Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: 20/11/2012 Observer: TAKESHITA Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
312		>4mm	#100	24	Slickenside	83% mud	Underreamer
312		1-4	200	32	Slickenline	80% mud	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: 20/11/12 Observer: JC Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
159		1-4	10cc	IIII carb vein		60 MVD	
				II slickenline			
288		1-4	10cc	8 IIII slickenline		90 MVD	
				6 IIII carb vein			
206		1-4	10cc	1 slickenlined		95 MVD	Cuts of aggregates
				11 carb vein			

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: Nov. 20 Observer: AY Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
311		>4	120cc	30	slickenline	~25% sand (75% mud)	Underreamer cuttings slickenlined grain 10cc
311		1-4	23cc	17	slickenline	~17% sand (83% mud)	
				4	carbonate vein		
115		1-4	19cc	17	slickenline	90% mud	With many lithic fragments and detrital quartz grains > 1mm.
162		1-4	16cc	22	slickenline	91% mud.	

Structural Geology Cuttings Observation Sheet

Exp.:338 Site:C0002 Hole: F Date:19/11/2012 Observer: TAKEUCHI Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
170	1570.5	>4mm	30cc	18	slicken line	mud 90%	
173	1580.5	>4mm	30cc	15	slicken line	mud 70%	sst hard
288	2000.5	>4mm	33cc	5	slicken line	mud 90%	
206	1700.5	>4mm	28cc	1	slicken line	mud 90%	
230	1800.5	>4mm	30cc	3	slicken line	mud 80%	
159	1530.5	>4mm	30cc	3	slicken line	mud 70%	
164		>4mm	30cc	18	slicken line	mud 90%	
178		>4mm	30cc	16 1	slicken line carbonate v.	mud 95%	
230		1-4mm	20cc	3 3	carbonate v. slicken l.	mud 80%	
178		1-4mm	20cc	3 25	carbonate v. slicken l.	mud 95%	
173		1-4mm	20cc	37	slicken l.	mud 80%	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: Nov. 20 Observer: AT Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
170		1-4	2/cc	170	slickenline	93% mud	2cc of slickenlived grain.
				2	carbonate vein		
164		+4	26cc	16	slickenline	96% mud	
				4	carbonate vein		

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: 0002 Hole: F Date: 19/7/12 Observer: JG Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
196		>4	30cc	8	slickenside	← 70 MUD	
261		7 4	30	4 2	slickenside cars vein	90 MUD	
115		>4	30cc	5 2	slickenside cars. vein	95MUD	
162		>4	40cc	9 2	slickenside cars vein	95MUD	
95		>4	30cc	3	slickenside	95MUD	
261		1-4	10cc	9 7	slicken carbvein	97MUD	
139		1-4	10cc	2 4	slickenl cars vein	70MUD	
196		1-4	10cc	7 3	cars vein slickenside	70MUD	
168		1-4	10	1 14	carsvein slickenside	90MUD	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: Nov. 20 Observer: AT Summary: /

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
57		>4	45cc	2	slickenline	99% mud	
168		>4	90cc	62	slickenline	97% mud	~20cc of slickenlined grains
				2	carbonate vein		
139		>4	70	9	slickenline	93% mud	
				1	carbonate vein		
57		1-4	80	131	carbonate vein	99% mud	~1cc of carbonate vein
				38	slickenline		
95		1-4	22	15	slickenline	97% mud	
				1	carbonate vein		

Structural Geology Cuttings Observation Sheet

Exp.:338 Site:C0002 Hole:F Date:14/11/2012 Observer: TAKESHITA Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
286		>4mm	30cc	3	slicken line	90% mud	
217		1-4mm	20cc	6 5	slicken line carbonate vein	100% mud	
219		1-4mm	20cc	4 10	slicken line carbonate V.	95% mud	
229		1-4mm	20cc	1 7	slicken line carbonate V.	95% mud	
235		1-4mm	20cc	17 7	carbonate V. slicken line	95% mud	
238		1-4mm	20cc	7 9	slicken line carbonate V.	100% mud	
250		1-4mm	20cc	7 4	carbonate V. slicken l.	90% mud	
258		1-4mm	20cc	3 8	carbonate V. slicken l.	100% mud	fibre growth of carbonate vein photo.
260		1-4mm	20cc	2 14	carbonate V. slicken l.	95% mud	

