BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-4

COORDINATES; 3040889.416 N, 602335.992 E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY START DATE: 10/04/2002
COLLAR ELEVATION:562.083m
ELEVATION HOLE END:512.083 m
LOCATION: YANGRANG KHOLA
INCLINATION: VERTIC Results

										e Re				-111			esuits
									ROI					Ш	Ш	LU	kg/cm2
E (1)	Barrel Size	Core Log	Description	Water Level m.	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	90	80	100	Permeability	Laboratory
66	mm	,)	W1, strong hard, greenish to dard grey fine grain,	1	FeS		ir	10	100	0				=			
31.00		A COLUMN TO THE PROPERTY OF TH	laminated, highly jointed and fragmented phyllitic dolornite and phyllite with quartz vein. W1, medium to strong hard, dark to light grey, fine grain, laminated fragmented phyllite with quartz vein.			30° 50°	ìr	8	100	0							
3.00		the section of the se	W1, strong hard, light grey, fine grain laminated, moderately jointed and fragmented phyllite and dolomite with Quartz vein.	10		30 ^u 50 ^u	ir	11	100	33							
.00			W!-W2, strong hard, light grey, fine grain, moderately jointed and fragmented dolomite.			20° 50°	ir	10	100	16							
50		; ;	WI-W2, strong hard, light grey, fine grain, moderately jointed and fragmented dolomite with Quartz vein. Core loss: 34.78 to 35.00 m			30° 60°	ir	7	78	0						:	
			Total core loss soft and laminated phyllite crushed during drilling . Sludge as fine grain, dark grey. Core loss : 35.00 to 36.00 m			0	0	0		Ī							
5		and the public because the stage of the	W1, medium to strong hard, dark grey, fine grain, laminated phyllite Core loss : 36.00 to 36.65 m			60°	ir	6	47	0							
0	the second secon		W1-W3, medium to strong hard, dark grey, fine grain, laminated phyllite with Quartz vein. Core loss : 37.46 to 37.80 m			30° 50°	ir	6	66	0							
10	The state of the s		W1-W3, medium to strong hard, light to dark grey, line grain, laminated and moderately jointed phyllitic dolomite with pyrite MB: 38.17 m		;	20° 50°	ir	8	100	30							
× ×			W1, strong hard, light grey, fine grain, highliy jointed and fragmented dolomite. Soft rock crush during drill. Core loss: 39.00 to 39.47 m	1		50°	ir	5	53	0							
BREVIAT	ION re	ough-	r, smooth-s, slickensided-sl, un-undulating, pl-planar, clay	cl, sand-	sa, n	nica-r	ni, cr	ushed	l=cr, ire	on sta	iπ≖F	еO			٠		
Fracture	d, CL	- Core	reakage, W1=Fresh, W2=slightly Weathered, W3=Moderate	y Weathe	red, \	/√4=H	iighly	Weat	her e d.	, W5=	Deco	qmo	osec	i.			
lled by: MA	N Bd	r, MA	3AR									_					

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-4

COORDINATES; 3040889.416 N, 602335.992 E DRILLING MACHINE: KOKEN

DRILLING METHOD: ROTARY

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								HQI	re R	ecc	ver	У	易		LU LU	esults
ize	5	B	w jays		Ę	SS	F		7.0				"			kg/cm
Barrel Size	aro'		Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	09	80	100	Permeability	Laboratory
66mm		W1, strong khard, light kto dark grey, fine grain, laminated, jighly jointed and fragmented phyllitic dolomite	10.24		30° 50°	ir	10	100	0							
		W1, strong hard, light to dark grey, fine grain, moderately jointed dolomite. Core loss: 41.00 to 41.41 m	10.24		30° 60°	ir	8	59	10							
		W1, strong hard, light to dark grey, fine grain, lighly jointed and fragmented dolomite. Sludge of light grey, fine grain sand and found. Core loss: 42.38 to 43.00 m			10 ^u 40 ^u	ir	4	38	0				3			
	common and all control and control property of the	W1, strong hard, light to dark grey, fine grain, dolomite. Sludge of light grey, fine grain sand. Core loss : 43.00 to 43.93 m	:		20° 50°	ir	3	7	0							
	***	W1, strong hard, light grey, fine grain, highly jointed and fragmented dolomite. W1, strong hard, sight grey, fine grain, thin bedded, highly jointed and fragmented dolomite.	9.7		20° 50° 20° 40°	ir ir	12	100 100	0							
		W1, strong hard, light grey to greenish fine grain, highly jointed and fragmented dolomite. Sludge of light grey, fine grain sand. Core loss: 45.00 to 45.88 m			10° 50°	ir	5	12	0							
		Total core loss. Soft rock are crushed and sludge as greenish grey, fine grain sand are found Core loss: 46.00 to 47.00 m			-	-	-	٥	0			,				
		W1-W2, medium to strong hard, light and dark grey to greenish, fine grain, laminated phyllite with Quartz vein. Sludge of dard to greenish grey sand. Core loss: 47.00 to 47.60 m	10.1		20 ⁰ 40°	ir	5	40	0							
		W1-W2, medium hard, dark grey to jointed phyllite. Sludge of greenish grey, fine grain sand are found. Core loss: 48.00 to 48.46 m	10.1		20 ^u 50 ^v	ir	6	54	0							
]		W1-W2, medium hard, dark to greenish grey, fine grain, laminated, jointed and fragmented phyllite with Quartz vein.		- (:	20" 30" 50"	ir	6	100	٥			⊒ ⊥				

EAST DRILLING COMPANY (P) LTD. BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-5

COORDINATES: 3040890.036 N, 602325.161 E DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

	T	I I					· · ·	INC	LINA	ATI(ON:	VER	TICA		
1			ľ					ROD		ecc	ver		Ш	_	esults
Barrel Size	Core Log	Description	Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	AQD%	20	40	00 00		Permeability E	Laboratory kg/cm2
.00 NX	Xo. o	Initially alluvium of coarse grain sand and cobble, pebble and boulder size, W1-W2, dark grey, fine grain phyllitie dolomite	0.28					100	0						
76mm	0	Alluvium deposition of coarse grain sand and boulder of W1, white to light grey, fine grain phyllitie dolomite	0.25					48	0						
		Alluvium deposition of boulder size, W1-W2, white to dark grey, fine grain phyllitiedolomite. Sludte of medium grain sand found.	0.25					55	0						
76mm))	Aluvium depositio of cobble boulder size, W1- W2, white to dark grey, fine grain, phyllitie dolomite. Soft phyllite comes as sludge.	0.3					27	0						
		Alluvium deposition of boulder size, W1, dark grey, fine grain phyllite. Crush rocks comes as sludge.						50	0						
		Alluvium deposition of boulder size, W1, dark grey, fine grain laminated phyllite. Soft rock crush and comes as sludge.						24	0		3				
		Alluvium deposition sludge of fine grein sand are found. Soft phyllite crush during drill.						0	0						
- - - - - -	1 may	Alluvium deposition of boulder, W1, light to dark grey, fine grain, laminated, fractured phyllite.		ļ				51	0						
66mm		Alluvium deposition of boulder, W1-W2, dark grey, fine grain, laminated phyllitie dolomite						29							į
- ↓	f	Alluvium deposition of boulder, W1-w2, dark grey, ine grain, laminated phyllitie dolomite sludge is collected.						5	0						
BREVIATIO	nanica CL= C		, clay=cl, erately V	sand Veath	i=sa, ered,	mica- W4-	rmi, ci Highly	rushed / Wea	i=cr	iron s	stain- 5=De	FeO compo	osed.		

BORE HOLE LOG KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-5

FZ= Fractured, CL= Core loss Drilled by: KAMAL BHANDARI

COORDINATES: 3040890.036 N, 602325.161 E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY START DATE: 12/03/2002 COLLAR ELEVATION: 551.98 m ELEVATION HOLE END:501.98 m LOCATION: YANG RANG KHOLA INCLINATION: VERTICAL

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 	-		<u> </u>	_		,		ROD			v C I)	_		Ш	LU	esults kg/cm
Depth, m	Core Loa		Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	ROD%	20	40	09	90	100	Permeability	Laboratory
66mm		Run of 87cm is soft rock & fractured phyllite that is collected as sludge. Bed Rock started from 10.87 m that is W1, strong hard, white, fine grain, fractured dolornite with quartz. W1, strong hard, light grey, fine grain, highly fractured dolomite white sludge are found of soft rock. Core loss: 11.00 to 11.32m W1, strong hard, light grey, crystolline lamina, jointed and fractured phyllitie dolomite	0.24		5° 65° 5° 60°	ir ir	4	40	11 18							
13.00	A STATE OF THE STA	W1, strong hard, light grey, fine grain, crystolline, jointed and fragmented dolomite Core loss: 13.60 to 13.78m W1, strong hard, light grey, fine grain crystolline, fractured and fragmented dolomite	0.00		20° 65° 30° 40° 50° 20° 40°	ir	13	82	0						1	
5.00	The second secon	W1, strong hard, light grey, fine grain, crystolline, highly jointed and fragmented dolomite.	0.00		5° 20° 40°	ir	17	100	10							
5.00	in the	W1, strong hard, light grey, fine grain, crystolline, highly jointed and fragmented ddomite with mica, quartz CL: 16.23 to 16.95m			10° 20° 30°	ir	10	28	· · · · · · · · · · · · · · · · · · ·							
	-	W1, strong hard, light grey, crystolline highly jointed and fragmented dolomite with mica, quartz.Core loss: 17.26 to 17.49m		- [.	20° 30° 50°	ir	14	77	o IIIIIIIII							
9.00		W1, strong hard, light grey, fine grain, crystolline, highly jointed and fragmented phyllitie dolomite with mica, Quartz vein Core loss: 18.46 to 18.89m	0.00		5 ⁰	ir	11	57								
		W1, strong hard, light to dark grey, fine grain, crystolline, jointed and fragmented dolomite with nica, quartz and pyrite mineral. CLore loss: 19.17 to 19.74m	0.00		20 ^u 40 ^u 60 ^u	ir	10	43	10							

