HC-HAT CAEEK WOOF 15(3) I

DRILL HOLE LOGS HAT CAEEK PROTECT-1975

J. ROTZIEN DEC 1975

#### DOLMAGE CAMPBELL AND ASSOCIATES LTD.



# BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT - DRILL RECORD

: 45,368'N Coordinates

25,453 E

Length : 1948

Reference Elev. : 3901

Azimuth : \_\_ Dip : \_90°

Hole Nº. : 75-79

Date : AUG. 1975

Logged by : 1 Rotzien

Ground Elev. : 3899'

Core Size : NQ

Sheet : 1 of 10

LEVATION IN FEET DEPTH IN FEET		TRATIGRAPHY		TAIL & STRUCTURE	RE LOSS	<u></u>	M	OIST	20% URE
ELEV IN	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SA	0 20	40 (	50 80
0-111	Datum	OVERBURDEN Mud and rhyolite	- - - - - - - - - - - - - - -	Note: Original ground elev. 3896'				,	
20-									
40-	· · · · · · · · · · · · · ·	RHYOLITE White to light grey, mod. to very hard, finely crystalline		Triconed					
60-									
80 -	以 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Ę.							
100 3800	が必要								
120-									
140							-		
160								\$	
180	会会は	DRAFT COPY		DRILL HOLE			7.5	7.79	

SHEET Nº : 1 OF .10....

STRATIGRAPHY DETAIL & STRUCTURE SELECTION SELE	ELEVATION IN FEET. DEPTH IN FEET		STRATIG	RAPHY	DET	AIL & STRUCTURE	WPLE	ASH AT 20% MOISTURE
200 200 200 200 200 200 200 200 200 200	ELEV IN DE	STRAT. PLOT	MAJOR ROCK	UNITS	SYMBOL	DESCRIPTION	SAI	0 20 40 60 80
260-  Light grey to dark blue grey, hard to soft, flow breecia with rhyolite blocks in clst  CLAYSTONE  Dark grey, very soft to mod. hard  Light grey to dark blue grey, hard to soft, flow breecia with rhyolite blocks in clst  Light grey, very hard rhyolite  Light grey, very hard rhyolite  (0-1) buff, soft	1111111	\$25.55.55.55.55.55.55.55.55.55.55.55.55.5	<u>Continued</u>					
Light grey to dark blue grey, hard to soft, flow breecia with rhyolite blocks in clst  CLAYSTONE  Dark grey, very soft to mod. hard  280  Light grey, very hard rhyolite  Light grey, very hard rhyolite  (0-1) buff, soft	11111111			•				
Dark grey, very soft to mod.  hord  Light grey, very hard rhyolite  (0-1) buff, soft	1111111		CLAVSTON			hard to soft, flow breccia		
320 - 340 - 360 -	880		Dark grey, v		, , , , , , , , , , , , , , , , , , ,			
360				·	/ <sub>70</sub>			
360	340						***	

DRILL HOLE: ...75.-79..... SHEET Nº.: .2. OF .10...

ELEVATION IN FEET. DEPTH IN FEET	STRATIGRAPHY	DETAIL 8 STRUCTURE OF MOISTURE
S E S	TRAT. MAJOR ROCK UNITS	SYMBOL DESCRIPTION OF 0 20 40 60 BG
400-	Continued	85 (0·1) buff, soft
420		
4		
440		(0-3) buff, hard slst
		55
460		
uliti		
480		85
500		
500 Z 3400 -		(0·1) buff, soft
520		
1		20
540		(0.9) buff, mod. hard sist
		85 (0.9) buff, mod. hard sist
560		
580		
	Arbitrary gradational bounds	ary X Buff, laminae
600	Dark brown, mod hard, with approx, 10-15% carb.	
	content. 590-611 : intensely sheare at 10°-20" to C.	
620 J	DDAET CODY	E

DRAFT COPY

DRILL HOLE: ... 75 - 79 .....

ELEVATION IN PEET. DEPTH IN PEET	STRAT.	<u> </u>	GRAPHY	DE	TAIL 8	STRUCTURE	RE LOSS	SAMPLE Nº.	AS M	H AT 20' DISTURE
ם בר	PLOT	MAJOR RI	OCK UNITS	STMB	DESCR	TPTION	8	S	0 50	40 60 80
620 -		<u>Continu</u>	<u>ed</u> -		(0·1) ru	sty, soft clst				
111111		C( F A A ( )		- 🔆		e grey, soft clst ff, hard th minor silty coal		1		
660			COAL. Pry hard, with m silty coal and s		(0·1) rus	ty , hard sist				
680						ft, coaly sist f,veryhard,calc.clst		2		
700 <del> </del> 3200 =			•		70	. • • • • • • • • • • • • • • • • • • •			بيروندالميد	
720-				XXXX				3		
740 -				X	(<0.1)	usty, hard sist				
760 -					Silty 5 (0.5) sof	t.silty				
780 - 780 -		-		× s	5	. ,		4		
800   THE					Soft, co.	aly sist				
820 <del> </del>				***	Soft, card Mod. har	b. slot d, silfy				
840		DRAFT	COPY		Solt, car	6. s/sF		5		

DRILL HOLE: ....75.-79.....
SHEET Nº.: .4. OF .19...

00/35 75(3) I

## Specimens

* 472	coal, to illustrate banding at angle almost parallel to core axis
• 484	as above N.B. pale clay band (? ash)
• 671	coal with banding parallel to core axis
871	coal where banding is not regular
•1182	coal with clay parting (? ash) banding almost parallel to core axis
1492 1494	? volcanic ash, speckled
. 1559	? volcanic ash
1562	dark grey-brown silty mudstone (parting in coal)
1787	? volcanic ash band dip parallel to core axis
1797	dark grey clay with irregular junction with coal and seatearth

seatearth

#### Specimens

	) J (
• 472	coal, to illustrate banding at angle almos parallel to core axis
• 484	as above N.B. pale clay band (? ash)
• 671	coal with banding parallel to core axis
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1562	dark grey-brown silty mudstone (parting in coal)
1787	? volcanic ash band dip parallel to core axis
1797	dark grey clay with irregular junction with coal and

### DOLMAGE CAMPBELL AND ASSOCIATES LTD.



## BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

10,400'S

Length : <u>1846</u>

Hole Nº. : 75 - 77

10,650' E

Date : <u>JULY 1975</u>

Reference Elev. : 3362'

Azimuth : - 90° Dip :

Logged by: J. Rotzien

Ground Elev. : 3360

Core Size : NQ

Sheet : 1 of 9

E ion	P T H FEET		STRATIGRAPHY	DET	AIL &	STRU	CTURE	LOSS	PLE				20% JRE
ELEVATION IN FEET	D E P T	STRAT.	MAJOR ROCK UNITS	SYMBOL	DESCRI	PTION		CORE LOSS	SAMPLE Nº.	0 20			
<u> </u>								Ĭ	<u> </u>			$\dashv$	1
	0-	Datur		<u> </u>						F			
	]		OVERBURDEN Cobbles and gravel	Ė						E			
			Boulders and gravel	Ė.			•			Ē			
	20-									E			
	=		Gravel	F						E			
			G, arei	E	•					<u> </u>			
	40-		·	<u> </u>						-			
			Boulders	Ė						Ė		İ	
				E ·		,	• •			E			
	60-		Boulders and gravel	<u> </u>	•					E.			
	,			F									
				Ē	<u> </u>					-			
	80 —		Clay and gravel	E						E			
	-		5.5 <b>/</b> 5 3.	<b>F</b> .						<u>-</u>			
1	_									F			
	-	100	Clay	<del> </del>	Triconec	<del></del> _				E			
1	100		COAL  Black, very hard to soft,	$\boxtimes$		•				[			
	_		clean coal with silty coal and carb, sist										
	-		and carb, 0131	× 45					1	F			•
	120							*	'	F			
	-					i		**	ł	E			
	=				Soft coa	aly clst	•						
	140				Silty	•		$\vdash$	ļ —	E			
	<u>-</u>			X 60	Silty					E			
	=			$\bigotimes$	1 -	ssional b	uff sist lam	,	2	2			
	160 -		·	$\times$	Friable,	silty.							
	-		× .	<b>X</b> —	Soft, co.	alv slst				-			
	-	1000		X		,,	. •		77	ţ			
	- 081		DRAFT COPY	EX 10	1		•	l	3	<u> ተ</u>	Ų	 	1 1

SHEET Nº : 1 OF .9....

