


CM Scale



Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:	
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches			
		270	55	000	10						
								0-70, intensely fractured to mm scale phacoids, w/ domains of less intense fracturing (in core face) 54-56, sand layers at high dip 70-90, semi-coherent fragment bounded by planar fractures (left) 81-121, coherent but fractured as above			
								0~12, semi-planar { 270, 55 { 000, 10 20-22, two fracture { 270, 54 { 180, 24 low confidence 15~18, inter-section fracture { 090, 34 { 180, 17 31~36, fracture { 270, 67 { 000, 10 87~89, fracture { 270, 30 { 180, 47 87~89, { 270, 19 subtle <sup>anisotropic</sup> pair plane { 180, 7 53~56: incline bedding → { 090, 64 70~76, planar fracture: { 270, 68, second fracture: 70~78 { 000, 2 { 270, 51 { 42, 0 77~80: planar fracture { 270, 68; { 000, 0 Contact: 80-86; { 270, 67 { 8, 000			
								intersection (inactive) 21~60 { 090, 35 { 000, 58			

CM Scale

0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28  
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48  
-50  
-52  
-54  
-56  
-58  
-60  
-62  
-64  
-66  
-68  
-70  
-72  
-74  
-76  
-78  
-80  
-82  
-84  
-86  
-88  
-90  
-92  
-94  
-96  
-98  
-100  
-102  
-104  
-106  
-108  
-110  
-112  
-114  
-116  
-118  
-120  
-122  
-124  
-126  
-128  
-130  
-132  
-134  
-136  
-138  
-140  
-142  
-144  
-146  
-148  
-150  
-152

Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
										<p>0-29, coherent (semi at base) bedded and bioturbated mudstone, with at least two thin sand beds</p> <ul style="list-style-type: none"> <li>- planar color variations present, not parallel to sand's</li> </ul>  <p>fractures</p> <p>29-34, planar color boundary</p> <p>53-55, irregular color &amp; lith. boundary w/ laminations in lower unit</p> <p>55-82, coherent but highly fractured domain. Brecciation not obvious on core face.</p> <hr/> <p>4-9, sand bed</p> <ul style="list-style-type: none"> <li>{ 270, 45°</li> <li>{ 000, 0</li> </ul> <p>1 (healed)</p> <p>23-24, planar contact (filled)</p> <ul style="list-style-type: none"> <li>{ 090, 11°</li> </ul> <p>17-18: open fracture:</p> <ul style="list-style-type: none"> <li>{ 090, 17°</li> <li>{ 180, 38°</li> </ul> <p>29-33 color boundary, possibly fault.</p> <ul style="list-style-type: none"> <li>{ 090, 35</li> <li>{ 180, 66</li> </ul> <p>49-55, color boundary, similar to above</p> <ul style="list-style-type: none"> <li>{ 290, 61</li> <li>{ 000, 45</li> </ul> <p>56-67 @ numbers of fractures</p> <ul style="list-style-type: none"> <li>{ 270, 50 not terminated against next fracture (63-67)</li> </ul> <p>↓ { 090, 44</p> <p>66-74</p> <ul style="list-style-type: none"> <li>{ 270, 50, step parallel fractures (70-79)</li> <li>{ 270, 50</li> </ul> <p>76-81: fracture</p> <ul style="list-style-type: none"> <li>{ 270, 45</li> </ul> <p>72-80: fracture</p> <ul style="list-style-type: none"> <li>{ 270, 50</li> </ul> <hr/> <p>72-81, fracture</p> <ul style="list-style-type: none"> <li>{ 270, 60 (measured on archive)</li> <li>{ 000, 11</li> </ul>

healed fractures

must sketch



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS & AF	18/3
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

0-101 Severely bischital, rotated coherent blocks in a finely fractured matrix

101-135 Coherent block with a consistent fracture set

Breaks into 1mm-1cm prismatic phacoids.

Fractures ~ 5cm spacing.

@ 101: 13/090 10/180

133: 15/090 7/000

104-133

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4	open frac		090	37	180	30					
6											
8	open frac		090	33	180	23					
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

CM Scale  
0  
2  
4  
6  
8  
10  
12  
14  
16  
18  
20  
22  
24  
26  
28  
30  
32  
34  
36  
38  
40  
42  
44  
46  
48  
50  
52  
54  
56  
58  
60  
62  
64  
66  
68  
70  
72  
74  
76  
78  
80  
82  
84  
86  
88  
90  
92  
94  
96  
98  
100  
102  
104  
106  
108  
110  
112  
114  
116  
118  
120  
122  
124  
126  
128  
130  
132  
134  
136  
138  
140  
142  
144  
146  
148  
150  
152

open frac  
open frac

33  
39

61  
sand filled fracture  
78

BISCUIT BOUNDARY

37-41 lamination, disturbed but moderate westerly apparent dip

45-49 BISCUIT BOUNDARY

closed fracture, non-planar ~2 cm spacing

coherent with fracture sets

0-33 coherent  
0, 20 [with fracture sets of 5cm frac spacing]



I  
W

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	AF+AS	3/18/18
0											
2											
4											
6											
8											
10											
12	Fracture		270	19	000	9					9-10 cm - biscuit boundary
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56	Fracture		090	46	000	13					
58											
60											
62	lithology boundary		090	34	000	13					
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94	Fracture 1		270	38	000	6					
96											
98											
100	Fracture 2		90	38	000	2					
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

9-10 cm - biscuit boundary  
 10-24 cm - coherent block  
 ↳ closed fractures spaced ~2cm  
 24-42 cm - destroyed, rubble  
 42-64 cm - coherent block  
 closed fracture set, see orientation below, spacing less than 1cm

63-70 cm - biscuit boundary

79 cm - sharp horizontal lithology change, prob deformed  
 79-123 - semi-coherent block  
 two fracture sets  
 set 1 - 2cm spacing,  
 set 2 - 3cm spacing

123-136 - destroyed

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	AF+HS	5/18/18
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66	fracture		090	34	180	13					
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94			090	34	000	5					
96											
98											
100											
102											
104											
106	fracture		270	59	180	20					
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

0-70 cm - disturbed, squashed, bivalent  
 29-31 - injection feature  
 31-41 - disturbed bedding  
 62-99 - fracture set, open, could be drilling induced they sole in to a vertical fracture



92-134 cm - closed fracture set  
 - 5 cm spacing  
 91-96 cm - filled fracture mesh





CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	H5+AF	3/18/18
0											
-2											
-4											
-6	frac										
-8											
-10			270	60	355	0					0-18 cm - coherent interval
-12											
-14											
-16											
-18	frac		270	78	353	0					18-25 cm - disturbed, biscuit boundary
-20											
-22											
-24											
-26	beddy		270	39	180	5					25-45 cm - coherent interval
-28											
-30											
-32											
-34											
-36											
-38	frac		270	30	180	5					@10 cm, filled fracture, not a set, interval = 6-15 cm
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/18/18
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

6-7 cm - biscuit boundary  
 8-58 cm - destroyed

WPNID  
 H  
 W



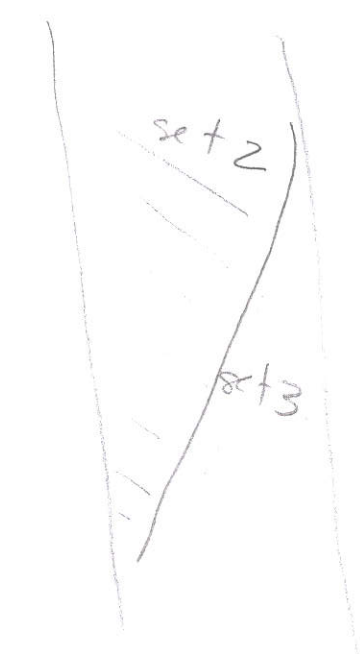


CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HSTAF	3/18/18
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66			270	20	000	38					
68											
70											
72											
74											
76											
78											
80			090	45	000	2					
82											
84											
86			270	72	334	0					
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

Set 1  
 @ 33-85 cm - fracture set  
 10 cm spacing  
 measurement @ 65 cm, open

Set 2  
 @ 81-105 cm - fracture set,  
 measurement @ 81 cm, open,  
 clustered, variable spacing,  
 (spacing subem in cluster)

Set 3  
 @ 84, large fracture that the  
 71-102 set above some times  
 truncates against, 10 cm spacing



DID:  
 117-149 - disturbed  
 whole core - biscuiting,  
 moderate  
 0-55 - severe biscuiting

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/18/18
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24	Fault		270	36	17	0					
26											
28											
30											
32											
34	Frac.		090	84	002	0					
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

~~PD:~~  
 66-96: disturbed rotated, mingled, whole core: mild biscuiting  
 @23-35: fault  
 1-2 cm thick, small breccia zone below on west side of core, breccia clasts up to 1cm, clast-supported  
 @19-35 cm:  
 open fracture, prob induced



Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W J.N	1913
								6~14 closed space fractures (anastamos, mm scale)		
		270	33	001	0			24~28, two filled fractures, $\left\{ \begin{array}{l} 270, 33; \\ \text{core face} \end{array} \right.$ $\left\{ \begin{array}{l} 001, 0 \\ \text{2nd} \end{array} \right.$		
								59~72, filled fractures, two sets dip domain: $\left\{ \begin{array}{l} 090, 50 \\ 180, 5 \end{array} \right.$		
	filled fractures two sets	090	50	180	5			65~73: anastamos fracture $\left\{ \begin{array}{l} 090, 71 \uparrow \\ 345, 0 \end{array} \right.$		
		090	71	345	0			80~89: intersecting fractures		
	intersecting fractures							94~98: filled fracture $\left\{ \begin{array}{l} 270, 38 \\ 090, 20 \leftarrow \text{apparent} \end{array} \right.$ bedding surface about 20°		
	filled fracture	270	38	090	20					

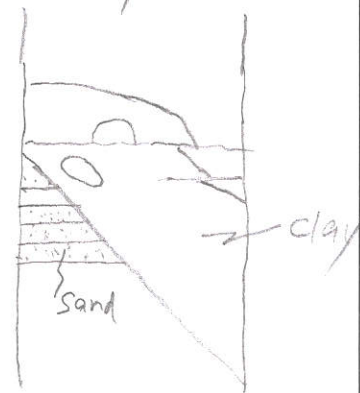
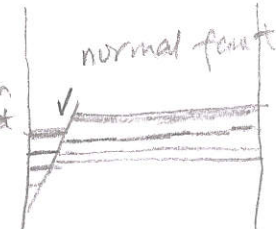
CM Scale  
0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28  
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48  
-50  
-52  
-54  
-56  
-58  
-60  
-62  
-64  
-66  
-68  
-70  
-72  
-74  
-76  
-78  
-80  
-82  
-84  
-86  
-88  
-90  
-92  
-94  
-96  
-98  
-100  
-102  
-104  
-106  
-108  
-110  
-112  
-114  
-116  
-118  
-120  
-122  
-124  
-126  
-128  
-130  
-132  
-134  
-136  
-138  
-140  
-142  
-144  
-146  
-148  
-150  
-152





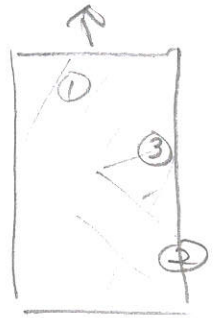
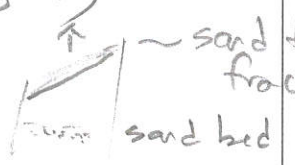




Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	JH, JW	
fractures								8-10, fractures { 090, 22 { 180, 13. high uncertainty		
bedding		090	15	180	20			21-21, bedding, { 090, 15 { 180, 20		
bed fault		090	47	180	40			26-32, bedding, : { 090, 47 { 180, 40 fault →		
44-45 bed		270	6	180	21			31-42: highly fracture with offset Confidence: 2		
55-61 fracture		090	43	180	22					

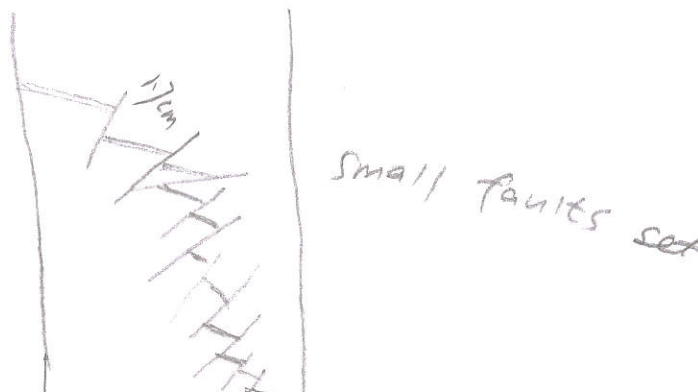
CM Scale



Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	JM, MW	
								0-8, Soupy and fragmental (breccia)		
								8-16, Coherent downish, thin black seams		
										
								31-76 moderately to intensely fractured Comments two (set 1) 32-40 fractures (270, 65; 023, 0) 41-44 three fractures (set 2) (090, 65; 023, 0) term against 1 39-41 fractures (set 3) (270, 22; 000, 19) term against 2 67-70 fractures (set 4) (090, 33; 480, 45) intersecting fracture beneath (set 5?) (090, 8; 000, 49) 58-62 fracture (270, 58; 180, 64)		
								77-80, brecciated (drilling def)		
								81-94, fractured biscuit		
								95-102, fractured, coherent, no surface core		
								104-133, fractured disturbed		
								118-120, fracture <sup>set 1</sup> (270, 43; 180, 45) 120-121, fracture <sup>set 2</sup> (270, 17; 180, 13) 125-126, fracture (270, 34; 000, 22)		
										
								133-138, brecciated (drilling dist)		
								140-142, sand filled something (bed?) - melted to sandy bed below (270, 35; 180, 6)		
								144-146, sand bed (090, 13; 000, 12)		

CM Scale

0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28  
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48  
-50  
-52  
-54  
-56  
-58  
-60  
-62  
-64  
-66  
-68  
-70  
-72  
-74  
-76  
-78  
-80  
-82  
-84  
-86  
-88  
-90  
-92  
-94  
-96  
-98  
-100  
-102  
-104  
-106  
-108  
-110  
-112  
-114  
-116  
-118  
-120  
-122  
-124  
-126  
-128  
-130  
-132  
-134  
-136  
-138  
-140  
-142  
-144  
-146  
-148  
-150  
-152

Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	JN, MW	
								0-16, biscuits 0.5-2cm -unless laminar sediments? 11-12, microfault offsets sand bed (2mm offset) (090, 65; X) ← (270, 20; 000, 16) 18-44, intersecting fractures 21-22 fracture (270, 16; 000, 55) fracture set 2 (090, 20; 180, 15)		
										
								46-80, intersecting fractures (local drilling breach) fracture set 1: (270, 45); fracture set 2: (090, 45)		
								68-77: fault (270, 60; 003, 0) ↑ fracture/fault		
								74-75 bed: (270, 25)		
								Fractures cross-cross Footwall <del>has</del> filled 84-86, fracture (270, 25; 180, 17)		

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

SIKE

H 3 PAL

0-11, brecciated slummy

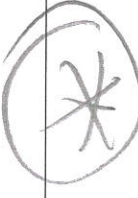
11-26, coherent biscuit, with botrb, offset by sealed black seams - sometimes also offset

-39-55, coherent biscuit cut by filled fractures. - sand bed contact at top 39-41, bed (270, 12; 180, 21)

fracture set I

42~44: (090, 20; 27, 8) ?

fracture set



CM Scale



- 0
- 2
- 4
- 6
- 8
- 10
- 12
- 14
- 16
- 18
- 20
- 22
- 24
- 26
- 28
- 30
- 32
- 34
- 36
- 38
- 40
- 42
- 44
- 46
- 48
- 50
- 52
- 54
- 56
- 58
- 60
- 62
- 64
- 66
- 68
- 70
- 72
- 74
- 76
- 78
- 80
- 82
- 84
- 86
- 88
- 90
- 92
- 94
- 96
- 98
- 100
- 102
- 104
- 106
- 108
- 110
- 112
- 114
- 116
- 118
- 120
- 122
- 124
- 126
- 128
- 130
- 132
- 134
- 136
- 138
- 140
- 142
- 144
- 146
- 148
- 150
- 152

Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		

0

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	JM & NW	
0											
2											
4											
6											
8											
10											
12											
14											
16											
18		-biscuit									
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46		-biscuit									
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142		-bisc									
144											
146											
148											
150											
152											

0-18, dipping beds: fining upward, upright  
offset by many ~~faults~~ faults → (090, 46)  
core face

11~17, (270, 34; 180, 21) bedding  
not entered

18-47, dipping beds, fining upward - upright

25~26, bedding: (090, 22; 270, 44)

19-20 fracture: (270, 48; 180, 54)

23-27 fracture, (270, 66; ) 2mm offset

43-44 bed (090, 25; 000, 3)

29-35: fracture: (090, 59; 000, 31); (270, 22; 180, 27)

49-80, coherent biscuit (art two), structurally defn

59-61: irregular boundary

clay on sand (270, 12)

sand on clay high irregular (090, 22; 000, 20)

62-80: clay with black seams,

80-113, fractured sand & clay (web-like structure)

upright graded beds

102~106: Sand on clay (270, 30; bedding?)

