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ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/5-2009

BOREHOLE No BH033
SHEET 1 of 2
REFERENCE No H10603

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 12 COORDINATES 485015.0 E; 7081080.3 N
PROJECT No FG5825 SURFACE R.L. 169.32m PLUNGE _____ DATE STARTED 11/8/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 12/8/09 DRILLER R & D Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	169.32											
1				A	Clayey SILT (RESIDUAL) Light red grading to brown, moist, stiff.		(ML)				4,6,8 N=14	SPT
2	167.82			B	PHYLLITE (XW): Generally exhibits the engineering properties of light brown, moist, hard, clayey Silt.		XW				11,17,22 N=39	SPT
3	166.32			C							21,30/90 N>50	SPT
4			(0)		PHYLLITE (MW): Light brown to pale grey, fine grained, foliated. Foliation dips at 30°. Defects are generally close to medium spaced. Prominent defect set parallel to foliation. Defect surfaces are typically iron stained or thinly clay infilled.					Clay seam Clay seam (sub-vertical)	Is(50) = 0.46MPa Is(50) = 0.10MPa	o x
5			100 (87)								Is(50) = 0.00MPa Is(50) = 0.30MPa Is(50) = 0.00MPa	x o x
6			93 (43)				MW				MC = 3.8%; UCS = 1.66MPa Is(50) = 0.35MPa Is(50) = 0.21MPa	UCS x o
7			100 (74)		Detailed defect descriptions are shown on Form GEOT533/8 attached.						Is(50) = 0.51MPa Is(50) = 0.25MPa	o x
8			100 (71)								Is(50) = 0.54MPa Is(50) = 0.64MPa	x o
9	160.52		100 (54)		PHYLLITE (MW - SW): (See over)		MW-SW				Is(50) = 0.64MPa Is(50) = 0.40MPa Is(50) = 0.45MPa Is(50) = 0.46MPa Is(50) = 0.66MPa Is(50) = 2.16MPa	o x x o
10											Is(50) = 0.69MPa Is(50) = 0.60MPa	x o

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached. RAAX images taken of borehole.

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ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/5-2009

BOREHOLE No BH033
SHEET 2 of 2
REFERENCE No H10603

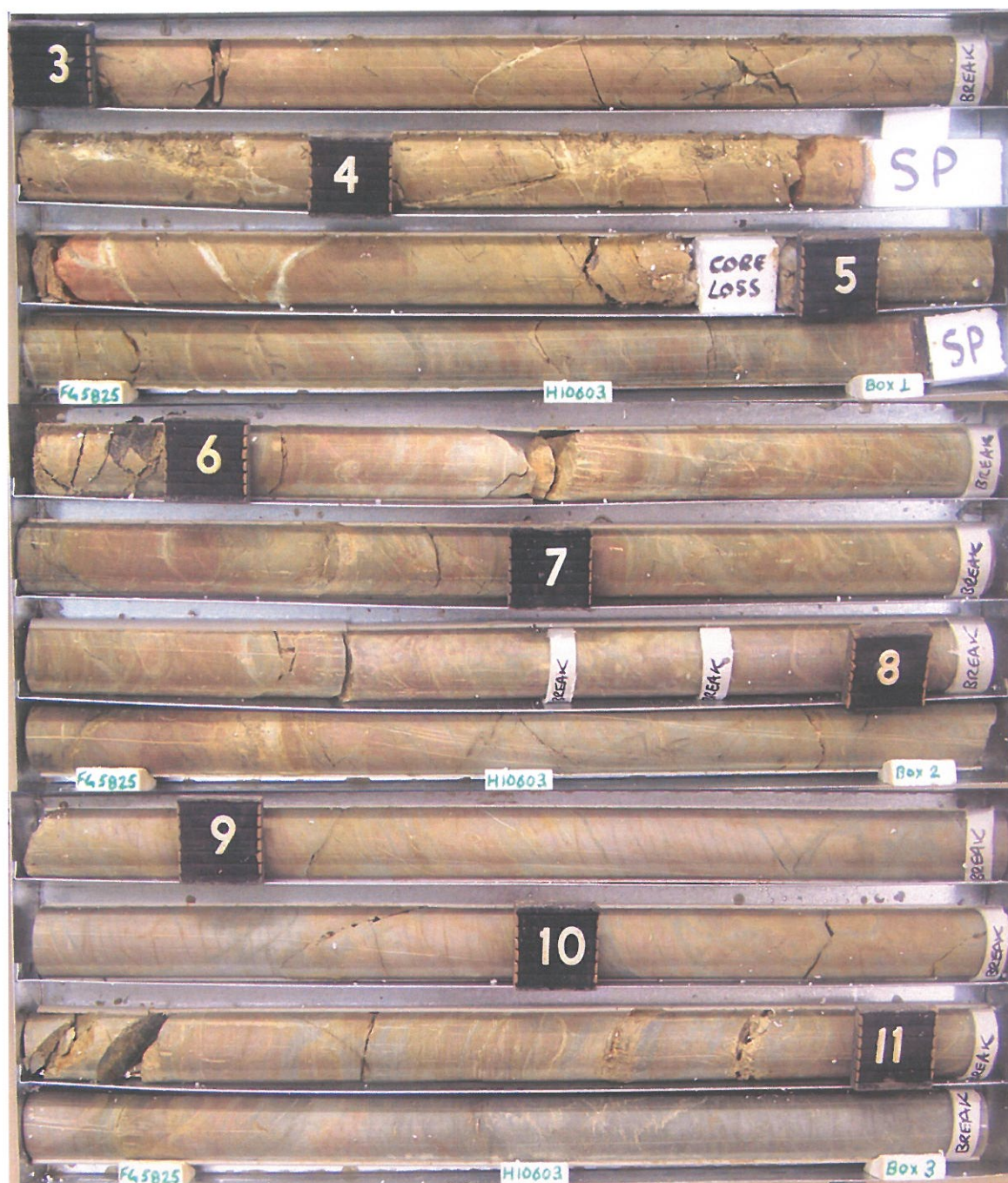
PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 12 COORDINATES 485015.0 E; 7081080.3 N
PROJECT No FG5825 SURFACE R.L. 169.32m PLUNGE _____ DATE STARTED 11/8/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 12/8/09 DRILLER R & D Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORE CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
10	159.32														
11			100 (64)			PHYLLITE (MW - SW): (Cont'd) Pale grey, fine grained, foliated. Foliation dips at 30°. Defects are generally medium to widely spaced. Prominent defect set parallel to foliation. Defect surfaces are typically iron stained or thinly clay infilled.							Is(50) = 0.35MPa Is(50) = 0.37MPa Clay seam Clay seam Is(50) = 0.61MPa Is(50) = 1.19MPa MC = 3.2%; UCS=7.86MPa	x o x o	
12			100 (87)										Is(50) = 0.19MPa Is(50) = 0.93MPa	x o	
13			100 (91)			Detailed defect descriptions are shown on Form GEOT533/8 attached.							Is(50) = 0.19MPa Is(50) = 0.65MPa Is(50) = 1.28MPa	x x o	
14			100 (91)										MC = 2.6%; UCS=4.21MPa Is(50) = 0.56MPa Is(50) = 1.14MPa Is(50) = 1.29MPa Is(50) = 1.01MPa	x o o o x	
15			100 (91)										Is(50) = 0.47MPa Is(50) = 0.54MPa	x o	
16			100 (54)										Is(50) = 0.66MPa Is(50) = 0.24MPa	x o	
17													Is(50) = 0.83MPa	x	
18	151.47		100			Borehole terminated at 17.85m							Is(50) = 1.23MPa Is(50) = 0.75MPa	o x	
19															
20															

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached. RAAX images taken of borehole.

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Project: **Bruce Highway Upgrade (Cooroy – Curra) Section A**
Borehole No: **BH33**
Start Depth: 3.00m
Finish Depth: 17.85m
Project No: FG5825
H No: 10603

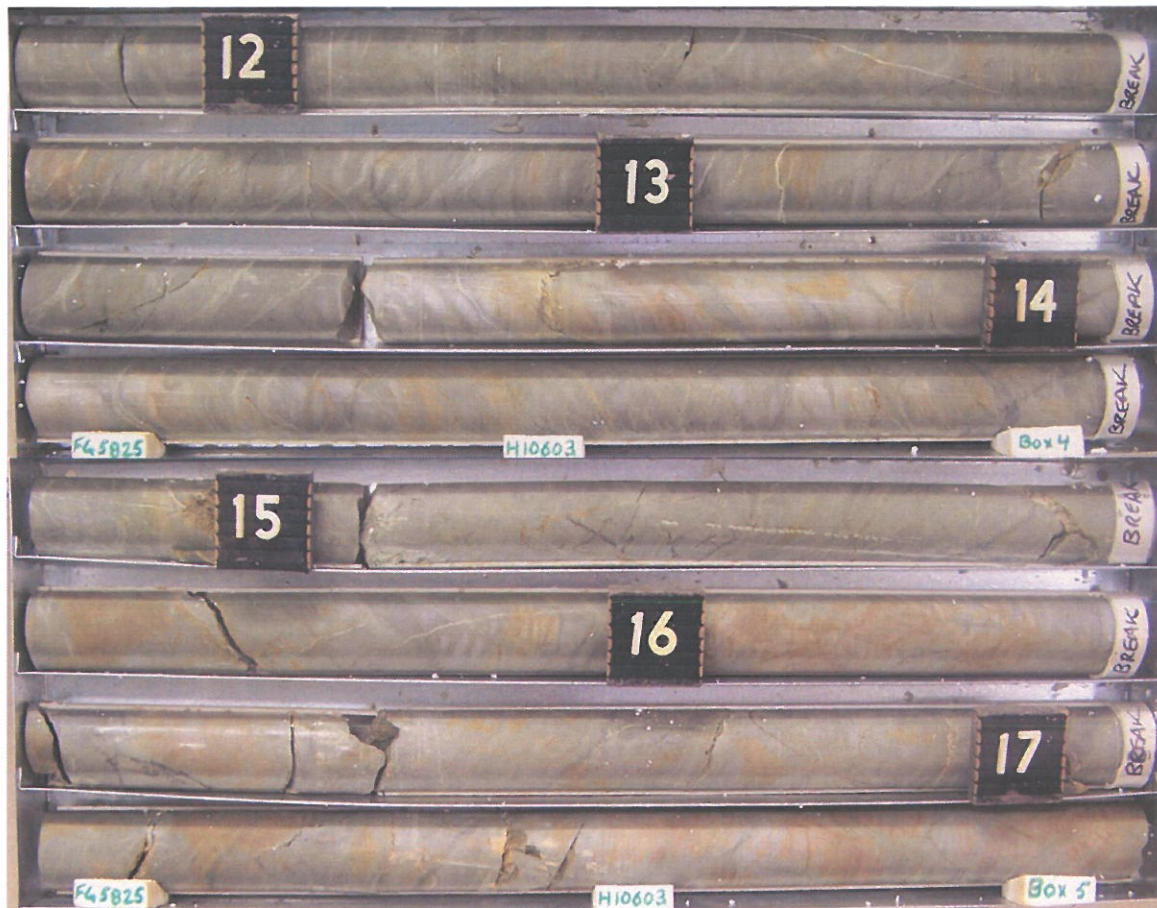


0 100 200 300 400 500 600mm

SCALE 1:5

F:GEOT043/1

Project: **Bruce Highway Upgrade (Cooroy – Curra) Section A**
Borehole No: **BH33**
Start Depth: 3.00m
Finish Depth: 17.85m
Project No: FG5825
H No: 10603



0 100 200 300 400 500 600mm

SCALE 1:5

F:GEOT043/1

GEOTECHNICAL BRANCH LABORATORY

Materials Services - Brisbane

35 Butterfield Street, HERSTON Q 4006

Phone: (07) 3115 3035 Fax: (07) 3115 3011

DEFECT DESCRIPTIONS OF ENGINEERING BORELOGS

[CHARACTERISATION OF DEFECTS ARE IN ACCORDANCE WITH
ISRM SUGGESTED METHODS (1981)]

BOREHOLE NO.:	BH33
SHEET:	1 of 4
REFERENCE NO.:	H10603

PROJECT: Bruce Highway (Cooroy – Curra) Section A Geotechnical Investigation**LOCATION:** Cut 12**PROJECT NO.:** FG5825**SURFACE R.L.:** 169.3**DRILLER:** R & D Drilling**JOB NO.:** 128/10A/901**DATUM:** AHD**DATE DRILLED:** 11/8/09

DEPTH	DEFECT TYPE	DIP	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
3.06	J	30°	Pl	R	O		Cn
3.10	J	20°	Ir	S	O		
3.12	J	10°	Ir	S	T		
3.15	J	15°	Ir	S	O	FeSt	
3.18	J	10°	St	R	T		
3.21	J	10°	St	S	O		
3.22	J	10°	St	S	O		
3.25	J	10°	Pl	S	O		
3.29	J	15°	Pl	S	C		
3.37	J	35°	Pl	S	C		Cn
3.41	J	15°	Pl	S	O		
3.44	J	15°	Ir	R	O	FeSt	
3.46	J	15°	Ir	R	O	FeSt	
3.50	J	15°	Ir	R	O	FeSt	
3.56	J	10°	Ir	R	O	FeSt	
3.58	J	50°	Ir	R	O	FeSt	
3.68	J	25°	Ir	R	O		
3.75	J	90°	Un	R	C		Cn

Abbreviations

ROUGHNESS		WALL ALTERATIONS		TYPE		OTHER	
R	Rough	FeSt	Iron Stained	J	Joint	P	Partly
S	Smooth	W	Weathered	B	Bedding	QZ	Quartz Vein
SL	Slickensided			BP	Bedding Parting	Co	Coal Seam
				FP	Foliation Parting	In	Incipient
PLANARITY		APERTURE		SZ	Sheared Zone	SI	Sand Infill
Pl	Planar	C	Closed	WS	Weathered Seam	H	Horizontal
St	Stepped	O	Open	CZ	Crushed Zone	V	Vertical
Un	Undulating	F	Filled	SM	Secondary	CI	Clay Infill
Cu	Curved	T	Tight	BZ	Broken Zone	Cn	Clean
Ir	Irregular			HFZ	Highly Fractured Zone		
				Fr	Fracture		

NOTE: This sheet should be read in conjunction with appropriate Engineering Borelog. Defect angles were measured with respect to horizontal plane.

