Structural Geology

Exp: 316 | Site: C0008 B / C | Core: 1H | Observer: Fabbri / Li | Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-) top	cohoerent interval (for P-) bottom	P-mag pole az/trend	P-mag pole dip	notes
		C0008-B				1	H									Homogeneous mud.
		C0008-C				1	H									Homogeneous mud (Shelly)
						2H										mud containing gravels / bioturbated
						3H										
2	bedding	70	71			270	6	0	2			51	134			start to see thin sand layers (
2	"	132	133			270	9	0	5			51	134			
4	bedding	113	114			270	6	180	8			101	123			
9	bedding	19	19			270	3	180	2			0	101			
10	bedding	25	25			270	0	0	0			0	55			ash layer

Structural Geology

Exp: 316 | Site: 1000 8 C | Core: 4H | Observer: Faulbri G | Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-mag) top	cohoerent interval (for P-mag) bottom	P-mag pole az/trend	P-mag pole dip	notes
6	bedding	80	80			90	3	180	9			61	110			
7	faut (N)	0	7			270	78	?	?			0	7			
7	bedding	30	31			90	9	180	4			8	110			
7	bedding	65	66			90	16	180	10			8	110			
7	bedding	80	80			90	4	?	?			8	110			
9	bedding	109	109			270	1	180	7			0	128			
10	bedding	54	55			90	8	0	8			48	77			
10	bedding	61	62			90	10	?	?			~~48~~	77			
Cc	bedding	17	18			270	3	0	19			5	34			

Structural Geology

Exp: 316 | Site: Coop C | Core: 5H | Observer: KU AY | Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P- top	cohoerent interval (for P- bottom	P-mag pole az/trend	P-mag pole dip	notes
2	bedding	60	61			270	4	180	1			30	100			
	fault (normal)	86	92			90	66	188	0			30	100			offset = 6 mm.
	fault (normal)	87	92			90	69	181	0			30	100			offset = 5 mm.
4	bedding	66	66			270	2	0	1			21	132			
	fault	72	130									21	132			
6	bedding	18	19			270	4	0	6			0	105			
7	bedding	8	8			270	2	180	8			0	130			
	fault	33	45			270	55	180	2			0	130			
	fault	36	52			270	69	185	0			0	130			
	fault	48	58			270	61	190	0			0	130			
	fault	49	59			270	55	190	0			0	130			
	fault	53	65			270	64	180	2			0	130			
8	bedding	92	94			270	24	180	5			0	116			
9	bedding	39	40			270	15	180	16			0	78			
	bedding	73	75			270	10	180	19			0	78			
10	bedding	14	16			270	29	180	9			0	88			
	bedding	38	40			270	30	180	10			0	88			
	bedding	74	77			270	34	180	12			0	88			

CT Description Sheet

Exp: 316 | Site: C0008C | Core: 5H | Observer: [illegible]

	section	structure Type	top of struct	bottom of struct	ave. depth	thickness (cm)	Notes
5	1	burrows bedding	9	29 cm			inclined burrows suggest bedding dip of 13° 035°, 13° NE → 315, 13 — NW strike NE dip
5	2	fracture	63	93			preferred orientation of fractures, essentially vertical, 062° small, only cm in length. present also in upper half of core 5-2 → 62, 90.
1	2	burrows, bedding			7cm		steep burrows suggest bedding orientation of 12° dip to SW, strike 135° → 315, 12 — NW strike SW dip
5	3	fractures	5	61			similar to core 5-2 strong preferred orientation of small fractures, 057, vertical → 57, 90.
		~~fault~~ deformation band	19	29		1 mm or so	033, 62° NW, normal sense displ 1-2 cm slip, some r-l oblique slip → 242, 62.
5	3	fractures	65	130			similar to above, pref set of small fractures, very consistant 069°, vertical, fracture 1-2 cm length → 69, 90.

