



PT. Indra Karya (Persero)
Consulting Engineers

Fig. 1.1.11 DRILL LOG

HOLE No. B - 12

DATE	SAMPLING	DEPTH	ELEVATION	COLUMN SECTION	DESCRIPTION	GROUND WATER LEVEL	ROCK GRADE	CORE RECO VERY %	R Q D %	WATER PRESSURE TEST LUCEON VALUE										
										30.00 M	ELEVATION	VERTICAL	DRILL RIG	LOGGED BY						
PROJECT: JATIRANG-DAM SITE: DAMSITE CLIENT: JICA COORDINATE X: 92219498 Y: 4282656 DATE: Oct 03, 1997 DRILLED BY: SUZMAN											30.00 M	ELEVATION	VERTICAL	DRILL RIG	LOGGED BY					
											37.068	YEM	DDK/PEANOND							
OCT 03, 1997		1	136.068	X	TOP SOIL, grey, soft			100	0											
		2	134.668		SANDY TUFF, soft, grey		D	100	0											
		3			TUFF. SANDSTONE, fine grained, compact, brown		CL-L	100	0											
		4	132.868					100	30											
		5						100	30											
		6						100	30											
		7						100	20											
		8						100	25											
		9						100	45											
		10	127.168					100	30											
		11	126.268					90	25											
		12						100	30											
		13	121.568					80	15											
		14	123.268					90	25											
		15	119.968					90	15											
		16	121.568					90	35											
		17	119.968					100	20											
		18	119.068					100	40											
		19	117.968					100	20											
		20						100	0											
		21						100	0											
		22	114.768					100	25											
								100	45											

Lugeon Value = 26.40
Critical Pressure = 1.72 kg/cm²

Lugeon Value = 36.29
Critical Pressure = 2.78 kg/cm²

Lugeon Value = 76.82
Critical Pressure = kg/cm²

Lugeon Value = 55.84
Critical Pressure = 3.29 kg/cm²

OCTOBER 10, 1997 OCTOBER 09, 1997 OCTOBER 08, 1997 OCTOBER 07, 1997 OCTOBER 06, 1997

15	15.20	121.368	CONGLTIC SANDSTONE, poor cemented, brownish grey	CL-L	90	35	Lugeon Value = 76.92 Critical Pressure = kg/cm ²
16	17.10	119.968	SANDY TUFF, dense, brown	CL-L	100	20	
17	18.00	119.068	CONGLTIC SANDSTONE, good cemented, brownish grey	CL-M	100	40	Lugeon Value = 35.84 Critical Pressure = 3.29 kg/cm ²
18	18.30	118.768	TUFF, soft - dense, light brown	CL-H	100	20	
19	19.10	117.968	TUFF SANDSTONE, fine grained, compact, brown	CL-H	100	0	Lugeon Value = 10.27 Critical Pressure = kg/cm ²
20	22.30	114.768	CONGLTIC SANDSTONE, compact, brown (18.35 - 22.25 poor cemented)	CL-L	100	0	
21					100	25	Lugeon Value = 10.27 Critical Pressure = kg/cm ²
22					100	45	
23					100	35	Lugeon Value = 3.81 Critical Pressure = 6.61 kg/cm ²
24					100	20	
25					100	20	Lugeon Value = 3.81 Critical Pressure = 6.61 kg/cm ²
26					100	20	
27					100	20	Lugeon Value = 10.52 Critical Pressure = kg/cm ²
28					100	15	
29					100	35	Lugeon Value = 10.52 Critical Pressure = kg/cm ²
30					100	30	
31	31.30	105.768	VOLCANIC BRECCIA, compact, grey	CM-H	100	50	Lugeon Value = 3.30 Critical Pressure = 5.65 kg/cm ²
32			SANDSTONE, coarse grained, grey	CL-H	100	20	
33	32.75	104.318	TUFF, fine grained, brown	CL-H	100	10	Lugeon Value = 3.30 Critical Pressure = 5.65 kg/cm ²
34	34.35	102.718		CL-H	100	25	
35			SANDSTONE, fine grained, dense - compact, whitish grey	CL-L	100	10	Lugeon Value = 3.30 Critical Pressure = 5.65 kg/cm ²
36	36.05	101.018		CL-L	80	0	
37					100	15	Lugeon Value = 3.30 Critical Pressure = 5.65 kg/cm ²
38					100	30	
39	39.50	97.568	TUFF, dense - compact, whitish grey	CL-L	100	35	Lugeon Value = 3.30 Critical Pressure = 5.65 kg/cm ²
40	40.20	96.968	SANDSTONE, coarse grained, compact, grey	CL-L	100	45	
41	41.00	96.068	SANDSTONE, fine grained, compact, grey	CL-L	100	20	Lugeon Value = 3.30 Critical Pressure = 5.65 kg/cm ²
42	42.50	94.568	CONGLOMERATIC SANDSTONE, coarse grained, compact, grey	CL-L	100	20	
43	43.35	93.718	SANDSTONE, fine grained, compact, grey	CL-L	100	20	Lugeon Value = 3.81 Critical Pressure = 6.61 kg/cm ²
44	43.90	93.168	SANDSTONE, coarse grained, compact, grey	CL-L	100	15	
45					100	35	

