N
	1"						BM			N
	2"						BM			N
	3"						BM			N

13008	4"							BM	very sparse very fine pyrite			N
	5"							BM	very sparse very fine pyrite			N
	6"							BM	very sparse very fine pyrite			N
	7"							BM	very sparse very fine pyrite			N
	8"							PL	very faint pyrite			N
	9"							PL	very faint pyrite			N
	10"							BM				N
	11"							BM				N
	12"							BM				N
	1"							BM				N

13009	2"						BM				N
	3"						BM				N
	4"						BM				N
	5"						BM				N
	6"						LM				N
	7"						LM	light bands, some pyrite	noncontinuous, parallel, planar		N
	8"						BM				N
	9"						BM				N
	10"						BM				N
	11"						BM	pyrite layer			N

13011	10"						LM		noncontinuous, parallel, planar	N
	11"						BM			N
	12"						BM			N
	1"						BM			N
	2"						BM			N
	3"						BM			N
	4"						MC			N
	5"						BM			N
	6"						BM			N
	7"						BM			N

8"							BM				N
9"							BM				N
10"							BM				N
11"							BM				N
12"							BM				N
1"							BM				N
2"							BM				N
3"							BM				N
4"							BM				N
5"							BM				N

13012	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM			N
	12"						BM			N
	1"						BM			N
	2"						BM			N
	3"						BM			N


13013	4"							BM				N	
	5"							BM				N	
	6"							BM				N	
	7"							BM				N	
	8"							BM				N	
	9"							BM	thin brown band, white ring				N
	10"							BM	sparse very fine pyrite, red-brown band				N
	11"							BM	sparse very fine pyrite				N
	12"							BM	sparse very fine pyrite				N
	1"							BM	sparse very fine pyrite				N

13014	2"						BM	sparse very fine pyrite		N
	3"						BM	sparse very fine pyrite		N
	4"						LP			N
	5"						BM			N
	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM			N

13016	10"						LP			N
	11"						LP			N
	12"						LP			N
	1"						LP			N
	2"						LP			N
	3"						LP			N
	4"						LP			N
	5"						BM			N
	6"						BM			N
	7"						MC			N

8"							BM				N
9"							BM				N
10"							BM				N
11"							BM				N
12"							BM				N
1"							BM				N
2"							BM				N
3"							BM				N
4"							BM				N
5"							BM				N


13018	4"						MC	pyratized burrow	bioturbation	N
	5"						BM			N
	6"						BM		single thin light laminae	N
	7"						LP			N
	8"						LP			N
	9"						LP			N
	10"						LP			N
	11"						LP			N
	12"						LP			N
	1"						BM			N

13019	2"						BM				N
	3"						BM				N
	4"						BM				N
	5"						LM				N
	6"						LM				N
	7"						BM				N
	8"						BM				N
	9"						BM				N
	10"						MC				N
	11"						MC	nodule			N

13021	10"						BM			N
	11"						BM	irregularly shaped pyrite		N
	12"						BM			N
	1"						BM			N
	2"						BM			N
	3"						BM			N
	4"						BM			N
	5"						BM			N
	6"						BM			N
	7"						BM			N

13022	6"						LP	pyrite fining upwards			N
	7"						LP	pyrite fining upwards			N
	8"						LP	pyrite fining upwards			N
	9"						LP	pyrite bed			N
	10"						BM				N
	11"						BM				N
	12"						BM				N
	1"						BM				N
	2"						BM				N
	3"						BM				N

13023	4"						BM			N
	5"						LP			N
	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						LM			N
	11"						BM			N
	12"						BM			N
	1"						BM			N

13024	2"						BM				N
	3"						BM				N
	4"						BM				N
	5"						BM				N
	6"						BM				N
	7"						BM				N
	8"						BM				N
	9"						BM				N
	10"						BM	nodule			N
	11"						BM				N

13026	10"							BM				N	
	11"							BM				N	
	12"							BM				N	
	1"							BM				N	
	2"							BM				N	
	3"							BM				N	
	4"							LP	Pyrite fine, faint, and sparse, decreasing upwards				N
	5"							LP	Pyrite fine, faint, and sparse, decreasing upwards				N
	6"							LP	Pyrite fine, faint, and sparse, decreasing upwards				N
	7"							LP	Pyrite fine, faint, and sparse, decreasing upwards				N

