



PT. Indra Karya (Persero)
Consulting Engineers

Fig. 1.1.9 DRILL LOG

HOLE No. B - 10

DATE	SAMPLING	DEPTH	ELEVATION	COLUMN SECTION	DESCRIPTION	GROUND WATER LEVEL	ROCK GRADE	CORE RECO VERY %	R Q D %	WATER PRESSURE TEST LUIGON VALUE	DEPTH		ELEVATION			
											INCLINATION	VERTICAL	DRILL RIG	LOGGED BY		
OCT. 31. 1997		0.40	173.170	X	TOP SOIL			100	0		0	0.00	173.170	0.00	173.170	
OCT. 31. 1997	1			V O V O V	VOLCANIC CONGLRATE, dense, light brown		CL-L	100	0							
	2			V O V O V												
	3			V O V O V												
OCT. 31. 1997	4	4.40	174.170	" " " "	TUFF, soft, light brown		CL-L	100	0							
	5	5.60	173.070	" " " "	TUFFACEOUS SANDSTONE, soft, light brown		CL-L	100	10							
	6	6.10	172.470	" " " "	TUFF, soft, light brown		CL-L	100	0							
	7	6.75	171.500	" " " "	SANDSTONE, medium grained, compact, brown		CL-L	100	0							
	8	7.15	171.000	" " " "	SANDSTONE, low compact		CL-L	100	0							
	9	8.25	170.320	" " " "	TUFF, SANDSTONE, med. grained, soft, grey		CL-L	100	0							
	10	8.90	170.070	" " " "	TUFF, light brown		CL-L	100	0							
	NOVEMBER 01, 1997	11	10.60	167.970	" " " "	TUFF, SANDSTONE, med. grained, soft, grey		CL-L	100	0						
		12	12.20	166.370	" " " "	CONGLTIC SANDSTONE, compact, greyish black		CM-L	100	30						
	NOVEMBER 02, 1997	13	13.25	165.320	" " " "	TUFFACEOUS SANDSTONE, medium grained, compact, greyish black		CM-L	100	30						
14		13.80	164.770	" " " "	CONGLOMERATE, poor cemented, greyish black		CM-L	100	30							
NOVEMBER 03, 1997	15	14.15	164.400	" " " "	TUFF, light brown		CL-H	100	25							
	16	16.40	162.170	" " " "	CONGLTIC SANDSTONE, compact, brownish grey		CL-L	100	0							
	17	19.65	158.920	" " " "	TUFF, greyish green		CL-H	100	24							
NOVEMBER 04, 1997	18	21.40	157.170	" " " "	TUFF, SANDSTONE, medium grained, soft - dense, grey		CL-H	100	32							
	19	21.70	156.970	" " " "	SANDSTONE, medium grained, soft, grey		CL-H	100	10							
NOVEMBER 01, 1997	20	21.70	156.970	" " " "	TUFF, light brown		CL-L	100	10							
	21	21.70	156.970	" " " "	SANDSTONE, medium grained, soft, grey		CL-L	100	20							
NOVEMBER 02, 1997	22	21.70	156.970	" " " "	SANDSTONE, medium grained, soft, grey		CL-L	100	10							
	23	21.70	156.970	" " " "	SANDSTONE, medium grained, soft, grey		CL-L	100	0							