F:GEOT533/7

BOREHOLE NO.:	BH33
SHEET:	2 of 4
REFERENCE NO.:	H10603

DEPTH	DEFECT TYPE	DIP	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
3.87	J	30°	Pl	SR	O		Cn
3.89	J	10°	Pl	SR	C		Cn
3.91	J	5°	Pl	SR	T		Cn
3.97	J	5°	Pl	R	O	FeSt	
4.02	J	20°	St	R	O		
4.09	J	15°	Pl	S	O		
4.11	J	15°	Pl	S	O		
4.15	J	20°	Pl	S	C		Cn
4.16	J	50°	Pl	S	C		Cn
4.18	J	70°	Pl	S	C		Cn
4.22	J	25°	Pl	S	O		
4.25	J	20°	Pl	S	C		
4.31	J	15°	Pl	S	O		Cn
4.35	J	15°	Pl	S	O	W	
4.41	J	20°	Pl	SR	O		
4.43	J	20°	Pl	SR	O		
4.46	J	20°	Pl	S	O		
4.50	J	20°	Pl	S	O		
4.56	WS	30°	Pl	S	C		Cn
4.60	J	5°	St	R	O		Cn
4.75	J	10°	lr	R	O	FeSt	
4.78	J	10°	lr	SR	O		
4.83	J	30°	St	R	O	W	
4.87	J	5°	Pl	S	O		
4.89	WS	10°	Pl	S	C	W	
5.00	WS	15°	Pl	S	C	W	
5.07	J	15°	Pl	S	T	W	
5.10	J	10°	Pl	S	T		
5.20	J	25°	Pl	S	O		
5.21	J	15°	St	R	O		
5.40	J	35°	St	SR	O		
5.46	J	35°	lr	R	O		
5.52	J	45°	Pl	SR	O		
5.64	J	10°	St	SR	O		
5.68	J	15°	St	R	O		
5.74	J	25°	St	R	O	FeSt	
5.84	J	15°	St	SR	O		
5.86	J	25°	St	R	O		
5.90	J	10°	Pl	S	O		
5.91	J	20°	Pl	S	O		
5.94	J	25°	Pl	SR	T		
5.96	J	5°	Pl	S	T		
6.03	J	30°	lr	R	O		
6.10	J	10°	St	R	O		
6.14	J	10°	lr	S	O		
6.24	J	30°	Pl	S	O		
6.25	J	30°	Pl	S	O		
6.61	J	10°	Pl	S	O		
6.85	J	15°	Pl	S	T		
6.92	J	15°	Pl	SR	O		
6.99	J	0°	Pl	S	O		
7.06	J	20°	Pl	S	O		
7.14	J	15°	St	S	O		
7.19	J	15°	Pl	S	O		
7.55	J	20°	Pl	S	O	W	
7.61	J	10°	Pl	S	O		
7.77	J	20°	St	S	O		

BOREHOLE NO.:	BH33
SHEET:	3 of 4
REFERENCE NO.:	H10603

DEPTH	DEFECT TYPE	DIP	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
8.03	J	15°	Pl	S	O		
8.07	J	5°	Pl	S	O		
8.32	J	10°	Pl	S	O		
8.40	J	30°	St	S	O		
8.49	J	35°	Pl	S	O		
8.58	J	15°	Pl	S	T		
8.69	J	15°	Pl	SR	O		
8.71	J	15°	St	S	O		
8.77	J	5°	Pl	S	O		
8.82	J	10°	St	S	O		
9.06	J	15°	St	R	C		
9.14	J	15°	Pl	S	T		
9.22	J	25°	Pl	S	O		
9.43	J	30°	Cu	SR	O		
9.47	J	10°	Pl	S	T		
9.79	J	15°	Pl	S	T		
9.80	J	55°	Pl	R	O		
9.88	J	15°	Pl	S	O		
9.94	J	15°	Pl	S	O		
9.98	J	20°	Pl	S	O		
10.02	J	30°	Pl	S	O		
10.16	J	30°	Pl	S	O		
10.19	J	20°	Pl	S	O		
10.23	J	10°	St	S	O		
10.35	J	35°	St	SR	O	FeSt	
10.41	J	40°	St	R	O		
10.48	J	25°	Pl	S	O		
10.52	J	20°	Cu	S	O		
10.66	J	5°	Pl	S	O		
10.73	J	15°	Pl	S	T		
10.82	J	15°	Pl	S	C		
10.84	WS	10°	Pl	S	C	W	
10.95	J	20°	Pl	S	O	W	
11.02	J	10°	Pl	S	O		
11.06	J	15°	St	S	O		
11.24	J	20°	Pl	SR	O	W	
11.50	J	5°	Pl	S	O		
11.60	J	10°	Cu	S	O		
11.68	J	15°	St	S	C		
11.77	J	5°	Pl	S	O		
11.87	J	10°	Cu	SR	O		
11.92	J	15°	Cu	SR	O		
11.97	J	10°	St	S	O		
12.20	J	40°	Pl	S	O		
12.30	J	20°	Cu	S	T		
12.48	J	25°	Pl	S	O		
12.72	J	10°	St	SR	O	W	
12.92	J	5°	St	R	O	FeSt	
13.00	J	20°	Pl	S	O		
13.03	J	15°	Pl	SR	O	W	
13.07	J	15°	St	S	O		
13.19	J	5°	Pl	S	O		
13.23	J	25°	Pl	S	O		
13.32	J	55°	St	S	T	FeSt	
13.36	J	35°	Pl	S	O		
13.53	J	15°	Ir	SR	O		
13.70	J	55°	Cu	R	O	W	

BOREHOLE NO.:	BH33
SHEET:	4 of 4
REFERENCE NO.:	H10603

DEPTH	DEFECT TYPE	DIP	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
13.90	J	15°	St	S	O		
14.00	J	20°	Ir	S	O		
14.10	J	10°	Pl	S	O		
14.22	J	20°	Ir	R	O	FeSt	
14.44	J	30°	St	R	T	FeSt	
14.63	J	25°	St	R	T		
14.96	J	60°	Pl	SR	T	FeSt	
15.24	J	20°	Pl	SR	O	FeSt	
15.50	J	50°	Pl	SR	O		Cl
15.72	J	30°	Pl	R	O	FeSt	
15.99	J	30°	Pl	SR	T		
16.06	J	30°	Pl	SR	T		
16.36	J	10°	Ir	R	O	FeSt	
16.53	J	10°	Pl	S	O		Cn
16.59	J	20°	St	R	O		Cn
16.69	J	20°	Ir	R	T	FeSt	
16.73	J	70°	Pl	S	T		Cl
16.87	J	60°	Cu		C	FeSt	
16.96	J	20°	Pl	S	O		Cl
17.02	J	45°	Pl	S	O		Cl
17.13	J	10°	Pl	S	O		Cn
17.17	J	30°	Pl	SR	O		Cl
17.23	J	10°	Ir	SR	O		Cn
17.30	J	70°	Pl	S	O		Cn
17.34	J	10°	Pl	SR	O		Cn
17.37	J	70°	Pl		C	FeSt	
17.41	J	10°	Pl	S	O		Cn
17.46	J	35°	Pl	S	O		Cl
17.50	J	30°	Pl	S	O		Cn
17.50	J	70°	Pl	S	T	FeSt	
17.64	J	40°	Pl	S	O		Cn
17.65	J	60°	Pl		C	FeSt	