Structural Geology Cuttings Observation Sheet

Exp.:338 Site:0002C Hole: F Date: 15/11/2012 Observer: TAKESHITA Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
280		1-4mm	20CC	4 2	Carbonate V. slicken l.	100-1. mud	
284		1-4mm	20CC	3 2	Carbonate V slicken line	100% mud	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: 0002 Hole: F Date: 14/11 Observer: JG Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
215		1-4	10cc	7 12	slickenside cals. vein	95 mud	
223		1-4	10cc	4 5	slickenside cals vein	90 MUD	
227		1-4	10cc	5 4	slickenside cals vein	90 MUD	
233		1-4	10cc	3 8	slickenside cals vein	90 MUD	
240		1-4	10cc	7 9	slickenside cals. vein	90 MUD	
253		1-4	10cc	12 1	cals vein slickenside	90 MUD	
255		1-4	10	5	slickenside	95 MUD	
265		1-4	10	6 3	cals vein slickenside	97 MUD	
267		1-4	10	9 6	cals vein slickenside	95 MUD	

Structural Geology Cuttings Observation Sheet

Exp.: Site: Hole: Date: Observer: Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
269		1-4	10cc	7 III IIII 3 II	cas vein slickenside	95 MVD	
272		1-4	10 a	6 IIII 5 IIII	cas vein slickenside	95 MVD	
274		1-4	10cc	8 III III 0	cas vein slickenside	95 MVD	
282		1-4	10a	2 II 3 III	cas vein slickenside	97 MVD	
286		1-4	10	5 IIII 2 II	slickenline cas vein	100 M-D	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: Nov. 13, 2012 Observer: AT. Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
269		>4	110cc	2 7	carbonate vein slickenline	~1% sand	
258		>4	100cc	9	slickenline	~9% sand	
263		1-4	12cc	4 5	slickenline carbonate vein	all mud	
289		>4	140cc	15 1	slickenline carbonate vein	~1% sand	
231		1-4	21cc	4 18	slickenline carbonate vein	100% mud	
289		1-4	12cc	5 3	slickenline carbonate vein	99% mud	

Structural Geology Cuttings Observation Sheet

Exp.:338 Site:C0002 Hole:F Date:8/11/2012 Observer: TAKESHITA Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
260		>4mm	33cc	11	slicken line	85% mud	
263		>4mm	32cc	2	slicken line	90% mud	
265		>4mm	35cc	4	slicken line	95% mud	
267		>4mm	30cc	2	slicken line	90% mud	
272		>4mm	30cc	1	slicken line	90% mud	
274		>4mm	30cc	4	slicken line	95% mud	
280		>4mm	40cc	4	slicken line	90% mud	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0012 Hole: F Date: Nov. 8, 2012 Observer: AT Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
X 205		1-4	14cc	6	Carbonate vein	~7% sand	
X 209		1-4	5cc	2	stickenline	~3% sand	
217		>4	70cc	14	stickenline	~1% sand	
213		>4	130cc	16	stickenline	~7% sand	
				14	Carbonate vein		
255		>4	90cc	8	stickenline	~1% sand	
238		>4	180cc	9	stickenline	~1% sand	
				2	carbonate vein		
X 263		1-4	15cc	4	stickenline	100% sand	
				2	Carbonate vein		