BORE HOLE LOG KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-5

FZ= Fractured, CL= Core loss Drilled by: KAMAL BHANDARI

COORDINATES: 3040890.036 N, 602325.161 E DRILLING MACHINE: KOKEN

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 12/03/2002 COLLAR ELEVATION: 551.98 m ELEVATION HOLE END:501.98 m LOCATION: YANG RANG KHOLA INCLINATION: VERTICAL

1 1							-	INU	LINA	200	JN:	VI	=H1	ICA		
								RQE	e H	ecc	ver	У	Ħ			esults kg/cm2
20.00	Core Log		Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	99		100	Permeability	Laboratory
20.00 66mm 21.00 22.00 22.00 23.00 25.00 25.00 26.00		W1, strong hard, light grey, crystolline moderately jointed dolomite with mica parting. W1, strong hard, light grey, fine grain, crystolline, dolomite with quartz, pyrite mineral. M.B: 21.13 m. Total core loss highly jointed rock is crushed and found as sludge during drill. Core loss: 22.00 to 23.00 m. W1, strong hard, light to dark grey, fine grain, crystolline, highly jointed and fragmented phyllitic dolomite with mica, Quartz and pyrite mineral. W1. strong hard, light to dark grey, fine grain, laminated, jointed and fragmented phyllitic dolomite with mica, Quartz Core loss: 24.50 to 24.78 m. W1, strong hard, light to dark grey, fine grain, laminated, highly jointed and fragmented phyllitic dolomite Core loss: 25.35 to 25.77 m. W1, strong hard, light grey, fine grain, highly jointed and fragmented dolomite with mica. Core loss: 26.25 to 26.84 m. W1, strong hard, light grey, fine grain, highly jointed dolomite. Core loss: 27.23 to 27.84 m. W1, strong hard, light to dark grey, fine grain, highly jointed and fragmented dolomite. Core loss: 27.26 to 29.92 m.	0		30° 40° 60° 20° 40° 30° 40° 30° 40° 55° 20° 55° 20° 55°	ir ir ir ir	7 0 11 8 7 7 6	100 0 100 72 58 41 49					8		α.	

BORE HOLE LOG KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-5 COORDINATES: 3040890.036 N, 602325.161 E DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

	T	T	т					IC or		CLIN	ATI	ON:	VE			
								ROE	5-F1 D%	GUU	vei,	y	111	Ш	TO.	lesu kg
Barrel Size	Core Log	Description	Water Level m	Alteration	Orientation	Roughness	Jaint/R cm	REC%	RQD%	20	40	09	80	100	Permeability (
66mr		W1, strong hard, dard to light grey, fine grain, jointed and fragmented dolomite with Quartz vein. Core loss: 30.43 to 30.84 m. W1, strong hard, light grey, fine grain dolomite with Quartz vein. Core loss due to highly jointed. Core loss: 31.00 to 31.93 m.	0.0		20° 40° 60°	ir	0	59 7	0							
00		W1, strong hard, light to dark grey, fine grain, crystolline, highly jointed and fragmented dolomite with Quartz. Core loss: 32.20 to 32.60 m.	0.0		10° 40°	ir	7	60	0							
ю	And the second s	W1, strong hard, light to dard grey, fine grain dolomite with Quartz vein.	0.0		10° 50°	ir	9	100	40							
0		W1, strong hard, light to dark grey, fine grain dolomite with Quartz vein.			20" 50"	ir	12									
		W1, strong hard, light to dark grey, fine grain, dolomite with Quartz vein.			20" 60"	ir	14	100								
		W1, strong hard, light to dark grey, fine grain dolomite with Quartz vein.	0.0		20° 50°	ir			19							
	The Share to the same of the s	W1, medium to strong hard, dark grey fine grain, highly jointed, fragmented phyllitic dolomit. Core loss: 37.64 to 38.00 m.			10° 20° 50°	ir	14	64								
		W1, strong hard, light grey, fine grain highly ointed, laminated phyllitic dolomite with nica, Quarz vein. Core loss: 38.00 to 38.62 m.			5° 20° 50°	ir	8	38	13							
. ▼	F	W1, soft to medium hard, light grey to greenish grey, fine grain, highly jointed phyllitic dolomite and phyllite. Core loss: 39.25 to 39.83 m. gh-r, smooth-s, slickensided-sl, un-undulating, pl-		;	20° 30° 40°	ir		i								

BORE HOLE LOG KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-5

COORDINATES: 3040890.036 N, 602325.161 E DRILLING MACHINE: KOKEN

DRILLING METHOD: ROTARY

			,						INC	CLIN	IATIC	ON:	VE	RT	ICAL	
								RQ		ecc	overy	′	Щ		R LU	esults kg/cm
Barrel Size	Core Log	Description	Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	AQD%	20	40	8		100	Permeability [Laboratory
66mm		W1, soft to medium hard, light grey to greenish grey, fine grain, highly jointed phyllitec dolomite and phyllite Core loss: 40.39 to 41.00 m.	0.0		20° 50°	ir	8	39	0							
		W1, soft to medium hard, greenish grey to dark grey, fine grain, laminated phyllite. Core loss : 41.19 to 41.66 m.			20° 40°	ir	10	53	0							
		Total core loss due to soft rock crushed during drill. Core loss: 42.00 to 43.00 m.	0.0		-	•	0	0	0							
		W1-W2, soft to medium hard, dark grey, fine grain, laminated phyllite with Quartz vein. Core loss: 43,00 to 43,86 m.	:		50°	ir	5	14	0					į		
		W1, medium to strong hard, dark to greenish grey, fine grain, laminated phyllite. Core loss: 44.00 to 44.60 m.			10 ^u 30 ^u 50 ^u	ir	8	40	0							
		W1, medium to strong hard, light to dark grey, fine grain, laminated phyllite Core loss: 45.44 to 46.00 m.			20 ⁰ 50°	ir	7	41	0							
	Į į	N1, strong hard, dard grey, fine grain, laminated, highly ointed phyllitic dolomite. Core loss: 46.46 to 46.95 m.	0.0	- [:	10° 20° 50°	ir	10	51	0							
	9	V1, medium to strong hard, greenish to dark grey, fine gain, laminated phyllite Core loss: 47.14 to 47.62 m.			20° 30°	ir	6	52	0							
	þ	V1, medium to strong hard, dark to greenish grey, aminated, jointed and fragmented phyllitic dolomite and phyllite with Quartz vein Core loss: 48.39 to 48.84 m.	0.0	- 1	20° 60°	ir	8	55	10							
	j¢	V1, strong hard, light to dark grey, fine grain, laminated, binted phyllitic dolomite Core loss: 49.68 to 49.88 m.	0.0		20° 50°	ir	14	80	13						:	

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-6

Drilled by: SANJEEV POKHAREL

COORDINATES: 3040889.407 N, 602302.205 E DRILLING MACHINE: KOKEN

DRILLING METHOD: ROTARY

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	+		<u> </u>		,			PQ	2%				Ш	Щ		
Barrel Size	Core Log	Description	Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	80	40	60	80	100	Permeability	
NX	۵	Colluvium deposition of coarse grain sand, gravel, W1-W2, light grey, fine grain phyllitie dolomite Colluvium deposition of coarse graine sand and boulder size, W2-W3, dark grey, fine	0.0					51 40	·							
	Δ	grain phyllitie dolomite Colluvium deposition of cobble, pebble and boulder size, W1, greenish, fine grained, laminated, fractured phyllitie dolomite						86							1	
		Colluvium deposition of fine grained sand and cobble, boulder size, W1-W2, light to dark grey, fine grain, fractured phyllitie dolomite Clluvium deposition of medium to fine grain sand and cobble, boulder size, W1-W2, light grey to white, fine grain, laminated pyllitie dolomite						33								
		Colluvium deposition of fine grained sand and boulder size, W1-W2, light grey, fine grain jointed phyllitie dolomite	0.0					40								
		Run of 1.20 m is colluvium deposition of fine to medium grained sand. From 8.70 m bed rock is obserued. W1, strong hard, light to dark grey, fine grained, fractured phyllitie dolomite W1, strong hard, light to dark grey, fine grain,	7.5		10° ii	r	4	20								
₩ .		ointed and fragmented phyllitie dolomite with mica, Quartz. ugh-r, smooth-s, slickensided-sl, un-undulating, pl-pi			30° ii 65°		10	52								