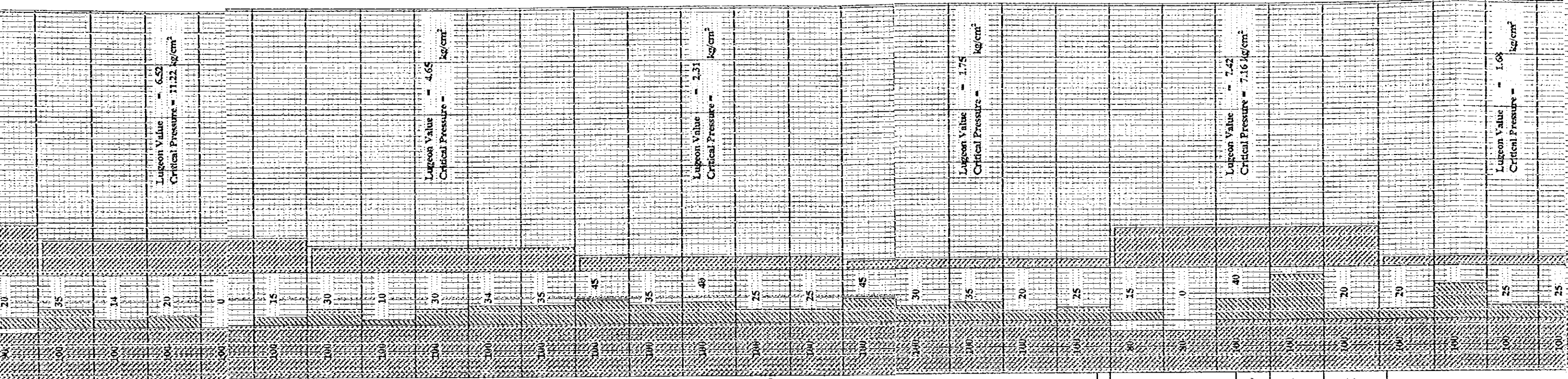
Luigon Value = 2.90
Critical Pressure = 4.30 kg/cm²

Luigon Value = 4.75
Critical Pressure = 4.75 kg/cm²

Luigon Value = 4.24

14	14.15	164.420	TUFF, light brown	CL-H	100	25	Lugeon Value = 4.76 Critical Pressure = kg/cm ²
15			CONGLIATIC SANDSTONE, compact, brownish grey	CL-L	100	0	
16	16.40	162.170	TUFF SANDSTONE, medium grained, soft-dense, grey	CL-H	100	15	Lugeon Value = 4.76 Critical Pressure = kg/cm ²
17			TUFF, greyish green	CL-H	100	32	
18			SANDSTONE, medium grained, soft, grey	CL-H	100	10	Lugeon Value = 4.76 Critical Pressure = kg/cm ²
19			TUFF, light brown	CL-L	100	24	
20	19.64	158.920	SANDSTONE, medium grained, soft, grey	CL-L	90	10	Lugeon Value = 4.24 Critical Pressure = kg/cm ²
21	19.75	158.970	TUFF, soft, brown	CL-L	90	0	
22	21.40	157.170	CONGLIATIC SANDSTONE, compact, brownish grey	CL-H	100	30	Lugeon Value = 16.95 Critical Pressure = 3.59 kg/cm ²
23	21.70	156.970	SANDSTONE, medium grained, soft, grey	CL-L	90	0	
24	23.00	155.570	TUFF, soft, brown	CL-L	90	0	Lugeon Value = 16.95 Critical Pressure = 3.59 kg/cm ²
25	24.40	154.170	CONGLIATIC SANDSTONE, compact, brownish grey	CL-H	100	25	
26			SANDY TUFF, dense, brown	CL-H	100	20	Lugeon Value = 15.21 Critical Pressure = 3.60 kg/cm ²
27				CL-H	100	0	
28	28.60	149.970	VOLCANIC CONGLOMERATE, poor cemented, blackish grey	CL-H	100	20	Lugeon Value = 4.80 Critical Pressure = 4.42 kg/cm ²
29				CL-H	100	18	
30				CM-L	90	15	Lugeon Value = 9.10 Critical Pressure = 6.95 kg/cm ²
31				CL-H	90	10	
32				CL-H	90	0	Lugeon Value = 9.10 Critical Pressure = 6.95 kg/cm ²
33	33.10	145.470		CL-H	90	20	
34				CL-H	90	20	Lugeon Value = 9.10 Critical Pressure = 6.95 kg/cm ²
35				CL-H	90	20	
36				CL-H	90	20	Lugeon Value = 9.10 Critical Pressure = 6.95 kg/cm ²
37				CL-H	90	20	
38				CL-H	90	20	Lugeon Value = 9.10 Critical Pressure = 6.95 kg/cm ²
39				CL-H	90	20	
40				CL-H	90	20	Lugeon Value = 9.10 Critical Pressure = 6.95 kg/cm ²
41				CL-H	90	20	
42				CL-H	90	20	Lugeon Value = 9.10 Critical Pressure = 6.95 kg/cm ²
43				CL-H	90	20	