Core No.	Depth (m)	Interval (m)	Stratigraphic Unit / Lithology	Classification	Moisture (%)	Specific Gravity (kg/cm³)	Notes
38	39.50	97.508	TUFF, dense - compact, whitish grey	CL-L	30	5.65	Critical Pressure = 5.65 kg/cm²
39	40.20	96.508	SANDSTONE, coarse grained, compact, grey	CL-L	35		
40	41.00	96.008	SANDSTONE, fine grained, compact, grey	CL-L	45		
41	42.50	94.508	CONGLOMERATIC SANDSTONE, coarse grained, compact, grey	CL-L	20	3.81	Lugeon Value = 3.81 Critical Pressure = 6.61 kg/cm²
42	43.35	93.718	SANDSTONE, fine grained, compact, grey	CL-L	30		
43	43.90	93.168	SANDSTONE, coarse grained, compact, grey	CL-L	15		
44	47.40	89.668	TUFFACEOUS SANDSTONE, fine grained, compact, grey	CL-H	35		
45	48.10	88.968	SANDSTONE, coarse grained, compact, grey	CL-H	20	11.57	Lugeon Value = 11.57 Critical Pressure = 11.57 kg/cm²
46			SANDSTONE, medium grained, compact, grey	CL-L	0		
47			TUFFACEOUS SANDSTONE, coarse grained, compact, grey	CL-H	0		
48	52.00	85.068	SANDSTONE, fine - coarse grained, dense, compact, grey	CL-L	15	14.11	Lugeon Value = 14.11 Critical Pressure = 14.11 kg/cm²
49			SILTSTONE, dense - compact, brown	CL-L	0		
50	55.50	82.068	SAND & GRAVEL Ø 1 - 5 cm	CL-L	0		
51	55.50	81.568		CL-L	25		
52	56.25	80.818		CL-L	35	2.54	Lugeon Value = 2.54 Critical Pressure = 2.54 kg/cm²
53				CL-L	20		
54				CL-L	10		
55				CL-L	40		
56				CL-L	15		
57				CL-L	32	2.56	Lugeon Value = 2.56 Critical Pressure = 2.56 kg/cm²
58				CL-L	35		
59				CL-L	15		
60				CL-L	25		
61				CL-L	35		
62				CL-L	15		
63				CL-L	25		
64				CL-L	35		
65				CL-L	15		
66				CL-L	25		
67				CL-L	35		
68			VOLCANIC BRECCIA, good cemented by tuffaceous sandstone, compact, grey	CM-H	15	5.18	Lugeon Value = 5.18 Critical Pressure = 5.18 kg/cm²

