ENGINEERING BOREHOLE LOG

Queensland Government

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No BH C33
SHEET 1 of 3
REFERENCE No H11123

PROJECT Bruce Highway Upgrade (Cooroy to Curra) Section C
LOCATION Cut 9 COORDINATES 471732.2 E; 7094413.1 N
PROJECT No FG5799 SURFACE R.L. 85.10m PLUNGE -90 ° DATE STARTED 18/7/11 GRID DATUM MGA94
JOB No 232/10A/2 HEIGHT DATUM AHD BEARING DATE COMPLETED 19/7/11 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( ) % / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES / TESTS
0	85.10				**TOPSOIL:** Brown, organic.							
	85.00				**Silty CLAY (Residual):** Brown, fine grained, moist, intermediate to high plasticity.	(CI-CH)					Becoming gravelly	
1	84.10			A	**SILTSTONE (XW):** Generally exhibits engineering properties of a brown, moist, hard, medium to high plasticity silty clay.	XW					30/100 N>50	SPT
	83.55		(10) 100		**SILTSTONE (MW):** Brown/grey, fine grained, subtly foliated, generally medium strength, indurated and/or slightly metamorphosed. Defects: -Broken and clayey zones throughout. -Joint at 5°-10° (10/m) -Joint at 20° (4-5/m) -Joint at 35° (4/m) -Joint at 60° (1/m) -Joint at 75° (2/m) Defects are generally medium spaced. Defect surfaces are generally planar, tight or open, smooth, clay infilled.						Is(50) = 0.37MPa Is(50) = 0.84MPa	x o
2												
3			(13)								J, 75°, Pl, T, Clnf XW Clay Seam	
4			100								BZ	
			(39)			MW					Is(50) = 0.55MPa Is(50) = 0.48MPa	x o
5			100									
6			(55)								Clayey Seam Is(50) = 0.47MPa Is(50) = 0.25MPa; * DD = 2.46t/m³; WD = 2.54t/m³; MC = 3.2%; UCS=18.4MPa	x o UCS
7			100									
			(0)									
8			80								CLY BZ	
			(0)									
	76.82		88		**SANDSTONE (MW):** Brown, fine to coarse grained, massive, low to medium strength, indurated and/or slightly metamorphosed. Defects: -Joint at 5°-10° (2/m) -Joint at 45° (1-2/m) -Joint at 60°-70° (~5/m) -Joint at 80°-85° (2/m) Defects are generally medium spaced. Defect surfaces are generally planar or irregular, tight, clay infilled.						J, 80°-85°, Pl, T, Clnf	
9			(16)			MW					XW Clay Seam J, 70°-75°, Pl, T, Clnf Is(50) = 0.53MPa	o
			100								BZ	
10			(34)								Is(50) = 0.24MPa	x

QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG FG5799 - BRUCE HWY UPGRADE SECTION C.GPJ DWG10920.GDW Datgel CPT Tool gINt Add-In 13/12/2011 15:51

REMARKS *Point load failed along existing defect

LOGGED BY JA/DC

ENGINEERING BOREHOLE LOG

Queensland Government

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No BH C33
SHEET 2 of 3
REFERENCE No H11123

PROJECT Bruce Highway Upgrade (Cooroy to Curra) Section C
LOCATION Cut 9 COORDINATES 471732.2 E; 7094413.1 N
PROJECT No FG5799 SURFACE R.L. 85.10m PLUNGE -90° DATE STARTED 18/7/11 GRID DATUM MGA94
JOB No 232/10A/2 HEIGHT DATUM AHD BEARING DATE COMPLETED 19/7/11 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
10	75.10												
	74.80				**SANDSTONE (MW):** Cont'd	MW					Is(50) = 1.37MPa		o
			100		**SILTSTONE (MW):** Grey, fine grained, subtly foliated, mainly medium strength. Indurated and/or slightly metamorphosed. Defects: -Joint at 5°-10° (3/m) -Joint at 40°-45° (2-3/m) -Joint at 60°-70° (2/m)								
11			(70) 100										
			(76)		Defects are generally close to medium spaced. Defect surfaces are planar or irregular, tight or open, smooth, clay infilled.					Clayey Zone	Is(50) = 0.75MPa DD = 2.33t/m³; MC = 3.2%; UCS=5.57MPa	x	UCS
12													
13			100			MW							
			(26)							J, 70°-75°, Pl, T, Clnf			
14			100							J, 80°-85°, I, T, Clnf			
			(28)							HW Clayey Zone			
15											Is(50) = 1.15MPa Is(50) = 1.30MPa	x o	
	69.66		100							XW Clayey Zone			
			(41)		**SANDSTONE (MW):** Grey/brown, fine to medium grained, massive, high strength, indurated and/or slightly metamorphosed. Defects: -Joint at 15°-20° (5/m) -Joint at 30° (3/m) -Joint at 45°-50° (2/m) -Joint at 80°-85° (1-2/m)								
16										J, 80°-85°, Pl, O, S, Clnf, Broken			
			100								Is(50) = 1.79MPa Is(50) = 2.03MPa	x o	
17			(31)		Defect spacing is close to medium. Defect surfaces are generally planar or irregular, tight or open, slightly rough, clay infilled.								
						MW							
18					Includes occasional conglomerate bands throughout. Pebble fraction is subrounded with particles sizing up to 25mm.					CLy BZ			
			100										
19			(41)										
											Is(50) = 1.04MPa Is(50) = 1.54MPa	x o	
										J, 80°-85°, T, Clnf Conglomeritic band.			
20										J, 80°-85°, Pl, O, SR, Clnf			

REMARKS *Point load failed along existing defect

LOGGED BY JA/DC

QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE.LOG FG5799 - BRUCE HWY UPGRADE SECTION C.GPJ DWG10920.GDW Datgel CPT Tool gINt Add-In 13/12/2011 15:51

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ENGINEERING BOREHOLE LOG

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BOREHOLE No BH C33
SHEET 3 of 3
REFERENCE No H11123

PROJECT Bruce Highway Upgrade (Cooroy to Curra) Section C
LOCATION Cut 9 COORDINATES 471732.2 E; 7094413.1 N
PROJECT No FG5799 SURFACE R.L. 85.10m PLUNGE -90° DATE STARTED 18/7/11 GRID DATUM MGA94
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DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
20	65.10		100 (37)		**SANDSTONE (MW):** Cont'd						Is(50) = 2.43MPa		o
21			100			MW				BZ J, 40°, T, Clnf			
22	63.10		(29)		**SANDSTONE (SW):** Grey/brown, fine to medium grained, massive, high to very high strength, indurated and/or slightly metamorphosed. Defects: As above.	SW							
23	61.65		100								Is(50) = 4.55MPa		x
					Borehole terminated at 23.45m						Is(50) = 8.07MPa		o
24													
25													
26													
27													
28													
29													
30													

REMARKS *Point load failed along existing defect.

LOGGED BY JA/DC

QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG FG5799 - BRUCE HWY UPGRADE SECTION C.GPJ DWG10920.GDW Datgel CPT Tool gINt Add-In 13/12/2011 15:51

DEPARTMENT OF TRANSPORT & MAIN ROADS
Geotechnical Branch
35 Butterfield Street, HERSTON Qld 4006
Phone 07 3115 3035 Fax 07 3115 3011

Queensland Government

CORE PHOTO LOG - BH C33

Project Name:	BRUCE HIGHWAY UPGRADE - SECTION C		
Project No.:	FG5799	Date:	08/09/2011
Details:	Cut 9	Start Depth (m):	1.55
Reference No.:	H11123	Finish Depth (m):	23.45

SCALE 1:5

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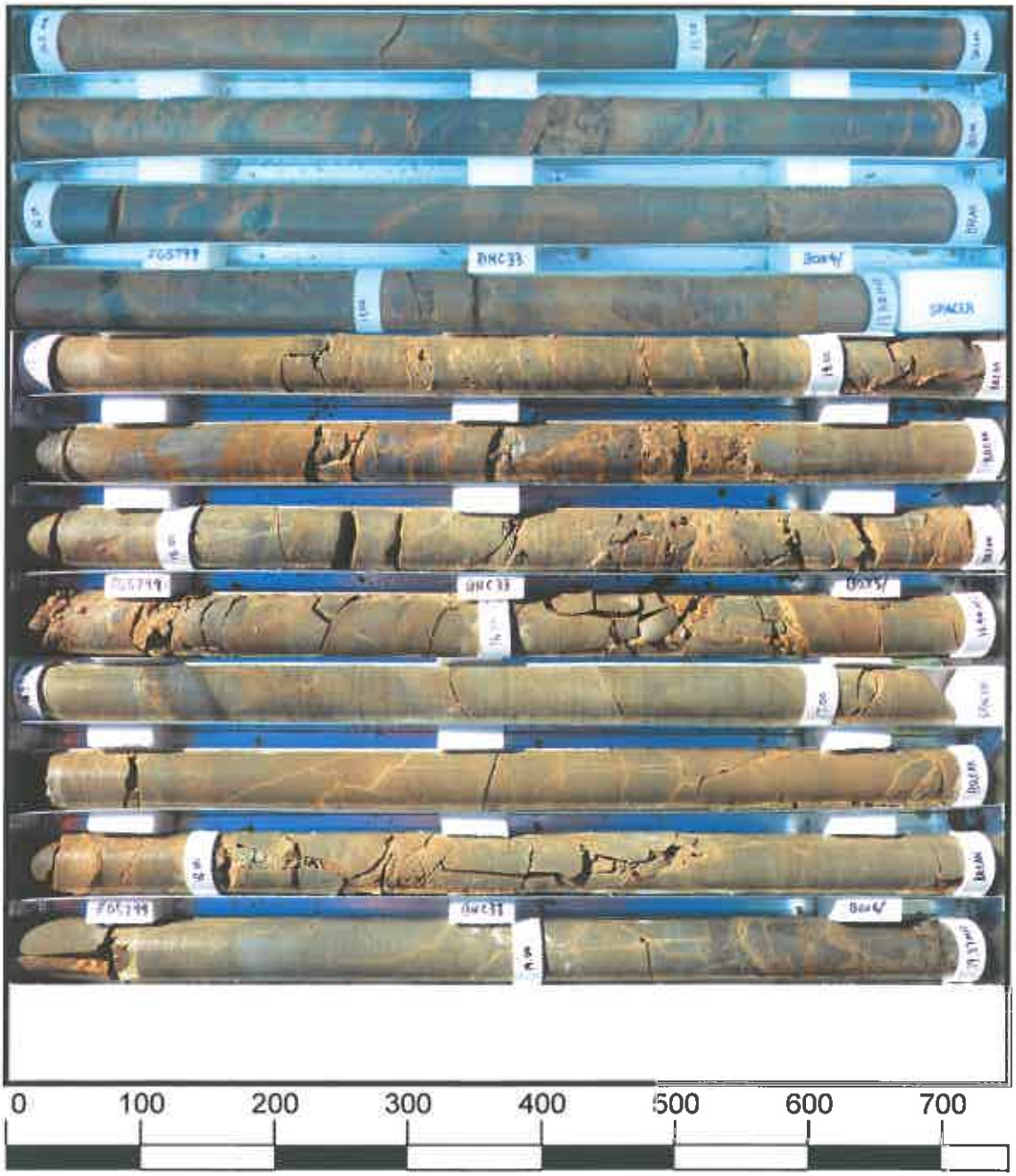
CORE PHOTO LOG - BH C33

Project Name:	BRUCE HIGHWAY UPGRADE - SECTION C		
Project No.:	FG5799	Date:	08/09/2011
Details:	Cut 9	Start Depth (m):	1.55
Reference No.:	H11123	Finish Depth (m):	23.45



SCALE 1:5

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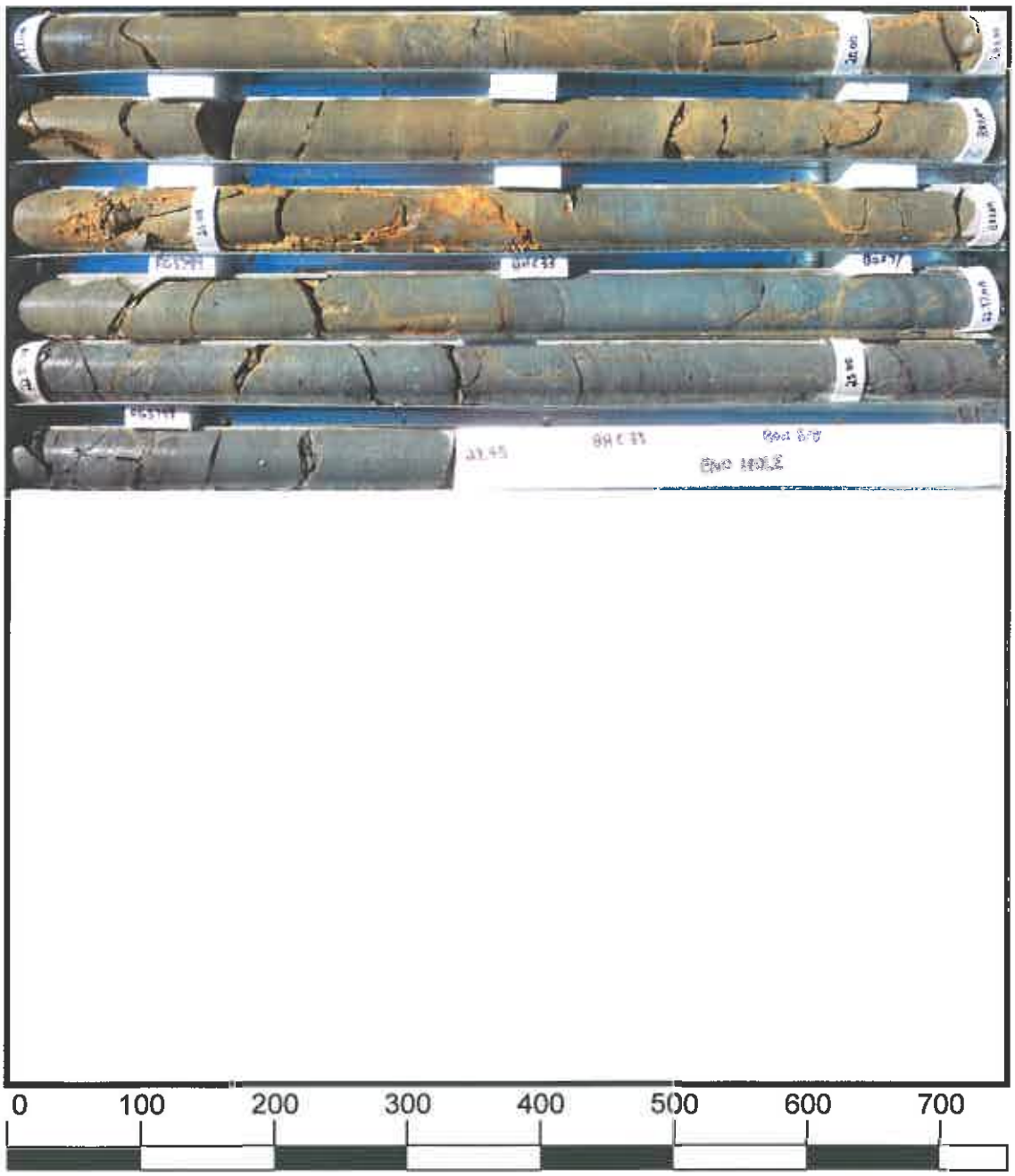
CORE PHOTO LOG - BH C33