				· · · · ·		<b>,</b>				
FEET. P T H FEET		STRATIGRAPI	нү	DET	AIL & STRUCTURE	SSOT	MPLE 10.		TA H	
N 0	STRAT. PLOT	MAJOR ROCK UNITS	SY!	MBOL	DESCRIPTION	CORE	SAMPI Nº.	0 20	40 60	90
180 —		Continued ·		<u>.</u>	With buff slst laminae Silty					
1111				×45	Silty with interbedded coaly sist		4	- - -		
200				× × ×	With minor beds of coaly sist				٦	
220 -				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Finely interbedded clean and sitty		5			
240				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Irregular buff clst lam.		6		-  -  -  -  -  -	
-		•.		× × × 50	And carb, clst Finely interbedded clean and silty (0·2) buff, hard, sandy slst Interbedded with silty coal and		7	1111		
260 -		· .		×	coaly sist		,			
				\ \ \ \ \ \ \	With minor silty coal		8			
280			· · · · · · · · · · · · · · · · · · ·	***	Silty Coaly sist (0.4) butt, hard sist		9	- <b>L</b> ,		
300 <del>-</del>		CLEAN COAL  Black, very hard with occassional resin E		\ 55 \ \ \	Silty					
700				X X X X	Buff to grey, hard sist lam. Buff to grey, hard sist lam.		10			
320 <u> </u>				× 45	Grey coaly sist	78				
340 - 340 - 1			<u> </u>	70						
				×45	Silty			-		
360-		<b>,</b>		× × × × 50	Silty coal and coaly sist  r(0.3) grey brown, soft cist (0.5) buit, hard sist		11			
380 -			×		Dark brown, soft, carb. sist  Dark brown, soft, carb. cist					
. =		٠,	$\stackrel{\triangleright}{\sim}$	30	Banding					
400	303 d	DRAFT	CUBA 👺	70						

DRILL HOLE : ... 75 - 77 ..... SHEET Nº. : . 2. OF ... 9...

ELEVATION IN FEET. DEPTH IN FEET	1	STRATIGRAPHY	DET	· · ·	CORE LOSS SAMPLE Nº	ASH AT 209 MOISTURE
ELEV IN O E	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION ·	SAM	0 20 40 60 80
400 -		Continued			12	
440		CLEAN AND SILTY COAL	70			
460		Black, very hard to hard, fine interbedded; with minor interbedded coaly sist			13	
480   11   11   11   11   11   11   11			XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX			
520		CLEAN COAL  Black, very hard with minor interbedded of carb, sist to sulty coal		(0.7) brown, soft clst	14	
540			××××××××××××××××××××××××××××××××××××××	(0.4) soft silty (0.3)} soft silty		
560				Dark brown, soft, carb.sist	15	
600			) <sub>P</sub>		16	
				(0.4) hard, silly		

DRAFT COPY

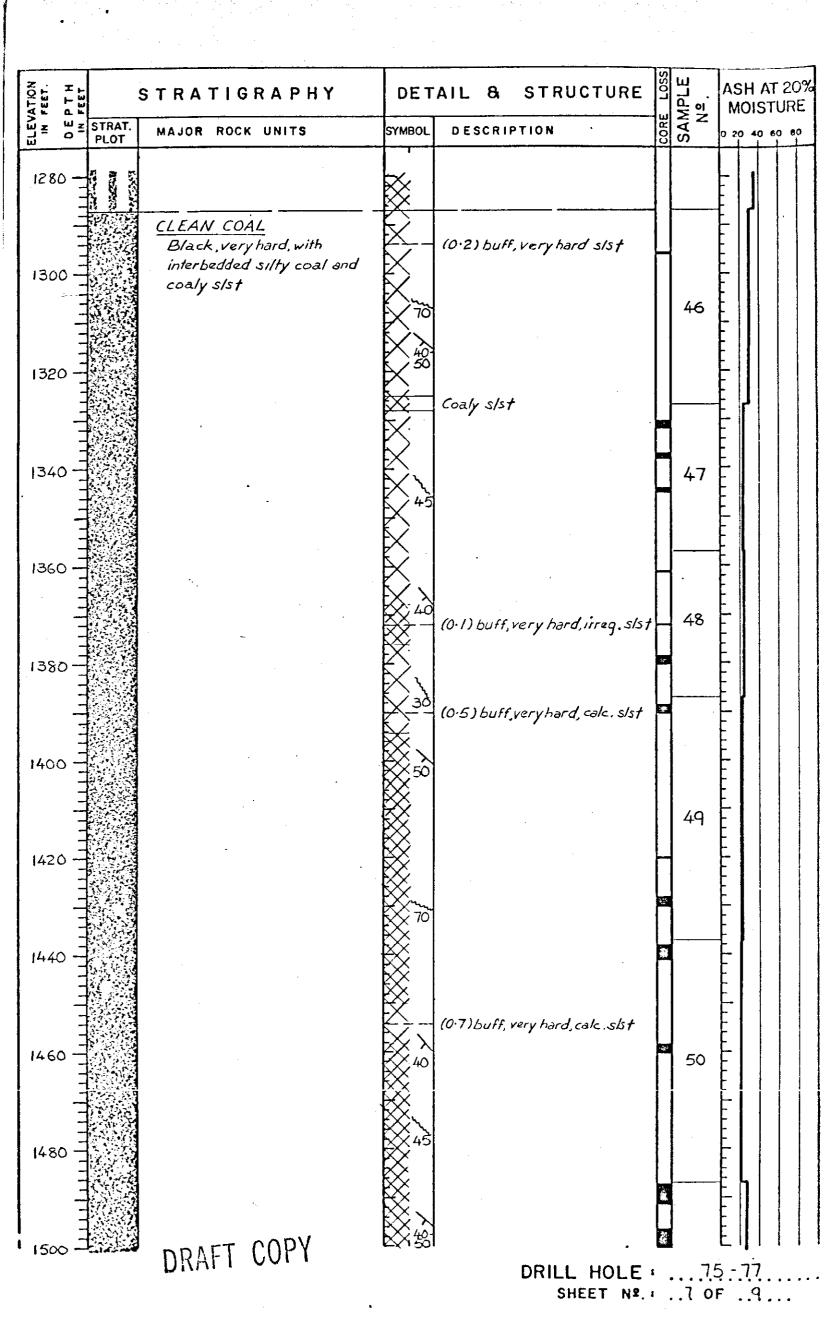
DRILL HOLE: ...75-77......
SHEET Nº.: .3 OF .9....