CT Description Sheet

Exp:	Site:	Core:	Observer:

section	structure Type	top of struct	bottom of struct	ave. depth	thickness (cm)	Notes
5 3	~~fault~~ defm band	90	95		1 mm	offset sed layering in normal sense orientation 075, 82 SE → 75, 82.
3	~~bedding~~ bedding // ? shear zone	99	103		cm	bedding parallel shear zone, uncertain on this orientation ~~120~~ 120, 13° SW → bedding 120, 13.
3	burrows bedding	103	125			burrows (vertical) suggest bedding orientation is ~~027, 17° NW~~ 027, 17° NW → 207, 17.
5 4	fractures	0	22			preferred orientations of small cracks throughout upper half of 5H4. 059, vertical → 59, 90
4	burrows - bedding			16		from burrows, bedding orientation ~135, 16° SW → 135, 16.
4	defm band	65	61		<1 mm	steep defm band 046, 71° NW very diffuse and thin → 226, 71
4	fractured zone	63	102			dense array of cracks and couple bigger fractures

NW strike SW dip

NE strike NW dip

NW strike SW dip

063, 62 NW → 243, 82

008, 83 SE → 88, 83

CT Description Sheet

Exp: 316	Site: C0003C	Core: 5	Observer: FMC

section	structure Type	top of struct	bottom of struct	ave. depth	thickness (cm)	Notes
5 6	bedding			27		direct measurement of bedding 139, 14° SW → 139.14
6	fractures	throughout upper half		13.5		pref orientation small fracture, as occurs in earlier sections 063° vertical → 63.90
6	fractures			74		fracture orientation stay preferred throughout lower half of core. Some sections show somewhat larger, more planar fractures up to 3 cm in length. 071°, 77° NW → 251.77
6	low A normal fault shear zone	01	05			shear indicated by offset & dismembered burrows. segmented burrows imply dip slip w/ normal sense, lower boundary of shear zone very planar dip direction basically parallel to strike of fractures 140°, 13° SW → 140.13
	bedding					NW strike, SW dip

NW strike SW dip

CT Description Sheet

Exp:	Site:	Core:	Observer:

	section	structure Type	top of struct	bottom of struct	ave. depth	thickness (cm)	Notes
5	7	fractures			25cm		fractures prof. orientation throughout core, set slightly different orientations than in previous sections 020°, 74 SE 025, 15° NW beautiful normal fault zone, several subparallel slip surfaces, concentration of pyrite(?) high CT # along faults. general orientation 102, 65° NE another surface @ 38cm 098, 57° NE another surface 075, 60° NW
	7	bedding fault			9cm		
	7	high & normal fault zone	34	60	46cm		
	7	burrows					amazing burrows all parallel, very straight throughout lower portion of section 7. Suggest bedding 167°, 25° SW

NE strike NW dip

NW strike SW dip

Sec. 7: see VCD (because 90° rotated for splitting).

CT Description Sheet

Exp:	Site:	Core:	Observer:

	section	structure Type	top of struct	bottom of struct	ave. depth	thickness (cm)	Notes
	7	bedding			03cm		007, 23° NW
5	8	bedding			7.5		143, 25° SW → 143.25.
		fracture			60		poor prof orientation throughout upper half except at about 60 cm. 015, 72 NW → 195.72
		bedding			73.6		154, 25 SW → 154.25
		fracture					No strong fracture prof orientation in lower half of section 8
5	9						similar to section 8, inclined bedding, no strong fractures
5	10						

NE SW NW dip

Structural Geology

Exp: 316 | Site: C0008C | Core: 6H | Observer: KU AY | **Summary:** subhorizontal beds w/ steeply dipping faults

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-) top	cohoerent interval (for P-) bottom	P-mag pole az/trend	P-mag pole dip	notes
1	fault	11	15			270	32	156	0			0	129			
	fault	67	76			270	59	18	0			0	129			
	fault	71	78			270	66	27	0			0	129			
2	fault	40	52			270	64	10	0			0	82			
	fault	48	65			270	72	23	0			0	82			
3	bed	10	11			90	6	180	10			0	50			
	bed	109	111			90	20	180	24			66	140			
5	bed	56	58			90	18	180	6			0	102			
	bed	96	98			90	13	180	4			0	102			
6	bed	80	81			90	13	180	4			0	130			
	bed	96	99			90	22	0	9			0	130			
	bed	117	121			90	23	0	13			0	130			
7	bed	42	43			90	14	0	6			0	130			
	bed	95	96			90	8	180	8			0	130			
8	bed	23	25			90	18	0	5			0	76			
9	bed	11	13			90	18	180	8			0	39			
	fault (normal)	56	60			270	45	134	0			53	80			offset 9 mm

Structural Geology

Exp: 316 | Site: Cooo8 C | Core: 7H-1 | Observer: KU AY

Summary:

Subhorizontal to gently dipping beddings.
Some faults. (3 of ~~5~~ are normal faults)
Righ-angle