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: 0002 Hole: F Date: 16/11 Observer: JG Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
282		74	20cc	2	slickenside	95 MUD	
284		74	20cc	5	-11-	98 MUD	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: 13/11/2012 Observer: Takeshita Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
211		>4mm	30cc	6 1	slicken l. carbonate v.	95% mud	
215		>4mm	33cc	4 1	slicken l. carbonate v.	95%	hard black shale contained
223		>4mm	18cc	3	slicken l.	95%	
227		>4mm	35cc	2	slicken l.	95%	
231		>4mm	32cc	3 4	carbonate v. slicken l.	95%	
229		>4mm	30cc	2 3	carbonate v. slicken l.	95%	
233		>4mm	16cc	4	slicken l.	95%	
235		>4mm	8cc	1	slicken l.	95%	
240		>4mm	36cc	9	slicken l.	90%	
250		>4mm	22cc	4	slicken l.	95%	
253		>4mm	33cc			98%	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: 0002 Hole: F Date: 11/12/12 Observer: JC Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
199		~~4~~ >4	30cc	~~7~~ 11	Slickenside	70 MUD	
201		1-4	10cc	16	Slickenside	65 MUD	
				1	carbonate vein		
209		>4	17cc	4	Carbonate vein	90 MUD	
				2	slickenside		
211		1-4	10cc	0	/	97 MUD	
213		1-4	10cc	5	Carbonate vein	95 MUD	
				1	slickenside		
219		>4	30cc	5	Slickenline	97 Mud	
				1	Carb vein		

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: G002 Hole: F Date: Nov. 12 Observer: AT. Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
187		>4	90cc	18	slickenline	15: mudstone 3: sandstone (~25% sand)	sand stacks to consolidate.
177		1-4	6cc	13	slickenline	~10% sand	
182		1-4	14cc	20	slickenline	~8% sand	
177		>4	150 cc	28 3	slickenline Carbonate Vein	~7% sand	looks like phacoidal fabric.
193		1-4	5cc	11 3	slickenline carbonate vein	~30% sand.	
199		1-4	13cc	1	carbonate vein	~12% sand.	
203		1-4	14cc	14	carbonate vein	~30% sand	

Structural Geology Cuttings Observation Sheet

Exp.: Site: Hole: Date: 12/11/2012 Observer: T T Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
189		>4mm	27cc	5 3	slicken line shiny s.	60% Mud	
189		1-4mm	8cc	1	carbonate v.	60% mud	
193		>4m	35cc	6 1	slicken l. carbonate v.	80% mud	
195		>4mm	27cc	8	slicken line	60% mud	
195		1-4mm	15cc	4 14	carbonate v. slicken l.	70% mud	4cc+
201		>4mm	30cc	8 1	slicken l. carbonate v	60% mud	
203		>4mm	35cc	3 2	carbonate v. slicken l.	70% mud	
205		>4mm	30cc	3 6	carbonate v slicken l.	90% mud	
207		>4mm	35cc	1 5	carbonate v. slicken l.	95% mud	
207		1-4mm	15cc	9 4	carbonate v slicken l.	95% mud	

Structural Geology Cuttings Observation Sheet

Exp.: 339 Site: 0002 Hole: F Date: 11/11/12 Observer: JC Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
~~110~~		1-4	plenty	1	Carbonate vein	90 % MUD	
112		>4	100	1	slickenside	95 % MUD	
114		>4	100	0	/	90 % MUD	
155		>4	15cc	0	/	95 % MUD	
122		1-4	9cc	1	slickenside (sandstone)	90 % MUD	
136		1-4	5cc	1 1 1	slickenside -11- Carbonate vein	MUD 80 % SAND 20 %	
182		>4	12cc	2	slickenside	MUD 90 % Sand 10 %	

100 grains = 1,5 cc 1-4

100 grs = 12 cc >4

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: 11/1/2002 Observer: T T Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
142		1-4	12cc	0		95% mud	
144		1-4	15cc	1	carbonate v.	90% mud	
148		1-4	15cc	2 3	carbonate v. slickenline	80% mud	
153		1-4	15cc	2	carbonate v.	90% mud	
163		1-4	15cc	3 3	slickenline carbonate vein	70% mud	
167		1-4	15cc	5	slickenline	80% mud	
169		1-4	15cc	15 1	slickenline carbonate vein	90% mud	consolidated vf sst. ← concentration of slickenline
172		1-4	8cc	17	slickenline	70% mud	hard grain
174		>4	20cc	8	slickenline	95% mud	
174		1-4	15cc	13	slickenline	95% mud	
184		>4	20cc	4	slickenline	80% mud	
184		1-4	1cc	1	carbonate v.	80% mud	very few materials
187		1-4	15cc	8 4 3	slickenline shiny s. carbonate v.	60% mud	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0012 Hole: F Date: Nov. 17, 2012 Observer: AT. Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain# / cc	grain# with deform. structure	structure ID	lithology of grain	comment
150		>4	9cc	0		~2% sand	1~4mm 100 grains = 1cc
144		>4	34cc	3	slickenline	~18% sand	
153		>4	26cc	0		~4% sand	
158		>4	12cc	1	slickenline	~10% sand	
161		>4	8cc	0		~5% sand	lithified sand → TSB
169		>4	50cc	41	slickenline	f-vf sandstone	on fine to very fine-grained sandstone looks like shale or phacoidal fabric.
				2	webstructure	sandstone	planar black lines in largest sandstone clast
						total ~20% sand	total ~20% sand (very lithified) ←

