

DRILL LOG

HOLE NO. B-2 SHEET NO 3 OF 3

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER	GROUNDWATER LEVEL	CORRECTION	RECOVERY	R Q D	WATER PRESSURE TEST					DEPTH				
											LOG VALUE									
	65.0		Calcareous Sandstone		Dark grey - light grey. Fresh, partly water-stained. Calcareous fine- to medium-grained sandstone, similar to those obtained at 43.75 - 46.87 m depth. Generally fresh and hard but water stained along cracks. Fine pebbles (d 0.5 cm) are mixed below depth of 69.5 m															
	66																			
	67																			
	68																			
	69																			
	70	70.0																		

100, FUJIM

HOLE NO. B-2

DRILL LOG

HOLE NO. B-3 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50 m	ELEVATION	534.57 m	
SITE		COORDINATE				INCLINATION		DRILL RIG		
AVERAGE CORE RECOVERY		DATE		FROM	TO	DRILLED		LOGGED		
DEPTH	FORMATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	HIT DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST LOGGON VALUE	DEPTH
1		Heavily Weathered Sandstone	[Sandstone Column Section]	Heavily weathered, fine- to medium-grained sandstone						
2		Class D ₂		Core samples recovered are all fine- and medium-grained sand						
3										
3.70										
4	4.10	Siltstone	[Siltstone Column Section]	Thoroughly weathered. Core samples are brittle and fragmental.						
5	5.0									
6		Conglomerate	[Conglomerate Column Section]	Core samples recovered are all gravels in the conglomerates. Half-weathered pebbles $\phi < 2$ cm at the depth of 4.1 - 8.85 m.						
7				Fresh and hard gravel, water-stain on the surface at the depth of 8.85 - 13.3 m.						
8	8.85			Gravel: $\phi 1 - 3$ cm						
10	10.0	Class D ₁								
13	13.3									
14		Conglomerate	[Conglomerate Column Section]	Fresh and hard gravels below depth of 13.3 m. Gravel $\phi 1 - 5$ cm. Core length: up to 3 - 10 cm.						
15	15.0			Grey, medium-grained sand at the depth of 14.95 - 16.25 m.						
16										
17		Class C ₁ -C _L								
20	20.0									
22	22.5									
23		Class D ₁		Grey, clayey fine sand at the depth of 22.5 - 24.35 m.						
24										
25	25.0			Core samples are 3 - 10 cm length at the depth of 25.15 - 30.25 m.						
26		Class D ₁ -C _L	[Conglomerate Column Section]							
27										
28				Gravels, weathered on the surface, obtained at the depth of 28.7 - 29.4 m.						
29										
30	30.0									

HOLE NO. B-3

* R Q D is Rock Quality Designation. R Q D = Total length of cylinder cores longer than 10 cm / Total core length x 100%
 * LOGGON VALUE is a unit of water pressure of 10kg/cm²
 * DEPTH and ELEVATION are in meter
 * DIAMETER is in millimeter

NIPPON KOEI CO., LTD.
 CONSULTING ENGINEERS, TOKYO

DRILL LOG

HOLE NO B-3

SHEET NO. 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER	GROP NUMBER	CORRECTION	RECOVERY	WATER PRESSURE TEST				DEPTH	
										H	Q	D	LUCEON VALUE		
	31		Rather fresh Conglomerate Class D ₁ -C _L												
	32														
	33														
	34														
	35	35.0													
	36														
	37														
	37.85														
	39	39.85	Fresh Conglomerate Class D ₁		Core samples recovered are gravels and matrix of the conglomerate and sandstone Recovered gravel are fresh and hard ϕ : 1 - 3 cm, sometimes 3 - 7 cm Only gravels in the conglomerate are recovered at the depth of 39.9 m - 42.45 m										
	40	40.0	Sandstone												
	41		Fresh Conglomerate Class C _L -D ₁												
	42	42.45													
	43		Fresh Conglomerate - Sandstone Class D ₁												
	44	43.95													
	45	45.0													
	46	45.50													
	47	47.00													
	48	48.10													
	49		Conglomerate Class C _L		Core samples are recovered only gravels in the conglomerate These gravels are fresh and hard, ϕ : 1 - 3 cm										
	50	50.0													

HOLE NO. B-3

DRILL LOG

HOLE NO. B-4 SHEET NO. 1 OF 2

PROJECT				MATUNO RIVER DEVELOPMENT PROJECT			DEPTH	60.0 m		ELEVATION	491.165 m		
SITE				COORDINATE			INCLINATION			DRILL RIG			
AVERAGE CORE RECOVERY				DATE	FROM	TO	DRILLED			LOGGED			
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY		R Q D	WATER PRESSURE TEST		DEPTH
								%	m		LUGFON VALUE		
	1		Weathered Conglomerate		Yellow brown. Heavily weathered conglomerate. Core samples recovered are all gravels in the conglomerate, φ: 1 - 4 cm. They are weathered or half-weathered.								
	2												
	3												
	4	4.50											
	5	5.0	Weathered Conglomerate Class D ₁		Weathered conglomerate. Core samples recovered are gravels in the conglomerate. The gravels are φ 1 - 8 cm, fresh, hard and water-stained on the surface.								
	6												
	7												
	8												
	9												
	10	10.0											
	11												
	12												
	13												
	14												
	15	15.0	Conglomerate Sandstone Conglomerate Sandstone Conglomerate		Half weathered matrix is obtained at 12.45 - 14.30 m. Core samples recovered at the depth of 12.45 - 14.10 m are φ - 8 cm in length.								
	16	16.90											
	17	17.40											
	18	18.30											
	19	18.90											
	20	19.65											
	21	20.0	Coarse-Grained Sandstone		Core samples are gravels and finer matrix sand in the conglomerate.								
	22	22.70											
	23												
	24												
	25	25.0											
	26	25.60											
	27	26.20											
	28	26.90											
	29	27.55	Conglomerate and Sandstone		Rather fresh, grey colour.								
	30	30.0											
	31		Class C ₂ - D ₁										
	32												

HOLE NO. B-4

*RQD is Rock Quality Designation, RQD is Total length of cylindrical cores longer than 10 cm. Total core length = 100%
 *LUGFON VALUE is 2 mm in under injection water pressure of 10 kg/cm²
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

NIPPON KOEI CO., LTD.
 CONSULTING ENGINEERS TOKYO

DRILL LOG

HOLE NO. B-4 SHEET NO. 2 OF 2

DATE	DEPTH	FORMATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	WATER LEVEL	CORRECTION	WATER PRESSURE TEST		DEPTH
									R	Q D	
	30.0		Conglomerate Class CL								
	30.35										
	32.50										
	34.75		Sandstone Class CL		Dark grey, fresh fine-grained Sandstone, moderately solidified, partly water-stained along cracks						
	35.0		Conglomerate Class CL		Core samples recovered are gravels in the conglomerate. The gravels are fresh and hard, partly water-stained on the surface.						
	36.0										
	37.55										
	40.0		Orange brown - grey brown Sandstone Class D1-D2		Core samples are all fine sand in slime. The sands are orange brown and brownish grey. Presumably weathered sandstone.						
	41.0										
	42.0										
	43.0										
	44.0										
	45.0										
	47.20		Conglomerate		Fresh gravels are recovered						
	47.95		Sandstone Class D - C		Fine-grained						
	48.75		Calcareous Sandstone		Slightly weathered limestone fresh calcareous sandstone						
	49.50										
	50.0		Sandstone Class CM		Fresh, hard and sound sandstone						
	51.80										
	52.75		Sandstone Class CL		Weathered, fine-grained sands are recovered						
	55.0		Conglomerate Class CM		Grey, fresh, hard and sound conglomerate. Gravel surface is water-stained at the depth of 55 m. Core samples are often broken.						
	56.0										
	57.0										
	58.45										
	60.0		Sandstone Conglomerate		Muddy fine-grained sandstone fresh, less consolidated.						