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-) top	cohoerent interval (for P-) bottom	P-mag pole az/trend	P-mag pole dip	notes
1	fault (normal)	37	49			90	67	122	0			0	64			
2	fault	12	21			90	66	230	0			0	132			
	bed	43	44			90	12	180	11			0	132			
	fault (normal)	43	51			90	75	240	0			0	132			offset = 3.7cm
3	bed	35	35			90	1	180	1			0	~~84~~			
	bed	57	58			90	7	180	1			0	~~84~~			
5	bed	72	73			270	1	0	19			51	109			
	fault	96	107			270	68	212	0			51	109			
6	bed	18	18			90	1	180	1			0	130			
	bed	121	122			90	9	0	7			0	130			
7	bed	35	36			90	11	180	6			0	130			
	fault (normal)	68	~~74~~			90	43	121	0			0	130			
8	bed	18	19			90	16	180	10			0	114			
	bed	84	85			90	11	180	10			0	114			
cc	bed	17	17			270	6	180	10			0	110			

Structural Geology

Exp: 316 | Site: C0008C | Core: 9H | Observer: KUAY

Summary: Sec. 1 ~ Sec. 8, 16 cm : subhorizontal bedding w/ normal faults
Sec. 8, 16cm ~ CC : HPCS coring-related disturbance
"Vertical shear zone"

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-mag pole) top	cohoerent interval (for P-mag pole) bottom	P-mag pole az/trend	P-mag pole dip	notes
1	bed	100	100			90	1	180	8			87	108			
2	bed	34	35			270	6	0	14			0	67			
	fault (normal)	34	44			270	80	30	0			0	67			offset 1.2 cm
	fault (normal)	52	62			90	55	24	0			0	67			offset 4.1 cm
3	bed	17	19			270	24	180	8			0	20			
	bed	82	83			270	8	0	9			76	142			
5	fault	0	8			90	69	3	0			0	43			
	bed	12	13			270	9	0	5			0	43			
6	bed	32	32			270	2	0	8			0	36			
	fault (normal)	100	107			270	45	140	0			83	114			offset > 10 cm

Structural Geology

Exp: 316 | Site: C0008 C | Core: 10H | Observer: Faubri

Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-) top	cohoerent interval (for P-) bottom	P-mag pole az/trend	P-mag pole dip	notes
1																
2	bedding	108	108			90	9	180	9			96	123			
4	bedding	35	37			270	12	0	3			27	45			
5	bedding	5,5	6			90	3	180	5			0	18			
7	bedding	15	15			90	0	180	4			0	23			
8	bedding	20	20,5			270	11	0	13			0	78,5			
10	bedding	114	115			270	4	0	12			56	130			
16	faint (N)	97	104			270	63	37	0			56	130			— (photo taken). offset = 1.5 cm
13	drilling disturbances															

Structural Geology

Exp: 316 | Site: C0008 C | Core: 11H | Observer: Fabbri L | Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-) top	cohoerent interval (for P-) bottom	P-mag pole az/trend	P-mag pole dip	notes
1	bedding	4	5			270	14					0	25			no structure in sections 3-4
1	bedding	25	25			270	3	180	2			0	25			
5	bedding	68	69			90	5	180	1			64	79			
8	bedding	93	93			90	4	0	8			51	112			
8	bedding	129	129			90	6	0	4			125	134			
9	bedding	14	14			90	0	0	4			0	71			
9	bedding	38.5	38.5			90	3	0	11			0	71			
9	bedding	108	109			90	12	0	6			78	122			
11	bedding	13	13			90	8	0	8			0	21			
11	bedding	51	52			90	16	0	12			24	152			
11	fault (N)	57	63			270	50					24	152			
11	bedding	67	68			90	9	0	16			24	152			
11	bedding	75	77			90	8	0	7			24	152			

Structural Geology

Exp: | Site: C0008 | Core: 11 | Observer: DF CPL | Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-) top	cohoerent interval (for P-) bottom	P-mag pole az/trend	P-mag pole dip	notes
11	bedding	90	90			270	2	180	1			24	152			
11	bedding	100	102			90	12	0	14			24	152			
11	bedding	131	132			90	9	0	15			24	152			
11	fault (N)	≤7	61			270	35	180	31			24	152			
11	fault (N)	104	111			270	47									
12	bedding	7	7			90	5	0	4			0	26			
12	bedding	80	80			90	9	0	13			59	112			
12	bedding	97	97			90	4	0	17			59	112			
12	fault (N)	106	113			90	60	122	0			59	112			
12	bedding	127	127			90	2	0	2			116	132			
13	bedding	10	10			90	6	0	5			0	27			
13	bedding	35	35			90	7	180	1			33	95			
14	bedding	3	3			90	13	0	2			0	60			
14	"	27	27			270	5	0	0			0	60			

