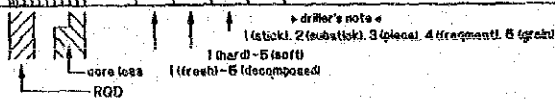


GEOLOGIC LOG OF DRILL HOLE

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OLUR PROJECT		HOLE No.	SK-211	(SHEET 2 of 8)	
LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	150.00 m	COMMENCED	90-11-15
ELEVATION	1103.87 m	DIRECTION OF HOLE	90°	COMPLETED	91-04-04
COORDINATE	X: 4511860.16	CORE RECOVERY	%	DRILLED BY	H. Basaran
	Y: 515884.19	DRILLING MACHINE		LOGGED BY	I. Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt. H)	DEPTH							
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax							Pc	DEPTH RESULT					
1083.87	20m			0 → 100%															20m						
	1	Granite Porphyry	+		Pinkish brown						Cracky zone ; oxidized joint surfaces														
	2																								
	3																								
	4																								
	5																								
	6																								
	7																								
	8																								
	9																								
	30																								
	1																								
	2																								
	3																								
	4																								
	5																								
	6																								
	7																								
	8																								
	9																								
1083.87	40																			40					

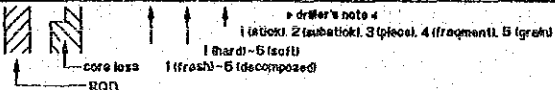


GEOLOGIC LOG OF DRILL HOLE

OLUR PROJECT				HOLE No.	SK-211	(SHEET 3 of 6)
LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	150.00	m	COMMENCED	90-11-15
ELEVATION	1103.87	m	DIRECTION OF HOLE	90°	COMPLETED	91-04-04
COORDINATE	X:4511860.16	CORE RECOVERY	%	DRILLED BY	H. Basaran	
	Y:515884.19	DRILLING MACHINE		LOGGED BY	I. Vardal	

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					DESCRIPTION	TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt. H)	DEPTH														
					COLOR	WEATHER-ING	HARD-NESS	CRACK SPACING	ROCK EVALUATION		LUGEON	Pmax	Pc							DEPTH RESULT													
1063.87	40m			0 → 100%																40m													
	1	Granite Porphyry	+		Pinkish brown	3	3	4		Fractured zone, oxidized joint surfaces.	Lu=4	Kgf/cm																					
	2					4	4	4																									
	3					3	3																										
	4					2	2																										
	5					3	3																										
	6					3	3																										
	7					3	3																										
	8					3	3																										
	9					3	3																										
	50																																
	1	Db	+			3	3	3		Diabase																							
	2	Granite Porphyry	+		Pinkish brown	3	3	3		Fracture surfaces are strongly oxidated.	Lu=1.9	10	ø86mm																				
	3					4	4	4																									
	4					4	4	4																									
	5					2	2																										
	6					2	2																										
	7					3	3																										
	8					3	3																										
	9					3	3																										
	50																																
	1					Granite Porphyry	+		Pinkish brown											3	3	3		Hard substick core.	Lu<1								
	2	4	4	4																													
	3	4	4	4																													
	4	2	2																														
	5	2	2																														
	6	3	3																														
	7	3	3																														
	8	3	3																														
	9	3	3																														
	60																																

48.60m
↓
(Final)



GEOLOGIC LOG OF DRILL HOLE

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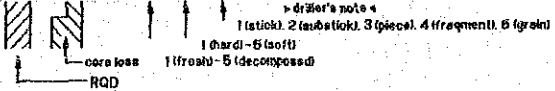
OLUR PROJECT

HOLE No. SK-211

(SHEET 4 of 8)

LOCATION <u>DAM SITE (RIGHT BANK)</u>	DEPTH OF HOLE <u>150.00</u> m	COMMENCED <u>90-11-15</u>
ELEVATION <u>1103.87</u> m	DIRECTION OF HOLE <u>90°</u>	COMPLETED <u>91-04-04</u>
COORDINATE <u>X:4511860.16</u>	CORE RECOVERY _____ %	DRILLED BY <u>H.Basaran</u>
<u>Y:515884.19</u>	DRILLING MACHINE _____	LOGGED BY <u>I.Vardal</u>

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					DESCRIPTION	TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L (Opt.H)	DEPTH		
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION		LUCEON	Pmax	Pc							DEPTH RESULT	
1043.87	60m			0 → 100%															60m		
	1	Diabase	+		p.br	3	3	4		Fractured zone	Lu<1								1		
	2		+			3	2	2		Hard, sound	Lu<1								2		
	3	Granite Porphyry	+		Pinkish brown	3	2	3		63.4-63.6m Cracky, C=4	Lu=1.6								3		
	4		+				3	3	3		Mainly sharp edged fragments	Lu=4.6								4	
	5		+								Fractured zone, oxidized joint surfaces, alteration in minerals.	Lu=2.1									5
	6		+				3	3	4		Sharp edged fragments and pieces of core	Lu=1.9									6
	7		+			4													7		
	8		+			1	3												8		
	9		+			4													9		
	10		+							70.3-70.4m Highly weathered along the joint	Lu<1								10		
	11		+																11		
	12	Db	+		D.g	3	3	3											12		
	13	Gp	+		P.g	3	3	3		Granite porphyry	Lu<1								13		
	14	Db	+		D.g	3	3	4											14		
	15	Granite Porphyry	+		Pinkish grey	3	3	4		Sharp edged fragments Crack surfaces are strong oxidated.	Lu<1								15		
	16		+				4	3	3											16	
	17		+				1	1	1		Some oxidized joint surfaces.	Lu<1								17	
	18		+				1	1	1											18	
	19		+			3	2	3											19		
	20		+			2	3	4		Hard, sound	Lu<1								20		
1023.87	80					2	3	4											80		

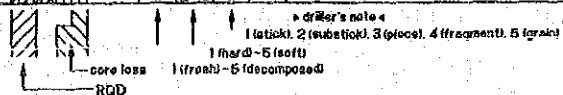


EPDC **ELECTRIC POWER DEVELOPMENT CO., LTD.**

GEOLOGIC LOG OF DRILL HOLE

OLUR PROJECT	HOLE No. SK-211	(SHEET 5 of 8)
LOCATION DAM SITE (RIGHT BANK)	DEPTH OF HOLE 150.00 m	COMMENCED 90-11-15
ELEVATION 1103.87 m	DIRECTION OF HOLE 90°	COMPLETED 91-04-04
COORDINATE X:4511860.16	CORE RECOVERY %	DRILLED BY H. Basaran
Y:515884.19	DRILLING MACHINE	LOGGED BY I. Vardal

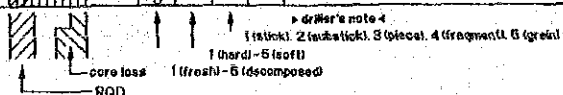
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L (Dpt.H)	DEPTH		
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax							Pc	DEPTH RESULT
1023.87	80m	Granite Porphyry	+	0 → 100%														80m		
	1				2	2	3	Cracky, some crack surfaces are oxidized.	Lu<1											1
	2				3	2	1	Hard, sound	Lu<1											2
	3				3	3	1	Fractured zone, oxidized joint surfaces	Lu<1											3
	4				3	3	3		Lu<1											4
	5				2	1	1	Fresh and hard stick to substick core.	Lu<1											5
	6				3	1	2		Lu<1											6
	7				2	2			Lu<1											7
	8				3	3		Cracky but not oxidated	Lu<1											8
	9				2		2		Lu<1											9
	90		2		1	Hard, sound, some oxidized joint surfaces, feather joints in place.	Lu<1	10										90		
	1		2		3		Lu<1											1		
	2						Lu<1											2		
	3		1		1		Lu<1											3		
	4		5		5		Lu<1											4		
	5		2		2		Lu<1											5		
	6					95.0-95.7m, 95.6-95.8m Cracky, C=4	Lu<1											6		
	7		2		2		Lu=0											7		
	8		5		5		Lu<1											8		
	9		3		3		Lu=43.25											9		
1003.87	100						3	2-3	3									100		



GEOLOGIC LOG OF DRILL HOLE

OLUR PROJECT	DAM SITE (RIGHT BANK)	HOLE No.	SK-211	(SHEET 6 of 8)	
LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	150.00 m	COMMENCED	90-11-15
ELEVATION	1103.87 m	DIRECTION OF HOLE	90°	COMPLETED	91-04-04
COORDINATE	X:4511860.16	CORE RECOVERY	%	DRILLED BY	H.Basaran
	Y:515884.19	DRILLING MACHINE		LOGGED BY	I.Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					DESCRIPTION	TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH	
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION		LU	Pmax	Pc							DEPTH RESULT
1103.87	100m			0 → 100%																100m
	1	Granite Porphyry	+		Pinkish grey	3	2-3	3-4		Crack surfaces are strongly oxidated. oxidized joint surfaces (brown in colour) Vertical joints	Lu=40	8		ø86mm						
	2					2	2		Lu=42.6		5									
	3					3	2		Lu=0		10									
	4					3-2	3		Lu=0											
	5								Lu=0											
	6					1			Lu=0											
	7					2	5	1	Lu=2.3											
	8					2			Lu=2.2											
	9								Lu=2.1											
	10								Lu=2.1											
	11								Lu=1.8											
	12								Lu=2.9											
	13				Lu=1.8															
	14				Lu=2.9															
	15				Lu=1.8															
	16				Lu=2.9															
	17				Lu=1.8															
	18				Lu=2.9															
	19				Lu=1.8															
	20				Lu=2.9															
	21				Lu=1.8															
	22				Lu=2.9															
	23				Lu=1.8															
	24				Lu=2.9															
	25				Lu=1.8															
	26				Lu=2.9															
	27				Lu=1.8															
	28				Lu=2.9															
	29				Lu=1.8															
	30				Lu=2.9															
	31				Lu=1.8															
	32				Lu=2.9															
	33				Lu=1.8															
	34				Lu=2.9															
	35				Lu=1.8															
	36				Lu=2.9															
	37				Lu=1.8															
	38				Lu=2.9															
	39				Lu=1.8															
	40				Lu=2.9															
983.87	120																			120



GEOLOGIC LOG OF DRILL HOLE

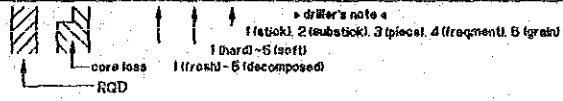
OLUR PROJECT

HOLE No. SK-211

(SHEET 7 of 8)

LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	150.00	m	COMMENCED	90-11-15
ELEVATION	1103.87	DIRECTION OF HOLE	90°		COMPLETED	91-04-04
COORDINATE	X:4511860.16	CORE RECOVERY		%	DRILLED BY	H.Basaran
	Y:515884.19	DRILLING MACHINE			LOGGED BY	I.Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					DESCRIPTION	TESTING				DEPTH					
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION		LUGEON	Pmax	PS	DEPTH RESULT		BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L (Dpt. H)
983.87	120m			0 → 100%															120m	
	1	Granite Porphyry	[Hatched pattern]		Pinkish grey				2	Fractured zone, oxidized joint surfaces	Lu=16.7									
	2							2	3											
	3							2												
	4							2	3											
	5							1	1											
	6							3	2											
	7	Rhyolite	[Dotted pattern]		Grey				2	Many vertical joints.	Lu=16.2									
	8							3	3											
	9	Gp	[Hatched pattern]		Pinkish grey				2	Crack surfaces are not oxidized.	Lu=16.2									
	10							1	1											
	11	Rhyolite	[Dotted pattern]		Grey				2	Hard and sound substick core	Lu=16.2									
	12							1	1											
	13	Rhyolite	[Dotted pattern]		Grey				2	Many vertical joints.	Lu=16.2									
	14							1	1											
	15	Granite Porphyry	[Hatched pattern]		Pinkish grey				2	Crack surfaces are not oxidized.	Lu=16.2									
	16							1	1											
	17	Granite Porphyry	[Hatched pattern]		Pinkish grey				2	Many vertical joints.	Lu=16.2									
	18							1	1											
	19	Granite Porphyry	[Hatched pattern]		Pinkish grey				2	Crack surfaces are not oxidized.	Lu=16.2									
	20							1	1											
983.87	140																			140

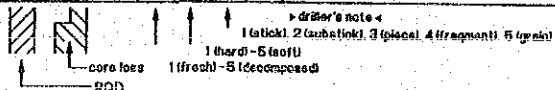


GEOLOGIC LOG OF DRILL HOLE

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OLUR PROJECT	DAM SITE (RIGHT BANK)	HOLE No.	SK-211	(SHEET 8 of 8)	
LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	150.00 m	COMMENCED	90-11-15
ELEVATION	1103.87 m	DIRECTION OF HOLE	90°	COMPLETED	91-04-04
COORDINATE	X:4511860.16	CORE RECOVERY	%	DRILLED BY	H. Basaran
	Y:515884.19	DRILLING MACHINE		LOGGED BY	I. Vardal

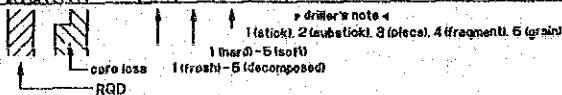
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH		
					COLOR	WEATHER-ING	HARD-NESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LOGEON	Pmax							Pc	DEPTH RESULT
963.87	140m	Granite Porphyry	+	0 → 100%														140m		
	1																			1
	2																			2
	3																			3
	4																			4
	5																			5
	6																			6
	7																			7
	8																			8
	9																			9
953.87	150																	150		
	1																	1		
	2																	2		
	3																	3		
	4																	4		
	5																	5		
	6																	6		
	7																	7		
	8																	8		
	9																	9		
943.87	160																	160		



GEOLOGIC LOG OF DRILL HOLE

OLUR PROJECT		HOLE No.	SKE-213	(SHEET 1 of 3)	
LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	50.00 m	COMMENCED	91-05-21
ELEVATION	1069.72 m	DIRECTION OF HOLE	45°	COMPLETED	91-07-03
COORDINATE	X:4511859.04	CORE RECOVERY	%	DRILLED BY	E.Gur
	Y:515843.87	DRILLING MACHINE		LOGGED BY	I.Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L (Opt. H)	DEPTH					
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax							Pc	DEPTH RESULT			
1069.72	0m			0 → 100%						0-40cm stop wash								0m					
	1	Granite Porphyry	+	+	Milky White	3				Mainly 1-5cm gravelly cores, brown weathering remarkable. Many light hair cracks in stick core. Remarkable brn weathering along open cracks, generally cracks incline to vertical. 6.50-7.0m remarkable vertical crack with black coloured hematite.								1					
	2					5	3	4														2	
	3					4																	3
	4																						4
	5																						5
	6										3		2										6
	7										5	2	5										7
	8										2		1										8
	9															Lus=14	10.6						9
	10										3	2	3										10
	11					2		2		Many brown cracks. Generally good cores, but cracks brown, 10.95-11.45 somewhat cracky C=3 Good cores, but cracks brn cracks dip less than 45deg some tight hair cracks in stick cores. Generally good cores, incline to vertical cracks remarkable all cracks to vertical, all cracks brown to black. 16.0-16.50, 18.00-18.50m somewhat cracky, C=3 17.00-18.00m vertical crack. Other cracks dip steeper than 45deg	Lus=14	10.8						11					
	12					1	2	1				Lus=14	10.8						12				
	13					3		1											13				
	14					2	2	1				Lus=18	10.9						14				
	15																		15				
	16											Lus=1.2	11.1						16				
	17							2											17				
	18					2	2	5				Lus=12	11.2						18				
	19							3											19				
1049.72	20											Lus=8.4	11.3						20				

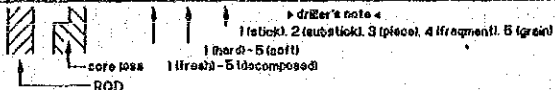


GEOLOGIC LOG OF DRILL HOLE

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OLUR PROJECT		HOLE No.	SKE-213	(SHEET 2 of 3)	
LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	50.00 m	COMMENCED	91-05-21
ELEVATION	1069.72 m	DIRECTION OF HOLE	45°	COMPLETED	91-07-03
COORDINATE	X: 4511859.04	CORE RECOVERY	%	DRILLED BY	E. Gur
	Y: 515843.87	DRILLING MACHINE		LOGGED BY	I. Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt. H)	DEPTH		
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax							PC	DEPTH RESULT
1049.72	20m			0 → 100%						Generally good cores, but cracks brown. 20.35-21.15 Horizontal cracks. Other cracks steeper than 45deg	Lu=0.8	11.5						20m		
	1	Granite Porphyry	+				2	2										1		
	2					3	1	1												2
	3							3	3				Good cores, but all cracks brown, cracks generally steeper than 45deg	Lu=2.1	11.6					3
	4												24.70-24.80 C=3-4 28.60-28.80 C=3-4 29.70-30.00 C=3							4
	5									2	2			Lu=0.1	11.8					5
	6																			6
	7							3	2	1				Lu=7.2	11.8					7
	8										3									8
	9													Lu=8.3	11.8					9
	30																			30
	1	Diabase	+							Cracky zone, all cracks brown remarkably. Cracks vertical to steeper than 45deg	Lu=5.3	11.8						1		
	2							3	2	1			30.35-30.70 C=2 31.00-31.45 C=2 32.70-33.00 C=2						2	
	3							3	2	1				Lu=24	11.6					3
	4									2										4
	5										Lu=25	11.8					5			
	6						3	2	2	Somewhat cracky, hair cracks remarkable, vertical to steeper than 45deg, slickenside at 35m.							6			
	7																7			
	8						3	2	1	Generally good, but cracks brown. 39.80-40.00 C=3-4 hair cracks remarkable	Lu=9.5	11.8					8			
	9							3			Lu=6.9	11.8					9			
1029.72	40																40			



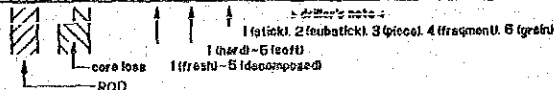
EPDC (EP)
ELECTRIC POWER DEVELOPMENT CO., LTD.

GEOLOGIC LOG OF DRILL HOLE

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OLUR PROJECT	DAM SITE (RIGHT BANK)	HOLE No.	SKE-213	(SHEET 3 of 3)	
LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	50.00 m	COMMENCED	91-05-21
ELEVATION	1069.72 m	DIRECTION OF HOLE	45°	COMPLETED	91-07-03
COORDINATE	X: 4511859.04	CORE RECOVERY	%	DRILLED BY	E. Gur
	Y: 515843.87	DRILLING MACHINE		LOGGED BY	I. Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH		
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax							Pc	DEPTH RESULT
1029.72	40m	Granite Porphyry & Diabase		0 → 100%						Good cores, but cracks brown. Cracks generally 45deg dip to steeper. Contacts between G.P and Diabase are generally tight, but at 41m, 44m and 50m, opened slicken with remarkable oxidation. 43.80-44.00 C=3-4 45.80 C=3-4	Lu=17	11.8						40m		
	1																			1
	2																			2
	3																			3
	4																			4
	5																			5
	6																			6
	7																			7
	8																			8
	9																			9
1019.72	50									End of the borehole								50		
	1																	1		
	2																	2		
	3																	3		
	4																	4		
	5																	5		
	6																	6		
	7																	7		
	8																	8		
	9																	9		
1009.72	60																	60		



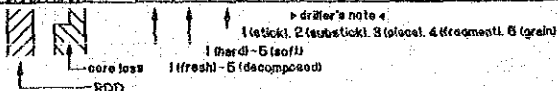
EPDC Ⓢ
ELECTRIC POWER DEVELOPMENT CO., LTD.