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-6

COORDINATES: 3040889.407 N, 602302.205 E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 12/03/2002 COLLAR ELEVATION:561.085 m **ELEVATION HOLE END:521.085 m** LOCATION: YANG RANG KHOLA INCLINATION: VERTICAL

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		1	1	—						e Re	COV	ery					esults
		 		├- -				· · · · ·	RQL)% 	,			世	Щ	LU	kg/cm2
Depth, m	Barrel Size	Core Log		Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	09	80	100	Permeability	Laboratory
	NX		W1, strong hard, light to dark grey, fine grained, crystolline, jointed phyllitic dolomite with mica, quartz.			10° 50° 60°	ir	10	81	57							
11.00			Core loss: 10.00 to 10.19m W1, strong hard, light to dark grey, fine grained, fractured and fragmented phyllitic			10 ²	ir	8	54	13							
12.00			dolomite. CL: 11.14 to 11.36m & 11.68 to 11.92m W1, strong hard, light to dark grey, fine	6.5		40°	ir	5	63	13					ļ		
13.00			grained, jointed and fragmented phyllitic dolomite with mica, quartz vein.CL: 12.00 to 12.14rn &12.37 to 12.60m			50°	,	J	3								İ
			W1, strong hard, light to dark grey, fine grain, crystolline, jointed dolomite with Quartz vein. Core loss: 13.07 to 13.28m and			20° 50°	ir	7	38	0							
14.00			W1, strong hard, light to dark grey, fine grain, crystolline, highly jointed and fragmented dolomite.			20" 50"	ir	6	31	0							
15.00			Core loss: 14.00 to 14.69m W1, strong hard, light to dark grey, fine grain, crystolline, ighly jointed and fragmented dolomite.			20°	ir	4	53	0							
16.00	66 		Core loss: 15.26 to 15.73m. W1, strong hard, light grey, fine grain, highly jointed and fractured dolomite with mica, Quartz and pyrite mineral. Core loss due to highly jointed rock CL:16, to 6.95m						5	0							
17.00			W1, strong hard, light to dark grey, fine grain, highly jointed and fractured phyllitie dolomite with mica, Quartz Core loss: 17.08 to 18.00m.						8	0							
19.00		j	W1, strong hard, light grey, fine grain ointed and fractured phyllitie dolomite with mica, Quartz and pyrite mineral. Core loss: 18.06 to 19.00m	8.5					6	0	4 1						
20.00		Ę	W1-W2, medium to strong hard, greenish grey, fine grain, laminated, highly jointed ohyllite with mica, Quartz.Core loss: 19.00 to 20.00.	7.5		5° 30° 50°	îr	14	62								
	TATION	roug	h=r, smooth=s, slickensided=si, un=undulating, pl-;	olanar.	clav=	cl sar	nd=sa	mic	a=mi	carch	orl-r	riror	eta	in-E			

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-6 COORDINATES: 3040889.407 N, 602302.206 E DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 12/03/2002 COLLAR ELEVATION:561.085 m ELEVATION HOLE END:521.085 m LOCATION: YANG RANG KHOLA INCLINATION: VERTICAL

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		L		<u> </u>						Cor		CUV	ery		Ħ		LUH	esults kg/cm/
S Depth. m	Barrel Size	Core Log	Description	Water Level m	Alteration	Alteration	Orientation	Roughness	Joint/R cm	REC%	AQD%	20	40	90	80	100	Permeability	Laboratory
21.00	NX 		W1, medium to strong hard, greenish grey, fine grain, laminated, jointed phyllite with micas. Core loss: 20.00-20.73m.	5.8		•	20° 30°	ir	6	27	0							
22.00			W1, medium to strong hard, greenish grey, fine grain, laminated, jointed phyllite with mica, Quartz vein. Core loss: 21.00 to 21.33m				20° 30°	ir	9	67	14							į
23.00			W1, medium to strong hard, greenish grey, fine grain, laminated, jointed phyllite with mica and Quartz vein				10 ⁰ 30°	ir	9	100	67							
24.00			W1, medium to strong hard, greenish grey, fine grain, laminated, highly jointed phyllite with mica, Quartz. Core loss: 23.23 to 23.78m				10" 30"	ir	8	45	0							
25.00			W1, medium to strong hard, grreenish grey, fine grain, laminated, phyllite with mica Core loss: 24.00 to 24.80m				10° 20°	ir	5	20	0							
26.00			W1, strong hard, greenish grey, fine grain, laminated phyllite with mica quartz.	-			10° 20°	ir	6	100	63							
27.00			W1, medium to strong hard, greenish grey, fine grain, laminated and hihgly phyllite with mica, quartz.	6.4			10° 30° 40°	ir	12	100	15							
28.00			W1, strong hard, greenish grey, fine grain, laminated and jointed phyllite with mica, quartz vein				5° 50°	ir	8	100	35							
29.00			W1, medium to strong hard, greenish grey, fine grain, laminated and jointed phyllite. Core loss : 28.00 to 28.48m				5° 15° 50"	ir	10	48	10							
30.00	 		W1, medium hard, greenish grey, fine grain, aminated phyllite with mica, Quartz vein. Core loss due to lamination almost parallel to drill.CL: 29.00 to 29.94m rough=r, smooth=s, slickensided=sl, un=und				30°	ir	3	6	0							

Zone, MB-Mechanical Breakage, W1=Fresh, W2=slightly Weathered, W3-Moderately Weathered, W4-Highly Weathered, W5-Decomposed.

FZ- Fractured, CL= Core loss

Drilled by: SANJEEV POKHAREL

EAST DRILLING COMPANY (P) LTD. BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-6

COORDINATES: 3040889.407 N, 602302.205 E DRILLING MACHINE: KOKEN

DRILLING METHOD: ROTARY

START DATE: 12/03/2002

COLLAR ELEVATION:561.085 m ELEVATION HOLE END:521.085 m LOCATION: YANG RANG KHOLA

		, —								LIN/			VE	RTI	CAL		
		1		 						e Re	COV	ery					esults
ļ	 	├		 _					RQL	1%				Æ	Щ	LU	kg/cm2
Depth, m	Barrel Size	Core Log	Description	Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	09	80	100	Permeability	Laboratory
31.00	66mm		Total core loss due to medium hard, highly jointed phyllite. Sludge of fine grain sand are found. Core loss: 30.00 to 31.00 m. W1, medium to strong hard, greenish grey, fine grain, laminated and jointed dolomite with mica, Quartz vein Core loss: 31.32 to 31.92 m.	6.6		15° 30°	ir	5	40	10							
33.00			W1, medium to strong hard, greenish grey, fine grain, laminated and jointed dolomite with mica Quartz vein. Core loss: 32.00 to 32.35 m. & 32.50 to 32.82 m.		6.6	30"	ir	4	33	0							
34.00			W1, medium to strong hard, greenish grey, fine grain, laminated and jointed dolomite with mica Quartz vein. Core loss: 33.32 to 33.67 m. W1, medium to strong hard, greenish grey,	6.6	i	20° 30° 60° 20°	ir ir	8	100	0						j	
35.00			fine grain, laminated, jointed and fragmented dolomite with mica Quartzvein. W1, soft to medium hard, geenish grey, fine grain, laminated, jointed and fragmented phyllitic dolomite with mica, Quartz vein.			10° 30° 50°	ir	10	76	0							:
36.00			W1, medium to strong hard, greeniah grey. line grain, laminated, jointed phyllite.		6.4	20° 50°	ir	9	100	0							
37.00			W1, medium to strong hard, dark grey to greenish, fine grain, laminated, highly jointed dolomite with Quartz vein. Core loss: 37.19 to 38.00 m.	6.4		40°	ir	5	19								
39.00		ļ	Fotal core loss due to soft and laminated ohyllite. Core loss : 38.00 to 39.00 m.			-	-	0	0	0							
40.00 ABBREV	₩ IATION	i c	W1, strong hard, lingt to dark grey fine grain, aminated, highly jointed and fractured dolomite with mica, Quartz vein. ther, smoothes, slickensidedes, uneundulating, pleptar	nar olo	Vanci	20° 30° 50°	ir		100								

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-7

COORDINATES: 3040866.882N, 60232.387E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

	T	I							INC	LIN.	ATI(JN. Y	VEF	RTIC	AL		
			<u> </u>						FIQE		COV	ery	ŧ		#		sults kg/cm
89.0			Water Level m.	Alteration	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40			100		Laboratory
76mm		Alluvium deposition of coarse grain sand and pebble to boulder size, W1-W2, greenish to dark grey, fine grain phyllite Alluvium deposition of medium grain sand and W3, greenish grey, fine grain phyllite.	0.0						0	0							
		Run from 2.00m bed rock is observed W1, strong hard, greenish grey, fine grain, laminated and jointed phyllite Core loss: 2.76 to 3.00 m.				30 ^u 40 ^u	ir	8	76	0							
		W1, strong hard, dark grey, fine grain, laminated, jointed and fractured phyllite with Quartz vein Core loss: 3.00 to 3.30 m.	0.8			20° 50°	ir	7	70	0							
		W1, strong hard, dard grey, fine grain, laminated phyllite W1, strong hard, dark grey, fine grain, laminated		İ		50°	ir ir	3 4	100	81							
		phyllite MB: 5.70m W1, medium to strong hard, dark to greenish grey,			1	30° 50° 30°	ir	6	100	71							
		fine grain, laminated phyllite W1, medium to strong hard, greenish grey, fine				20°	ir	6		44							
		grain, laminated phyllite Core loss : 7.63 to 7.89m				50°	"										
	e deli e e l'aglab un consegu	Total core loss due to medium hard and lamination is parallel to drilling Core loss: 8.00 to 9.00m				-	-	0	0	0							
		W1, medium to strong hard, greenish to dark grey, ine grain, laminated and fragmented phillite. Core loss : 9.20 to 9.64m gh=r, smooth=s, slickensided≈sl, un=undulating, pl=r	0.95			20° 50°	ir	6		10						ļ	