No. 150. 1~4mm 100 grains = 1cc.
No. 158. 1~4mm 100 grains = 2cc

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: Nov. 10, 2012 Observer: AY Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
100		1-4			shiny surface carbonate vein		
105		1-4			shiny surface		
108		>4	100	0		~18% sand	structureless
110		>4	120	0		~10% sand	"
130		>4	71	4	slickenline	~12% sand	
132		>4	55cc	5 3	slickenline carbonate vein	~10% sand	
148		>4	20cc	2	slickenline	~5% sand	

↓ changed to volume

↑ observed volume

~ 100 grain = 15cc (132)

Structural Geology Cuttings Observation Sheet

Exp.:338 Site:C0002 Hole:F Date:10/11/2012 Observer: TAKESHITA Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
132		1-4	20cc	8	Carbonate V.	wood 70% mud	20cc
134		1-4	20cc	2 3	Carbonate V. Slicken line	wood 70% mud	
134		>4mm	22cc	3	Slicken line	80% mud	120 grains = 10cc
136		>4mm	22cc	1	Carbonate V.	90% mud	
138		>4mm	22cc	2	Slicken line	80% mud	
140		>4mm	20cc	1 1	Slicken line Carbonate V	80% mud	
142		>4mm	22cc	2 1	Carbonate V shiny S	90% mud	
163		>4mm	50grains 40cc	0		80% mud	
167		>4mm	20cc	2	Carbonate veins	80% mud	
138		>4mm	18cc	2	Carbonate veins	70% mud	wood
172		>4mm	20cc	1	Slicken line	70% mud	
140		1-4mm	13cc	5	Carbonate V.	80% mud	

Structural Geology Cuttings Observation Sheet

Exp.:338 Site:C0002 Hole: F Date: 11/9 Observer: Takeshita Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
100		>4mm	100	1	carbonate vein	55% mud	
102		1-4mm	plenty	7 11	slicken line carbonate V.	50% mud	
104		1-4mm	plenty	1	carbonate v	40% mud	
112		1~4mm	plenty	0		70% mud	
114		1~4mm	plenty	8 2	carbonate v. slicken l.	90% mud	
116		>4mm	100	2	carbonate v.	90% mud	
120		1-4mm	plenty	3 2	carbonate v. 3 slicken line 2	80% mud	
122		>4mm	120	4	slicken line	95% mud	
124		1~4mm	plenty	3 2	slicken line carbonate vein	80% mud	
124		>4mm	100	1	slicken line	90% mud	
126		1-4mm	plenty	6	carbonate V.	80% mud	
126		>4mm	100	1	shiny s.	80% mud	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: 0002 Hole: F Date: ~~10~~ 09/11/2022 Observer: JG Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
77		1-4	plenty	0		97% mud	
80		1-4	-11-	0		98% mud	
82		1-4	-11-	4	Carbonate vein	95% mud	
90		1-4	-11-	~~0~~ 1	shiny surface	98% mud	
98		>4	100	4	slickenside	100 mud	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0012 Hole: F Date: Nov. 8, 2012 Observer: A. T. Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
73		>4	100	1	shiny surface	silt.	~6% sandstone grains
73		1-4	plenty	3 2	carbonate vein shiny surface		
75		>4	100	1 1	carbonate vein slickenline	~10% sand	washed → check the trend, then observe by using dried cuttings. (PHOTO)
86		>4	100	3 3	slickenline shiny surface	~20% sand.	
106		>4	80	2 2	slickenline mineral vein	~10% sand	one: very shiny. the other: moderately shiny looks like quartz.
120		>4	105	2	shiny surface	~20% sand.	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: Nov. 8 Observer: Takeshita Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
94		>4	144	8 1	shiny s. Carbanat vein	mud 13 sst.	90% mud.
94		1-4	plenty	5	shiny s.	mud.	
96		>4	118	7	shiny s.	mud	
102		>4	112	2	shiny s.	mud sst 6	95% mud
104		>4	142	0		mud sst 15	90% mud
82		>4	154	2	shiny s.	mud 8 sst 4	97% mud.
84		>4	100	2	slicken line	99% Mud	covered by powders
84		1-4	plenty	16	carbanate v.	c.80% Mud	
86		1-4	plenty	6 1	carbonate v. 6 slicken 1	c. 80% Mud	
96		1-4	plenty		slicken 3 carbonate v. 6	c. 80% mud	
98		1-4	plenty		slicker 10 carbonate v. 1	c. 90% mud	