GEOLOGIC LOG OF DRILL HOLE

Page _____

OLUR PROJECT	DAM SITE (RIGHT BANK)	HOLE No.	SK-215	(SHEET 1 of 4)	
LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	80.00 m	COMMENCED	91-07-05
ELEVATION	1069.66 m	DIRECTION OF HOLE	90°	COMPLETED	91-12-09
COORDINATE	X: 4511856.14	CORE RECOVERY	%	DRILLED BY	Gur.Basara
	Y: 515844.34	DRILLING MACHINE		LOGGED BY	J.Vardal

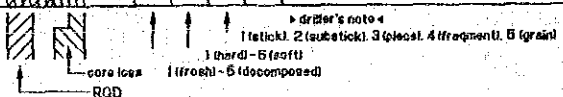
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				DEPTH						
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax	Pc		DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)
1069.66	0m			0 → 100%						0.0-1.5 Open excavation										0m
	1																			1
	2									GP. Cores weathered, and all cracks brown. Many light hair cracks in stick cores.										2
	3						3	3	3											3
	4									Generally good, but brown cracks remarkable and many hair cracks										4
	5						3	3	1	4.40-4.50 C=4 4.85-4.95 C=4 5.50-5.60 C=4										5
	6																			6
	7									Good stick cores recovered, but weathering along cracks remarkable. Cracks generally dip to vertical or steeper than 45deg.										7
	8									Many tight hair cracks. Stick cores between 13m to 14m somewhat sheared. Cracks at 8m, 11.5-12m and 13m C=3-4	Lu=5		6							8
	9																			9
	10						3	3	1											10
	11																			11
	12																			12
	13																			13
	14																			14
	15									Brown weathered cracks remarkable major cracks dip to vert.										15
	16									All cracks brown. Cracks dip to vertical hair cracks remarkable.										16
	17																			17
	18									Good stick cores recovered, but tight hair cracks remarkable. Generally cracks dip to less than 45deg. Cracks weathered to brown color.										18
	19																			19
1049.66	20																			20



GEOLOGIC LOG OF DRILL HOLE

OLUR PROJECT	HOLE No. SK-215	DEPTH OF HOLE 80.00 m	(SHEET 2 of 4)
LOCATION DAM SITE (RIGHT BANK)	COMPLETED 91-07-05	DIRECTION OF HOLE 90°	DRILLED BY Gur.Basara
ELEVATION 1069.66 m	LOGGED BY I.Vardal	CORE RECOVERY %	
COORDINATE X:4511856.14 Y:515844.34		DRILLING MACHINE	

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH			
					COLOR	WEATHER-ING	HARD-NESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax							Pc	DEPTH RESULT	
1049.66	20m			0 → 100%						Good cores recovered. Core conditions same with depth between 16m to 20m.								20m			
	1	Granite Porphyry	+	+	Yellowish dirty white													1			
	2						3	1													2
	3																				3
	4																				4
	5													Cracky zone at 25m, C=3.							5
	6																				6
	7																				7
	8													3 parallel oblique joints Joint surfaces oxidized.							8
	9																				9
	10																				10
	1																1				
	2																2				
	3																3				
	4																4				
	5																5				
	6																6				
	7																7				
	8																8				
	9									Fractured zone							9				
1029.66	10																10				



GEOLOGIC LOG OF DRILL HOLE

Page _____

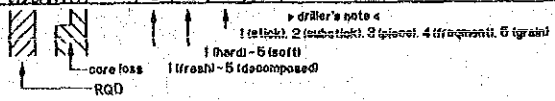
OLUR PROJECT		HOLE No.	SK-215	(SHEET 3 of 4)	
LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	80.00 m	COMMENCED	91-07-05
ELEVATION	1069.66 m	DIRECTION OF HOLE	90°	COMPLETED	91-12-09
COORDINATE	X: 4511856.14 Y: 515844.34	CORE RECOVERY	%	DRILLED BY	Gur. Basara
		DRILLING MACHINE		LOGGED BY	I. Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					DESCRIPTION	TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt. H)	DEPTH		
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION		LUGEON	Pmax	Pc							DEPTH RESULT	
1029.66	40m			0 → 100%															40m		
	1	Granite Porphyry	+	+		1	1	1											1		
	2								1	1	2										2
	3								1	1	1										3
	4								2	1	2										4
	5								2	1	2										5
	6								3	2	2										6
	7								1	1	1										7
	8								4	3	3										8
	9								1	1	1										9
	50								2	2	2										50
	1					3	3	3										1			
	2					2	1	3										2			
	3					1	1	3										3			
	4					2	1	2										4			
	5					2	1	2										5			
	6					1	2	1										6			
	7					3	3	3										7			
	8					1	1	1										8			
	9					3	2	2										9			
	50					2	1	2										50			
	1					3	3	3										1			
	2					3	3	3										2			
	3					2	1	2										3			
	4					2	2	2										4			
	5					1	2	1										5			
	6					3	3	3										6			
	7					1	1	1										7			
	8					3	2	2										8			
	9					2	1	2										9			
	50					2	1	2										50			
1009.66	60					3	2	3										60			

Vertical joint, undulated, rough, oxidized, 1-2mm clay infilling.

Vertical joint, oxidized

45.20m
(Final)

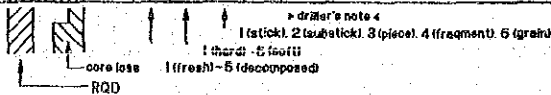


GEOLOGIC LOG OF DRILL HOLE

Page _____

OLUR PROJECT	DAM SITE (RIGHT BANK)	HOLE No.	SK-215	(SHEET 4 of 4)	
LOCATION	DAM SITE (RIGHT BANK)	DEPTH OF HOLE	80.00 m	COMMENCED	91-07-05
ELEVATION	1069.66 m	DIRECTION OF HOLE	90°	COMPLETED	91-12-09
COORDINATE	X:4511856.14	CORE RECOVERY	%	DRILLED BY	Gur.Basara
	Y:515844.34	DRILLING MACHINE		LOGGED BY	I.Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE				DESCRIPTION	TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH		
					COLOR	WEATHERING	HARDNESS	CRACK SPACING		ROCK EVALUATION	LU	P _{max}							P _c	DEPTH RESULT
1009.66	60m	Granite Porphyry	+	0 → 100%														60m		
	1																			1
	2																			2
	3																			3
	4																			4
	5																			5
	6																			6
	7																			7
	8																			8
	9																			9
	70																			70
	1																			1
	2																			2
	3																			3
	4																			4
	5																			5
	6																			6
	7																			7
	8																			8
	9																			9
989.66	80																	80		



GEOLOGIC LOG OF DRILL HOLE

OLR PROJECT	SPILLWAY (RIGHT BANK)	HOLE No.	DSA-217	(SHEET 1 of 5)	
LOCATION	SPILLWAY (RIGHT BANK)	DEPTH OF HOLE	81.40 m	COMMENCED	91-08-23
ELEVATION	1030.05 m	DIRECTION OF HOLE	90°	COMPLETED	91-10-18
COORDINATE	X: 8515880.84	CORE RECOVERY	%	DRILLED BY	H. Basaran
	Y: 4512055.84	DRILLING MACHINE		LOGGED BY	I. Vardal

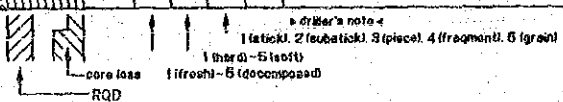
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE						TESTING				DEPTH										
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEDON	Pmax	Pc	DEPTH RESULT		BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt. H)					
1030.05	0m			0-100%																			0m		
	1										0.0-57.0m : Slope Wash 0.0-19.0m : Clayey, sandy, gravelly silt : Clay : 10% Sand : 20-25% Gravel : 25-30% Silt : 40-45% All clay and some amount of silt are washed away. Gravel sizes vary from 0.4cm to 1.5cm. Gravels are gray in colour at the upper levels and originated from granite, diabase and rhyolite.														1
	2																							2	
	3																							3	
	4																							4	
	5																							5	
	6																							6	
	7																							7	
	8																							8	
	9																							9	
	10																							10	
	11																							11	
	12																							12	
	13																							13	
	14																							14	
	15																							15	
	16																							16	
	17																							17	
	18																							18	
	19																							19	
	20																							20	

Slope Wash

9.00m
4
(Final)

ø 86mm

ø 4"



GEOLOGIC LOG OF DRILL HOLE

Page

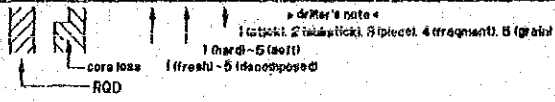
OLUR PROJECT			HOLE No.	DSA-217	(SHEET 2 of 5)
LOCATION	SPILLWAY (RIGHT BANK)	DEPTH OF HOLE	81.40 m	COMMENCED	91-08-23
ELEVATION	1030.05 m	DIRECTION OF HOLE	90°	COMPLETED	91-10-18
COORDINATE	X: 8515880.84	CORE RECOVERY	%	DRILLED BY	H. Basaran
	Y: 4512055.84	DRILLING MACHINE		LOGGED BY	J. Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt. H)	DEPTH
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LOGEON	Pmax						
1010.05	20m			0 + 100%														20m
	1																	1
	2																	2
	3																	3
	4																	4
	5																	5
	6																	6
	7																	7
	8																	8
	9																	9
	30																	30
	1																	1
	2																	2
	3																	3
	4																	4
	5																	5
	6																	6
	7																	7
	8																	8
	9																	9
990.05	40																	40

Slope Wash

φ 86mm
φ 4"

19.0-53.6m : silty, sandy gravel. Gravel sizes vary between 3-7.5cm. Gravels are generally dark gray, gray, light brown and light pink in colour; they are generally angular and originated from granite, diabase and rhyolite. Fines are gray in colour. Mostly clay, and partially silt are washed away.
Silt : 10-15%
Sand : 20%
Gravel : 60-65%



GEOLOGIC LOG OF DRILL HOLE

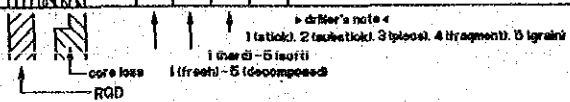
OLUR PROJECT		HOLE No.	DSA-217	(SHEET 3 of 5)	
LOCATION	SPILLWAY (RIGHT BANK)	DEPTH OF HOLE	81.40 m	COMMENCED	91-08-23
ELEVATION	1030.05 m	DIRECTION OF HOLE	90°	COMPLETED	91-10-18
COORDINATE	X: 8515880.84	CORE RECOVERY	%	DRILLED BY	H. Basaran
	Y: 4512055.84	DRILLING MACHINE		LOGGED BY	I. Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt. H)	DEPTH	
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	P _{max}							P _c
990.05	40m			0 → 100%														40m	
	1	Slope Wash		0 → 100%															
	2																		
	3																		
	4																		
	5																		
	6																		
	7																		
	8																		
	9																		
	50																		
	1	Granite Porphyry		0 → 100%															
	2																		
	3																		
	4																		
	5																		
	6																		
	7																		
	8																		
	9																		
	60																		
	1	Granite Porphyry		0 → 100%															
	2																		
	3																		
	4																		
	5																		
	6																		
	7																		
	8																		
	9																		
	60																		

Granite block

Silty, sandy gravel;
Silt-sand : 15-20%
Gravel : 80-85%
Gravels are generally angular and medium and coarse in size.

Granite
Upper levels are completely weathered. The section between 57.0-68.0 is argillitized.