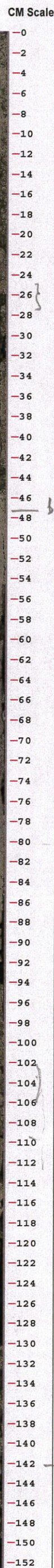
Sand lamination (270, 53)

fractures (filled) in relief

fracture set 1: (090, 78; fracture set 2: (090, 28) terminate against 1; fr set 3: (090, 85) ... against 1.

113-150, sand and clay, vertical beds same faults at boundary

113~125  
116~117: (270, 84; 84, 0) which is azimuth is which dip? micro-fault, x-crosscut sand layer (090, 18) (090, 0) rotated with bed.



Feature

Thick

Core-face orientation

2nd app. orientation

Core orientation

AZIM

DIP/PLG

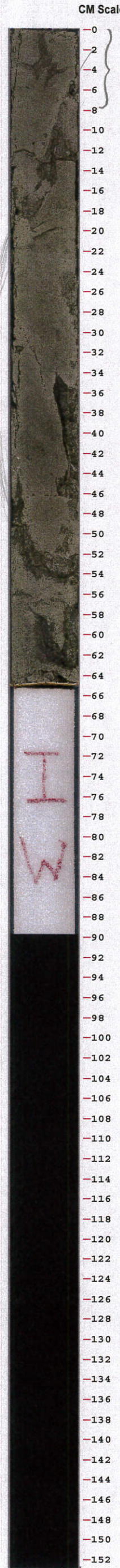
Comments/Sketches

Summary:

Observer: JM & NW

Date:

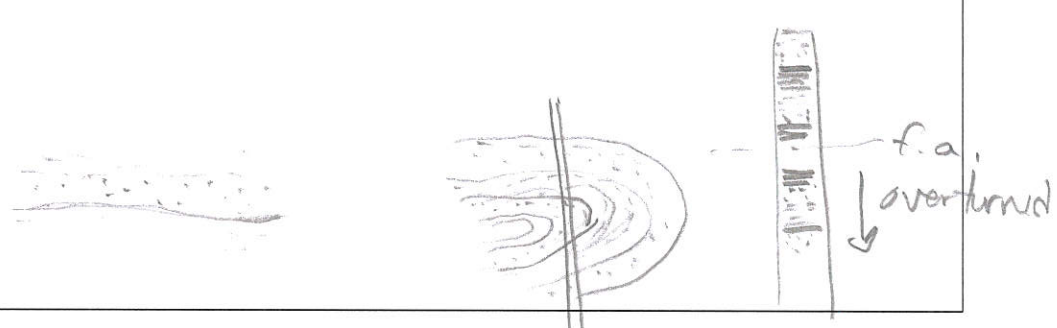
CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	Jn. MW	
0											
2									0-13, coherent biscuit w/ sand beds and fault		
4									fault 1: (090, 22;)		
6									0-8 fault 2: (090, 30) offset		
8									intermediate		
10									14-51, coherent biscuit w/ sand & fts		
12									(47-51, fracture?)		
14									boundary: sand/clay (090, 18; 30, 0), overturn		
16									17-20: bedding boundary (090, 20;)		
18									fault: 18-28. (270, 62; 32, 0) low probability		
20											
22											
24											
26											
28											
30											
32											
34									bedding 36-45, (270, 13; 020; 0); overturn		
36											
38											
40											
42											
44											
46									47-52, probably overturned bedding surface		
48											
50											
52											
54									51-65, coherent biscuit w/ sand layers		
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											



I  
W

0-13, coherent biscuit w/ sand beds and fault  
 fault 1: (090, 22;)  
 0-8 fault 2: (090, 30) offset  
 intermediate  
 14-51, coherent biscuit w/ sand & fts  
 (47-51, fracture?)  
 boundary: sand/clay (090, 18; 30, 0), overturn  
 17-20: bedding boundary (090, 20;)  
 fault: 18-28. (270, 62; 32, 0) low probability  
 bedding 36-45, (270, 13; 020; 0); overturn

47-52, probably overturned bedding surface  
 51-65, coherent biscuit w/ sand layers  
 ① bedding 56-61 (270, 45; 034, 0)  
 ② bedding (090, 0; 000, 0)  
 Q. relationship between sand layers?  
 clay sand  
 overturned





CM Scale

0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28  
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48  
-50  
-52  
-54  
-56  
-58  
-60  
-62  
-64  
-66  
-68  
-70  
-72  
-74  
-76  
-78  
-80  
-82  
-84  
-86  
-88  
-90  
-92  
-94  
-96  
-98  
-100  
-102  
-104  
-106  
-108  
-110  
-112  
-114  
-116  
-118  
-120  
-122  
-124  
-126  
-128  
-130  
-132  
-134  
-136  
-138  
-140  
-142  
-144  
-146  
-148  
-150  
-152

Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	JN, MW	
								8~12, surface; possible folding (270, 35; 180, 68)		
								21~30: curved fracture (090, 76; 036, 0)		drilling skirt perhaps
								17~23: black seam: (090, 35; 26, 0) <i>(curved)</i>		
								38~52, bedding, C Clay-sand overturned (090, 68; 12, 0)		DO NOT UNDERSTAND THESE DIPS
								faults set micro fault with offset 2-8mm fault do not penetrate clay		180, 15 (low cur) dips - from archive some brecciation near core - local black seams and color banding
								55~72: fracture - open (090, 13; 038, 0)		
								80-100,		
								91~98: (090, 56)		
								97~101: fracture (fracture parallel bedding) (090, 61; 022, 0)		dep. contact - dep. contact fracture upward fracture (no offset)
								fracture (2) (090, 4; 350, 0)		
								type 3 fracture (3) (090, 35; 180, 4)		
								fracture 111-115 (270, 8; 000, 2)		

~~97-98~~  
in description

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer: M.W. J.M.	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG			
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

Soupy & brecciated

5~22, coherent biscuit

} breccia (biscuit)?

} fracture  
270 35

42~47, fracture  
— (270, 35)

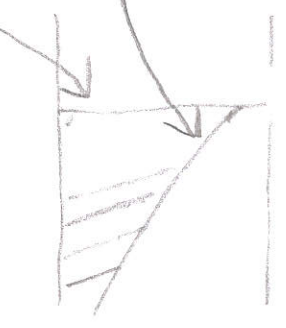
62~67, fracture  
— (270, 40; 28, 0)

} breccia, biscuit?

fracture: 71~77  
(090, 56; 10, 0)

85~86, fracture  
(090, 0; 000, 0)

85~90, (270, 54; unknown)  
unknown offset shear of sense



96~98, fault (090, 33; nonplanar & offsets sand layer)

119~125: bedding  
(270, 45; 30, 0)

129~136: fault (270, 31; 68, 0)

136~141: bedding, (090, 4; 10, 0)

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
-0	bed										
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

WRND  
WRND

5~7 : (090, 5)  
 0~8, fracture (090, 63; 036; 0),  
 7~12, (090, 42; 39, 0)  
20~23, irregular bedding  
 (270, 25; 000, 18)  
 26~29, fracture - fault  
 (090, 38; 50, 0)  
 33~36 irregular bedding  
 (270, 34; 31, 0)  
 36~40: fracture  
 (270, 50; ...)  
 59~61: randomly orientated fractures in  
 coherent biscuit  
~~74~~  
 75~76: (270, 5; 000, 0)  
bedding  
72-78, fractures, (270, 50; ~~0~~ 10, 0)  
 74~77, fractures, (090, 38; 014, 0)  
 ↓ offset: 1mm,  
 fractures set:  
 set 1: (270, 15;  
 set 2: (270, 45  
 set 3: (090, 10;  
 set 4: 1mm offset ) very weak  
 86~106: biscuits  
2-4 cm spacing

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

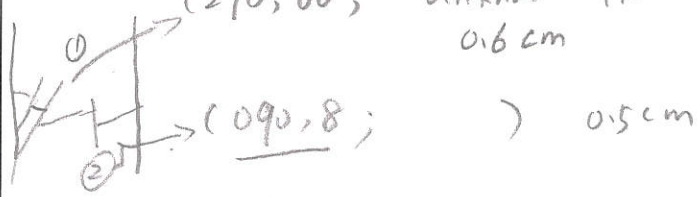
3, bedding (090, 5; 000, 0)

10~15, fault; (090, 54;  
~~non-planar~~  
 intersecting fault, 1cm offset

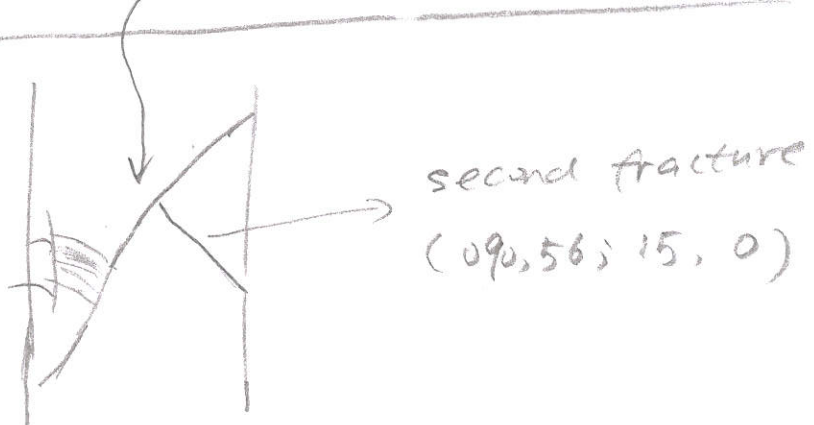


18~19, bedding, irregular bedding (270, 3; 000, 37)

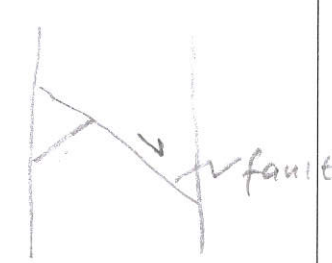


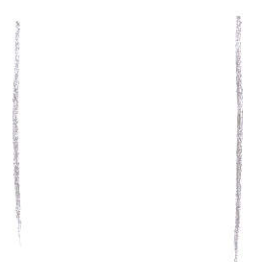
47~49, fault  
 (270, 60; unknow offset), thrust sense  
 0.6 cm



52~56: (270, 55, 0/2, 0) Unknow offset



second fracture  
 (090, 56; 15, 0)

Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W. J.M.	19/3
								2-4, bedding (270, 20; 000, 12) ; fault (high angle (270, 81); ) intermiddle offset 5-14, flow sedimentary fabric		
								43-46 fault (090, 35; 000, 3)		
								bedding		
								57 fracture offset Set 1: (090, 54; 30, 0)		
								56-58: (090, 22; 180, 21) fracture.		

CM Scale

0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28  
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48  
-50  
-52  
-54  
-56  
-58  
-60  
-62  
-64  
-66  
-68  
-70  
-72  
-74  
-76  
-78  
-80  
-82  
-84  
-86  
-88  
-90  
-92  
-94  
-96  
-98  
-100  
-102  
-104  
-106  
-108  
-110  
-112  
-114  
-116  
-118  
-120  
-122  
-124  
-126  
-128  
-130  
-132  
-134  
-136  
-138  
-140  
-142  
-144  
-146  
-148  
-150  
-152



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											



bedding  
 17~18: (270, 3; 180, 2)

47~58: a lot of microfractures

53~56: irregular bedding  
 (090, 30; 000, 10)

88~90:  
 bedding (090, 35;  
 normal (270, 40; 180, 14)  
 faults

90~98: fracture set  
 (270, 47; 180, 3)

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	ASTAF	3/19/18
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24	little fault see below										
26											
28	fault										
30											
32											
34											
36											
38											
40	bed										
42											
44											
46											
48											
50											
52	fault										
54											
56	bed										
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80	fracture zone										
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

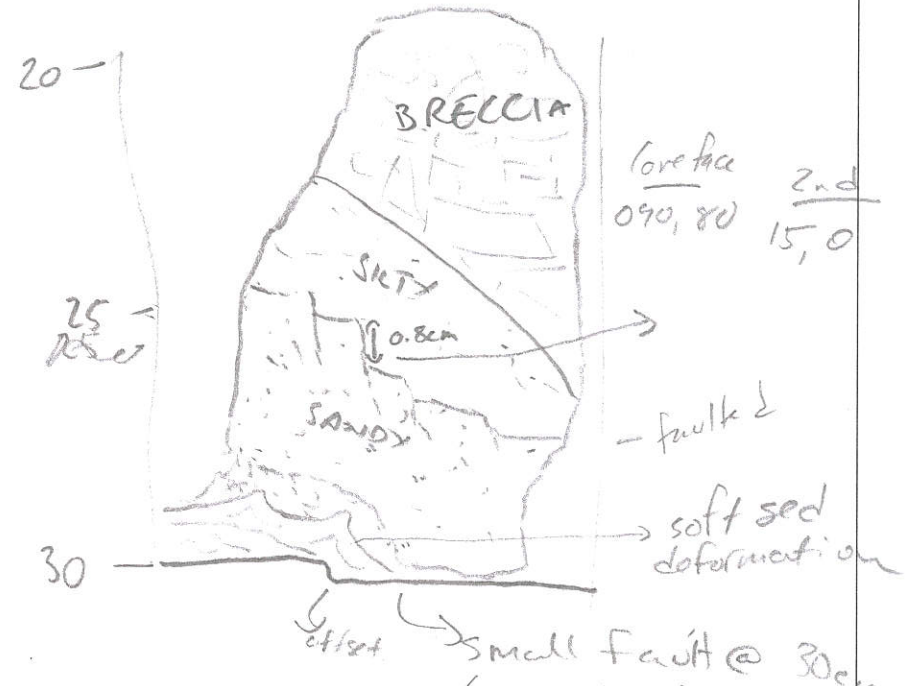
file 2  
 @ 7-14 cm ^ fracture mesh, measurement taken @ the bottom boundary, thickness = 2.5 cm

file 6  
 @ 14-17 cm tiny ^ fractures, > 1cm spacing, irregular

@ 17-20 cm - destroyed

@ 20-27 cm - brecciated, clast size from 1mm - 2cm

@ 23-30 cm = sandy layer, offset by several tiny faults, <math>\delta = 0.8\text{ cm}</math> offset,