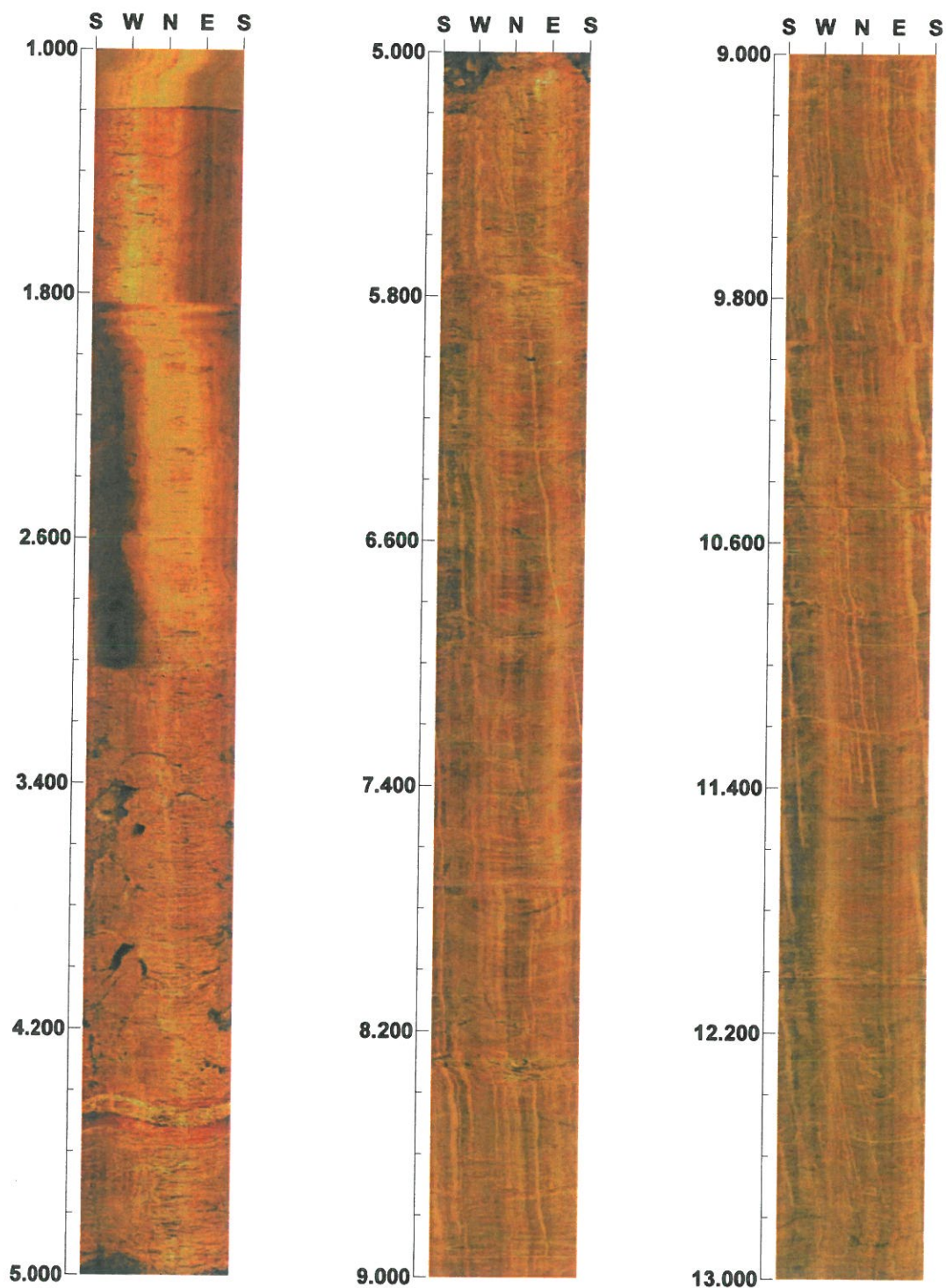
Project name: BRUCE HIGHWAY UPGRADE

Bore hole No.: BH33

Azimuth: 0

Inclination: -90

Depth range: 1.000 - 13.000 m



Scale: 1/20

Aspect ratio: 200 %

Project name: BRUCE HIGHWAY UPGRADE
Bore hole No.: BH33

Azimuth: 0

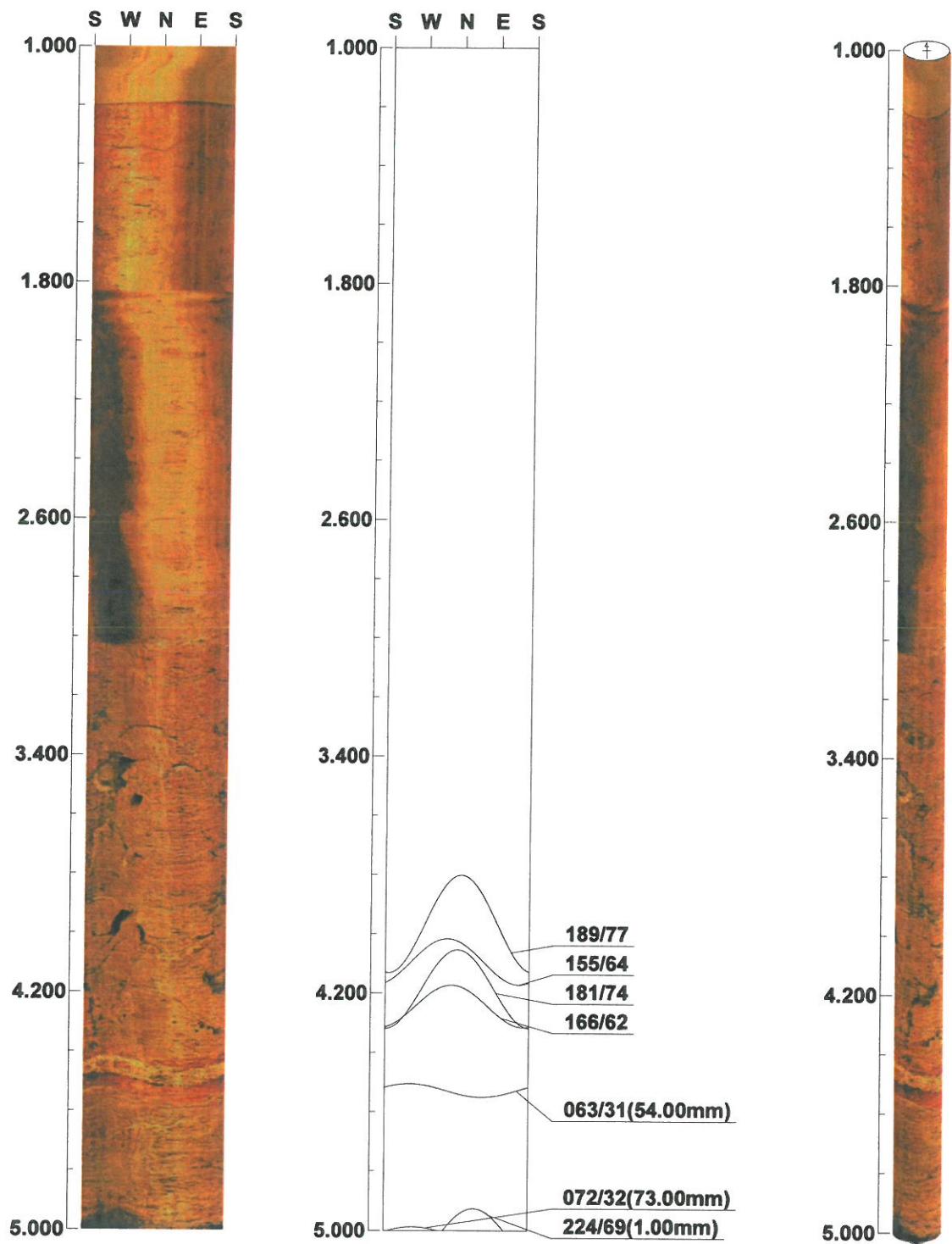
Inclination: -90

Depth range: 13.000 - 17.853 m



Scale: 1/20 Aspect ratio: 200 %

Depth range: 1.000 - 5.000 m



Scale: 1/20 Aspect ratio: 200 %

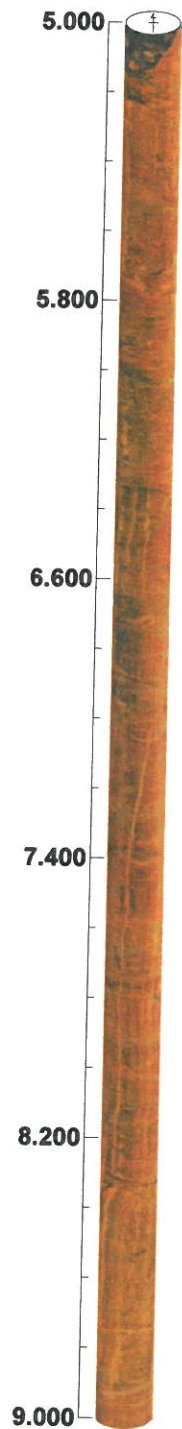
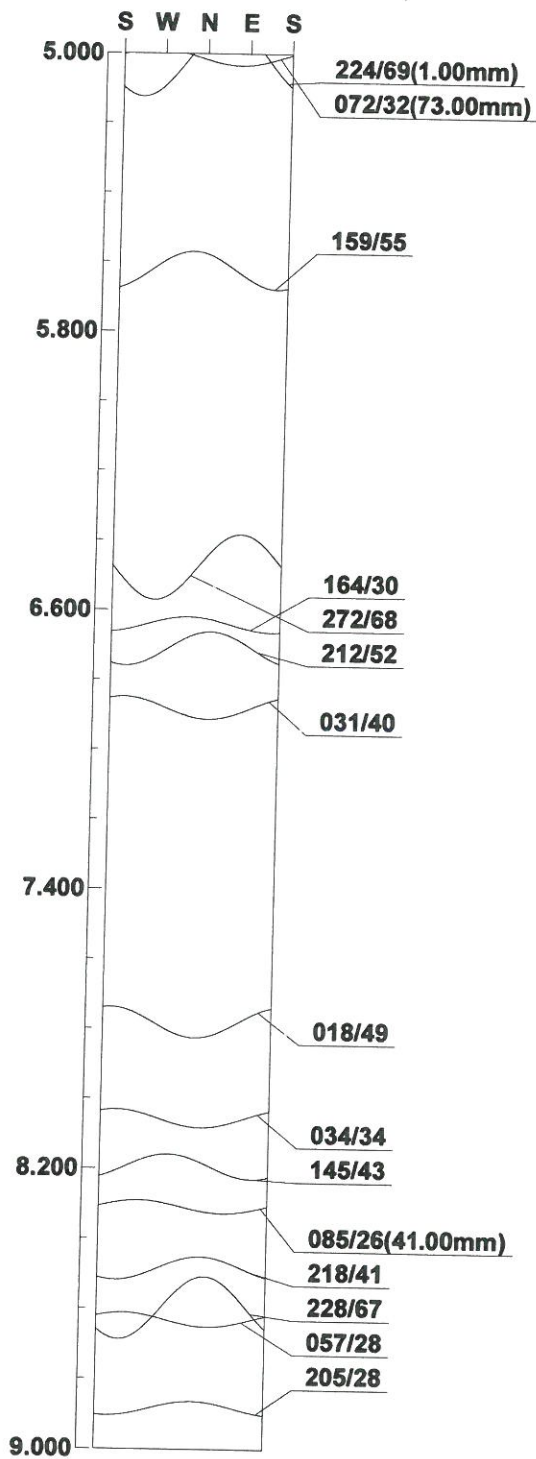
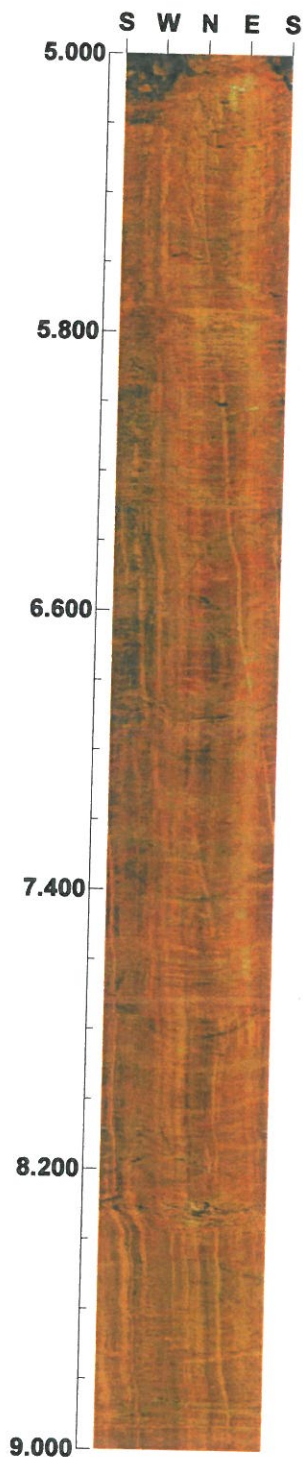
Project name: BRUCE HIGHWAY UPGRADE

Bore hole No.: BH33

Azimuth: 0

Inclination: -90

Depth range: 5.000 - 9.000 m



Scale: 1/20

Aspect ratio: 200 %

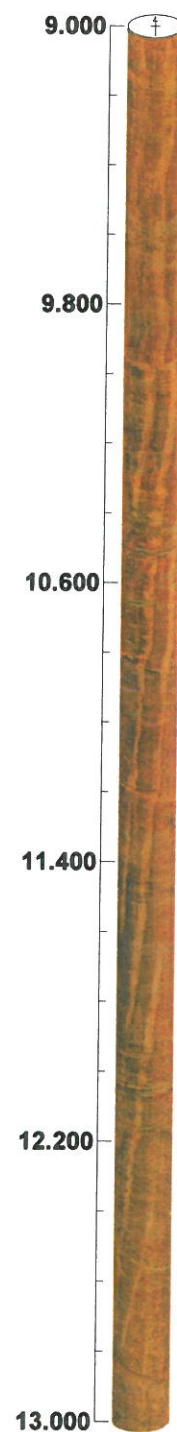
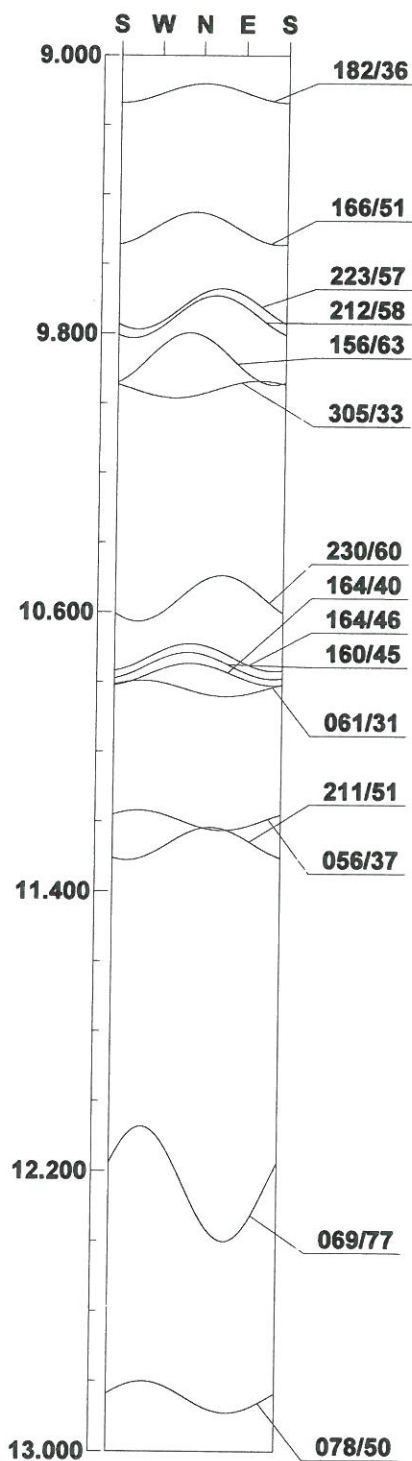
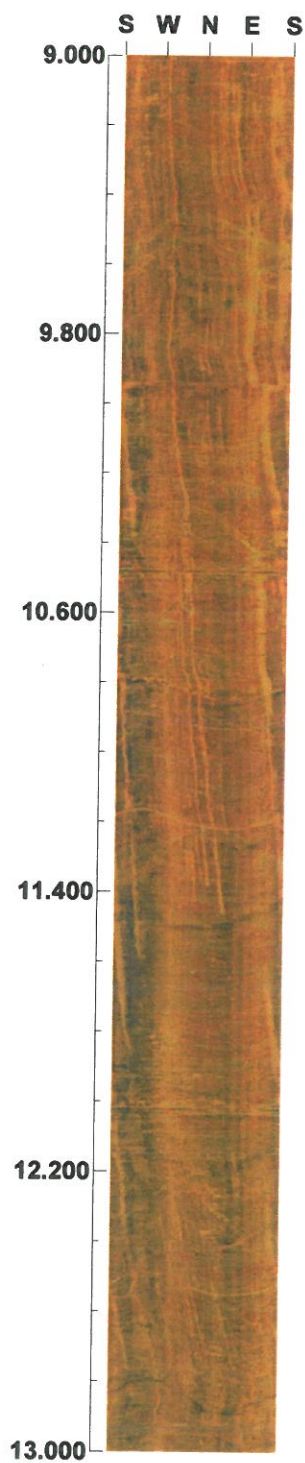
Project name: BRUCE HIGHWAY UPGRADE