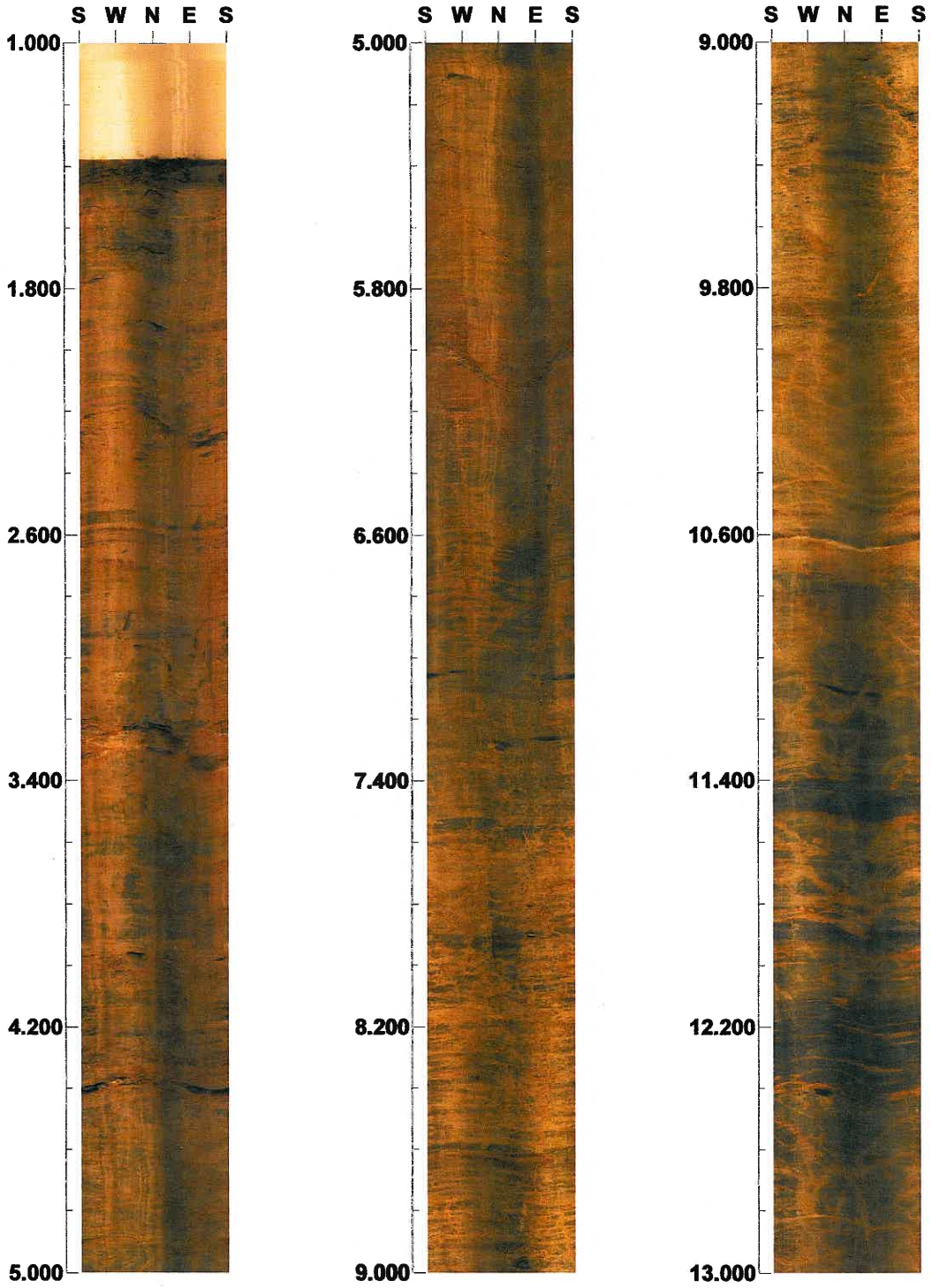
Project Name:	BRUCE HIGHWAY UPGRADE - SECTION C		
Project No.:	FG5799	Date:	08/09/2011
Details:	Cut 9	Start Depth (m):	1.55
Reference No.:	H11123	Finish Depth (m):	23.45



SCALE 1:5

Project name: BRUCE HIGHWAY UPGRADE SECTION C
Bore hole No.: C-33 **Azimuth: 0** **Inclination: -90**

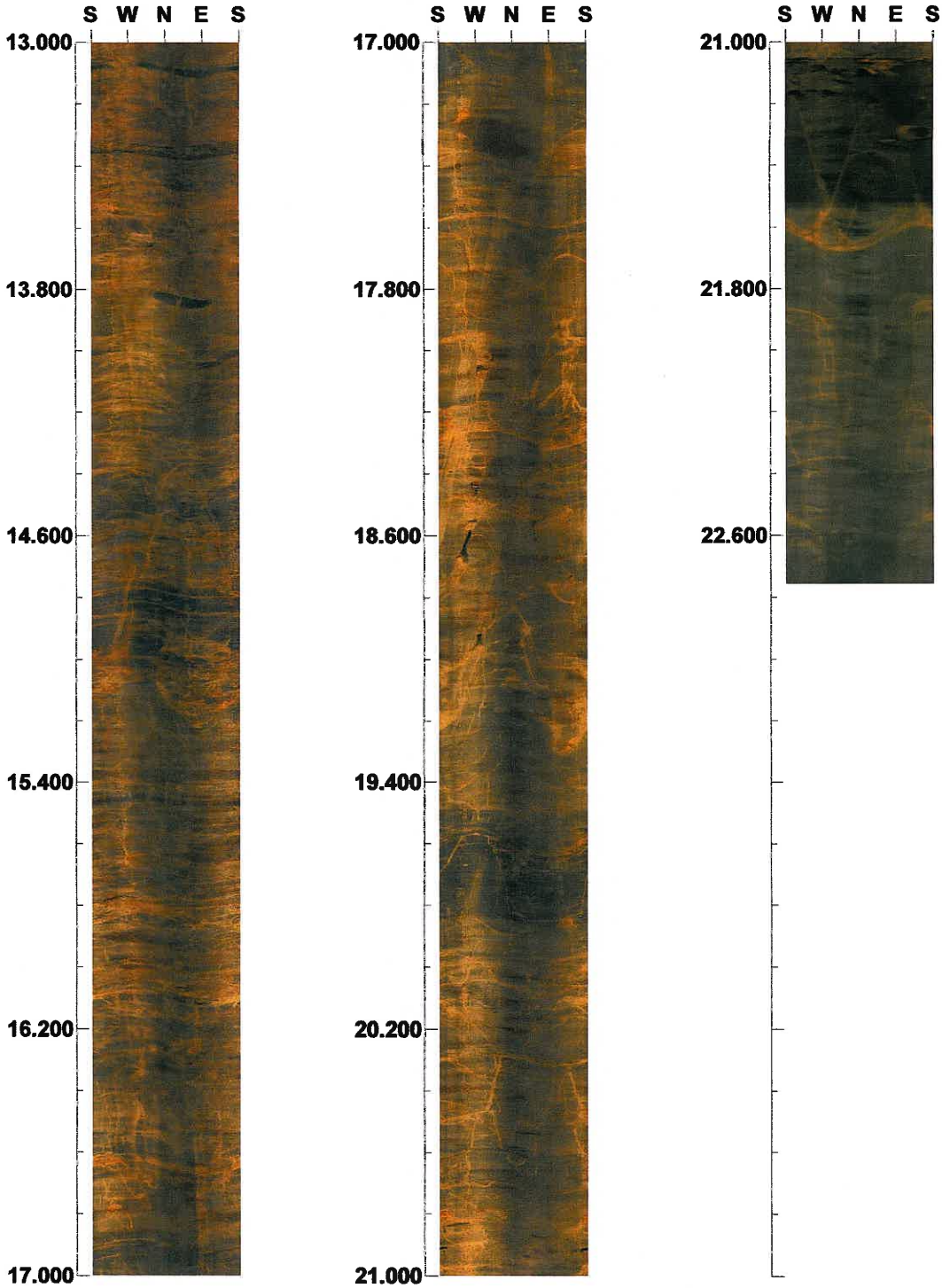
Depth range: 1.000 - 13.000 m



Scale: 1/20 **Aspect ratio: 200 %**

Project name: BRUCE HIGHWAY UPGRADE SECTION C
Bore hole No.: C-33 **Azimuth: 0** **Inclination: -90**

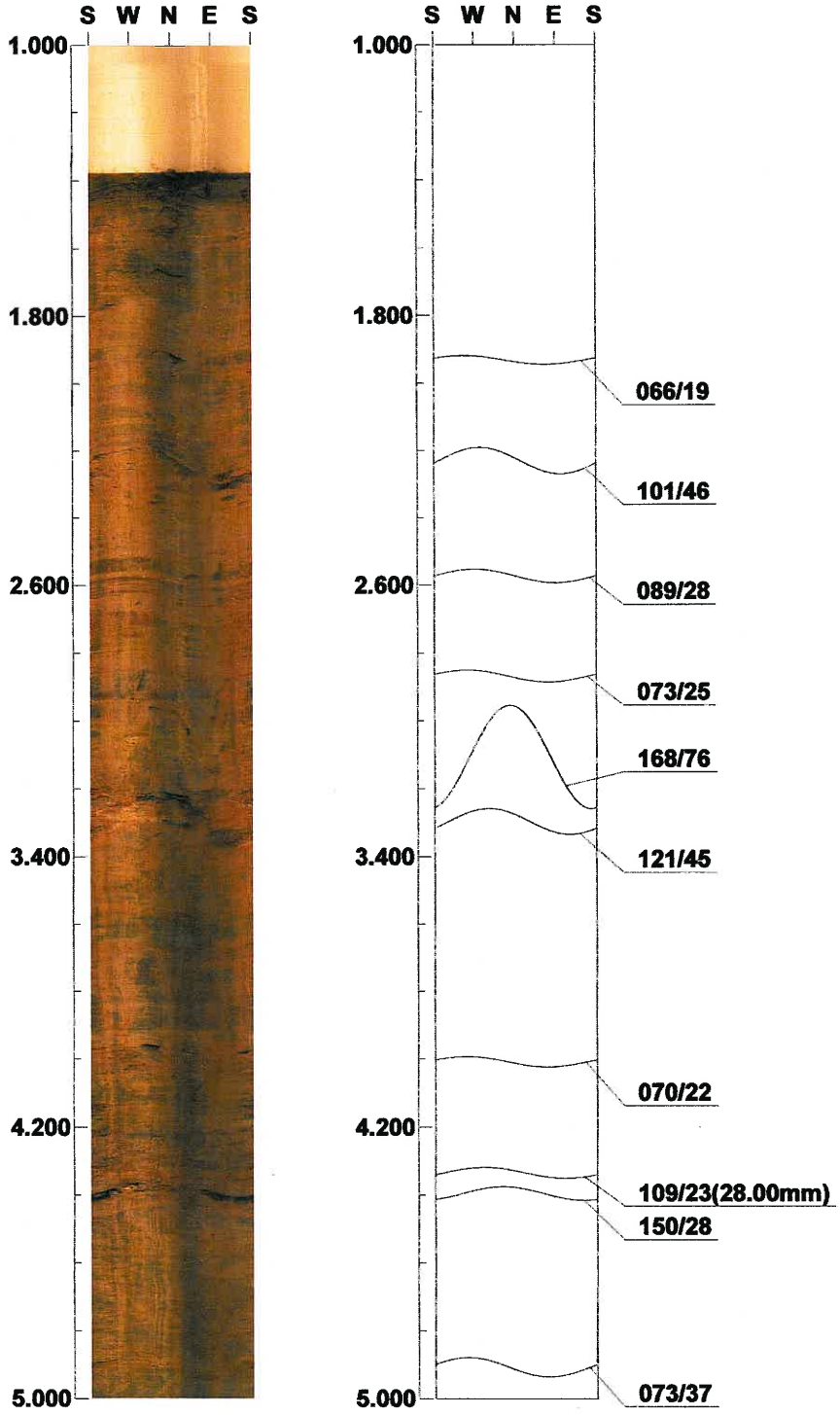
Depth range: 13.000 - 22.754 m



Scale: 1/20 **Aspect ratio: 200 %**

Project name: BRUCE HIGHWAY UPGRADE SECTION C
Bore hole No.: C-33 **Azimuth: 0** **Inclination: -90**

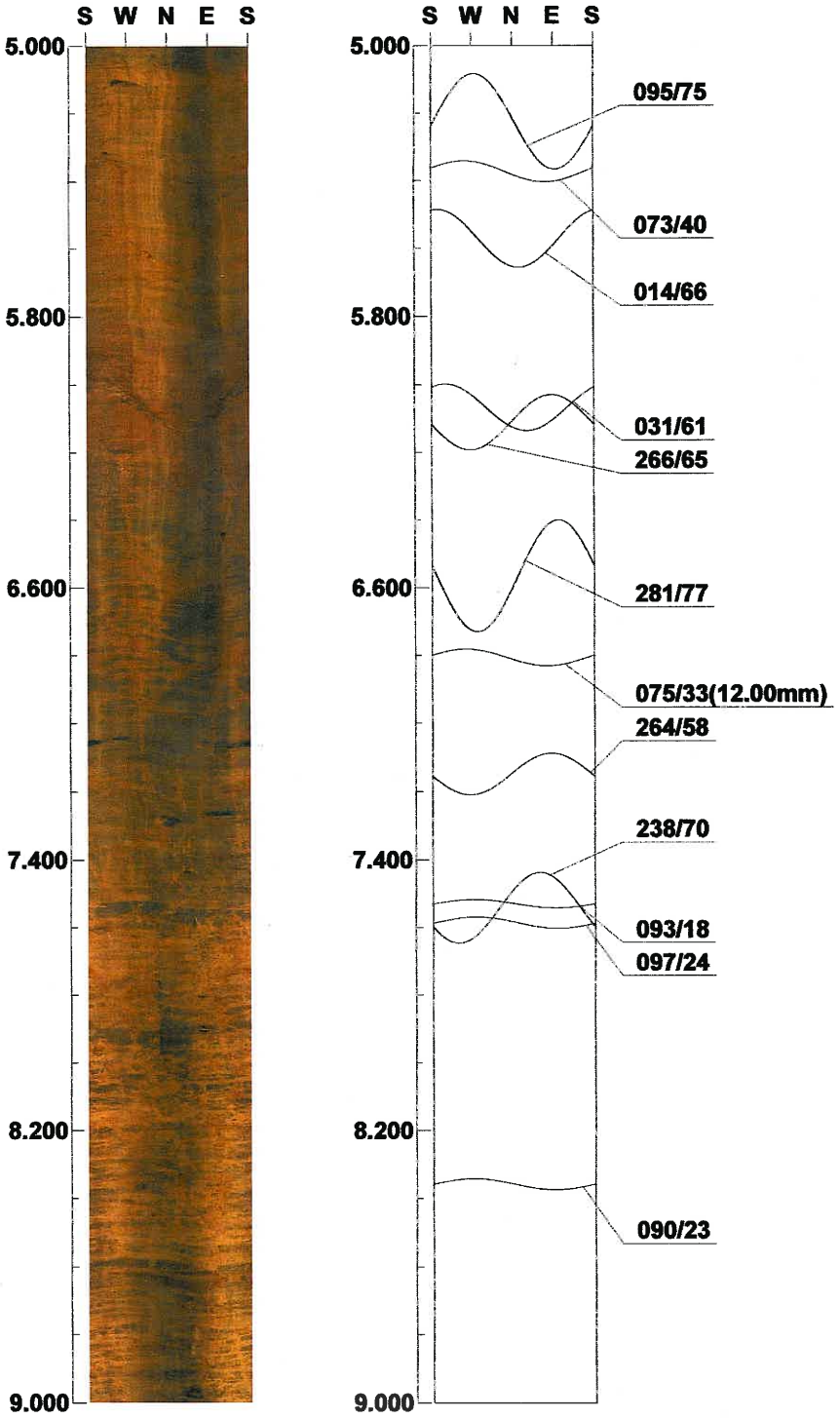
Depth range: 1.000 - 5.000 m



Scale: 1/20 **Aspect ratio: 200 %**

Project name: BRUCE HIGHWAY UPGRADE SECTION C
Bore hole No.: C-33 **Azimuth: 0** **Inclination: -90**