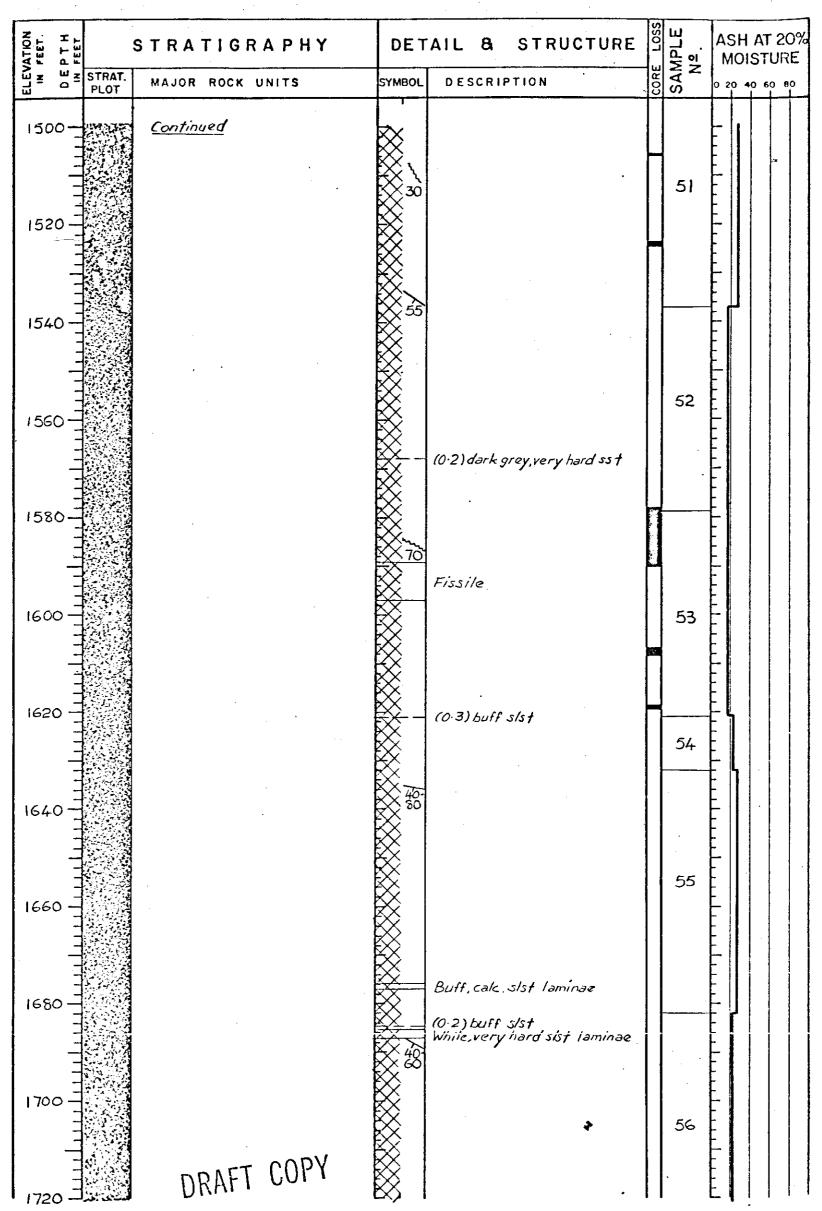
ELEVATION IN FEET. DEPTH IN FEET	5	STRATIGRAPHY	DET	AIL & STRUCTURE	SSO1 =	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEV S S S	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION .	CORE	SAI	0 20 40 60 60
620		SILT STONE  Grey brown, soft, with interbedded silty coal	35	Hard, black, silty coal with minor coaly sist  With chunks of silty coal  Hard, silty coal  With coal chunks		17	
660		MIXED COAL UNIT  Black to dark grey, hard to moderately hard, interbedded silty coal, coaly and carb. slst		Clean coal  Soft to hard interbedded  Clean coal Silty coal  Coaly sist		19	
680 	o destructions de la company d	•	35	Silty coal (0.2) buff, hard sist (0.2) grey, hard sist Finely interbedded Slightly carb. sist	á		
720-		COAL  Black, very hard to soft, interbedded silty and clean	65	Light grey, calcified wood with Fragments clean coal Soft carb, sist With buff to white sist laminae  Silty		20	
740		coal, carb. and coaly sist, and sist		Carb. slst Silty Carb. slst (0·1) buff, hard slst Carb. to coaly slst		22	
760			\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Finely interbadded clean and sitty  Dark grey to black finely interbedded carb sist and clean		23	
780 -			×	Clean coai and carb. sist  Black to grey brown, finely bank	% <b>3%</b>	24	
820			20 +00 /070 20 /070	bed of clean coal and carb.sist 70 % coal  Same as above, only 30% coal.		25	
840 -	13600	DRAFT COPY	核終	DRILL HOLE:	i :	<b>i</b> 7	[]         5-77

STRAT.	STRATIGRAPHY	DETAIL & STRUCTURE	MPLE	ASH AT 20 MOISTUR
STRAT.	MAJOR ROCK UNITS	SYMBOL DESCRIPTION	SAMPI Nº.	0 20 40 60 80
840	Continued	Clean coal  Finely interbedded sist, carb.		
880		Sist, silty coal and clean coal  Clean coal  Finely banded clean and silty coal and white cist. Cist increase with depth	26	
900 T		Sist to clean coal  Carb. sist grading down to clean coal.	27	
920   1		Finely interbedded silty coal and carb, to coaly sist  Clean with white cist laminae	28	
940		Finely interbedded silty coal and carb. to coaly sist  20  (0.6) while , very hard clst, with irregular coaly laminae Finely interbedded silty and chan coal and coaly and carb. sist (0.3) white clst	29	
960		Coaly sist  Silty Carb. sist  Silty coal with minor carb. sist	30	
980		ond clean coal  Coaly sist Calc. sist  Dark grey to black carb. sist with finely interbedded silty coal	32	
020		Silty coal with minor clean coal and carb. slst	34	
1040		2(0.2) buff slst Silty (0.3) white clst	35	
060	DRAFT COPY	Grey to black, finely interbedded silty coal and carb, sist with minor clean coal	_ 36	

DRILL HOLE : ... 75 - 77 ..... sheet N2. : . 5. OF ..9 ...

			<u> </u>		Ŋ		I
ELEVATION IN FEET. DEPTH		STRATIGRAPHY	DET	AIL & STRUCTURE	E LOS	SAMPLE Ne.	ASH AT 20% MOISTURE
ELE N N	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SAI	0 20 40 60 80
1060-		Continued					
1080			45		7	37	
ultu			X	Clean		38	
1100			×	Silty (0.4) grey calcified wood Coaly sist Clean (0.3) white clst		39	
1		•		(0.3) white clst Interbedded sifty cooland carb.slst (0.4) white clst			-
1120		•		Silty		40	
1140				(0·2) buff clst. Finely interbedded silty coal, carb. slst and clean coal		41	
1160-			× × × \	Grey brown calc. slst	3.5°	<del></del>	
1180			20	Clean with interbedded sitty coal		42	
1200		CLEAN COAL  Black, very hard with interbedded	× 49	(0:3) buff slst	<u></u>		
1550		carb. sist, and minor silty coal		Buff slst lam. With irregular buff slst lam.	<b>≱</b>	43	
			×40 ×50	Silty cool and coaly sist			
1240		MIXED UNIT  Black to grey brown, very hard to soft, interbedded clean and silty coal and carb. and coaly	×	Finely interbedded silty coal and coaly sist (0.7) buff, very hard sist Coal and coaly sist Slightly carb. sist Silty coal		44	
1260	A CONTRACTOR OF THE CONTRACTOR	<i>sls†</i>	X X X	Finely interbedded carb. and coaly sist with minor silty coal		٠	
1280	STORTEN STORY	CODY				45	
		DRAFT COPY		DRILL HOLE : SHEET Nº. :			





DRILL HOLE : ... 7.5 -77 ... SHEET Nº : . 8. OF .9. ...

4 7 7 T	STRATIGRAPHY	DETAIL & STRUCTURE	SAMPLE	ASH AT 201 MOISTURE
STRAT.	MAJOR ROCK UNITS	SYMBOL DESCRIPTION	SAM N	0 20 40 60 80
1720-	<u>Continued</u>			
1760 -			57	
1780 — ———————————————————————————————————			58	
820			59	
1840 —	END OF HOLE AT 1846 feet		<u>2</u> 1	
860				
ווווווווווווווווווווווווווווווווווווווו	DRAFT CORY			

DRILL HOLE: ... 75-77......
SHEET Nº.: .9. OF .9....