@ 41 cm bedding, sharp

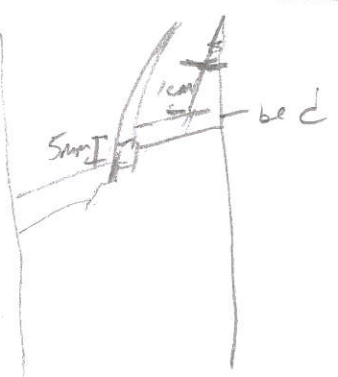
@ 40-56 - small fractures, nothing systematic

@ 56 bed is off set normally, offset = 5mm

@ 51-56 -> normal fault

@ 57-59 -> fracture zone, roughly bedding parallel

@ 81-85 fractures zone, up to 1cm wide

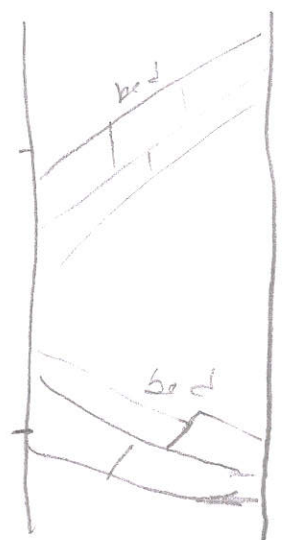


CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/19/18
0											
2											
4											
6											
8											
10	fract zone		090	36	000	12					
12											
14											
16											
18											
20											
22											
24	fract zone		090	8	000	6					
26											
28											
30	bed		270	24	000	10					
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60	bed		090	45	180	7					
62											
64											
66											
68											
70											
72											
74											
76											
78			090	30	180	25					
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116	fract		090	60	347	0					
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

0-8 cm destroyed  
 from 9-16cm - 4cm wide zone of fractures  
 from 22-27cm - incipient zone of fractures

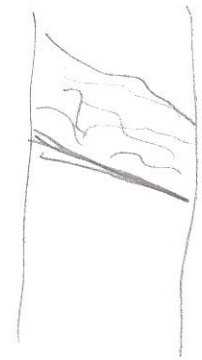
29-67 - fold hinge

@ 30 bed = 270, 24, 000, 10  
 fractures fan around the fold hinge, small offsets



@ 61 bed = 090, 45, 180, 7  
 Also bedding parallel fractures, prob fold related

@ 77-85cm → brecciated zone, prob fault but no displacement markers



→ black zone on bottom, < 1mm

@ 114-119 - filled fracture

DD: brecciated moderate



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/19/18
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28	fault		090 16	000 6							
30											
32											
34											
36											
38	fault		090 50	355 0							
40											
42											
44											
46											
48											
50											
52											
54											
56	bed		270 2	000 29							
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

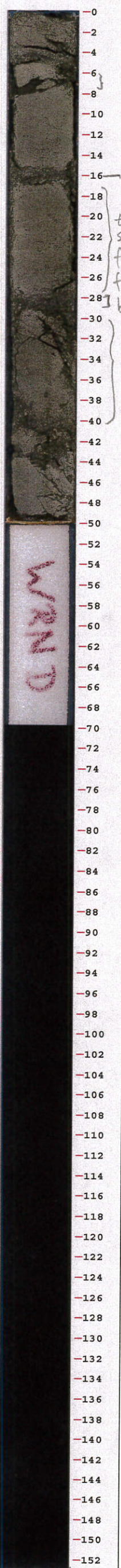
Less fractured interval more generally, not many of the filled fractures/fracture networks seen earlier

@ ~~27~~ 27-31 cm 1cm thick bedding parallel fault, sharp bed w/ ~1cm of brecciation above

@ 38, small fault, normal offset

← ~~X~~ missing

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M. W	20/3/2018
0											
2											
4											
6	bedding										
8											
10											
12											
14											
16	biscuit										
18											
20	two sets filled frac										
22											
24											
26											
28	biscuit										
30											
32	fracture sets										
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											



bedding  
biscuit  
two sets filled frac  
biscuit  
fracture sets

bedding consistent from 0-29cm, broken up below

6-7, bedding

16, biscuit

17-28, two sets filled fractures, sub-horizontal & inclined anastomosing

28-29, biscuit

30-40, fractures sets: two sets (brecciation?)  
- inclined, open fractures (how much drilling disturbances?)

45-46, bedding offset by cross-cutting faults

basal clay is coherent.

27-29: bedding (090, 13; 000, 15)  
inclined fracture

fracture set { 22-27, fracture (090, 52; 000, 9) filled  
fracture (270, 3; 000, 12) filled

fracture, 35-37, (270, 30; 000, 14) filled

44-46, probably filled fracture now open, fractures set (270, 57; 000, 0)

Summary  
Coherent turbidite sequences w/ minor filled fracture + normal faulting, ~cm-spacing b/t fractures

Ask Tim re: close-ups

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	AF	2013
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

CM Scale  
0  
2  
4  
6  
8  
10  
12  
14  
16  
18  
20  
22  
24  
26  
28  
30  
32  
34  
36  
38  
40  
42  
44  
46  
48  
50  
52  
54  
56  
58  
60  
62  
64  
66  
68  
70  
72  
74  
76  
78  
80  
82  
84  
86  
88  
90  
92  
94  
96  
98  
100  
102  
104  
106  
108  
110  
112  
114  
116  
118  
120  
122  
124  
126  
128  
130  
132  
134  
136  
138  
140  
142  
144  
146  
148  
150  
152

clay blocks  
separated by sandy  
intervals w/ flow/compaction fabrics

bedding, 15~16, (090, 13; 180, 12)

Sand w/ subhorizontal bands  
of interest

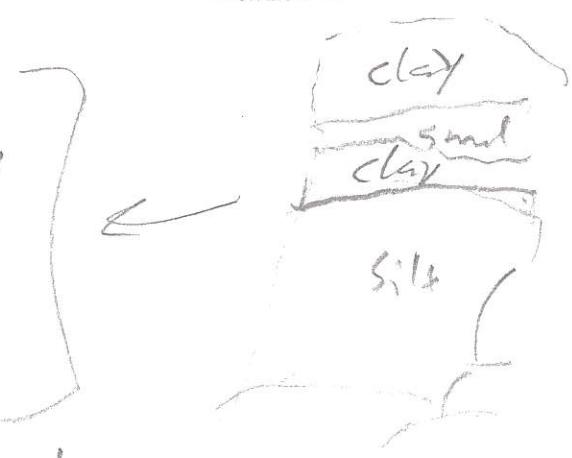
27-30, intersecting fracture fault, compaction bands, black seams...  
31~35, fracture, (270, 34; 180, 39)  
39~43, intersecting bands and sands, and relief.  
Shallow (090, 7; 180, 70); (090, 50; one)

Coherent clay block (w/ minor fractured and weak horizontal fabric)

Faulted gradual clay-sand contact with soft sediment sand flow

dense fracturing, 0.5/cm spacing

angular clay blocks separated by sand  
subhorizontal, apparently shelled boundary



clay blocks with subhorizontal + inclined sand-filled boundaries, - silty interval

~90-92  
Sand grading upwards into clay -  
Web structures in sand - unusual

fracture  
82-83, (270, 24; 180, 15)

103-112  
Rotated blocks of coherent clay w/ subvertical sandy injection

105~112, sand injection

104-105 - complicated web structure

from 94-97 filled  
@ 95cm - fracture (270, 13; 090, 2)  
↳ looks like a set  
~1cm spacing

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	AF	20/3
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

Sand/clay interval with  $\leq 5$  mm slip  
 Intensely fractured fine unit  
 clay with steep open fractures and intense zone of filled fractures  
 clay, coherent w/ vertical open faces and weak horizontal fabric on echelon  
 brecciated (~5 cm block) clay block with filled fractures  
 clay biscuit w/ filled fracture webs

normal fault 0-6, 2-3 mm offset  
 preserve some  
 spacing: ~1 cm  
 low angle fracture 1: (090, 25, 000, 50)  
 high angle fracture 2: (090, 15, 000, 3)  
 \*terminology - closed fracture fragment  
 12-28: filled fractures set  
 spacing 0.8-1 cm  
 five fractures set 2: (090, 84, 344, 0)  
 28-39: open fractures  
 (090, 39; 180, 10) → filled vertical fractures  
 49-50: bedding (090, 5; 180, 3) uncertain  
 45-49, fault (090, 45; 180, 17) → normal offset = 3 mm  
 50-70: fractures increasing density fractures - spacing, 5 mm - 3 cm  
 53-58, incline sand layer one of fractures: 1 (090, 42, 000, 2) 2 (270, 51)

Note, this section is best example of how hanging wall deforms  
 - web structure → filled fractures  
 - "vein", fracture complexes  
 - normal faulting

Clay - dominant, very little sand here → could be extruded during drilling, or real

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	<del>AF</del> AF	20/3
0											
2											
4											
6		biscuit b.									
8											
10		biscuit b.									
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											



↑ coherent clay w/ minor fracturing  
 ↓ destroyed sandy interval  
 ↓ coherent (squashed) clay

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
-0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

CM Scale  
-0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28  
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48  
-50  
-52  
-54  
-56  
-58  
-60  
-62  
-64  
-66  
-68  
-70  
-72  
-74  
-76  
-78  
-80  
-82  
-84  
-86  
-88  
-90  
-92  
-94  
-96  
-98  
-100  
-102  
-104  
-106  
-108  
-110  
-112  
-114  
-116  
-118  
-120  
-122  
-124  
-126  
-128  
-130  
-132  
-134  
-136  
-138  
-140  
-142  
-144  
-146  
-148  
-150  
-152

Core-face orientation  
2nd app. orientation  
Core orientation  
Summary:  
Observer:  
Date:

Comments/Sketches

Squashed clay/sand sequence  
14~15, (not sure... bedding parallel) fracture (090, 10; 000, 11) open

Horizontally foliated clay  
11~19, open fracture, (090, 64; 000, 42) offset 0.6 cm

w/ steep (60-70°) dipping, indeterminate faults  
21~27, open fracture, (270, 42; 180, 45)

biscuit b.  
33-34, bedding parallel fracture (090, 12; 180, 10)

biscuit b. horizontally foliated clays (weakly)  
39~41, (270, 55; 000, 41) open fracture

biscuit b.  
43-45, fracture open (090, 25; 180, 14)

= foliated clays (weakly)  
47-48, bedding parallel fracture (090, 7; 000, 4)

Strongly foliated clay + biscuit b.

coherent clay, foliated near base by biscuit boundary  
61-77: Fault Normal, 2cm separation 000/2; 090/70

clay steep fault with 5cm in-fill and rotated bedding on the right

77: Sand/clay bed (090, 0; 000, 5)

77~84, incline bedding, (090, 64; 000, 6) highly uncertain

79, b, fracture, (090, 4; 180, 26)

87-90: two intersecting open fracture (090, 65; 180, 20) (270, 64; 180, 25)

77-78, 1cm thick, highly fractured subhorizontal fracture-bound silt layer (subhorizontal)

relatively coherent clay

Squashed sand

relatively coherent but horizontally foliated clay

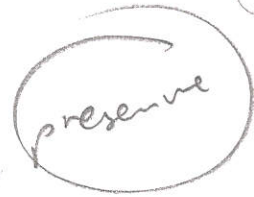
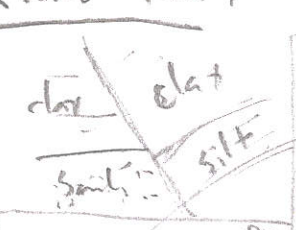
111~116, fracture, filled (090, 47; 000, 77)

112~123, high fractured, chaotic, web-like filled.

110-117 preserve

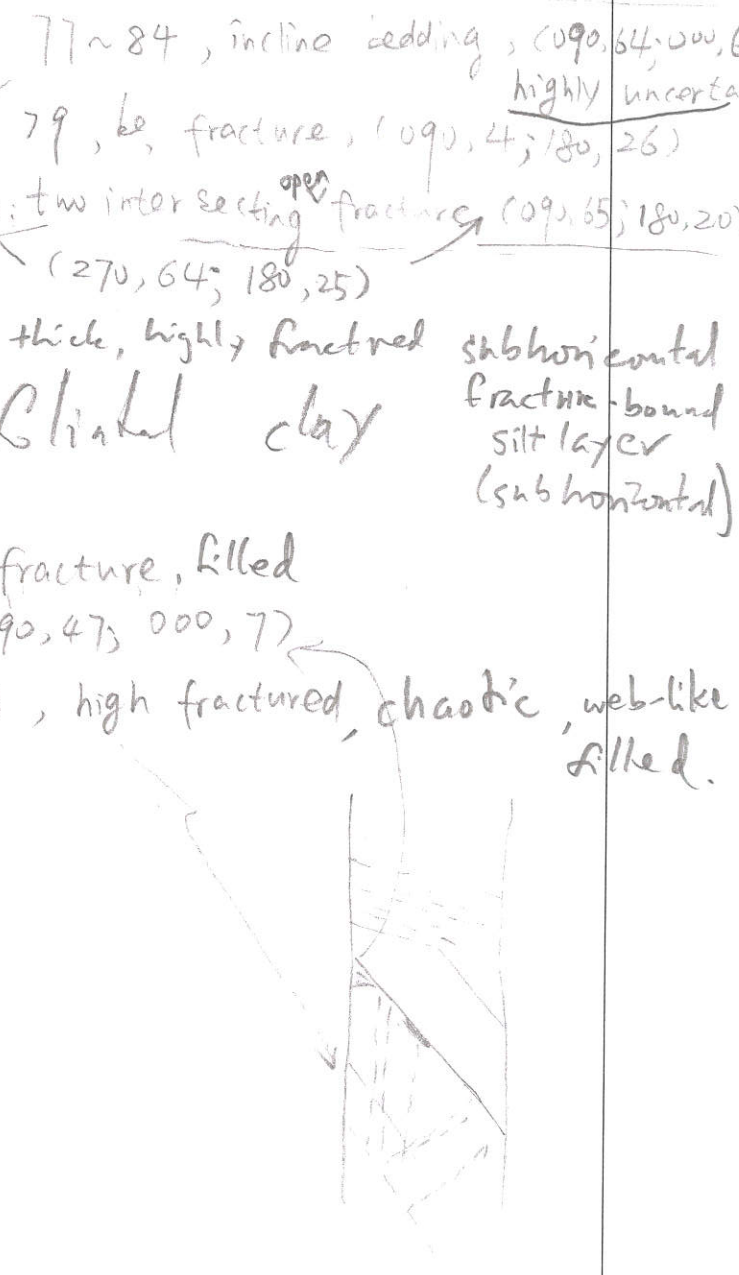
faulted clay block

preserve



three fractures open  
1: (090, 51; 180, 17)

77: Sand/clay bed  
(090, 0; 000, 5)



WANT

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W	20/3
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

CM Scale  
0  
2  
4  
6  
8  
10  
12  
14  
16  
18  
20  
22  
24  
26  
28  
30  
32  
34  
36  
38  
40  
42  
44  
46  
48  
50  
52  
54  
56  
58  
60  
62  
64  
66  
68  
70  
72  
74  
76  
78  
80  
82  
84  
86  
88  
90  
92  
94  
96  
98  
100  
102  
104  
106  
108  
110  
112  
114  
116  
118  
120  
122  
124  
126  
128  
130  
132  
134  
136  
138  
140  
142  
144  
146  
148  
150  
152

6-8: biscuit boundary (sandy)

off 5<sup>th</sup> bed of clay, thin fractures

22 green clt non-systematic, filled fractures, 2-3 cm spacing. Relatively intact

damage zone below fault < 2cm wide fracture network subparallel to the fault.

preserve

same thing

0-13, ~~sand~~ <sup>mid</sup> layer, fracture induced by drilling. (open, 090/90; 000/00)

13-14, bedding sand; (090, 13; 000, 9)

14-21, very minor two sets fracture

21-33, minor filled fractures

33-38, sand bedding offset by fault

36-40, fault, (270, 39; 180, 18)

44-55, two sets filled fractures

56-82, (270, 42; 180, 16) 1cm spacing

(270, 28; 180, 19) mainly near fault

- Filled set 2 at ~5cm spacing, with fine, parallel, discontinuous fractures a few mm spacing in between main fractures.

