

Dec 31, 2010

CHIKYU Operation

Structural Geology Observation Sheet

No. _____

Exp.: 333 Site: C0012P Core: 2H~4H Observer: A.Y Summary:

Section No.	Structure ID	Top of Struct	Bottom of Struct	ave. depth	Core face app. Dip		2nd app. Dip		Striation on surface		Coherent interval (for P-mag)		P-mag pole		notes
					az.	dip	az.	dip	rake	from	top	bottom	az./trend	dip	
2H	5 fault (thrust)	76	82		90	48									fault plane is ambiguous Sec. 9. 110cm - betn : flow-in
	6 bed	87	88		90	1	180	1							
3H	1 bed	112	113		90	8	0	10) ash layers yellow band
	bed	116	117		90	7	0	7							
	4 bed	10	12		90	15	180	8							
4H	1 bed	88	89		90	4	180	16							Sec. 7. CC : flow-in
	bed	91	91		270	2	180	11							
	2 bed	45	46		90	5	180	11							
	3 bed	31	31		90	3	180	13							
	bed	95	95		90	5	180	15							

Structural Geology Observation Sheet

Exp.: 333 Site: C0012D Core: 5H Observer: A.Y. Summary:

Section No.	Structure ID	Top of Struct	Bottom of Struct	ave. depth	Core face app. Dip		2nd app. Dip		Striation on surface		Coherent interval (for P-mag)		P-mag pole		notes
					az.	dip	az.	dip	rake	from	top	bottom	az./trend	dip	
5	bedding	63	65		270	27	0	9							<p>Sec. 5 90</p> <p>normal fault offset = 4m</p> <p>* Crosscutting relation - skip!</p> <p>1. low-angle fault ↓ 2. moderately-dipping normal fault</p> <p>low-angle faults with < 2m thickness</p> <p>green layer</p>
	fault	77	83		270	44	180	40							
	fault	91	93		270	16	24	0							
	fault	93	95		270	13	24	0							
	fault	91	96		90	34	57	0							
	fault	95	96		90	7	0	48							

Structural Geology Observation Sheet

Exp.: 333 Site: 60012D Core: 6H Observer: A.Y. Summary: sec. 1, 35cm - sec. 5, 29cm: chaotic sediments

No. _____

is there? check CT

Section No.	Structure ID	Top of Struct	Bottom of Struct	ave. depth	Core face app. Dip		2nd app. Dip		Striation on surface		Coherent interval (for P-mag)		P-mag pole		notes
					az.	dip	az.	dip	rake	from	top	bottom	az./trend	dip	
1	layer boundary (# bedding)	77	79		90	30									Overview biomaterial 1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
4	lay. bd	55	59		90	11	180	3							2
5	lay. bd	25	30		90	74	180	68							3
	fault	0	16		90	42	180	58							4
6	bedding	64	65		90	14	0	1							5 ← close cut? or not
															6
															7 → flow-in * sec. 1 35cm - 5, 29cm : disturbed (chaotic) sediments

← Not layer, block shape.

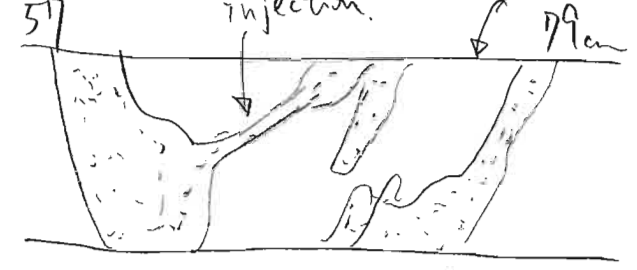

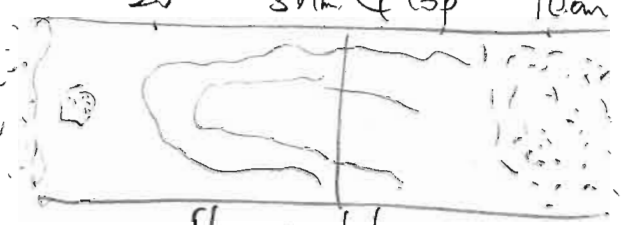
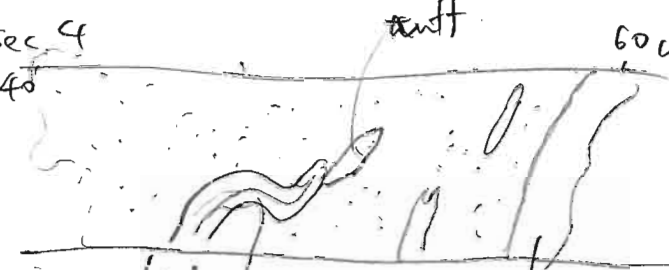
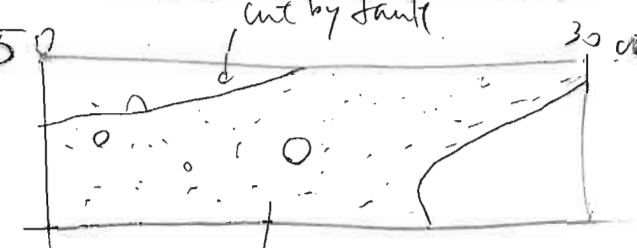
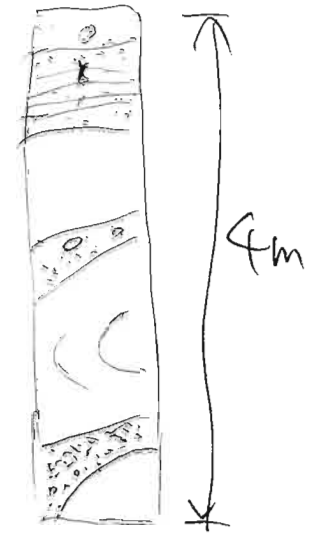
↑ normal sediment below chaotic layer