8"						LP	Pyrite fine, faint, and sparse, decreasing upwards		N
9"						LP	Pyrite fine, faint, and sparse, decreasing upwards		N
10"						LP	Pyrite fine, faint, and sparse, decreasing upwards		N
11"						BM			N
12"						BM			N
1"						BM			N
2"						BM			N
3"						BM			N
4"						BM			N
5"						BM	brown layer		N

13027	6"							BM			N
	7"							BM			N
	8"							BM			N
	9"							BM			N
	10"							BM			N
	11"							BM			N
	12"							BM			N
	1"							BM			N
	2"							LP	laminae varying in thickness		N
	3"							LP	laminae varying in thickness		N

13028	4"						LP	laminae varying in thickness		N
	5"						LP	laminae varying in thickness		N
	6"						LP	laminae varying in thickness		N
	7"						LM			N
	8"						LM			N
	9"						BM			N
	10"						LP			N
	11"						BM			N
	12"						BM			N
	1"						LP			N

13029	2"						LP			N
	3"						BM			N
	4"						BM			N
	5"						BM			N
	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM			N

13031	10"						GM	small sandy patch	faint laminations in transition	N
	11"						GM			N
	12"						GM			N
	1"						GM			N
	2"						GM			N
	3"						GM			N
	4"						GM			N
	5"						GM			N
	6"						GM			N
	7"						GM			N

13032

6"							GM			N
7"	✓						GM			N
8"							GM	large sandy patch		N
9"	✓						GM	large sandy patch		N
10"							GM	large sandy patch		N
11"	✓						GM	light spot		N
12"							GM	light spot		N
1"							BM			N
2"							BM			N
3"							BM			N

13033	4"						BM			N
	5"						BM			N
	6"						BM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM			N
	12"						BM			N
	1"						BM			N

13034

2"							BM				N
3"							BM				N
4"							BM				N
5"							BM				N
6"							BM				N
7"							BM	sparse very fine pyrite			N
8"							BM	sparse very fine pyrite			N
9"							BM	sparse very fine pyrite			N
10"							BM	sparse very fine pyrite			N
11"							BM	sparse very fine pyrite			N

13036	10"						BM			N
	11"						BM			N
	12"						BM			N
	1"						BM			N
	2"						BM			N
	3"						BM			N
	4"						BM			N
	5"						BM			N
	6"						BM			N
	7"						BM			N



8"							BM				N
9"							BM				N
10"							BM				N
11"							BM				N
12"							BM				N
1"							BM				N
2"							BM				N
3"							BM				N
4"							BM				N
5"							LP	fine pyrite along laminae			N

13037	6"						LP	fine pyrite along laminae			N
	7"						LP	fine pyrite along laminae			N
	8"						LP	fine pyrite along laminae			N
	9"						BM				N
	10"						BM				N
	11"						BM				N
	12"						BM				N
	1"						BM				N
	2"						BM				N
	3"						BM				N

13038	4"						BM			N
	5"						BM			N
	6"						BM			N
	7"						BM			N
	8"						BM	sparse pyrite		N
	9"						BM			N
	10"						BM			N
	11"						BM			N
	12"						BM			N
	1"						BM			N

13040	12"						LM				N
	1"						LM				N
	2"						LM				N
	3"						LM				N
	4"						LM				N
	5"						LM				N
	6"						LM				N
	7"						LM				N
	8"						LM				N
	9"						LM				N

8"						LP	very fine pyrite along laminae		N
9"						LP	very fine pyrite along laminae		N
10"						LP	very fine pyrite along laminae		N
11"						LP	very fine pyrite along laminae	light laminae	N
12"						BM			N
1"						BM	sparse very fine pyrite		N
2"						BM	sparse very fine pyrite		N
3"						BM	sparse very fine pyrite		N
4"						BM	sparse very fine pyrite		N
5"						BM			N