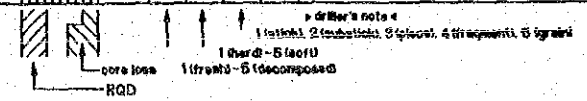


GEOLOGIC LOG OF DRILL HOLE

Page _____

OLUR PROJECT	SPILLWAY (RIGHT BANK)	HOLE No.	DSA-217	(SHEET 4 of 5)	
LOCATION	SPILLWAY (RIGHT BANK)	DEPTH OF HOLE	81.40 m	COMMENCED	91-08-23
ELEVATION	1030.05 m	DIRECTION OF HOLE	90°	COMPLETED	91-10-18
COORDINATE	X:8515880.84	CORE RECOVERY	%	DRILLED BY	H. Basaran
	Y:4512055.84	DRILLING MACHINE		LOGGED BY	I. Vardal

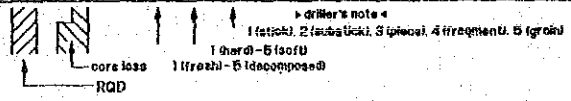
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE				TESTING				DEPTH													
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	P _{max}		P _c	DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt. H)						
970.05	60m			0 → 100%																60m						
	1	Granite Porphyry	+	+	Light Pinkish Grey				3	67.0-81.4m Granite: Light pinkish gray in colour occasionally displays the properties of microgranite (quartzite grains are coarse at the upper levels and fine at the lower levels.)											1					
	2						3	3																	2	
	3						3	1																		3
	4						4	4																		4
	5																									5
	6																									6
	7												3		Thin feather joints											7
	8												3		Generally cracky											8
	9												4													9
	10												3													10
	70							3													70					
	1							3													1					
	2							3		Fractured zone Thin feather joints 3-4mm clay infilling in some joints.											2					
	3							3													3					
	4							5													4					
	5							4													5					
	6							4													6					
	7							3													7					
	8							2		Oblique joint with 2mm clay infilling.											8					
	9							3													9					
860.05	80							2		Thin feather joints; hard, occasionally cracky.											80					



GEOLOGIC LOG OF DRILL HOLE

OLUR PROJECT		HOLE No. DSA-217	(SHEET 5 of 5)
LOCATION	SPILLWAY (RIGHT BANK)	DEPTH OF HOLE	81.40 m COMMENCED 91-08-23
ELEVATION	1030.05 m	DIRECTION OF HOLE	90° COMPLETED 91-10-18
COORDINATE	X: 8515880.84	CORE RECOVERY	% DRILLED BY H. Basaran
	Y: 4512055.84	DRILLING MACHINE	LOGGED BY I. Vardal

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				DEPTH					
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LOGEON	Pmax	Pc		DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN
	80m			0 → 100%															80m
950.05		Gp	+				2	3											
	1		+				1	1											1
918.65			.				3	3											
										End of the Borehole									
	2																		2
	3																		3
	4																		4
	5																		5
	6																		6
	7																		7
	8																		8
	9																		9
	90																		90
	1																		1
	2																		2
	3																		3
	4																		4
	5																		5
	6																		6
	7																		7
	8																		8
	9																		9
930.05	100																		100



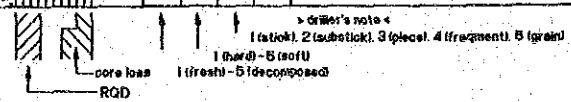
GEOLOGIC LOG OF DRILL HOLE

OLUR PROJECT		HOLE No.	SY-220	(SHEET 1 of 4)	
LOCATION	POWER HOUSE SITE	DEPTH OF HOLE	72.00 m	COMMENCED	91-10-31
ELEVATION	934.69 m	DIRECTION OF HOLE	90°	COMPLETED	91-12-31
COORDINATE	X:4514526.46	CORE RECOVERY	%	DRILLED BY	M.Celik
	Y:506521.48	DRILLING MACHINE		LOGGED BY	

ELEVATION	DEPTH	ROCK NAME	L O G	CORE RECOVERY	OBSERVATION OF CORE					TESTING				BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G. W. L. (Dpt. H)	DEPTH
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax	P.c.						
934.69	0m			0 + 100%								Kgf/cm				%		0m	
	1									0.0-1.5 Top soil								1	
	2									Clay and silt of fine material are washed away. Sand resulting from mechanical grinding is observed in the sediment sample bags containing coarse sand. Less amount of gravel. Gravel : 10% Fine material: 90%							2		
	3																	3	
	4																	4	
	5																	5	
	6																	6	
	7																	7	
	8																	8	
	9																	9	
	10																	10	
	11																		11
	12																	12	
	13																	13	
	14																	14	
	15																	15	
	16																	16	
	17																	17	
	18																	18	
	19																	19	
	20																	20	

Alluvial Deposit

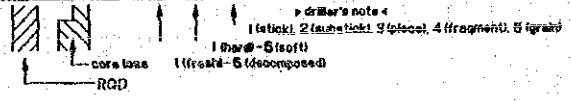
Gravel : 15-20%
Fine material: 80%



GEOLOGIC LOG OF DRILL HOLE

OLUR PROJECT		HOLE No.	SY-220	(SHEET 2 of 4)	
LOCATION	POWER HOUSE SITE	DEPTH OF HOLE	72.00 m	COMMENCED	91-10-31
ELEVATION	934.69 m	DIRECTION OF HOLE	90°	COMPLETED	91-12-31
COORDINATE	X: 4514526.46	CORE RECOVERY	%	DRILLED BY	M.Celik
	Y: 506521.48	DRILLING MACHINE		LOGGED BY	

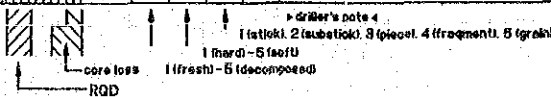
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				DEPTH						
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGFON	P _{max}	P _c		DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt. H)
914.69	20m			0 → 100%																20m
	1		Alluvial Deposit							Gravels subrounded, rounded, rarely angular, average gravel size 4-5cm, maximum gravel size 6cm, gravels are originated from granite, diabase, limestone, dacite; blocks in place with 12-13cm size.										1
	2																			2
	3																			3
	4																			4
	5																			5
	6																			6
	7																			7
	8																			8
	9																			9
	30																			30
	1																			1
	2																			2
	3																			3
	4																			4
	5																			5
	6																			6
	7																			7
	8																			8
	9																			9
894.69	40									Gravel : 10% Fine material : 90%										40



GEOLOGIC LOG OF DRILL HOLE

OLUR PROJECT	POWER HOUSE SITE	HOLE No.	SY-220	(SHEET 3 of 4)	
LOCATION	POWER HOUSE SITE	DEPTH OF HOLE	72.00 m	COMMENCED	91-10-31
ELEVATION	934.69 m	DIRECTION OF HOLE	90°	COMPLETED	91-12-31
COORDINATE	X:4514526.46	CORE RECOVERY	%	DRILLED BY	M.Celik
	Y:506521.48	DRILLING MACHINE		LOGGED BY	

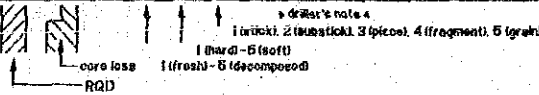
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH		
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax	Pc							DEPTH RESULT	
894.69	40m			0 → 100%															40m		
	1	Alluvial Deposit		0 → 100%						Gravel : 10% Fine material: 90% Fine material chiefly comprises fine and medium sand.											
	2																				
	3																				
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
	50																				
	1																				
	2																				
	3																				
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
874.69	60																			60	



GEOLOGIC LOG OF DRILL HOLE

OLUR PROJECT	POWER HOUSE SITE	HOLE No.	SY-220	(SHEET 4 of 4)	
LOCATION	POWER HOUSE SITE	DEPTH OF HOLE	72.00 m	COMMENCED	91-10-31
ELEVATION	934.69 m	DIRECTION OF HOLE	90°	COMPLETED	91-12-31
COORDINATE	X:4514526.46	CORE RECOVERY	%	DRILLED BY	M.Celik
	Y:506521.48	DRILLING MACHINE		LOGGED BY	

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE						TESTING				DEPTH									
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEO	Pmax	Pc	DEPTH RESULT		BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)				
874.69	60m			0 → 100%																			60m	
	1	Volcanic Breccia	X			4	4			Fractured zone Fractured zone, oxidized Joint surfaces mostly oxidized and rough, some joints with 1-3mm clay infilling.													1	
	2		X			5	5																	2
	3		X			3	3																	3
	4		X			3	4																	4
	5		X			2	2																	5
	6		X			1	3																	6
	7		X			4	2																	7
	8		X			3	3																	8
	9		X			3	1																	9
	70		X			2	2																	70
	1		X			2	1																	1
	2		X			3	3																	2
862.69											End of the Borehole													
	3																							3
	4																							4
	5																						5	
	6																						6	
	7																						7	
	8																						8	
	9																						9	
854.69	80																						80	



GEOLOGIC LOG OF DRILL HOLE

Page _____

AYVALI PROJECT

HOLE No. Ni-101

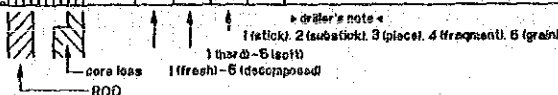
(SHEET 1 of 8)

LOCATION	DAM SITE (RIVER BED)	DEPTH OF HOLE	160.00 m	COMMENCED	82-11-16
ELEVATION	810.54 m	DIRECTION OF HOLE	90°	COMPLETED	83-03-01
COORDINATE	X: 4514563.34	CORE RECOVERY	%	DRILLED BY	J. Teke
	Y: 493503.80	DRILLING MACHINE		LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				DEPTH							
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	P _{max}	P _c		DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt. H)	
810.54	0m			0 → 100%															0m		
	1	Alluvial Deposit		0 → 100%						0.00-60.00 ALLUVIUM : It consists of silty, sandy, blocky gravel; gravels are medium-coarse grained and gray, dark gray, brown, and greenish gray in colour. Maximum block size is 15cm. Gravels and blocks are originated from basalt, rhyolite, diabase, limestone and sandstone. Gravels are rounded and subrounded.										4.50m (Final)	1
	2																				2
	3																				3
	4																				4
	5																				5
	6																				6
	7																				7
	8																				8
	9																				9
	10																				10
	11																			11	
	12																			12	
	13																			13	
	14																			14	
	15																			15	
	16																			16	
	17																			17	
	18																			18	
	19																			19	
790.54	20																			20	

Composition of alluvium by weight is as follows:

- 10-15% Silt-sand
- 60-65% Gravel
- 20% Block



GEOLOGIC LOG OF DRILL HOLE

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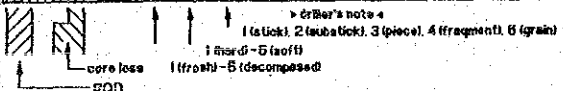
AYVALI PROJECT