* Silt --- block
Mixture of sand, silt,uff --- matrix

Interval of matrix
 sec. 1 35-43cm, 58-63cm, (65-70cm: injection), 72-79cm,
 5 82-88cm, 94-102cm, 101-110cm, 112-116cm, 120-129cm.
 sec. 2 5-14cm,
 sec. 3 0-16cm
 sec. 4 5-14cm, 20-29cm, 36-58cm, 98-104cm
 sec. 5 0-29cm.

Structural Geology Observation Sheet

Exp.: 333 Site: G012D Core: B14 Observer: A.T. Summary: Chaotic sediments

Section No.	Structure ID	Top of Struct	Bottom of Struct	ave. depth	Core face app. Dip		2nd app. Dip		Striation on surface		Coherent interval (for P-mag)		P-mag pole		notes
					az.	dip	az.	dip	rake	from	top	bottom	az./trend	dip	
															<p>sec. 1 57 injection 79cm</p>  <p>sec. 2, 60 possibly folded? within 70 80cm silty clast</p>  <p>sec. 3-sec. 4 20 3brk of top 10cm flow-in like structure</p>  <p>sec 4 40 fault 60cm</p>  <p>sec 5 30 cm</p>  <p>Not layer, blocks.</p> <p>grainsize in sandy matrix decreased</p>  <p>4m</p> <p>coarse grain</p>

Structural Geology Observation Sheet


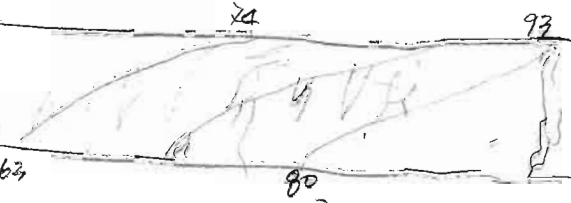
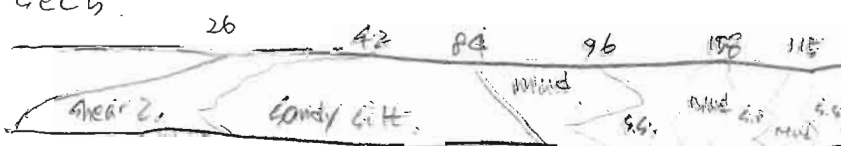
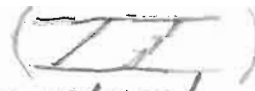
Exp.: 333 Site: C0012D Core: 7H~9H Observer: B.S

Summary: 7H: subhorizontal beds, shear zones & ash layers

8H-9H: disturbed by coring
some beds are measurable, but not sure

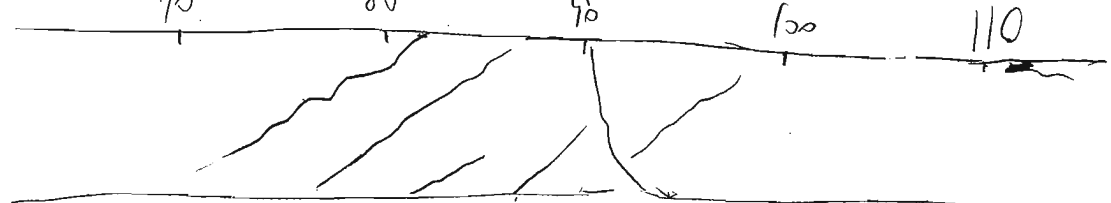
No. _____

~~they are~~ natural structures, notes

Section No.	Structure ID	Top of Struct	Bottom of Struct	ave. depth	Core face app. Dip		2nd app. Dip		Striation on surface		Coherent interval (for P-mag)		P-mag pole		notes
					az.	dip	az.	dip	rake	from	top	bottom	az./trend	dip	
7H	1	shear zone	25	37			270	62	180	70					normal sense → offset: 16mm 
	4	shear zone	63	75			90	63	180	39					two sets of thick shear zones
		bedding	93	93.5			90	10	0	5					bottom of green layer cut by shear z. 
		bedding	103	103.5			270	3	0	10					ash layer.
	5	bedding	51.2	51.6			270	4	180	2					deformed dark layer.
8H	1	shear zone	47.5	70			90	79	180	73					dark layer.
		bedding	79	81			90	25	180	26					ash layer.
		bedding	105	105.5			270	4	180	4					top of ash layer
		bedding	121	122			90	3	0	15					bottom of ash layer including dark gray ash lense
		bedding	130	133			90	29	180	16					
	2	bedding	7	11			270	34	180	39					bottom of silty clay w/ kinked boundary
	bedding	37	39.5			90	12	0	32					ash layer 	
9H	3	bedding	126	130			90	32	180	18					Disturbed during coring sec 1 & 2 (sandy silt): flow structure sec 3 & 4 (mud): some tilted layers  → but not sure to be natural.