13042	6"							BM				N	
	7"							BM				N	
	8"							BM				N	
	9"							BM				N	
	10"							BM				N	
	11"							BM				N	
	12"							BM				N	
	1"							BM				N	
	2"							LP	sparse very fine pyrite				N
	3"							LP	very fine pyrite along laminae, variation in thickness of laminae, coarse pyrite	pyritized bioturbation			N

13043	4"						LP	very fine pyrite along laminae, variation in thickness of laminae, coarse pyrite	pyritized bioturbation	N
	5"						LP	very fine pyrite along laminae, variation in thickness of laminae, coarse pyrite	pyritized bioturbation	N
	6"						LP	very fine pyrite along laminae, variation in thickness of laminae, coarse pyrite		N
	7"						LP	very fine pyrite along laminae, variation in thickness of laminae, coarse pyrite		N
	8"						BM	sparse very fine pyrite		N
	9"						BM	sparse very fine pyrite		N
	10"						BM	sparse very fine pyrite		N
	11"						BM	sparse very fine pyrite		N
	12"						BM			N
	1"						BM			N

13044	2"						BM			N
	3"						BM			N
	4"						LM			N
	5"						LM			N
	6"						LM			N
	7"						BM			N
	8"						BM			N
	9"						BM			N
	10"						BM			N
	11"						BM			N

8"						LM			N
9"						LM			N
10"						LM			N
11"						LM			N
12"						LM			N
1"						LM			N
2"						LM			N
3"						LM	brown nodule within laminae		N
4"						LM			N
5"						LM			Y









13047	6"						LM				Y
	7"						LP	very fine pyrite			Y
	8"						LP	very fine pyrite			N
	9"						LM				N
	10"						LM				Y
	11"						LM				Y
	12"						LM				N
	1"						LM				Y
	2"						LM				Y
	3"						LM				Y

13048	4"						LM	light laminae with very fine pyrite		N
	5"						LM			Y
	6"						LM			Y
	7"						LM			Y
	8"						LM			Y
	9"						LM	brown layers		N
	10"						LM			N
	11"						LM			Y
	12"						LM			Y
	1"						LM			N








13049	2"						LM				N
	3"						LM				N
	4"						LM				N
	5"						LM				N
	6"						LM				N
	7"						LM				N
	8"						LM				N
	9"						LM				N
	10"						LM				N
	11"						LM				N

8"						LM	very fine pyrite	continuous parallel planar laminations of varying thickness	N
9"						LM		continuous parallel planar laminations of varying thickness	N
10"						LM		continuous parallel planar laminations of varying thickness	N
11"						LM		continuous parallel planar laminations of varying thickness	N
12"						LM		continuous parallel planar laminations of varying thickness	N
1"						LM		continuous parallel planar laminations of varying thickness	N
2"						LM		continuous parallel planar laminations of varying thickness	N
3"						LM	pyrite nodule cut by laminations	continuous parallel planar laminations of varying thickness	N
4"						LM		continuous parallel planar laminations of varying thickness	N
5"						LM	major facies change	continuous parallel planar laminations of varying thickness	N

13052	6"					CPB	numerous pyrite nodules decreasing upwards		N
	7"					CPB	numerous pyrite nodules decreasing upwards		N
	8"					CPB	numerous pyrite nodules decreasing upwards		N
	9"					fPN			N
	10"					fPN			N
	11"					fPN			N
	12"					fPN			N
	1"					fPN	pyrite nodules		N
	2"					fPN	pyrite nodules		N
	3"					fPN			N

13053	4"						fPN			N
	5"						fPN	pyrite nodules		N
	6"						fPN	pyrite nodules		N
	7"						fPN	pyrite nodule		N
	8"						fPN			N
	9"						fPN	nodule		N
	10"						fPN	pyrite nodules, pyritized shell		N
	11"						fPN	pyrite nodules, pyritized shell		N
	12"						fPN	pyrite nodules		N
										
	1"						fPN	convolute beds		N


13054



2"						fPN				N
3"						fPN	bioturbation			N
4"						fPN				N
5"						fPN	bioturbation			N
6"						fPN	bioturbation			N
7"						fPN	bioturbation			N
8"						fPN	pyrite nodule, bioturbation			N
9"						fPN	small pyrite nodule, bioturbation			N
10"						fPN	pyrite			N
11"						fPN	bioturbation			N