71-78, bioturbated offset by small fractures/faults - spacing ~1cm

70-86, anastomosing fractures in clay, extend downwards into sand - web structure (sort of)

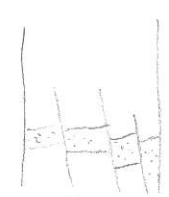
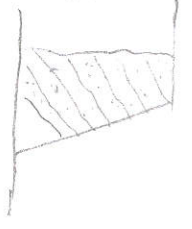
82-87, sand layer offset by 3 faults (high angle)

dipping to 90

normal fault set

Apparent offset ~ 8mm

1 (090, 67; 000, 0)



WRND

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W	20/3
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22	filled fracture		270	60	006	0					
24											
26											
28											
30											
32	fracture		040	68	012	0					
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80	pressure										
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

0-15, two sets fractures  
 set 1: open fracture  
 set 2: ~~tiny open fracture~~ } 0~33 green clay  
 2-6, open fracture (090, 42; 180, 16) 1/4 sand beds  
 " " (090, 45; 180, 15)  
 12-14, bedding (270, 18; 180, 8)  
 19-21, bedding (090, 38; 180, 6)  
 23-28, Sand bed (22-25, little blobs of clay in sand  
 30~33, fracture (filled) rip-up clasts?)  
 31~38, grey clay offset by fault, normal offset = 1.5cm  
 39~67, green clay 43-53, fracture  
 44-53, filled fracture (090, 74; 025, 0)  
 61-64, bedding (090, 24; 000, 14)  
 Sand

76-88, bioturbated layer  
 two sets fracture  
 ① 81-84 (270, 62; 000, 27) - uncertain orient  
 ② very low dip on core face,

75-79, filled fractures complex  
 81-88, intersecting irregular filled fractures

See core catcher for fractures

Summary:  
 mostly clay-rich units w/  
 thin sand beds, moderate  
 faulting + fracturing, moderately  
 dipping beds



CM Scale  
 -0  
 -2  
 -4  
 -6  
 -8  
 -10  
 -12  
 -14  
 -16  
 -18  
 -20  
 -22  
 -24  
 -26  
 -28  
 -30  
 -32  
 -34  
 -36  
 -38  
 -40  
 -42  
 -44  
 -46  
 -48  
 -50  
 -52  
 -54  
 -56  
 -58  
 -60  
 -62  
 -64  
 -66  
 -68  
 -70  
 -72  
 -74  
 -76  
 -78  
 -80  
 -82  
 -84  
 -86  
 -88  
 -90  
 -92  
 -94  
 -96  
 -98  
 -100  
 -102  
 -104  
 -106  
 -108  
 -110  
 -112  
 -114  
 -116  
 -118  
 -120  
 -122  
 -124  
 -126  
 -128  
 -130  
 -132  
 -134  
 -136  
 -138  
 -140  
 -142  
 -144  
 -146  
 -148

Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	J.M / M.W	20/3
								2-21, measurements		
								① (090, 25; 180, 16) ⑥ (090, 23; ② (090, 26; 180, 23) ⑦ (090, 16; ③ (270, 45; ④ (090, 34; 180, 22) ⑤ (270, 2; (180, 11) * AKK ENTER 180, 16 Breccia zone bedding contact with sand BY AKK Breccia zone BY AKK bedding contact with sand BY AKK filled fracture sets Set 1: (090, 23; - spacing - 3cm Set 2: (270, 29; - (270, 33; 180, 10) - open fracture 42-45 fracture: (270, 35; 180, 15) } spacing 3-4 cm ↑ parallel 51-53: fracture 42-43, bedding, (270, 4; 000, 8) 49-54 fracture (090, 71; fracture set 1 offsets bed normal - and complex set of filled fractures - see core photo 48-52 - fault (270, 50; 000, 25) → 49-50: offset 1cm (min) 66-74, fault (090, 53; (unknown off set, probably normal) 180, 19) drag 75-77, dark <del>band</del> band (270, 21) 82-84, lamination, bedding (270, 15; 91-120, mixed lithologies in variably dipping layers 91-92: ①: Contact (270, 8; 180, 43) with ② (270, 0; similar dip ①) ③ (270, 28; ④ (090, 23; 180, 67)* ⑤ top of white: 112-117, (090, 42; ⑥ (090, 18; 180, 22) dark sand lam coarse white dark		
								preserved flow banding - fractures shears ? 2) + e) = breccia boundaries all ones filled fractures preserved fracture complex w/ "breccia" 57 (270, 2; 000, 26) mineralized fracture (pyrites) (curved, 0.5 cm wide) fine layer w/ sulfides diseased preservation of flow fabrics preserved * small, filled fracture set from (105-113 cm) sub-parallel to layering, mm-spacing		

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	F.M.	2d3
0											
2											
4											
6											
8											
10											
12	} preserve part										
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44	} preserve										
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110	} preserve										
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

0-11 cm relatively coherent silty clay  
 bottom is a discrete fracture  
 zone w/ mm-scale brecciated  
 clasts

// to bottom is interval system of  
 intersecting fractures - subparallel  
 to the core

11-23 cm - similar to above  
 below highly fractured by  
clasts

25-43 relatively coherent silty  
 clay - w/ layers of clasts  
 sandy silt - intersecting  
 fractures w/ but less spaced

43-57 cm discrete silty clay  
 ↓  
 46-54 dense array of  
 intersecting fractures +  
 displacement w/ possible normal  
 displacement ⇒ gives brecciated  
 aspect to the core

57 → Bottom core: fracture intensity  
 decreases. Bedding bedding  
 more visible -  
 Bedding are evident

✓ (92-94) possible flow structure between  
 layers

(112-113) possible flow structure

(113-114) highly brecciated layer

T  
W

CM Scale



Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W / J.M	20/3
								<p>✓ - orientation input Desklogik</p>		
								<p>48~50, probably fault ✓                      ↳ (270, 11; 000, 60)                      [* look for slip lines]                      - shiny fault surface check when sampled</p>		
								<p>54~55: (270, 17; 000, 60) ✓                      fault</p>		
								<p>56~62: fault (270, 55; 010, 0) ✓</p>		
								<p>three open fractures ✓                      80~86: ① (270, 75; 34, 0)                      ② (090, 20; 000, 30)                      ③ (270, 40; 000, 34)                      ④ (090, 75)</p>		
								<p>93~94, intersecting fracture                      ① (270, 17; 000, 24)                      ② (090, 48; 180, 51)</p>		
								<p>98-102: fractures (090, 69; 345, 0) ✓                      fault: 113~117, (270, 35; 000, 40)                      fault: 121~123, (090, 10; 180, 45)</p>		
								<p>127-end = incoherent, brecciated material, one intact piece                      134-144, elongate, fracture-bounded fragment                      (090, 50; 180, 17) ✓</p>		

Flow banding

preserve slickensided fault  
 preserve flow fabric

preserve breccia w/ round flow fabrics  
 - i.e. 2...

fracture fabric preserved

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	F.M.	20/3
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

more intense drilling disturbance

0-26: biscuit with visible inclined bedding -  
 a couple of discrete fault faults

26-33 on biscuits with silty sand showing "ductile" deformation defined by bands of different color ductily folded together → flow Bracia

33-73 relatively coherent sets of intersecting fractures intensity of brecciation increase from ca. 56 cm to bottom of domain that is disturbed

→ 50 cm discrete fracture - the fracture plane shows metallic luster and striations

(59-60 cm) "ductile mixing" between bands of different color visible → flow Bracia

(88-90) brecciated domain (flow?) 80-100 cm biscuit w/ relatively coherent silty clay w/ intersecting fractures

→ 92-94 discrete fault w/ small offset

→ slightly squeezed sandy silt

110-127 relatively coherent, slightly brecciated silty clay by intersecting fractures.

(120-122) = possible primary structures?

→ squeezed sandy silt

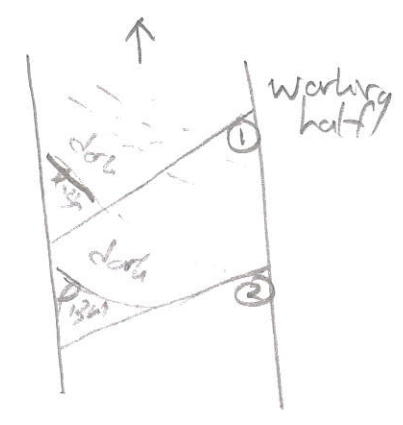
CM Scale  
 -0  
 -2  
 -4  
 -6  
 -8  
 -10  
 -12  
 -14  
 -16  
 -18  
 -20  
 -22  
 -24  
 -26  
 -28  
 -30  
 -32  
 -34  
 -36  
 -38  
 -40  
 -42  
 -44  
 -46  
 -48  
 -50  
 -52  
 -54  
 -56  
 -58  
 -60  
 -62  
 -64  
 -66  
 -68  
 -70  
 -72  
 -74  
 -76  
 -78  
 -80  
 -82  
 -84  
 -86  
 -88  
 -90  
 -92  
 -94  
 -96  
 -98  
 -100  
 -102  
 -104  
 -106  
 -108  
 -110  
 -112  
 -114  
 -116  
 -118  
 -120  
 -122  
 -124  
 -126  
 -128  
 -130  
 -132  
 -134  
 -136  
 -138  
 -140  
 -142  
 -144  
 -146  
 -148

Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
								4-33, finely "laminated" color banded layers, contorted into fold w/ sub horizontal fold axis		
								- truncated by irregular boundary (sand?)		
								- small "phacoids" aligned w/ layers 4-8mm long		
								- cut by planar normal fault at base, offset block layer 13mm (some foliated fractures x-cut)		
								① (090, 47; 000, 3) low confidence		
								33~64: fractured mudstone.		
								33~56: closely spaced vertical fractures upper boundary		
								56~65: irregular fractures		
								② fold limb (090, 19; 12, 0)		
								③ (270, 12; 000, 10) but curves Subhorizontal on west side		
								65~86: fractured mudstone.		
								✓ mud with filled fractures two		
								set 1: (090, 58; 80, 14)		
								set 2: (270, 82;		
								set 3: horizontal breccia.		
								84~85: injection (primary mud)		
								✓ contact: 84~86 (270, 10; 090, 2)		
								high pyrite clast pyrite clast		
								*43-49, two sub-parallel faults (Savage sample)		
								① fault (270, 35; 180, 47)		
								② fault (270, 14; 180, 46)		
								- measured on archive half		

preserve most-up photo  
 - folded flow fabric  
 - mylonitized flow fabric  
 - injection contact?  
 - isoclinal fold  
 - faulted flow fabric

Heather sample adjacent

preserve injection fault  
 & flow breccia



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	Heather	3/19/18
0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

preserve

0-105 - more fracture  
 0-30 cm - folding  
 fold limbs fairly steeply dipping (also?)  
 - mylonite fabric  
 - isoclinal? ~ 28 cm  
 - small normal fault offset ~ 1 cm  
 - offsets layered area ~ 3 cm wide  
 - diff grain size, color  
 bit impure, unclear  
 -32-65 cm - more brittle fracture  
 - below this is a  
 zone  
 - subhorizontal bedding?  
 71-72 cm - sandy layer  
 86-87 - sandy layers  
 @@@@ part

Injector feature, preserve



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	J.M / M.W	
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											

preserve representative fracture associated w/ main dip zone

@ 35cm fracture foliation

@ 37cm fracture foliation

preserve possible flow banding

@ 104 - subhorizontal boundary between highly brecciated unit above and contorted sandy unit below. Marked by 1-2mm thick black layer that is offset by small normal faults (offset ~ 4mm) (see small slides)

preserve sand hanging wall down (per fabric) - fractures at top - overprint ductile - less obvious at base

@ 119 61 090 180 7 filled fracture

0~33 intensely fractured to disintegration although maintains fracture "fabric" (could be drilling induced).  
 - Also preserves color domains.  
 [note, working half surface destroyed]

13~16: black seam: (090, 45); 13/180  
 ✓ 9~11, color boundary: (270, 28); reliable  
 ✓ 2~26: fracture (270, 53; 180, 50)

33 color banding + fracture foliation

54~56, bioturbation, (270, 6; 180, 15) - approximately bedding  
 64: bedding (090, 10; 180, 10)

66~68, fault (270, 28);  
 ✓ 66~67, fault (270, 27; 090, 9)  
 69~74, highly fractured  
 78~104, highly fractured material -  
 = intensely brecciated, essentially destroyed.  
 Possibly real tectonic def<sup>m</sup>.  
 Breaks into sub-mm to 5mm fragments  
 May have a fine cement (weak) but this could be drilling induced.

105~147, highly contorted sand lenses in soft mud, laminations quite evident, folding, truncations of layers etc. - not bi-symmetrical  
 - locally dark bands, possibly shear surf e.g., 138-141  
 - cross-cut by planar fractures (filled)

118~120: fracture (090, 50; and (090, 27);  
 110-114: fractures approach sand lens

overall more deformed than any hw rock → inferred to be a deformed hw lens (high intensity).



