

# Structural Geology

Exp: 316

Site: C0004

Core: 1H

Observer: Fabbri  
Li

Summary:

Yanaguchi, Ujiie

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip		2nd app. dip		striation on surface		coherent interval (for P-)		P-mag pole		notes
						az.	dip	az.	dip	rake	from	top	bottom	az/trend	dip	
1	none											0	50			} mud including rounded grains (forams?) of approximate $\phi = 0.5 \text{ mm} \sim 1 \text{ mm}$
2	none											110	141			
3	no core (IW)											(02)	(117)			
4	none											258	339			
5	none											(0)	(81)			
6	no core (IW)											0	92			
7	none															
cc	none															
1	none															
2	none															
3	no core (IW)															
4	none															
5	bed	49	50			90	13	180	5					302.3	59.2	
6	none															
7	no core (IW)															
8	bedding	70	72			90	20	180	20					323.5	40.3	sandy muddy
9	none															

2H

mostly homogeneous  
silty clay / clayey silt  
bedding in sec. 5 and 8

sandy  
muddy

# Structural Geology

Exp: 316 Site: C0004 Core: 3H Observer: Taniguchi

Summary: several faults, including normal faults, in core # 4

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip		2nd app. dip		striation on surface		coherent interval (for P-)		P-mag pole		notes
						az.	dip	az.	dip	rake	from	top	bottom	az/trend	dip	
1	none															sec 1 ~ CC structureless silty clay / clayey silt
2																
3																
4																
5	no core (IW)															
6																
7																
8	no core (IW)															
9																
10																
CC																
4H	no fault															
1	no fault															
2	fault	0 or above	~21	10.5	~1 mm	270	70									
3	fault	24	33	28	~1mm	270	70									
	fault	29	40	34	~1mm	270	70									
	N fault	48	65	52	~1mm	270	70									
5	fault	108 116	116 125	112 121	~1mm ~1mm	270 270	50 60									
6	N fault	0 (?) or above	42	24	~2mm	270	75									
7	no fault															
8	no fault															
CC	no fault															

NO section 4 (for IW)

# Structural Geology

Exp: 316 Site: C0004 Core: 5H Observer: Fabrice Li Summary:

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip		2nd app. dip		striation on surface		coherent interval (for P-)		P-mag pole		notes
						az.	dip	az.	dip	rake	from	top	bottom	az/trend	dip	
5H 1	fault	30	52	36	<0.1	90	82									bottom cut due to sampling
2																
3																
4																→ IW no core
5	no fault															
6																
7	no fault															
8																
CC																
6H 1																Several faults on the CT scan images
2																but no faults on cores
3	no faults															→ 4 → IW
5	no faults															
6	3 faults	84 88 109	88 102 121		0.1 0.2 0.1	90 90 90	23 55 60									faults or veins filled with clay?
7		36.5 53	53 57		<0.1 0.1	90 90	70 28									Same as for section 6
8	normal faults	113 115.5 120	119 125 132		0.1 0.2	270 270 270	67 68 60	→ offset of at least 1.6 cm 336 340	0 0				242.7 300.6	-33.4 -43.5		complex fault zone from 113 down to 132 cross-cutting relationships well seen on CT image

silty clay  
to  
clayey silt

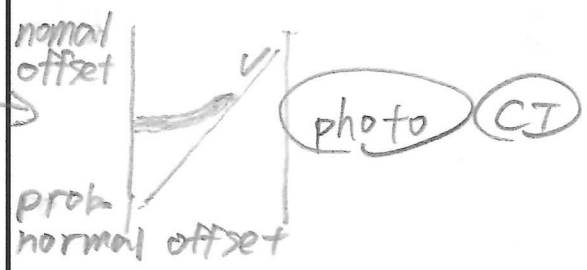


# Structural Geology

Exp: 316 Site: 00040 Core: 7H Observer: KUF A.Y.