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-7

COORDINATES: 3040866.882N, 60232.387E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 10/04/2002 COLLAR ELEVATION:562.083m ELEVATION HOLE END:532.083 m LOCATION: YANGRANG KHOLA INCLINATION: VERTICAL

 	T		Т						Core					ER.	FIC/		- 1:
	\bot								RQD		3CO\	/ery		Ħ	iii	LU LU	esults kg/cm2
Depth. 3	Core Log	Description	Water Level m.	Alteration	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40				Permeability 6	Laboratory
76m	ım	W1, medium hard, dark to greenish grey, fine grain, laminated, jointed phyllite Core loss: 10.00 to 10.34 m & 10.47 to 11.00 m Total core loss, greenish grey, fine grain sludge are found.				30° 40"	<u>.</u>	0	0	0							
2.00	Mill and the second sec	Core loss: 11.00 to 12.00 m. W1, medium hard, greenish to dark grey, fine grain, laminated phyllite Core loss: 12.00 to 12.60 m.				30° 50°	ir	6	40	0							
4.00	22.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	W1, medium hard, greenish grey, fine grain, laminated, jointed and fragmented phyllite. Core loss: 13.00 to 13.77 m.	1.1			30° 50°	ir	5	23	0							
5.00		Total core loss, greenish grey, fine grain sludge are found. Core loss: 14.00 to 15.00 m.				-	•	0	0	0							
66m	Ä	W1-W2, medium hard, greenish grey, fine grain, laminated, jointed and fragmented phyllite with Quartz vein. CI: 15.00 to 15.56 m.				30 ^v 50 ^v	ir	5	44	10							
00	Andreas of the party of the par	W1, strong hard, dark to greenish grey, fine grain, laminated, moderately jointed phyllite with Quartz vein.				15° 30° 50°	ir	8	100	30							
00	Amende Amende Amende (1977 and 1974)	W1, strong hard, greenish grey, fine grain, laminated phyllite. Core loss: 17.36 to 18.00 m.	1			20° 30°	ir	4	36	0							
00	A Charles of Ann	Total core loss, soft and jointed fock crushed during drilling. Core loss: 18.00 to 19.00 m.				-	-	0	0	0		= 					
		W1, strong hard, dark to greenish grey, fine frein, laminated phyllite. Core loss : 19.00 to 19.71 m.	1.1			10° 50°	ir		29	0							
one, MB=M Z= Fracture	echar d, CL	ough=r, smooth=s, slickensided=sl, un=undulating, pi ical Breakage, W1=Fresh, W2=slightly Weathered, V = Core loss BHANDARI	-plana √3-Mo	r, cla derat	y=cl, tely V	sand Veat	=sa nered	, mic d, W	a=mí, 4=Hig	, cru hly \	shed Vea	d=cr ther	r, iro	on s	tain: 5=De	=FeO ecomp	osed.

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-7

COORDINATES: 3040866.882N, 60232.387E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 10/04/2002 COLLAR ELEVATION:562.083m ELEVATION HOLE END:532.083 m LOCATION: YANGRANG KHOLA INCLINATION: VERTICAL

	7	1		,							<u>LIN/</u>				RTI	CAL		
1		1								Core		COV	ery				R	esults
——	 	 		 					_	RQD	%		· · · · · ·	H	Ш		LU	kg/cm2
m 'pebth' m	Barrel Size	Core Log	Description	Water Level m	Alteration	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	09	80	100	Permeability	Laboratory
21.00	66mm		Total cote loss, greenish grey, fine grain sand as sludge are found. Core loss: 20.00 to 21.00 m.				-	-	0	0	0						,	
22.00			W1, medium to strong hard, dark to greenish grey, fine grain, laminated phyllite. Core loss: 21.00 to 21.64 m.	2			30°	ir	4	36	0							
23.00		Ш	W1, medium to strong hard, dark grey to greenish, fine grain, laminated phyllite Core loss : 22.68 to 23.00 m.				30 _n 50 _n	ir	8	68	0							
		Ш	W1-W2, medium to strong hard, dark to greenish grey, fine grain, laminated phyllite Core loss : 23.00 to 23.50 m.			i	20° 30°	ir	5	50	0							
24.00		T^{I}	W1-W2, medium to strong hard, greenish to dark grey, fine grain laminated and jointed phyllite Core loss: 24.00 to 24.30 m.				20" 30" 50"	ir	9	70	11							
25.00			W1, strong hard, dark to greenish grey, fine grain, laminated and jointed phyllite. Core loss: 25.00 to 2531 m.	5.6			20° 50°	ir	7	69	17							
26.00		\prod_{i}	W1, medium to strong ard, greenish to dark grey, fine grain, laminated phyllite, Core loss : 26.63 to 27.00 m.				15 ⁰ 50 ⁰	ir	9	63	0							
27.00			W1, strong hard, light grey to greenish grey, ine grain, jointed and fragmented phyllitic dolomite. Core loss: 27.31 to 28.00 m.				20" 50"	ir	4	31	0							į
29.00		\	W1, medium hard, dark grey to greenish grey, ine grain, laminated phyllite. Core loss: 28.00 to 28.22 m. & 28.48 to 29.00 m.				20°	ir	3	26	٥		∄					į
30.00	V		W1, medium hard, dark to greenish grey, fine grain, jointed and fragmented phyllite with Quartz vein. Core loss: 29.00 to 29.92 m. ugh=r, smooth=s, slickensided=sl, un=undulate				20°	ir	4	8	0							

EAST DRILLING COMPANY (P) LTD. BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-8

COORDINATES: 3040804.810N, 602262..400E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 10/04/2002 COLLAR ELEVATION:562.083m ELEVATION HOLE END:532.083 m LOCATION: YANGRANG KHOLA

DRILLING METHO	ID: HOTARY													HOLA	
		Τ					Cor			N: V	EF	HIC	AL		
		 					RQE		COV	эгу		H	Ш	LÜ	lesuits kg/cm2
Barrel Size	Description	Water level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	99		100	Permeability	Laboratory
0.00 NX -	Colluvium deposition of mud and pebble, cobble size phyllite and dolomite						100	0							
00	Colluvium deposition of fine to medium grain sand and cobble to boulder size W1-W3, white to dark grey, fine grain dolomite and phyllite.						24	0							
	Colluvium deposition of fine grain sand and pebble to boulder size, white to brown, W1-W2, fine grain dolomite						27	0							
00 76mm . Δ	Colluvium deposition of fine grain sand and pebble to boulder size, W1-W3, shite to dark grey, fine grain dolomite and phyllite.	0.0					50	0							
	Colluvium deposition of coarse grain sand and pebble, cobble size W2-W3, white to light grey, fine grain dolomite.						52	0							
ο Δ. 	Colluvium deposition of fine grain, sand and pebble to cbble size, W1-W3, light grey to greenish, fine grain dolomite and phyllite.						20	0							
	Colluvium depositions of fine grain, sand and pebble to boulder size, W1-W2, greenish, light to dark grey, fine grain phyllite and dolomite						36	٥			į				
	The run of 53cm is colluvium of pebble to cobble size light gley dolomite. From 7.53m bed rock is observed W1, strong hard, white, fine grain, thin bedded, jogj;u kporned dp;p,ote. Core loss: 7.58 to 8.00 m.	6.7		40° 50°	ir	3	18	0							
	W1-W2, strong hard, shite to greenish brown, fine grain, highly jointed phyllitec dolomite. Core loss: 8.00 to 8.32 m & 8.49 to 8.76 m			30° 40°	ir	6	40	0							
00	W1, strong hard, white to greenish brown, fine grain, highly jointed and fragmented dolomite. Core loss: 9.00 to 9.24 m & 9.45 to 9.70 m			20° 40° 50°	ir		51	0							
BREVIATION rough ne, MB-Mechanical - Fractured, CL- Co illed by: BINOD MAC		ar, clay oderate	/=cl, i	sand- eath	=sa, ered,	mica W4	=mi, c =High	rush ly We	eathe	er, iro	n si W5	tain= i=Dec	FeO comp	posed.	