OCTOBER 10, 1997

OCTOBER 11, 1997

OCT. 19, 1997

OCT. 20, 1997

OCT. 21, 1997

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DATE	DEPTH (m)	ROCK QUALITY DESIGNATION	REMARKS	LOGEON VALUE (kg/cm ²)	CRITICAL PRESSURE (kg/cm ²)
OCT. 19,	54	SANDSTONE, fine to coarse grained, dense, compact, grey		100	0
	55	SILTSTONE, dense to compact, brown		100	0
	56	SAND & GRAVEL Ø 1-5 cm		100	0
OCT. 20, 1997	57	VOLCANIC BRECCIA, good cemented by tuffaceous sandstone, compact, grey	Δ Δ Δ	100	25
	58		Δ Δ Δ	100	35
	59		Δ Δ Δ	100	20
	60		Δ Δ Δ	100	10
	61		Δ Δ Δ	100	40
	62		Δ Δ Δ	100	15
	63		Δ Δ Δ	100	12
	64		Δ Δ Δ	100	15
	65		Δ Δ Δ	100	25
	66		Δ Δ Δ	100	35
	67		Δ Δ Δ	100	15
	68		Δ Δ Δ	100	15
	OCTOBER 22, 1997		69	VOLCANIC BRECCIA, good cemented by tuffaceous sandstone, compact, grey	Δ Δ Δ
70		Δ Δ Δ	100		15
71		Δ Δ Δ	100		15
72		Δ Δ Δ	100		0
73		Δ Δ Δ	100		0
74		Δ Δ Δ	100		15
75		Δ Δ Δ	100		20
76		Δ Δ Δ	20		25
77		Δ Δ Δ	20		15
78		Δ Δ Δ	100		20
79		Δ Δ Δ	100		20
OCTOBER 24, 1997		80	Δ Δ Δ		100
		END OF DRILLING			

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



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Fig. 1.1.12 DRILL LOG

HOLE No. B - 13

PROJECT	JAMBARANG DAM		DEPTH	INCLINATION	VERTICAL	ELEVATION	M
	SITE	COORDINATE					
CLIENT	DAMSITE	DATE	DEPTH	DRILLED BY	R Q D	WATER PRESSURE TEST	M
DATE	JICA		SAMPLING	ROCK GRADE	CORE RECO VERY	LUGEON VALUE	
				LEVEL	%		
				GROUND	%		
				DESCRIPTION			
				COLUMN SECTION			
				ELEVATION			
				DEPTH			
				TOP SOIL			
			1				
			2				
			3				
			4				
			5				
			6				
			7				
			8				
			9				
			10				
			11				
			12				
			13				
			14				
			15				
			16				
			17				
			18				
			19				
			20				
			20.45				
			20.45				

OCTOBER 16, 1997

OCTOBER 17, 1997

OCTOBER 18, 1997

OCTOBER 21, 1997

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OCT. 18 1997 OCTOBER 21, 97 OCT 20 1997 OCTOBER 22, 1997 OCTOBER 24, 1997 OCTOBER 25, 1997 1997

14	14.70	133.772	TUFFACEOUS SANDSTONE, medium grained, compact, greyish brown.	CL-H	100	20	
15	16.00	132.472	CONGLOMERATE, poor cemented, mixed with some boulders Ø 5 cm ~ 10 cm	CL-H	80	0	
16	16.30	131.172	SANDSTONE, med. grained, dense - compact, grey	CL-H	90	0	
17	17.60	130.872	CONGLOMERATE, poor cemented, mixed with some boulders Ø 5 cm ~ 10 cm	CL-H	80	0	Lugeon Value = 50.94 Critical Pressure = kg/cm ²
18	18.20	130.272	TUFF, dense ~ compact, brown	CL-H	90	15	
19			CONGLTIC SANDSTONE, dense ~ compact, grey	CL-H	90	10	
20	20.15	129.972	TUFF, soft ~ dense, greyish white	CL-H	90	15	
21	20.45	128.022					
22	23.60	124.872	TUFFACEOUS SANDSTONE, fine grained, intercalation with coarse grained in the 21.00 ~ 21.30 m depth	CL-H	100	30	Lugeon Value = 2.38 Critical Pressure = 5.05 kg/cm ²
23						45	
24			CONGLOMERATE, poor cemented, greyish brown (24.50 ~ 25.00 disturbed)	CL-H	100	0	
25	25.00	125.472	CONGLTIC S'STONE, poor cemented, greyish brown	CL-L	90	10	
26	25.30	125.172	CONGLOMERATE, poor cemented, greyish brown	CL-H	80	25	
27	26.70	121.772	CONGLTIC S'STONE (lapilli tuff), greyish brown	CL-L	100	40	Lugeon Value = 3.58 Critical Pressure = 5.75 kg/cm ²
27.15	26.90	121.572	TUFF, fine, light grey ~ white	CL-L	100	10	
27.40	27.40	120.772	CONGLTIC SANDSTONE, compact, greyish brown	CL-H	100	10	
28	27.70	120.772	TUFF, dense, light greyish brown	CL-H	100	10	
28.00	27.90	120.572	CONGLTIC S'STONE, compact, greyish brown	CL-H	100	10	
28.50	28.50	119.972	SANDSTONE, laminated facies, light grey	CL-H	100	10	
29	29.00	119.472	TUFF, with sandy grained, brownish grey	CL-H	100	15	
30	30.30	118.172	CONGLOMERATIC SANDSTONE (lapilli tuff), dense ~ compact, light brown	CL-H	100	25	
31						20	
32						30	
33						30	
34						40	
35						25	
36						25	
37			VOLCANIC BRECCIA, compact, grey (41.10 ~ 41.30 & 42.40 ~ 42.80) andesite boulders	CM-H	100	35	Lugeon Value = 4.09 Critical Pressure = 5.80 kg/cm ²
38						25	
39						20	
40						35	
41						35	
42						15	Lugeon Value = 3.78 Critical Pressure = 1.88 kg/cm ²