#### DOLMAGE CAMPBELL AND ASSOCIATES LTD.

## BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

: <u>6700'\$</u>

Length : 1752'

Hole Nº : 75-80

10,050' E

Azimuth : \_\_\_\_

Date : JULY 1975
Logged by : J. Rotzien
Sheet : 1 of 9

Reference Elev. : 3320'

Dip : <u>-90°</u>

Ground Elev. : 3318-5'

Core Size : NQ

ELEVATION IN FEET	EPTH NFEET		STRATIGRAF	PHY	DET	AIL &	STRU	CTURE	E LOSS	MPLE Nº.	MO	DIST	20% URE
<u> </u>	۔ ہ	STRAT. PLOT	MAJOR ROCK UNI	TS	SYMBOL	DESCRIP	TION		S	SA	0 20 	40 6	0 80 I !
	_	Datum	1								П		П
	0-				<u> </u>						El		
	_		<u>OVERBURDEN</u> Large boulders	. <del>.</del>	<b> -</b>	•		•	$\  \ $		E		
	_		Large Boolder's	•	F					•	<b> -</b>		
	- =				Ē					•	<b>F</b>		
2	20-				-		•				Fl		
	=				-						-		
	_		Mud		<u> </u>						-		
	1				E	•					E		
4	10-				<u> </u>	,							
	-				<b> -</b>						<b>F</b>		
					F I						E		
			SILTSTONE		X > 65	2 laminae o	f light are	v 50.64			-		
6	;o-		Grey, moderately h	ard to hard	ŀXI			,,95//					
0			with light grey and		$\sim$								
	1		clst beds and trace.	s of carb.	() 40								
			fragments,				•				-		
	=				$\succeq$	(0.2) buff so Several lam.	off clst of buff s	off clst					
8	·○┤				$\bowtie$								
	= =				$\sim$ 7	(0·2) buff, m	og, parg (	-/57	Ì		-		
	$\exists$					10-2) buff, m (0-1) buff, s	od hard	:/5 + .	١		-		
	#				70	(O·T) buff,s	off						
10	o⊢				-X-~_						-		ĺ
	E				×60						-		
				ļ	<b>&gt;</b>	(0·1) buff		, ,			-		
	#				5-1	(0·1) buff (0·1) light gro	ey, mod. he	erd clst	-		-		
12	E										-		
, ,	<b>*</b> ‡							;			-		
	7				×				ļ		-		
	$\Xi$				$\times$		•				-		
	⇉				$\times$		•				-		
14	ᄋᅻ			<u> </u>	$\lesssim 1$		•				_		
	7			· }		(0-3) buff, 5	oft clst		į	ļ	-		
	4				X						-		
	#		-	-	<del>X</del>	(C-5) buff				j	-		
16	∘∄		DO164 ~		終 │					ł	-		
•	$\Xi$		DRAFT C	UPY E	$\gg 1$		·	. •					
	4				× 20					ŀ	-		
	E	:::::::		ļ	X.I					ļ	;		
18	Εo				$X_{50}$	(0.4) buff, s	oft clst	İ			:		

SHEET Nº : 1 OF .9.....

STR	ATIGRAPHY	DETAIL OF STRUCTURE IN MI	H AT 20 DISTUR
111 - 2	OR ROCK UNITS	SYMBOL DESCRIPTION W Z Z	40 60 86
80 60	Minued		
		<b> </b>	
4:::::::			
		Buff, soft clst	
200 = :::::::			
3:::::::			
3::::::			
220 ]	•	<b>⋉</b>	
4:::::::		[X	
3:::::::	•	(0.4) buff	
		65 (0.4) buff	
240		Buff, soft clst laminae	
<b>=</b> ::::::::::::::::::::::::::::::::::::		(0.2) buff, soft clst	
<b>}</b> ∷∷∷			
260			
3::::::		200.2) buff, soft clst	
<b>=</b>			
3::::::		(0.2) buff, soft clst	
280		(0.9) buff, soft, silty clst	
<b>3</b>		(0·1) buff, soft clst	
3		₩4ð	
= = = = = = = = = = = = = = = = = =		(0·1) white, soft	
300			
<b> </b>			
日本語		55 (0·1) buff, soft clst	
320 =			
]::::::		Soft interlaminated sist and cist	
1::::::		(0.1) buff, very hard	
	•	(0.1) buff, soft clst	
340		55 (0.3) buff, soft clst	
340 3		(0.2) buff	
3::::::		(0·2) buff	
360 - 1:::::::			
		60 (0.1) rusty buff, soft clst	
3::::::			
<b>#####</b>			
380 - 300 C			
	DRAFT COPY	20	
<b>国際副</b>	DIVITE OUT I	(0.2) buff (0.1) buff, mod, hard sist and cist	
4::::::			
400 Jiiiii		(0.3) light grey [ [	

DRILL HOLE : ...75.7.80 ..... SHEET Nº : ...2 OF .9....

ELEVATION IN FEET. DEPTH IN FEET	5	STRATIGRAF	PHY DET	AIL &	STRUCTU	RE SSOI	SAMPLE Nº.		AT 20% STURE
ELEV IN O	STRAT. PLOT	MAJOR ROCK UNIT	SYMBOL	DESCRIF	TION	SOR.	SA	0 20 40	50 80
400-		Continued	X X	(0.2) light g (0.2) buff	rey to buff, mod. he	ndclst			
420			X X X = X X X X X X X X X X X X X X X X	(0.8) light (0.2) buff (0.2) buff	grey brown s, soft dst				
440			X X X	2(0·2) bi	uff, soft clst			. 1	
460			X io	(0·2) buff	, soft clst				
480-				} 2 (O·1) bu	, mod. hard cls1				
520				(0·2) buff					
540 -			X	(0·3)buff,v Buff,mod Soft	ery hard, very fin . hard clst	z ssf		مساميمامي	
560 -								1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
580 -				<u> </u> 	d to soft hile, soft, clayay s , soft, clayay sst	<b>₹</b>			
600 -		DRAFT (	COPY X20		, soft, clayay sist , soft clst				
650-	<b>1</b> ::::::	1	EX.	Ί				El	

DRILL HOLE: ... 75: 80....... sheet Nº.: ... 3 OF ......

ELEVATION IN FEET. D E P T H IN FEET		STRATIGRA	АРНҮ	DET	AIL & STRUCTURE	E LOSS	SAMPLE Nº.		AT 20% TURE
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	STRAT. PLOT	MAJOR ROCK U	NITS	SYMBOL.	DESCRIPTION	CORE	SA	0 20 40	60 80
620		Continued		- /8 8/	Soft				
640									
660					(0-1) buff, mod. hard clst (0-1) buff, mod. hard clst	38			
680					(0·1) light grey (0·1) rusty				
700				××××××××××××××××××××××××××××××××××××××	Rusty-buff, mod. hard clst lam. Rusty-buff, mod.hard clst lam. (0·1) rusty, soft clst				
720				**************************************	(0·1) buff (0·6) buff				
740									
760 -			·	**************************************	(0.2) light grey				
800 -				××××××××××××××××××××××××××××××××××××××	(0.1) buff, soft clst				
820 -		DRAFT	COPY						
840		•	~01 J						

DRILL HOLE : ... 75 - 89 ..... sheet Nº .: .4. OF ....