ID	CL-H	CL-H	CL-L	D (IV)	CM-H	CM (III, a, 2)	CL-H	CL-H	CM-L	CL-H	CL-H
54.90											
55	SAND, rather loose, blackish grey										
56	TUFF, light brown										
57	TUFFACEOUS SANDSTONE, medium - coarse grained, compact, brownish grey										
58	TUFF, light brown										
59											
60											
61											
62	VOLCANIC BRECCIA, compact, grey										
63											
64											
65											
66											
67											
68	VOLCANIC BRECCIA, compact, good cemented by Tuffaceous Sandstone										
69											
70											
71											
72											
73											
74											
75	SAND, fine grained, laminated										
76	VOLCANIC CONGLOMERATE, poor cemented, grey										
77											
78	CONGLOMERATIC SANDSTONE, compact, grey										
79	TUFFACEOUS SANDSTONE, compact, fine grained, grey										
80	TUFF, light brown										
81											
82											
83											



Soil Type	Lugeon Value	Critical Pressure (kg/cm ²)
SAND, rather loose, blackish grey	20	6.52
TUFF, light brown	35	11.22
TUFFACEOUS SANDSTONE, medium - coarse grained, compact, brownish grey	14	4.65
TUFF, light brown	0	2.31
VOLCANIC BRECCIA, compact, grey	15	1.75
VOLCANIC BRECCIA, compact, good cemented by Tuffaceous Sandstone	30	7.42
SAND, fine grained, laminated	10	1.68
VOLCANIC CONGLOMERATE, poor cemented, grey	20	7.16
CONGLOMERATIC SANDSTONE, compact, grey	40	
TUFFACEOUS SANDSTONE, compact, fine grained, grey	20	
TUFF, light brown	20	

Core No.	Core Depth (m)	Core Description	Core Type	DPH	Lugeon Value	Critical Pressure (kg/cm ²)
68	74.92	VOLCANIC BRECCIA, compact, good cemented by Tuffaceous Sandstone	CM (III, a, 2)	40	1.75	2.51
69	75.00	SAND, fine grained, laminated	CL-H	25	7.42	7.16
70	75.50	VOLCANIC CONGLOMERATE, poor cemented, grey	CL-H	25	1.68	1.68
71	77.25	CONGLOMERATIC SANDSTONE, compact, grey	CM-L	45	3.56	8.72
72	78.00	TUFFACEOUS SANDSTONE, compact, fine grained, grey	CL-H	30		
73	79.00	TUFF, light brown	CL-H	20		
74	79.50	CONGLOMERATIC SANDSTONE, compact, grey	CM-H	50		
75	80.15	TUFFACEOUS SANDSTONE, compact, fine grained, grey	CL-H	20		
76	80.50	TUFF, light brown	CL-H	20		
77	81.00	CONGLOMERATIC SANDSTONE, compact, grey	CM-H	50		
78	81.50	TUFFACEOUS SANDSTONE, compact, fine grained, grey	CL-H	20		
79	82.00	TUFF, light brown	CL-H	20		
80	82.50	CONGLOMERATIC SANDSTONE, compact, grey	CM-H	50		
81	83.00	TUFFACEOUS SANDSTONE, compact, fine grained, grey	CL-H	20		
82	83.50	TUFF, light brown	CL-H	20		
83	84.00	CONGLOMERATIC SANDSTONE, compact, grey	CM-H	50		
84	84.50	TUFFACEOUS SANDSTONE, compact, fine grained, grey	CL-H	20		
85	85.00	TUFF, light brown	CL-H	20		
86	85.50	CONGLOMERATIC SANDSTONE, compact, grey	CM-H	50		
87	86.00	TUFFACEOUS SANDSTONE, compact, fine grained, grey	CL-H	20		
88	86.50	TUFF, light brown	CL-H	20		
89	87.00	CONGLOMERATIC SANDSTONE, compact, grey	CM-H	50		
90	87.50	TUFFACEOUS SANDSTONE, compact, fine grained, grey	CL-H	20		