Structural Geology

316 C0008C

Exp: | Site: | Core: 12 | Observer: DF CR | Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P- top	cohoerent interval (for P- bottom	P-mag pole az/trend	P-mag pole dip	notes
1	bedding	16	17			90	10	0	4			0	25			
1	"	37	38			90	10	0	7			32	67			
1	bedding	54	54			90	12	180	4			32	67			
12	bedding	9	9			90	1	180	1			0	43			13H
5	bedding	68	68			270	4	180	3			51	139			
5	bedding	80	80			270	2	0	0			51	139			
5	bedding	89	89			90	3	0	2			51	139			
5	bedding	39.5	39.5			90	0	0	2			28	48			
9	bedding	15	15			90	0	0	0			0	72			
9	bedding	71	71			90	2	0	0			0	72			
11	bedding	57	57			90	0	0	2			0	107			
11	bedding	99	99			90	4	180	5			0	107			

Structural Geology

Exp: 316 | Site: C0008 C | Core: 14H | Observer: Fabbri L. | Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-) top	cohoerent interval (for P-) bottom	P-mag pole az/trend	P-mag pole dip	notes
1																
2																
3																
4																
5																
6																
7																
8																→ whitish soapy sand (ash layer) porous. appears to be finer than that found from C0008A.
9	soapy	mud.														
10																
11																
cc																

Structural Geology

Exp: 316 | Site: C0008 C | Core: 16H | Observer: KU AY

Summary: Sec. 1 ~ Sec. 10 : subhorizontal to horizontal beds w/ one strike-slip fault
Sec. 11 ~ CC : HPCS coring-related disturbance "vertical shear zone"

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-) top	cohoerent interval (for P-) bottom	P-mag pole az/trend	P-mag pole dip	notes
1	bed	40	40			horizontal						0	79			
2	bed	91	91			90	1	180	4			82	121			
4	fault (strike-slip)	82	110			90	81	235	0	35	90	79	131			
	bed	123	123			270	2	0	3			79	131			
						17	41									subhorizontal beds
4	bed	97	98			90	6	0	10			36	145			
5	bed	51	51			90	3	180	7			0	150			

Structural Geology

Exp: 316 | Site: C0008 C | Core: 18H | Observer: KU AT

Summary:

Sec. 1 ~ Sec. 7, 28cm: Subhorizontal bedding.

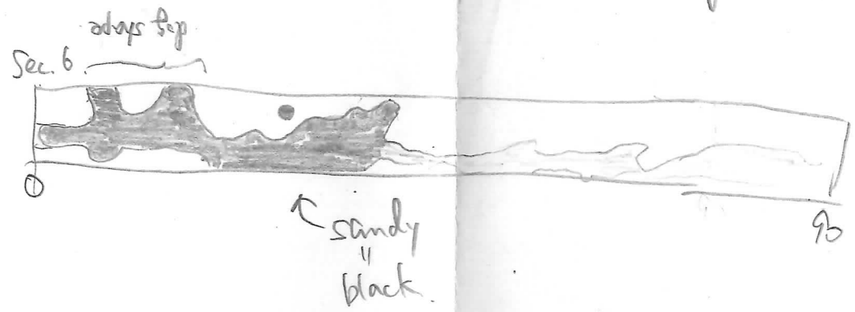
Sec. 7, 28cm – CC: HPCS coring-related disturbance "vertical shear zone".

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P- top	cohoerent interval (for P- bottom	P-mag pole az/trend	P-mag pole dip	notes
1	bedding	30	31			90	11	0	1			0	36			
2	bedding	117	118			270	1	0	9			0	132			
3	bedding	16	16			270	1	0	13			0	130			
	bedding	82	82			270	1	0	11			0	130			
4	bedding	53	53			270	1	0	5			43	131			
5	bedding	55	57			90	17	180	4			0	103			
						19	H1									
3	bedding	29	30			270	20	0	6			3	48			
4	bedding	18	19			270	10	180	19			0	67			
	bedding	43	43			270	1	0	5			0	67			
						20	H1									

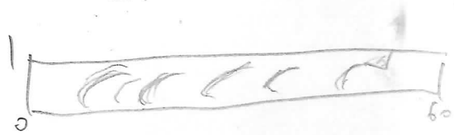
Sec. 1 ~ 4: Subhorizontal bedding.