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
-0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

0-32, highly brecciated zone, fragments  
 1mm - 5mm  
 - some undisturbed regions (note,  
 disturbed on archive half)

- possible biscuit ← fracture foliation  
 733-47, fractured & brecciated, but intact  
 - oriented fractures in pods (or biscuits)

747-57, coherent bioturb. mud, one  
 fault

757-104, fractured & faulted fragments  
 with increasing intensity w/ depth  
 to extreme brecciation, mm scale  
 - series of discrete faults  
 alternating w/ brecciated zones  
 (how much is drilling dist)

7105-122, anastomosing fractures, many  
 low angle, in coherent zone  
 - some offset sand layers

7122-150, alternating mud & sand at  
 cm scale; sand marks offset  
 and disaggregated; color variants  
 suggest sediment flow & shear  
 (e.g., 138-141); juxtaposition of  
 different orientation domains  
 (Q: tectonic or drilling disturbance  
 - or both)

CM Scale

-0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28  
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48  
-50  
-52  
-54  
-56  
-58  
-60  
-62  
-64  
-66  
-68  
-70  
-72  
-74  
-76  
-78  
-80  
-82  
-84  
-86  
-88  
-90  
-92  
-94  
-96  
-98  
-100  
-102  
-104  
-106  
-108  
-110  
-112  
-114  
-116  
-118  
-120  
-122  
-124  
-126  
-128  
-130  
-132  
-134  
-136  
-138  
-140  
-142  
-144  
-146  
-148

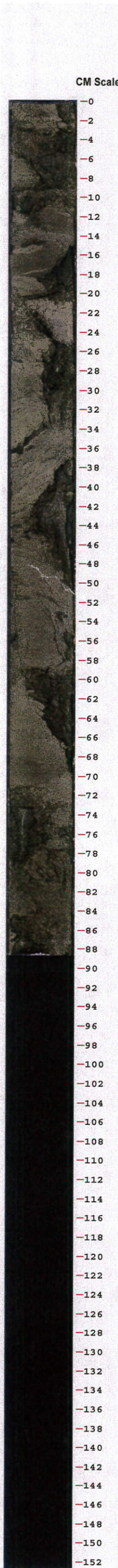
Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	JM / m.w	20/3/2018
								<p>0-5: imbricated inclined faults offset sand layer                      (270, 40; 600, 0)                      - clayey layer characterized by elongate dark layers (probably faultwall-like bioturbation)</p> <p>✓ faults: (090; 75; 000, 5)</p> <p>② bedding (090, 23; ...)                      (090, 13; 340, 0)                      on this surface</p> <p>59-60, bedding (270, 15; 0, 20)                      high confidence                      * intersecting fracture surface                      Archive half part preserved</p> <p>71-89 - highly brecciated section, sub mm - 2 mm pieces of originally fine-grained clay</p>		
										<p>(preserved)                      - brittle structures flow fabric overprint (or bioturb. FW)                      - faultwall derived</p> <p>60-69 - fracture (270, 55; 347, 0)</p>



3: ductile vs brittle

# Expedition 375

# 375-U1518F-14R-2-A | SHLF9421381



Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HSS	3/19/18
								<p>Top ~10 cm has some sub-horizontal layers, cut by west dipping <del>fractures</del> <sup>normal faults</sup></p> <p>28-45 cm = <del>the sand</del> <sup>sub-horiz. w/</sup> area b/t is destroyed, normal faults <del>in opposite dip sense from above</del> faults, v. steeply dipping ~1 cm offset</p> <p>48-71 cm - fewer layers, more massive, some layers convex up <sup>(drilling? prob not)</sup></p> <ul style="list-style-type: none"> <li>- one small normal fault</li> <li>- hard to tell @ bottom</li> </ul> <p>→ thin laminae dip slightly west</p>		

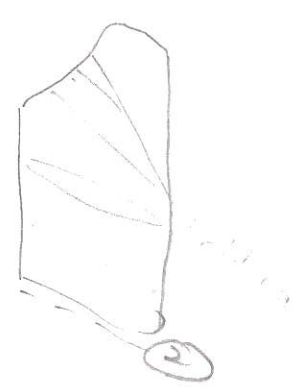
CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16	@ 19	bedding ✓									
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56	bedding ✓										
58	@ 60										
60			270	5	000	19					
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

1-22, bioturbated mud, cut by discrete planar faults - bits 3-15 cm  
Subhorizontal layering

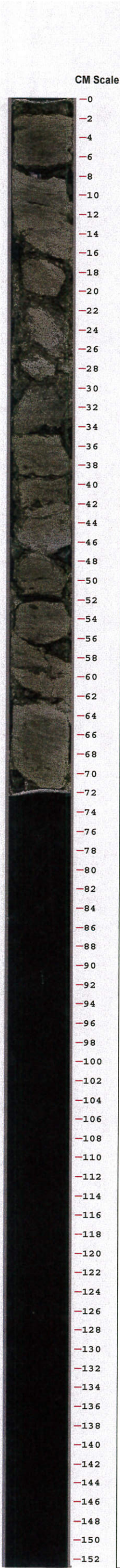
22-27, fault (270, 22; 000, 6) in determinate offset

53-59, fault (270, 61; 180, 4)

Sharp Planar, Bedding



7106-118 fault x-cuts bioturbated sands  
① fault (090, 59; 180, 25) ✓  
② 115-18 fracture (090, 29; 000, 50)



Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	hili	
								0-72, disturbed mud cut by discrete planar faults, broken into small biscuits 2-8cm	subhorizontal layering	
								4-8, low angle faults (270, 17; 180, 4)		
								1-2' bedding (090, 4; 180, 5)		
								8-13, fault, possible thrust (270, 50; 180, 5) w/ 2 cm offset	low confidence	
								31-35, fault (270, 45)	? really?	
								Normal apparent offset of 20mm		
								44-46, low angle fault - normal, ~ 30mm minimum offset		
								57-62, discrete faults in block not measured.	offset not obvious	
								62-64 sandy, possibly biscuit boundary		
								64-72 coherent mud, subhorizontal lamination/bedding.		

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0-63		preserve									0-63, disturbed mud w/ sandy intervals cut by faults of various types - generally coherent beds 18, bedding (270, 4; 180, 4)
721-26											721-26, planar fault, possibly normal (Savage sample) (270, 40; 000, 11)
36-46											Brecciated interval, filled fractures between clast (intensity 2)
749-53											Fault, 2 mm offset (090, 55; no orient)
49-53											49-53, possible fault at biscuit boundary
753-57											753-57, small offset normal fault
765-66											765-66, microfaults offset sand? normal 1-2 mm
796-103											796-103, fault (MAID? sample) (270, 51; 180, 20)
115-120											115-120, possible faulted surface - destroyed? drilling damage?
7120-130											7120-130, faulted, intersecting fractures and faults - sample if you want to measure
126-131											126-131 More intensely fractured interval. Filled fracture: 090/39; 000/18
143											bedding (sand) @ 270 28 180 25

Subhorizontal layering becoming steeper deep in core

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14	bed										
16											
18	ff										
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40	biscuit										
42											
44	frac										
46											
48											
50	ff										
52											
54											
56											
58	hed										
60											
62	biscuit										
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

12-13, bedding (270, 9; 000, 13) low conf  
 14-17, cohesive fault (270, 38 core face)

42-44, microfracture set, poss. drilling dist.  
 50-57 fault (270, 47; 180, 20) med. conf  
 58-60, bedding (270, 27; 000, 0) high conf

Core 16 tends to be less consolidated  
 ↑ than core 17  
 - also characterized by more  
 brecciation, probably largely  
 drilling induced; lots of  
 biscuiting



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10	] face										
12											
14	] bed										
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

8-13, fracture (no offset) (090, 60; 354, 0)

13-14, bed (090, 12; 000, 0)

17-22, fault (270, 34; 180, 8)

- note sliver and black smear along it  
(smear slides confirm abundant clay  
and reduced nanofossil content relative  
to background)

briscut

briscut

78-120, variably oriented fractures,  
closely spaced, anastomosing  
- drilling induced....

123-128, bedding (090, 22; 180, 19)

128-130, fault (270, 45; 000, 0)  
3 mm offset

beds

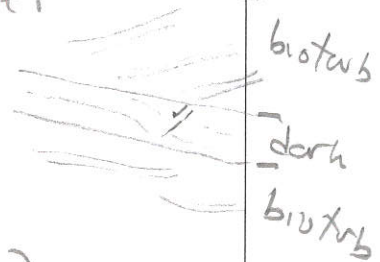
ft



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

13, bedding (270, 20 ; 000, 8)  
 13-16  
 fault, possi offset of bioturb (no visible Aft)  
 fracture 22-24 (270, 50 ; 056, 0) [drill dist?]  
 \*  
 23-35, planar fault, w/ dark smear (1-3 mm thick)  
 - probably normal, due to drag  
 - estimated offset 2 cm (based on poor marker, layer)  
 (270, 61 ; 015, 0)  
 38, bedding (270, 3 ; 180, 5)

bedding  
 61, interesting gray band w/ relief (090, 70 ; 180, 2)  
 - color - looks like biscuit banding, but layers stand in relief  
 - possible bedding  
 (smear slide confirms silt layer, not structural)



83-84, bedding (270, 12 ; 180, 5)

CM Scale  
 -0  
 -2  
 -4  
 -6  
 -8  
 -10  
 -12  
 -14  
 -16  
 -18  
 -20  
 -22  
 -24  
 -26  
 -28  
 -30  
 -32  
 -34  
 -36  
 -38  
 -40  
 -42  
 -44  
 -46  
 -48  
 -50  
 -52  
 -54  
 -56  
 -58  
 -60  
 -62  
 -64  
 -66  
 -68  
 -70  
 -72  
 -74  
 -76  
 -78  
 -80  
 -82  
 -84  
 -86  
 -88  
 -90  
 -92  
 -94  
 -96  
 -98  
 -100  
 -102  
 -104  
 -106  
 -108  
 -110  
 -112  
 -114  
 -116  
 -118  
 -120  
 -122  
 -124  
 -126  
 -128  
 -130  
 -132  
 -134  
 -136  
 -138  
 -140  
 -142  
 -144  
 -146  
 -148  
 -150  
 -152

ft

biscuit??

bed

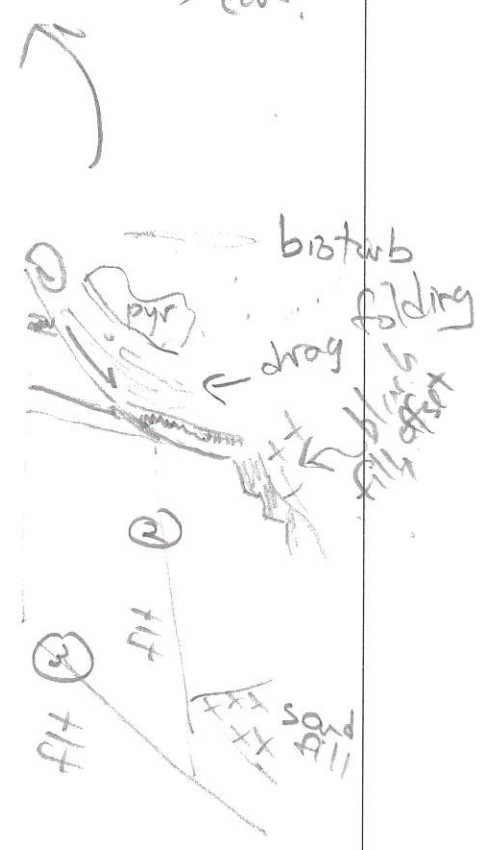
biscuit

M

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

① 14-18, fault normal (090, 50; 180, 2) } low confidence  
 ② 18-27, fault (090, 70; 000, 3) }  
 ③ 27-30, fault (090, 45; 000, 14) moderate conf.

Note, odd pyrite bleb (per smear slides)



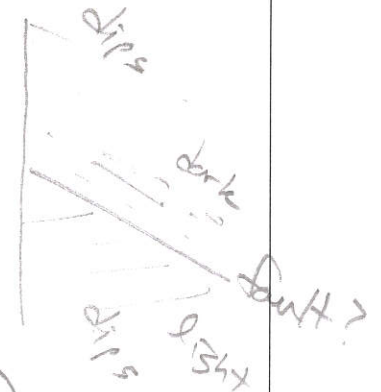
62-69 microfaults, poorly resolved

AH

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12	] fracture										
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42	- biscuit (? not anchored)										
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68	← noted biscuit, axis ⊥ core face x - not in archive										
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

No obvious biscuits, but variable dip domains...

- ✓ 12-17, fracture (270, 56; 051, 0)
- ✓ 19-20, small exposure possible bedding (090, 12; 180, 16)

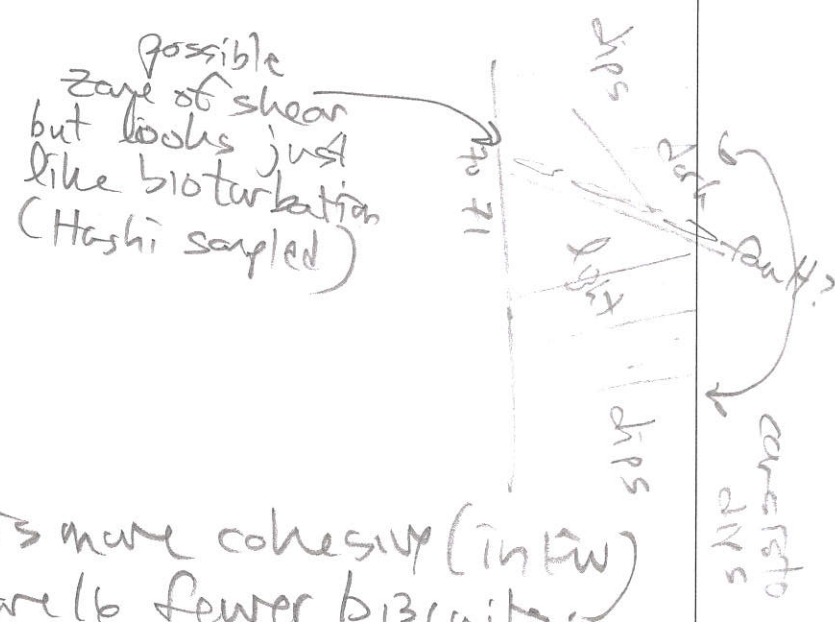


- ✓ 43-53, fracture (270, 82; 026, 0)
- ✓ 46-49, fracture (090, 50; 335, 0)
- ✓ 53-54, bedding (270, 19; 000, 6)

- ✓ 67-68, open fracture (270, 36; 180, 51)  
sand fracture set (270, 15; 180, 30)  
(create closely spaced sets)

- ✓ 69-70, fault (090, 18; 000, 4) 6mm offset
- ✓ 70-71, bedding (090, 11; 000, 0) ← or fault?
- ✓ 83-84, fault (090, 23; ... ) not convinced
- ✓ 84-85, bedding (270, 13; 000, 5)

juxtaposes consistent dip domains



Core 17 is more cohesive (in fw) than Core 16, fewer biscuits...  
- coherent contacts between distinct dip domains, probably faults - indeterminate slip.