Bore hole No.: BH33

Azimuth: 0

Inclination: -90

Depth range: 9.000 - 13.000 m



Scale: 1/20

Aspect ratio: 200 %

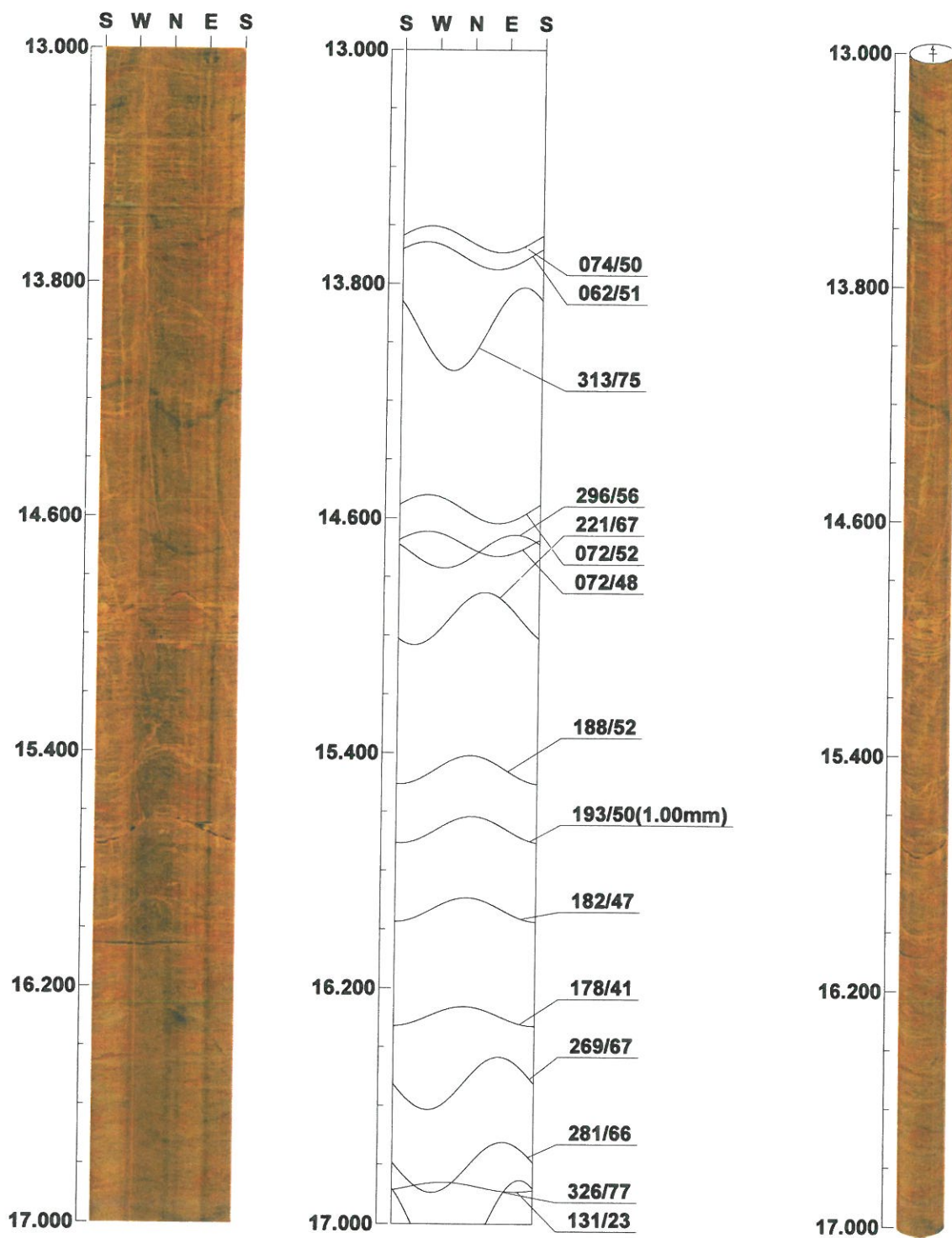
Project name: BRUCE HIGHWAY UPGRADE

Bore hole No.: BH33

Azimuth: 0

Inclination: -90

Depth range: 13.000 - 17.000 m



Scale: 1/20

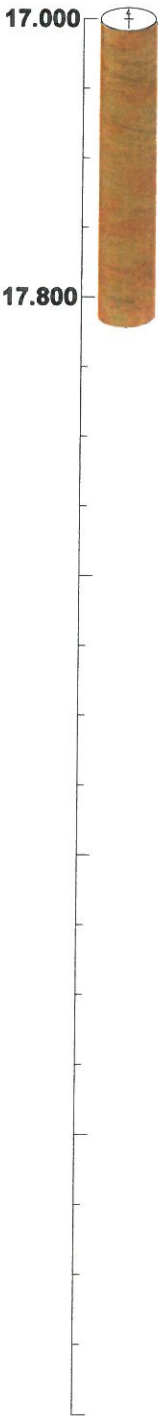
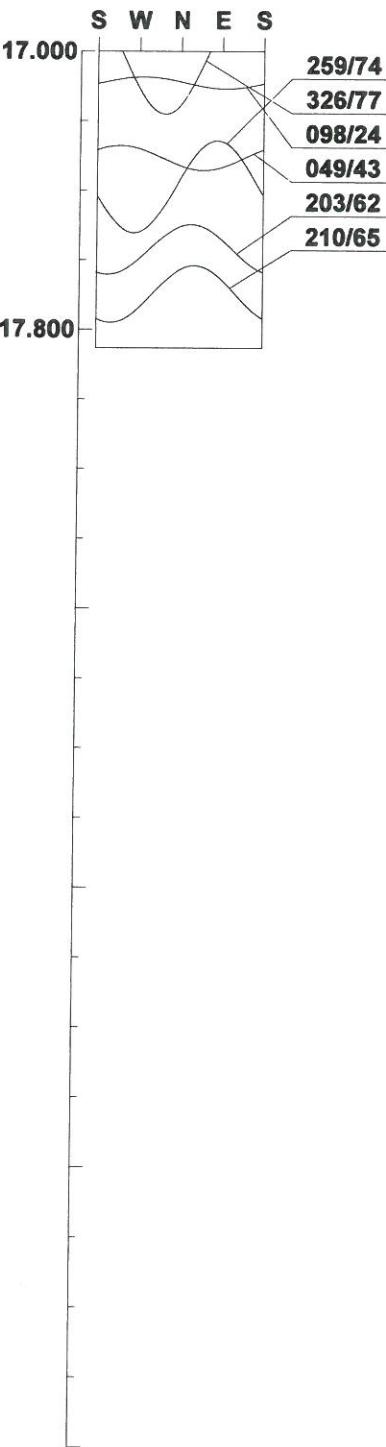
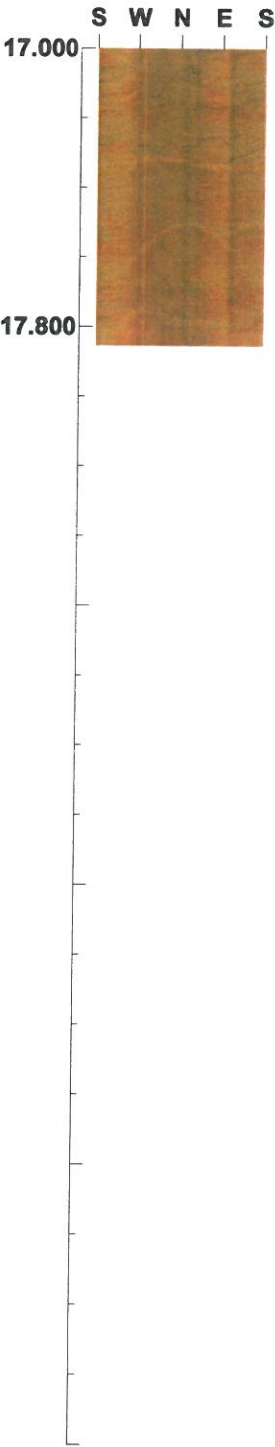
Aspect ratio: 200 %

Project name: BRUCE HIGHWAY UPGRADE
Bore hole No.: BH33

Azimuth: 0

Inclination: -90

Depth range: 17.000 - 17.853 m



Scale: 1/20 Aspect ratio: 200 %

Tab. Table of Discontinuity (1 / 2)

File name: BH33.STR
[]

No.	Depth (m)	Dir/Dip	Sort	Aperture (mm)	Form	Condition	Remark
1	3.981	188/77	Joint	0.5	Planar	Weathered	Open
2	4.097	155/64	Joint	0.5	Planar	Weathered	Open
3	4.187	180/74	Joint	0.5	Planar	Weathered	Open
4	4.270	166/62	Joint	0.5	Planar	Weathered	Open
5	4.528	063/31	ShearZn	54.0	Planar	Weathered	Open/loose
6	5.025	224/69	Joint	1.0	Planar	Brec/crus'd	Open/loose
7	5.113	072/32	ShearZn	73.0	Planar	Brec/crus'd	Open/loose
8	5.624	159/55	Joint	0.3	Planar	Smooth	Open
9	6.476	272/68	Joint	0.3	Planar	Smooth	Open
10	6.641	164/30	Joint	0.3	Planar	Smooth	Open
11	6.710	212/52	Joint	0.3	Planar	Smooth	Open
12	6.880	031/40	ShearZn	15.0	Planar	Brec/crus'd	Open
13	7.781	018/49	Parting	0.5	Planar	Rough	Open
14	8.056	034/34	Bed/foliat	0.0	Planar	Smooth	Tight
15	8.193	145/43	Joint	0.5	Planar	Smooth	Open/loose
16	8.308	085/26	ShearZn	41.0	Planar	Brec/crus'd	Open/loose
17	8.484	218/41	Joint	0.3	Planar	Rough	Open
18	8.597	228/67	Joint	0.3	Planar	Smooth	Open
19	8.631	057/28	Joint	0.3	Planar	Smooth	Open
20	8.884	205/28	Joint	0.3	Planar	Smooth	Open
21	9.109	182/36	Joint	0.5	Planar	Smooth	Open
22	9.498	166/51	Joint	0.3	Planar	Rough	Tight/Fil'd
23	9.729	223/57	Joint	0.3	Planar	Smooth	Tight
24	9.752	212/58	Joint	0.3	Planar	Smooth	Open
25	9.872	156/63	Joint	0.3	Planar	Rough	Tight
26	9.960	305/33	Joint	0.3	Planar	Smooth	Open
27	10.560	230/60	Joint	0.3	Planar	Smooth	Open
28	10.729	164/46	Joint	0.3	Planar	Rough	Tight/Fil'd
29	10.753	160/45	Joint	0.3	Planar	Rough	Tight/Fil'd
30	10.778	164/40	Joint	0.3	Planar	Rough	Tight/Fil'd
31	10.818	061/31	ShearZn	11.0	Planar	Brec/crus'd	Open/loose
32	11.196	056/37	Joint	2.0	Planar	Rough	Tight/Fil'd
33	11.263	211/51	Joint	0.3	Planar	Rough	Open
34	12.730	069/77	Joint	0.3	Planar	Rough	Tight
35	12.845	078/50	Parting	1.0	Planar	Rough	Open
36	13.648	074/50	Parting	0.3	Planar	Smooth	Open
37	13.704	062/51	Parting	0.3	Planar	Rough	Open
38	13.954	313/75	Joint	0.3	Planar	Rough	Tight
39	14.569	072/52	Parting	0.3	Planar	Rough	Open
40	14.687	072/48	Joint	0.5	Planar	Rough	Open
41	14.713	296/56	Joint	0.3	Planar	Rough	Tight
42	14.942	221/67	Joint	0.3	Planar	Rough	Tight
43	15.457	188/52	Joint	0.5	Planar	Rough	Tight/Fil'd
44	15.661	193/50	Joint	1.0	Planar	Rough	Open/loose
45	15.933	182/47	Joint	0.5	Planar	Rough	Tight/Fil'd
46	16.295	178/41	Joint	0.5	Planar	Rough	Tight/Fil'd
47	16.523	270/67	Joint	0.3	Planar	Rough	Open
48	16.808	281/66	Joint	0.3	Planar	Rough	Open
49	16.875	131/23	Parting	2.0	Planar	Rough	Open/loose
50	17.016	326/77	Joint	0.3	Planar	Rough	Tight

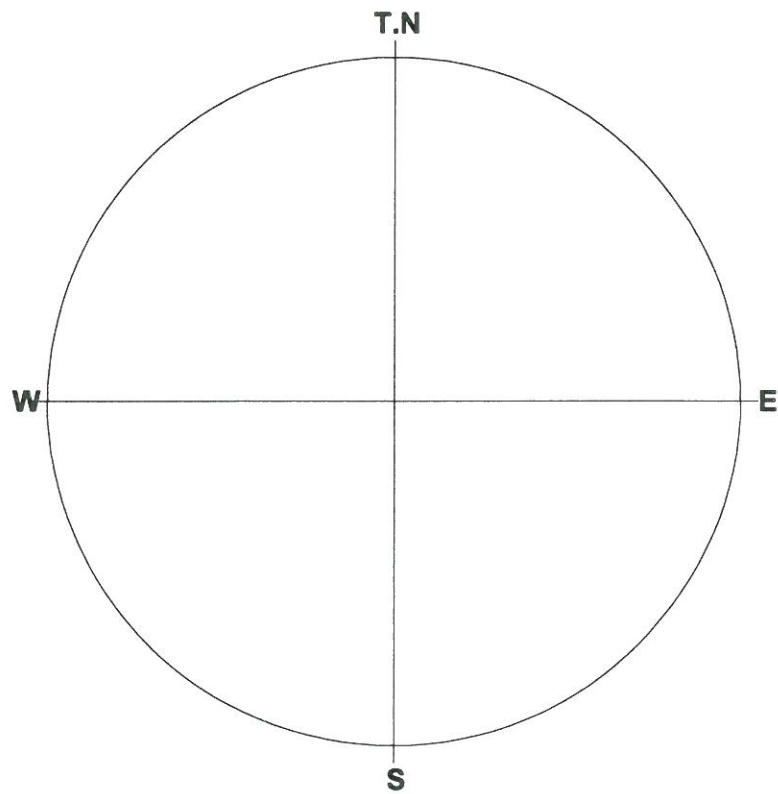
Tab. Table of Discontinuity (2 / 2)

File name: BH33.STR
[]