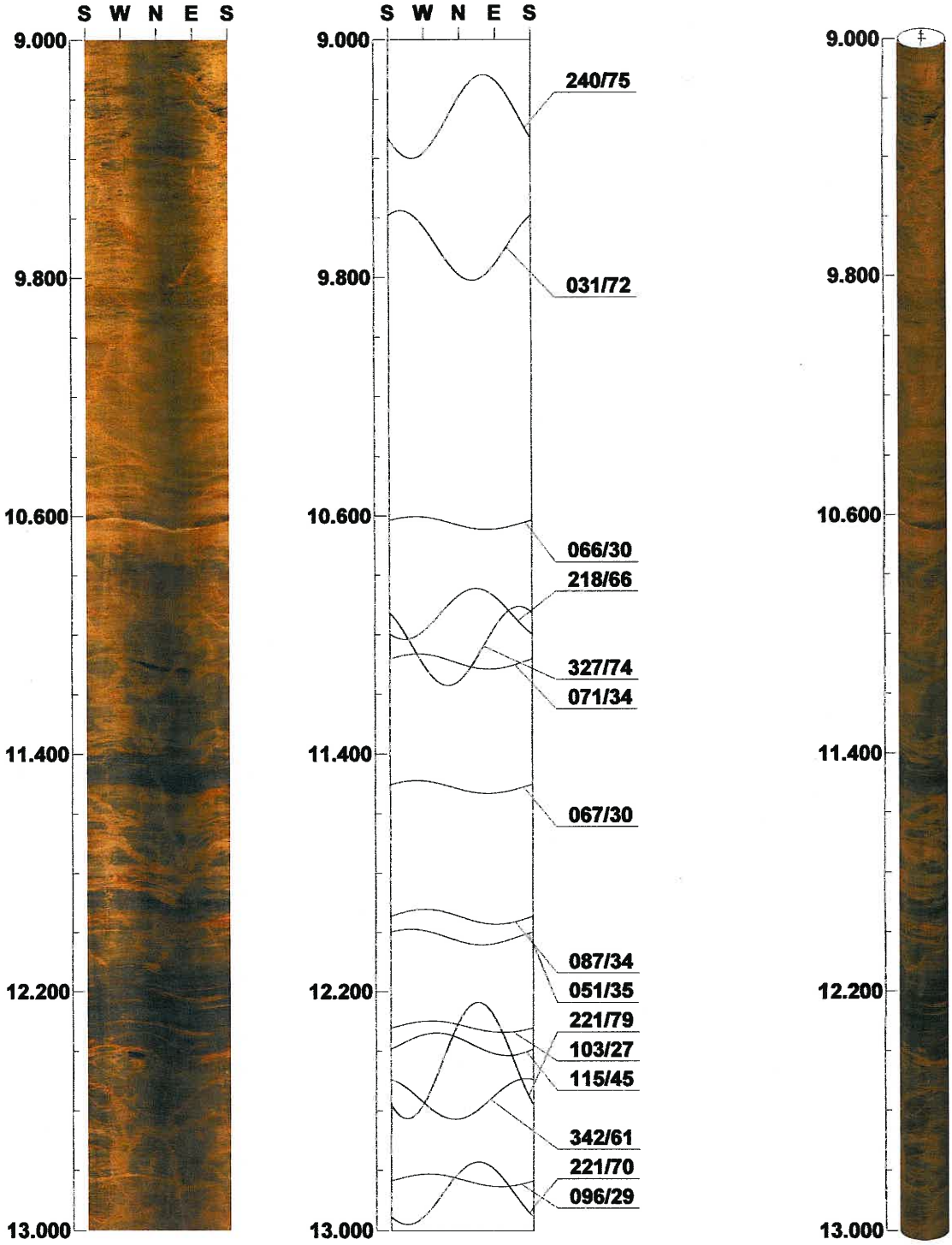
Depth range: 5.000 - 9.000 m



Scale: 1/20 **Aspect ratio: 200 %**

Project name: BRUCE HIGHWAY UPGRADE SECTION C
Bore hole No.: C-33 **Azimuth: 0** **Inclination: -90**

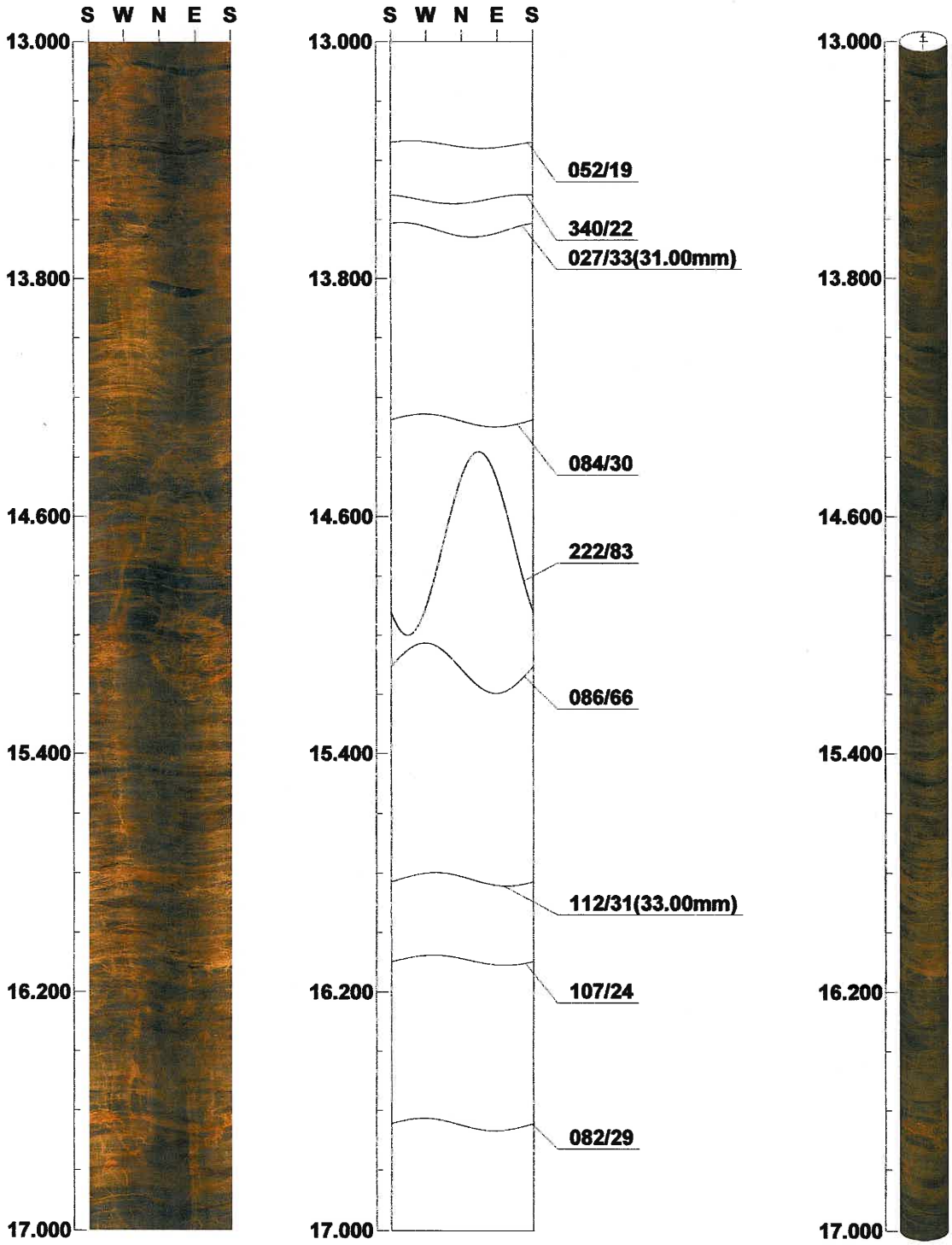
Depth range: 9.000 - 13.000 m



Scale: 1/20 **Aspect ratio: 200 %**

Project name: BRUCE HIGHWAY UPGRADE SECTION C
Bore hole No.: C-33 **Azimuth: 0** **Inclination: -90**

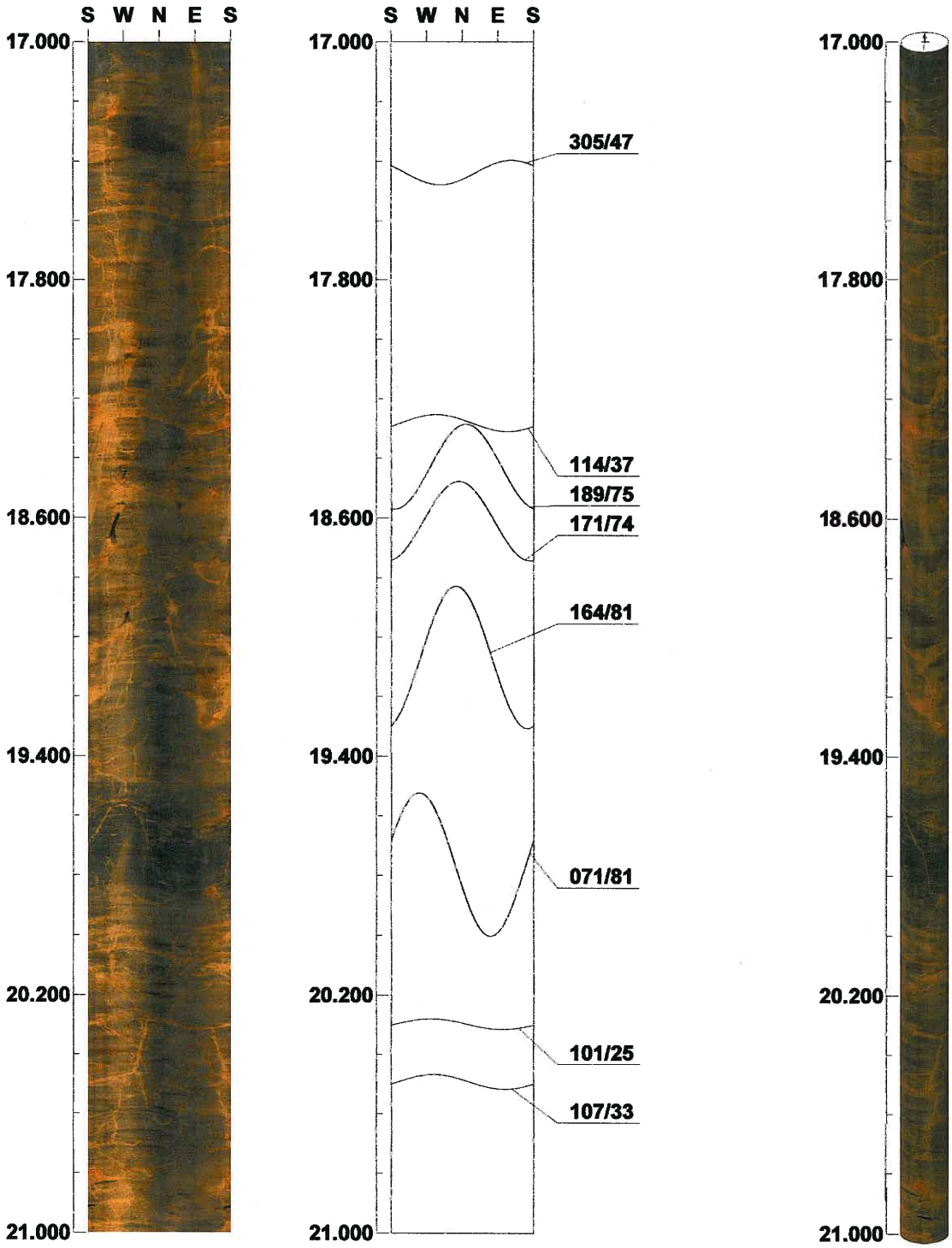
Depth range: 13.000 - 17.000 m



Scale: 1/20 **Aspect ratio: 200 %**

Project name: BRUCE HIGHWAY UPGRADE SECTION C
Bore hole No.: C-33 **Azimuth: 0** **Inclination: -90**