NOVEMBER 17, 1997 NOVEMBER 16, 1997 NOVEMBER 15, 1997 NOVEMBER 14, 1997

* R. Q. D. = Rock Quality Designation = (Total Length of Cylindric Cores longer than 10 cm) / (Total Core Length) x 100 %
 * LUGEON VALUE is kVmin/mtr under injection water pressure by 10 kgf/cm²
 * G. W. L. = Ground Water Level = Height of Spring Water

END OF DRILLING



PT. Indra Karya (Persero)
Consulting Engineers

Fig. 1.1.10 DRILL LOG

HOLE No. B - 11

PROJECT	JABARANG DAM		DEPTH	ELEVATION		100.00 M		100.00 M	
SITE	DAM SITE	COORDINATE X-Y-Z	INCLINATION	DRILL RIG	LOGGED BY	DATE	DRILL RIG	LOGGED BY	DATE
CLIENT	DAMICA	DATE	DRILLED BY	KOMARUDIN	LOGGED BY	DDIK PRAYOWO	LOGGED BY	DDIK PRAYOWO	DATE
DATE	DEPTH	ELEVATION	COLUMN SECTION	DESCRIPTION	GROUND WATER LEVEL	ROCK GRADE	CORE RECO VERY %	R Q D	WATER PRESSURE TEST LUGEON VALUE
SEP. 03, 1997	1.60	187.999		TOP SOIL (TUFFACEOUS SILT), soft, brown		D (IV)	0	0	
SEP. 03, 1997	2.00	186.999		SANDY TUFF,		D	0	0	
SEP. 03, 1997	4.35	184.559		H. W. CONGLOMERATIC SSTONE, soft, greyish brown		D (IV)	0	0	
SEP. 04, 1997				CONGLOMERATIC SANDSTONE, soft - dense, grey		CL-L	0	0	
SEP. 05, 1997	13.00	175.989		TUFF, fine - sandy, brown		CL-L	0	0	
SEP. 05, 1997	13.45	175.489		MUDDY TUFF, brown		CL-L	0	0	
SEP. 05, 1997	13.75	175.189		CONGLOMERATIC SANDSTONE (matrix tuffaceous), soft - dense, brown		CL-L	0	0	
SEP. 06, 1997	16.80	172.109		CONGLOMERATIC SANDSTONE, dense - compact, greyish brown, (lapilli - tuff)		CL-H	0	0	
SEP. 08, 1997	17.95	170.959		CONGLOMERATIC SANDSTONE, dense - compact, greyish brown (18.50 - 20.00 nearly volc. breccia)		CL-H	0	0	
SEP. 11, 1997	20.00	168.909		SILTY TUFF, light brown		CL-H	0	0	
SEP. 11, 1997	20.10	168.809				CL-H	0	0	