HOLE NO. B-4

TOP FORM

DRILL LOG

HOLE NO. B-5 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50.0 m	ELEVATION	528.201 m		
SITE		Left Bank, Dam site C'		COORDINATE		INCLINATION		DRILL RIG	BB-450		
AVERAGE CORE RECOVERY			DATE		FROM		TO <td></td> <th>LOGGED</th> <td></td>		LOGGED		
DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST		DEPTH
									TUGKOWALNEU		
1	1.00	Conglomerate		Heavily weathered to sand with pebbles							1.00
2		Sandstone		Orange brown, heavily weathered sandstone core samples are fine-grained sand only.							2.00
3	3.00										3.00
4											4.00
5	5.00										5.00
6											6.00
7		Weathered Conglomerate		Core samples are gravels in the conglomerate.							7.00
8											8.00
9											9.00
10	10.00	Class D ₁		Gravels are of andesite, basalt and diorite, and of $\phi = 1 - 3, 5$ cm at max.							10.00
11											11.00
12											12.00
13											13.00
14											14.00
15	15.00										15.00
16											16.00
17											17.00
18											18.00
19											19.00
20	20.00										20.00
21	21.25										21.25
22		Weathered Sandstone		Weathered, fine-grained sandstone							22.00
23	22.85										22.85
24	24.40	Conglomerate Class D ₁		Similar to those obtained at 3.0 - 21.25 m							24.40
25	25.00										25.00
26		Rather fresh Conglomerate		Core samples are all gravels in the conglomerate. Most gravels recovered are fresh and hard, partly water-stained along cracks.							26.00
27		Class C _L - D ₁		Rather fresh, grey sand are recovered as slime at the sections 24.4 - 28.25 m and 29.75 - 42.06 m depth. Most gravels recovered at 28.25 - 29.85 are of diorite							27.00
28											28.00
29											29.00
30	30.00										30.00

HOLE NO. B-5

* R Q D is Rock Quality Designation, R Q D Total length of cylindrical cores longer than 10 cm Total core length x 100
 * LOGGING VALUE is 1 mm in under injection water pressure of 10 kg/cm²
 * DEPTH and ELEVATION are in meters
 * DIAMETER is in millimeter

NIPPON KOEI CO., LTD.
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DRILL LOG

HOLE NO B-5 SHEET NO 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	WATER PRESSURE TEST		DEPTH
									R Q D	FLUX VALUE (L)	
	30.0										
	31		Rather fresh Conglomerate								
	32										
	33										
	34										
	35.0										
	36		Class C _L -D ₁								
	37										
	38										
	39										
	40.0										
	41										
	42.05		Fresh Sandstone		Medium to fine-grained sandstone fresh and crackless rather brittle hard dolomite gravels, recovered at 42.4 m.						
	43.25		Carbonic Sandstone		Dark gray, fresh, slightly carbonic coarse-grained sandstone						
	45.0		Class C _L		Fresh and crackless, but cylindrical core samples are easily broken when they are recovered						
	46										
	46.80		Fresh Conglomerate		Fresh and hard gravel are recovered. The gravel are ø1 - 3 cm or 3 - 9 cm long core at the depth of 46.8 - 50 m. 10 cm long core of matrix recovered at 49.15 - 49.50 m depth.						
	48		Class C _M								
	49										
	50.0										

HOLE NO. B-5

DRILL LOG

HOLE NO. B-6 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50.0 m		ELEVATION	479.092 m		
SITP		COORDINATE				INCLINATION			DRILL RIG			
AVERAGE CORE RECOVERY		DATE	FROM	TO	DRILLED			LOGGED				
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY		R Q D	WATER PRESSURE TEST LOG/FOOT VALUE	DEPTH
								%	m			
	1				Heavily weathered conglomerate.							
	2				The gravels are andesite and basalt of $\phi 1 - 3$ cm.							
	3				They are slightly or semi-weathered, down to the depth of 6 m.							
	4											
	5											
	5.0											
	6		Heavily weathered		Below the depth of 6 m, They are fresh and hard, though water-stained in the upper parts.							
	7		Conglomerate									
	8											
	9											
	10		Class D2									
	11											
	12											
	13											
	14											
	15											
	15.0											
	16											
	17											
	18											
	19											
	20	19.95										
	21	21.00	Weathered Sandstone		Core samples are weathered fine sands, light brown.							
	22		Weathered Conglomerate		Core samples are gravels in the conglomerate, $\phi = 1 - 2$ cm, hard.							
	23	23.00										
	24	24.00	Weathered Sandstone		Core samples are weathered fine sands.							
	25	25.0										
	26		Weathered Conglomerate		Core samples are gravels in the conglomerate							
	27		Class D2		The gravels are $\phi = 1 - 3$ cm, fresh and hard, water-stained on the gravel surface.							
	28											
	29	28.95										
	30	30.0	Weathered Sandstone		Core samples are weathered (brown) coarse-grained sand.							



HOLE NO. B-6

*RQD is Rock Quality Designation, RQD = Total length of cylinder cores longer than 10 cm / Total core length * 100%
 *LOG PRESSURE VALUE is 1 mm in order inspection water pressure of 10 kg/cm²
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

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 CONSULTING ENGINEERS, TOKYO

DRILL LOG

HOLE NO. B-6 SHEET NO. 2 OF 2

DEPTH (M)	DEPTH (FEET)	ROCK TYPE OF FORMATION	COLUMN SECTION	DESCRIPTION	CORRECTION	CORRECTION	CORRECTION	CORRECTION	CORRECTION	WATER PRESSURE TEST		
										RECORD	MEAN VALUE	
30.0	31	Weathered Sandstone Class D ₂		Gravels of $\phi 1$ cm are recovered at the depth of 30.45 m								
	32			Presumably weathered sandstone brown								
33.50	33											
	34					Light brown, weathered						
35.0	35					Core samples are light brown, fine-grained sands						
	36											
	37											
	38											
	39											
40.0	40											
41.05	41	Class D ₁ -DL		Core samples are sand and pebbles of $\phi 1 - 2$ cm								
	42											
42.70	43					Gray brown, fresh & crackless micro-grained sandstone						
43.80	44											
45.0	45	Fresh Conglomerate Class C _M		Core samples are gravels of the conglomerate. The gravels are $\phi 1 - 2$ cm, slightly weathered on the surface.								
47.00	47											
48.75	49	Fresh fine-grained Sandstone C _L - C _M		Fresh, fine-grained sandstone								
50.0	50	Fresh Conglomerate C _M		Core samples are fresh gravels in the conglomerate.								

HOLE NO. B-6

DRILL LOG

HOLE NO. BA-1 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50.00 m	ELEVATION	547.781 m				
SITE		A DAMSITE				ORIENTATION	VERTICAL	DRILLER	DB 250				
AVERAGE CORE RECOVERY		87.4%		COORDINATE	DATE	FROM	TO	LOGGED	S.N.				
LIVE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY		WATER PRESSURE TEST		DEPTH	
								R	Q	U	V		W
1	1.20		Top soil		Brown sandy silt with pebbles.	BQ		32				1.20	
2			Decomposed pebbly conglomerate		Matrix is deteriorated into residual soil			20				2.00	
3									20				3.00
4									12				4.00
5									8				5.00
6									8				6.00
7									5				7.00
8									8				8.00
9									5				9.00
10									5				10.00
11							Dark grey clay is intercalated in a part of 10.25 m - 10.95 m.			16			
12								13				12.00	
13	12.85		Slightly weathered conglomerate		Hard, solid, massive joints and cracks at 30 cm to 1 m interval.			8				13.00	
14									48				14.00
15									100				15.00
16									140				16.00
17	16.70				Pebbly conglomerate		Fresh conglomerate with fine to medium sandstone matrix			20			
18							Cracks at 1 m - 2 m interval.						18.00
19									140				19.00
20									100				20.00
21									50				21.00
22									90				22.00
23									180				23.00
24													24.00
25									170				25.00
26													26.00
27							160				27.00		
28	28.30		Partly weathered conglomerate		Weathered along cracks and bedding planes. Moderately hard.			14				28.00	
29									51				29.00
30							120					30.00	