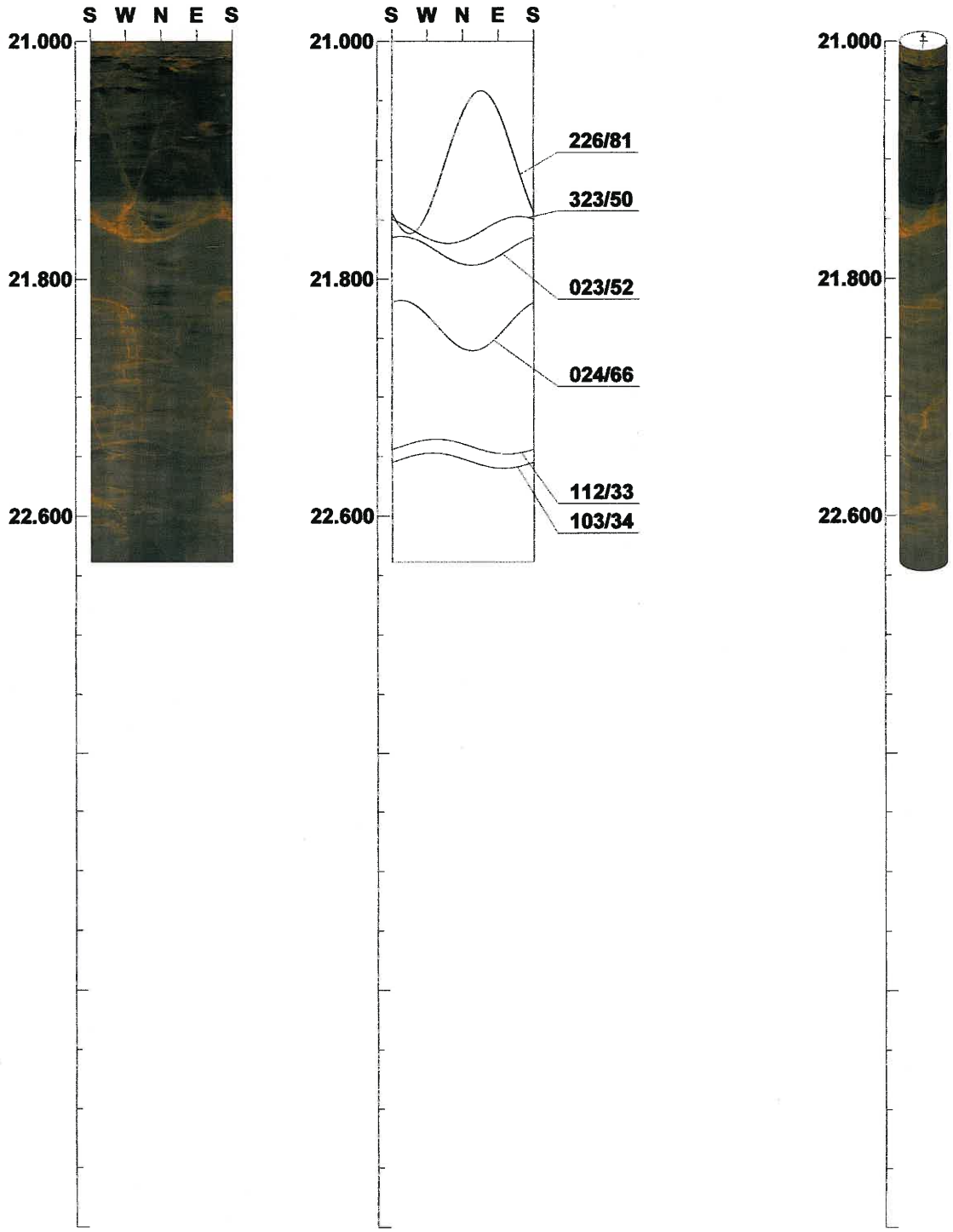
Depth range: 17.000 - 21.000 m



Scale: 1/20 **Aspect ratio: 200 %**

Project name: BRUCE HIGHWAY UPGRADE SECTION C
Bore hole No.: C-33 **Azimuth: 0** **Inclination: -90**

Depth range: 21.000 - 22.754 m



Scale: 1/20 **Aspect ratio: 200 %**

Tab. Table of Discontinuity (1 / 2)

File name: C-33.STR
[ ]

No.	Depth (m)	Dir/Dip	Sort	Aperture (mm)	Form	Condition	Remark
1	1.932	066/19	Foliation	0.0	Planar	Smooth	Tight
2	2.230	101/46	Parting	0.3	Planar	Smooth	Open
3	2.573	089/28	Foliation	0.0	Planar	Smooth	Tight
4	2.867	073/25	Parting	0.3	Planar	Smooth	Open
5	3.106	168/76	Joint	0.3	Planar	Rough	Tight
6	3.296	121/45	ShearZone	28.0	Planar	Brec/crus'd	Open/loose
7	4.008	070/22	ShearZone	45.0	Planar	Brec/crus'd	Open/loose
8	4.334	109/23	ShearZone	28.0	Planar	Brec/crus'd	Open
9	4.395	150/28	Vein	17.0	Planar	Brec/crus'd	Open/loose
10	4.907	073/37	Parting	0.3	Planar	Sheared	Open
11	5.225	095/75	Joint	0.3	Undulating	Rough	Open
12	5.373	073/40	Parting	0.3	Planar	Smooth	Open
13	5.571	014/66	Joint	0.3	Planar	Smooth	Tight
14	6.067	031/61	ShearZone	9.0	Planar	Brec/crus'd	Open/fil'd
15	6.111	265/65	Joint	0.3	Planar	Rough	Tight
16	6.565	281/77	Joint	0.3	Planar	Rough	Tight
17	6.806	075/33	ShearZone	12.0	Planar	Brec/crus'd	Open
18	7.148	264/58	Joint	0.3	Planar	Smooth	Tight
19	7.529	093/18	Foliation	0.0	Planar	Smooth	Tight
20	7.541	238/70	Joint	0.3	Planar	Smooth	Tight
21	7.585	097/24	Parting	0.5	Planar	Smooth	Open
22	8.358	090/23	Parting	0.3	Planar	Smooth	Open
23	9.259	240/75	Joint	0.3	Planar	Rough	Open
24	9.693	031/72	Joint	2.0	Planar	Rough	Open
25	10.624	066/30	Parting	3.0	Planar	Smooth	Open/fil'd
26	10.930	218/66	Joint	0.3	Planar	Rough	Tight
27	11.038	327/74	Joint	0.5	Planar	Rough	Tight
28	11.090	071/34	ShearZone	7.0	Planar	Brec/crus'd	Open
29	11.511	067/30	Foliation	0.0	Planar	Smooth	Tight
30	11.946	087/34	Parting	0.3	Planar	Smooth	Open
31	12.015	051/35	Parting	0.3	Planar	Smooth	Open
32	12.317	103/27	Parting	0.3	Planar	Smooth	Open
33	12.376	115/45	Parting	0.3	Planar	Smooth	Open
34	12.431	221/79	Joint	0.3	Planar	Rough	Tight
35	12.560	342/61	Joint	0.3	Planar	Smooth	Open
36	12.833	096/29	Parting	0.5	Planar	Smooth	Open
37	12.876	221/70	Joint	0.3	Planar	Smooth	Tight
38	13.347	052/19	ShearZone	32.0	Planar	Brec/crus'd	Open/loose
39	13.532	340/22	Joint	0.5	Planar	Smooth	Open
40	13.635	027/33	ShearZone	31.0	Planar	Brec/crus'd	Open
41	14.276	084/30	Parting	0.3	Planar	Smooth	Tight
42	14.690	222/83	Joint	0.3	Planar	Rough	Tight
43	15.111	086/66	Joint	0.3	Planar	Rough	Open
44	15.820	112/31	ShearZone	33.0	Planar	Brec/crus'd	Open
45	16.092	107/24	ShearZone	12.0	Planar	Brec/crus'd	Open
46	16.647	082/29	Parting	2.0	Planar	Smooth	Open
47	17.438	305/47	Joint	0.3	Planar	Smooth	Tight
48	18.282	114/37	Parting	2.0	Planar	Smooth	Open
49	18.428	189/75	Joint	0.3	Planar	Rough	Tight
50	18.610	171/74	Joint	0.3	Planar	Rough	Tight

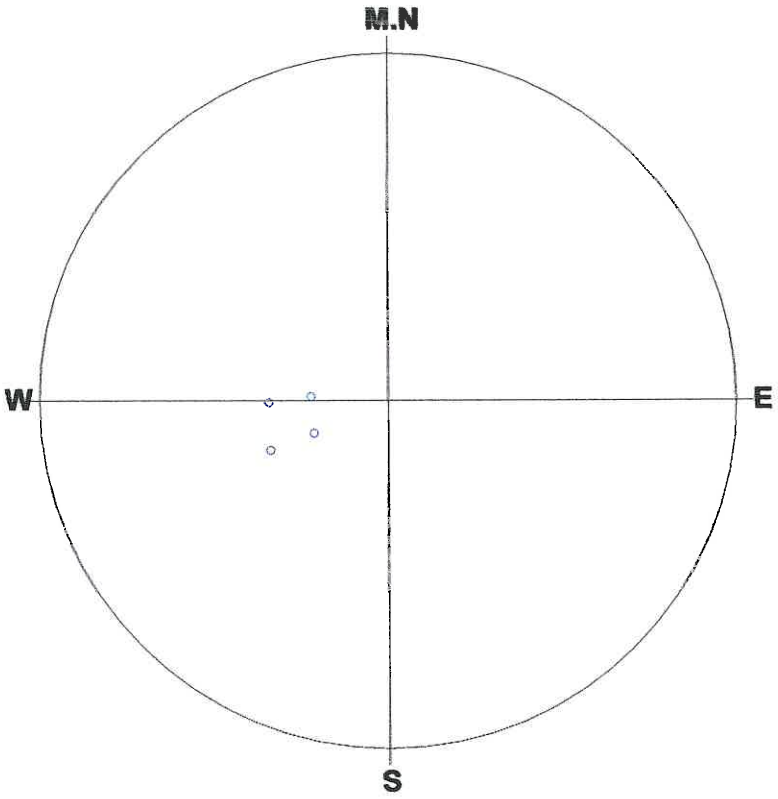
Tab. Table of Discontinuity (2 / 2)

File name: C-33.STR
[ ]

No.	Depth (m)	Dir/Dip	Sort	Aperture (mm)	Form	Condition	Remark
51	19.067	164/81	Joint	0.3	Planar	Rough	Tight
52	19.762	071/81	Joint	0.3	Planar	Rough	Tight
53	20.297	101/25	ShearZone	14.0	Planar	Brec/crus'd	Open
54	20.492	107/33	Parting	0.3	Planar	Smooth	Open
55	21.407	226/81	Joint	0.3	Planar	Rough	Tight
56	21.635	323/50	Joint	5.0	Planar	Smooth	Open
57	21.705	023/52	Joint	0.5	Planar	Smooth	Open
58	21.957	024/66	Joint	0.5	Planar	Rough	Tight
59	22.367	112/33	Parting	0.5	Planar	Smooth	Open
60	22.414	103/34	Parting	0.3	Planar	Smooth	Open

C-33.STR

<<FOLIATION>>



Number of Data : 4/60

<Legend>

○	:Foliation	4	+	:Mineralban-	0
◇	:Joint	0			
□	:Parting	0			
△	:Fault	0			
▽	:ShearZone-	0			
×	:Vein	0			

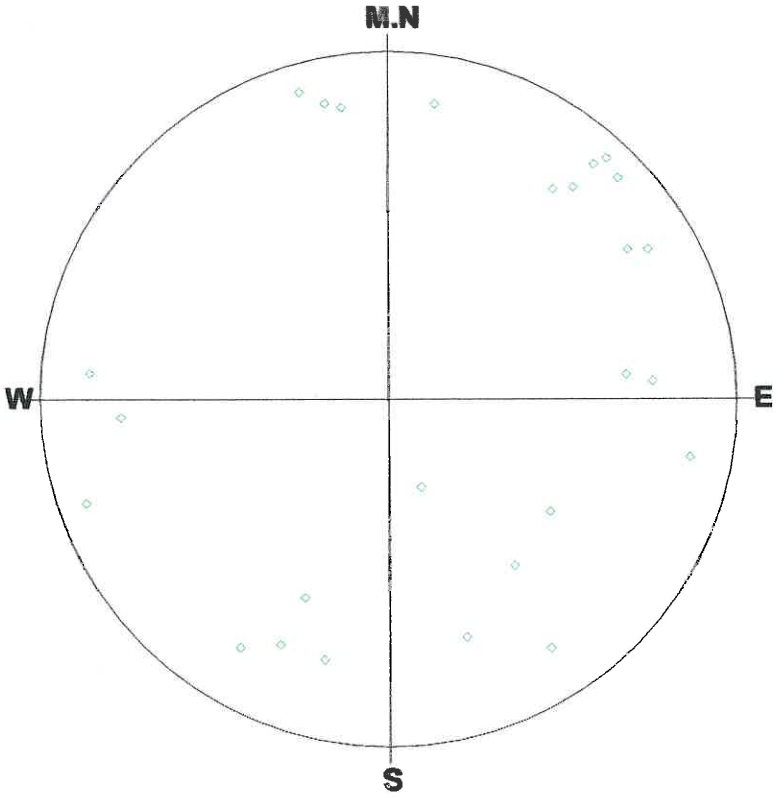
Schmidt (L.H)

Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<JOINT>>



Number of Data : 26/60

<Legend>

○ :Foliation	-- 0	+ :Mineralban-	0
◇ :Joint	-- 26		
□ :Parting	-- 0		
△ :Fault	-- 0		
▽ :ShearZone-	0		
× :Vein	-- 0		

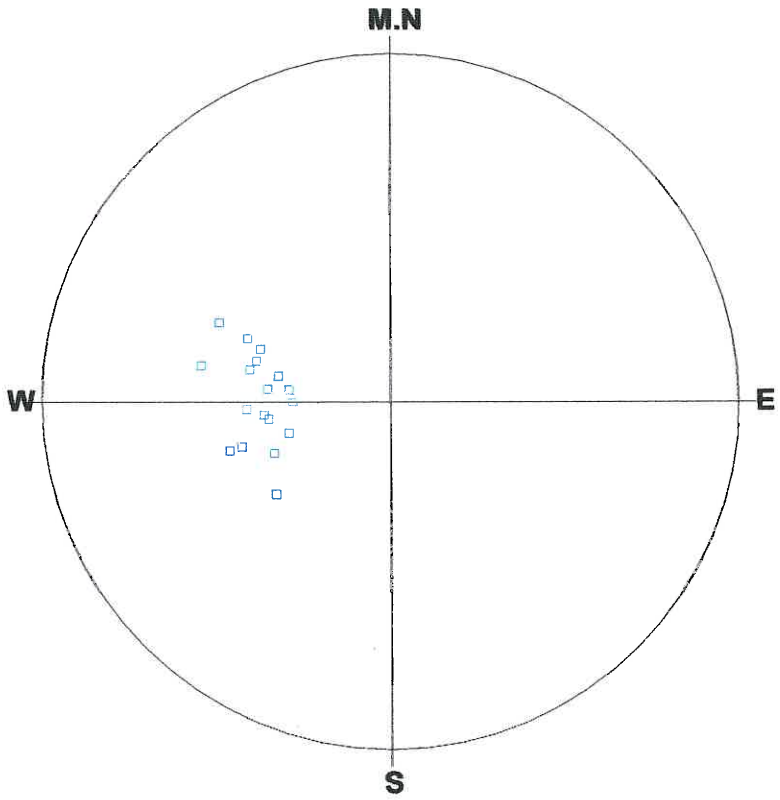
Schmidt (L.H)

Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<PARTING>>



Number of Data : 18/60

<Legend>

○ :Foliation	-- 0	+ :Mineralban-	0
◇ :Joint	-- 0		
□ :Parting	-- 18		
△ :Fault	-- 0		
▽ :ShearZone-	0		
× :Vein	-- 0		