DATE	DEPTH (m)	LOG	DESCRIPTION	UNIT	TEST DATA
OCTOBER 28, 1997	55	53.772	SANDSTONE (partial laminated - stratified), grey	CL-H	
	56	55.10	CONGLIATIC SANDSTONE, dense ~ comp., brownish grey	CL-H	
OCTOBER 29, 1997	57	55.15	TUFF, fine, light brown	CL-H	
	58	56.15	SANDSTONE, fine grained, compact, grey	CL-H	
OCTOBER 30, 1997	59	57.20	TUFF, with sandy fragment & crystal, greyish brown dense, grey	CL-H	Lugeon Value = 7.52 Critical Pressure = 10.45 kg/cm ²
	60	59.20	SANDSTONE, fine ~ med. grained, compact, grey	CL-H	
OCTOBER 31, 1997	61	59.30	SANDSTONE, coarse grained, compact, grey	CL-H	
	62	60.00	CONGLIATIC SANDSTONE, dense ~ compact, grey	CL-H	
NOVEMBER 1, 1997	63	60.40	SANDSTONE, coarse grained with pumice, pebble, stratified ~ laminated, grey	CL-H	
	64	61.70	TUFF, coarse (sandy with crystal), light grey	CL-H	
NOVEMBER 2, 1997	65	63.45	CONGLIATIC SANDSTONE, dense ~ compact, grey	CL-H	Lugeon Value = 7.30 Critical Pressure = 10.33 kg/cm ²
	66	64.00	SANDSTONE, f. grained, laminated facies, grey	CL-H	
NOVEMBER 3, 1997	67	64.30	TUFF, fine, light brownish grey	CL-H	
	68	65.00			
NOVEMBER 4, 1997	69	66.00			
	70	67.00			
NOVEMBER 5, 1997	71	68.00			
	72	69.00			
NOVEMBER 6, 1997	73	70.00			
	74	71.00			
NOVEMBER 7, 1997	75	72.00			
	76	73.00			
NOVEMBER 8, 1997	77	74.00			
	78	75.00			
NOVEMBER 9, 1997	79	76.00			
	80	77.00			

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/m²/mtr under injection water pressure by 10 kgf/cm²

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

15	15.00	181.562	CONGLTIC SANDSTONE , dense ~ compact , brown	CL-L	100	
16	16.40	179.802	TUFF. SANDSTONE , medium ~ coarse grained , dense , brown	CL-L	100	
17	17.70	178.562	CONGLTIC SANDSTONE , dense ~ compact , brown	CL-L	100	
18	18.00	177.302	TUFF. S' STONE , medium ~ coarse grained , compact , brown	CL-L	100	
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31	31.30	164.962	CONGLOMERATE with gravel ϕ 1 - 5 cm , grey	CL-H	100	Lugeon Value = 2.20 Critical Pressure = 9.34 kg/cm ²
32						
33	33.35	162.912	CONGLTIC SANDSTONE , compact , brownish grey	CL-H	100	
34						
35						
36	35.90	160.162	CONGLOMERATE , compact , greyish brown	CL-H	100	
	36.25	160.012	CONGLTIC S' STONE , compact , brownish grey	CL-H	100	
	36.50	159.762	CONGLOMERATE , compact , greyish brown	CL-H	100	
	36.70	159.562	CONGLTIC S' STONE , compact , brownish grey	CL-H	100	
37	37.00	159.262	TUFF. S' STONE , coarse grained , compact , greyish brown	CL-L	90	Lugeon Value = 1.85 Critical Pressure = 9.79 kg/cm ²
38	38.30	157.962	SANDSTONE , fine ~ medium grained , poor cemented , greyish brown	D	100	
39						
40	40.00	156.262	TUFF. SANDSTONE , coarse grained , soft , brown	D	100	
	40.35	155.912	SANDSTONE , fine ~ medium grained , soft , brown	D	100	
41	41.00	155.262	TUFFACEOUS SANDSTONE , fine grained , compact , brown	CL-L	100	Lugeon Value = 0.82 Critical Pressure = 10.07 kg/cm ²
42						
43						
44						
45	44.85	151.412				