No.	Depth (m)	Dir/Dip	Sort	Aperture (mm)	Form	Condition	Remark
51	17.091	098/24	Parting	0.5	Planar	Rough	Open
52	17.307	049/43	Parting	0.3	Planar	Smooth	Open
53	17.390	259/74	Joint	0.3	Planar	Rough	Open
54	17.570	203/62	Joint	1.0	Planar	Rough	Tight/Fil'd
55	17.698	210/65	Joint	0.3	Planar	Rough	Tight

BH33.STR

<<BEDDING/FOLIATION>>



Number of Data : 1/55

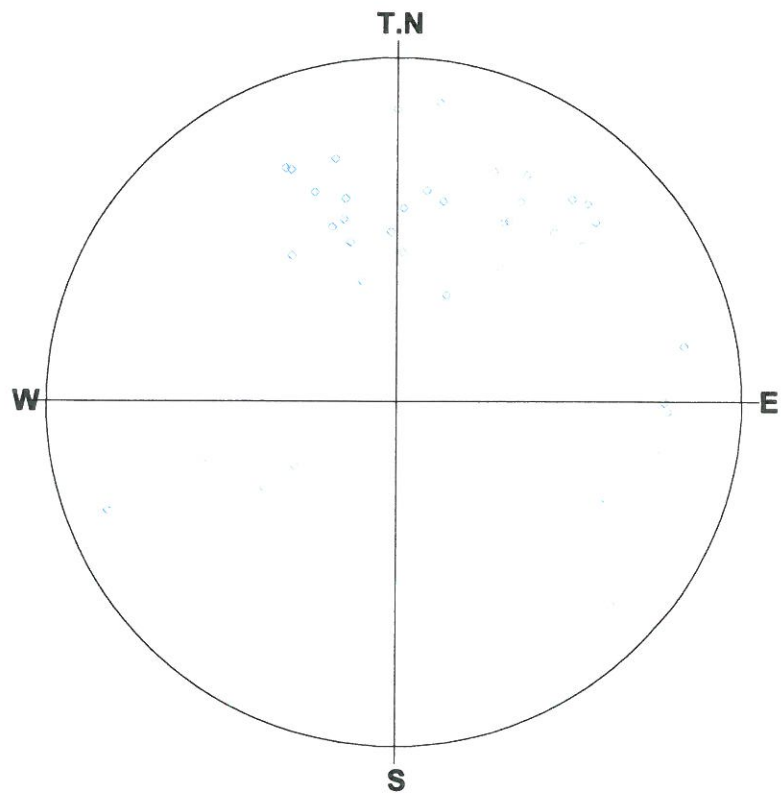
<Legend>

	:Bed/foliat	--	1		:Boundary	--	0
	:Joint	--	0				
	:Parting	--	0				
	:ShearZn	--	0				
	:Fault	--	0				
	:Vein	--	0				

Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR
<<JOINT>>



Number of Data : 41/55

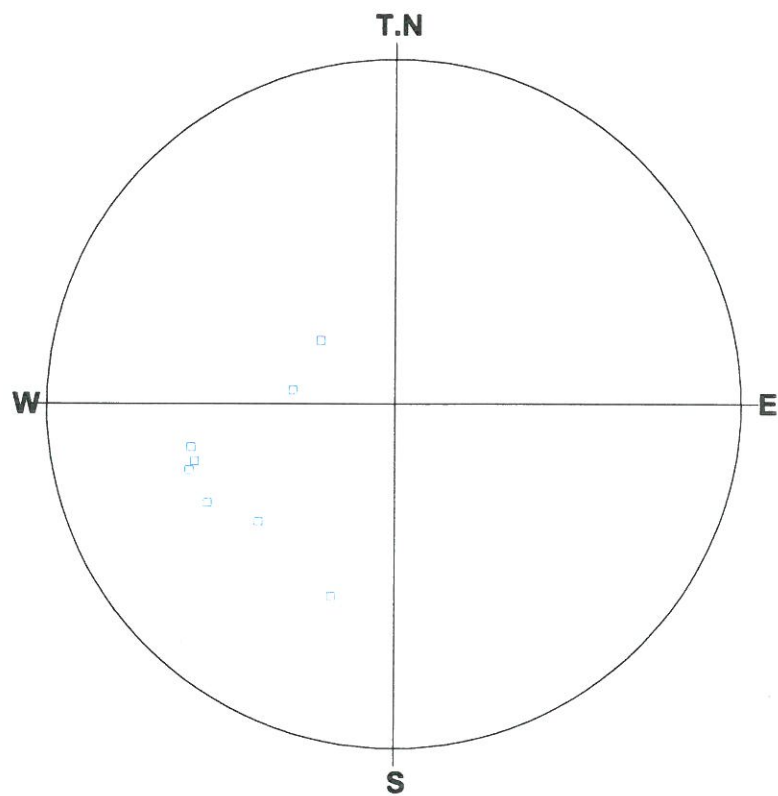
<Legend>

○:Bed/foilat	--	0	○:Boundary	--	0
◇:Joint	--	41			
□:Parting	--	0			
△:ShearZn	--	0			
▽:Fault	--	0			
×:Vein	--	0			

Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR
<<PARTING>>



Number of Data : 8/55

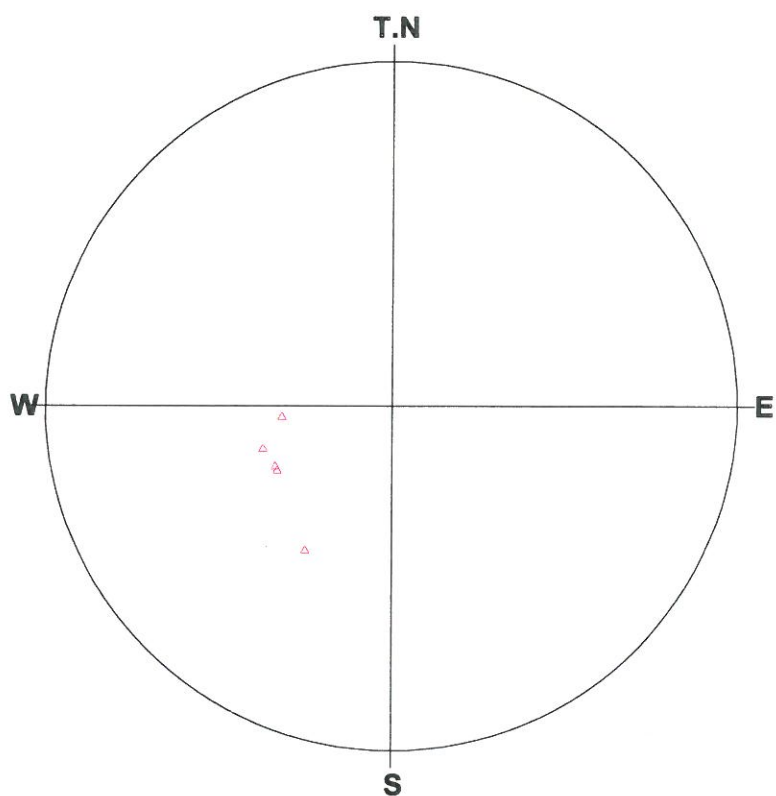
<Legend>

	:Bed/foliat --	0		:Boundary --	0
	:Joint --	0			
	:Parting --	8			
	:ShearZn --	0			
	:Fault --	0			
	:Vein --	0			

Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR
<<SHEAR ZONE>>



Number of Data : 5/55

<Legend>

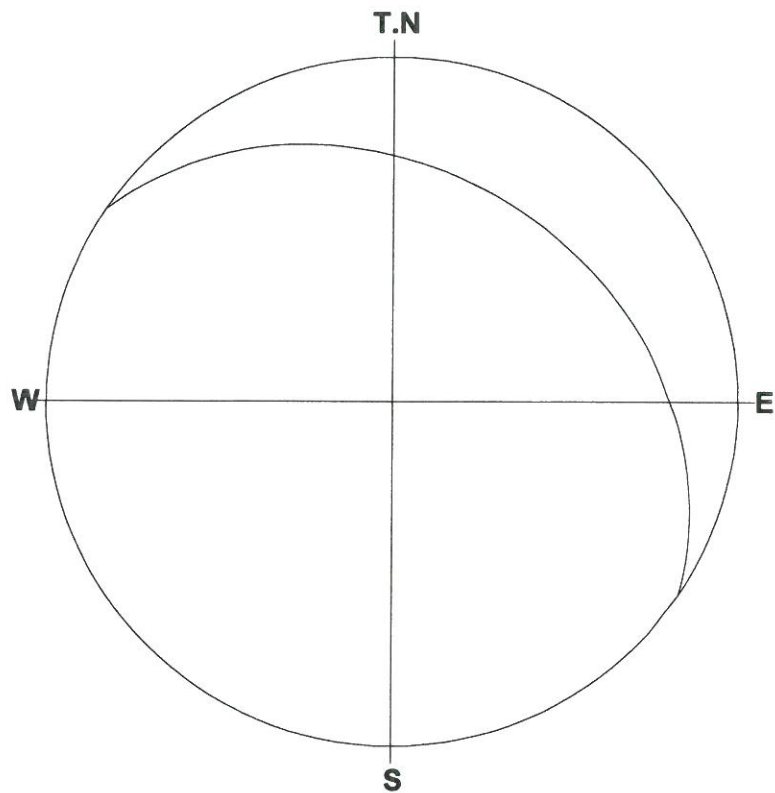
	:Bed/foliat --	0		:Boundary --	0
	:Joint --	0			
	:Parting --	0			
	:ShearZn --	5			
	:Fault --	0			
	:Vein --	0			

Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR

<<BEDDING/FOLIATION>>



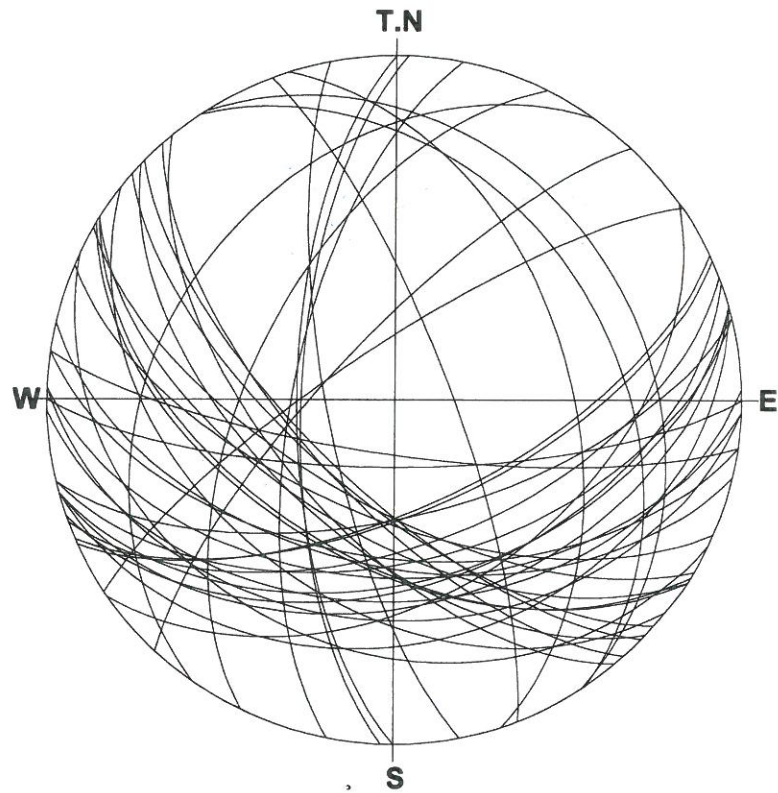
Number of Data:1/55

1 : 034/34(14)

Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR
<<JOINT>>



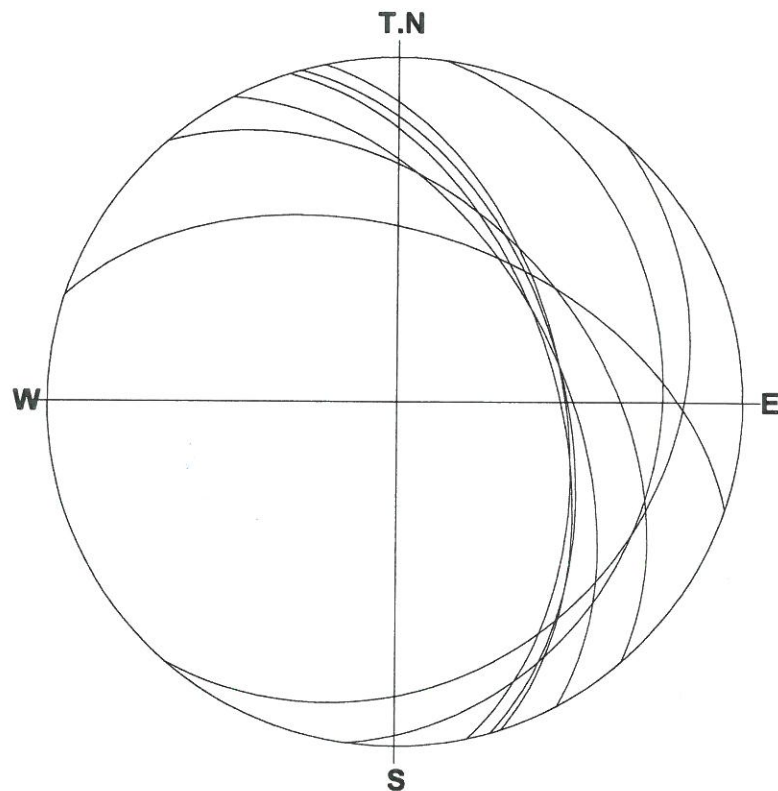
Number of Data:41/55

1 : 188/77(1)	6 : 159/55(8)
2 : 155/64(2)	7 : 272/68(9)
3 : 180/74(3)	8 : 164/30(10)
4 : 166/62(4)	9 : 212/52(11)
5 : 224/69(6)	10 : 145/43(15)

Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR
<<PARTING>>



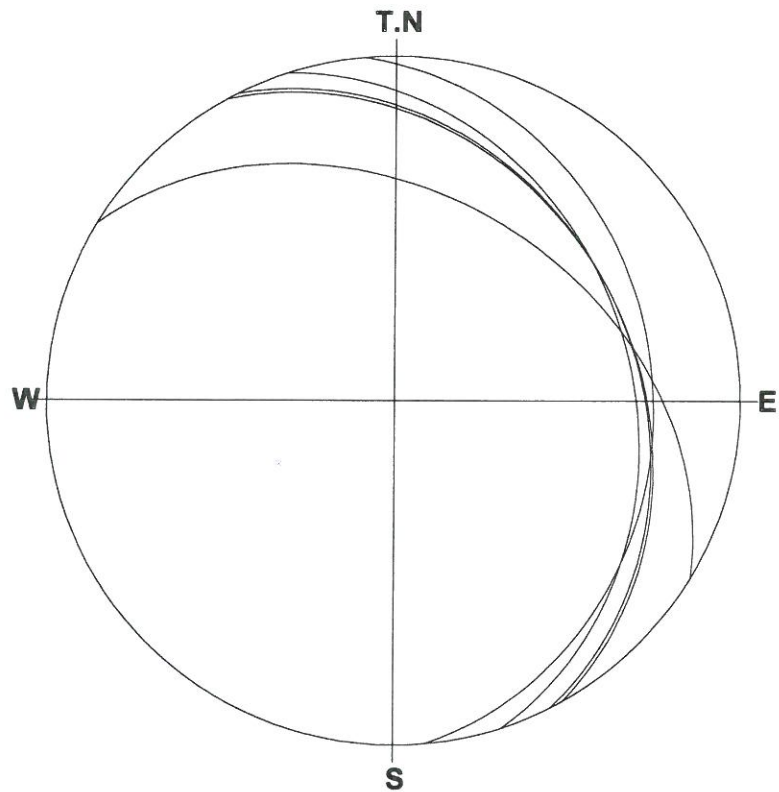
Number of Data:8/55

1 : 018/49(13)	6 : 131/23(49)
2 : 078/50(35)	7 : 098/24(51)
3 : 074/50(36)	8 : 049/43(52)
4 : 062/51(37)	
5 : 072/52(39)	

Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR
<<SHEAR ZONE>>



Number of Data:5/55

- 1 : 063/31(5)**
- 2 : 072/32(7)**
- 3 : 031/40(12)**
- 4 : 085/26(16)**
- 5 : 061/31(31)**

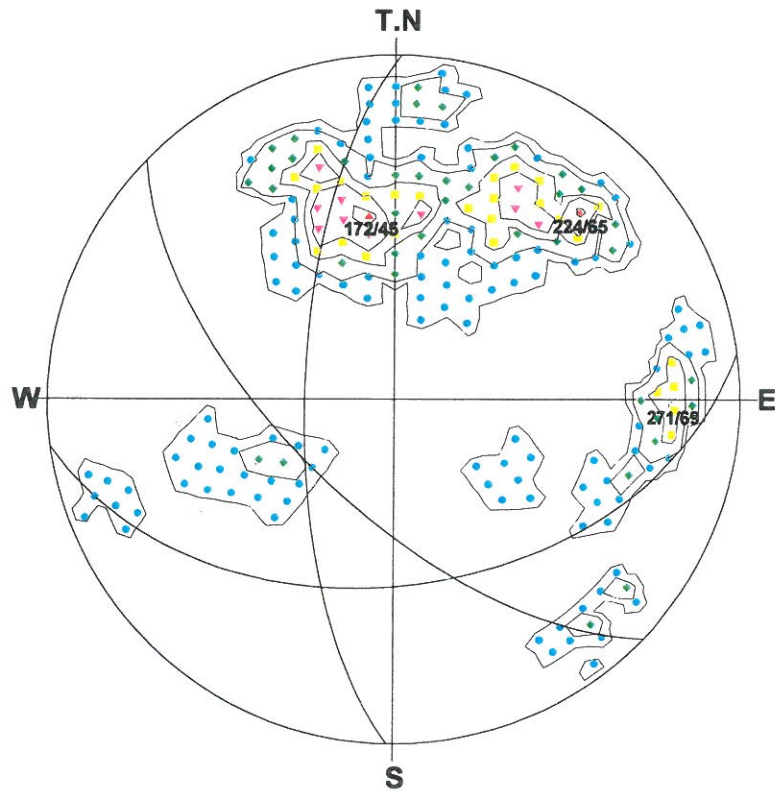
Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR

<<JOINT>>

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



Number of Data : 41

<Legend> Sym. (%)

- ▲ : 12
- ▼ : 9 - 12
- : 7 - 9
- ◆ : 4 - 7
- : 2 - 4
- : 0 - 2

Contour Value (%)

- Contour 1 : 0
- Contour 2 : 2
- Contour 3 : 4
- Contour 4 : 7
- Contour 5 : 9
- Contour 6 : 12

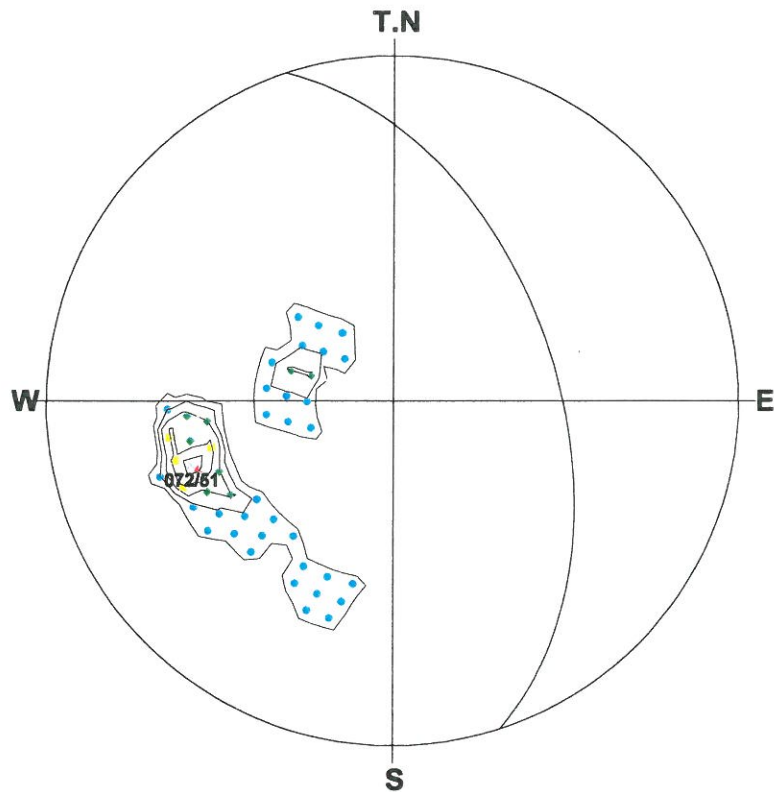
Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR

<<PARTING>>

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



Number of Data : 8

<Legend> Sym. (%)

- ▲ : 50
- ▼ : 40 - 50
- : 30 - 40
- ◆ : 20 - 30
- : 10 - 20
- : 0 - 10

Contour Value (%)

- Contour 1 : 0
- Contour 2 : 10
- Contour 3 : 20
- Contour 4 : 30
- Contour 5 : 40
- Contour 6 : 50



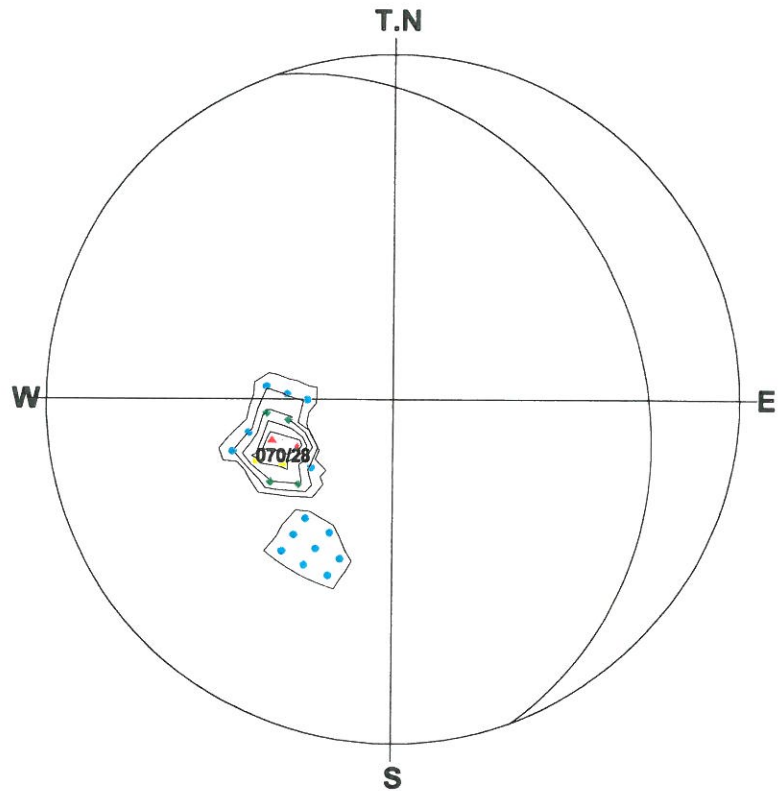
Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR

<<SHEAR ZONE>>

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



Number of Data : 5

<Legend> Sym. (%)

- ▲ : 80
- ▼ : 64 - 80
- : 48 - 64
- ◆ : 32 - 48
- : 16 - 32
- : 0 - 16

Contour Value (%)

- Contour 1 : 0
- Contour 2 : 16
- Contour 3 : 32
- Contour 4 : 48
- Contour 5 : 64
- Contour 6 : 80

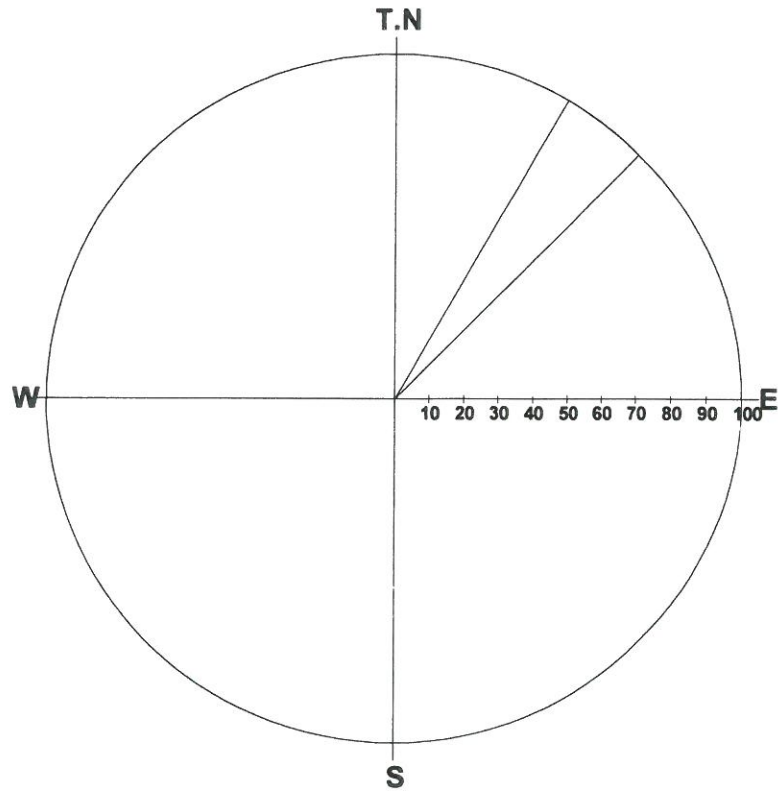


Schmidt (L.H)

Depth : 3.981 - 17.698 m

BH33.STR

<<BEDDING/FOLIATION>>



Number of Data : 1/55

Max : 100.0%

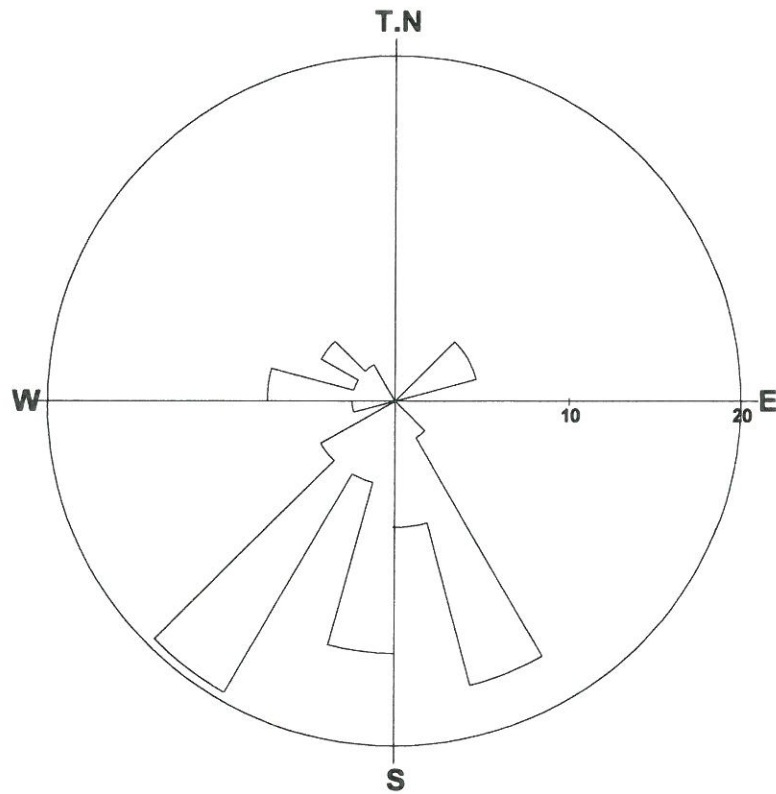
Grouping Angle : 15 deg

Dir	%	Dir	%	Dir	%
0-	0	135-	0	270-	0
15-	0	150-	0	285-	0
30-	100	165-	0	300-	0
45-	0	180-	0	315-	0
60-	0	195-	0	330-	0
75-	0	210-	0	345-	0
90-	0	225-	0		
105-	0	240-	0		
120-	0	255-	0		