HOLE NO. BA-1

* R Q D : Rock Quality Designation R Q D Total length of (solid) cores longer than 10 cm Total core length 100'
 * U : U.T.M. VALUE is 1 mm in under suction water pressure of 10kg/cm²
 * DEPTH and ELEVATION are in meter
 * DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BA-1 SHEET NO. 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUT DIAMETER LEVEL	CORP.		WATER PRESSURE TEST	DEPTH		
								RECOVERY	R Q D			TIFFON VALUE	
	30.10		Gritty conglomerate	○ ○	Fresh. Containing pebbles of about 1 cm dia., round to sub-round.	80					31		
				○ ○	Massive, almost without cracks.							32	
				○ ○									33
				○ ○									34
				○ ○									35
				○ ○									36
				○ ○									37
	37.00		Weathered conglomerate	○ ○	Partly fractured. Drill cores are often lost and broken into component pebbles. Soft.						38		
				○ ○								39	
				○ ○								40	
				○ ○								41	
				○ ○								42	
	41.50		Slightly weathered pebbly conglomerate	○ ○	Gritty. Often yellowish colored and frequently cracked.						43		
				○ ○								44	
				○ ○								45	
	44.30		Fresh conglomerate	○ ○	Massive, solid. Partly weathered along cracks.						46		
				○ ○								47	
				○ ○								48	
				○ ○								49	
				○ ○								50	
	50.00												50

TOP FORM

HOLE NO. BA-1

DRILL LOG

HOLE NO. BA-2 SHEET NO. 1 OF 2

PROJECT SITE		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50.00 m	ELEVATION	442.422 m							
AVERAGE CORE RECOVERY		A DAMSITE		COORDINATE	DATE	FROM	TO	INCLINATION	VERTICAL	DRILL RIG	LOGGED	S.N.				
DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	HIT DIAMETER	PRO SUBWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST		DEPTH					
cm	m						%		LUGGON VALVE		m					
1		Slightly weathered conglomerate	/ / / / /	Moderately hard, with cracks Loosened up to 1.2 m.	80	3.0 m	18					1				
2														2		
3	3.40														3	
4		Gritty conglomerate	o o o o o	Matrix is coarse angular sandstone Hard.			33					4				
5															5	
6	6.00	Slightly weathered conglomerate	/ / / / /	Partly weathered and cracky, in 5.75 - 5.85 m, 6.60 - 6.80 m 7.80 m - 8.00 m Hard muddy matrix with fine rock fragments.			66					6				
7															7	
8																8
9	9.00	Pebbly conglomerate	o o o o o	Partly gntty. Cracks are at more than 1 m interval. Below 12 m, solid and hard, with continuous core recovery.			84					9				
10																10
11																11
12																12
13																13
14																14
15																15
16																16
17																17
18																18
19											19					
20											20					
21											21					
22											22					
23											23					
24											24					
25											25					
26											26					
27											27					
28											28					
29											29					
30											30					

HOLE NO. BA-2

* R Q D is Rock Quality Designation, R Q D Total length of cylindrical cores longer than 10 cm / Total core length x 100%
 * LUGGON VALVE is 1 mm in under injection water pressure of 10kg/cm²
 * DEPTH and ELEVATION are in meter
 * DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BA-2 SHEET NO 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE		R Q D	WATER PRESSURE TEST					DEPTH			
								RECOVERY	REMARKS		EUGEN VALUE								
	31		Pebbly conglomerate	○ ○	Cracks are at 1 - 3 m of interval	BO													
	32			○ ○ ○ ○															
	33			○ ○ ○ ○															
	34			○ ○ ○ ○															
	35			○ ○ ○ ○															
	36			○ ○ ○ ○															
	37			○ ○ ○ ○															
	38	38.00			○ ○ ○ ○														
	39		Gritty conglomerate	○ ○ ○ ○	Cobbles with diameter up to 7 cm are contained at places. Solid and hard Apt to break along margin of gravels 39.70 m - 40.00 m Cores are fragmental														
	40			○ ○ ○ ○															
	41			○ ○ ○ ○															
	42			○ ○ ○ ○															
	43			○ ○ ○ ○															
	44			○ ○ ○ ○															
	45			○ ○ ○ ○															
	46			○ ○ ○ ○															
	47			○ ○ ○ ○															
	48			○ ○ ○ ○															
	49			○ ○ ○ ○															
	50	30.25				○ ○ ○ ○													

HOLE NO. BA-2

1000

DRILL LOG

HOLE NO. BA-3 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50.00 m	ELEVATION	551.728 m		
SITE		A DAMSITE		COORDINATE		INCLINATION	VERTICAL	DRILL RIG			
AVERAGE CORE RECOVERY		72.1%	DATE		FROM	TO	DRILLED	LOGGED	S.N.		
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST	DEPTH
	1		Decomposed conglomerate	[Symbol]	Decomposed into residual soil Recoverings are detached gravels and drill slime.	80		23			1
	2	18								2	
	3	17								3	
	4	17								4	
	5	17								5	
	6	10								6	
	7	17								7	
	8	16								8	
	9		Weathered conglomerate	[Symbol]	Recovered core samples are yellowish brown stained and rough-surfaced, but fairly hard. Water-stained cracks are at 1D to 50 cm interval.			70			9
	10	40								10	
	11	35								11	
	12	27								12	
	13	50								13	
	14	30								14	
	15	36			15						
	16	20			16						
	17	15	Slightly weathered conglomerate	[Symbol]	Generally hard, but partly cracky with water-stain recovering fragmental cores			20			17
	18	27								18	
	19	80								19	
	20	110								20	
	21	63								21	
	22	21	Slightly weathered gritty conglomerate	[Symbol]	Hard, partly fragmental, 21.05 - 21.30 m, 21.90 - 22.50 m, 23.10 - 23.30 m			106			22
	23	110								23	
	24	21								24	
	25		Gritty sandstone	[Symbol]	The most part of component particles are angular fragments of rocks. Hard and massive, with cracks at 1 - 2 m interval 24.70 - 25.05 m friable. Minor fault possibly exist. A crack is water-stained at 27.40 m			35			25
	26	24								26	
	27	220								27	
	28	186								28	
	29	29.00	Pebbly conglomerate	[Symbol]				106			29
	30									30	

HOLE NO. BA-3

*R.Q.D. is Rock Quality Designation. R.Q.D.: Total length of cylindrical cores longer than 10 cm. Total core length 100
 *LOGGED VALUE is 1 m under injection water pressure of 10kg/cm²
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

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 CONSULTING ENGINEERS TOKYO

DRILL LOG

HOLE NO. BA-3 SHEET NO. 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER	GROSS DIAMETER	CORP RECOVERY	R Q D	WATER PRESSURE TEST				DEPTH
										LOG ON VALVE				
	31			○ ○	Massive, containing pebbles with about 1 cm dia	80		100						31
	32			○ ○				146						32
	33			○ ○	32.40 m - 33.60 m Recovering cores are fragmental.			20						33
	34			○ ○	33.50 m - 35.40 m Slightly weathered, but sufficiently hard.			17						34
	35			○ ○				70						35
	36			○ ○	35.40 m - 35.55 m Cracky			206						36
	37			○ ○				100						37
	38		Pebbly conglomerate	○ ○				120						38
	39			○ ○				24						39
	40			○ ○				120						40
	41			○ ○				90						41
	42			○ ○				26						42
	43			○ ○				276						43
	44			○ ○				146						44
	45	45.50		○ ○				50						45
	46			○ ○	Hard to moderately hard, massive. Drill cores are apt to break along the margins of component debris.			80						46
	47		Gritty conglomerate	○ ○				46						47
	48			○ ○				148						48
	49			○ ○				130						49
	50	50.20		○ ○										50

HOLE NO. BA-3

LOG FORM

DRILL LOG

HOLE NO. BA-4 SHEET NO 1 OF 2

PROJECT MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50 m	ELEVATION	595.72 m												
SITE A-DAM		COORDINATE	INCLINATION		VERTICAL														
AVERAGE CORE RECOVERY	54 %	DATE	FROM 20 Feb. 1924 Feb. 1981		DRILLER	LOGGER													
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER	BORE DIAMETER	DEPTH	CORE RECOVERY	R Q D	WATER PRESSURE TEST			DEPTH					
											TUCFON VALUE								
	1		Top Soil		Clay and Sand with pebbles of weathered conglomerate.														
	2	2.00																	
	3		Decomposed Conglomerate		Decomposed into sand and pebble to cobble size fragments, residual soil.														
	4				Volcanic origin subangular gravels are scattered.														
	5				Matrix is composed of sandstone.														
	6				Gravels are almost decayed.														
	7				Generally loose and soft.														
	8																		
	9																		
	10																		
	11																		
	12																		
	13																		
	14																		
	15				15 to 20 m														
	16				Weathering decreases intensity.														
	17																		
	18																		
	19																		
	20	20.50																	
	21		Weathered Conglomerate		Moderately weathered, containing gravels of andesite and volcanics.														
	22				Very loose.														
	23				Partially cracked, with iron stain.														
	24	21.00																	
	25		Conglomerate		Light gray, fine grained conglomerate.														
	26				Partly sandstone.														
	27				Matrix fine sandstone.														
	28				Gravels are mainly of volcanic rocks.														
	29				26.0 and 28.0 m														
	30				Open crack, friable.														