36	35.90	160.362	CL-H	CONGLOMERATE, compact, greyish brown	100	0	Lugeon Value = 1.85 Critical Pressure = 9.79 kg/cm ²
	36.25	160.012	CL-H	CONGLOMERATE, compact, greyish brown	100	0	
	36.50	159.762	CL-H	CONGLOMERATE, compact, brownish grey	100	0	
	36.70	159.562	CL-H	CONGLOMERATE, compact, greyish brown	100	0	
	37.00	159.262	CL-H	CONGLOMERATE, compact, brownish grey	100	0	
37			CL-L	TUFF. SANDSTONE, coarse grained, compact, greyish brown	20	2	
38	38.30	157.962	D	SANDSTONE, fine-medium grained, poor cemented, greyish brown	100	0	
39			D	TUFF. SANDSTONE, coarse grained, soft, brown	100	0	
	40.00	156.262	D	SANDSTONE, fine-medium grained, soft, brown	100	0	
40	40.35	155.912	CL-L	TUFFACEOUS SANDSTONE, fine grained, compact, brown	100	20	Lugeon Value = 0.82 Critical Pressure = 10.07 kg/cm ²
41	41.00	155.262	CL-L	TUFFACEOUS SANDSTONE, fine grained, compact, brown	100	30	
42			CL-L	TUFFACEOUS SANDSTONE, fine grained, compact, brownish grey	100	25	
43			CL-L	TUFFACEOUS SANDSTONE, fine grained, compact, brownish grey	100	25	
44			CL-L	TUFFACEOUS SANDSTONE, fine grained, compact, brownish grey	100	25	
45	44.95	151.412	CL-L	SANDSTONE, coarse grained, compact, greyish brown	100	15	
46	46.60	149.662	CL-L	SANDSTONE, coarse grained, compact, greyish brown	100	20	
47			CL-L	TUFF. SANDSTONE, fine grained, compact, brownish grey	100	30	Lugeon Value = 0.94 Critical Pressure = 6.52 kg/cm ²
48	48.10	148.162	CL-L	TUFF. SANDSTONE, fine grained, compact, brownish grey	100	30	
49			CL-L	TUFF. SANDSTONE, fine grained, compact, brownish grey	100	30	
50			CL-L	TUFF. SANDSTONE, fine grained, compact, brownish grey	100	30	
51			CL-L	TUFF. SANDSTONE, fine grained, compact, brownish grey	100	30	
52	51.00	144.862	CL-L	TUFF. SANDSTONE, fine grained, compact, blackish brown	100	50	Lugeon Value = 1.44 Critical Pressure = 7.57 kg/cm ²
53	52.20	144.062	CL-L	TUFF. SANDSTONE, fine grained, compact, blackish brown	100	19	
54			CL-L	CONGLOMERATE, compact, blackish brown	100	25	
55	53.45	142.812	CL-L	TUFF. SANDSTONE, fine grained, compact, blackish brown	100	25	
56			CL-L	TUFF. SANDSTONE, fine grained, compact, blackish brown	100	25	
57	56.00	139.462	CL-L	SANDSTONE, coarse grained, compact, blackish brown	100	20	Lugeon Value = 1.34 Critical Pressure = 9.77 kg/cm ²
58	56.90	139.162	CL-L	SANDSTONE, coarse grained, compact, blackish brown	100	18	
59	59.20	137.662	CL-L	TUFFACEOUS SANDSTONE, fine-medium grained, compact, blackish brown	100	20	
60	60.00	136.262	CL-L	SANDSTONE, coarse grained, compact, brownish grey	100	20	
61			CL-L	TUFFACEOUS SANDSTONE, coarse grained, compact, brownish grey	100	25	
62	62.10	134.162	D	CONGLOMERATE with gravel 1-5 cm	100	10	Lugeon Value = 0.43 Critical Pressure = 8.09 kg/cm ²
63	62.85	133.412	CL-L	SANDSTONE, fine grained, compact, greyish brown	100	15	
64	63.80	132.462	CL-H	TUFFACEOUS SANDSTONE, fine grained, compact, brown with coarse sandstone (64.70-64.85)	100	15	
65	65.00	131.262	CL-H	TUFFACEOUS SANDSTONE, fine grained, compact, greyish brown	100	25	
66			CL-H	CONGLOMERATE, compact, greyish brown	100	25	