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
-0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18		b3cut:									14-18, bedding (270, 9; 000, 2) high cert
-20											
-22											
-24											
-26											
-28											28-29 bedding (090, 13; 180, 15) high cert
-30											(damaged: an archive half image)
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											40-41, bedding (maybe) : (270, 22; 000, 2)
-52											
-54											
-56											
-58											
-60		blob!!									59-61, interesting concentric feature below dark-light boundary
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											74-79, fault : (270, 30; 321, 0)
-78											
-80											72-73 - bedding : (090, 3; 000, 0)
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	J.M./M.W.	21/3/2018
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

15~17, bedding, (090, 13; 000, 0)

31

35~40, fault, (090, 33; 180, 15)

40-41, bedding, (090, 5; 000, 3)

43~46, fault, (270, 20; )  
(probable)

78~79, bedding ( 270, 7; 180, 9)

83-87, fracture (270, 43; 300, 0 )  
open  
- looks like fault, indeterminate  
- may have smear along

W/RND

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	J.M / m.w	21/3/2018
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

bisruit

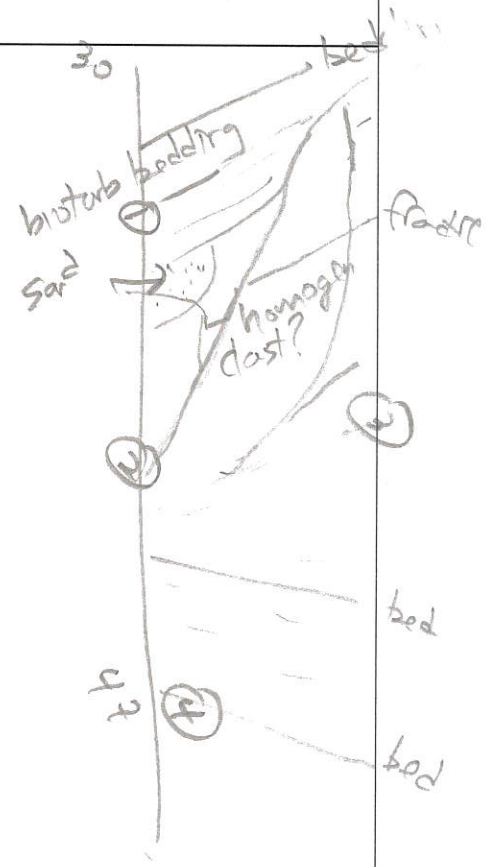
bisruit

32~34  
 ①: (670, 21; 180, 3)  
 38~40  
 ②: (270, 56; 000, 2)

48-49  
 ④: (090, 12; 180, 4)

55~56. bedding  
 (090, 2; 180, 10)

84~86, fault (probably) → (090, 26; )



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	J.M./M.W	21/3/2018
-0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

16~17, bedding, (270, 2; 000, 0)

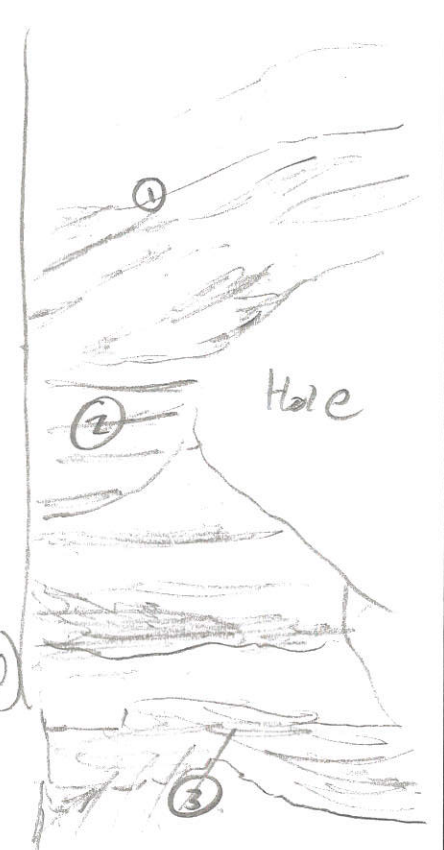
16-20 fault, (270, 25; —) (maybe)

45~46, bedding, (090, 4; 000, 0)

CM Scale

0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28  
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48  
-50  
-52  
-54  
-56  
-58  
-60  
-62  
-64  
-66  
-68  
-70  
-72  
-74  
-76  
-78  
-80  
-82  
-84  
-86  
-88  
-90  
-92  
-94  
-96  
-98  
-100  
-102  
-104  
-106  
-108  
-110  
-112  
-114  
-116  
-118  
-120  
-122  
-124  
-126  
-128  
-130  
-132  
-134  
-136  
-138  
-140  
-142  
-144  
-146  
-148  
-150  
-152

Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	AF T HS	
10 Brecchia boundary		090	2	180	8			represents a consistent bedding 10-23		
23-25 Base of breccia		270	4	180	21			wavy boundary		
25-44 coherent bedding		270	9	000	5					
44-46 Breccia zone								sharp boundary		
46-51 Breccia zone		090	13	180	7			parallel to wavy bedding		
51-66 coherent block										
66-70 wavy boundary, truncates bedding above		270	13	000	5			representative for bedding below		
70-81 S <sub>6</sub>		090	10	180	15					
81-84 normal fault		090	53	180	8			2mm offset		
84-88 Breccia layer - subhorizontal								Breccia clast size up to 2cm (not disturbed)		
88-91 Still bedding										
91-96 Breccia zone in sandy layer, clasts ≤ 3mm (disturbed)										
96-98 Inclined bedding		270	45	180	20					
98-102 TRUNCATION OF BEDDING		090	5	180	5					
102-110 Moderately cohesive < 0.7cm clasts bedding on inclined clast edges		090	26	180	16			98-102 Brecciated Semi-cohesive block with coherent clasts up to 4cm in thickness with recognisable bedding along their edges.		
110-112 RUBBLE - clast size ≤ 3cm										

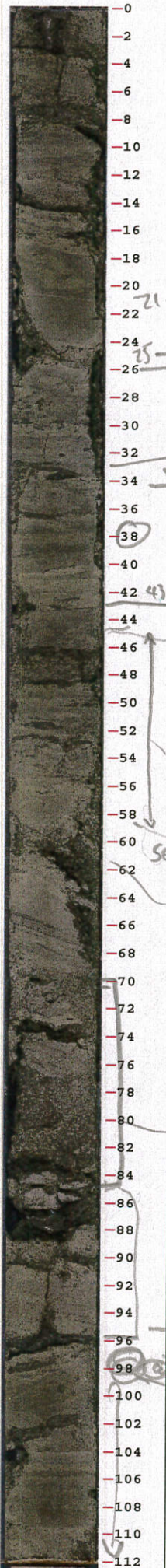


Summary:  
Coherent blocks with subhorizontal to moderately dipping beds, separated by breccia zones. W-dipping bedding domains truncated by subhorizontal beds below.

I  
W



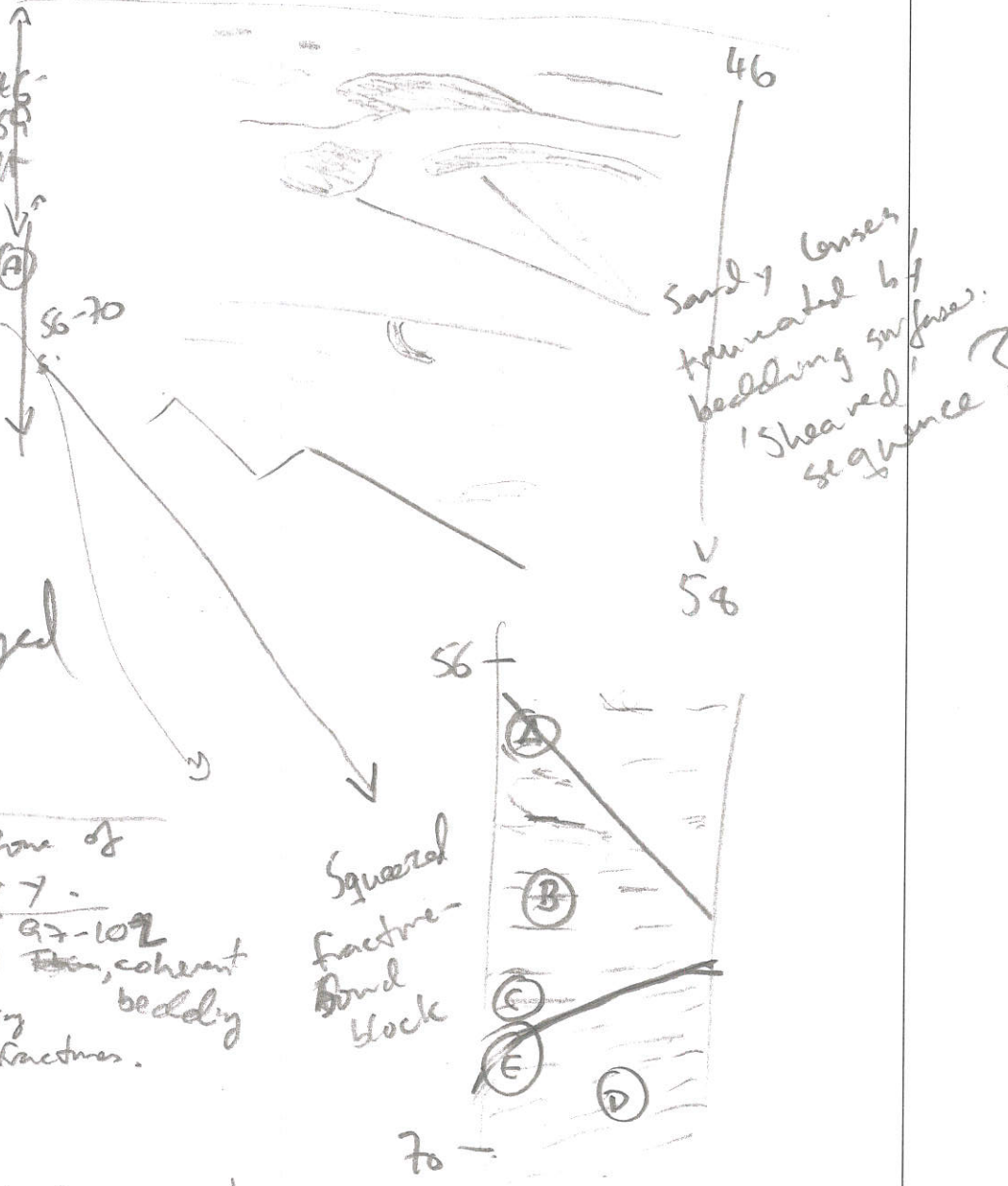
CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											



I  
W

Interval of coherent subhorizontally bedded fine grained sediments with alternating light/dark layers

coherent clay-rich block, much like above



shiny, bedding-parallel, potential slip surfaces

sharp, shiny, S<sub>0</sub>-parallel fracture

Sandy lenses truncated against sharp bedding surfaces; parallel

Filled fracture (with seds matter)

Filled fracture - fault

70-85 - SOUPY, fine gravel, destroyed

85-96 coherent, BEDDED BLOCK

96 - Truncates beds below, cm thick zone of fine slurr

97 - sheared bedding w/ anastomosing mm-scale fractures.

108 - Normal fault - Two parallel strands, 1 cm apart, total apparent offset ~1cm

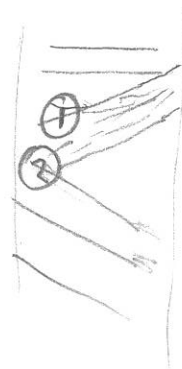
109 - bedding below normal faults

110-112 - intermyla bedding.

Summary: More coherent than section 1. Blocks of gently dipping bedding containing bedding-parallel, bedded shear surfaces. Some cover shear locally rotated beds and ductile shearing, bounded by curved discrete faults.



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG			
										HSTAF	3/21/18
									Comments/Sketches		
	bed		270	10	000	3			0-9cm - ductilely deformed, also slightly brecciated, sand injection, may not all be tectonic		
	fault		270	60	90	0					
	bed		270	7	000	4			9-16cm - subhorizontally foliated clay block		
	bed		270	28	180	2			16-21cm - brecciated section, large clast in middle, grain size < 0.5cm		
	fault		270	43	000	6					
	fault normal		270	60	180	1	representative		21-25cm - normal fault, offset ~1cm		
	bed		090	0	000	1	48-70 cm				
	fault normal		090	53	000	6			24-33cm - bedding interval measured @ 27cm		
									33-41cm - brecciated (DD?) deformed sandy layers		
	fault		270	38	000	6	①		41-52cm - coherent block		
	So		090	16	000	7	②		42-48cm - fault, indeterminate sense		
	fault		090	53	000	0			43-51cm - normal fault, offset = 0.5cm		
									52-61cm dismembered blocks of clay separated by banded sand, small blocks of clay inside, displaced by normal fault, off = 0.5cm		
									71-75cm - indeterminate fault parallel to bedding below ① and terminates against bed at 77cm ②		
									81-88 normal fault, 1cm offset		



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HSTAF	3/21/18
0											
2											
4											
6											
8	bed		090	8	000	4					@ 9cm - sharp bed representative from 0-15cm
10											
12											
14											
16											
18	bed		090	13	000	3					@ 19 sharp bed 15 - 23 cm representative
20											
22											
24											
26											
28											
30											
32	bed		090	17	000	5					from 23-27 cm soft sd deformation - sharp boundary in middle  ( 090, 1 ; 000, 3 )
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											



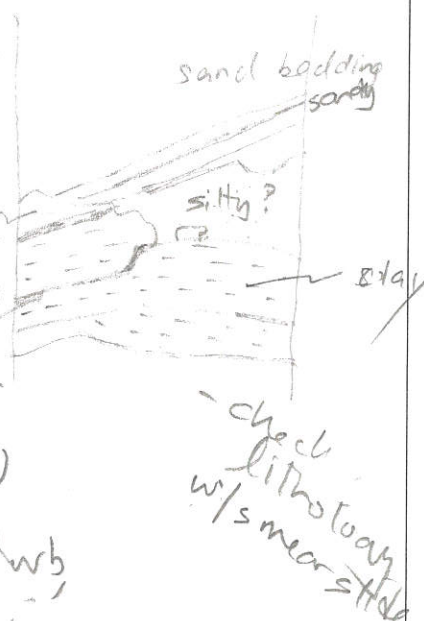
W/NTD

MI





CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W	21/3
0											
2									0~8	Slurry	
4									8~21	bioturbation	
6											
8											
10											
12											
14											
16											
18											
20											
22	biscuit										
24											
26											
28											
30											
32	biscuit										
34									37~39, sandy bedding	37	
36									(270, 10; 180, 25)		
38									39-45, stacked & inclined domains of mud to sand		
40									- irregular contact w/ sand above		
42											
44	biscuit										
46											
48											
50									50~62, bioturbation bands		
52									inclined to core axis	45	
54									50-61 (270, 21 core face)		
56											
58											
60											
62	biscuit								62-75, less elongate bioturb		
64									general inclination		
66									67-68 (090, 20)		
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
-0											
-2	biscuit										
-4											
-6											
-8											
-10											
-12	biscuit										7~38, highly bioturb. ✓ 10, bedding (090, 5 ; 180, 19)
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42	biscuit										38~39, bedding ✓ (270, 15; 000 1)
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											





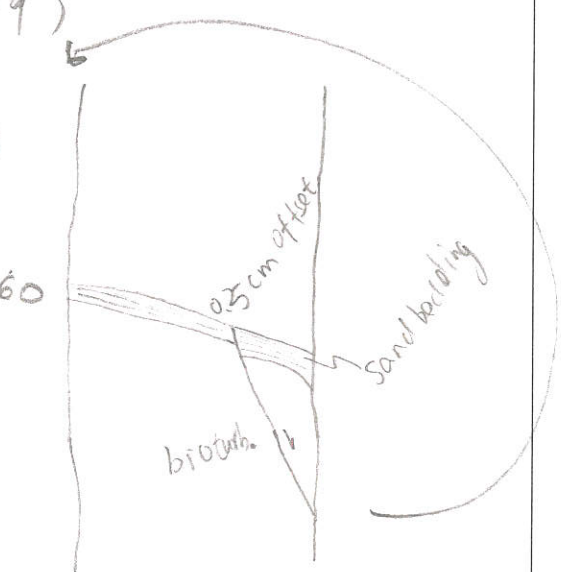
CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M. W	
-0											
-2											
-4											
-6											
-8	biscuit										0 ~ 35, bioturbation
-10											
-12											
-14											
-16											
-18											
-20	biscuit										
-22	biscuit										
-24											
-26											
-28											
-30											
-32											Sand
-34											✓ 35 ~ 37, bedding, (270, 16; 000, 22)
-36											
-38											
-40											
-42											
-44											✓ 43 ~ 44, bedding, (090, 10; 000, 10) little confidence
-46											
-48											
-50											
-52											
-54											
-56											
-58	biscuit										58-60, fault (270, 34; 58-59, fault (090, 3; 000, 10)
-60											
-62											✓ 65-69, bioturbation trend (270, 30 core face)
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											75-77, trend (090, 0; core face)