HOLE NO. BA-4

* R Q D is Rock Quality Designation R Q D Total length of cylinder cores longer than 10 cm Total core length 100
 * TUCFON VALUE is in mm under inspection water pressure of 10kg/cm²
 * DEPTH and ELEVATION are in meter
 * DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BA-4 SHEET NO 2 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	59 m		ELEVATION		
SITE		A-DAM SITE		COORDINATE		INCLINATION		VERTICAL			
AVERAGE CORE RECOVERY		54		DATE		FROM 20 Feb. 1984		TO 24 Feb. 1984			
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER	CORE RECOVERY	R Q D	WATER PRESSURE TEST	DEPTH	
									TEST VALVE		
	31			○ ○	Light gray and fine grained. Partly sandstone, without gravels. Matrix is composed of fine sandstone. Partly well solidified. 33 m to 35 m Fine grained with sparsely contained gravels 40 m crack. 45 m crack.	BQ				31	
	32			○ ○							32
	33			○ ○							33
	34			○ ○							34
	35			○ ○							35
	36			○ ○							36
	37			○ ○							37
	38			○ ○							38
	39		Conglomerate	○ ○							39
	40			○ ○							40
	41			○ ○							41
	42			○ ○							42
	43			○ ○							43
	44			○ ○							44
	45			○ ○							45
	46			○ ○							46
	47			○ ○							47
	48			○ ○							48
	49			○ ○							49
	50	50.00		○ ○							50

HOLE NO. BA-4
2

100 FORM B

*RQD is Rock Quality Designation, RQD Total length of cylinder cores longer than 10 cm Total core length 100
 *TEST VALVE is 1 mm in diameter water pressure of 10kg/cm
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BA-5 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	40 m	ELEVATION	435.05 m		
SITE		A DAM SITE		COORDINATE		INCLINATION	VERTICAL	DRILL NO.			
AVERAGE CORE RECOVERY		97 %		DATE	FROM 15. Feb TO 24 Feb 1983	DRILLED		LOGGED			
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	RIT & DIAMETER	WATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST LOGON VALUE	DEPTH
	1			o o	Light gray, massive conglomerate.		0.00m	80			1
	2			o o	Gravels are composed of pebble size tuff and andesite. Maximum size of gravel is 5 cm in dia.			20			2
	3			o o				00			3
	4			o o				00			4
	5			o o				45			5
	6			o o	Matrix, fine sandstone, hard			60			6
	7			o o	Gravels are very sparse or not contained in some parts.			30			7
	8			o o				50			8
	9			o o				50			9
	10			o o	4.0 m Interspersed siltstone 20 cm thick.			50			10
	11			o o				50			11
	12			o o	10.0 m Iron stain along crack.			50			12
	13			o o				50			13
	14			o o	14.6 m Crack			50			14
	15		Conglomerat	o o				50			15
	16			o o	16.0 m Cracky friable			50			16
	17			o o				50			17
	18			o o	17.0 m Crack			50			18
	19			o o				94			19
	20			o o	22.0 to 24.0 m Crack at intervals of 50 cm			50			20
	21			o o				50			21
	22			o o				00			22
	23			o o				00			23
	24			o o				00			24
	25			o o				94			25
	26			o o				96			26
	27			o o				130			27
	28			o o				131			28
	29			o o				00			29
	30			o o			00			30	

HOLE NO. BA-5

*R Q D is Rock Quality Designation, R Q D Total length of cylinders cores longer than 10 cm Total core length x 100
 *LOGON VALUE is 1 mm Hg under suction water pressure of 10kg/cm
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BA-5 SHEET NO. 2 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	40 m		ELEVATION						
SITE		A DAM SITE		COORDINATE		INCLINATION	VERTICAL		DRILL RIG						
AVERAGE CORE RECOVERY		97 %		DATE		FROM 5, Feb. TO 24, Feb 198		DRILLED		LOGGED					
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	RIT DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST		DEPTH			
										LUGON VALU					
	31		Conglomerate	○ ○	Light gray in color. Only a few gravels of large size are contained. 35.0 m and 36.0 m Cracks at intervals of 30 to 50 cm.	BQ						31			
	32			○ ○ ○ ○											32
	33			○ ○ ○ ○											33
	34			○ ○ ○ ○											34
	35			○ ○ ○ ○											35
	36			○ ○ ○ ○											36
	37			○ ○ ○ ○											37
	38			○ ○ ○ ○											38
	39			○ ○ ○ ○											39
	40	40.00		○ ○ ○ ○											40

[100 CORE B]

HOLE NO. BA-5 2

*RQD is Rock Quality Designation (RQD) Total length of cylindrical cores longer than 10 cm. Total core length 100
 *LUGON VALU is 1 mm in under injection water pressure 4.9kg/cm
 *DEPTH and ELEVATION are in meter
 *DIAMETER is millimeter

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DRILL LOG

HOLE NO. BA-4 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50.85 m	ELEVATION	483.820 m										
SITE		A DAMSITE	COORDINATE		INCLINATION		VERTICAL	DRILL RIG											
AVERAGE CORE RECOVERY		41.0%	DATE	FROM	TO	DRILLED	LOGGED	S.N.											
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST	DEPTH								
										LOGON VALUE									
	1.10		Top soil			BQ													
			Decomposed conglomerate	[Symbol]	Soft. Only hard gravels and fragments are recovered.	BQ	[Symbol]	[Symbol]	[Symbol]	[Symbol]	12								
		7																	
		6																	
		0																	
		10																	
		13																	
		16																	
		13																	
		13																	
		18																	
	13.90										Weathered conglomerate	[Symbol]	Recovering cores are only slightly weathered. The other parts of intensive weathering are crushed in drilling and lost	BQ	[Symbol]	[Symbol]	[Symbol]	[Symbol]	37
		7																	
		20																	
		50																	
		140																	
	21.00		Conglomerate	[Symbol]	Hard, solid. Cracks are very rare. Cylindric cores are continuously recovered	BQ	[Symbol]	[Symbol]	[Symbol]	[Symbol]	140								
		140																	
		14																	
		100																	
		170																	
		110																	

HOLE NO. BA-5

* R Q D is Rock Quality Designation, R Q D: Total length of cylinder cores longer than 10 cm Total core length 100
 * R Q D: RQD is 1 mm in under injection water pressure of 10kg/cm²
 * R Q D and ELEVATION are in meter
 * R Q D: RQD is in millimeter

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DRILL LOG

HOLE NO. BA-6 SHEET NO. 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST		DEPTH
										LOG	VALUE	
	31			○ ○	31 m - 36.80 m	BD		111				31
	32			○ ○	Slightly weathered, friable			114				32
	33			○ ○	Cores are partly fragmental.			95				33
	34			○ ○	Cracks are water-stained.			40				34
	35			○ ○	34.45 m - 35.45 m			21				35
	36			○ ○	Matrix is gritty.			24				36
	37			○ ○				95				37
	38			○ ○				22				38
	39			○ ○				175				39
	40			○ ○				24				40
	41			○ ○				24				41
	42			○ ○				15				42
	43		Conglomerate	○ ○				22				43
	44			○ ○				60				44
	45			○ ○				145				45
	46			○ ○	Below 45.40 m			43				46
	47			○ ○	Cores are fragmental			43				47
	48			○ ○				38				48
	49			○ ○				38				49
	50			○ ○				38				50
	50.85											