B-A-115

EAST DRILLING COMPANY (P) LTD. BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-8 COORDINATES: 3040804.810N, 602262..400E DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

	_								INC	CLIN	AT	ION	VE	RTI		
			ļ					ROD	e Re	cov	ery			##		sults
Gebun, m	8	Description	evel m	6	tig	less	E								Dillity CT	kg/cm2 ≥ o
10.00	1		Water level	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	04	8	80	100	Permeability	Laboratory
76mm		W1, strong hard, white to light grey, fine grain, bedded, highly joined dolomite.			30° 40° 50°	ir	18	100	0							
1.00		W1-W2, strong hard, white to light grey, fine grain, jointed and fragmented dolomite Core loss: 11.00 to 11.64 m.			30° 50°	ir	7	36	0						•	
2.00		W1, strong hard, shite to light grey, fine grain, thin bedded, jointed and fragmented dolomite.	8.1		30° 40°	ir	7	46	0						·	
3.00		Core loss: 12.36 to 12.90 m. W1, strong hard, white to light grey, fine grain, thin bedded, jointed and fragmented dolomite. Core loss: 13.00 to 13.22 m & 13.54 to 13.81 m			30° 50°	ir	6	50	0							
66mm		W1, strong hard, white to light grey, fine grain, highly jointed and fragmented dolomite Core loss: 14.00 to 14.24 m & 14.50 to 14.80 m			50 ^u	ir	7	46	0		Ξ					
00		W1, medium to strong hard, light grey, to greenish grey, highly jointed dolomite and klaminated phyllite Core loss: 15.00 to 15.20 m & 15.56 to 15.70 m			20° 50°	ir	6	66	0							
00		W1, strong hard, light to dark grey, fine grain, jointed and fragmented dolomite. Core loss : 16.17 to 16.39 m	9.1		30 ^u 40 ^u 50 ⁰	ir	12	78	0							
00		W1, strong hard, light grey to greenish fine grain, highly jointed and fragmented dolomite Core loss: 17.57 to 17.72 m.	!		20° 50°	ir	11	85	0							
00		W1, strong hard, light to dark grey, fine grain, highly cinted and fragmented dolomite. Core loss: 18.45 to 1866 m			20°	ir	14	79	٥							
		W1, midium to strong hard, light to dark grey and greenish, fine grain, thin bedded, highly jointed and ragmented dolomite and phyllitic dolomite.	9.1		20 ^u 40 ^u	ir		100	0							
IBREVIATIOne, MB-Mec Fractured, Iled by: BINC	nan⊮ CL≖		planar 3-Mod	, clay lerate	∕=cl, s ely W	sand eath	=sa, ered,	mica- , W4=	-mi, ∉ High	crush ly W	eat	ecr, i herec	ron s	tain =De	FeO ecompos	sed.

EAST DRILLING COMPANY (P) LTD. BORE HOLE LOG KULEKHANI-3 HYDHOELECTHIC POWER PROJECT

DRILL HOLE NO.: BD-8

FZ= Fractured, CL= Core loss Drilled by: BINOD MAGAR

COORDINATES: 3040804.810N, 602262..400E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 10/04/2002 COLLAR ELEVATION:562.083m ELEVATION HOLE END:532.083 m LOCATION: YANGRANG KHOLA

INCLINATION: VERTICAL

	Γ	ΤĖ)	r					Cor	e Re	AIIC)N: <u>V</u>	ER	HC		
				ļ					ROD		COV	ery	_ =	Ш		lesuits kg/i
.00	Barrel Size	Core Log	Description	Water Level m.	Alteration	Orientation	Roughness	Joint/R cm	REC%	AQD%	29	40			Permeability 5	K9/
	66mn		W1, strong hard, white to light grey, fine grain, thin bedded, jointed and fragmented dolomite	9.3		30° 50°	ir	14	100	0						
0			W1, strong hard, white to light grey, fine grain, thin bedded, highly jointed and fragmented dolomite Core loss: 21.15 top 21.73 m			20 ⁰ 50 ⁰	ír	7	52	0						
0			W1, strong hard, light to dark grey, fine grain, thin bedded, highly jointed and fragmented dolomite Core loss: 22.00 to 22.73 m	9.5		50°	ir	3	27	0						
0			W1, strong hard, light grey, fine grain, thin bedded, jointed and fragmented dolomite with mica parting Core loss: 23.00 to 23.32 m	3.3		20° 50°	ir	5	68	0						
			W1, strong hard, light grey, fine grain, thin bedded, highly jointed and fragmented dolomite with mica parting Core loss: 24.30 to 24.75 m			20° 50°	ir	10	55	0				=		
		<u> </u>	W1, strong hard, light grey, fine grain, thin bedded, higly jointed dolomite with mica parting Core loss: 25.00 to 25.42 m			30° 50°	ir	8	58	O						
			W1, strong hard, light grey, fine grain, thin bedded, jointed dolomite Core loss : 26.00 to 26.89 m	9.7		30° 50°	ir	4	11	0			1	- 1		
			W1, strong hard, light to dard grey, fine grain, highly jointed and fragmented dolomite Core loss : 27.00 to 27.47 m			50°	ir	4	53	0						
			W1, strong hard, light to dark grey, fine grain, highly jointed and fragmented dolomite. Core loss: 28.46 to 28.80 m		ļ	50°	ir	6	66							
			W1, strong hard, light grey, fine grain thin bedded, ointed and fragmented dolomite with mica parting. bugh-r, smooth-s, slickensided-si, un-undulating, pl-pla			30° 50°			100							

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-9

COORDINATES: 3040823.934 N, 602243.594E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

	· · · · ·	1							INC	LIN	ATIO	NC	VE	RT	ICA		
				-					RQE	e Re	COV	/ery	<u>' </u>	누			esults
	ď	+		E	T	Τ	т	Ī	I NOL	770	T		Г		Ħ	LU	kg/cr
0	Rarrel Size			Water level	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	09	98	100	Permeability	Laboratory
	76mi	0	Alluvium deposition of sand and pebble to boulder size, W1, light to greenish grey, dolomite & phyllite.	1.15					47	O							
		0	Alluvium deposition of sand and boulder size, W1-W3, strong hard, greenish grey to dard brosn phyllitic dolomite and hematite.						ŧυ	U							
		, C	Alluvium deposition of medium grain sand and pebble to boulder size, W1-W3, greenish grey to dard brown, medium to fine grain phyllite dolomite and smphibolite.						5/	i							
			Run of 25cm id alluvium deposition of pebble, cobbte size smphibolite, hemafite, dolomite. From 3.25m Bed rock if observed. W1-W3, white, medium to coarse grain, crystolline, jointed dolomite. CI: 3.30 to 3.90 m.			20*	ır	ઝ	4U	U							
			W1, strong hard, white, fine grain highly jointed and fragmented dolomite Core loss: 4.00 to 4.48 m.			20° 50°	IF	1	5≱	U							
			W1, strong hard, white to light grey fine grain, highly jointed and fragmented dolomite with mica parting. Core loss: 5.00 to 5.22 m.			20° 30° 50°	u	ಕ	/8	U							
		 	W1, strong hard, white to light grey, fine grain, highly jointed and fragmented dolomite. Core loss: 6.00 to 6.16 m.	1.25		10° 20° 50°	ır	υ	84	V							
			Total core loss due to rock as dolomite is highly jointed and thinly bedded.] Core loss :7.00 to 8.00 m.			-	-	U	υ	١							
			W1, strong hard, white to light grey, fine grain, highly jointed and thinly bedded dolomite. Core loss: 8.21 to 9.00 m.		į	30"	ır	4	21	y							
	\		W1, strong hard, white to light grey, fine grain, highly jointed and thinly bedded dolomite. Core loss : 9.00 to 9.46 m.		:	30~	ır	4	54	0							
			h-r, smooth-s, slickensided-sl, un-undulating, pl-p														
			Breakage, W1=Fresh, W2=slightly Weathered, W3	-Modera	stely \	Veath	ered,	. W4-	Highly	Wea	there	ed, V	V5= £	Эесо	mpo:	sed.	
		CL- C	ore loss														

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-9 COORDINATES: 3040823.934 N, 602243.594E DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

		τ							INC	LIN	ATIC	N: ۱	VΕ	RT	CA		
				ļ					Cor		cov	ery	_	Ш		Re LU	suits
. Deptu, m	Barrel Size	Care Log	Description	Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	ROD%	20	40	20		00	Permeability	Laboratory cal
	6 mm		W1, strong hard, white to light grey, fine grain, highly jointed, thinly bedded dolomite with mica parling Core loss: 10.00 to 10.16 m.	1.15		30°	ìr	4	84	0						····	
00			W1, strong hard, white to light grey, fine grain, highly jointed, thinly bedded dolomite with mica parting. Core loss: 11.58 to 12.00 m.			30° 65°	ir	7	58	11				7			
0			W1, strong hard, white to light grey, fine grain, highly jointed, thinly bedded, fragmented dolomite with mica parting. Core loss: 1200 to 12.24 m. & 12.80 to 13.00 m.			20" 30" 50°	ir	6	64	0							
			W1, strong hard, white to light grey, fine grain, highly jointed, thinly bedded, fragmented dolomite with mica parting. Core loss: 13.00 to 13.36 m.			20° 60°	ir	6	64	0							
	<u> </u>	<u> </u>	W1, strong hard, white to light grey, fine grain, highly jointed, fragmentd dolomite. Core loss: 14.00 to 14.52 m.			30° 40° 60°	ir	8	48	O							
	-	<u> </u>	W1, strong hard, white to light grey fine grain, highly jointed, thinly bedded, gragmented dolomite with mica parting. Core loss: 15.67 to 15.86 m.			20° 50°	ir	11	81	11							
	-		M1, strong hard, white to light grey, fine grain, nighly kjointed and thinly bedded dolomite with nica parting Core loss: 16.00 to 16.19 m. & 16.38 to 17.00 m.			30° 40°	ir	4	19	٥							
	-	1-16	W1, strong hard, white to light grey, fine grain, highly jointed and fragmented dolomite. Core loss: 17.00 to 17.57 m.	1.2		50°	ir	4	43	٥							
5	-		N1, strong hard, light grey, fine grain, highly ointed, thinty bedded dolornite with mica parting. Core loss: 18.12 to 18.49 m.			20° 50° 60°	ir	11	63	0							
	,	j	V1, kstrong hard, light grey, fine grain, highly ointed, thinly bedded and fragmented dolomite with mica parting.			20° 40° 60°	ir		100								
e, MB: Fracti	≖Mecha	anica L≃ C	h-r, smooth≃s, slickensided≃sl, un-undulating, pi-pi l Breakage, W1=Fresh, W2=slightly Weathered, W3: ore loss 3AR	anar, clay Moderate	-cl, sand ly Weath	≃sa, mica ered, W4	t≃mi, e ≔High	crush nly We	ed=cr. eather	iron : ed, W	stain 5=D	-FeO ecom	pos	ed.	•		