CM Scale

0  
2  
4  
6  
8  
10  
12  
14  
16  
18  
20  
22  
24  
26  
28  
30  
32  
34  
36  
38  
40  
42  
44  
46  
48  
50  
52  
54  
56  
58  
60  
62  
64  
66  
68  
70  
72  
74  
76  
78  
80  
82  
84  
86  
88  
90  
92  
94  
96  
98  
100  
102  
104  
106  
108  
110  
112  
114  
116  
118  
120  
122  
124  
126  
128  
130  
132  
134  
136  
138  
140  
142  
144  
146  
148  
150  
152

Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	MW.	22/3
								19-22, closely spaced biscuits possible (have cohesive boundaries)		
								✓ 22, bedding (090, 2; 090, 0)		
								✓ 45-46 bioturb/bedding (090, 11; 180, 11)		
								59-66, <sup>normal</sup> fault offset sand layer and bioturb. offset = 0.5cm		
								59-66: normal fault (below) (090, 72; 180, 19)		
								58-60 bedding (090, 10; 180, 35)		
								58-60		
								68-71, bedding (270, 14; 180, 4)		


entered on 21R-3



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	J.M & M.W	22/3/2018
0											
2											
4											
6											
8											
10											
12	bedding		270	10	180	20					0~12, Slurry
14											
16											
18											
20											
22	bed		270	15	180	20					12~13 bedding (270, 10; 180, 20) 15~16, offset sand bed, indistinct
24											
26											
28	biscuit										23~24, bedding, (270, 15; 180, 20) 30~32,
30											
32											
34											
36											
38	biscuit										
40											
42											
44											
46											
48											
50	bedding		270	1	000	20					50, 51, bedding (270, 1; 000, 20)
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74	biscuit										
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

5050

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	J.M	22/3
-0											
-2											
-4											
-6											
-8	bed		090	11	180	7		←	6-7, bedding (090, 11; 180, 7)		
-10											
-12	bed		270	5	180	18		←	11~12, bedding (270, 5; 180, 18)		
-14											
-16											
-18											
-20											
-22											
-24	bed							←	27-29, bedding, (270, 19; 000, 0)		
-26											
-28											
-30											
-32								←	32-33, bedding (090, 2; 180, 12)		
-34											
-36											
-38											
-40	biscuit										
-42											
-44											
-46											
-48								←	49-50, bedding (270, 7; 180, 4)		
-50											
-52	bed		270	8	000				52-53, bedding (270, 8; 000, 0)		
-54											
-56											
-58	possible										
-60	biscuit										
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											


  
damaged

I  
W

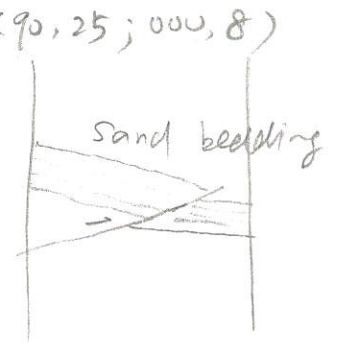




CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M, W	22/3
0											
2											
4											
6											
8											
10											
12											
14											
16	biscuit										
18											
20											
22											
24											
26											
28											
30											
32											
34	biscuit										
36											
38											
40											
42											
44											
46	biscuit										
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90	biscuit										
92											
94											
96											
98											
100											
102											
104											
106	biscuit										
108											
110											
112											
114											
116											
118											
120											
122											
124	biscuit										
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

0-8, slurry

20-22, sand bedding  
 21-22, thrust fault  
 (270, 7; 000, 21)  
 0.6cm offset



38-39, bedding  
 (270, 10; 180, 8)

62-63, bedding  
 (90, 20; 180, 15)

114-115, bedding (270, 19; 180, 4)

120-124, fault (270, 67; 180, 48)

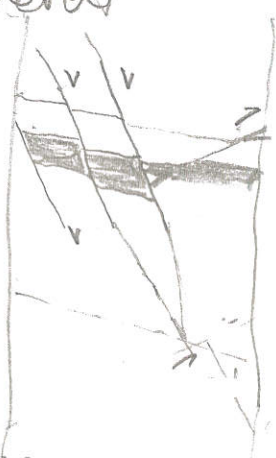
3: faults - filled  
 is ↑  
 rot DD

# Expedition 375 - Hikurangi

375-U1518F-22R-2-A | SHLF9425941

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer: M.W	Date: 22/3
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG			
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22	bismit										
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

1-10, intersecting faults, coherent  
 4~6, fault sets  
 2-6, bedding  
 (90, 45; 180, 8)



23-27, two faults or  
 23~24, bedding filled fractures  
 (90, 10; 0, 28)

34-40, folding  
 (270, 49 on core face)

48-51, fault sets cutting across - vert. bioturb.  
 49-51, (90, 14; on core face (elargate) 000, 13)

30-40, silt (sand) layers w/  
 beautiful isoclinal fold  
 (soft sediment)

61-62, minor thrust fault (090, 55; 000, 23)  
 offset, 0.1 cm



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HSTAF	3/22/18
0											
2											
4											
6											
8											
10											
12											
14											
16											
18	bed		270	2	000	11					0-10 cm - brecciated prob dist.
20											
22											
24											
26											
28	bed		270	5	000	1					
30											
32											
34											
36											
38											
40											
42											
44											
46											
48	bed		270	15	000	7					
50											
52											
54											
56											
58											
60											
62											
64											
66											
68	bed		090	20	000	4					
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94	bed		270	6	000	8					
96											
98											
100											
102											
104											
106											
108											
110											
112											
114	bed		270	16	000	3					
116											
118	bed		090	1	000	2					
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											



0-10 cm - brecciated prob dist.

→ from 16 to 20 cm

→ from 20 to 47 cm

→ from 47 to 51 cm

51-64 - sandy layer destroyed by hydrate S

→ from 64 to 78 cm

→ from 78 to 97 cm

bioturbated section from 97 to 109 cm

→ 97 to 114 cm

114 to 117 - brecciated → drilling disturbance

117 to end - bioturbated

DB°  
slight biscuiting

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/22/18
0											
2											
4											
6											
8											
10											
12											
14											
16	bed 2		270	1	000	5					0-11 cm destroyed → mingling
18											
20											
22											
24											
26											
28											
30											
32	bed		270	17	000	2					
34	bed 2		090	20	000	3					
36											
38											
40											
42											
44											
46											
48	bed		090	9	000	4					
50											
52											
54											
56											
58											
60											
62	bed		270	2	180	3					
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

WRND TM

0-11 cm destroyed → mingling

11-14 cm brecciated → not D.D  
↳ oxides in zone

→ parallel to base of breccia

14-24 cm

24-31 cm

31-48 cm

bioturbated from 40-48 cm

48-61 cm

61-64 cm

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	H/S + AF	3/22/18
0											
2											
4											
6											
8											
10											
12											
14	bed		270	1	000	2					
16											
17	bed		270	14	000	4					
18											
20	fault		090	58	000	6					
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58	bed		270	5	000	7					
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

0-2 cm - brecciated → destroyed  
 2-16 cm - same bedding  
 → from 16 to 24 cm  
 24-48 cm - destroyed by hydrates  
 from 16-19 - small normal fault, offset = 5mm  
 from 48-57 - bioturbated, no beds

→ from 57 to 88

DD:  
 68-70 destroyed  
 ↳ maybe sand layer



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	AF & HS	22/3
0											
2											
4											
6											
8											
10											
12											
14											
16		S <sub>0</sub>	090	13	180	13					
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46		S <sub>0</sub>	090	11	180	10					
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70		S <sub>0</sub>	270	3	000	15					
72											
74											
76											
78		S <sub>0</sub>	090	16	180	13					
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116		S <sub>0</sub>	090	13	180	17					
118											
120											
122											
124		S <sub>0</sub>	Horizontal	180	1						
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

DESTROYED SOUPY (D)

DESTROYED, CUSTARD (D)

BIOTURBATED

Section of coherent sediments, slightly variable bedding.

12-29  
31-47  
47-77  
77-114  
114-120  
120-130

Interval of distinct bedding

SLIGHT BISCUITING THROUGHOUT

(Biscuit Boundary)

I  
W

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16	15 →	S <sub>0</sub>	270	5	180	6					Bedding intervals: 11-42 42-64 64-71 94-121 122-133
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42	43 ↑	S <sub>0</sub>	090	9	180	8					Coherent biscuits preserve bedding intervals, separated by lightly disturbed sand/silt intervals or sharp boundaries filled by thin coarse layers. (<1m)
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68		S <sub>0</sub>	090	4	180	5					
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98		S <sub>0</sub>	090	11	180	1					
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126		S <sub>0</sub>	090	8	180	6					
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

MODERATELY  
BRECCIATED

Disturbed -  
Moderate  
decciation

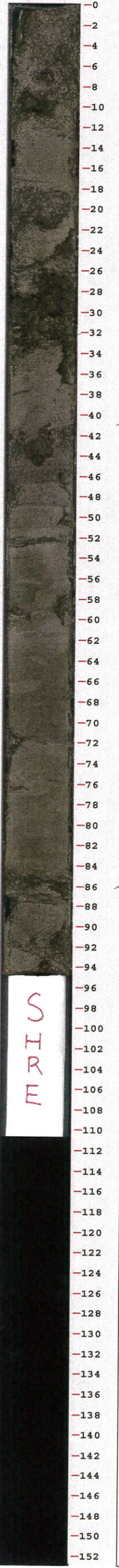
PAL



# Expedition 375 - Hikurangi

# 375-U1518F-25R-1-A | SHLF9427541

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/22/18
0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40	- bed		090	27	000	18					
-42											
-44											
-46	- bed		090	2	000	8					
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86	- bed		090	3	000	2					
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											



0 - 32 cm → destroyed ↓ brecciated ↓  
 32 - 43 cm → intact block  
 40 - 45 cm → <sup>bed</sup> low conf. measurement  
 → inflow OD  
 43 - 94 → mostly intact block, some  
 debris from

SERIES



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/22/18
0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18	bed		270	1	000	15					0-20 - coherent clay bed
-20											20-24 - destroyed, soupy
-22											24-51 - coherent bed
-24											51-55 soupy (DP)
-26											59-65 - soupy
-28											65-74 - sediment inflow
-30	bed		090	2	000	3					80-84 - sed inflow
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86	bed		090	4	180	15					
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

WPM

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS + AF	3/22/18
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44	- bed		270	14	000	13					
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

0-3cm Void  
 33-51cm - coherent bedding  
 Moderate biscuiting

MKT

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/22/18
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24	bed		090	11	000	10					10-27 cm - coherent bedding
26											
28											
30											
32	bed		270	17	000	11					
34											
36											
38	bed		270	1	080	11					
40											
42											
44											
46											
48											
50											
52											
54	bed		090	18	000	15					57-74 cm - coherent bedding
56											
58											
60											
62											
64											
66											
68											
70											
72											
74	bed		090	13	000	2					
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

HYD PAL

57-74 cm - coherent bedding

10-27 cm - coherent bedding

slight  
throughout  
bedding



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28	S <sub>0</sub>		090	15	180	14			Irregular		
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

Becciated - destroyed

(DD)

S<sub>0</sub>

090 15 180 14

Irregular

44-50

Moderate upward arching beds

Biscuit bedding not reliable

Moderate biscuiting

I  
W

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2		0-8									
4											
6											
8											
10											
12											
14											
16		@15	090	1	180	4					
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64		@65	090	5	180	9					
66		66									
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

Moderate  
~~dis~~chiding  
 throughout

is coherent bedding interval

W277

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

CM Scale  
0  
2  
4  
6  
8  
10  
12  
14  
16  
18  
20  
22  
24  
26  
28  
30  
32  
34  
36  
38  
40  
42  
44  
46  
48  
50  
52  
54  
56  
58  
60  
62  
64  
66  
68  
70  
72  
74  
76  
78  
80  
82  
84  
86  
88  
90  
92  
94  
96  
98  
100  
102  
104  
106  
108  
110  
112  
114  
116  
118  
120  
122  
124  
126  
128  
130  
132  
134  
136  
138  
140  
142  
144  
146  
148  
150  
152

6  
6

Brucella, severe

@51

S<sub>0</sub>

270

8

000

6

Sharp

@70

S<sub>0</sub>

090

11

180

8

75

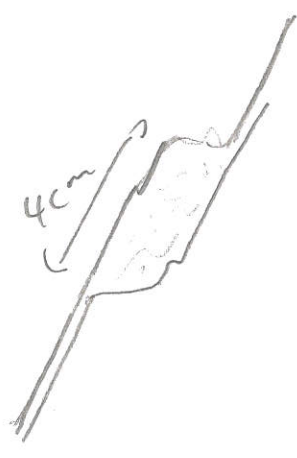
Sand filled fracture

270

58

000

2



Slight  
brecciating

@106

S<sub>0</sub>

090

3

000

10

low confidence









CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

BISCUITS

Moderate bischidity throughout.

Subhorizontal bedding consistent throughout but may be rotated by bedding.

@ 103 So 090 10 180 8

\* Couple of small normal faults, steep, likely drilling induced.