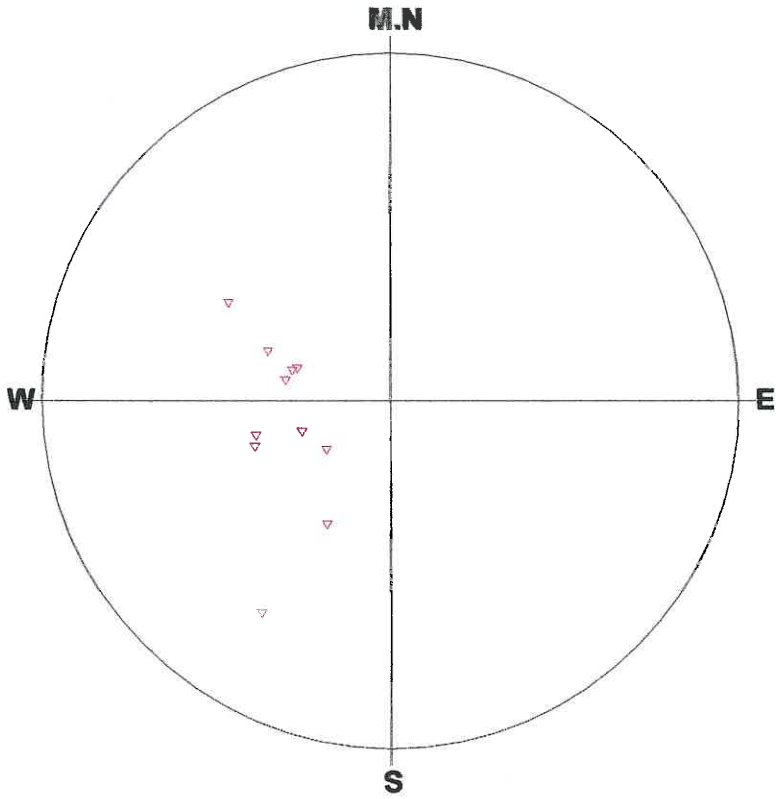
Schmidt (L.H)

Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<SHEAR ZONE>>



Number of Data : 11/60

<Legend>

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◇ :Joint	-- 0		
□ :Parting	-- 0		
△ :Fault	-- 0		
▽ :ShearZone-	11		
× :Vein	-- 0		

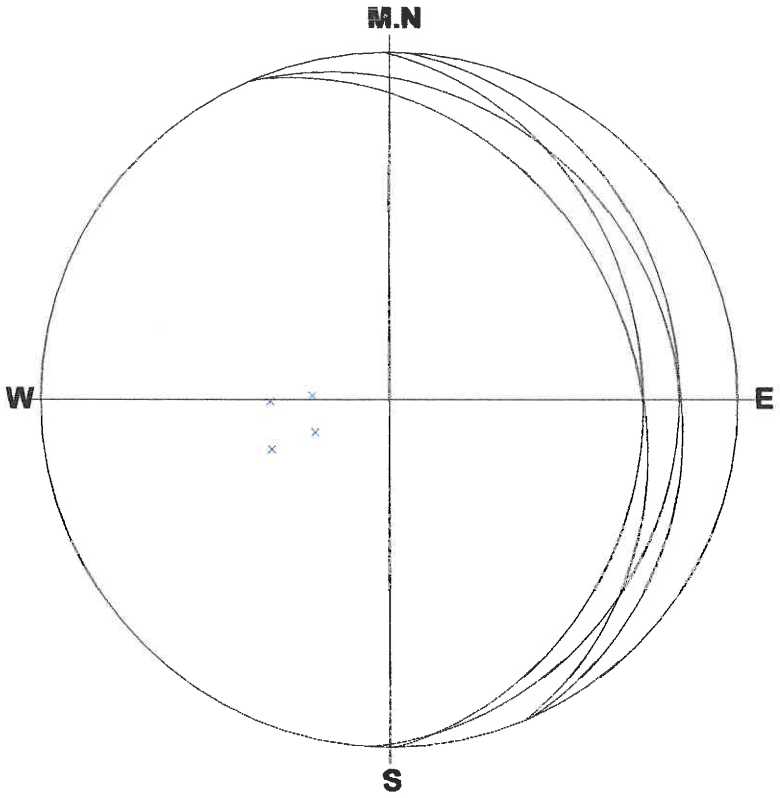
Schmidt (L.H)

Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<FOLIATION>>



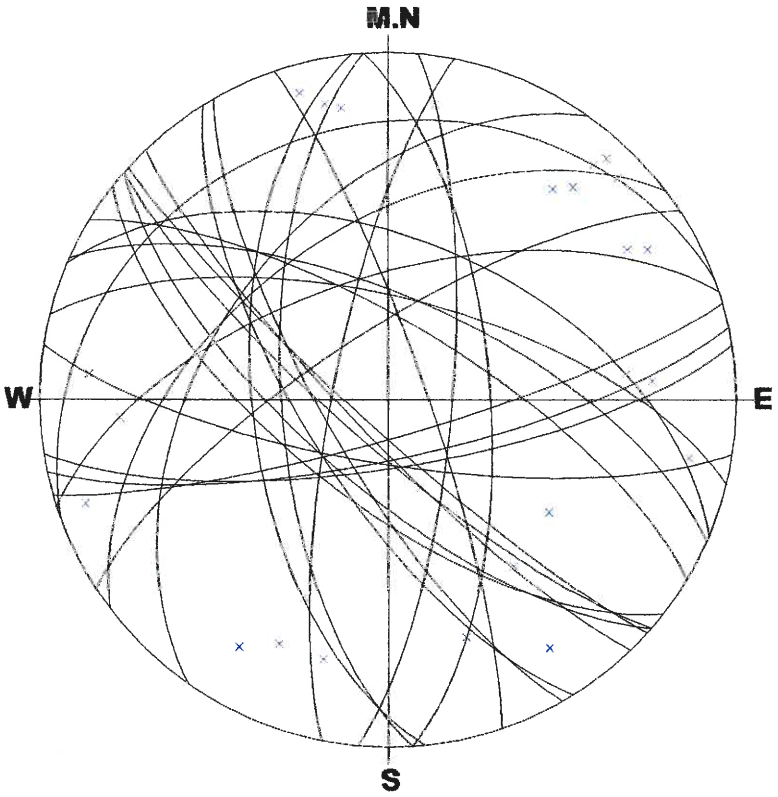
Number of Data:4/60

1 : 066/19(1)
2 : 089/28(3)
3 : 093/18(19)
4 : 067/30(29)

Schmidt (L.H)

Depth : 1.932 - 22.414 m
Aperture : 0.0 - 45.0 mm

C-33.STR
<<JOINT>>



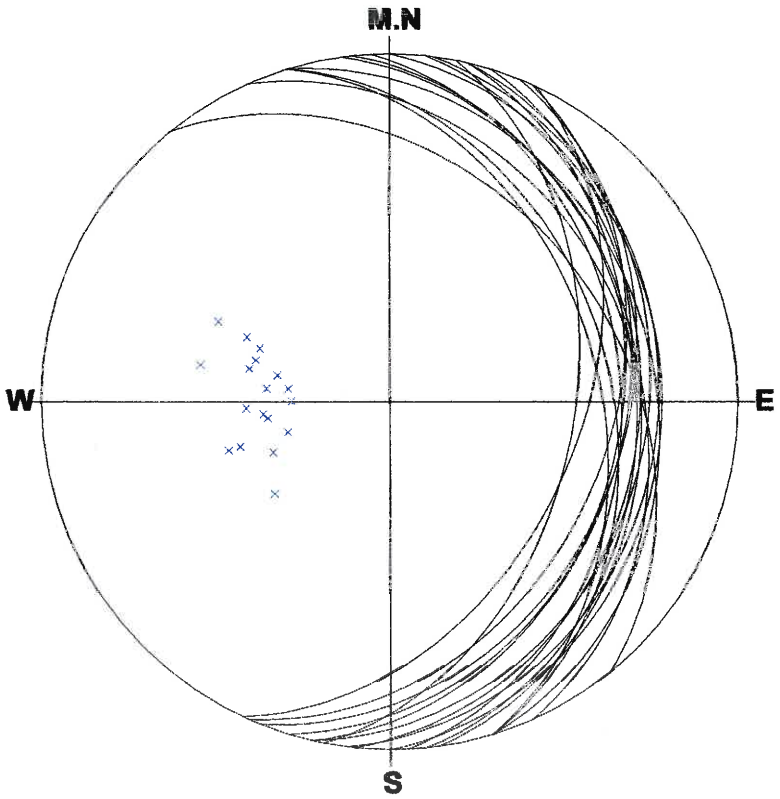
Number of Data:26/60

1 : 168/76(5)	**6 : 264/58(18)**
2 : 095/75(11)	**7 : 238/70(20)**
3 : 014/66(13)	**8 : 240/75(23)**
4 : 266/65(15)	**9 : 031/72(24)**
5 : 281/77(16)	**10 : 218/66(26)**

Schmidt (L.H) M

Depth : 1.932 - 22.414 m
Aperture : 0.0 - 45.0 mm

C-33.STR
<<PARTING>>



Number of Data:18/60

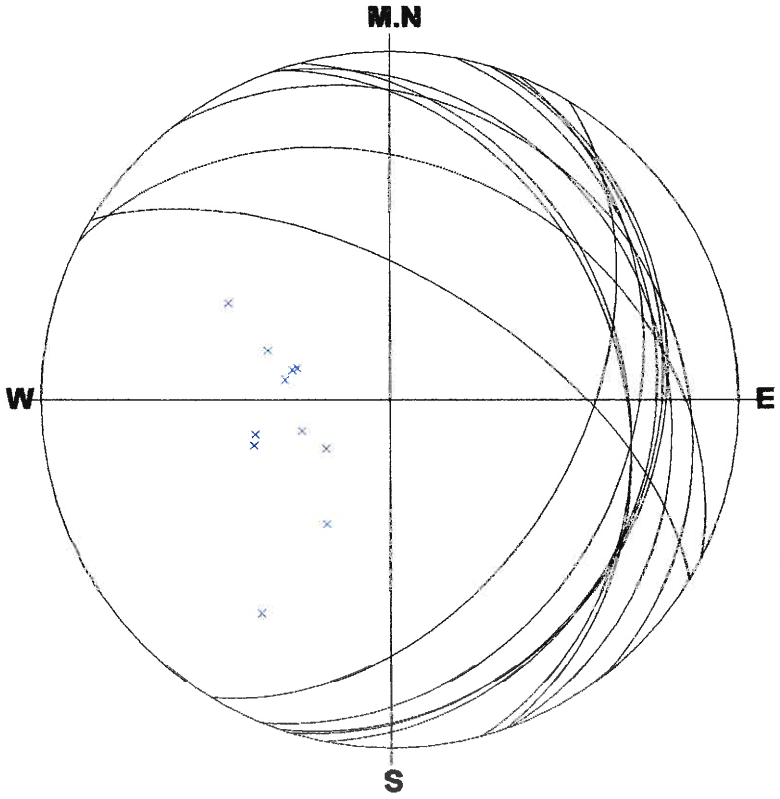
1 : 101/46(2)	**6 : 090/23(22)**
2 : 073/25(4)	**7 : 066/30(25)**
3 : 073/37(10)	**8 : 087/34(30)**
4 : 073/40(12)	**9 : 051/35(31)**
5 : 097/24(21)	**10 : 103/27(32)**

Schmidt (L.H)

Depth : 1.932 - 22.414 m
Aperture : 0.0 - 45.0 mm

C-33.STR

<<SHEAR ZONE>>



Number of Data:11/60

1 : 121/45(6)	**6 : 071/34(28)**
2 : 070/22(7)	**7 : 052/19(38)**
3 : 109/23(8)	**8 : 027/33(40)**
4 : 031/61(14)	**9 : 112/31(44)**
5 : 075/33(17)	**10 : 107/24(45)**

Schmidt (L.H)

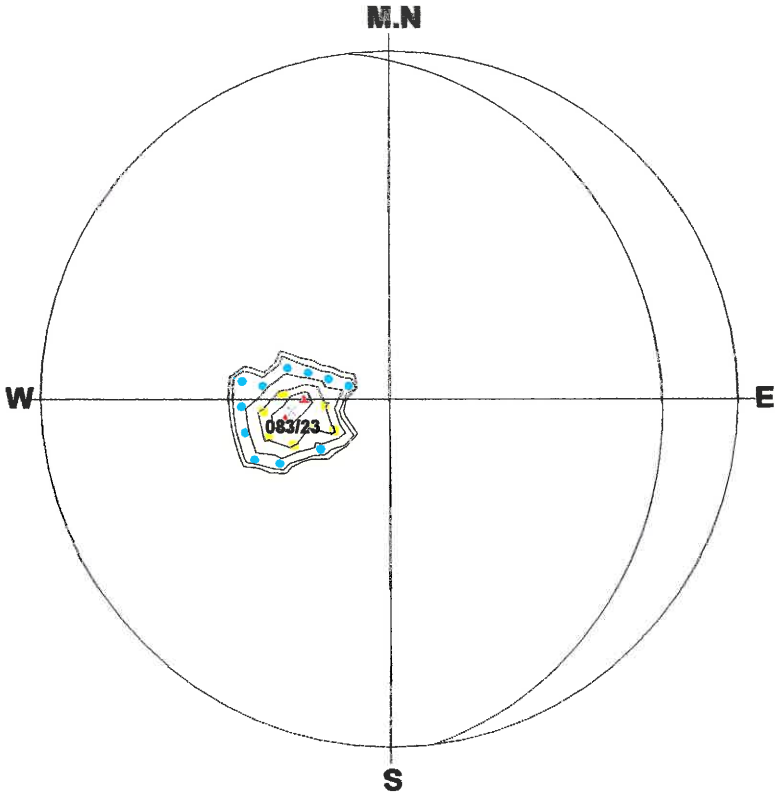
Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<FOLIATION>>

****** % Diagram ******



Number of Data : 4

<Legend> Sym. (%)	Contour Value (%)
▲ : 75	Contour 1 : 0
▼ : 60 - 75	Contour 2 : 15
■ : 45 - 60	Contour 3 : 30
◆ : 30 - 45	Contour 4 : 45
● : 15 - 30	Contour 5 : 60
+ : 0 - 15	Contour 6 : 75

Schmidt (L.H)