HOLE No. NI-101

(SHEET 2 of 8)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	160.00	m	COMMENCED	82-11-16
ELEVATION	810.54	DIRECTION OF HOLE	90°		COMPLETED	83-03-01
COORDINATE	X:4514563.34	CORE RECOVERY	%		DRILLED BY	I. Teke
	Y:493503.80	DRILLING MACHINE			LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L (Dpt. H)	DEPTH			
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LOGEON	Pmax							Pc	DEPTH RESULT	
790.54	20m	Alluvial Deposit		0 → 100%															20m		
	1																				1
	2																				2
	3																				3
	4																				4
	5																				5
	6																				6
	7																				7
	8																				8
	9																				9
	30																				30
	1																				1
	2																				2
	3																				3
	4																				4
	5																				5
	6																				6
	7																				7
	8																				8
	9																				9
770.54	40																		40		



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GEOLOGIC LOG OF DRILL HOLE

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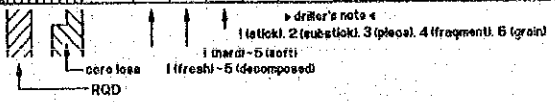
AYVALI PROJECT

HOLE No. NI-101

(SHEET 3 of 8)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	160.00 m	COMMENCED	82-11-16
ELEVATION	810.54 m	DIRECTION OF HOLE	90°	COMPLETED	83-03-01
COORDINATE	X:4514563.34	CORE RECOVERY	%	DRILLED BY	I. Teke
	Y:493503.80	DRILLING MACHINE		LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt.H)	DEPTH	
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax	Pc							DEPTH RESULT
770.54	40m			0 → 100%															40m	
	1	Alluvial Deposit																		
	2																			
	3																			
	4																			
	5																			
	6																			
	7																			
	8																			
	9																			
	50																			
	1																			
	2																			
	3																			
	4																			
	5																			
	6																			
	7																			
	8																			
	9																			
750.54	60																			60



EPDC
ELECTRIC POWER DEVELOPMENT CO., LTD.

GEOLOGIC LOG OF DRILL HOLE

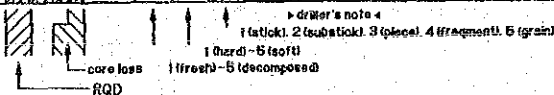
AYVALI PROJECT

HOLE No. NI-101

(SHEET 4 of 8)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	160.00	m	COMMENCED	82-11-16
ELEVATION	810.54	DIRECTION OF HOLE	90°		COMPLETED	83-03-01
COORDINATE	X:4514563.34	CORE RECOVERY	%		DRILLED BY	I. Teke
	Y:493503.80	DRILLING MACHINE			LOGGED BY	Sukru Bay

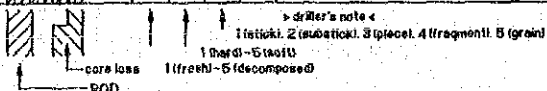
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				DEPTH						
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LOGEON	Pmax	Pc		DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L (Opt. H)
750.54	60m			0 + 100%																60m
	1		△					2		60.4-60.7m C=3										1
	2		△					2												2
	3		△					1												3
	4		△			1		2		63.1-63.3m C=2 Slickensided and polished surfaces, 0.2cm thick pyrite infilling (25dog) 63.3-63.5m C=3										4
	5		△			1	2	3												5
	6		△							Solution cavities and sulphur stains between 66.30-70.00m.										6
	7		△			2		2												7
	8		△					3												8
	9		△					1												9
	70		△					2												70
	1	Volcanic Breccia	△							2mm gypsum on some joint surfaces, pyrite crystals in some joints, sulphur stains on rock cores.										1
	2		△					1												2
	3		△																	3
	4		△					3		73.3-73.5m C=3										4
	5		△					1												5
	6		△					3												6
	7		△				2			Feather joints are greenish yellow in colour due to sulphur infilling.										7
	8		△					1												8
	9		△																	9
730.54	80		△																	80



GEOLOGIC LOG OF DRILL HOLE

AYVALI PROJECT	HOLE No. Ni-101	(SHEET 5 of 8)
LOCATION <u>DAM SITE(RIVER BED)</u>	DEPTH OF HOLE <u>160.00</u> m	COMMENCED <u>82-11-16</u>
ELEVATION <u>810.54</u> m	DIRECTION OF HOLE <u>90°</u>	COMPLETED <u>83-03-01</u>
COORDINATE X: <u>4514563.34</u>	CORE RECOVERY _____ %	DRILLED BY <u>I. Teke</u>
Y: <u>493503.80</u>	DRILLING MACHINE _____	LOGGED BY <u>Sukru Bay</u>

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				DEPTH							
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax	PC		DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt.H)	
730.54	80m			0 → 100%																80m	
	1		X																		1
	2		X																		2
	3		X																		3
	4		X																		4
	5		X																		5
	6		X																		6
	7		X																		7
	8		X																		8
	9		X																		9
	90		X																		90
	1	Volcanic Breccia	X																		1
	2		X																		2
	3		X																		3
	4		X																		4
	5		X																		5
	6		X																		6
	7		X																		7
	8		X																		8
	9		X																		9
	93.6		X																		93.6
	93.6-93.9m		X																		93.6-93.9m
	1		X																		1
	2		X																		2
	3		X																		3
	4		X																		4
	5		X																		5
	6		X																		6
	7		X																		7
	8		X																		8
	97.65		X																		97.65
	97.65-97.85m		X																		97.65-97.85m
	9		X																		9
	98.85		X																		98.85
	98.85-99.25m		X																		98.85-99.25m
	100		X																		100



GEOLOGIC LOG OF DRILL HOLE

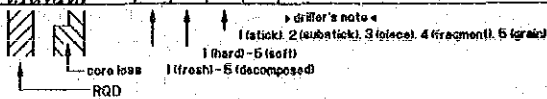
AYVALI PROJECT

HOLE No. N1-101

(SHEET 6 of 8)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	160.00 m	COMMENCED	82-11-16
ELEVATION	810.54 m	DIRECTION OF HOLE	90°	COMPLETED	83-03-01
COORDINATE	X: 4514563.34	CORE RECOVERY	%	DRILLED BY	I. Teke
	Y: 493503.80	DRILLING MACHINE		LOGGED BY	Sukru Bay

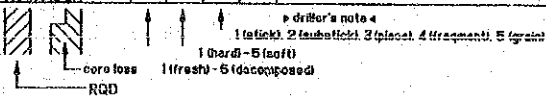
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				DEPTH							
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUCEON	Pmax	Pc		DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt.H)	
710.54	100m			0 → 100%																100m	
	1		△				1	1													1
	2		△				2	3		101.2-101.5m H=2, C=3											2
	3		△				1	1													3
	4		△				2	2, 3													4
	5		△							Mostly sulphur stained, occasionally encountered greenish yellow feather joints; gypsum on oblique joint surfaces.											5
	6		△					1													6
	7		△																		7
	8		△																		8
	9	Volcanic Breccia	△																		9
	110		△				1														110
	1		△					1													1
	2		△																		2
	3		△																		3
	4		△					2													4
	5		△				2	1													5
	6		△					2		0.5cm gypsum infilling in the joints at 115.95m and 116.30m.											6
	7		△																		7
	8		△					1													8
	9		△																		9
690.54	120		△																		120



GEOLOGIC LOG OF DRILL HOLE

AYVALI PROJECT	HOLE No. NI-101	(SHEET 7 of 8)	
LOCATION DAM SITE(RIVER BED)	DEPTH OF HOLE 160.00 m	COMMENCED 82-11-16	
ELEVATION 810.54 m	DIRECTION OF HOLE 90°	COMPLETED 83-03-01	
COORDINATE X:4514563.34	CORE RECOVERY %	DRILLED BY I.Teke	
Y:493503.80	DRILLING MACHINE	LOGGED BY Sukru Bay	

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING					DEPTH																										
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax	Pc	DEPTH RESULT		BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L (Dpt.H)																					
690.54	120m			0 → 100%																120m																					
	1	Volcanic Breccia	X		Greenish Grey					120.5-120.7m C=3	Lu=0.1																														
	2																																								
	3																																								
	4																																								
	5	Rhyolite	L		Pinkish Grey					Sulphur stains become less and are observed occasionally.	Lu=0.2																														
	6																																								
	7	Volcanic Breccia	X		Greenish Grey						Lu=0.2																														
	8																																								
	9																																								
	10	Rhyolite	L		Pinkish Grey						Lu=1																														
	11																																								
	12																																								
	13																																								
	14	Volcanic Breccia	X		Greenish Grey						Lu=0.1																														
	15																																								
	16																																								
	17	Rhyolite	L		Pinkish Grey						Lu=0.1																														
	18																																								
	19																																								
	20	Volcanic Breccia	X		Greenish Grey						Lu=0.2																														
	21																																								
	22																																								
	23	Rhyolite	L		Pinkish Grey						Lu=0.1																														
	24																																								
	25																																								
	26	Volcanic Breccia	X		Greenish Grey						Lu=0.2																														
	27																																								
	28																																								
	29	Rhyolite	L		Pinkish Grey						Lu=0.1																														
	30																																								
	31																																								
	32	Volcanic Breccia	X		Greenish Grey						Lu=0.1																														
	33																																								
	34																																								
	35	Rhyolite	L		Pinkish Grey						Lu=0.2																														
	36																																								
	37																																								
	38	Volcanic Breccia	X		Greenish Grey						Lu=0.1																														
	39																																								
	40																																								



GEOLOGIC LOG OF DRILL HOLE

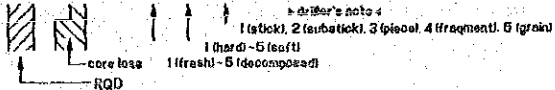
AYVALI PROJECT

HOLE No. Ni-101

(SHEET 8 of 8)