Summary: Fault some w/ normal offset

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip		2nd app. dip		striation on surface		coherent interval (for P-)		P-mag pole		notes
						az.	dip	az.	dip	rake	from	top	bottom	az/trend	dip	
1	fault	24	38	32	~0.1	90	70	12	0					168.6	-30.6	diffuse fault planes bifurcated, normal offset ) (photo) (CI)
	fault	25	38	32.5	~0.1	90	65									
	fault	37	53	45.5	~0.2	90	65	354	0					288.9	48.7	
	fault	44.5	56	52	0.1-0.3	90	65	11	0					18.4	30.7	
	fault	58	73	65	0.1	90	60	351	0					269.0	9.3	
	bed	97	99			270	15	180	17					290.5	-41.8	
2	fault	31	47			270	69	34	0					255.0	18.4	normal offset prob normal offset (photo) (CI)
	fault	70	73													
4	fault	5	21			90	72	43	0					272.9	53.1	
5	fault	55	66			90	61	19	0					256.1	20.3	
7	bed	0	4			270		180						241.4	-8.0	
	bed	28	31			270	18	180	8					239.5	-4.8	
8	bed	89	90			270	9	180	12					200.1	88.5	

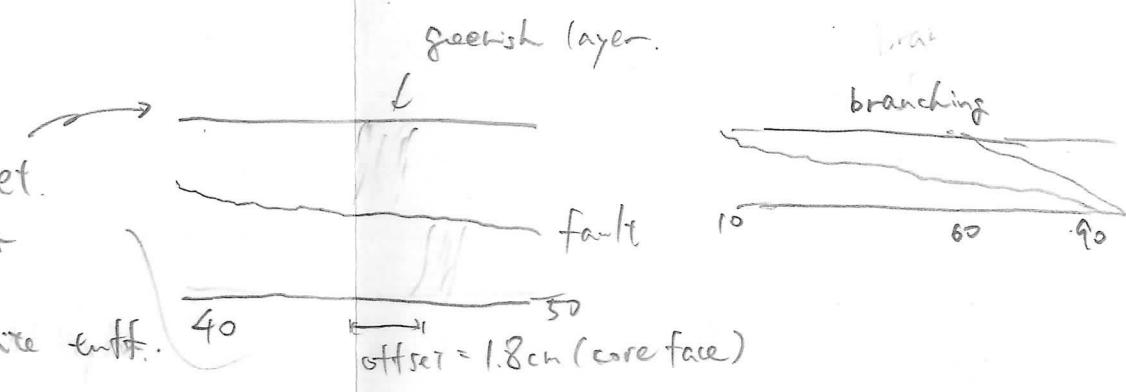


# Structural Geology

Exp: 316 Site: Coof Core: 8H Observer: Jjie Summary:

A.Y

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip		2nd app. dip		striation on surface		coherent interval (for P-)		P-mag pole		notes
						az.	dip	az.	dip	rake	from	top	bottom	az/trend	dip	
2	bed	74	75		2	90	8	180	2					64.8	-24.7	
3	fault	10	92			270	82	44	0					158.8	-19.9	normal offset
	fault	64	93			270	78	48	0					139.3	-11.7	normal offset
6	bed	104	105			90	7	180	22					113.9	-7.9	bottom of white unit.
8	fault	16	34			270	73	71	0					118.7	9.8	normal offset. 1m (core face)
	fault	79	86			270	58	53	0					134.2	-20.1	normal offset
	fault	85	102			90	70	40	0					109.6	-47.1	normal offset
	fault	104	116			90	62	38	0					104.5	-19.0	normal offset
	bed	129	132			90	24	335	0					188.0	-3.6	

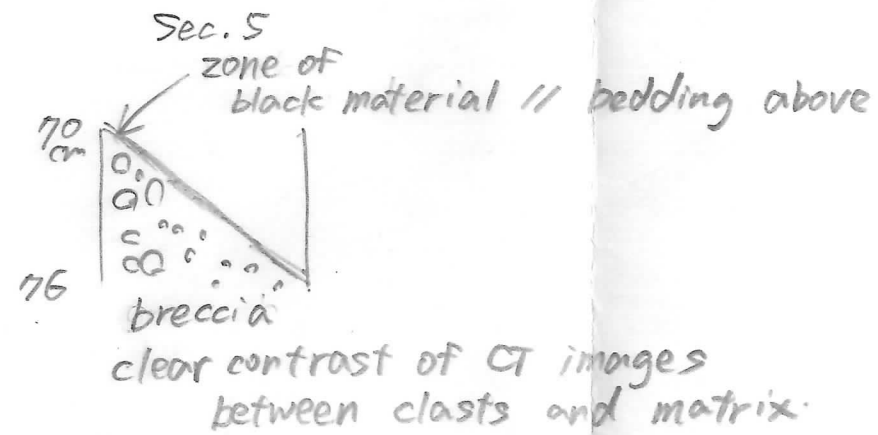


# Structural Geology

Exp: 316 Site: <sup>C0004</sup>Hole C Core: 9H Observer: <sup>K.Y.</sup>A.J

Summary: inclined beds above the zone of black material  
breccia below the zone of black material  
(prob. non-tectonic)