Depth : 3.981 - 17.698 m

BH33.STR

<<JOINT>>



Number of Data : 41/55

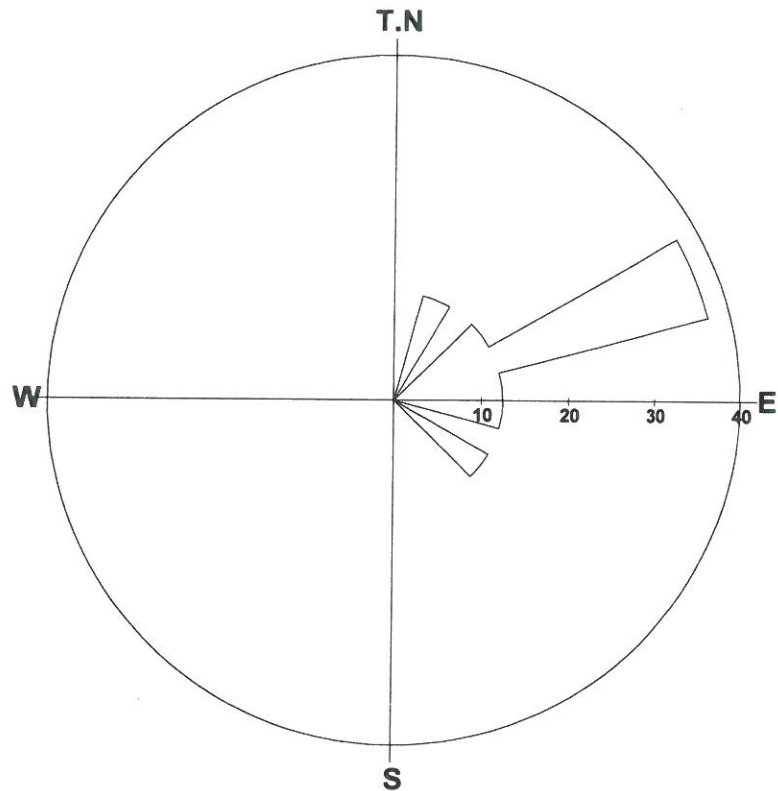
Max : 19.5%

Grouping Angle : 15 deg

Dir	%	Dir	%	Dir	%
0-	0	135-	2	270-	7
15-	0	150-	17	285-	2
30-	0	165-	7	300-	5
45-	5	180-	15	315-	2
60-	5	195-	5	330-	0
75-	0	210-	20	345-	0
90-	0	225-	5		
105-	0	240-	0		
120-	0	255-	2		

Depth : 3.981 - 17.698 m

BH33.STR
<<PARTING>>



Number of Data : 8/55

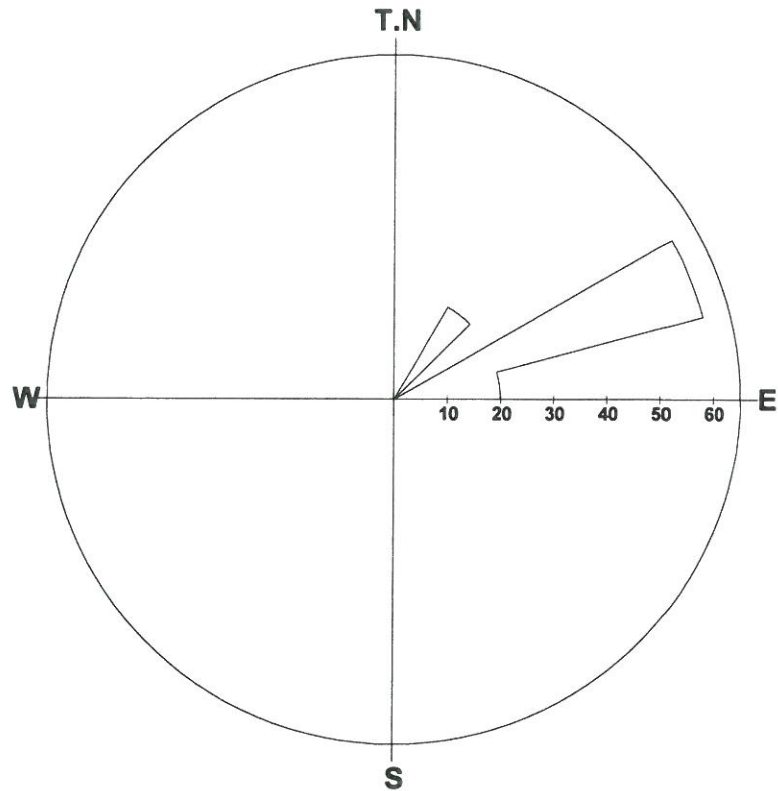
Max : 37.5%

Grouping Angle : 15 deg

Dir	%	Dir	%	Dir	%
0-	0	135-	0	270-	0
15-	13	150-	0	285-	0
30-	0	165-	0	300-	0
45-	13	180-	0	315-	0
60-	38	195-	0	330-	0
75-	13	210-	0	345-	0
90-	13	225-	0		
105-	0	240-	0		
120-	13	255-	0		

Depth : 3.981 - 17.698 m

BH33.STR
<<SHEAR ZONE>>



Number of Data : 5/55

Max : 60.0%

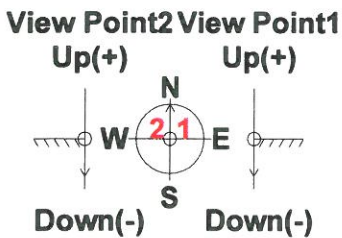
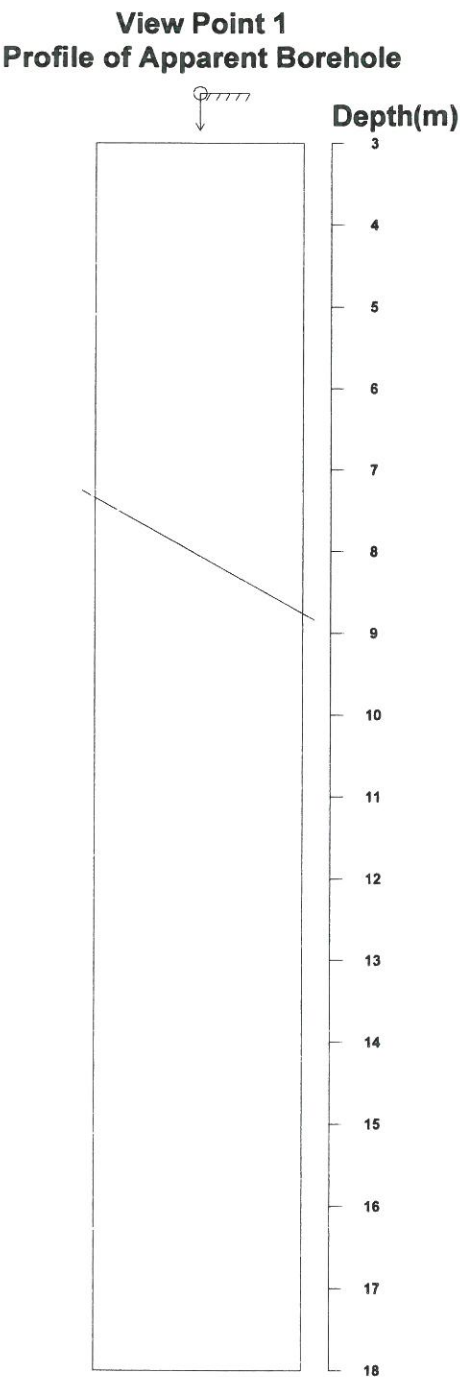
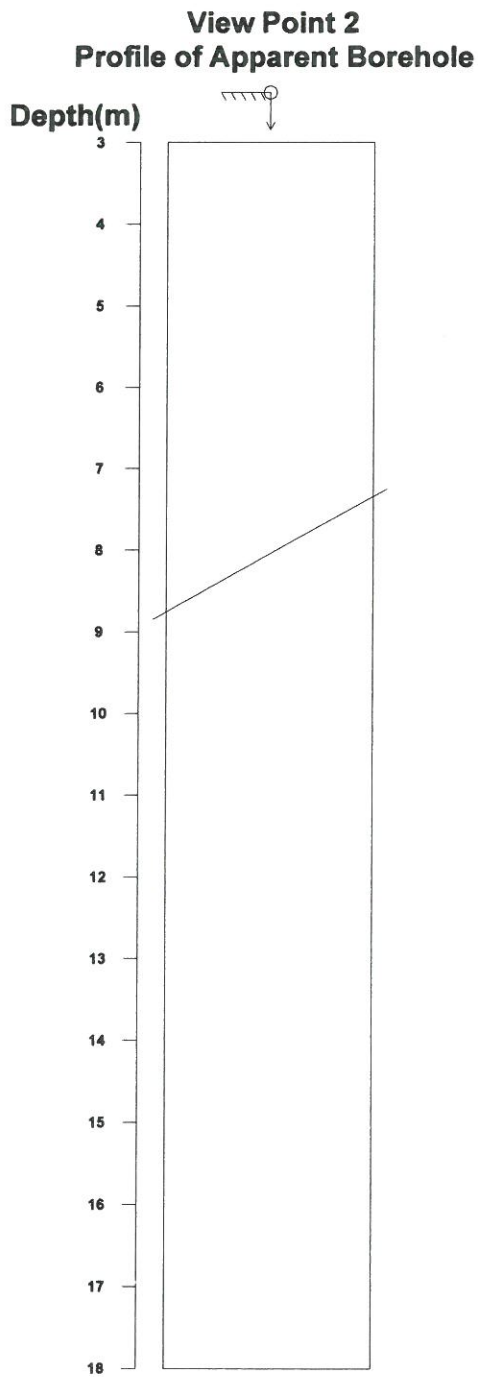
Grouping Angle : 15 deg

Dir	%	Dir	%	Dir	%
0-	0	135-	0	270-	0
15-	0	150-	0	285-	0
30-	20	165-	0	300-	0
45-	0	180-	0	315-	0
60-	60	195-	0	330-	0
75-	20	210-	0	345-	0
90-	0	225-	0		
105-	0	240-	0		
120-	0	255-	0		

Depth : 3.981 - 17.698 m

Title: BH33.STR
Comment: BEDDING/FOLIATION
Depth: 3.981 - 17.698 m
Aperture: 0.0 - 73.0 mm