HOLE NO. BA-6

100 1000

DRILL LOG

HOLE NO BA-7 SHEET NO. 1 OF 2

PROJECT SITE		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH		50 m		ELEVATION		614.40 m	
AVERAGE CORE RECOVERY		A-DAM SITE		COORDINATE		INCLINATION		VERTICAL		DRILL RIG		LOGGED	
DATE		ROCK TYPE OR FORMATION		DESCRIPTION		CORRECTION		R Q D		WATER PRESSURE TEST		DEPTH	
DATE		ROCK TYPE OR FORMATION		DESCRIPTION		CORRECTION		R Q D		WATER PRESSURE TEST		DEPTH	
1		Top Soil		Clayey sand with gravels.									
2	2.00			Composed of gravels and sandy matrix.									
3				Maximum size of gravel is 6 cm in diameter.									
4				Mostly loosened into gravelly condition.									
5				Only fragmental cores are recovered.									
6													
7													
8													
9													
10													
11		Decomposed Conglomerate											
12													
13													
14													
15													
16	16.00												
17													
18													
19													
20		Weathered Conglomerate		Matrix consists of fine sand stone.									
21				Moderately weathered and softened.									
22				Mostly fragmental core.									
23				Fresh and hard gravels sporadically remain.									
24	21.00												
25													
26													
27													
28		Conglomerate		Matrix consists of fine sand.									
29				Gravels are mostly in pebble size.									
30				Maximum gravel size is about 10 cm in diameter.									

HOLE NO BA-7

*R Q D is Rock Quality Designation. R Q D: Total length of cylinders cores longer than 10 cm. Total core length 100
 *LOG ON SCALE is 1 mm in under suction water pressure of 10kg/cm
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

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 CONSULTING ENGINEERS TOKYO

DRILL LOG

HOLE NO BA-7 SHEET NO. 2 OF 2

PROJECT SITE		MATUNO RIVER DEVELOPMENT PROJECT			DEPTH		50 m		ELEVATION		
AVERAGE CORE RECOVERY		A-DAM SITE		COORDINATE		VERTICAL		BENCH MARK			
57%				DATE		FROM 15. Feb. TO 22. Feb. 1983		ELEVATION			
						DRILLER					
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	RIT DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	P Q D	WATER PRESSURE TEST LOGON VALUE	DEPTH
	31		Conglomerate	○ ○	Hard and massive, with little cracks.	80		50			31
	32	○ ○		Partly interbedding with sandstones with obscure boundaries							32
	33	○ ○			30.5 m Iron stained crack						33
	34	○ ○		33.0 m crack							34
	35	○ ○			36.0 m cracky, friable						35
	36	○ ○		47.0 m cracky, friable							36
	37	○ ○									37
	38	○ ○									38
	39	○ ○									39
	40	○ ○									40
	41	○ ○									41
	42	○ ○									42
	43	○ ○									43
	44	○ ○									44
	45	○ ○									45
	46	○ ○									46
	47	○ ○									47
	48	○ ○									48
	49	○ ○									49
	50	50.00									○ ○

FORM B

HOLE NO. BA-7
2

*RQD is Rock Quality Designation. RQD Total length of cylinder cores longer than 10 cm. Total core length = 100
 *LOGON VALUE is 1 mm under injection water pressure of 10kg/cm²
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

NIPPON KOEI CO., LTD.
CONSULTING ENGINEERS, TOKYO

DRILL LOG

HOLE NO. BA-8 SHEET NO. 1 OF 2

PROJECT		MATUND RIVER DEVELOPMENT PROJECT				DEPTH	50.00 m	ELEVATION	441.600 m							
SITE		A-DAM SITE		COORDINATE		INCLINATION	VERTICAL	DRILLER								
AVERAGE CORE RECOVERY		74.8%		DATE	FROM	TO	DRILLED	LOGGED	S.N.							
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUT/WATER LEAF	CORE RECOVERY		WATER PRESSURE TEST		DEPTH				
								R	Q	U	D					
1			Weathered conglomerate		Recovered samples are for the most part pebbles detached from weathered soft conglomerate. Cracks are water-stained. Partly the recoverings are only detached pebbles.	BQ	5.40 m	34								
2	2.45							32								
3								31								
4								30								
5								29								
6								28								
7								27								
8								26								
9	8.70		Partly weathered conglomerate		Fresh conglomerate, containing round or sub-round gravels of andesite, porphyrite, chert, limestone, with diameter 5 mm to 4 cm. 11.45 m - 14.30 m Low core recovery with fragmental cores. Clay is recovered. Generally recovering almost continuously cylindrical cores of solid, hard rock.	BQ	5.40 m	18								
10								17								
11								16								
12								15								
13								14								
14								13								
15								12								
16								11								
17								10								
18								9								
19			Conglomerate		22.60 m - 25.65 m Soft, friable.	BQ	5.40 m	43								
20								42								
21								41								
22								40								
23								39								
24								38								
25								37								
26								36								
27	27.05		Gritty conglomerate		27.05 m - 28.10 m Friable. Recovering cores are fragmental.	BQ	5.40 m	18								
28								17								
29								16								
30																

HOLE NO. BA-8

* P.Q.I. is Rock Quality Designation, R.Q.D. Total length of cylindrical cores longer than 10 cm. Total core length = 100
 * U.S. S.N. VALUE is 1 mm in under surface water pressure of 10 kg/cm²
 * DEPTH and ELEVATION are in meter
 * DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BA-8

SHEET NO. 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	CORE NUMBER (FAC)	CORE RECOVERY		R Q D	WATER PRESSURE TEST LOGON VALUE										DEPTH					
								CM	M		1	2	3	4	5	6	7	8	9	10						
	31			○ ○	Gritty conglomerate, composed of rock debris (φ 1 - 5 mm) and pebbles Solid, hard. Cracks are sparse	80		85																31		
	32			○ ○ ○ ○					85																	32
	33			○ ○ ○ ○			17																		33	
	34			○ ○ ○ ○	33.85 m - 39.00 m Partly friable		65																		34	
	35			○ ○ ○ ○				65																		35
	36			○ ○ ○ ○			54																		36	
	37			○ ○ ○ ○			43																		37	
	38			○ ○ ○ ○			77																		38	
	39			○ ○ ○ ○			37																		39	
	40		Gritty conglomerate	○ ○ ○ ○	Below 40.15 m, solid rock Cylindric cores are recovered continuously		45																		40	
	41			○ ○ ○ ○				85																		41
	42			○ ○ ○ ○				35																		42
	43			○ ○ ○ ○				43																		43
	44			○ ○ ○ ○				10																		44
	45			○ ○ ○ ○				18																		45
	46			○ ○ ○ ○				22																		46
	47			○ ○ ○ ○				58																		47
	48			○ ○ ○ ○				80																		48
	49			○ ○ ○ ○																						49
	50	50.00		○ ○ ○ ○			790																		50	

HOLE NO. BA-8

DRILL LOG

HOLE NO. BA-9 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	ELEVATION		
SITE		LEFT BANK		COORDINATE	40 M	446.43 m			
AVERAGE CORE RECOVERY	80%	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	DATE	INITIATION	VERTICAL		
					FROM 22 JAN TO 6 FEB, 1983	DRILLED	LOGGED		
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	RIT DIAMETER	ROD DIAMETER	WATER PRESSURE TEST	DEPTH
	1			○ ○	Light gray, massive conglomerate				
	2			○ ○					
	3			○ ○	Partly sandstone				
	4			○ ○	Gravels are very sparse or not contained in some part				
	5			○ ○					
	6			○ ○	5.5 m Open crack				
	7			○ ○					
	8			○ ○	8.2 m Open crack				
	9			○ ○					
	10			○ ○					
	11			○ ○	10.7 m Iron stain along crack				
	12			○ ○	11.5 m Open crack				
	13			○ ○					
	14		Conglomerate	○ ○					
	15			○ ○	15.0 m Intercalated siltstone about 20 cm thick	BQ			
	16			○ ○					
	17			○ ○					
	18			○ ○	18.5 m Open crack				
	19			○ ○					
	20			○ ○	19.5 m Open crack				
	21			○ ○	20.0 m Open crack				
	22			○ ○					
	23			○ ○	Gravels are mainly of volcanic rocks				
	24			○ ○					
	25			○ ○					
	26			○ ○					
	27			○ ○					
	28			○ ○	27.5 to 30.5 m Open crack at intervals of 50 cm				
	29			○ ○					
	30			○ ○					