13055	12"					fPN	bioturbation		N
	1"					fPN			N
	2"					fPN			N
	3"					fPN			N
	4"					fPN			N
	5"					fPN	nodules		N
	6"					fPN			N
	7"					fPN			N
	8"					fPN			N
	9"					fPN			N




13056	10"						fPN			N
	11"						fPN			N
	12"						fPN			N
	1"						fPN			N
	2"						fPN			N
	3"						fPN	wavy beds		N
	4"						fPN			N
	5"						fPN			N
	6"						fPN			N
	7"						fPN			N

8"							fPN			N
9"							fPN			N
10"							fPN			N
11"							fPN			N
12"							fPN			N
1"							fPN			N
2"							fPN			N
3"							fPN			N
4"							fPN			N
5"							fPN			N





13057	6"						fPN			N	
	7"						fPN			N	
	8"						fPN			N	
	9"						fPN			N	
	10"						fPN			N	
	11"						fPN			N	
	12"						fPN			N	
	1"						fPN			N	
	2"							fPN	pyrite nodule		N
	3"							fPN			N




13058	4"						fPN			N
	5"						fPN			N
	6"						fPN			N
	7"						fPN			N
	8"						fPN			N
	9"						fPN	bioturbation		N
	10"						fPN			N
	11"						fPN			N
	12"						fPN			N
	1"						fPN	pyrite nodule		N

13059	2"						fPN			N
	3"						fPN			N
	4"						fPN			N
	5"						fPN			N
	6"						fPN	nodule		N
	7"						fPN	pyrite nodule		N
	8"						fPN			N
	9"						fPN			N
	10"						fPN			N
	11"						fPN			N

	12"						fPN				N
	1"						fPN				N
	2"						fPN				N
	3"						fPN				N
	4"						fPN	nodule			N
	5"						fPN				N
	6"						fPN	pyrite nodule			N
	7"						fPN				N
	8"						fPN	large pyrite nodule			N
	9"						fPN				N


13060

13061	10"						fPN			N
	11"						fPN			N
	12"						fPN	nodule		N
	1"						fPN			N
	2"						fPN			N
	3"						fPN	nodule		N
	4"						fPN			N
	5"	 					fPN	nodule		N
	6"						fPN	pyrite along lamination		N
	7"						fPN			N

8"						fPN			N
9"						fPN			N
10"						fPN			N
11"						fPN	nodule		N
12"						fPN			N
1"						fPN			N
2"						fPN	nodule		N
3"						fPN			N
4"						fPN			N
5"						fPN	nodules		N




13062

6"							fPN				N
7"							fPN				N
8"							fPN				N
9"							fPN				N
10"							fPN				N
11"							fPN				N
12"							fPN				N
1"							fPN				N
2"							fPN				N
3"							fPN				N




13063	4"						FPN			N
	5"						FPN			N
	6"						FPN			N
	7"						FPN			N
	8"						FPN			N
	9"						FPN			N
	10"						FPN			N
	11"						FPN			N
	12"						FPN	nodule		N
	1"						FPN			N






13064	2"						fPN	nodule			N
	3"						fPN				N
	4"						fPN	contorted beds			N
	5"						fPN				N
	6"						fPN				N
	7"						fPN				N
	8"						fPN				N
	9"						fPN				N
	10"						fPN				N
	11"						fPN				N

13065	12"						fPN	pyrite nodule		N
	1"						fPN			N
	2"						fPN			N
	3"						fPN			N
	4"						fPN			N
	5"						fPN			N
	6"						fPN			N
	7"						fPN			N
	8"						fPN	pyrite nodule		N
	9"						fPN	pyrite nodule		N




13066	10"						fPN			N
	11"						fPN	nodule		N
	12"						fPN			N
	1"						fPN	nodule		N
	2"						fPN			N
	3"						fPN	small pyrite nodule		N
	4"						fPN			N
	5"						fPN			N
	6"						fPN			N
	7"						fPN			N