Structural Geology Cuttings Observation Sheet

Exp.: Site: Hole: Date: 11/7, 8 Observer: TAKESHITA Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
50		1-4	plenty	11 1	shiny surface calcite vein	mud	hard to decide lithology because of the powder
51		1-4	plenty	12 5	shiny surface calcite vein	mud	〃
52		>4	14	5	shiny surf.	mud with 6 sst	〃
58		1<φ<4	plenty	24 8	shiny s. calcite v.	mud	← Lake Sandstone
68		>4	16	8 1	shiny s. calcite v.	mud 131 sand 30	sst. rich.
71		>4	165	10 1	shiny s. calcite ✓	mud	
77		>4	144	5	shiny s.	mud sand 8.	sst 5%.
80		>4	183	3	shiny s	mud	※ photo
92		>4	185	7	shiny s.	mud 97%.	6 sst 3%.
92		1-4	plenty	4	shiny s.	mud (coal	

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: 0002 Hole: F Date: 7 Nov 2012 Observer: JG Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
46		>4	100	4	shiny surface	mud	
48		>4	100	2	slickenside	mud	
66		>4	100	5	shiny surface	-"-	
				2	slickenside	-"-	
66		1-4				-"-	some shinys
90		>4	20	0		-mud-	difficult to describe because many cuttings covered

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: 7 Nov 2012 Observer: A.T. Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
56		1-4		~140	carbonate vein shiny surface		abundant carbonate veins (~1% of 1-4mm fraction)
64		1-4		38	carbonate vein		carbonate vein fragments, amount is smaller than sample No. 56.
64		>4	106	2	carbonate vein		
				1	slickenline		lineation on polished surface (tens of μm spacing)
				21	shiny surface		3 of 21 are obvious, 18 are ambiguous.
68		1-4			shiny surface		abundant shiny surface
				17	carbonate vein		limited fragments of carbonate vein (amount is smaller than 64)
71		1-4			shiny surfaces		
				5	carbonate vein		
58		1-4		137	carbonate vein		

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: Nov. 7, 2012 Observer: A. T. Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
43 t 4		>4	109	23	shiny surfaces	mud	Some planes are coated by thin film of mineral, but not sure whether they are related with deformation or not.
54		>4	59	9	shiny surface		
45		>4	102	2	shiny surface	mud/silt	drilling-induced deformations are abundant.
47		>4	111	21	shiny surface	mud/silt	flat planes are sometimes polished
51		>4	100	5 4	shiny surface slickenline	mud/silt	Some pieces are shiny, some pieces have obvious slickenlines on polished surfaces.
62		1-4		70	carbonate veins shiny surfaces	mud/silt	
54		1-4		18	carbonate vein shiny surface	silt	