EAST DRILLING COMPANY (P) LTD. BORE HOLE LOG KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-9

COORDINATES: 3040823.934 N, 602243.594E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

		,		·			INC	CLIN	ATIC								
1										e Re	CO	/er	/			F	Results
\vdash	<u> </u>			<u> </u>			···		RQE)%		,		. #	Ш	LŲ	kg/cm2
S Depth, m	Barrel Size	Core Log	Description	Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	90	80	100	Permeability	Laboratory
21.00	76mm		W1, strong hard, white to light grey., fine grain, thin bedded and jointed dolomite with mica parting.			40° 50°	ir	11	100	0							
22.00	66		W1, strong hard, white to light grey, fine grain, thinly bedded, jointed dolomite with mica parting. Core loss: 21.24 to 21.45 m & 21.83 to 22.00 m.		<u> </u> 	20° 50°	ir	11	54	o							
			W1, strong hard, white to light grey, fine grain, jointed dolomite with mica parting. Core loss: 22.12 to 22.55 m.			10 ^u 20 ^u 30 ^u	ir	10	57	0							
23.00			W1, strong hard, light to dard grey, fine grain, highly jointed dolornite			20° 30° 50°	ir	16	100	0							
25.00			W1, strong hard, light grey, fine grain, thinly bedded, jointed dolomite with mica parting.			20° 30° 50°	ir	11	100	11							
26.00			W1, strong hard, white to light grey, fine grain, thin bedded, highly jointed fragmented dolomite with mica parting.			30° 50°	ir	9	100	0							
			W1, strong hard, white to light grey, fine grain, thin bedded, highly jointed and fragmented dolomite with mica parting.	į		20° 50°	ir	12	100	23						}	
27.00		j L	W!, strong hard, light grey, fine grain, highly ointed, fragmented dolomite with mica parting. Core loss: 27.31 to 27.66 m.			30° 50°	ir	5	65	0							
29.00		إبا	W1, strong hard, light grey, fine grain, highly ointed, thinly bedded and fragmented dolomite with mica parting			30° 50°	ir	9	100	0							
30.00		<u>l</u> — j	W1, strong hard, light grey, fine grain, highly ointed, thinly bedded fragmented dolomite with mica parting,	1.5		20° 50°	ir	11	100	0							
ABBRE\ Zone, Mi	B=Mec. stured,	nanica CL= (gh-r, smooth-s, slickensided-sl, un-undulating, pi-pi al Breakage, W1=Fresh, W2=slightly Weathered, W3- Core loss GAR	anar, ci Modera	ay=cl ately \	, sand Veath	=sa, ered,	mica- W4-	=ml, cr Highly	ushei Wea	d-cr, ither	iror ed, \	ı sta V5=	in=F	eQ ompo	osed.	

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-10

COORDINATES:3040859.069N, 602233.493E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 31/03/2002 COLLAR ELEVATION:564.334m ELEVATION HOLE END:534.364m LOCATION: YANG RANG KHOLA

			ID			4 D2-		INC	LIN	ATIO				
			Des	cript	ion o	T L)ISC	conti	nuitie	S	HQD	Rec	over	_	Results kg/cr
Barrel size	Core Log	Description	Water Table m.	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	8 8			Permeability	Laboratory
NX V	٨	Colluvium deposition of pebbles to cobble size grabel, W1-W2, light to greenish grey, fine grain phyllite and dolomite.	3.50	-	-	_	-	100	•					
76mr	η · · · · · · · · · · · · · · · · · · ·	Colluvium deposition of boulder size, W1, light grey, fine grain dolomite.		-	-	-	_	24	-					
	Δ.	Colluvium deposition of boulder size, W1, light grey, fine grain dolomite.		-	-	-	-	22	-					
	Δ.	Colluvium deposition of fine grain brown, sand and pebble, cobble to boulder size, W1-W3, white to light grey, fine to medium grain dolomite.		-	-	-	•	100	-					
		First 49cm is colluvium deposition of pebble cobble size, W1-W3, fine to medium grain phyllite and dolomite. Bed Rock is started from 4.49m W1, white to light grey, fine grain, jointed dolomite.	Dry	-	20° 30° 50"	(r	7	72	-					
		W1, strong hard, light grey, fine grain, jointed dolomite.		-	20 ^u 50 ^u	lr	13	100	14					
		W1-W3, strong hard, white to light grey, fine grain, moderately jointed dolomite Fz : 6.21 to 6.45 m.		_	10" 50" 60"	lr	11	100	33					
		W1-W2, medium to strong hard, light to dard grey, fine grain, laminated phyllitic dolomite with mica parting.	6.05	- 	20 ⁰ 40 ⁰ 50 ⁰	ŀr	8	100	55					
	1	W2-W3, strong hard, light to dark grey, fine grain, highly jointed dolomite with mica parting Fz : 8.00 to 8.50 m.		-	15"-2 40"	O ^u Ir	11	100	18					
		W2-W3, strong hard, light grey to brown, fine grain, moderately jointed dolomite. i=r, smooth=s, slickensided=sl, un=undulating. pl			20° 30° 40°	lr	ļ	Ì	59					

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-10

COORDINATES:3040859.069N, 602233.493E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY START DATE: 31/03/2002
COLLAR ELEVATION:564.334m
ELEVATION HOLE END:534.364m
LOCATION: YANG RANG KHOLA
INCLINATION: VERTICAL

		I	I	- 					INC	LIN							1.
				1								ore ID%		COV			esults kg/cm
0.00	Barel size	Core Log	Description	Water Table m.	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	99		100	Permeability 5	Laboratory
	76mm		W2-W3, strong hard, light grey, fine grain, highly jointed and fragmented dolomite.		-	20 ^u 50 ^v	lr	7	100	59							
.00			W2-W3, strong hard, light grey, fine grain, jointed and fragmented dolomite with mica parting.		-	20° 60°	ŀr	7	100	63							
00			W1-W3, strong hard, light to dark grey, fine grain, laminated, jointed and fragmented phyllitic dolomite and dolomite.		<u>.</u>	20° 60°	łr	8	100	38							
00			W1-W4, medium to strong hard, light grey to brownish, fine grain, highly jointed and fragmented dolomite.	8.40 3.80	-	20° 50°	lr	10	100	34							
00	•		W1-W2, strong hard, light to dark grey, fine grain, laminated, highly jointed and fragmented phyllitic dolomite with mica paritng.	8.80 9.30	-	20° 40° 50°	lr	11	100								-
00		1	W1-W2, strong hard, light grey, fine grain, highly jointed and fragmented dolomite with mica parting.		-	20° 30° 50°	tr	7	100	12							
00			W1, strong hard, light to dark grey, fine grain, highly jointed and fragmented dolomite with mica paritng.		-	30" 60"	lr	10	100	10							
00 1		1 1	W1, strong hard, light grey, fine grain, thin bedded, highly jointed and fragmented dolomite with mica parting.			30" 60"	lr	8	100								
_	66	9	W1, strong hard, white to light grey, fine grain, jointed and fragmented dolomite. Core loss: 18.40 to 19.00 m.	9.00 3.60	~	20° 60°	lir .	6	40	-							
 		 	W1, medium to strong hard, light to dark grey, fine grain, thin bedded jointed and fragmented dolomite with phyllite nterbedded.		-	30° 40° 50°	lr	11	100	-							

ABBREVIATION rough=r, smooth=s, slickensided=sl, un=undulating, pl=planar, clay=cl, sand=sa, mica=mi, crushed=cr, iron stain=FeO Zone, MB=Mechanical Breakage, W1=Fresh, W2=slightly Weathered, W3=Moderately Weathered, W4=Highly Weathered, W5=Decomposed. FZ= Fractured, CL= Core loss

Drilled by: SANJEEV POKHAREL

EAST DRILLING COMPANY (P) LTD. BORE HOLE LOG KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: BD-10

COORDINATES:3040859.069N, 602233.493E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 31/03/2002 COLLAR ELEVATION:564.334m ELEVATION HOLE END:534,364m LOCATION: YANG RANG KHOLA