LOCATION	DAM SITE (RIVER BED)	DEPTH OF HOLE	160.00 m	COMMENCED	82-11-16
ELEVATION	810.54 m	DIRECTION OF HOLE	90°	COMPLETED	83-03-01
COORDINATE	X: 4514563.34	CORE RECOVERY	%	DRILLED BY	I. Teke
	Y: 493503.80	DRILLING MACHINE		LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING					DEPTH																
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LU	Pmax	Pc	DEPTH RESULT		BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L (Opt.H)											
670.54	140m			0 → 100%																		140m									
	1	Volcanic Breccia	X	[Hatched Pattern]	Greenish Grey	1	2	1	2	Two parallel fractures with 1-2mm gypsum infilling and slicken-sided surfaces.	Lu=0.7											1									
	2										Lu=0.4																			2	
	3										Lu=0.4																				3
	4										Lu=0.4																				4
	5										Lu=0.4																				5
	6										Lu=0.9																				6
	7										Lu=0																				7
	8										Lu=0																				8
	9										Lu=0																				9
	10										Lu=0																				10
	1	Rhyolite	L	[Hatched Pattern]	Pinkish Grey	1	2	3	1	Frequent feather joints with gypsum infilling	Lu=0												1								
	2										Lu=0																			2	
	3										Lu=0																				3
	4	vb	X	[Hatched Pattern]	Greenish Grey	1	1	1	1	Frequent feather joints with gypsum infilling	Lu=0.1												4								
	5										Lu=0.2																				5
	6	Rhyolite	L	[Hatched Pattern]	Pinkish Grey	1	1	1	1	Frequent feather joints with gypsum infilling	Lu=0.2												6								
	7										Lu=0.3																				7
	8	vb	X	[Hatched Pattern]	Greenish Grey	1	2	1	2	Fractured zone, occasionally 0.5cm gypsum on fragment surfaces.	Lu=0.3												8								
	9										Lu=0.3																				9
650.54	160									End of the Borehole													160								



GEOLOGIC LOG OF DRILL HOLE

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AVVALI PROJECT		HOLE No. NIA-108	(SHEET 1 of 4)
LOCATION <u>DAM SITE (RIVER BED)</u>	DEPTH OF HOLE <u>70.00</u> m	COMMENCED <u>91-09-03</u>	
ELEVATION <u>811.52</u> m	DIRECTION OF HOLE <u>90°</u>	COMPLETED <u>91-11-08</u>	
COORDINATE <u>X:4514625.01</u>	CORE RECOVERY _____ %	DRILLED BY <u>I. Teke</u>	
<u>Y:493746.77</u>	DRILLING MACHINE _____	LOGGED BY <u>Sukru Day</u>	

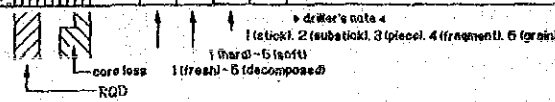
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE						TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L (Opt.H)	DEPTH	
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUCEON	P _{max}	P _c							DEPTH RESULT
811.52	0m			0 → 100%															0m	
	1									Gravelly silt									1	
	2																		2	
	3									0.00-43.40m ALLUVIUM: Silty, sandy, blocky gravel; most of the silt has been washed away by drilling water; gravels are medium and coarse; maximum block size is 17cm. Gravels and blocks are dark grey, grey, brown and greenish in colour and originated from basalt, rhyolite, diabase, limestone, and granite.										3
	4																		4	
	5																		5	
	6																		6	
	7																		7	
	8																		8	
	9																		9	
	10																		10	
	11																		11	
	12																		12	
	13																		13	
	14																		14	
	15																		15	
	16																		16	
	17																		17	
	18																		18	
	19																		19	
791.52	20																		20	

Alluvial Deposit

ø 88mm

3.10m
(Final)

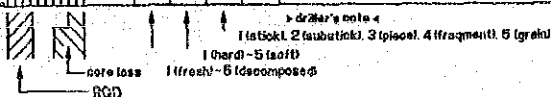
Silt 5%
Sand 20%
Gravel 50%
Block 25%



GEOLOGIC LOG OF DRILL HOLE

AYVALI PROJECT		HOLE No. NIA-108	(SHEET 2 of 4)
LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	70.00 m COMMENCED 91-09-03
ELEVATION	811.52 m	DIRECTION OF HOLE	90° COMPLETED 91-11-08
COORDINATE	X:4514625.01	CORE RECOVERY	% DRILLED BY I.Teke
	Y:493746.77	DRILLING MACHINE	LOGGED BY Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE						TESTING				DEPTH				
					COLOR	WEATHER-ING	HARD-NESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	P _{max}	P _c	DEPTH RESULT		BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN
791.52	20m			0 + 100%									Kg/cm ²					20m	
	1	Alluvial Deposit	1															1	
	2		2																2
	3		3																3
	4		4																4
	5		5																5
	6		6																6
	7		7																7
	8		8																8
	9		9																9
	30																		30
	1		1															1	
	2		2															2	
	3		3															3	
	4		4															4	
	5		5															5	
	6		6															6	
	7		7															7	
	8		8															8	
	9		9															9	
771.52	40		10															40	



GEOLOGIC LOG OF DRILL HOLE

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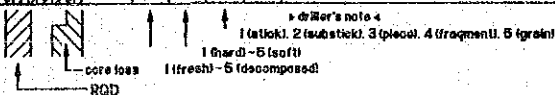
AYVALI PROJECT

HOLE No. NIA-108

(SHEET 3 of 4)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	70.00	m	COMMENCED	91-09-03
ELEVATION	811.52	DIRECTION OF HOLE	90°		COMPLETED	91-11-08
COORDINATE	X:4514625.01	CORE RECOVERY		%	DRILLED BY	I.Teke
	Y:493746.77	DRILLING MACHINE			LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt.H)	DEPTH				
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax	Pc							DEPTH RESULT			
771.52	40m			0 → 100%															40m				
	1	Alluvial Deposit																					
	2																						
	3																						
	4	Volcanic Breccia				Greenish Grey																	
	5																			3	2	3	Many brown feather joints; joint surfaces are oxidized.
	6																			4	4	4	
	7																						2
	8																			1	2	Generally no weathering; gypsum infillings in some joints; sulphur stains on core surfaces.	
	9																						2
	50																			1	3		
	1																						1
	2																			1	1		
	3																						1
	4	1	1																				
	5				1	1																	
	6	1	1																				
	7				1	1																	
	8	1	1																				
	9				1	1																	
751.52	60																					60	

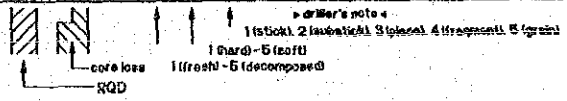


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GEOLOGIC LOG OF DRILL HOLE

AYVALI PROJECT	HOLE No. NIA-108	(SHEET 4 of 4)
LOCATION <u>DAM SITE(RIVER BED)</u>	DEPTH OF HOLE <u>70.00</u> m	COMMENCED <u>91-09-03</u>
ELEVATION <u>811.52</u> m	DIRECTION OF HOLE <u>90°</u>	COMPLETED <u>91-11-08</u>
COORDINATE <u>X:4514625.01</u>	CORE RECOVERY _____ %	DRILLED BY <u>I.Teke</u>
<u>Y:493746.77</u>	DRILLING MACHINE _____	LOGGED BY <u>Sukru Bay</u>

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				DEPTH												
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	P _{max}	P _c		DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt. H)						
751.52	60m			0 → 100%																60m						
	1	Volcanic Breccia	X	[Hatched Pattern]	Greenish Grey					62.90m 3cm thick oblique gypsum infilling				ø66mm						1						
	2					1	1	1							2	2	3								2	
	3																									3
	4																									4
	5																									5
	6																									6
	7																									7
	8																									8
	9																									9
741.52	70																									70
	1																			1						
	2																			2						
	3																			3						
	4																			4						
	5																			5						
	6																			6						
	7																			7						
	8																			8						
	9																			9						
731.52	80																			80						

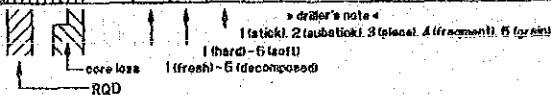


GEOLOGIC LOG OF DRILL HOLE

Page _____

AYVALI PROJECT	HOLE No. NI-109	(SHEET 1 of 4)
LOCATION DAM SITE (RIVER BED)	DEPTH OF HOLE 70.00 m	COMMENCED 91-06-04
ELEVATION 810.58 m	DIRECTION OF HOLE 90°	COMPLETED 91-08-02
COORDINATE X:4514539.28	CORE RECOVERY %	DRILLED BY I. Teke
Y:493558.85	DRILLING MACHINE	LOGGED BY Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt. H)	DEPTH				
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax							Pc	DEPTH RESULT		
810.58	0m			0 → 100%								Kgf/cm ²				%		0m				
	1	Alluvial Deposit		0 → 100%						0-20m, mainly Ø2-5cm gravel and Ø10-20cm boulders.								1				
	2																			2.60m (Final)	2	
	3																				3	
	4												4.50-4.95m mainly 5mm coarse sand.								4	
	5																				5	
	6												6.00-6.45m mainly 2-5mm coarse sand.								6	
	7																				7	
	8												7.50-7.95m mainly 5mm coarse sand.								8	
	9																				9	
	10												9.00-9.45m mainly 5mm coarse sand.								1.75m (9.45m)	10
	11																				11	
	12												10.50-10.95m mainly 5mm coarse sand.								1.90m (12.00m)	12
	13																				13	
	14												13.50-13.95m mainly 5mm coarse sand.								14	
	15																				15	
	16												15.00-15.45m 5mm coarse sand and 2-3cm gravel.								16	
	17																				17	
	18												16.50-16.95m 3-5mm coarse sand.								2.00m (16.50m)	18
	19																				19	
	20												18.00-18.45m 1-5mm sand.								18.00m N=32	20
790.58	20									19.50-19.95m 1-5mm sand.								19.50m N=33	20			



GEOLOGIC LOG OF DRILL HOLE

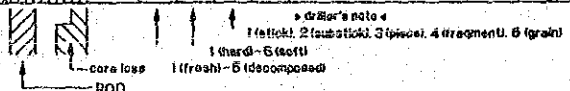
AYVALI PROJECT

ROLE No. NI-109

(SHEET 2 of 4)

LOCATION	DAM SITE (RIVER BED)	DEPTH OF HOLE	70.00 m	COMMENCED	91-06-04
ELEVATION	810.58 m	DIRECTION OF HOLE	90°	COMPLETED	91-08-02
COORDINATE	X:4514539.28	CORE RECOVERY	%	DRILLED BY	I.Teke
	Y:493558.85	DRILLING MACHINE		LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	L.O.G.	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH																					
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LOGEON	Pmax							Pc	DEPTH RESULT																			
790.68	20m			0 → 100%														20m																					
	1	Alluvial Deposit		0 → 100%														21.00-21.45m mainly silt to fine sand.	21.00m N=25				1																
	2																	22.50-22.95m 1-5mm sand.	22.50m N=17															2					
	3																																					3	
	4																																						4
	5																																						5
	6																																						6
	7																																						7
	8																																						8
	9																																						9
	30																																						30
	1																						1																
	2																						2																
	3																						3																
	4																						4																
	5																						5																
	6																						6																
	7																						7																
	8																						8																
	9																						9																
	40																						40																