Structural Geology Cuttings Observation Sheet

Exp.: Site: Hole: Date: Observer: Takeshita Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
42		φ>4mm	85	0		mud.	
25		φ>4mm but mostly 1<4mm	19	0		mud.	
63		φ>4mm	63	0		mud.	difficult to identify structures, because the grains are covered by powders, a lot of cements
52		φ>4mm	77	0		mud	some grains are covered by powders.
49		φ>4mm	120	3	slickenside (shiny surface)	mud, but 2% sandst	
58		φ>4mm	85	0		mudst.	
56		φ>4mm	161	5	3 shiny surface 2 calcite vein ← in sst.	2% sst	
52		1<φ<4	plenty	7	6 shiny surface 1 calcite vein	mud	
45		1<φ<4	plenty	11	shiny surface	mud	Red grains are included
46		1<φ<4	plenty	5	shiny surface	mud.	rare sandstone grains
49		1<φ<4	plenty	11 4	shinny S. calcite vein	mud	rare sandstone grains

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: Nov. 3, 2012 Observer: AT Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
35		>4	30	0		mud/silt	rounded. covered with powders.
40		>4	50	0		mud/silt	"
50		>4	60	3	shiny surface	mud/silt	polished surface with black line (photo). (ambiguous)
41		1-4				mud	grains with shiny surfaces
19		>4	42	0		silt	rounded. hard to observe structures because grains are covered with powders.
20		>4				silt	Difficult to find out any structures because grains are severely covered with powders.
21		>4				silt	Not appropriate for structural observation because of severe covering of powders & high cement concentration
41		>4	77	7	shiny surface.	silt/mud	Some grains have shiny surfaces. possibly formed by natural polishing.

Structural Geology Cuttings Observation Sheet

Exp.:338 Site:C0002 Hole: F Date:Nov.3,2012 Observer: T. T. Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
15		>4	4	0		vf.sst	~~fine round fossil~~
18		>4	10	0		Vf sst.	
20		>4	8	0		vf sst	
27		>4 and 1<φ<4	14	0		vf sst~mud	
26		mostly 1<φ<4	14	0		vfsst ~mud	
28		mostly 1<φ<4	20	0		vfsst ~mud	
41		mostly 1<φ<4	24	0		vfsst ~mud	
42		mostly 1φ<4	24	0		vfsst ~mud	
8		φ>4	10	0		vfsst~ mud	Sieved and dried
16		φ>4	77	0		vfsst~ mud.	Sieved and dried
36		φ>4	50	1	vein structure	mud	Sieved and dried

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: 0002 Hole: F Date: 5/11 Observer: JG Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
18		>4	82	2	vein structure		
26		>4	50	0			fragile, rounded surface, easy to break
28		>4	50	0			1 slickenside surface within grain (Foto)
30		>4	50	~~4~~ 0	~~slicken fibre~~ !		Foto (slicken fibre) o difficult to observe because ~~everything~~ covered / by smaller grains
34		>4	25	0			1 thin section ~~(x6~~
37		>4	25	0			
44		>4	25	1	vein structure		
48		>4	25	1	planar, with shiny surface		>80% deformed ~~by from~~ drilling [Jit]

Structural Geology Cuttings Observation Sheet

Exp.: 338 Site: C0002 Hole: F Date: Nov. 3. 2012 Observer: A. Y. Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
29			14	1	vein structure		
7		>4	27	0			
14		>4	82	1	vein structure		
15		>4	57	1	-11-		
9		>4	38	2	vein structure		
17		>4	100	3	vein structure		(photo)
27		>4	50	0			fragile grains (easy to disaggrigate). Sometimes covered by black material. Edges of grains are rounded.
31		>4	50	0			fragile rounded grains covered with powders of themselves.

Structural Geology Cuttings Observation Sheet &T.T.

Exp.:338 Site:C0002 Hole:F Date:Nov.3,2012 Observer:A.Y&J.G Summary:

Cuttings No.	depth (mbsf)	size (mm)	observed grain#	grain# with deform. structure	structure ID	lithology of grain	comment
7			0	0			All cement grains
8			0	0			〃
9			1	0			No structure
14			5	0			〃
17			15	2	vein structure		dark planer structure, black colored. 0.2-0.3 mm. thickness
19		>4	11	2	vein structure		PHOTO (1)
		1-4	19	1	vein structure		
24		>4	8	0			
25			6	1	Vein structure.		