									INC	LIN					ICAL	
				1									Rec		R	sults
	ļ	4_		<u> </u>							RC) D%		I	LU	kg/cm2
20.00	Barel size	Core Log	Description	Water Table m	Alteration	Orientation	Roughness	Joint/R cm	REC%	ROD%	20	40	08	28	Permeability	Laboratory
.00	66mm		W1, medium hard, dark grey, fine grain, laminated and jointed phyllite		-	20° 50°	lr	9	100	-						
.00			W1, medium to strong hard, dark to light grey, fine grain, jointed and laminated phyllite and thin bedded dolomite with mica parting		-	20° 40° 50°	lr	11	100	-						
00			W1, strong hard, white to light grey, fine grain, thin bedded, jointed and fragmented dolomite with mica parting.		-	20° 50° 60°	Îr	12	100	•						
00			W1, strong hard, white, fine grain, highly jointed and fragmented dolomite.	11.00	-	50°	lr	10	100	•					ļ	
00			W1, strong hard, white to greenish grey, fine grain, thin bedded, highly jointed and fragmented dolomite.		-	10° 50°	1r	11	100	10						
vo			W1, medium to strong hard, light to greenish grey, fine grain, highly jointed and fragmented, thin bedded phyllitic dolomite & dolomite.		-	20" 50"	lr	10	100	-						
io			W1, strong hard, light grey, fine grain, thin bedded, jointed dolomite with mica parting.			20° 30° 60°	ir	11	100	-						
0		│ ┷┬┤	W1, strong hard, light grey, fine grain thin bedded, highly jointed and fragmented dolomite. Core loss: 27.64 to 28.00 m.	12.00	-	20° 50°	lr i	13	64	-						
0			W1-W3, strong hard, light grey, fine grain, highly jointed and fragmented dolomite. Core loss due to soft and weathered rock. Core loss: 28.00 to 28.80 m.		-	-	-	0	20							
0			W1-W2, strong hard, light grey, fine grain, highly jointed and fragmented dolomite. Core loss : 29.40 to 30.00 m.		-	50°	lr	3	40	-						

ABBREVIATION rough=r, smooth=s, slickensided=si, un=undulating, pi=planar, clay=cl, sand=sa, mica=mi, crushed=cr, iron stain=FeO Zone, MB-Mechanical Breakage, W1-Fresh, W2-slightly Weathered, W3-Moderately Weathered, W4-Highly Weathered, W5-Decomposed. FZ= Fractured, CL= Core loss Drilled by: SANJEEV POKHAREL

BORE HOLE LOG KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: LS-1

COORDINATES: 3041065.756N, 602014.037E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

, -	 -	т									INC	LINA	TIC	N: V	ERI	TIC/	٨L	
İ				S	P	Ť						RQ		eco	/ery		##	kg/cm2
oo.o	Barrel size	Core Log	Description		s per	15 cm	Water Table m.	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	8 8		0	Laboratory
1.00	76mm		Colluvium deposition of brown, medium to coarse grain sand and greenish grey, pebble size gravel of phyllite Colluvium deposition of medium to coarse grain, dark to light brown sand	6	8	10 45/24	- 0.10		-		-	100	-					
2.00			and pebble to cobble size gravel of greenish grey phyllite Colluvium deposition of medium grain sand and dark grey to greenish, fine grain, cobble size gravel of phyllite.	6	8	11 45/25		7	-	-	,	100 34	-					·
4.00		Ā	Colluvium deposition of greenish to brown, fine grain sand as sludge. Colluvium deposition of greenish grey	50 D	- C P	30/50 - 15/50		-	-	-	-	0	-					,
5.00		Δ.	to dark grey, fine to medium grain sand as sludge. Colluvium deposition of greenish grey,	80	•	10/80	Dry	-	-	-	-	0	-					
6.00		Δ.	medium to coarse grain sand as sludge. Colluvium deposition of greenish grey,	18	26	32 45/76	2.50	-	-	-	-	0						
7.00		Δ : Δ	fine to medium grain sand as sludge. Colluvium deposition of greenish grey fine to medium grain sand as sludge	80 S	P	10/80 T		-	-	-	-	0	-					
8.00		Δ.	Colluvium deposition of medium to coarse grain, light grey to greenish	50	-	- 13/50		-	-	-	-	0						
9.00	▼ 66mm	Δ. Φ. Δ	Sand as sludge. Colluvium depositioon of light grey, fien grain sand and boulder size gravel of light grey to greenish, fine grain, laminated phyllite.	22	28	- 19/50	Dry 3.00	-	-	-	-	23	-					
10.00 ABBREV Zone, ME FZ= Frac Drilled by	3≐Mech. tured, C	rough anical	n=r, smooth=s, slickensided=sl, un=undulating, Breakage, W1=Fresh, W2=slightly Weathered, ore loss	pi-pia W3-N	nar, ci	ay=cl, s	eather	sa, m ed, W	ica=m V4=Hi	i, crui ghly V	shed~ Veath	ered,	n stai W5=I	n=FeC Decom	pose	ed.		

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

FZ= Fractured, CL= Core loss Drilled by: KAMAL BHANDARI

DRILL HOLE NO.: LS-1 COORDINATES: 3041065.756N, 602014.037E DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 17/04/2002 COLLAR ELEVATION:625.835 m ELEVATION HOLE END: 595.835m LOCATION: YANGRANG KHOLA INCLINATION: VERTICAL

		_		ть.		н ,			INCLINATION: VERTICAL [Core Hecovery									
				٥	С	Ρ						RQI	kg/cı					
0.00	Barrel size	Core Lon	Description			15 cm	Water	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40			Laboratory
1.00	66mm	17.	Colluvium deposition of boulder size gravel of light grey to greenish, fine grain, laminated phyllite.						•	-	-	100	-					
			Colluvium deposition of boulder size gravel of light grey to greenish, fine grain laminated phyllite				Dry	-		-	-	100	-					
.00			Colluvim deposition of boulder size gravel of light grey to greenish, fine grain, laminated phyllite					-	-	-	_	100	•					
.00			Colluvium deposition of pebble to boulder size gravel of light grey to greenish, fine grain, laminated phyllite.				Dry	-	-	-	-	69	-					
00			Colluvium deposition of light grey, fine grain sand as sludge and pebble to cobble size gravel of light to greenish grey, fine grain, laminated phyllite.					-	-	-	-	26	-			T		
00			Colluvium deposition of light grey, fine grain sand as sludge and pebble to bouldr size gravel of dark to greenish grey, fine grain, laminated phyllite				Dry	-	-	-	~	42	-					
00			Colluvium deposition of light grey to greenish fine grain sand as sludge and boulder size gravel of light to greenish grey, fine grain, laminated phyllite.				Dry	-	-	-	-	38	-					
00	-		Colluvium deposition of light grey to greenish, fine grain sand as sludge and pebble to cobble size gravel of light to greenish grey, fine grain, laminated phyllite.	24	27	29 37/80		-	-	-	-	18	-					
00		П	Colluvium deposition of pebble to boulder size gravel of dark grey to greenish fine grain, laminatd phyllite.			,00		-	-	-	-	27	-					
			Colluvium deposition of pebble to boulder size gravel of dark to greenish grey, fine grain, laminated phyllite	55	25		18.50	_	-	-	-	50	,					

Zone, MB-Mechanical Breakage, W1=Fresh, W2=slightly Weathered, W3=Moderately Weathered, W4=Highly Weathered, W5=Decomposed.

BORE HOLE LOG
KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: LS-1

COORDINATES: 3041065.756N, 602014.037E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 17/04/2002
COLLAR ELEVATION:625.835 m
ELEVATION HOLE END: 595.835m
LOCATION: YANGRANG KHOLA
INCLINATION: VERTICAL

	T		T					Core Recovery							kg/cm2
Barrel size	Core Log	Description	Water Table m	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	20	40	60	80	100	Laboratory
66mm		Colluvium deposition of boulder size gravel of dark grey to greenish, fine grain, larninated phyllite.		-	-	-	-	60	-						
2.00		Colluvium deposition of boulder size gravel of dark grey to greenish, fine grain, laminated phyllite	19.0	-	_	-	-	60	-						
3.00		Colluvium deposition of light to greenish grey, fine grain sand as sludge and cobble to boulder size gravel of light grey to greenish, fine grain, laminated phyllite.		-	-	-	ı	61	-				1		
.00		Initial 89 cm is colluvium deposition of coarse grain sand with cobble to boulder size phyllite. From 23.89 m bed rock is observed. W1, strong hard, greenish grey, fine grain, laminated phyllite.		-	20° 50°	ir	2	100	-						
00		W1-W2, strong hard, light grey to greenish, fine grain, laminated highly jointd and fragmented phyllite. Cl :24.00 to 24.23 m and 24.52 to 24.72 m	1800 14.50	-	20° 30° 50°	lr	8	57	-						
00		W!-W2, strong hard, light grey to greenish, fine grain, laminated, moderately jointed phyllite Core loss: 25.30 to 25.46 m		•	30° 50°	ir	9	84	16						
		W1, strong hard, light grey to greenish fine grain, laminated, phyllite with Quartz vein FZ: 26.11 to 26.24 m			50 ^v	lr	5	100	50						i
00		W1, strong hard, dark grey to greenish, fine grain, laminated, moderately jointed and fragmented phyllite.	18.20 17.75	-	20 ^u 50 ^u	lr	11	100	14						
30 30 30	***************************************	W!-W2, strong hard, light- dark grey to greenish, fine grain, laminated, moderately jointed and fractured phyllite.		4	10" 50"	ir .	9	100	10						
S		W1, strong hard, light grey to greenish, fine grain, laminated, highly jointed and fractured phyllite. Core loss: 29.16 to 29.39 m	18.00 14.00	-	10° 50°	lr	8	77							