ELEVATION IN FEET. DEPTH IN FEET		STRATIGRAPH	Y DET	AIL & STRUCTURE	FLOSS	SAMPLE Ne.	ASH AT 20% MOISTURE
O ELE	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	COR	SAI	0 20 40 60 80
840 -		Continued	× 55 × × ×	Soft, with fragments of buff, hard (0·8) light grey, very hard Imst infilled tractures of grey sist			
880		•		With irregular calcite veins			
900 -			50	Buff clst and sst lam. in slst (0.6) buff, hard sst			
940							
960			× 500	(0·2) buff			
980 							
1020			× 55	(0·2) buff			
1040		DRAFT COP	γ × ×	(0·1) white (0·2) white			

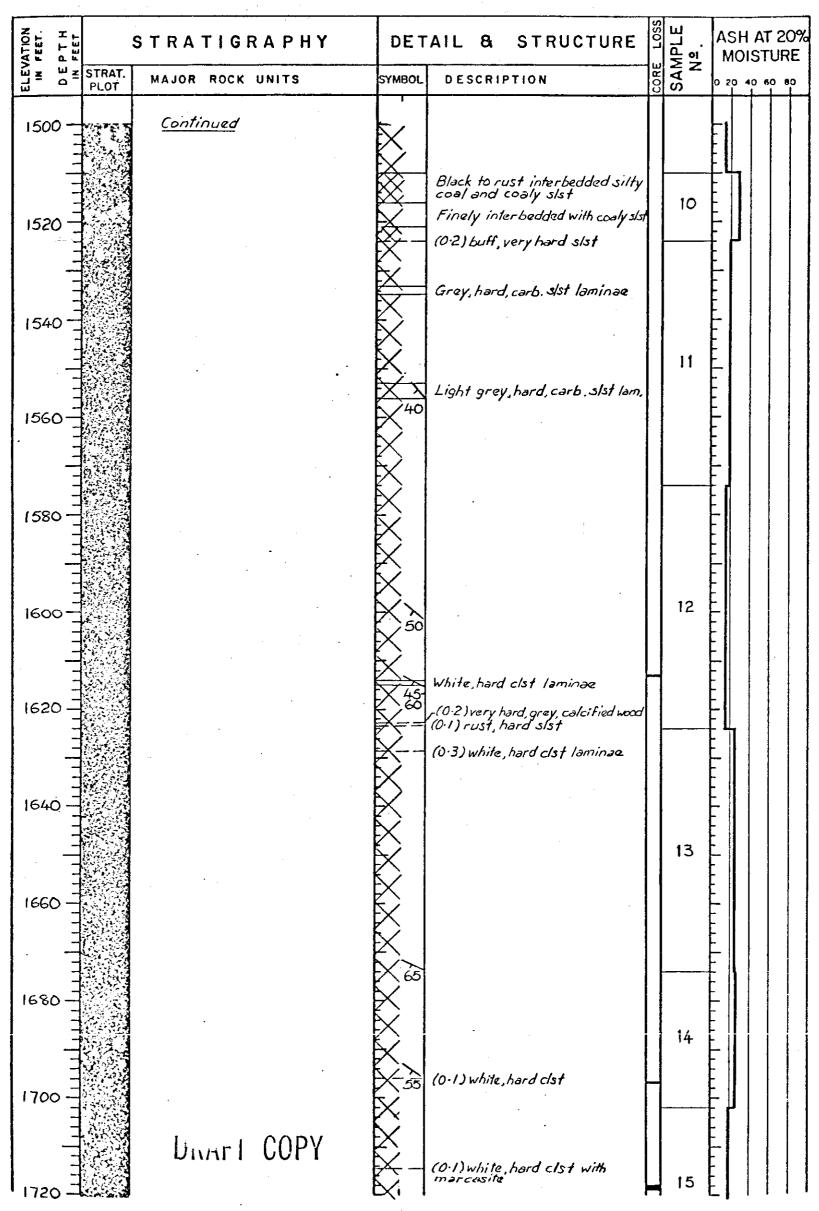
DRILL HOLE: ...75-80 ..... SHEET Nº .: .5. OF .9....

STRATIGRAPHY  DETAIL & STRUCTURE    Major   Major Rock Units   Stude   Description   State   Major Rock Units   Stude   Major Rock Units   State   Major Rock Units   Major Rock Units   Major Rock Units   Major Rock Units   Ma	E LOSS	AIL & STRUCTURE	
1100  1100	SA	DESCRIPTION	OT MAJOR ROCK UNITS SYME
1100 - 11			Continued
1140  1160	d	4 laminae of buff to white hard	
1160—  11		(0·7) buff, hard clst	
1160 — LEAN COAL  Black very hard, with minor inlerbeds of sist and resin beads of \$\lambda_{\mathbb{Z}}'' \text{ in diameter}  1200 — Dark grey, hard, carb. sist  Dark grey, hard, carb. sist  Dark grey, hard, carb. sist  Dark grey, hard, carb. sist			
CLEAN COAL   Black, very hard, with minor interbeds of stst and resin beads of \$\leq \lambda^* in diameter   Dark grey hard, carb. stst     1200   Dark grey, hard, carb. stst     1240   Dark grey, hard, carb. stst     1240   Dark grey, hard, carb. stst     1260   Dark grey, hard stst     1260			
Black.very hard, with minor inlerbeds of sist and resin beads of \$\leq \lambda'' \text{ in diameter} \text{ (0.7) dark grey.hard, carb. sist } \text{ Dark grey, hard, carb. sist } \text{ Dark grey, hard, carb. sist } \text{ Dark grey, hard, carb. sist } \text{ (0.4) buff to grey, hard sist }  (0.4) buff to grey, hard sist		Dark grey brown, slightly carb.	
1200 — (0-7) dark grey.hard, carb. slst  Dark grey, hard, carb. slst  Dark grey, hard, carb. slst  (0-4) buff togrey, hard slst			Black very hard, with minor interbeds of sist and resin
Dark grey, hard, carb, slst  Dark grey, hard, carb, slst  Dark grey, hard, carb, slst  (04) buff togrey, hard slst	<i>t</i>     2	(0·7) dark grey.hard, carb. sist	
Dark grey, hard, carb. slst    1260		Dark grey hard, carb. sist	
	3		
DRAFT COPY (0.1) buff, hard sist		Dark grey, hard carb, sist	DRAFT COPY

DRILL HOLE : ... 75-80 .....

FEET.	S	STRATIGR	APHY	DET	AIL & STRUCTURE	LOSS	SAMPLE Nº.	ASH MO		
. O .	STRAT. PLOT	MAJOR ROCK	UNITS	SYMBOL	DESCRIPTION	CORE	SA	0 20 4	10 60	80
1280	77.73	<u>Continued</u>		XXX						
1300			*	XXX			4			
1320 — 1320 — 1				1 45	(0.1) buff, hard sist Marcasite coating on slip Surface at 30° (0.1) buff to white, hard clst (0.2) white, hard clst					
1340 -				XXXXX	White clst laminae		5			
1360				X X	Several white clst laminae Finely interbedded with carb. slst Coaly slst		· .			
380 <u>-</u>					Finaly interbedded silty coal and carb.slst  Coaly slst Silty		6			
400 -				× 500	(0.2) white clst laminae		7			
				X	Grey, sandy slst					
440 -				XXXX						-
460					Carb , slst		8			
480		N -		XXX			-			
111111111111111111111111111111111111111		DRAFT	COPY	XXX	(0·1) rusty, hard slat		0			

DRILL HOLE: ...75-80.....



DRILL HOLE : ... 75 - 80 ...
SHEET Nº.: . 8. OF .. 7 ...

ELEVATION IN FEET. DEPTH IN FEET		STRATIGRAPHY	DET	TAIL & STRUCTURE OF MOISTURE	
E EVE	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION SO SO 40 60 6	10
1720 -		Continued	× % × ×	(0.2)dark grey, hard carb. slst White, hard clst laminae	
1740 -		END OF HOLE	× × 55	Finely interbedded clean and silty	
1760		END OF HOLE_ AT 1752 feet	××55		
	]	DRAFT COPY	_ -		

DRILL HOLE : ...75.-80...... sheet Nº.: .9. of .9...