-7.70m

HOLE NO. BA-9

+RQD is Rock Quality Designation, RQD Total length of cylindrical cores longer than 10 cm Total core length x 100
 +LITHOLOG VALUE is 1 mm in under suction water pressure of 10kg/cm
 +DEPTH and ELEVATION are in meter
 +DIAMETER is in millimeter

NIPPON KOEI CO., LTD.
 CONSULTING ENGINEERS TOKYO

DRILL LOG

HOLE NO BA-9 SHEET NO 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER (CM)	CORNER DIAMETER (CM)	CORE RECOVERY (%)	R Q D	WATER PRESSURE (kg/cm ²)			DEPTH (m)
										1	2	3	
	31		Conglomerate	○ ○	Light gray massive conglomerate	100							31
	32	○ ○		33.5 to 35.5 m Open crack at intervals of 50 cm									32
	33	○ ○			Partly sandstone								33
	34	○ ○		34									
	35	○ ○		35									
	36	○ ○		36									
	37	○ ○		37									
	38	○ ○		38									
	39	○ ○		39									
	40	○ ○		40									

HOLE NO BA-9
2

DRILL LOG

HOLE NO. **BB-1** SHEET NO. **1** OF **3**

PROJECT					DEPTH		ELEVATION						
MATUNO RIVER DEVELOPMENT PROJECT					25.00 m		488.70 m						
SITE		CORRECTION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORRECTION	R Q D	WATER PRESSURE TEST	DEPTH		
NO.	NAME											DATE	FROM
B-DAM SITE		320 cm, 12.8%				BQ							
1					Residual soil from decomposition of conglomerate								
2			Top soil										
3	3.00												
4			Decomposed conglomerate	Matrix washed out, only pebbles in conglomerate are recovered									
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21	20.70		Fine sandstone		Recovering cores are hard, fragmental and tend to collapse on exposure to air								
22													
23	22.90		Weathered conglomerate		Intensively weathered								
24													
25								Jammed at 25.0 m					

HOLE NO. BB-1

*RQD is Rock Quality Designation, RQD Total length of cylinder cores longer than 10 cm Total core length x 100
 *LUGON VALLE is 1 cm or under injection water pressure of 10kg/cm²
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BB-2 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50.25 m		ELEVATION (River bed)					
SITE		B DAMSITE		COORDINATE	DATE	INCLINATION	VERTICAL		DRILL BIT					
AVERAGE CORE RECOVERY		31.15 m	62.0%	DATE	FROM 10 Mar. TO 26 Mar. 1982	DRILLED	LOGGED		Joy Screw Feed PGS & S.N.					
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST (MUGON VALVE)	DEPTH			
	1		Sand and gravels		River deposits Sand, gravels, cobbles and boulders	80		11						
	2													
	3													
	4													
	5								Many limestone boulders are contained in the lower parts.					
	6													
	7	7.45												
	8	8.15	Decomposed conglomerate		Recovering cores are fresh, hard									
	9		Conglomerate		Pebbly conglomerate, hard Cylindrical cores recovered continuously									
	10	9.65												
	11		Decomposed conglomerate		Very low core recovery Partly slime is sampled									
	12													
	13													
	14	14.25												
	15		Weathered conglomerate		Short cylindrical cores are recovered. Recovering cores are hard enough									
	16													
	17													
	18						Only fragmental cores							
	19													
	20													
	21						Short cylindrical cores with some fragments							
	22				Core samples are fragmental.									
	23													
	24													
	25				Recovering cores are mostly cylindrical and hard.									
	26													
	27													
	28													
	29				Friable. Only 35 cm cores between 28.45 m and 29.50 m are cylindrical									
	30	29.65	Conglomerate											

LOG FORM B

HOLE NO. BB-2

*RQD is Rock Quality Designation. RQD - Total length of cylindrical cores longer than 10 cm. Total core length = 100%
 *MUGON VALVE is 1 mm under maximum water pressure of 10kg/cm²
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

NIPPON KOEI CO., LTD.
CONSULTING ENGINEERS, TOKYO

DRILL LOG

HOLE NO. BB-2 SHEET NO. 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST LOG-GON VALVE				DEPTH		
										1	2	3	4			
	31		Conglomerate	○ ○	Fresh, hard pebbly conglomerate. Massive. Light grey	80								31		
	32			○ ○												32
	33			○ ○												33
	34			○ ○												34
	35			○ ○												35
	36	35.95					○ ○									36
	37	37.30	Shale	— —	Dark grey, moderately hard. Cleavage planes are horizontal.									37		
	38			○ ○											38	
	39		Conglomerate	○ ○	Fresh, hard pebbly conglomerate with gritty matrix. Massive									39		
	40			○ ○											40	
	41			○ ○											41	
	42			○ ○											42	
	43			○ ○											43	
	44			○ ○											44	
	45			○ ○											45	
	46			○ ○											46	
	47			○ ○											47	
	48			○ ○											48	
	49			○ ○											49	
	50	50.25				○ ○									50	

HOLE NO. BB-2

DRILL LOG

HOLE NO BB-3 SHEET NO. 1 OF 1

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	30.30 m		ELEVATION	404.44 m				
SITE		B-DAM SITE				INCLINATION	VERTICAL		LOGGED		PGS & SN			
AVERAGE CORE RECOVERY		1392 cm, 45.8%		COORDINATE		DATE		FROM		TO				
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER (mm)	GROUNDWATER (LEVEL)	CORE RECOVERY	R Q D	WATER PRESSURE TEST		DEPTH		
										CELESTON VALUE				
	1		Decomposed conglomerate	⊗	Recovering cores are mechanically broken into fragments	80	23 Feb 1982	15						
	2	1.60	Fresh conglomerate	○	Light grey, well indurated, hard, fresh. Contained pebbles are averagely 1 cm in diameter. Matrix is gritty.					6				
	3			○						3				
	4			○						52				
	5	5.00		○						88				
	6			○						40				
	7			○						54				
	8		Decomposed conglomerate	⊗	Cores are fragmental. Cracks are stained.					40				
	9			⊗						6				
	10			⊗						57				
	11	11.05		⊗						25				
	12			⊗				8						
	13			⊗				7						
	14			⊗				8						
	15			⊗				4						
	16			⊗				19						
	17			⊗				14						
	18			⊗				17						
	19			⊗				86						
	20			⊗				34						
	21			⊗				49						
	22			⊗				83						
	23			⊗				8						
	24			⊗				10						
	25			⊗				24						
	26			⊗				38						
	27			⊗				57						
	28			⊗				17						
	29			⊗				20						
	30			⊗				20						
					25.05 m - 30.30 m Short cylindrical cores are recovered			85						
								27						
								20						

HOLE NO. BB-3

FIG. 1-10-11

*RQD is Rock Quality Designation, RQD Total length of cylindrical cores longer than 10 cm Total core length = 100%
 *CELESTON VALUE is 1 mm in under injection water pressure of 10kg/cm²
 *DEPTH and ELEVATION are in meter
 *SI UNIT FOR cm in millimeter