Structural Geology Observation Sheet

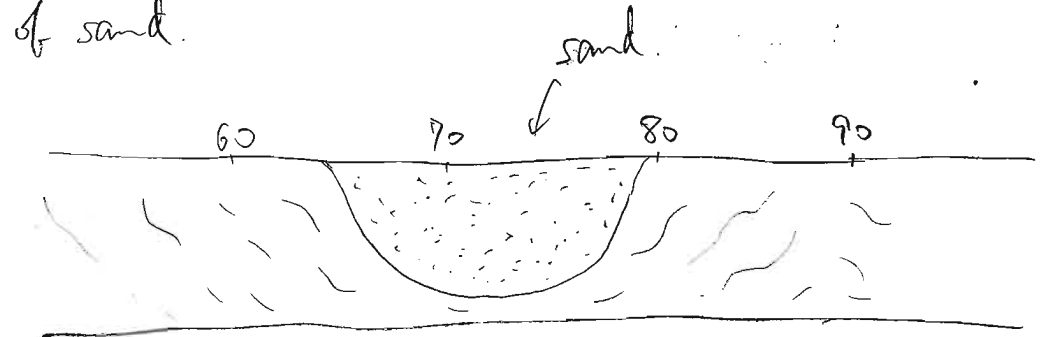
Exp.: 333 Site: C0012D Core: 10H/11H ^{1, 3, 5, 2CC} Observer: B.S Summary: 10H: Inclined beds, sulfate beds & scattered pyritic materials

Section No.	Structure ID	Top of Struct	Bottom of Struct	ave. depth	Core face app. Dip		2nd app. Dip		Striation on surface		Coherent interval (for P-mag)		P-mag pole		notes
					az.	dip	az.	dip	rake	from	top	bottom	az./trend	dip	
10H	1 bedding	50	52		270	16	180	2							green & brown layers (one set among several green & brown layer sets) dark shiny layer, (→ pyrite?)
	bedding	95	95.5		270	10	0	40							
	Shear zone	98	109.5		270	59	180	54							
	bedding	125.5	127.5		270	18	0	24							
2	fault	86	84		90	52	0	43	← (38.0)						Normal ft → offset: 5mm
4	bedding	67.5	71		270	26	0	12							↓ Flow-in.
11H	1 bedding	67	69.8		90	17	0	12							Sec 1 0-62cm: broken down green layer Sec. 4, 5: mineral vein occurs in (possibly calcite) sandy part. Sec. 4 70 80 90 100 110  veins develop in sandy part. Sec. 5 0-30cm: veins in sand. (it was originally planar-shape, but fragmented during splitting).
	bedding	92	99.5		90	29	0	26							
	4 mineral vein	72	81		90	59	180	33							
		76	85		90	49	180	47							
		86	91		90	51	180	14							
		92	95		90	27	180	34							
	95	99		270	41	0	39								
5 mineral vein	0	30													

by A.T.

Structural Geology Observation Sheet

Exp.: 333 Site: Cool2D Core: 12H Observer: A.Y. Summary:

Section No.	Structure ID	Top of Struct	Bottom of Struct	ave. depth	Core face app. Dip		2nd app. Dip		Striation on surface		Coherent interval (for P-mag)		P-mag pole		notes
					az.	dip	az.	dip	rake	from	top	bottom	az./trend	dip	
1	Mineral vein	0	50												Sec. 1 0-50cm: fragments of veins occur in disturbed sand layer
2	bed.	15	16		270	4	180	20							bottom of sand.
3															sec. 3 
5	Mineral vein	0	12		270	70	0	355							Sec. 2 23cm ~ bottom, all of sec. 3 & 4 } chaotic. sec. 5, 44cm ~ bottom:

Structural Geology Observation Sheet

Exp.: 333 Site: C0042D Core: 13H Observer: A.T. Summary: Chaotic deposit or drilling-induced core disturbance

Section No.	Structure ID	Top of Struct	Bottom of Struct	ave. depth	Core face app. Dip		2nd app. Dip		Striation on surface		Coherent interval (for P-mag)		P-mag pole		notes
					az.	dip	az.	dip	rake	from	top	bottom	az./trend	dip	
2	layer boundary	104	104		270	5	180	15							<p>Overview</p> <p>cc: flow-in</p> <p>white crystal</p> <p>chaotic core, disturbed by coring or natural processes.</p>