#### DOLMAGE CAMPBELL AND ASSOCIATES LTD.



## BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

<u>10,320'S</u>

Length : 1727'

Hole Nº : 75-82

9750' E Azimuth : —
3430' Dip : -90°

Date : AUG. 1975
Logged by: J. Rotzien
Sheet : 1 of 9

Reference Elev. : 3430 Ground Elev. : 3428

Core Size : NQ

ELEVATION IN FEET	P T H FEET	STRATIGRAPHY	DET	TAIL & ST	RUCTURE	CORE LOSS	SAMPLE Ng.	ASH MC	I AT 20°	% E
ELE)	O N	STRAT. MAJOR ROCK UNITS	SYMBOL	DESCRIPTIO	N	S .	SA	0 20	40 60 <b>6</b> 0	
	o_	Datum						-		
	111111	OVERBURDEN Gravel and day								
2	0.7	Gravel and boulders								
4	0		ببيابيي							
6	, 	Sand and boulders	المبيئاتينيا							
8		Sand with gravel								
10			و المراجعة المراجعة	·						
12		Sand and gravel with boulders								
14	0									
16	[111]	Gravel and boulders	المستملسية				•			
18	10 -	Clay, gravel and boulders Clay	<u> </u>	,						

DRAFT COPY

DRILL HOLE + ...75.782...

SHEET Nº : 1 OF .9.....

ATION FEET.		STRATIGRAPHY	DET	AIL & STRUCTURE	No.	ASH AT 20% MOISTURE
ELEV IN I	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	֓֞֝֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	0 20 40 60 60
180 -	S 4040 (4940 (49	•				_
100		SILTSTONE	$\otimes$			
		Grey to grey brown, mod.	$\bigotimes_{\mathbf{x}}$			
_		hard to soft, with traces of very fine coal fragments	<b>₩</b> 4ò			
200 -		very fine coal tragmenis	$\bigotimes$			
<u> </u>	]		$\bigotimes \setminus$	Π		
_			× 45			
]			$\bigotimes$			
220-		•				
-						
240 -			$\bigotimes$			
			55	(0-1) buff, soft clst	:	
			××			
560 -			× 70			
-			$\bigotimes$			
-			× 35.		,	
280			XX.40	2 laminae buff clst		
200			$\bigotimes$ $\lambda$			
-		·	× 25	(0·2) buff, hard		
			$\bigotimes$			
3∞-		,	₩	(0.3) buff, soft clst		<b>F</b>
-			$\bigotimes$			
_			$\bigotimes$			
300						
320 -		•		]		
					٠	
		٠.	$\bigotimes_{30}$			
340				(0·2) buff, hard		
;		·	$\bigotimes \lambda$			
-			<u></u>	(0·7) buff, hard		
		·	$\bigotimes$			
360 -		•	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			FIII
			$\bigotimes$			
] :			×35			E
380			<b>X</b>	(0.3) buff, soff clst		
	<b>]</b>		$\bigotimes$			<u> </u>
	<b>]</b>		$\bigotimes$			
	<b>]</b>	-	₩-	(0.2) buff, mod. hard		
400-	_}``.```	DRAFT COPY	17.77 T	(0·1) buff, soft	<b>-</b> , ,	
		. 0011		DRILL HOLE:	! !	? <i>Ţ.¤4.</i>

DRILL HOLE : ...75-82...... SHEET Nº.: ..2 OF ..9...

ATION FEET. P T H FEET.	;	STRATIGRAPHY	DET	AIL & STRUCTURE	FOSS	SAMPLE Nº.	ASH AT	20% IRE
ELEVATIO IN FEET DEPT!	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	COR	SAI	0 20 40 60	00
400-		Continued		(0:2)} buff, hard				
420								
			$\overset{\sim}{\underset{\sim}{\swarrow}} \lambda$	(0.2) / (0. 0) - (-/-/-				
440		•		(0.2) buff, soft clst				
460	Constant	CARB. SILTSTONE Black, very hard	15	Buff. soft.clst		1		 
480 -		COAL Black, very hard clean coal	<del>\$\$</del> 35	(0,2) buff				
500		with small interbeds of silty coal and coaly sist; Resin beads occur throughout	45			2		
				Soft, carb. s/st				
520 -			\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Dark grey to black carb. and coally sist		3		
540 —		•	× 43	White clst, joint fillings				
560 -			45	(0.1) buff slst Very hard to soft, finely interbedded clean and silty coa and coaly slst White to grey clst laminae in clear coal		4		
580		MIXED UNIT  Black to dark gray brown, very hard to soft, interbedded clean and silty coal and coaly and carb. slst	$\times \times \infty$	Clean		5		
600			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Clean (0.7)grey, very hard, calcified wood.				
		DD	55	lata-haddad class and with		6		
650-7		DRAFT COPY	(X)	DRILL HOLE SHEET Nº.				

PEET. PTH FEET	9	STRATIGRAPHY	DET	AIL & STRUCTURE	TOS	SAMPLE Ne.	ASH AT 20 MOISTUR
	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	40	0 20 40 60 80
620 -		Continued	<b>※</b> -	Clean with minor silty coal (0.4) buff to grey, calc. sist		;	
. ]		SUTU COAL	<b>₩</b> 6	Finely interbedded clean and silty coal with occasional white clay laminae			
540 <del>-</del>		SILTY COAL  Black, hard, silty coal with  interbedded carb, to coaly sist	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Dark grey brown, soft carb. slst			- - -
		and minor clean coal	<b>X</b> -	(0·3) buff to grey, hard sist	*	7	
560 — - -			× -	(0.2) buff to grey, hard sist			
580 —			75	Clean Finely interbedded silty coal and coaly sist			
			55	Finely interbedded silty coal and carb, sist		8	
700 <del>-</del>			× -	(0·1) rusty hard sist		<u>-</u>	
			**************************************	(0·1) buff, hard sist Lamination of rusty sist Finely interbedded clean and silty Mixture of clean coal and whitedst		q	
720 <del>-</del> 		CLEAN COAL  Black, very hard, clean coal with interbedded silty coal and		(0.2) grey brown clst Finely interbedded clean coal and (0.3) buff, hard clst			
7.		coaly sist and carb. sist	× \	<u> </u>		Ю	
740 — - -			× 10	With minor carb. slst			
760		MIXED COAL UNIT  Black, hard to soft, finely interbedded clean and silty	<u>₩</u> 4 <u>0</u>	(0·3) buff very hard sist Coaly sist Finely interbedded clean and silty coal.			
, — — —		coal with grey brown, soft carb. sist	× 40	Sitty coal. Clean coal with sitty interbeds		11	
780 <del>-</del>				Carb. to coaly sist			
 				Finely interbedded clean and silty coal with minor carb. slst		12	
-			100 A	Slightly carb. slst Silty			
-028 			**************************************	Finely interbedded clean and silf coal with minor beds of carb. and coaly sist		(3	
840-		DRAFT COPY		Janu Coory Sist			

DRILL HOLE: ...75 - 82 ...... sheet Nº: .4. of ...9...

ATION FEET.	\$	STRATIGRAPHY	DET	AIL & STRUCTURE	LOSS	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEV IN I	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	COR	SAI	0 20 40 60 80
840		Continued	$\bigotimes_{\lambda}$	Finely interbedded clean and silty			
860			35	(0.2) gray, very hard sist  Clean and silty  Soft, carb. sist		14	
880-	**************************************	SILTSTONE  Grey brown, soft to mod. hard, calc. with up to 5% carb. content; Solution cavities exist	30	Solution cavities		-	
900-		in the more calc. areas					
920		Carb. content increasing		Very hard clean coal tinely interbedded clean coal and carb, sist	*		
940-		Black. very hard to soft, clean and silty with interbedded sist and carb. sist : Resin beads scattered throughout	$\times$	Grey brown sist  Finely interbedded silty coal		15	
960			× \	Clean with minor sist interbeds (0-1) buff, hard sist		16	
980			40	(0.4) buff to grey, very hard sist	*		
1000		MIXED UNIT  Black to light grey, soft to very hard, interbedded coal and detrital rock	X X X X X	Grey brown soft, carb. sist  Dark grey brown, very hard, coal  Calc. sst with small interbeds  of carb. sist	ı		
1020			× 4-5	Silty (0.3) grey, hard sist			
1040		·	35	Clean (0.6) grey, soft slst Clean		17	
1060		DDALT OF	₩ 50	Finely interbedded clean and silty coal and carb to coaly slot	'		E

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DRILL HOLE: ...75 -. 82 ..... SHEET Nº : .5 OF .9....