Sec. 5: Soupy mud.

Sec. 6 ~ CC: Disturbed by HPCS coring.



Sec. 1, CC: disturbed by HPCS coring.



Structural Geology

Exp:316 | Site: C0009 | Core:2H | Observer: AT | Summary: conjugate fractures

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-) top	cohoerent interval (for P-) bottom	P-mag pole az/trend	P-mag pole dip	notes
2	bed	8	8			90	2	180	2			0	36			
	bed	119	119			90	3	180	5			68	130			
4	bed	19	19			90	2	180	10			0	40			
	bed	57	57			90	1	180	12			53	85			
4	2 conjugate fractures	8	14			90	64	0	34			0	24			
	fractures	8	14			270	76	180	34			0	24			
CC	bedding	52	52			90	0	180	5			0	54			
1	fracture	15	23			270	65	0	25			0	60			
5	bedding	42	42			270	12	180	0			0	104			
	fracture	50	66			90	70	0	1			0	104			
	"	66	80			270	68	0	2			0	104			
6	fracture	13	22			90	65	0	20			0	89			
	fracture	13	22			270	75	90	55			0	89			
7	normal fault	14	28			270	60	0	10			0	50			
7	bedding	127	128			270	10	180	9			105	144			

Sec. 1~5: Subhorizontal bedding
Sec. 6~CC: HCPS coring-related disturbance (vertical flow structure)

22X — greenish homogeneous mudstone, drilling-induced "fissility" / compaction / decompaction

23X — strongly drilling disturbed mudstone (artificial "fissility"; same as above)

Structural Geology

Exp: 316 | Site: 8C | Core: 24X | Observer: df CF2 | Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P- top	cohoerent interval (for P- bottom	P-mag pole az/trend	P-mag pole dip	notes
1	fracture	40	45			90	65	180	45			33	64			
2	fracture	33	37			270	55	180	76			0	55			
2	bedding	81	81			90	0	180	3			72	144			
2	fracture	86	92			90	65	180	36			72	144			
3	bedding	80	81			270	7	0	2			0	97			
3	faut (N)	12	19			90	49	180	22			0	97			offset = 2 cm
3	fracture	23	31			90	79	0	0			0	97			
6	bedding	32	33			270	4	0	0			0	84			
	fracture	50	60			270	65	180	35			0	84			
	fracture	62	68			90	61	0	19			0	84			
7	fracture	17	23			270	58	180	18			0	131			
7	fracture	56	64			90	72	0	40			0	131			
7	fracture	102	107			270	60	0	36			0	131			
7	fracture	109	112			270	62	180	26			0	131			

Structural Geology

316-C8C 34 OF

Exp: | Site: | Core: X | Observer: CFL

Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P-) top	cohoerent interval (for P-) bottom	P-mag pole az/trend	P-mag pole dip	notes
8	fracture	16	25			270	54	0	70			0	130			
9	bedding	35	35			90	1	0	11			0	131			
9	faut (N)	110	125			270	61	150	0			0	131			offset = 2 cm - photo. taken
cc	bedding	34	34			270	2	0	1			23	39			
1	bedding	27	27			270	0	0	5			0	51			
3	bedding	40	40			270	18	0	6			0	100			
5	bedding	23	23			90	7	0	2			0	39			
7	bedding	3	3			90	8	0	8			0	77			
8	bedding	85	86			270	5	180	3			51	130			
11	bedding	87	88			270	4	0	4			0	94			
11	faut	118	128			270	56	0	39			104	131			

25 x

Found 2 gravel layers (~3-4 cm thick)

① Section 7 - 122-125 cm

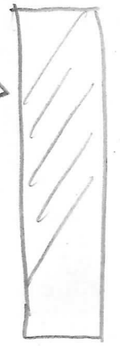
② Section 10-29-31 cm

Structural Geology

Exp: 316 | Site: C0008C | Core: 25X | Observer: Fabbri, L. | Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip az.	core face app. dip dip	2nd app. dip az.	2nd app. dip dip	striation on surface rake	striation on surface from	cohoerent interval (for P- top	cohoerent interval (for P- bottom	P-mag pole az/trend	P-mag pole dip	notes
12	fracture	10	23			270	59	0	38			0	131			

Section 12



END