Lugeon Value = 4.80
Critical Pressure = 7.98 kg/cm²

Lugeon Value = 4.20
Critical Pressure = 5.38 kg/cm²

15	16.80	17.109	CONGLOMERATIC SANDSTONE (matrix tuffaceous), soft ~ dense, brown	CL - L	100	0		
16								
17	17.95	170.989	CONGLOMERATIC SANDSTONE, dense ~ compact, greyish brown, (lapilli ~ tuff)	CL - H	100	15		
18								
19	20.00	168.909	CONGLOMERATIC SANDSTONE, dense ~ compact, greyish brown (18.50 ~ 20.00 nearly volc. breccia)	CL - H	100	20		Lugeon Value = 4.80 Critical Pressure = 7.98 kg/cm ²
20	20.10	168.309	SILTY TUFF, light brown	CL - H	100	15		
21								
22								
23	26.45	162.459	CONGLOMERATIC SANDSTONE, dense ~ compact, greyish brown	CL - H	100	15		
24								
25	26.75	162.159						
26	26.95	161.959						
27			SSTONE, med. grained, intercalation with tuff (26.70) TUFF, fine grained, light grey	CL - H CL - H	100 100	20 30		Lugeon Value = 3.60 Critical Pressure = 6.85 kg/cm ²
28								
29								
30			TUFFACEOUS SANDSTONE, medium ~ fine grained, dense ~ compact, light brown	CL - H	100	15		
31								
32								
33	32.65	156.249	TUFF, fine grained, light grey	CL - H	100	10		Lugeon Value = 3.50 Critical Pressure = 6.38 kg/cm ²
34	32.75	156.159	TUFF SANDSTONE, fine grained, dense, brown	CL - H	100	15		
35	33.45	155.459						
36			SANDSTONE, c. grained, dense ~ compact, brown	CL - H	100	25		
37	34.95	153.959						
38			SILTY TUFF, soft, brown	CL - L	100	0		
39	36.00	152.909	SAND, medium grained, poor cemented	CL - L	100	0		
40	36.50	152.709						
41			SILTY TUFF, very fine grained, poor cemented, brown	CL - L	100	0		Lugeon Value = 2.90 Critical Pressure = 6.90 kg/cm ²
42	38.30	150.609						
43	38.75	150.159	CONGLTIC SSTONE (nearly volc. breccia), compact	CM - L	100	25		
44	38.85	150.359	TUFF, fine grained, grey	CM - L	100	25		
45	39.85	149.059	CONGLOMERATIC SANDSTONE, compact, grey	CM - L	100	25		
46	40.05	148.359	SANDY TUFF, dense, light brown	CL - H	100	35		
47	40.40	148.509	CONGLOMERATIC SANDSTONE, compact, brown	CM - L	100	35		
48			SANDY TUFF, soft, light brown	CL - H	100	30		
49	41.30	147.609						
50								
51	43.10	145.809	CONGLOMERATIC SANDSTONE, compact, grey	CM - L	100	20		Lugeon Value = 1.20 Critical Pressure = 6.91 kg/cm ²
52								
53			SANDY TUFF, soft ~ dense, brown	CL - H	100	15		

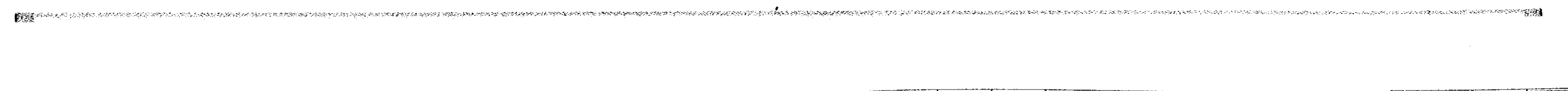
7 SEPTEMBER 1997 28 SEPTEMBER 1997 27 SEPTEMBER 1997 26 SEPTEMBER 1997 24 SEPTEMBER 1997 20 SEPTEMBER 1997 19 SEPTEMBER 1997 18 SEPTEMBER 1997 17 SEPTEMBER 1997 16 SEPTEMBER 1997 15 SEPTEMBER 1997