Sort: 1/ 7
Form: 8/ 8
Condition: 11/11
Remark: 11/11



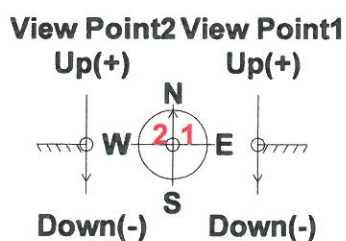
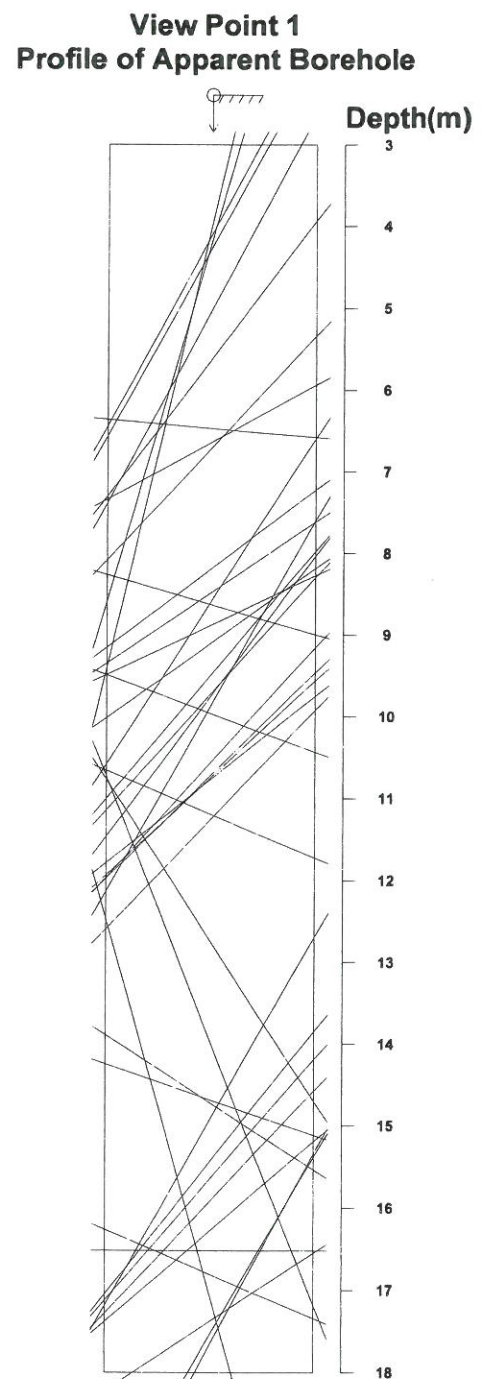
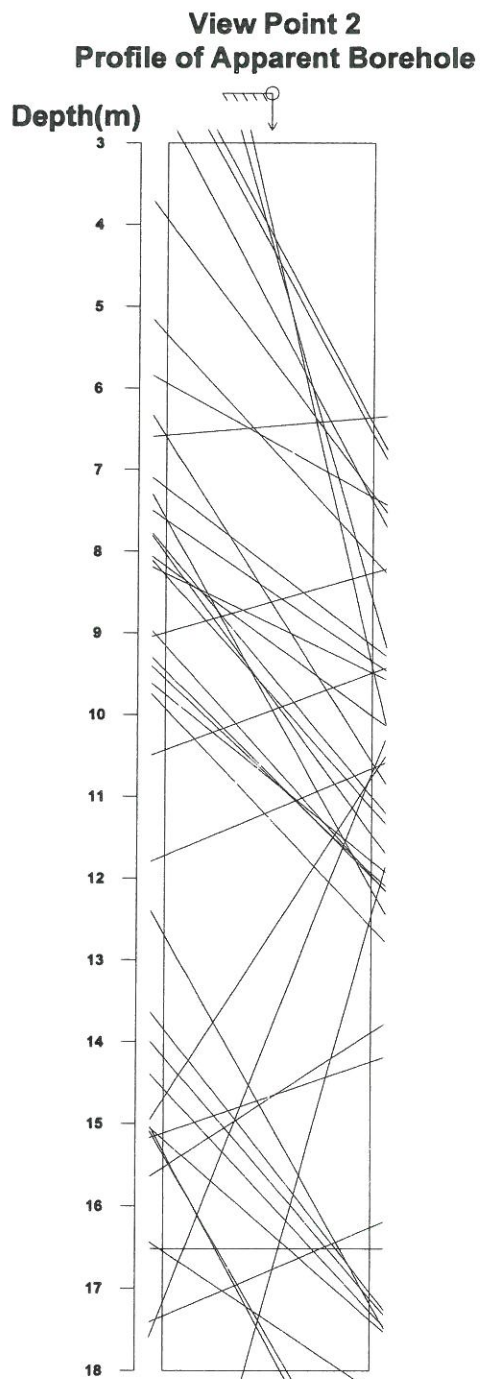
Direction: 0 deg
Inclination: Vertical(Down)

<Legend>
Entrance  **G.L**
Bottom 

Fig. Apparent Dip

Title: BH33.STR
Comment: JOINT
Depth: 3.981 - 17.698 m
Aperture: 0.0 - 73.0 mm

Sort: 1/ 7
Form: 8/ 8
Condition: 11/11
Remark: 11/11



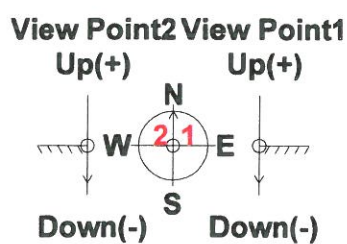
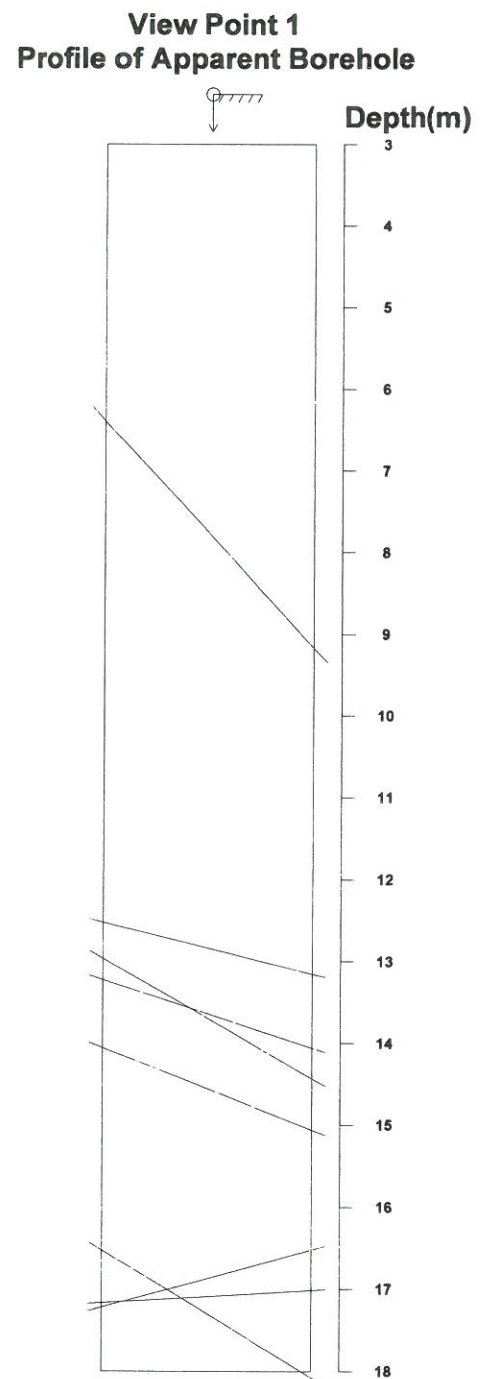
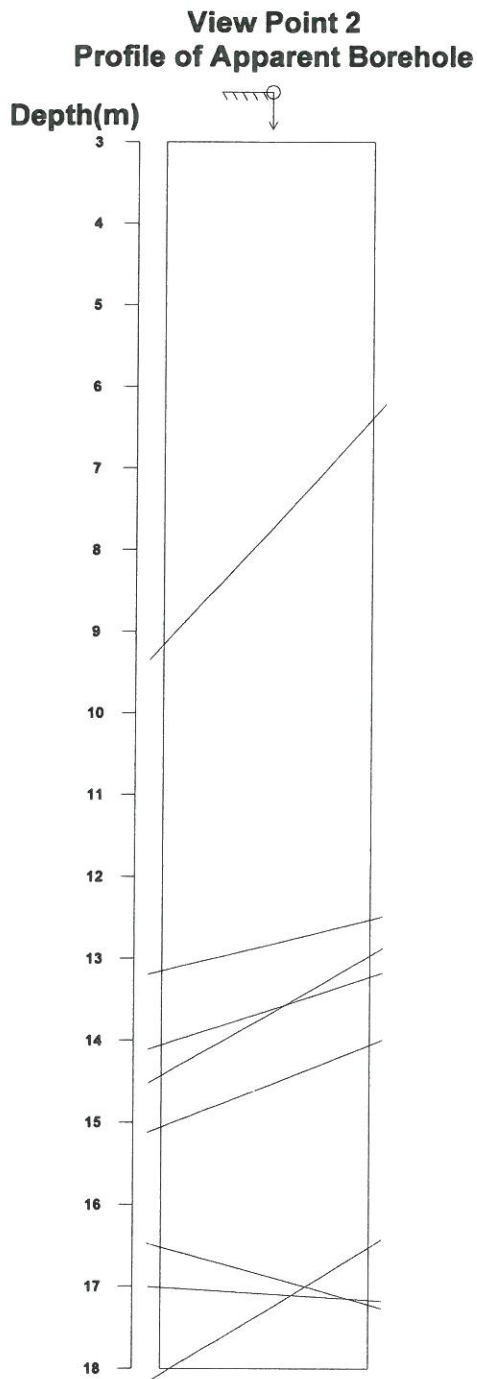
Direction: 0 deg
Inclination: Vertical(Down)

<Legend>
Entrance **G.L**
Bottom

Fig. Apparent Dip

Title: BH33.STR
 Comment: PARTING
 Depth: 3.981 - 17.698 m
 Aperture: 0.0 - 73.0 mm

Sort: 1/7
 Form: 8/8
 Condition: 11/11
 Remark: 11/11



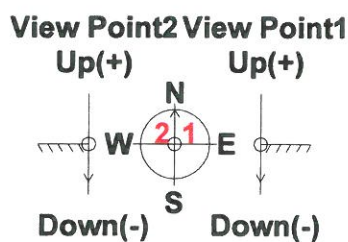
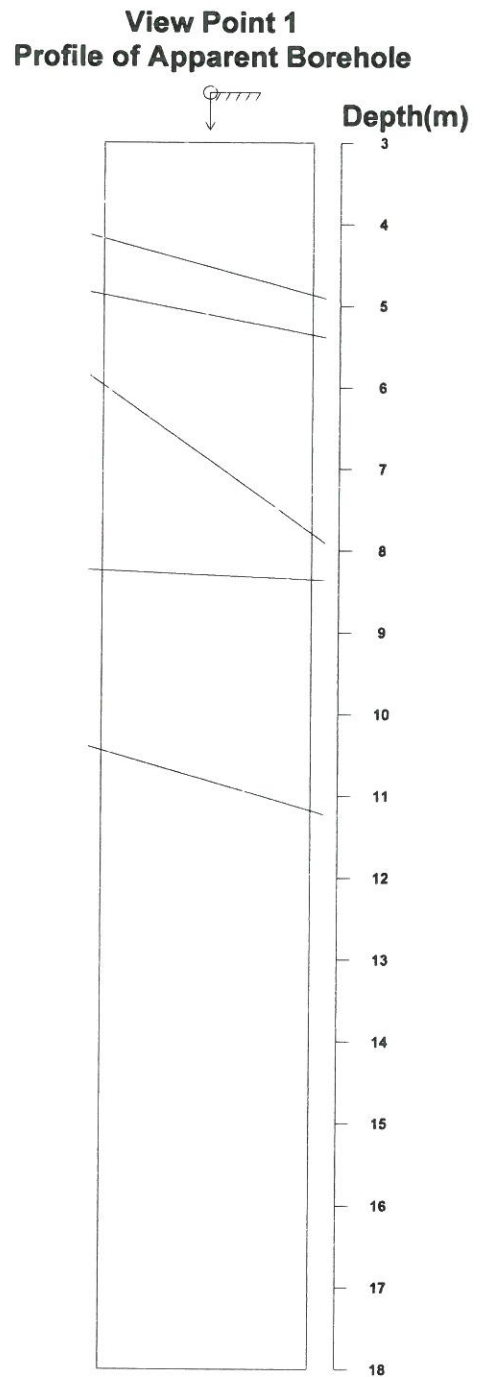
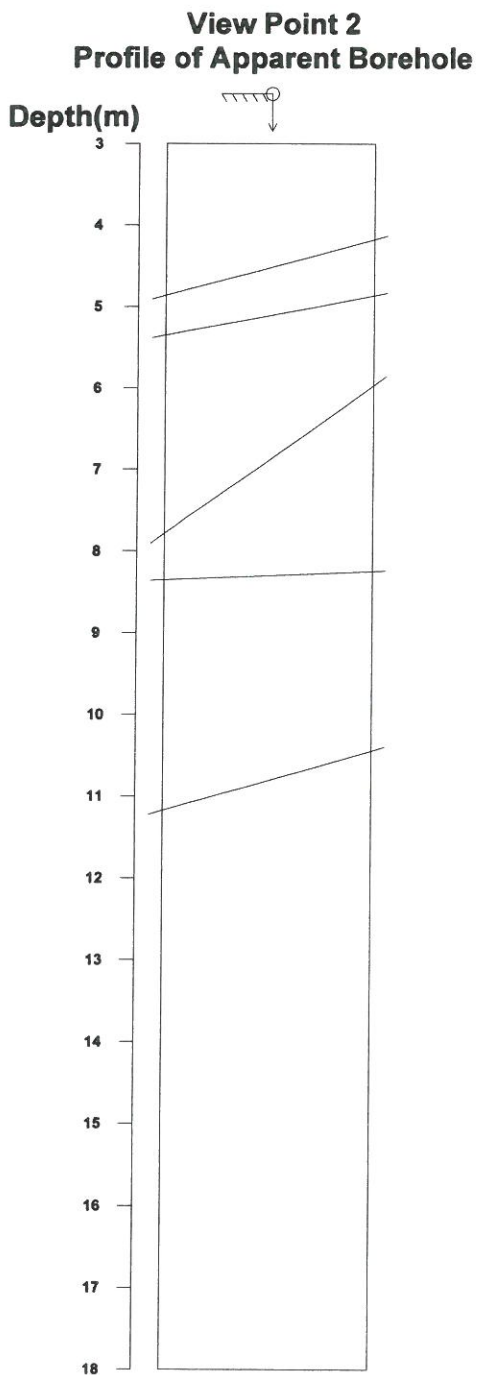
Direction: 0 deg
 Inclination: Vertical(Down)

<Legend>
 Entrance G.L
 Bottom

Fig. Apparent Dip

Title: BH33.STR
Comment: SHEAR ZONE
Depth: 3.981 - 17.698 m
Aperture: 0.0 - 73.0 mm

Sort: 1/ 7
Form: 8/ 8
Condition: 11/11
Remark: 11/11



Direction: 0 deg
Inclination: Vertical(Down)

<Legend>
Entrance **G.L**
Bottom

Fig. Apparent Dip