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip		2nd app. dip		striation on surface		coherent interval (for P-)		P-mag pole		notes
						az.	dip	az.	dip	rake	from	top	bottom	az/trend	dip	
1	bed	89	95			90	43	325	0					300.1	56.9	
	bed	131	138			90	43	180	48					173.7	-4.7	
2	bed	73	81			90	48	12	0					129.9	-5.3	
	bed	87	94			90	48	17	0					191.9	-14.9	
3	bed	88	95			90	48	25	0					163.2	-8.3	
	bed	135	141			90	55	23	0					151.2	-4.0	
3	bed	77	86			90	48	23	0					136.5	-16.4	
	bed	100	111			90	60	24	0					163.9	-9.5	
3	bed	118	127			90	60	10	0					146.7	-18.6	
	bed	130	139			90	56	20	0					182.4	-9.8	
	fault	128	137			90	56	18	0					163.8	-5.3	
5	breccia	70	123			breccia in greenish material										
6	breccia	0	10			NO polished surface w/ slicks										



# Structural Geology

Exp: 316

Site: C0004 Hole C

Core: 10H

Observer: KY AY

Summary: not much.

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip		2nd app. dip		striation on surface		coherent interval (for P-)		P-mag pole		notes
						az.	dip	az.	dip	rake	from	top	bottom	az/trend	dip	
4	bed	12	14			90	17	0	9					7.72	-27.3	
	bed	17	19			90	16	0	7					25.3	-31.7	
Core 11-1																
2	IW															
3																
4																
5																
CC																
1																
2																
3	bed	62	63													
4																
5																
6																
7	bedding	112	113.5			90	13	0	16					313.0	-17.2	
8	none															
9																

11H

The clay is greenish and looks brecciated. There are 3 possible origins for the breccia:

- 1) drilling-induced → ruled-out except at top
- 2) tectonic → ruled-out (no fault plane)
- 3) sedimentary → OK because burrows cross the breccia. No transport. paleo-seistmites? decompaction induced???

Note: The contact between "fragments" and "matrix" is sharp but neither striated nor lustrous

12X

semi-consolidated brecciated greenish clay  
no transport ⇒ implies in-situ brecciation.  
Formation-scale random fracturing

ash? layer @ 14-15cm  
sandy @ bottom

12X

# Structural Geology

Exp: 316 Site: C00004 Core: 13X Observer: Fabbri Summary:

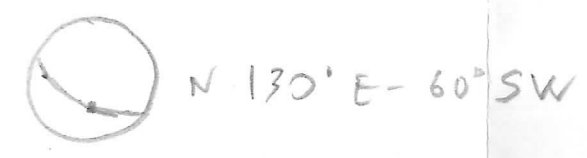


section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip		2nd app. dip		striation on surface		coherent interval (for P-)		P-mag pole		notes
						az.	dip	az.	dip	rake	from	top	bottom	az/trend	dip	
1																
2	none															
4	bedding	27	30		1	90	18	?	?							
5																
6																
7																
8	bedding	41	43	42	14	180	30	270	14					119.3	66.9	
CC																
1																
2																
3																
4																
5																
6																
7																
8																
9																

Syn-sedimentary (?) brecciated green silty clay (massive breccia)

← probably not bedding

brecciated



No peculiar structure (sedimentary or tectonic)  
Same as core # 13X



# Structural Geology

Exp: 316

Site: Cooney Hole

Core: 15X

Observer: KU AT

Summary: Horizontal fissility in silty sediments

section	structure ID	top of struct	bottom of struct	average depth	thickness (cm)	core face app. dip		2nd app. dip		striation on surface		coherent interval (for P-)		P-mag pole		notes	
						az.	dip	az.	dip	rake	from	top	bottom	az/trend	dip		
5	fissility	0	141	}	Horizontal	90	0	0	0								
6	fissility	0	114			90	0	0	0								
CC	bed	29	29			90	0	0	0								
	fissility	29	35			90	0	0	0								
1						16 H											
5						No visible structure											
CC						17 H											
1						No visible structure											
CC						18 H											
1	bedding	109	111			270	17	0	18					56.4	49.2	D = 56.4 I = 49.2	