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DRILL LOG

HOLE NO. 88-4

SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	ELEVATION								
SITE		B-DAM SITE		(COORDINATE)		34.00 m	462.43 m								
AVERAGE CORE RECOVERY		500 cm, 14.7%		DATE	FROM 15, APR. TO 28, APR. 1987	INCLINATION	VERTICAL								
						DRILLED	LOGGED P.G.S. & S.N.								
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMNS SECTION	DESCRIPTION	BIT DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST (LOGON VALUE)				DEPTH	
	1				Gritty matrix is intensively weathered. Recovering core samples are mostly gravels, in conglomerate, of andesite-basalt, sub-angular or sub rounded, 1 to 3 cm in diameter	80									
	2														
	3														
	4														
	5														
	6														
	7														
	8														
	9														
	10														
	11														
	12		Decomposed conglomerate		11.55 m - 25.05 m										
	13					Fine grained sandstone (?)									
	14					Taken samples are mostly drill slime, sandy and grey to brown coloured									
	15					Andesite pebbles are at places.									
	16														
	17														
	18														
	19														
	20														
	21														
	22														
	23														
	24														
	25				25.05 m - 26.30 m										
	26				Limestone core (bewildering) with some andesite/basalt pebbles, 1 to 4 cm in diameter.										
	27														
	28														
	29														
	30														

HOLE NO. 88-4

*R Q D is Rock Quality Designation, R Q D Total length of cylindrical cores longer than 10 cm Total core length x 100
 †LOGON VALUE is 1 mm H₂O under injection water pressure of 10 kg/cm²
 ‡DEPTH and ELEVATION are in meter
 §DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BB-4 SHEET NO. 2 OF 2

ELEVATION	DEPTH	FORMATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORRECTION		R Q D	WATER PRESSURE TEST LOG ON VALVE					DEPTH				
								RECOVERY	RECOVERY		1	2	3	4	5					
	30.06		Decomp Cgl	⊗ ⊗ ⊗		BQ														
	31		Weathered conglomerate	○ ○ ○	Recovering cores are fresh or slightly weathered pebbly conglomerate, highly indurated, in the forms short cylindrical and fragmental													31		
	32			○ ○ ○																32
	33			○ ○ ○																33
	34	34.00		○ ○ ○																34

HOLE NO. BB-4

NIPPO

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DRILL LOG

HOLE NO. BB-5 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50.0 M	ELEVATION					
SITE		B-DAM SITE		COORDINATE		INCLINATION	VERTICAL	DRILL NO.					
AVERAGE CORE RECOVERY				DATE	FROM 17.FEB. TO 22.FEB.	DRILLED		LOGGED					
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	C/OOL WATER LEVEL	CORE RECOVERY		WATER PRESSURE TEST		DEPTH	
								R	Q	U	Q		U
			Surface soil (clayey)		Brownish high plastic clay with deteriorated soil.								
	7.5			Extensively weathered conglomerate			Sandy clay, slightly plastic with brownish pebbles.						
			Conglomerate			Gravels are varied in size and shape							
	25.0		Conglomerate		Conglomerate cemented loosely								
			Conglomerate		Slightly fractured conglomerate								
			Conglomerate		Below 25 m, conglomerate is fresh.								

HOLE NO. BB-5

* RQ/U is Rock Quality Designation. RQ/U: Total length of cylindrical cores longer than 10 cm. Total core length = 100
 * PUMP VALUE is (mm) under injection water pressure of 10kg/cm²
 * DEPTH and ELEVATION are in meter
 * DIMENSION is millimeter

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DRILL LOG

HOLE NO. BB-5 SHEET NO. 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST					DEPTH
										LUGEON VALUE					
	31		Conglomerate	o o	Conglomerate, mostly fresh but partly fractured and cemented loosely			100							31
	32			o o					50						
	33			o o											33
	34			o o											34
	35			o o		350 - 400 m, Only gravels are recovered due to weathering									35
	36			o o											
	37			o o											37
	38			o o		Weathered conglomerate, brownish and loose in condition.									38
	39			o o											
	40			o o											40
	41		o o											41	
	42		o o											42	
	43		o o											43	
	44		o o											44	
	45		o o											45	
	46		o o											46	
	47		o o											47	
	48		o o											48	
	49		o o											49	
	50		o o											50	

LOG FORM

HOLE NO. BB-5

DRILL LOG

HOLE NO. BB-6 SHEET NO. 1 OF 2

PROJECT SITE		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH		50.0 M		ELEVATION				
AVERAGE CORE RECOVERY		B-DAM SITE		COORDINATE	DATE	FROM 14, FEB TO 19, FEB.	DRILLED	VERTICAL	DRILL RIG					
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST UG-FON VALVE		DEPTH		
	0													
	1		Weathered surface soil		Brownish high plastic clay with pebbles.	Casing NW Bit NO. BQ								
	2													
	3													
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													
	16		Weathered conglomerate											
	17				Brownish weathered conglomerate, cemented in loose condition.									
	18													
	19													
	20													
	21													
	22													
	23					Fresh, well consolidated conglomerate, partly loose in condition								
	24													
	25													
	26				Brownish weathered conglomerate.									
	27													
	28													
	29													
	30													

HOLE NO. BB-6

*RQD is Rock Quality Designation, RQD Total length of cylinder cores longer than 10 cm / Total core length x 100%
 *UG-FON VALVE is 1 mm in under constant water pressure of 10kg/cm²
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BB-6 SHEET NO 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMNS SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE		R Q D	WATER PRESSURE TEST				DEPTH	
								RECOVERY	CM		LOG-ON VALUE					
	31		Conglomerate	o	Fresh conglomerate, well cemented but partly loose in condition.										31	
	32			o												
	33			o												33
	34			o												34
	35			o												35
	36			o												36
	37			o												37
	38			o												38
	39			o		Fresh conglomerate, well cemented but partly fractured slightly.										39
	40			o												40
	41			o												41
	42			o												42
	43			o												43
	44			o												44
	45			o												45
	46			o												46
	47			o												47
	48			o												48
	49			o												49
	50			o												50

100. 60RU

HOLE NO. BB-6

DRILL LOG

HOLE NO. BB-7 SHEET NO. 1 OF 2

PROJECT SITE		MATUNO RIVER DEVELOPMENT PROJECT			DEPTH	50.0 M	ELEVATION				
AVERAGE CORE RECOVERY		B-DAM SITE	COORDINATE	DATE	INCLINATION	VERTICAL	DRILL NO.				
				FROM 2, FEB TO 15, FEB	DRILLED		LOGGED				
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST TUGFON VALUE	DEPTH
	1		Extensively weathered conglomerate		Conglomerate, components are 5 cmφ						1
	2	2									
	3	3									
	4	4									
	5	5									
	6	6.3									
	7		Sandstone		Pale grayish sandstone						7
	8	8									
	9	9									
	10	10									
	11	11.0									
	12		Conglomerate		Sandstone and conglomerate; components are mostly volcanic; iron stains on fractured planes at 18.5 m.						12
	13	13									
	14	14									
	15	15									
	16	16									
	17	17									
	18	18									
	19	19									
	20	20									
	21	21									
	22		Sandstone		25.0 - 27.0 * Some open fractures are observed.						22
	23	23									
	24	24									
	25	25.0									
	26	26									
	27	27									
	28	28									
	29	29									
	30	30									

HOLE NO. BB-7

* R Q D is Rock Quality Designation, R Q D = Total length of cylindrical cores longer than 10 cm / Total core length * 100%
 * TUGFON VALUE is 1 mm² under injection water pressure of 10kg/cm²
 * DEPTH and ELEVATION are in meter
 * DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BB-7 SHEET NO. 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY		R Q D	WATER PRESSURE TEST					DEPTH		
								RECOVERY	RECOVERY		LUGFON VALUE							
	31				Conglomerate Open cracks are observed at 30.0, 32.3 m													
	32																	
	33	33.0																
	34																	
	35																	
	36				Coarse sandstone - Conglomerate Iron stain at 48.0 m													
	37		Coarse sandstone															
	38																	
	39																	
	40		Conglomerate															
	41				Open crack at 41.0 m cores are friable													
	42																	
	43																	
	44																	
	45				Light greyish coarse sandstone - conglomerate components are mostly volcanic in origin.													
	46																	
	47																	
	48																	
	49																	
	50	50.0																