Date	Depth (m)	Soil Description	Soil Type	Moisture (%)	Soil Density (kg/cm³)	Soil Pressure (kg/cm²)	Soil Value (kg/cm²)
OCT. 04, 1997	37	SILTY TUFF, very fine grained, poor cemented, brown	CL-L	100	0	2.90	6.90
	38	CONGLTIC S' STONE (nearly volc. breccia), compact	CM-L	100	25		
OCT. 03, 1997	39	TUFF, fine grained, grey	CM-L	100	25		
	40	CONGLOMERATIC SANDSTONE, compact, grey	CL-H	100	35		
SEPTEMBER 29, 1997	41	SANDY TUFF, dense, light brown	CM-L	100	30		
	42	CONGLOMERATIC SANDSTONE, compact, brown	CL-H	100	15		
SEPTEMBER 29, 1997	43	SANDY TUFF, soft, light brown	CM-L	100	20		
	44	CONGLOMERATIC SANDSTONE, compact, grey	CL-H	100	15		
SEPTEMBER 29, 1997	45	SANDY TUFF, soft - dense, brown	CM-L	100	20		
	46	CONGLTIC SANDSTONE, with laminae, compact, grey (43.70 ~ 45.10 nearly volc. breccia)	CL-H	100	35		
SEPTEMBER 29, 1997	47	TUFF, dense, light grey	CM-L	100	20		
	48	SANDSTONE, fine grained, dense, light grey	CL-H	100	30		
OCT. 02, 1997	49	CONGLTIC SANDSTONE (nearly volc. breccia), compact (47.70 ~ 47.80 coarse sandstone), grey	CM-L	100	25		
	50	SANDY TUFF, soft - dense, light brown	CL-H	100	25		
OCT. 02, 1997	51	CONGLTIC S' STONE, compact, light brown	CM-L	100	15		
	52	SANDY TUFF, dense, light brown	CL-H	100	25		
OCT. 02, 1997	53	SANDSTONE, coarse grained, dense, light brown (51.95 ~ 52.05 pumice tuff)	CL-H	100	35		
	54	SANDSTONE, fine grained, dense, light brown	CL-H	100	25		
OCT. 02, 1997	55	SANDSTONE, medium - coarse grained, dense, with laminae	CL-H	100	35		
	56	SANDY TUFF, dense, light brown	CL-H	100	50		
OCT. 02, 1997	57	SANDSTONE, fine - medium grained, dense, light brown	CL-H	100	40		
	58	TUFF, dense, light brown	CL-L	100	20		
OCT. 02, 1997	59	SANDSTONE, medium grained, dense, grey	CL-L	100	15		
	60	CONGLOMERATE Ø 2 ~ 5 cm, poor cemented, grey	CL-L	100	0		
OCT. 03, 1997	61	SANDSTONE, fine grained, dense, compact, grey	CL-H	100	45		
	62	CONGLOMERATE Ø 2 ~ 10 cm, poor cemented, matrix, medium sand, grey	CL-L	100	0		
OCT. 03, 1997	63	TUFF, fine grained, dense, light brown	CL-H	100	45		
	64	SANDSTONE, c. grained, p. cemented, grey	CL-H	100	0		
OCT. 04, 1997	65	TUFF, fine grained, dense - soft, light brown	CL-H	100	35		
	66	CONGLOMERATIC SANDSTONE, (60.35 ~ 60.70 nearly pumice tuff), light brown	CL-H	100	15		
OCT. 04, 1997	67	TUFF, dense, light brown	CL-H	100	35		
	68			100	50		

SEPTEMBER 29, 1997

OCT. 04, 1997

Core No.	Depth (m)	Interval (m)	Description	Classification	Porosity (%)	Grain Size	Lugeon Value	Critical Pressure (kg/cm ²)
58	59.00	129.909	CONGLOMERATE Ø 2-10 cm, poor cemented, matrix, medium sand, grey	CL-L	0			5.56 kg/cm ²
59	59.45	129.459	TUFF, fine grained, dense, light brown	CL-H	45			
60	59.95	128.959	SANDSTONE, c. grained, p. cemented, grey	CL-H				
61	60.35	128.559	TUFF, fine grained, dense ~ soft, light brown	CL-H				
62	61.05	127.859	CONGLOMERATIC SANDSTONE, (60.35 ~ 60.70 nearly pumice tuff), light brown	CL-H				
63	61.75	127.159	TUFF, dense, light brown	CL-H	35			
64								
65								
66								
67								
68			VOLCANIC BRECCIA, compact, light purplish grey (73.15 ~ 73.75 SANDSTONE, fine ~ very fine grained, dense, grey)	CM-H				
69								
70								
71								
72								
73								
74	73.75	118.159						
75	75.20	113.709						
76			TUFF, fine grained, dense, light brown	CL-H				
77	77.10	111.809						
78	77.45	111.459	SANDSTONE, coarse grained, dense, grey (75.20 ~ 75.50 tuff. sandstone with pumice) (76.40 ~ 76.50 poor cemented)	CL-R				
79	77.85	111.059	SANDSTONE, f. grained with laminae, dense, l. grey	CL-H				
80	78.00	110.909	TUFF, fine grained, dense, light grey	CL-H				
81	78.20	110.709	SANDSTONE, c. grained with laminae, dense, l. grey	CL-H				
82	78.45	110.459	SANDSTONE, dense, light grey	CL-H				
83	78.65	110.259	MUDDY TUFF, dense, blackish grey	CL-H	15			
84	79.25	109.659	TUFF, intercalation with siltstone, dense, light grey	CL-H				
85	80.00	108.909	SANDSTONE, fine grained, dense, light grey	CL-H	20			
86			SANDSTONE, coarse ~ medium grained, black	D	0			
87								
88	81.30	107.109						
89			TUFF SANDSTONE, locally muddy	CL-H	30			
90								
91								
92								
93								
94	83.85	105.359	SANDSTONE with laminae, med. ~ fine grained, grey	CL-H				
95	84.75	104.159	TUFF, fine grained, light grey	CL-H				
96	85.50	103.409	CONGLOMERATIC SANDSTONE with pumice, matrix, medium grained, dense, grey	CL-H	10			
97								
98	85.50	103.409	SANDSTONE, coarse grained, laminae with pumice	CL-H	20			
99	86.00	102.909	SANDSTONE, medium grained, laminae with pumice	CL-H				
100			TUFF, with pumice, dense, light brown	CL-H	25			