ELEVATION IN FEET DEPTH IN FEET	s	TRATIGR	АРНҮ	DET	AIL & STRUCTURE	E LOSS	宝り	ASH AT 20% MOISTURE
ELEN IN SERVICE SERVIC	STRAT.	MAJOR ROCK	UNITS	SYMBOL	DESCRIPTION	COR	SA	0 20 40 60 80
1060		Continued			Clean . Finaly interbedded silty coal and carb, to coaly slst		18	
1080				X	Light grey, hard, tuffaceous sst			
1100					Finely interbedded clean coal and slightly carb.slst  Clean with occasional white clst laminae.  Clean with numerous irregular white to grey slst laminae.  Clean with minor silty beds		19	
1120				35	Finely interbedded silty coal and coally slst r(0:1) rusty, very hard slst -(0:4) grey brown, very hard, calc Clean	1	20	
1140				X Y	With minor beds, fragments, and laminae of clean coal		21	
1160 -			S/LTSTONE to very hard , with interbedded	× 40 × 40	With minor carb. sist beds		22	
1180				X 49 X 2 X 3	Slightly carb. with coaly lam.  (0.1) rusty. hard sist (0.4) buff, very hard calc. sist With occasional white cist laminae (0.3) grey brown, hard carb. sist		23	
1220					Sist with minor coal (0.5) tuffaceous sat Grey brown, calc sist withmin clean coal	*		
1240				35	Silty coal grading down to		24	
1260	ACTION OF STREET				slightly carb. slst  Finely interbedded clean coal to clean slst	<b> </b>	25	
1280		DRAF	Т СОРУ		DRILL HOLE SHEET Nº.			

ELEVATION IN FEET. DEPTH IN FEET		STRATIGRAPHY	DET	AIL & STRUCTURE	E LOSS	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEV IN DE	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SOR	SA	0 20 40 60 80
1280		Continued	λ 25 Χ	Finely interbedded clean and silty coal with carb. sist		26	
1320		MIXED UNIT  Black to light grey, hard to very hard, interbedded coal and detrital rock	× -	(0.6) silty coal	+		
1340			λ λ 35	(0.5) clean coal Clean coal with finely inter- bedded silty coal and carb. slst (0.1) rusty, hard slst	*	27	
1360 -			× × × 5	With coal fragments Interbedded clean and silty	2000	28	
1400	+ + + + + + + + + + + + + + + + + + + +		× \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Sist Volcanic tuff Sist Interbedded sist and silty coal Clean and silty coal with irregular white to grey cist lam		29	
1420			30 30 30 30	Sist Interbedded carb. sist and silty coal Silty		30	
1440 -		SILTSTONE  Grey, hard, laminated with interbedded sst. Abundant variable amounts of carb.	35 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Carb.			
1460		laminae < 10%	**************************************	Laminae sst			
1480			\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				
1500 -	1·::·::·	DRAFT COPY	<b>₩</b> )	DRILL HOLE SHEET Nº.			

IN FEET. DEPTH IN FEET	STRATIGRAPHY		DET	ASH AT 20
7 0 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION OF THE MOISTURE
1500-		Continued -		Laminated sst
1520 -			× × × × × × × × × × × × × × × × × × ×	
1540			≫ \ ≫ \ 35· ₩ 40	
1560				
1580			× 50	
1600			× \ × 35	Carb.
620		INTERBEDDED COARSE  DETRITAL ROCKS  Grey to light grey, hard to soft, interbedded congliand ast with the laminations	. ه کر ۱	Laminated sst
640		being carbonaceous	XXX	Grit congl.
660   1			X X 330	Laminated sst
680-	<del>-</del>		X X X	
700 -				Laminated, very finely interbedded sist and sst
720		DRAFT COPY		DRILL HOLE:7582

DRILL HOLE: ... 75 - 82 ..... SHEET Nº.: .8. OF ..9...

IN FEET.  DEPTH IN FEET		STRATIGRAPHY	DET	AIL &	STR	UCTU	₹Ē	ross	SAMPLE N°.		I AT 20 ISTUR	
로 이 프	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRI	PTION			CORE	SAN		40 60 8	
720-		END OF HOLE	X			•				1,,,,		
		AT 1727 feet	1.									
740=			Ę.									
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DRILL HOLE : ....75.-82..... sheet № : .9. of ...9..

#### DOLMAGE CAMPBELL AND ASSOCIATES LTD.

## BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

60,139 N Coordinates 21,472 E

Length : 892'

33551 Reference Elev.

Azimuth : 270°
Dip : -55°

Hole Nº. : 75 - 85

Date : AUG. 1975

Logged by : J. Rotzien

Sheet : 1 of 5

Ground Elev. : 3353'

Core Size : NQ

ELEVATION IN FEET	- Z i		TRATIGRAPHY	DEI	AIL	B STR	TUC I U	RE	CORE LOSS	SAMPLE Nº.	M	DIST	20% URE
	o =	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCI	RIPTION			ဒ္ဓ	SA	0 50	40 (	00 00 
		Datum			Note	: Origina elev. 3.	ol groun	nd					
	Ĭ	9	OVERBURDEN	‡		elev. J.	353						
	$\exists$			F					ı				
20	$[\_,$			E									
[	, _ 					•							
	=		Clay with gravel	-					ŀ				
	_ =		Croy with graver	‡	•								
40	7			-									
	=			£									
	=			E						:			
60	그		0.44	<b>E</b>				ŀ			-		
3300	) 寸		Boulder	<u> </u>							-		
	=			E			-						
80	)-]		i.	F			<u>~</u>						
	E			E					١				
	=		Clay with gravel					-	١				
100	)-[		,	<b>F</b>									
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120	<u>-</u>			E			•		١				
	1			Ē		•							
	1										-		
140	, =												
	4		Clay and sand							;	-  -  -		
	7		:	E						;			
160	$\mathbb{E}_{i}$		Boulder and gravel	E									
	4		Sand and clay	-							-		
180	<b>.</b> ‡		Gravel	<b>E</b> .							F		

DRAFT COPY .

DRILL HOLE . . . 75 - 85 . . . . SHEET Nº : 1 OF .5....

ELEVATION IN FEET. DEPTH IN FEET		STRATIGRAPHY	DET	AIL & STRUCTURE	CORE LOSS SAMPLE N2.	ASH AT 20% MOISTURE			
ELEV IN	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SAM	0 20 40 60 80			
180 -			  -  -  -						
3200 <del>=</del> =		Boulders		•					
200		Boulders and gravel		·					
` <del> </del>   -		Gravel	-		-				
220-		SILTSTONE  Grey to grey brown, mod.  hard to soft, with carb.  material	75	Triconed Buft, hard					
240			15						
260			70	(0·2) buff, soft					
280					<u>-</u>				
300			×××40						
320									
340			70	(0.1) (0.1) (0.1)					
360			XXX		944				
			X X 70	·	<b>3</b>				
380			XXX	(0.1) buff, soft clst Buff, clst along minor slips at 70°					
400		DRAFT COPY	£Χ,	DRILL HOLE	 :7	E     5-85			

DRILL HOLE: ...75 - 85 ..... SHEET Nº .: .. 4 OF .. 5 ...