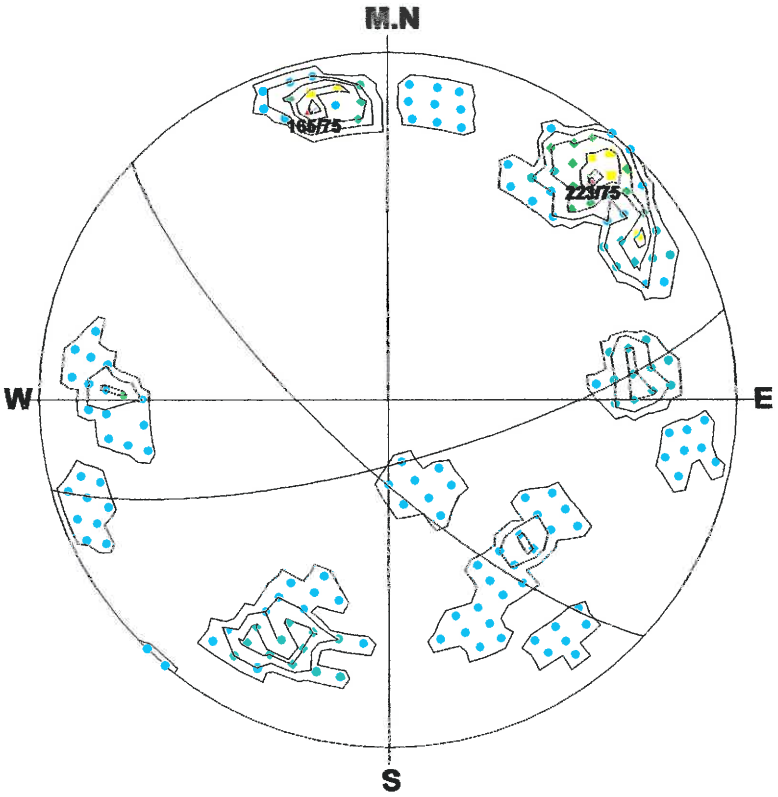
Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<JOINT>>

****** % Diagram ******



Number of Data : 26

<Legend> Sym. (%)	Contour Value (%)
▲ : 15	Contour 1 : 0
▼ : 12 - 15	Contour 2 : 3
■ : 9 - 12	Contour 3 : 6
◆ : 6 - 9	Contour 4 : 9
● : 3 - 6	Contour 5 : 12
+ : 0 - 3	Contour 6 : 15

Schmidt (L.H)

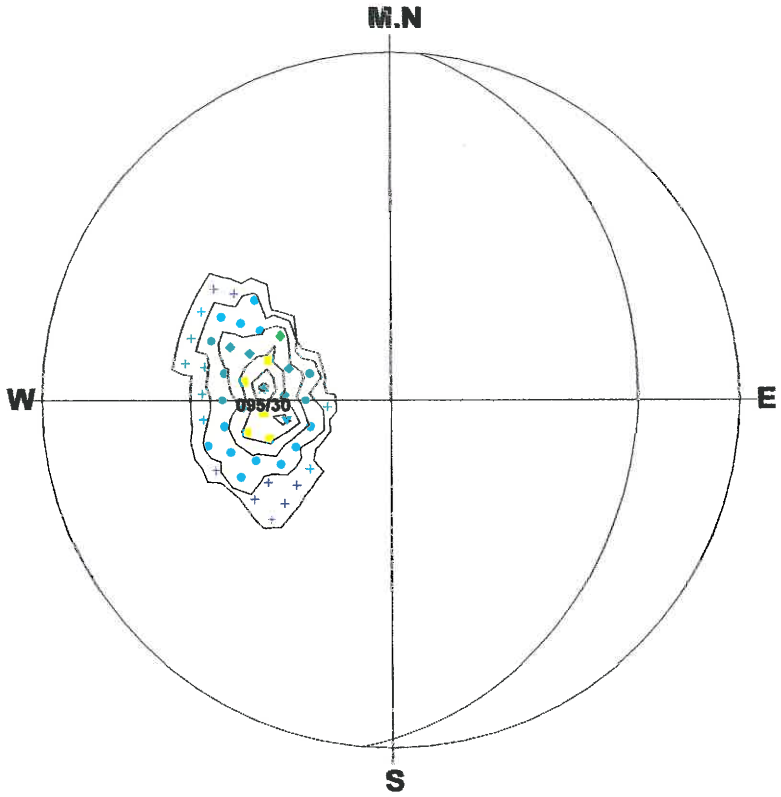
Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<PARTING>>

******** % Diagram ********



Number of Data : 18

<Legend> Sym. (%)	
▲	55
▼	44 - 55
■	33 - 44
◆	22 - 33
●	11 - 22
+	0 - 11

Contour Value (%)	
Contour 1 :	0
Contour 2 :	11
Contour 3 :	22
Contour 4 :	33
Contour 5 :	44
Contour 6 :	55

Schmidt (L.H)

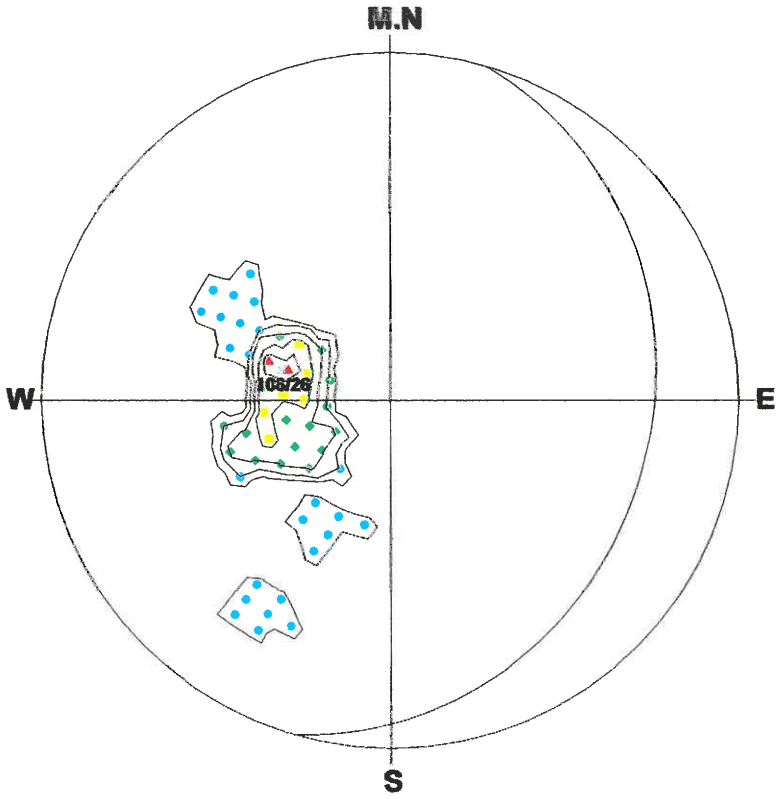
Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<SHEAR ZONE>>

****** % Diagram ******



Number of Data : 11

<Legend> Sym. (%)	Contour Value (%)
▲ : 36	Contour 1 : 0
▼ : 29 - 36	Contour 2 : 7
■ : 21 - 29	Contour 3 : 14
◆ : 14 - 21	Contour 4 : 21
● : 7 - 14	Contour 5 : 29
+ : 0 - 7	Contour 6 : 36

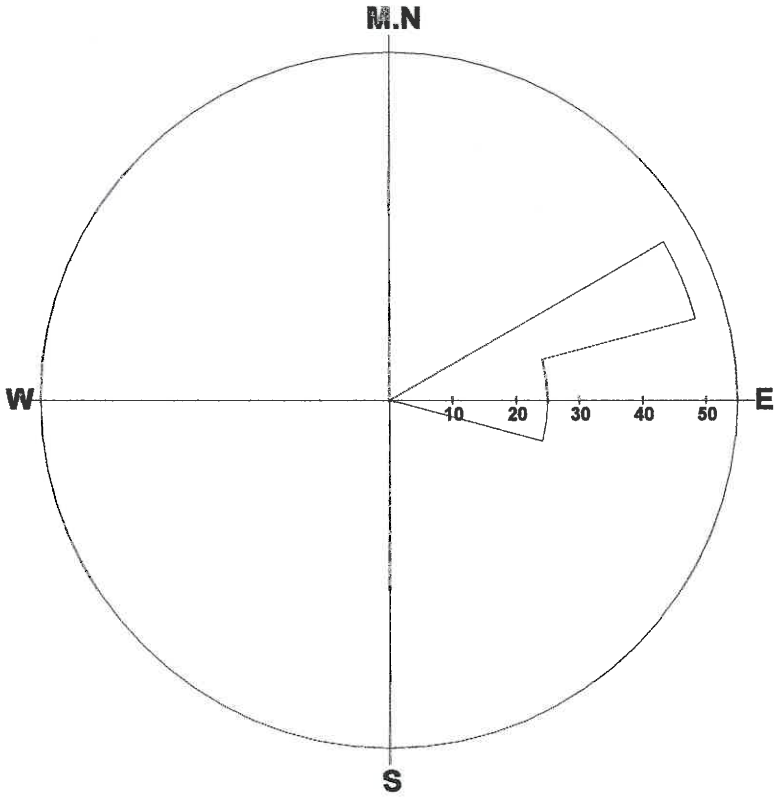
Schmidt (L.H)

Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<FOLIATION>>



Number of Data : 4/60

Max : 50.0% **Grouping Angle : 15 deg**

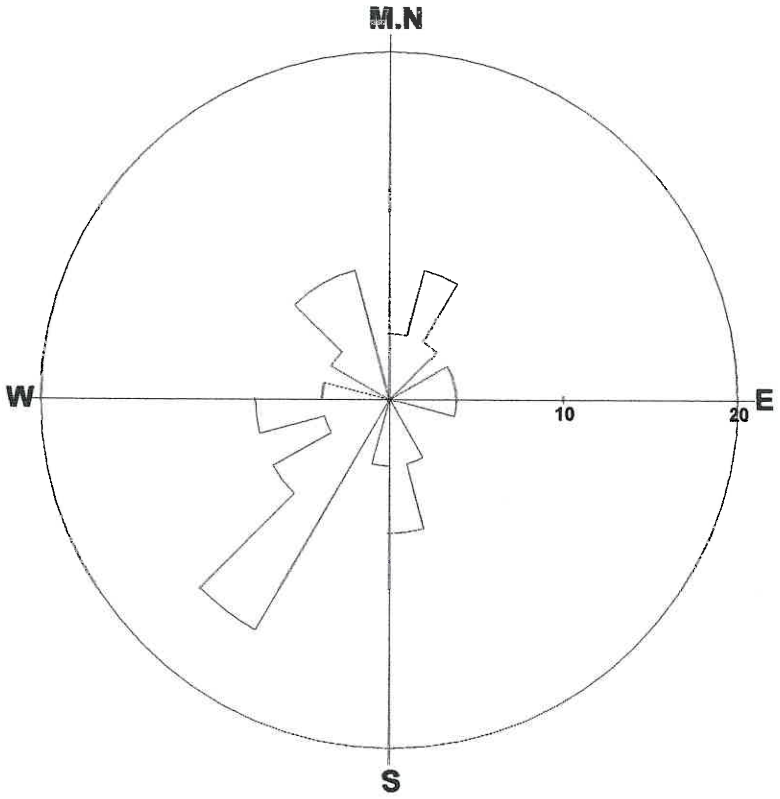
Dir	%	Dir	%	Dir	%
0-	0	135-	0	270-	0
15-	0	150-	0	285-	0
30-	0	165-	0	300-	0
45-	0	180-	0	315-	0
60-	50	195-	0	330-	0
75-	25	210-	0	345-	0
90-	25	225-	0		
105-	0	240-	0		
120-	0	255-	0		

Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<JOINT>>



Number of Data : 26/60

Max : 15.4%

Grouping Angle : 15 deg

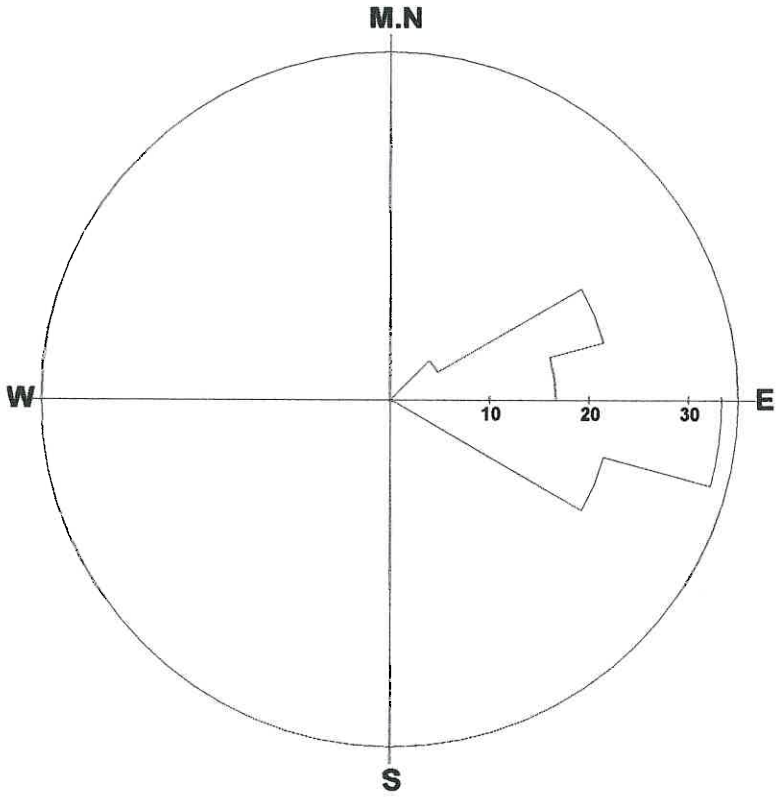
Dir	%	Dir	%	Dir	%
0-	4	135-	0	270-	4
15-	8	150-	4	285-	0
30-	4	165-	8	300-	4
45-	0	180-	4	315-	8
60-	4	195-	0	330-	8
75-	4	210-	15	345-	0
90-	4	225-	8		
105-	0	240-	4		
120-	0	255-	8		

Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<PARTING>>



Number of Data : 18/60

Max : 33.3%

Grouping Angle : 15 deg

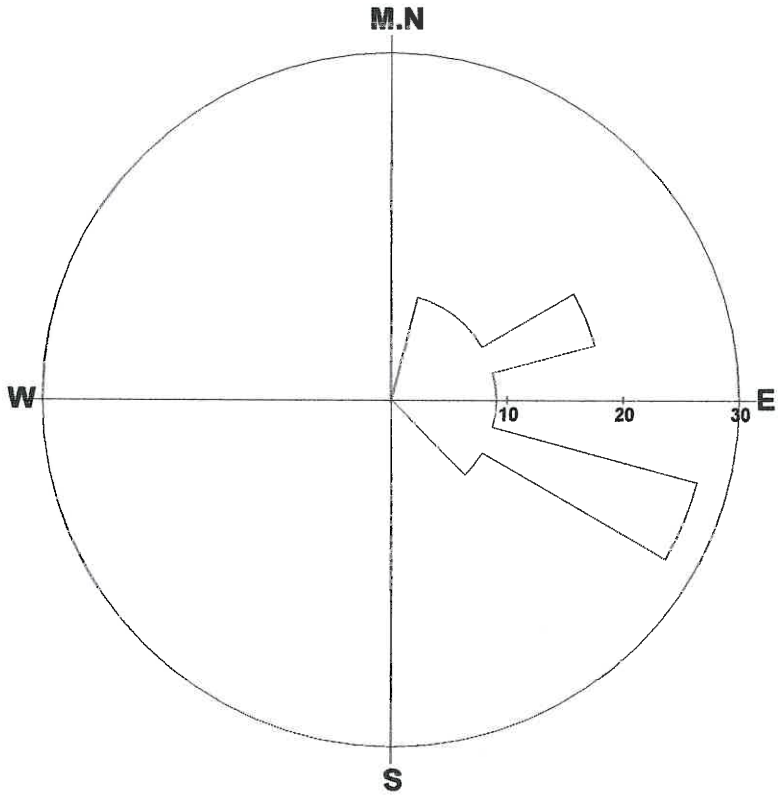
Dir	%	Dir	%	Dir	%
0-	0	135-	0	270-	0
15-	0	150-	0	285-	0
30-	0	165-	0	300-	0
45-	6	180-	0	315-	0
60-	22	195-	0	330-	0
75-	17	210-	0	345-	0
90-	33	225-	0		
105-	22	240-	0		
120-	0	255-	0		

Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

C-33.STR

<<SHEAR ZONE>>



Number of Data : 11/60

Max : 27.3%

Grouping Angle : 15 deg

Dir	%	Dir	%	Dir	%
0-	0	135-	0	270-	0
15-	9	150-	0	285-	0
30-	9	165-	0	300-	0
45-	9	180-	0	315-	0
60-	18	195-	0	330-	0
75-	9	210-	0	345-	0
90-	9	225-	0		
105-	27	240-	0		
120-	9	255-	0		

Depth : 1.932 - 22.414 m

Aperture : 0.0 - 45.0 mm

Title: C-33.STR
Comment: JOINT
Depth: 1.932 - 22.414 m
Aperture: 0.0 - 45.0 mm

Sort: 1/ 7
Form: 5/ 5
Condition: 11/11
Remark: 9/ 9

2011/ 8/ 31

Elevation: 0.000m
Water Level: 21.050m

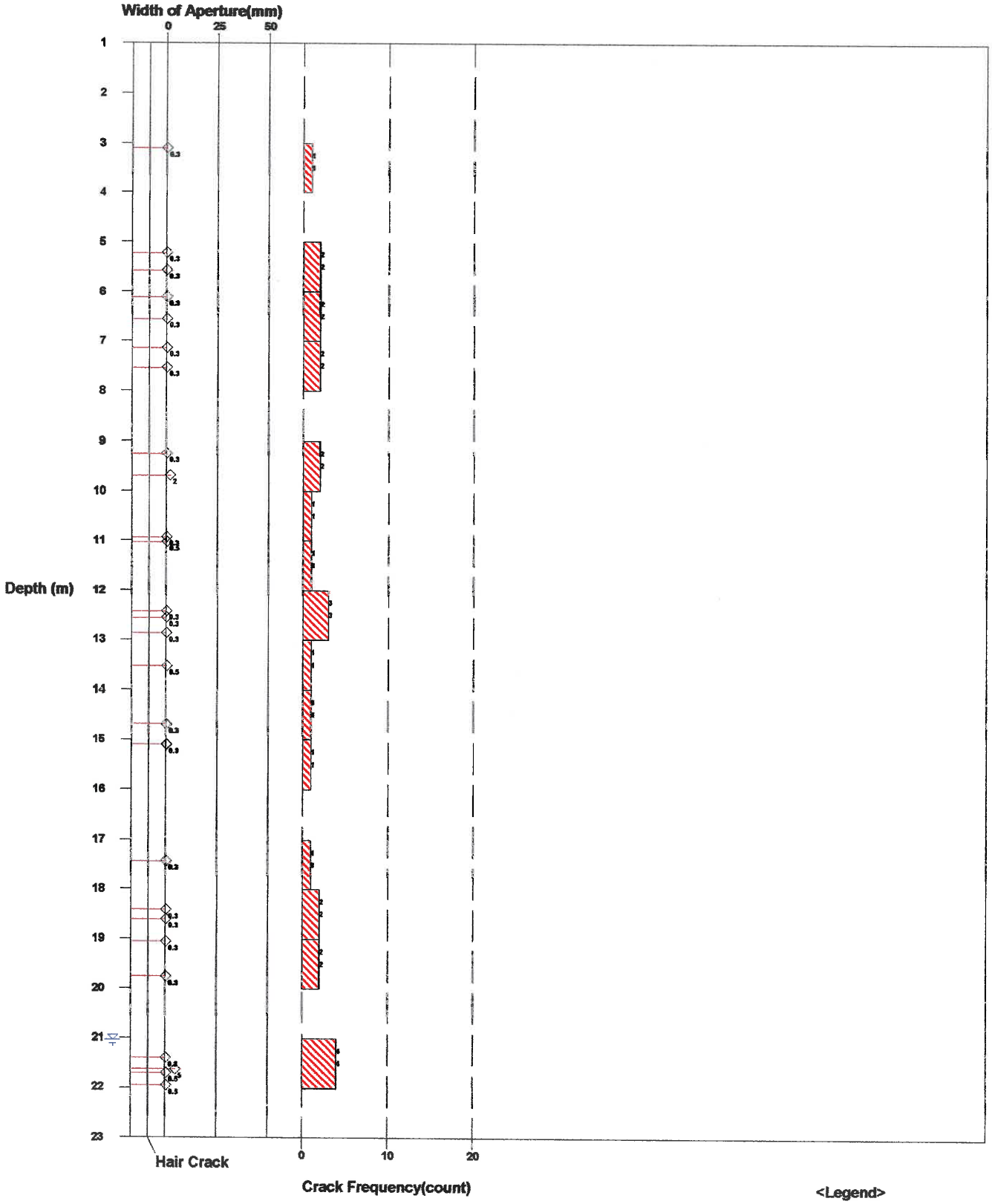


Fig. Rock Mass Condition Graph

Title: C-33.STR
Comment: PARTING
Depth: 1.932 - 22.414 m
Aperture: 0.0 - 45.0 mm

Sort: 1/ 7
Form: 5/ 5
Condition: 11/11
Remark: 9/ 9

2011/ 8/ 31

Elevation: 0.000m
Water Level: 21.050m

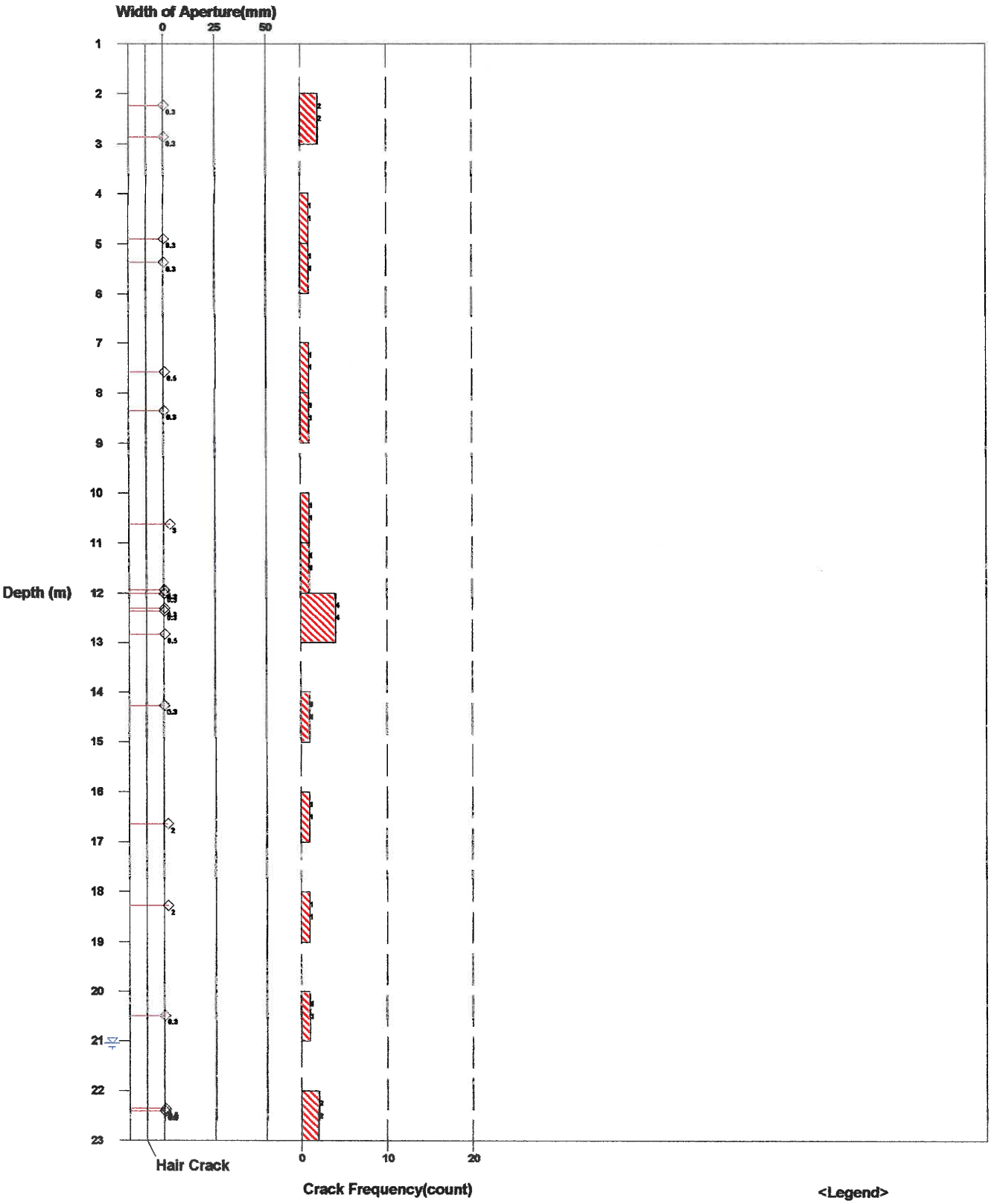


Fig. Rock Mass Condition Graph

Title: C-33.STR
Comment: SHEAR ZONE
Depth: 1.932 - 22.414 m
Aperture: 0.0 - 45.0 mm

Sort: 1/ 7
Form: 5/ 5
Condition: 11/11
Remark: 9/ 9

2011/ 8/ 31

Elevation: 0.000m
Water Level: 21.050m

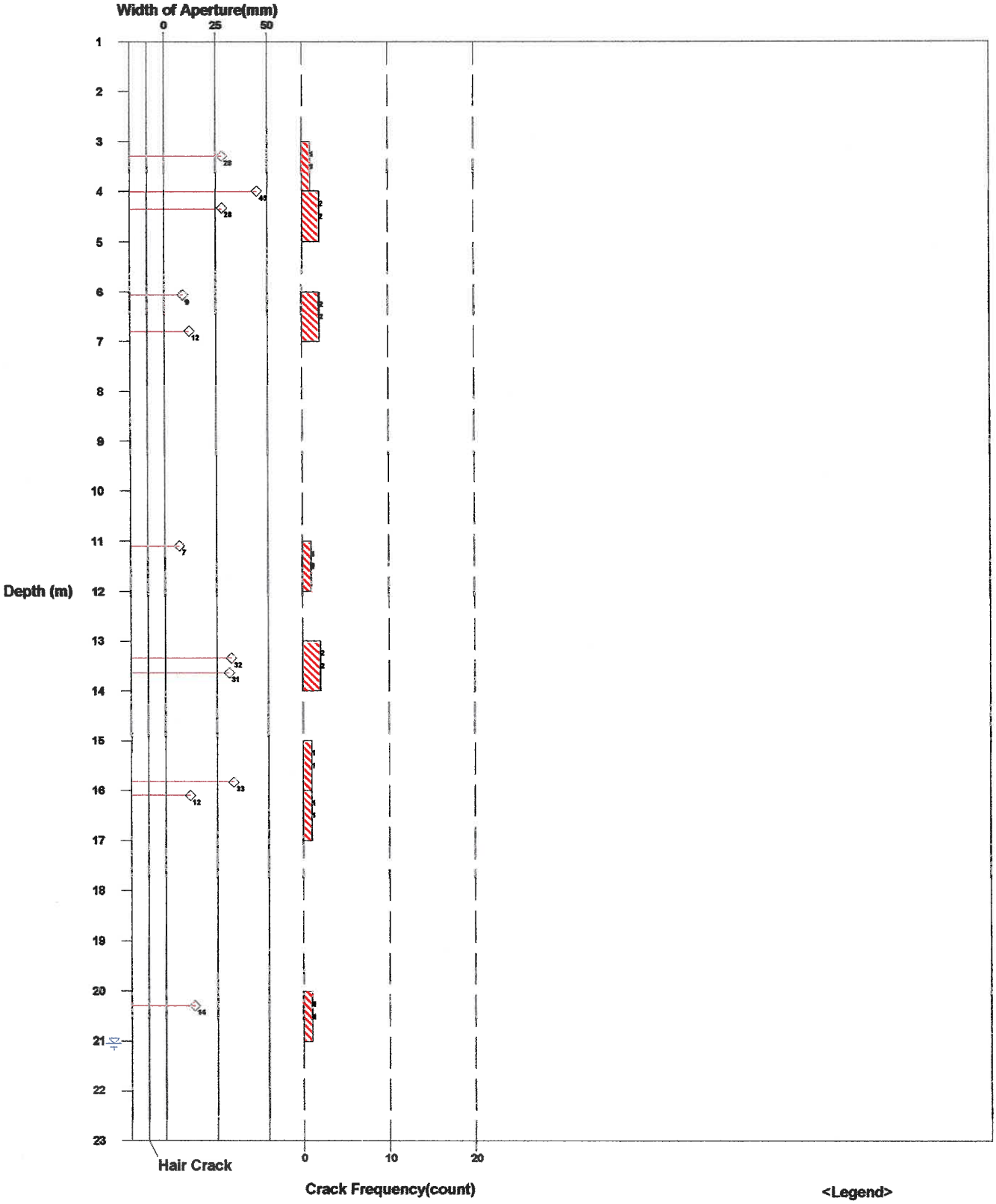


Fig. Rock Mass Condition Graph

Title: C-33.STR
Comment: FOLIATION
Depth: 1.932 - 22.414 m
Aperture: 0.0 - 45.0 mm