DATE	DEPTH (m)	ROCK QUALITY DESIGNATION	DESCRIPTION	LOGEON VALUE	CRITICAL PRESSURE (kg/cm ²)
OCTOBER 07, 1997	75.20	CL-R	SANDSTONE, coarse grained, dense, grey (75.20 ~ 75.50 tuff sandstone with pumice) (76.40 ~ 76.50 poor cemented)	100	20
OCTOBER 08, 1997	77.10	CL-H	SANDSTONE, f. grained with laminae, dense, l. grey	100	25
	77.45	CL-H	TUFF, fine grained, dense, light grey		
	77.95	CL-H	SANDSTONE, c. grained with laminae, dense, l. grey		
	78.20	CL-H	SILTSTONE, dense, light grey		
	78.65	CL-H	MUDDY TUFF, dense, blackish grey		
	79.25	CL-H	TUFF, intercalation with siltstone, dense, light grey		
	80.00	CL-H	SANDSTONE, fine grained, dense, light grey		
	81.00	D	SANDSTONE, coarse ~ medium grained, black		
	82.00	CL-H	TUFF SANDSTONE, locally muddy		
	83.85	CL-H	SILTSTONE with laminae, med. ~ fine grained, grey		
	84.00	CL-H	TUFF, fine grained, light grey		
	84.75	CL-H	CONGLOMERATIC SANDSTONE with pumice, matrix, medium grained, dense, grey		
	85.50	CL-H	SANDSTONE, coarse grained, laminae with pumice		
	86.00	CL-H	SANDSTONE, medium grained, laminae with pumice		
	87.25	CL-H	TUFF, with pumice, dense, light brown		
	88.20	CL-H	CONGLOMERATIC SANDSTONE, dense, grey/ish brown (87.25 ~ 87.50 tufaceous / lapilli tuff)		
	89.00	CL-H	SANDSTONE, coarse grained, laminae, with many pumice, intercalation with conglomeratic sandstone, soft ~ dense		
	90.30	CL-H	TUFACEOUS SANDSTONE, coarse grained, dense, grey		
	91.00	CL-H	TUFF SANDSTONE, medium grained, dense, grey		
	92.00	CL-H			
	93.00	CL-H			
	94.00	CL-H			
	95.00	CM-H	VOLCANIC BRECCIA, compact, grey		
	96.00	CL-H			
	97.00	CL-H			
	98.00	CL-H			
	99.00	CL-H			
	100.00	CL-H			

END OF DRILLING

R. Q. D. = Rock Quality Designation = (Total Length of Cylindric Cores longer than 10 cm) / (Total Core Length) x 100 %

LUGEON VALUE is ltr/min/mtr under injection water pressure by 10 kgf/cm²

G. W. L. = Ground Water Level = Height of Spring Water