8"						fPN			N
9"						fPN			N
10"						fPN	small pyrite nodule		N
11"						fPN			N
12"						fPN			N
1"						fPN			N
2"						fPN			N
3"						fPN			N
4"						fPN			N
5"						fPN			N


13067	6"						fPN	pyrite along laminations			N
	7"						fPN	nodule, pyrite nodules			N
	8"						fPN				N
	9"						fPN	pyrite nodule			N
	10"						fPN	pyrite nodule			N
	11"						fPN				N
	12"						fPN				N
	1"						fPN	nodule			N
	2"						fPN	pyrite nodule			N
	3"						fPN				N

13068	4"							fPN				N
	5"							fPN				N
	6"							fPN	Bioturbation, thin pyrite nodule			N
	7"							fPN	nodule			N
	8"							fPN	pyrite nodule			N
	9"							fPN				N
	10"							fPN	light spot			N
	11"							fPN	bioturbation			N
	12"							fPN				N
	1"							fPN				N



13069


2"						fPN			N
3"						fPN			N
4"						fPN			N
5"						fPN			N
6"						PM			N
7"						fPN			N
8"						fPN	light bands with light clasts, bioturbation		N
9"						fPN	nodule		N
10"						fPN	light bands with pyrite		N
11"						fPN	nodule with light clasts surrounding		N


13070	12"						fPN	bioturbation		N
	1"						fPN	nodule		N
	2"						fPN			N
	3"						fPN			N
	4"						fPN			N
	5"						fPN			N
	6"						fPN			N
	7"						fPN			N
	8"						fPN	nodule with yellowish patch		N
	9"						fPN			N

8"						fPN			N
9"						fPN			N
10"						fPN	nodule		N
11"						fPN			N
12"						fPN			N
1"						fPN			N
2"						fPN			N
3"						fPN			N
4"						fPN			N
5"						fPN			N


13072

6"							PM				N
7"							fPN				N
8"							fPN	nodule with light clasts surrounding, laminae			N
9"							fPN				N
10"							fPN				N
11"							fPN				N
12"							fPN				N
1"							fPN				N
2"							fPN	small nodule			N
3"							fPN				N

13073	4"						FPN				N	
	5"						FPN				N	
	6"						FPN				N	
	7"						FPN				N	
	8"						FPN				N	
	9"						FPN				N	
	10"						FPN				N	
	11"						FPN				N	
	12"						FPN				N	
												
	1"						FPN	nodule				N

13074	2"						fPN				N
	3"						fPN				N
	4"						fPN				N
	5"						fPN				N
	6"						fPN	nodule			N
	7"						fPN				N
	8"						fPN				N
	9"						fPN				N
	10"						fPN				N
	11"						fPN				N

13076	10"						fPN	jumbled and unable to describe		N
	11"						fPN	jumbled and unable to describe		N
	12"						fPN	jumbled and unable to describe		N
	1"						fPN	jumbled and unable to describe		N
	2"						fPN	jumbled and unable to describe		N
	3"						fPN	jumbled and unable to describe		N
	4"						fPN	jumbled and unable to describe		N
	5"						fPN	jumbled and unable to describe		N
	6"						fPN	jumbled and unable to describe		N
	7"						fPN	jumbled and unable to describe		N

8"							fPN	jumbled and unable to describe		N
9"							fPN	jumbled and unable to describe		N
10"							fPN	jumbled and unable to describe		N
11"							fPN	jumbled and unable to describe		N
12"							fPN	jumbled and unable to describe		N
1"							fPN			N
2"							fPN			N
3"							fPN			N
4"							fPN			N
5"							fPN	nodule		N

13077	6"						FPN			N
	7"						FPN			N
	8"						FPN			N
	9"						FPN			N
	10"						FPN			N
	11"						FPN			N
	12"						FPN			N
	1"						FPN			N
	2"						FPN			N
	3"						FPN			N

13078	4"						fPN	nodule			N
	5"						fPN				N
	6"						fPN				N
	7"						fPN	nodule			N
	8"						fPN				N
	9"						fPN				N
	10"						fPN	small nodule			N
	11"						fPN				N
	12"						fPN				N
	1"						fPN				N

10"						fPN	small nodule		N
11"						fPN			N
12"						fPN			N