GEOLOGIC LOG OF DRILL HOLE

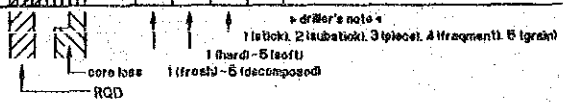
AYVALI PROJECT

HOLE No. NI-109

(SHEET 3 of 4)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	70.00	m	COMMENCED	91-06-04
ELEVATION	810.58	DIRECTION OF HOLE	90°		COMPLETED	91-08-02
COORDINATE	X:4514539.28	CORE RECOVERY		%	DRILLED BY	I. Teke
	Y:493558.85	DRILLING MACHINE			LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH		
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LOGEON	Pmax							Pc	DEPTH RESULT
770.58	40m			0 → 100%														40m		
	1	Alluvial Deposit	[Pattern]	[Pattern]														2.35m (40.5m)	1	
	2																	42.60-42.45m 1-5mm sand.	42.00m N=30	2
	3																	43.50-43.95m mainly 5mm coarse sand	43.50m N=26	3
	4																	Note: 40.0-46.5m mainly coarse sand, some gravels φ5-10cm.		4
	5																			5
	6																	End of river deposit 46.50m		6
	7	Dark Grey	[Pattern]	[Pattern]														2.50m (46.50m)	7	
	8																	Wethered zone at the top of basement rock.		8
	9																	Good rock but cracks brn. chloritization at pumices and remarkable pyrite.		9
	50	Dark Grey to Black	[Pattern]	[Pattern]														2.55m (50.00m)	50	
	1																	Good cores some cracks at 53.00m, 53.80m, and 54.50-55.00m brn, but others fresh or gray color, chloritization at pumices and remarkable pyrite.		1
	2																			2
	3																			3
	4																			4
	5																			5
	6	Dark Grey to Black	[Pattern]	[Pattern]														3.40m (56.00m)	6	
	7																			7
	8																			8
	9																			9
750.58	60																	60		



GEOLOGIC LOG OF DRILL HOLE

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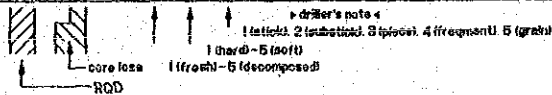
AYVALI PROJECT

HOLE No. NI-109

(SHEET 4 of 4)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	70.00	m	COMMENCED	91-06-04
ELEVATION	810.58	DIRECTION OF HOLE	90'		COMPLETED	91-08-02
COORDINATE	X: 4514539.28	CORE RECOVERY		%	DRILLED BY	I. Teke
	Y: 493558.85	DRILLING MACHINE			LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LOGEON	Pmax						
750.58	60m			0 → 100%														60m
	1		X							58.40-59.80m Vertical Joint								1
	2		X														2.65m (62.00m)	2
	3		X															3
	4	Volcanic Breccia	X															4
	5		X				2	2	1									5
	6		X															6
	7		X															7
	8		X														2.65m (67.30m)	8
	9		X															9
	10		X															10
740.58	70									End of the Borehole								70
	1																	1
	2																	2
	3																	3
	4																	4
	5																	5
	6																	6
	7																	7
	8																	8
	9																	9
730.58	80																	80



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GEOLOGIC LOG OF DRILL HOLE

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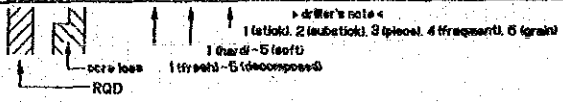
AYVALI PROJECT

HOLE No. SG-102

(SHEET 1 of 10)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	200.00	m	COMMENCED	83-03-21
ELEVATION	928.37	DIRECTION OF HOLE	90°		COMPLETED	83-07-06
COORDINATE	X:4514751.26	CORE RECOVERY		%	DRILLED BY	I.Teke
	Y:493540.00	DRILLING MACHINE			LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt.H)	DEPTH							
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	P _{max}	P _c							DEPTH RESULT						
928.37	0m			0 → 100%															0m							
	1	Volcanic Breccia	X		Greenish Grey	3				Joint surfaces are highly oxidized between 0.50-36.20m.																
	2																									
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9	Rhyolite	L		Greenish Grey	3				Oblique joint at 17.40m with 0.5cm clay infillings																
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
	16																									
	17																									
	18																									
	19																									
908.37	20																								0.00m	20



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GEOLOGIC LOG OF DRILL HOLE

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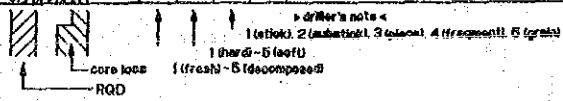
AVVALI PROJECT

HOLE No. SG-102

(SHEET 2 of 10)

LOCATION	DAM SITE (RIVER BED)	DEPTH OF HOLE	200.00 m	COMMENCED	83-03-21
ELEVATION	928.37 m	DIRECTION OF HOLE	90°	COMPLETED	83-07-06
COORDINATE	X: 4514751.26	CORE RECOVERY	%	DRILLED BY	J. Teke
	Y: 493540.00	DRILLING MACHINE		LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUCEON	Pmax	Pc						
908.37	20m			6 → 100%															20m
	1	Volcanic Breccia	X	100%	Greenish Grey	3	2	2	2			Lu=37	10						
	2											Lu=36	10						
	3											Lu=39	10						
	4											Lu=39	10						
	5											Lu=39	10						
	6											Lu=36	10						
	7	Rhyolite	L	100%	Greenish Grey	3	2	2	2	Occasional feather joints between 26.00-34.00m.		Lu=56	6						
	8											Lu=57	6						
	9											Lu=57	6						
	30											Lu=33	10						
	1											Lu=37	10						
	2											Lu=12	10						
	3	Volcanic Breccia	X	100%	Greenish Grey	3	2	2	2			Lu=2.1	10						
	4											Lu=12	10						
	5											Lu=12	10						
	6											Lu=12	10						
	7											Lu=2.1	10						
	8											Lu=0.5	10						
888.37	40																		



GEOLOGIC LOG OF DRILL HOLE

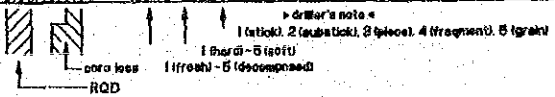
AYVALI PROJECT

HOLE No. SG-102

(SHEET 3 of 10)

LOCATION	DAM SITE (RIVER BED)	DEPTH OF HOLE	200.00 m	COMMENCED	83-03-21
ELEVATION	928.37 m	DIRECTION OF HOLE	90°	COMPLETED	83-07-06
COORDINATE	X:4514751.26	CORE RECOVERY	%	DRILLED BY	I. Teke
	Y:493540.00	DRILLING MACHINE		LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE				DESCRIPTION	TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G. W. L. (Dpt. H)	DEPTH	
					COLOR	WEATHERING	HARDNESS	CRACK SPACING		ROCK EVALUATION	LUBED	Pmax							Pc
888.37	40m	Vb	X	0 → 100%														40m	
	1	Rhyolite	X		Fract.	3	2	2										1	
	2			L		Greenish Grey													2
	3			L			3	1	1										3
	4			L				2	2										4
	5	Volcanic Breccia	X															5	
	6			X				1	1									6	
	7			X				1	1									7	
	8			X			3	2	2									8	
	9		X				4	4	Fractured, oxidized, highly weathered zone.									9	
	50	Rhyolite	X		Greenish Grey		1	1										50	
	1			X				1	1									1	
	2			X				2	2									2	
	3			X			2	1	1									3	
	4		X			1	1	1										4	
	5		X			3	2	2										5	
	6	Rhyolite	L		Greenish Grey		2	2										6	
	7			L			2			Feather joints, joint surfaces oxidized and brown in colour								7	
	8			L			1	2	2									8	
	9			L			3											9	
868.37	60		L				3	3	Fractured zone									60	



GEOLOGIC LOG OF DRILL HOLE

AYVALI PROJECT

HOLE No. SG-102

(SHEET 4 of 10)

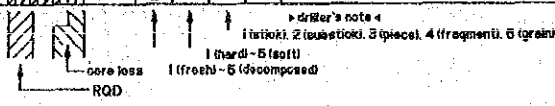
LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	200.00	m	COMMENCED	83-03-21
ELEVATION	928.37	DIRECTION OF HOLE	90°		COMPLETED	83-07-06
COORDINATE	X:4514751.26	CORE RECOVERY	%		DRILLED BY	I. Teke
	Y:493540.00	DRILLING MACHINE			LOGGED BY	Sokru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dp&H)	DEPTH																	
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUCEON	Pmax							Pc	DEPTH RESULT															
868.37	60m			0 → 100%														60m																	
	1	Volcanic Breccia	X		Greenish Grey	2	2	3	1	Lu=2.4	10	10	10	10	10	10	10	10																	
	2																																		
	3																																		
	4																																		
	5																																		
	6																																		
	7																																		
	8																																		
	9																																		
	70																																		
	1																																		
	2																																		
	3																																		
	4																																		
	5																																		
	6																																		
	7																																		
	8																																		
	9																																		
	80	Vb																																	

Fracture between 68.95m and 69.10m with slickensided surfaces and clay and gypsum infilling

Vertical joint between 75.65-77.70m with oxidized and brown surfaces

69.20m (78.00m)



GEOLOGIC LOG OF DRILL HOLE

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AYVALI PROJECT

HOLE No. SG-102

(SHEET 5 of 10)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	200.00	m	COMMENCED	83-03-21
ELEVATION	928.37	DIRECTION OF HOLE	90°		COMPLETED	83-07-06
COORDINATE	X:4514751.26	CORE RECOVERY		%	DRILLED BY	I. Teke
	Y:493540.00	DRILLING MACHINE			LOGGED BY	Sukru Bay

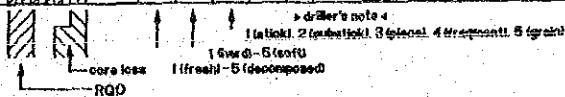
ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE				TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON						
848.37	80m			0 → 100%													80m
	1		△					3									1
	2		△					2									2
	3		△					1									3
	4		△					3									4
	5		△					3									5
	6		△					2									6
	7		△					3									7
	8		△					5									8
	9		△					1									9
	90		△					1									90
	1	Volcanic Breccia	△					3									1
	2		△					2									2
	3		△					2									3
	4		△					2									4
	5		△					3									5
	6		△					3									6
	7		△					1									7
	8		△					2									8
	9		△					2									9
828.37	100		△					2									100

Fault zone between 84.60-85.85m with gouge and clay infilling.