Sort: 1/ 7
Form: 5/ 5
Condition: 11/11
Remark: 9/ 9

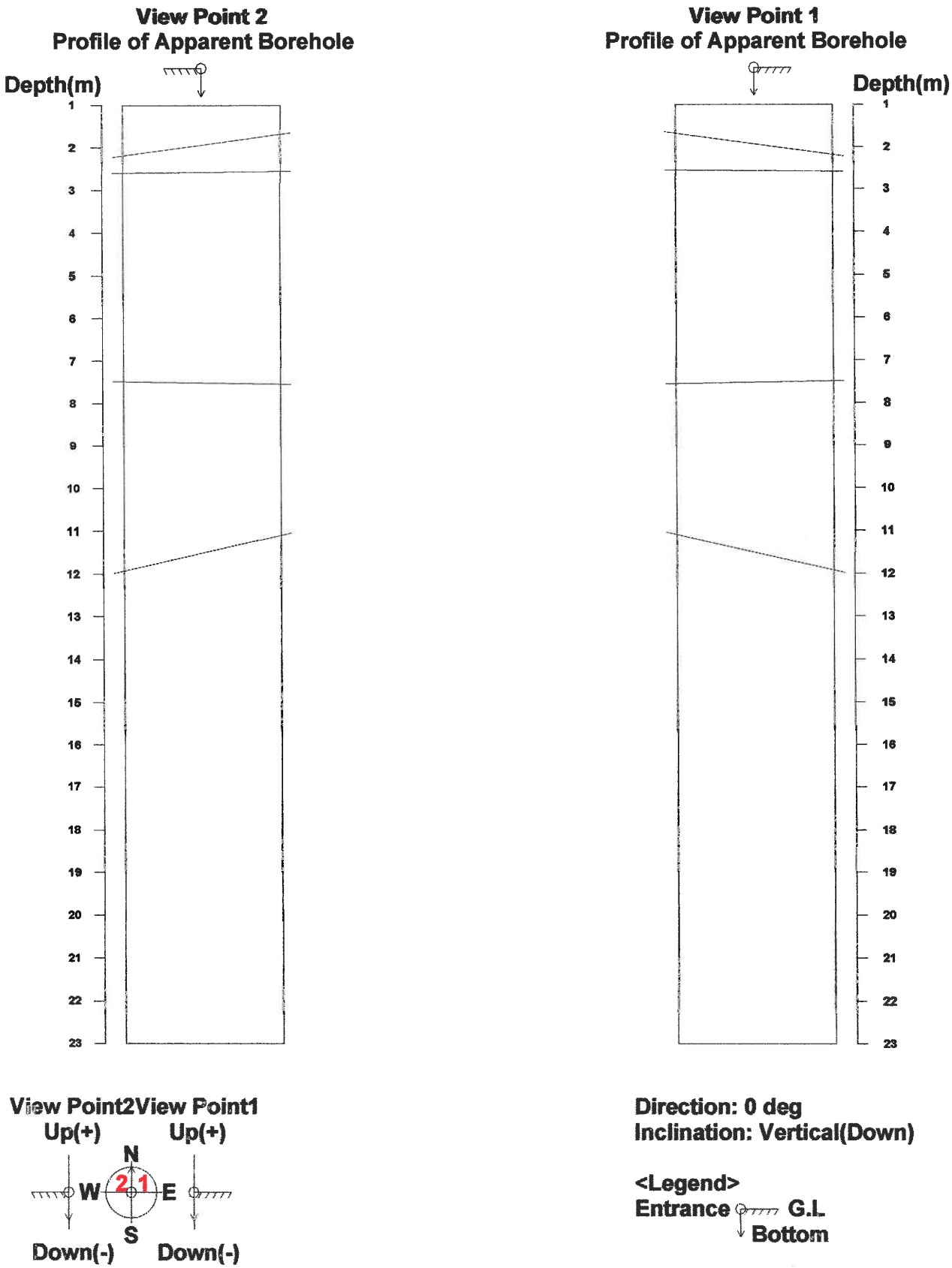
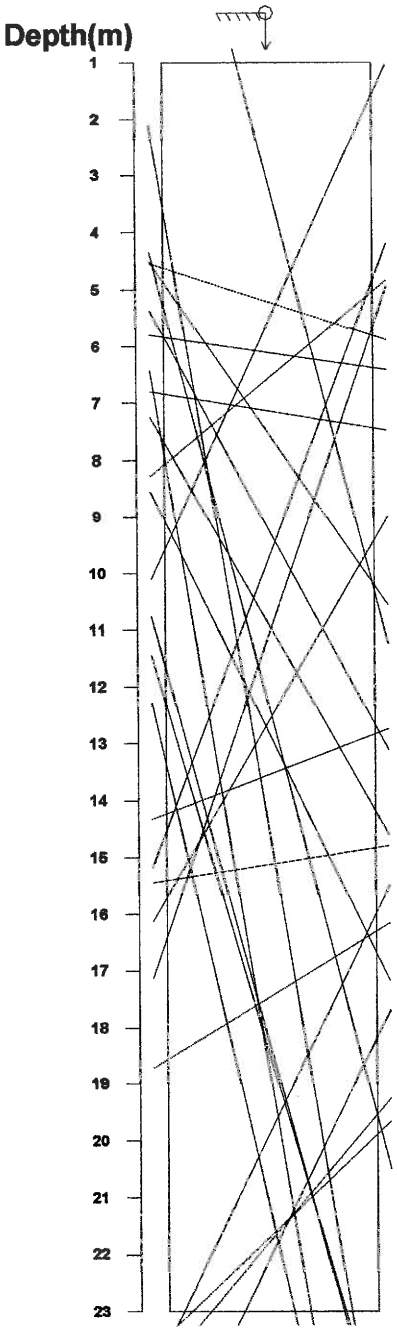


Fig. Apparent Dip

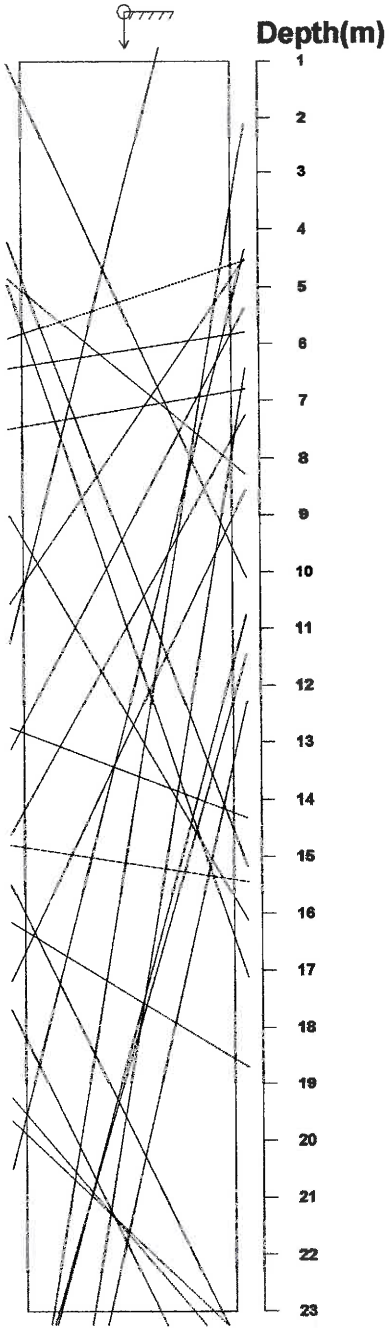
Title: C-33.STR
Comment: JOINT
Depth: 1.932 - 22.414 m
Aperture: 0.0 - 45.0 mm

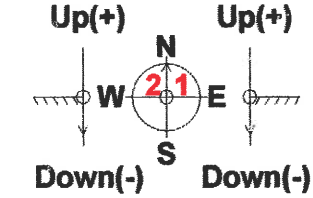
Sort: 1/ 7
Form: 5/ 5
Condition: 11/11
Remark: 9/ 9

View Point 2
Profile of Apparent Borehole



View Point 1
Profile of Apparent Borehole





Direction: 0 deg
Inclination: Vertical(Down)

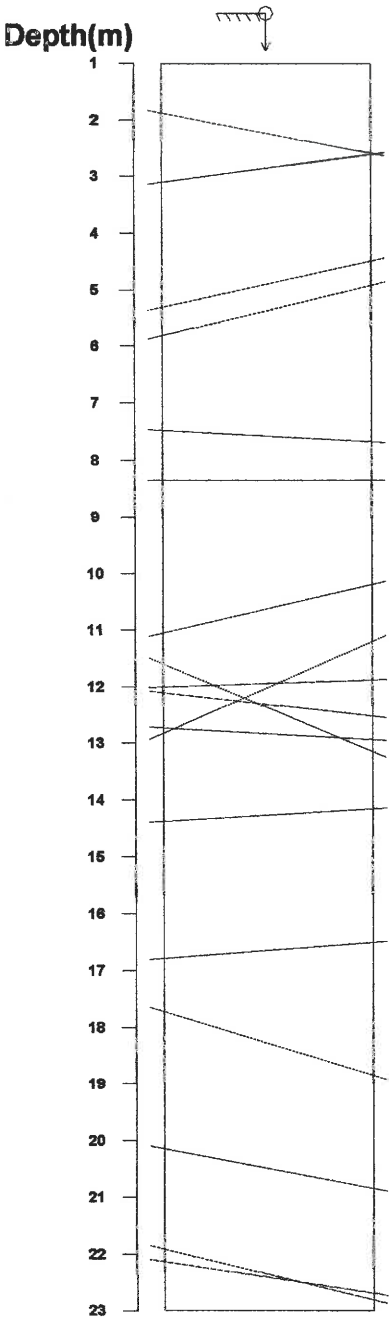
<Legend>
Entrance G.L
Bottom

Fig. Apparent Dip

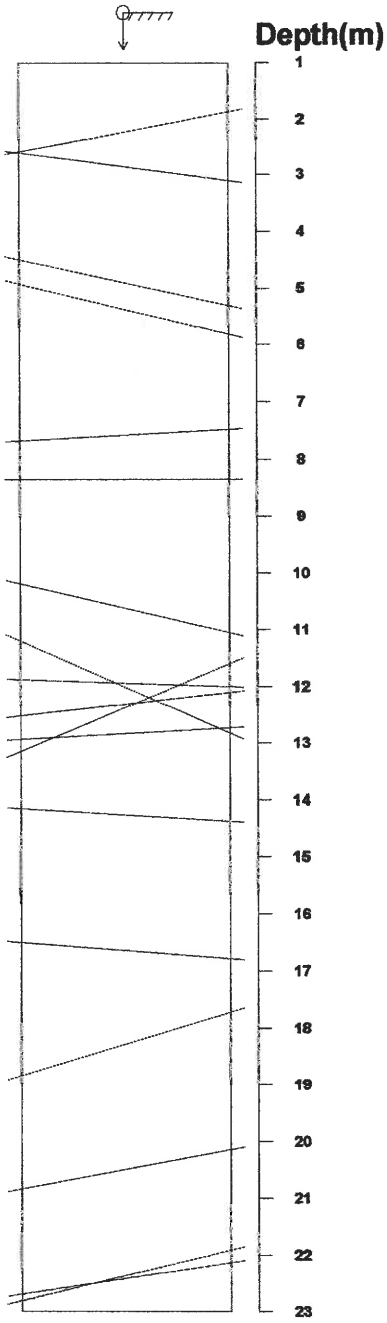
Title: C-33.STR
Comment: PARTING
Depth: 1.932 - 22.414 m
Aperture: 0.0 - 45.0 mm

Sort: 1/ 7
Form: 5/ 5
Condition: 11/11
Remark: 9/ 9

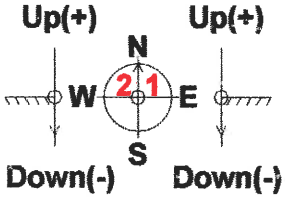
View Point 2
Profile of Apparent Borehole



View Point 1
Profile of Apparent Borehole



View Point2View Point1



Direction: 0 deg
Inclination: Vertical(Down)

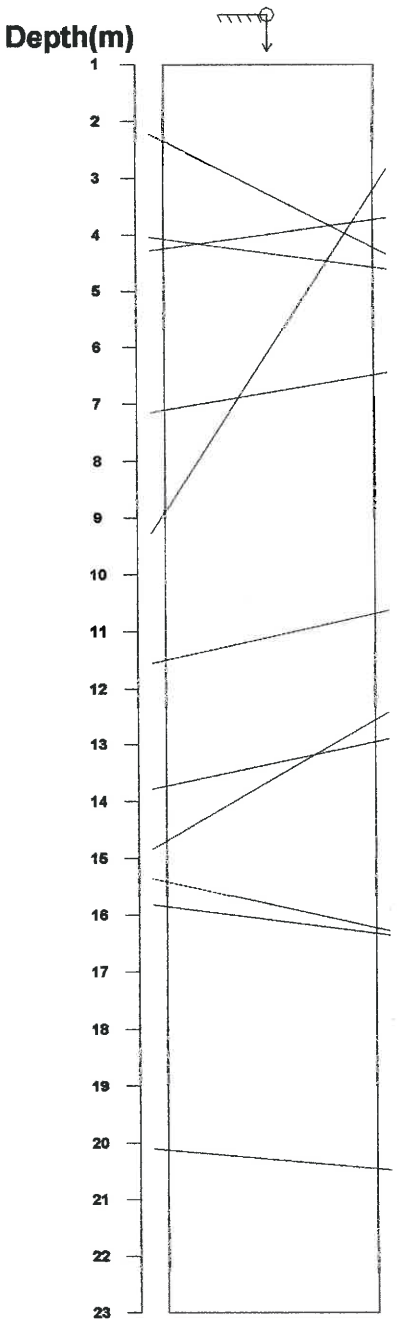
<Legend>
Entrance G.L
Bottom

Fig. Apparent Dip

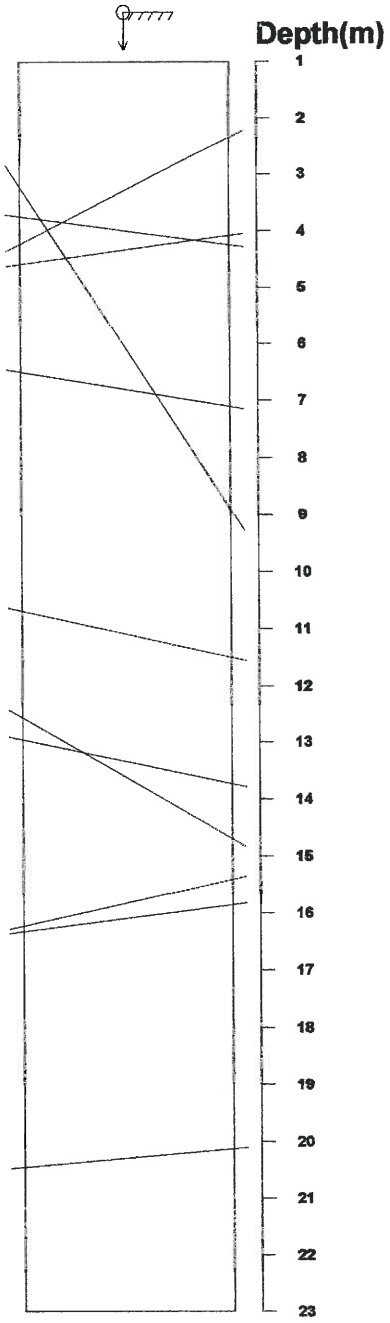
Title: C-33.STR
Comment: SHEAR ZONE
Depth: 1.932 - 22.414 m
Aperture: 0.0 - 45.0 mm

Sort: 1/ 7
Form: 5/ 5
Condition: 11/11
Remark: 9/ 9

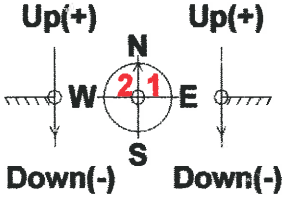
View Point 2
Profile of Apparent Borehole



View Point 1
Profile of Apparent Borehole



View Point2 View Point1
Up(+) Up(+)



Down(-) Down(-)

Direction: 0 deg
Inclination: Vertical(Down)

<Legend>
Entrance G.L.
Bottom

Fig. Apparent Dip