Core No.	Depth (m)	Core Length (cm)	Designation	Description	Grain Size (mm)	Moisture (%)	Specific Gravity	Rock Quality Designation (R.Q.D.)	Lugeon Value (kg/cm ²)	Critical Pressure (kg/cm ²)
57	56.00	139.162	CL-L	SANDSTONE, coarse grained, compact, blackish brown				100	18	Lugeon Value = 1.34 Critical Pressure = 9.71 kg/cm ²
58	59.20	137.062	CL-L	TUFFACEOUS SANDSTONE, fine ~ medium grained, compact, blackish brown				100	20	
59	60.00	136.562	CL-L	SANDSTONE, coarse grained, compact, brownish grey				100	20	
60	62.10	134.162	CL-L	TUFFACEOUS SANDSTONE, coarse grained, compact, brownish grey				100	25	
61	62.85	133.412	D	CONGLOMERATE with gravel Ø 1 - 5 cm				100	10	Lugeon Value = 0.41 Critical Pressure = 8.09 kg/cm ²
62	63.50	132.462	CL-L	SANDSTONE, fine grained, compact, greyish brown				100	15	
63	65.00	131.262	CL-H	TUFFACEOUS SANDSTONE, fine grained, compact, brown with coarse sandstone (64.70 ~ 64.85)				100	15	
64	66.80	129.462	CL-H	CONGLTIC SANDSTONE, compact, greyish brown				100	25	
65	67.25	129.012	CL-H	SANDSTONE, coarse grained, compact, greyish brown				100	26	Lugeon Value = 0.95 Critical Pressure = 11.69 kg/cm ²
66	68.50	127.762	CL-H	CONGLTIC SANDSTONE, compact, greyish brown				100	22	
67	69.30	126.962	CL-H	TUFF, compact, light brown				100	20	
68	72.40	123.562	D	CONGLOMERATE, poor cemented with gravels Ø 1 ~ 5 cm brownish grey				100	0	
69	72.80	123.462	CL-L	TUFF SANDSTONE, coarse grained, dense ~ compact, grey				100	15	Lugeon Value = 7.66 Critical Pressure = 7.20 kg/cm ²
70	74.10	122.162	D	SANDSTONE, fine ~ medium grained with tuff's stone, soft, greyish brown				100	0	
71	75.00	121.262	CL-H	SANDY TUFF, dense ~ compact, greyish brown				100	50	
72	76.90	119.362	D	SANDSTONE, fine ~ medium grained, loose, brown				100	0	
73	76.90	119.362	D	SANDSTONE, fine ~ medium grained, loose, brown				100	0	
74	78.00	118.262	CL-L	TUFFACEOUS SANDSTONE, fine grained, dense, brown				100	10	Lugeon Value = 1.21 Critical Pressure = 11.69 kg/cm ²
75	78.40	117.762	CL-L	SILTSTONE, organic content, dense, blackish brown				100	10	
76	79.90	116.362	CL-L	TUFFACEOUS SANDSTONE, medium grained, dense ~ compact, brownish grey				100	10	
77	80							100	35	
78	80							100	34	
79	80							100	24	Lugeon Value = 0.52 Critical Pressure = 11.69 kg/cm ²
80	85.00	111.262	CM-H	VOLCANIC BRECCIA, compact, blackish grey				100	20	
81								100	28	
82								100		
83								100		
84								100		
85								100		

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 kg/cm²

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