Joint surfaces are occasionally oxidized and brown in colour.

Fractured zone

No oxidation after the depth of 96.40m.



GEOLOGIC LOG OF DRILL HOLE

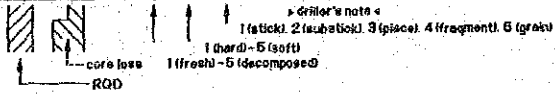
AYVALI PROJECT

HOLE No. SG-102

(SHEET 6 of 10)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	200.00	m	COMMENCED	83-03-21
ELEVATION	928.37	DIRECTION OF HOLE	90°		COMPLETED	83-07-06
COORDINATE	X:4514751.26	CORE RECOVERY	%		DRILLED BY	I. Teke
	Y:493540.00	DRILLING MACHINE			LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING				DEPTH																													
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	P _{max}	P _c		DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt. H)																							
828.37	100m			0 → 100%																100m																							
	1	Volcanic Breccia	X	[Hatched]	Greenish Grey	2	5	2	3			Lu=5	10																														
	2																																										
	3																																										
	4																																										
	5	Rhyolite	L	[Vertical Lines]	Greenish Grey	1	2	3	3			Lu=6	10																														
	6																																										
	7																																										
	8																																										
	9																																										
	10																																										
	11																																										
	12																																										
	13																																										
	14																																										
	15																																										
	16																																										
	17																																										
	18																																										
	19																																										
	20																																										



GEOLOGIC LOG OF DRILL HOLE

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AYVALI PROJECT

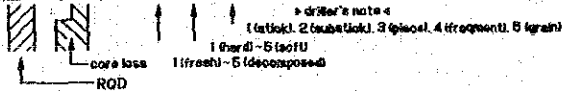
HOLE No. SG-102

(SHEET 7 of 10)

LOCATION	DAM SITE (RIVER BED)	DEPTH OF HOLE	200.00 m	COMMENCED	83-03-21
ELEVATION	928.37 m	DIRECTION OF HOLE	90°	COMPLETED	83-07-06
COORDINATE	X:4514751.26	CORE RECOVERY	%	DRILLED BY	I. Teke
	Y:493540.00	DRILLING MACHINE		LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			DEPTH RESULT	BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt. H)	DEPTH
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUGEON	Pmax							
808.37	120m			0 → 100%															120m
	1																		1
	2																		2
	3																		3
	4																	116.00m (124.00m)	4
	5																		5
	6																		6
	7																		7
	8																	65.50m (128.00m)	8
	9																		9
130		Rhyolite																	130
	1																		1
	2																		2
	3																		3
	4																		4
	5																		5
	6																		6
	7																		7
	8																		8
	9																		9
788.37	140																		140

Sulphur stains and gypsum on joint surfaces between 134.00-142.50m.



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GEOLOGIC LOG OF DRILL HOLE

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AYVALI PROJECT

HOLE No. SG-102

(SHEET 8 of 10)

LOCATION	DAM SITE (RIVER BED)	DEPTH OF HOLE	200.00	m	COMMENCED	83-03-21
ELEVATION	928.37	DIRECTION OF HOLE	90°		COMPLETED	83-07-06
COORDINATE	X:4514751.26	CORE RECOVERY		%	DRILLED BY	I. Teke
	Y:493540.00	DRILLING MACHINE			LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					DESCRIPTION	TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L (Opt.H)	DEPTH
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION		LUGEON	Pmax	PC						
788.37	140m			0 → 100%															140m
	1																		1
	2																		2
	3																		3
	4																		4
	5																		5
	6																		6
	7																		7
	8																		8
	9																		9
150	150	Rhyolite																	150
	1																		1
	2																		2
	3																		3
	4																		4
	5																		5
	6																		6
	7																		7
	8																		8
	9																		9
	150																		150
	1																		1
	2																		2
	3																		3
	4																		4
	5																		5
	6																		6
	7																		7
	8																		8
	9																		9
768.37	180																		180

* driller's note
 1 (solid), 2 (subsolid), 3 (block), 4 (fragment), 5 (grain)
 1 (hard) - 5 (soft)
 1 (fresh) - 5 (decomposed)

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GEOLOGIC LOG OF DRILL HOLE

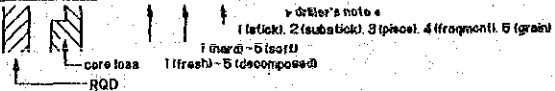
AYVALI PROJECT

HOLE No. SG-102

(SHEET 9 of 10)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	200.00 m	COMMENCED	83-03-21
ELEVATION	928.37 m	DIRECTION OF HOLE	90°	COMPLETED	83-07-06
COORDINATE	X:4514751.26	CORE RECOVERY	%	DRILLED BY	I. Teke
	Y:493540.00	DRILLING MACHINE		LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Dpt. H)	DEPTH																
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUCEON	P _{max}							P _c	DEPTH RESULT	%													
768.37	160m			0 → 100%														160m																
	1	Rhyolite	[Hatched Pattern]		Greenish Grey	1		1	1		Lu=0	10						46.00m (162.00m)																
	2																																	
	3																																	
	4																																	
	5																																	
	6																																	
	7																																	
	8	Volcanic Breccia	[X Pattern]		Greenish Grey	1	2	2			Lu=0	10						46.00m (163.00m)																
	9																																	
	170																																	170
	1	Rhyolite	[Hatched Pattern]		Greenish Grey	3	3	3	3	Fractured zone: joint surfaces are weathered.	Lu=0	10						46.00m (171.00m)																
	2																																	
	3																																	
	4																																	
	5																																	
	6																																	
	7																																	
	8																																	
	9																																	
746.37	180																	57.00m (180.00m)																



GEOLOGIC LOG OF DRILL HOLE

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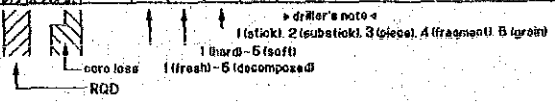
AYVALI PROJECT

HOLE No. SG-102

(SHEET 10 of 10)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	200.00	m	COMMENCED	83-03-21
ELEVATION	928.37	DIRECTION OF HOLE	90°		COMPLETED	83-07-06
COORDINATE	X: 4514751.26	CORE RECOVERY	%		DRILLED BY	I. Teke
	Y: 493540.00	DRILLING MACHINE			LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					DESCRIPTION	TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt. H)	DEPTH
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION		LUCEON	Pmax	Pc						
748.37	180m			0 → 100%						Fractured zone: 2-3mm gypsum and clay on joint surfaces	Lu=0	10							180m
	1					3	3	3			Lu=0	10							1
	2							1	2		Lu=0	10						57.00m (182.00m)	2
	3					1	1			Feather joints	Lu=0	10							3
	4							2	1		Lu=0	10						97.00m (184.00m)	4
	5							2	2		Lu=0	10							5
	6					2	1	3	3		Lu=0	10						105.00m (186.00m)	6
	7									Sound rock and sulphur stains between 186.10-200m.	Lu=0	10							7
	8								2		Lu=0	10						110.00m (188.00m)	8
	9							2	1		Lu=0	10							9
	190	Rhyolite							3		Lu=0	10						100.00m (190.00m)	190
	1										Lu=0	10							1
	2										Lu=0	10						112.00m (192.00m)	2
	3										Lu=0	10							3
	4								1		Lu=0	10						113.00m (194.00m)	4
	5										Lu=0	10							5
	6								1		Lu=0	10						113.00m (196.00m)	6
	7										Lu=0	10							7
	8								1		Lu=0	10							8
	9								2		Lu=0	10							9
728.37	200									End of the Borehole									200



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GEOLOGIC LOG OF DRILL HOLE

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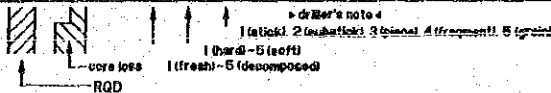
AVVALI PROJECT

HOLE No. SG-105

(SHEET 1 of 7)

LOCATION	DAM SITE(RIVER BED)	DEPTH OF HOLE	125.00	m	COMMENCED	83-10-01
ELEVATION	868.2	DIRECTION OF HOLE	90°		COMPLETED	83-11-30
COORDINATE	X:4514706.14	CORE RECOVERY		%	DRILLED BY	I.Teke
	Y:493597.07	DRILLING MACHINE			LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					DESCRIPTION	TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G.W.L. (Opt.H)	DEPTH
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION		LUGEDON	Pmax	PC						
868.20	0m			0 → 100%															0m
	1					4	3	4											1
	2					3	3	1											2
	3																		3
	4																		4
	5					3	2	1											5
	6					1		3											6
	7					2													7
	8					3	3	3											8
	9					1	1	1											9
	10					4	4	4											10
	11					2	2	2										4.30m (10.00m)	11
	12					1	1	1											12
	13					3	3	3											13
	14																		14
	15					2													15
	16																		16
	17					1	2	2											17
	18					3		3											18
	19																		19
848.20	20																		20



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GEOLOGIC LOG OF DRILL HOLE

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AYVALI PROJECT

HOLE No. SG-105

(SHEET 2 of 7)

LOCATION	DAM SITE (RIVER BED)	DEPTH OF HOLE	125.00 m	COMMENCED	83-10-01
ELEVATION	868.2 m	DIRECTION OF HOLE	90°	COMPLETED	83-11-30
COORDINATE	X:4514706.14	CORE RECOVERY	%	DRILLED BY	I. Teke
	Y:493597.07	DRILLING MACHINE		LOGGED BY	Sukru Bay

ELEVATION	DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE				TESTING			BIT TYPE	CASING	CEMENTATION	DRILL WATER RETURN	G. W. L. (Opt. H)	DEPTH
					COLOR	WEATHERING	HARDNESS	CRACK SPACING	ROCK EVALUATION	DESCRIPTION	LUCEON						
848.20	20m			0 → 100%													20m
	1							1		Lu=3.6	10						1
	2						2	2									2
	3							1		Lu<1	10						3
	4							2								9.00m (24.00m)	4
	5							3		Lu=19.1	10						5
	6						2	4								15.25m (26.00m)	6
	7						2	2		Lu=17.4	10						7
	8							2		Lu=2.6	10						8
	9							2									9
	30	Rhyolite						1									30
	1							2		Lu=3	10					17.00m (30.75m)	1
	2							3									2
	3							3		Lu=1.3	10						3
	4							3								30.00m (34.00m)	4
	5							4		Lu=1.8	10						5
	6							3									6
	7							1		Lu=1.2	10						7
	8							2								31.25m (38.00m)	8
828.20	40							2		Lu<1	10						40