HOLE NO. BB-7

DRILL LOG

HOLE NO. BB-8 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50.0 M	ELEVATION			
SITE		B - DAM SITE		COORDINATE		INCLINATION	VERTICAL	DRILL NO.			
AVERAGE CORE RECOVERY				DATE	FROM 21, JAN TO 9, FEB	DRILLED		LOGGED			
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST	DEPTH
										LUGON VALUE	
										N VALUE	
1					The section, 0 - 30 m, is very poor in core recovery, and this seems to imply the progress of the bedrock weathering. The recovered cores are decomposed and iron stains are observed.						
2											
3											
4											
5											
6											
7			Coarse sandstone								
8											
9											
10			Conglomerate								
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25					Cave at about 25 m						
26											
27					Bedrock seems to be composed of siltstone, sandstone and conglomerate						
28											
29											
30											

HOLE NO. BB-8

* R Q D is Rock Quality Designation R Q D Total length of cylindrical cores longer than 10 cm Total core length = 100%
 * LUGON VALUE is 1 unit in under injection water pressure of 10 kg/cm²
 * DEPTH and ELEVATION are in meter
 * DIAMETER is in millimeter

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 CONSULTING ENGINEERS, TOKYO

DRILL LOG

HOLE NO. BB-8 SHEET NO 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY		R Q D	WATER PRESSURE TEST				DEPTH
								%	FEET		LOGON VALUE				
	31														31
	32														32
	33														33
	34				Coarse sandstone - conglomerate; gravels are slightly weathered and matrix is highly weathered.										34
	35														35
	36		Coarse sandstone												36
	37														37
	38		Conglomerate												38
	39														39
	40														40
	41				Conglomeratic sandstone, component gravels are slightly weathered - fresh, and matrix is moderately weathered										41
	42														42
	43														43
	44														44
	45														45
	46														46
	47				Some iron stains are observed.										47
	48														48
	49														49
	50														50

HOLE NO. BB-8

1-1-1

DRILL LOG

HOLE NO. BB-9 SHEET NO. 1 OF 2

PROJECT SITE		MATUNO RIVER DEVELOPMENT PROJECT				DEPTH	50.0 M	ELEVATION						
AVERAGE CORE RECOVERY		B-DAM SITE		COORDINATE		INCLINATION	VERTICAL	DRILL RIG						
DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST	DEPTH			
										LUGEON VALUE				
										SPT VALUE ●				
			Extensively weathered mudstone, sandstone and conglomerate	[Hatched pattern]	Mudstone, sandstone and conglomerate.									
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18					Brownish return water.									
19														
20					Slightly weathered coarse sandstone.									
21														
22					Grayish return water.									
23														
24														
25	25.0													
26			Siltstone	[Horizontal lines]	Siltstone									
27	27.0													
28					Coarse and fine sandstone.									
29														
30					Conglomerate									

HOLE NO. BB-9

*R Q D is Rock Quality Designation, R Q D = Total length of cylindrical cores longer than 10 cm / Total core length * 100
 *LUGEON VALUE is a unit to index water permeability of 10kg/cm
 *DEPTH and ELEVATION are in meter
 *CORE RECOVERY is in percentage

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DRILL LOG

HOLE NO. **BB-9** SHEET NO. **2** OF **2**

DEPTH (M)	ELEVATION (M)	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	RPM	WATER LEVEL	CORRECTION	R Q D	WATER PRESSURE TEST					DEPTH (M)
										1	2	3	4	5	
31				No return water.											31
32		Coarse sandstone													32
33															33
34		Conglomerate													34
35															35
36		Coarse sandstone													36
37	37.3														37
38		Conglomerate	○ ○ ○ ○	Conglomerate											38
39			○ ○ ○ ○												39
40	40.0		○ ○ ○ ○												40
41															41
42															42
43		Coarse sandstone		Coarse sandstone - conglomerate											43
44															44
45		Conglomerate													45
46															46
47															47
48				No return water.											48
49															49
50	50.0														50

HOLE NO. BB-9

LOG FORM

DRILL LOG

HOLE NO. BP-1

SHEET NO 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT			DEPTH	40.25 m	ELEVATION	300.89 m			
AVERAGE CORE RECOVERY		POWERHOUSE B SITE		COORDINATE		INCLINATION	VERTICAL	DRILL NO.	DB-450		
		963 cm, 23.9%		DATE	FROM 3 MAR. TO 19 MAR. 1982	LOGGED	P.G.S & S.N.				
DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	ROCK SAMPLE LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST	DEPTH	
cm	m						%		LOGON VALUE	m	
1				0 - 4.70 m Slightly or moderately weathered limestone fragments are recovered. Averagely 2 cm in diameter.	NO					0	
2											1
3											2
4											3
5				4.70 - 5.00 m Fresh limestone boulder, with stain on cleavage. Core length 3 - 25 cm.							4
6											5
7				5.00 - 14.35 m Cores of limestone fragments, slightly weathered, 1 - 2 cm in average diameter.							6
8											7
9											8
10											9
11		Talus deposit									10
12											11
13											12
14				14.35 - 14.80 m Limestone boulder, divided into three core pieces, 10 cm, 37 cm and 2 cm in length, fresh but rusty on parting planes							13
15											14
16											15
17				14.80 - 32.50 m Recovering cores are of limestone boulders and fragments, buff-light grey but rusty along fissures. Slightly weathered with some minute cavities. Hard. Max. length 9 cm							16
18											17
19											18
20											19
21											20
22											21
23											22
24											23
25											24
26											25
27											26
28											27
29											28
30											29
					BO					30	

HOLE NO. BP-1

* R Q D = Rock Quality Designation, R Q D = Total length of cylindrical cores longer than 10 cm / Total core length * 100
 * LOGON VALUE is 1 mm in under repetition water pressure of 10kg/cm²
 * DEPTH and ELEVATION are in meter
 * DIAMETER is in millimeter

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DRILL LOG

HOLE NO. BP-1 SHEET NO. 2 OF 2

DATE	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT & DIAMETER	GROUNDWATER LEVEL	CORE RECOVERY		R Q D	WATER PRESSURE TEST		DEPTH
								%	M		LOG	VALUE	
	31					BQ		25					31
	32				32 50 - 36 20 m			18					32
	33				No core recovery. Only sandy drill slime is taken.			11					33
	34		Alluvial deposit					0					34
	35								0				
	36				36 20 - 40 25 m			0					36
	37				Limestone cores are recovered			0					37
	38							25					38
	39												39
	40							10					40
	40 25												

DATE

HOLE NO. BP-1

DRILL LOG

HOLE NO. BP-2 SHEET NO. 1 OF 2

PROJECT		MATUNO RIVER DEVELOPMENT PROJECT			DEPTH	78.90 m	ELEVATION	453.93 m				
SITE		SURGE TANK B SITE			COORDINATE		INCLINATION	VERTICAL				
AVERAGE CORE RECOVERY		DATE			FROM 27 Mar. TO 1 May 1982	DRILLED		LOGGED				
LAMP	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN SECTION	DESCRIPTION	BIT DIAMETER	GROUNDMATER LEVEL	CORE RECOVERY	R Q D	WATER PRESSURE TEST		DEPTH
										EQUON VALUE		
1					0 - 4.05 m Recovering cores are limestone fragments, slightly or moderately weathered, rusty, size 1 - 3 cm	NQ						1
2												2
3												3
4					4.05 - 15.75 m Only limestone blocks and fragments are cored.							4
5												5
6												6
7												7
8												8
9												9
10			Talus deposit									10
11												11
12												12
13												13
14												14
15												15
16					15.75 - 21.65 m Limestone boulders Max core length 60 cm. Some minute open cavities are observed in limestones.							16
17												17
18												18
19												19
20												20
21												21
22					21.65 - 39.90 m Fragments of weathered limestone Max. core length 5 cm							22
23												23
24												24
25												25
26												26
27												27
28												28
29												29
30												30

HOLE NO. BP-2

*R Q D is Rock Quality Designation, R Q D Total length of cylindrical cores longer than 10 cm Total core length > 100
 *EQUON VALUE is 1 cm or under suction water pressure of 10 kg/cm²
 *DEPTH and ELEVATION are in meter
 *DIAMETER is in millimeter

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