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: LS-2

COORDINATES:3041095.177N, 602085.993E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY START DATE: 29/04/2002 COLLAR ELEVATION:597.737 m ELEVATION HOLE END: 567.737m LOCATION: YANGRANG KHOLA

INCLINATION: VERTICAL P Core Recovery HHH kg/cm2 RQD% Core Log Depth, m Level Roughness Orientation Joint/R cm Barrel (Laboratory Alteration Description Blows per 15 cm Water REC% ઠ \$ |8 20 8 0.00 0-15 15-30 30-45 76mn Colluvium deposition of dark brown 3.20 medium to coarse grain sand and pebble 100 to cobble size gravel of laminated phyllite. 2 3 5 1.00 45/10 Colluvium deposition of light to dark grey. medium to coarse grain sand and pebble 100 to cobble size gravel of phyllite. 6 9 10 11 2.00 45/25 Colluvium deposition of dark grey, medium to coarse grain sand and fragmented of boulder size gravel of dark 58 32 18 to light grey, laminated phyllite. 3.00 19/50 Colluvium deposition of fine grain, dark grey sand and pebble to cobble size 50 gravel of light to dark grey, fine grain. 4 7 laminated phyllite. 4.00 45/1 Colluvium deposition of fine grain, dark Dry grey sand and pebble to cobble size 71 gravel of light to dark grey, fine grain, 6 7 laminated phyllite. 5.00 45/20 Colluvium deposition of fine grain, dark grey sand and pebble to cobble size 55 gravel of light grey to greenish, fine grain. 10 9 laminated phyllite. 6.00 15/28 Colluvium deposition of dark grey to greenish. Ć Ď medium grain sand and pebble to cobble size gravel of light grey to greenish, fine grain, 62 $\Delta \Pi$ laminated phyllite. 7.00 45/22 Colluvium deposition of dark grey to greenish, Dry medium grain sand and light grey to greenish, fine grain, laminated phyllite. $\Psi_{\rm l}$ 22 10 12 8.00 45/41 Colluvium deposition of greenish grey, fine grain sand and pebble to cobble size 59 gravel of greenish grey, fine grain. 8 13 laminated phyllite. 9.00 45/27 Colluvium deposition of med, to coarse grain, 1 light grey to greenish sand, pebble & gravel. Also greenish, coarse grain, hard amphibolite 100 & dolomitic phyllite boulder. 24 35 21 33/80 ABBREVIATION rough-r, smooth-s, slickensided-sl, un-undulating, pl-planar, clay-cl, sand-sa, mica-mi, crushed-cr, iron stain-Fed Zone, MB=Mechanical Breakage, W1=Fresh, W2-slightly Weathered, W3-Moderately Weathered, W4-Highly Weathered, W5-Decomposed. FZ- Fractured, CL= Core loss Drilled by: BINOD MAGAR

BORE HOLE LOG KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: LS-2

COORDINATES:3041095.177N, 602085.993E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY START DATE: 29/04/2002 COLLAR ELEVATION:597.737 m ELEVATION HOLE END: 567.737m LOCATION: YANGRANG KHOLA

INCLINATION: VERTICAL Core Recovery RQD% kg/cm2 Barrel Size Ε Water Level Roughness Orientation Joint/R cm Depth, Laboratory Afteration Core (Description Blows per 15 cm REC% ROD% 8 8 8 8 웂 10.00 0-15 15-30 30-45 [Colluvium deposition of brown to dark grey, Dry fine grain sand and cobble to boulder size. Gravel of light to dark grey to greenish phyllite 56 8 13 quartzite, dolomite and smphibolite. 14 11.00 45/35 Colluvium deposition of fine to medium grain, dark grey sand and boulder of light grey, fine grain, laminated phyllite. 40 13 27 35 12.00 5/80 Colluvium deposition of light grey to greenish, Dry fine grain sand and pebble to boulder size gravel of light grey to greenish, fine grain, 63 laminated phyllite with Quartz. 36 44 13.00 22/80 Initial 47 cm is colluvium deposition of cobble to boulder size of light grey to greenish, fine grain phyllite. Bed rock started from 13.47 m that is W1, 104 ļŗ 7 100 12 strong hard, dark grey to greenish, fine grain, 300 14.00 laminated phyllite. W!-W2, strong hard, dark grey to greenish, 12.60 fine grain, laminated, highly jointed and 12.20 fragmented phyllite. 20° Ìг 9 100 50 15.00 W!, strong hard, dark grey to greenish fine grain, laminated, highly jointed and fragmented phyllite. 20 11 100 12 50 16.00 W!, strong hard, dard grey to greenish, fine grain, laminated phyllite. 20° 100 4 59 40 17.00 W!, strong hard, dark grey, fine grain, 12.20 laminated phyllite with Quartz vein. 12.20 20^t FZ: 17.14 to 17.64 m 40° 11 100 60° 18.00 W1-W2, strong hard, dark grey to greenish. fine grain, laminated highly jointed and 20° fragmented phyllite with Quartz. Feo İr 7 100 60^t 19.00 W!-W2, strong hard, dark grey to greenish, fine grain, laminated, highly jointed and fractured phyllite. 20 13 100 Feo 60^t 20.00

ABBREVIATION rough-r, smooth-s, slickensided-si, un-undulating, pl-planar, clay-cl, sand-sa, mica-mi, crushed-cr, iron stain-FeO Zone, MB-Mechanical Breakage, W1-Fresh, W2-slightly Weathered, W3-Moderately Weathered, W4-Highly Weathered, W5-Decomposed. FZ- Fractured, CL- Core loss

Drilled by: BINOD MAGAR

BORE HOLE LOG

KULEKHANI-3 HYDROELECTRIC POWER PROJECT

DRILL HOLE NO.: LS-2

COORDINATES:3041095.177N, 602085.993E

DRILLING MACHINE: KOKEN DRILLING METHOD: ROTARY

START DATE: 29/04/2002 COLLAR ELEVATION:597,737 m ELEVATION HOLE END: 567,737m LOCATION: YANGRANG KHOLA

	¬-							INC	NCLINATION: VERTICAL Core Recovery Results									
-			1							re F 10%	tecc	ver	Y HH		Results			
	 		E	įΓ	1		T	-	T	10%	Π	1	111		kg/cm2			
Depth, m	1 200	Description	Water Level m	Alteration	Orientation	Roughness	Joint/R cm	REC%	RQD%	8	40	90	90	100	Laboratory			
21.00	n	W1-W2, strong hard, dark grey to greenish, fine grain, laminated, highly jointed and fractured phyllite.	12.40	-	20 ⁰	lr	10	100	-									
22.00		W1, strong hard, dark grey to greenish, fine grain, lamianted, moderately jointed and fragmented phyllite.		Feo	20 ⁰	lr	7	100	22									
23.00		W1, strong hard, dark grey to greenish, fine grain, laminated phyllite.	12.40	Feo	20° 30° 60°	lr	7	100	46									
24.00	e en e establishen en en en en en en en en en en en en e	W1, strong hard, dark grey to greenish, fine grain, laminated phyllite.		-	20 ⁰ 50 ⁰ 60 ⁰	İr	9	100	51									
25.00		W1, medium to strong hard, dark grey to greenish, fine grain, laminated, moderately jointed and fractured phyllite. FZ: 24.30 to 24.60 m		,	20" 30" 50"	lr	9	100	-						į			
26.00		W1, strong hard, dark grey to greenish, fine grain, highly jointed and fractured phyllite. Cl :25.30 to 25.54 m; FZ :25.00 to 25.30 m	12.45	Feo	30° 40°	lr	8	76	-									
27.00		W1, strong hard, dark grey to greenish, fine grain, laminated, moderately jointed and fractured phyllite with qquartz vein.		-	10 ⁰ 30 ⁰ 50 ⁰	lr	11	100	-									
28.00	The second of th	W1, strong hard, dark grey to greenish, fine grain, laminated, moderately jointed and fractured phyllite with quartz vein.		-	20° 30° 50°	lr	10	100	-									
29.00		W1, strong hard, dark grey to greenish, fine grain, lamianted and jointed phyllite with quartz.		-	20° 30° 50°	Ir	11	100	20									
30.00		W1, strong hard, dark grey to greenish, fine grain, larnianted, moderately jointed and fractured phyllite with quartz vein. FZ: 29.43 to 29.55 m	12.50	-	30° 50°	tr	10	100	10									

ABBREVIATION rough=r, smooth=s, slickensided=sl, un=undulating, pl=planar, clay=cl, sand=sa, mica=mi, crushed=cr, iron stain=FeO Zone, MB=Mechanical Breakage, W1=Fresh, W2=slightly Weathered, W3=Moderately Weathered, W4=Highly Weathered, W5=Decomposed.

FZ= Fractured, CL= Core loss Drilled by: BINOD MAGAR