VVR

# Expedition 375 - Hikurangi

# 375-U1518F-28R-1-A | SHLF9429051

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W	
-0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30		biscuit									
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48		biscuit									
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78		biscuit									
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

0-8, drilling induced breccia

16-17, bedding, (090, 16; 000, 1)

24-26, offset bedding, real or drilling

33-34, sand bedding (090, 10; 000, 30)

73-74, Sand bedding, (270, 22; 000, 30)

biscuit

biscuit

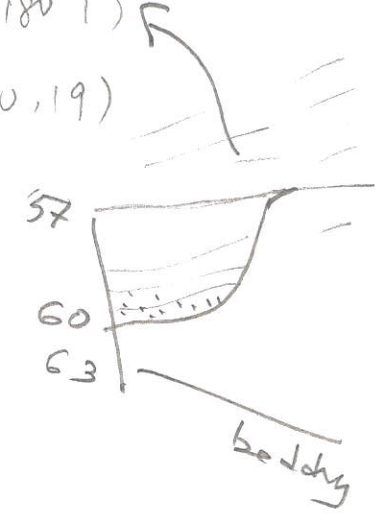
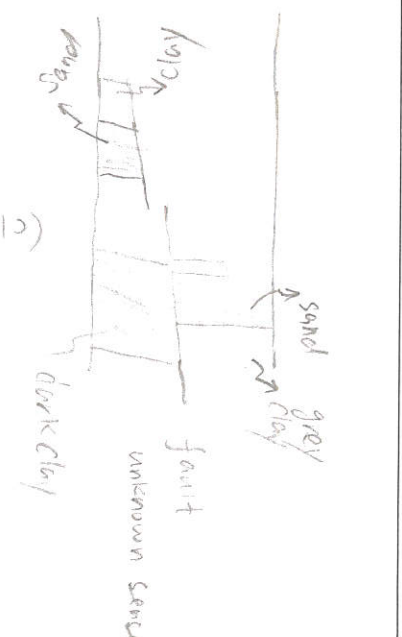
biscuit



CM Scale

0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28  
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48  
-50  
-52  
-54  
-56  
-58  
-60  
-62  
-64  
-66  
-68  
-70  
-72  
-74  
-76  
-78  
-80  
-82  
-84  
-86  
-88  
-90  
-92  
-94  
-96  
-98  
-100  
-102  
-104  
-106  
-108  
-110  
-112  
-114  
-116  
-118  
-120  
-122  
-124  
-126  
-128  
-130  
-132  
-134  
-136  
-138  
-140  
-142  
-144  
-146  
-148  
-150  
-152



Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W	23/3/2018
								8-12, sand bedding (290, 9 ; 180, 13)		
								13-14, biscuit		
								20-22, biscuit		
								26-32, bedding (270, 10 ; 180, 14)		
								53-55, bedding (270, 22 ; 0, 8)		
								57-60, sand bedding (270, 10 ; 180, 7)		
								63-64, boundary (090, 15 ; 0, 19)		
										
								123 - biscuit		
								125.5 - biscuit		
								132-136, fault (090, 85 ; 180, 10)		
								Step fault		
								bedding (270, 4 ; 180, 10)		
										

WRND

Expedition 375 - Hikurangi

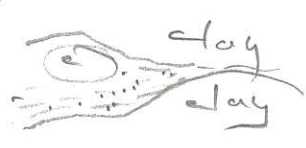
375-U1518F-28R-4-A | SHLF9429141

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W	23/3/2008
0											
2											
4											
6											
8											
10	biscuit										
12											
14	biscuit										
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50	biscuit										
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

11, bedding (270, 2; 090, 4)

27-28, bedding (90, 7; 180, 22)

48-50 irregular sand-dary body w/ clasts

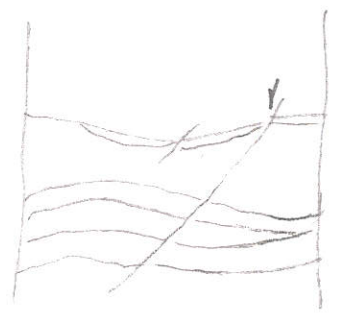


WRND

CM Scale



Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W	23/7/2018
								7-9, bedding (270, 12; 180, 20)		
								57-60, wavy bedding offset by fault (normal) ↓ ~1mm offset (270, 55; 000, 0)		
								74-77, sand bedding (090, 15; not clear)		





CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

P  
A  
L

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M. W	23/3
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

11-12, bedding (090, 9; 0, 6)

25-40, high fractured clay

54-55, sand bedding (090, 14; 180, 20)

65-66, sand bedding (270, 4; 180, 5)

104-105, sand bedding (270, 4; 0, 5)

118-119, sand bedding (270, 4; 180, 4)

biscuit

M  
W

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M. W	
-0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16	biscuit										
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128	biscuit										
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

4-15, bedding (270, 8; hard to see)

26-27, bedding (19, 15; 180, 6)

33-34, bedding (270, 9; 0, 14)

53-54, bedding (90, 4; 0, 25)

74-75, bedding (270, 20; 0, 3)

105-109 bedding (90, 16; 180, 11)

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M.W	23/3
-0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

18-19, bedding (90, 14; 0, 4)

31, bedding (090, 3; 0, 14)

52-55, bedding (090, 21; 0, 9)

91-92, bedding (090, 6; 0, 8)

124-125, bedding (270, 2; 0, 14)

bisect

I  
W

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	<i>m.w</i>	
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78	biscuit										
80											
82											
84											
86											
88	biscuit										
90	biscuit										
92											
94											
96											
98											
100											
102	biscuit										
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

11-13, bedding (270, 16; 0, 12)

35-38, bedding (270, 9; 0, 20)

66-67, bedding (090, 5; 0, 18)

95-101, bedding (270, 12; 0, 14)

109-110, bedding (090, 3; 0, 9)

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	M. W	
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

10-12, bedding (270, 16; 0, 19)

18-19, bedding (270, 15; 180, 16)

31-32, bedding (090, 8; 000, 0)

38-41, bedding (270, 4; 180, 2)

37-38, sharp change in core-face dips  
- no obvious distinct boundary

WRND



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
-0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

bed

58-60, bed (090, 15; 180, 11)

62-606, very soft zone  
especially 81-105  
- could show elongate color bands

117-118, bedding (top of b2 unit)  
(270, 8; 000, 3)



CM Scale  
 -0  
-2  
-4  
-6  
-8  
-10  
-12  
-14  
-16  
-18  
-20  
-22  
-24  
-26  
-28  
-30  
-32  
-34  
-36  
-38  
-40  
-42  
-44  
-46  
-48  
-50  
-52  
-54  
-56  
-58  
-60  
-62  
-64  
-66  
-68  
-70  
-72  
-74  
-76  
-78  
-80  
-82  
-84  
-86  
-88  
-90  
-92  
-94  
-96  
-98  
-100  
-102  
-104  
-106  
-108  
-110  
-112  
-114  
-116  
-118  
-120  
-122  
-124  
-126  
-128  
-130  
-132  
-134  
-136  
-138  
-140  
-142  
-144  
-146  
-148  
-150  
-152

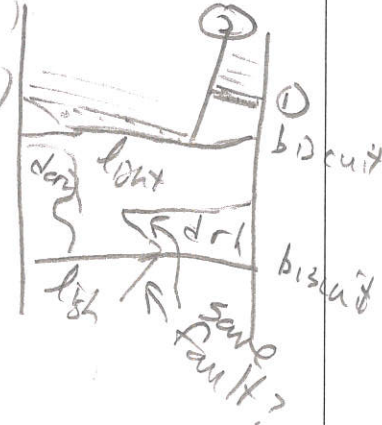


Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
		AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
bed faults								31 - brownish layer x-cuts bedding 32-42, Normal fault offsets sand bed ① bed (090, 9; 000, 7) ② fault, normal (270, 78; 15 - maomao (338, 0) core - juli (007, 0) fracture		
JFTS								56-59, faults cut upper beds do not cross thin layer below (Biscuit?) ① (270, 13, core face) ② (090, 60)	<p>higher up dipping bioturb                      highly uncertain 2nd plane                      difference of opinion                      Maomao (338, 0)                      Juli (007, 0)</p>	

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16	A1								15-18, normal fault offsets sand, terminates at shop base (biscuit) ① bed (090, 17; 180, 2) ② fault (270, 64 core face)		
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

15-18, normal fault offsets sand, terminates at shop base (biscuit)

- ① bed (090, 17; 180, 2)
- ② fault (270, 64 core face)



86-87, bedding (270, 15; 000, 14)

I  
W

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120		bed									
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

Many "invisible" biscuit bandings,  
 so cautious w/ clay-clay  
 contacts  
 - may not be bedding  
 7-9, faulted both. (090, 40; 180, 20)

119-120, sandy bed (090, 12; 000, 14)

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
-0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84	7 bed										
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

- lots of "invisible" biscuit  
bandries - too sharp clay  
on sand bandries even

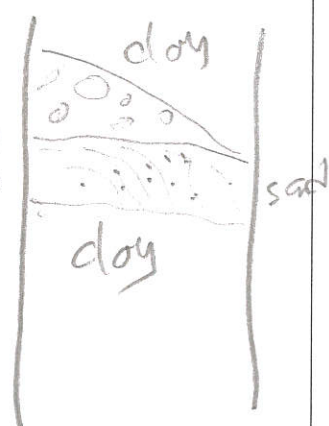
83-85, sand bed (270,13; 180,20)



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

19-22, bedding (090, 20; 180, 21)

granular zone w/ fragments of clay between sand and clay



WRND

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
-0											
-2											
-4											
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											28, bedding w/ but; (270, 5; 180, 10)
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

MRND








# Expedition 375 - Hikurangi

# 375-U1518F-31R-2-A | SHLF9431381

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	#5+ AF	3/23/18
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26	bed		270	15	180	7					0-15 - biscuit, moderate
28											gradational
30											
32											
34											
36											
38											
40											
42											
44											
46	bed		270	10	000	14					sharp
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114	bed		270	17	000	18					conf 3 sharp
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

WRND

DD:  slight biscuiting

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
-2											
-4											
-6											
-8											
-10											
-12											
-14	bed		270	20	000	11					gradational
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72	bed		270	13	000	11					irregular
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118	I										
-120	W										
-122											
-124											
-126											
-128											
-130											
-132	I										
-134											
-136											
-138											
-140											
-142	W										
-144											
-146											
-148											
-150											
-152											

DD:  
slight  
biscuiting

Expedition 375 - Hikurangi

375-U1518F-31R-4-A | SHLF9431441

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/23/18
-0											
-2											
-4											
-6											
-8											
-10											
-12			090	2	000	12					0-2 - brecciated, desolved
-14											gradual
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48			270	30	000	12					curved
-50											
-52											
-54											
-56											
-58			270	7	000	0					sharp
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128			090	52	180	9					small normal fault, offset = 2cm
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

DD:  
slight desimilarity

LINE 1

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/23/18
0											
-2											
-4											
-6											
-8	fault		270	50	349	0					
-10											
-12											
-14											
-16											
-18											
-20											
-22											
-24											
-26											
-28											
-30											
-32											
-34	bed		090	4	000	13					
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86											
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122	bed		270	15	000	7					
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

from 8-10 cm, 1.5 cm normal offset

gradational

gradational

DIP: moderate bisecting

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS+AF	3/23/18
-12	bed		090	18	000	3					sharp
-44	bed		090	5	000	4					gradational
-122	bed		270	7	000	6					sharp
-140 to -152											DD: 53-85/moderate the rest slight b. sciniting

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
-0											
-2											
-4	↓	0-4									
-6											
-8											
-10											
-12											
-14											
-16											
-18											
-20	②	S <sub>0</sub>	090	6	180	12					gradational
-22											
-24											
-26											
-28											
-30											
-32											
-34											
-36											
-38											
-40											
-42											
-44											
-46											
-48											
-50											
-52											
-54											
-56											
-58											
-60											
-62											
-64											
-66											
-68											
-70											
-72											
-74											
-76											
-78											
-80											
-82											
-84											
-86	③	S <sub>0</sub>	090	15	180	12					Irregular, curvy
-88											
-90											
-92											
-94											
-96											
-98											
-100											
-102											
-104											
-106											
-108											
-110											
-112											
-114											
-116											
-118											
-120											
-122											
-124											
-126											
-128											
-130											
-132											
-134											
-136											
-138											
-140											
-142											
-144											
-146											
-148											
-150											
-152											

Slight bisecting

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG		HS & AF	
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34	@										
36	36	S <sub>0</sub>	270	13	180	7					0-1 void
38											
40											
42											
44											
46											
48	@										
50	50	S <sub>0</sub>	090	15	180	7					Gradational
52											
54											
56											
58											
60											
62											
64	@										
66	66	S <sub>0</sub>	090	16	000	7					Sharp
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

HYD

Slight  
bit widening



CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4											
6	5	S <sub>0</sub>	090	16	180	6					gradational
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56	58	S <sub>0</sub>	090	13	180	15					sharp
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86	89	S <sub>0</sub>	270	11	000	5					Sharp (parallel to gradational beds above)
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

Slight  
biscuiting

KITA  
H3

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS & AF	
0											
2											
4											
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68	68	S <sub>0</sub>	090	1	000	2					
70	71	S <sub>0</sub>	270	7	000	3					
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

biscuited, rotated

flow-out sand

DD

Gradational, low confidence sharp, on second apparent dip.

Both likely somewhat disturbed.

DD: slight biscuiting throughout

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
-12	B	S <sub>0</sub>	270	9	000	14					
-38	39	S <sub>0</sub>	270	18	000	12					
											both quite clear sedimentary boundaries.
											slightly bisected



CM Scale  
 -0  
 -2  
 -4  
 -6  
 -8  
 -10  
 -12  
 -14  
 -16  
 -18  
 -20  
 -22  
 -24  
 -26  
 -28  
 -30  
 -32  
 -34  
 -36  
 -38  
 -40  
 -42  
 -44  
 -46  
 -48  
 -50  
 -52  
 -54  
 -56  
 -58  
 -60  
 -62  
 -64  
 -66  
 -68  
 -70  
 -72  
 -74  
 -76  
 -78  
 -80  
 -82  
 -84  
 -86  
 -88  
 -90  
 -92  
 -94  
 -96  
 -98  
 -100  
 -102  
 -104  
 -106  
 -108  
 -110  
 -112  
 -114  
 -116  
 -118  
 -120  
 -122  
 -124  
 -126  
 -128  
 -130  
 -132  
 -134  
 -136  
 -138  
 -140  
 -142  
 -144  
 -146  
 -148  
 -150  
 -152

LINE 1

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches	HS & AF	
-4 to -16	15 normal fault		270	57	180	10					1.2 cm apparent normal displacement
-18	S <sub>0</sub>		270	11	000	10					gradational
-32 to -36	32 fracture (filled)		090	21	180	10					curved, filled
-42 to -48	42 normal fault		090	47	000	5					ca. 1.5 cm apparent normal offset
-64 to -66	65 S <sub>0</sub>		090	18	000	4					gradational
-72 to -75	71 filled fracture		270	31	000	9					planar, shiny, may have some indeterminate offset
-86 to -100	I W										Slight biscuiting

CM Scale	Feature	Thick	Core-face orientation		2nd app. orientation		Core orientation		Summary:	Observer:	Date:
			AZIM	DIP/PLG	AZIM	DIP/PLG	AZIM	DIP/PLG	Comments/Sketches		
0											
2											
4	↓	0-4									
6											
8											
10											
12											
14											
16											
18											
20											
22											
24											
26											
28											
30											
32											
34											
36											
38											
40											
42											
44											
46											
48											
50											
52											
54											
56											
58											
60											
62											
64											
66											
68											
70											
72											
74											
76											
78											
80											
82											
84											
86											
88											
90											
92											
94											
96											
98											
100											
102											
104											
106											
108											
110											
112											
114											
116											
118											
120											
122											
124											
126											
128											
130											
132											
134											
136											
138											
140											
142											
144											
146											
148											
150											
152											

CM Scale  
 -0  
 -2  
 -4  
 -6  
 -8  
 -10  
 -12  
 -14  
 -16  
 -18  
 -20  
 -22  
 -24  
 -26  
 -28  
 -30  
 -32  
 -34  
 -36  
 -38  
 -40  
 -42  
 -44  
 -46  
 -48  
 -50  
 -52  
 -54  
 -56  
 -58  
 -60  
 -62  
 -64  
 -66  
 -68  
 -70  
 -72  
 -74  
 -76  
 -78  
 -80  
 -82  
 -84  
 -86  
 -88  
 -90  
 -92  
 -94  
 -96  
 -98  
 -100  
 -102  
 -104  
 -106  
 -108  
 -110  
 -112  
 -114  
 -116  
 -118  
 -120  
 -122  
 -124  
 -126  
 -128  
 -130  
 -132  
 -134  
 -136  
 -138  
 -140  
 -142  
 -144  
 -146  
 -148  
 -150  
 -152

↓ 0-4  
 Precipitated, severe  
 filled 10-21  
 2 parallel faults  
 apparent normal offset 2.5cm  
 @ 36 S<sub>0</sub> 090 9 180 9  
 gradual

Slight  
 biscuiding.