ELEVATION IN FEET. DEPTH IN FEET			GRAPH	Y	<del> </del> ,	AIL				SAMPLE Nº	AS M	H AT	
3 × 0 ×	STRAT. PLOT	MAJOR RO	CK UNITS		SYMBOL	DESC	RIP	TION		SAM	0 20	40 60	80
400 -		Continue	<u>ed</u>			(0·1) E	buff, buff,	soft clst mod. hard			ببيليييا		
420					X 15 X 80	(0.1) b	uff, .	soft clst					
3000- <u>-</u> 440- <u>-</u> -								soft clst					
460											المدمدليدي		
480-					75 ×65			nd (0·3) bed hard	o <b>f</b>				
500					X 40	(0.7)		, soft very hard			Line		
520					75			grey,very h	ard		Lineallena		
540					85 X 70		.y./!	3 - 7 see 7 "					
560					70	(0·3) bi (0·3) b		hard Very hard			المعاملين المعاملة		
580											المسلميم		
€00 <del> </del>					× 70	(0·1) E	ouff,	very hard			Janahana		
620 ]		DRAFT	COPY	,	× × × × × 75	(0.1) &	buff,	hard					

DRILL HOLE: ...75~85..... SHEET №: ...3 OF ...5...

ELEVATION IN FEET. DEPTH IN FEET	Į	STRATIGRAPHY	DETAIL & STRUCT	URE	CORE LOSS SAMPLE Nº	ASH AT 20% MOISTURE
ELEV IN DE	STRAT. PLOT	MAJOR ROCK UNITS	YMBOL DESCRIPTION		SAN	0 20 40 50 80
620		Continued	(0.2) buff (0.1) buff			
640			(0.2) buff (0.5) white, very hard, c	عاد .		
660			× 40 ×			
2800- 680-			(0.1) buff (0.2) buff			
700			(0·1) buff			
720			2(0.2) buff (0.5) light grey, hard, for grained sst	ińe		
720			(0.2) buff (0.1) light grey, bard s	s <i>†</i>		
740	A SECTION OF	CARB. CLAYSTONE  Grey brown to brown, soft  CLEAN COAL	85 — (0·5) clean coal		1	
760		Black, very hard, with minor interbeds of silty coal and a few resin beds	Soft, silty (0-1) rusty, hard sist		2	
780			White clst laminations			
800-		·	White clst laminae		3	
820-11			Hard to soft silty coal carb. sist  (0.2) buff to rusty very sist with marcasite	hard		
840		DRAFT COPY	Hard to soft, finely inter	<i>†</i>	4	

- PLOI	AJOR ROCK UNITS	SYMBOL	α <b>4</b> -
840-			AIL & STRUCTURE  DESCRIPTION  ASH AT 20%  MOISTURE  20 40 60 80
	Continued	, 40 , 40 , 40	Clean and silty  Clean and silty with minor
900	END OF HOLE	₩, 60	carb. sist
	DRAFT COPY		DRILL HOLE:75 35



# BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates : <u>9970'S</u>

Reference Elev. : 3375

11,450 E

Ground Elev. : 3373'

Hole Nº. : <u>75-84</u>

Date : <u>AUG. 1975</u>

Logged by : <u>J. Rotzien</u>

Sheet : <u>1 of 3</u>

ELEVATION IN FEET D E P T H	<u></u>	STRATIGRAPHY	DET	AIL	& STRU	CTURE	CORE LOSS	SAMPLE Nº	ASI M	H AT	20% URE
ELEV IN	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESC	CRIPTION		CORE	SAN	1	40 6	1
0-	Datu	<u>n</u>		**		-					
		OVERBURDEN	+						F		
		Grave/	-						El		
20-			<b>F</b>						<u> </u>		
		Gravel and boulders	F								
-			<u> </u>			-			-		
40-				•					[ [ ]		
1 40-			<u> </u>		•				-		
=								٠.			
=		Clay and sand	E					·			
60-		•									
-			<u> </u>								
			E		÷						-
80		Boulders, clay and Sand	E								
			E								
-			E								
100-			-						-		
		Clay and gravel .	F		_						
=			E		DRAFT	COPY			-		
120		Gravel and boulders	-						-		
-		Crover and booker.									
			F								
140-			<u> </u>								
=		George	E								
		Gravel	E								
160			E								
		Gravel and boulde.	F								
=		Davidona	E						_		
180	1	Boulders	E.			•			- -		
		DDAFT				•	•		_ •		

DRAFT COPY

DRILL HOLE : ...75 -. \$4....

SHEET Nº : 1 OF .3....

N FEET DEPTH IN FEET		STRATIGRAPHY	DET		SAMPLE Nº.	ASH AT 20 MOISTUR
Z 0 Z	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SAM N	0 20 40 60 B
180 -		Continued  Gravel and cobbles	1	. *		
200		Clay				
		SILTSTONE Grey to grey brown, hard			# <b>*</b>	
220			× 50 × 7	(0·6) buff		
240-						
260-						
280-			× λ 20 × 20	(0·2) buf <b>f</b>		
300-						
320-			$\times$	·		
340						
360			X 45 X			1
		·				
-085		MAFT CORY	$\times \times  $			
Ē 004		CANCELL. OCHAN				

DRILL HOLE: ...75-84.....
SHEET Nº.: .2. OF ..3...

DEPTH	STRATIGRAPHY	DETAIL & STRUCTURE	SAMPLE Nº.	ASH AT 20 MOISTURE
u z W ≧ Sī	RAT. MAJOR ROCK UNITS	SYMBOL DESCRIPTION	SAN N	0 20 40 €9 80
400	<u>Continued</u>	(0.2) buff, soft clst (0.1) buff, mod. hard clst		
420		(0.5) buff (0.5) buff		
440		(0·2) buff		
460 —				
480				
500		Calcitic laminag and invot		
520 -		Calcitic laminae and joint infillings in sist		
540		(0·1) buff, mod. hard		
560				
		With many minor shears at 50 - 200 and soft zones, intensely sheared at 200		
500	DRAFT COPY			
620	END OF HOLE			

DRILL HOLE: ...75.184......





### BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

: 16,560' S Coordinates

Length : <u>723'</u>

Reference Elev. : 4020'

Ground Elev. : 4018'

13,150' E Azimuth : — 4020' Dip : -90°

Hole №: <u>75-78</u>

Date : <u>JULY 1975</u>

Logged by : <u>J. Rotzien</u>

Sheet : <u>1 of 4</u>

Core Size : NQ

ATION FEET	FEET		STRA	ΓIGR	АРНҮ	DE	TAIL	8.	STRU	JCTURE	CORE LOSS	SAMPLE Nº.	AS N	H A	T 20°
ELEVATION IN FEET		STRAT. PLOT	MAJOR	ROCK	UNITS	SYMBO	L DES	CRIF	PTION		CORE	SAM	1		60 <b>8</b> 0
	) - -	Datu	n OVERI	3//20/	·										
20				and sh											
40	1111						-						تبيينيا ببير		
60			Red	clay											
80			Clay c	and sha	a/a										
100	.1		/ -						·						
120	,			064.6									بببيبله		
140	ידיוודידיו		No re	ENSIT.	FROM GAMI Y LOGS ) triconed ) coring unsucci	E E E									
081			DRA	FT C	OPY										

DRILL HOLE : ...75.78.....

SHEET Nº : 1 OF .4....

ELEVATION IN FEET. DEPTH IN FEET		STRATIGRAPHY	DET	AIL 8	B STR	UCTURE	LOSS MPLE	OI N	SH AT 20%
DE F	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESC	RIPTION		SAM	0 2	0 40 60 80
200		Continued						1	
220									
240									
280									
300		SANDSTONE  Light grey, hard, fine to medium grained, arkosic;				<u>.</u>	i i		
320		coal fragments ≤ 3/4" spars@	XXXXX						
340			XXXX					اعريبييي	
360 -			XXXX					<u> </u>	
400		DRAFT COPY	XXX						

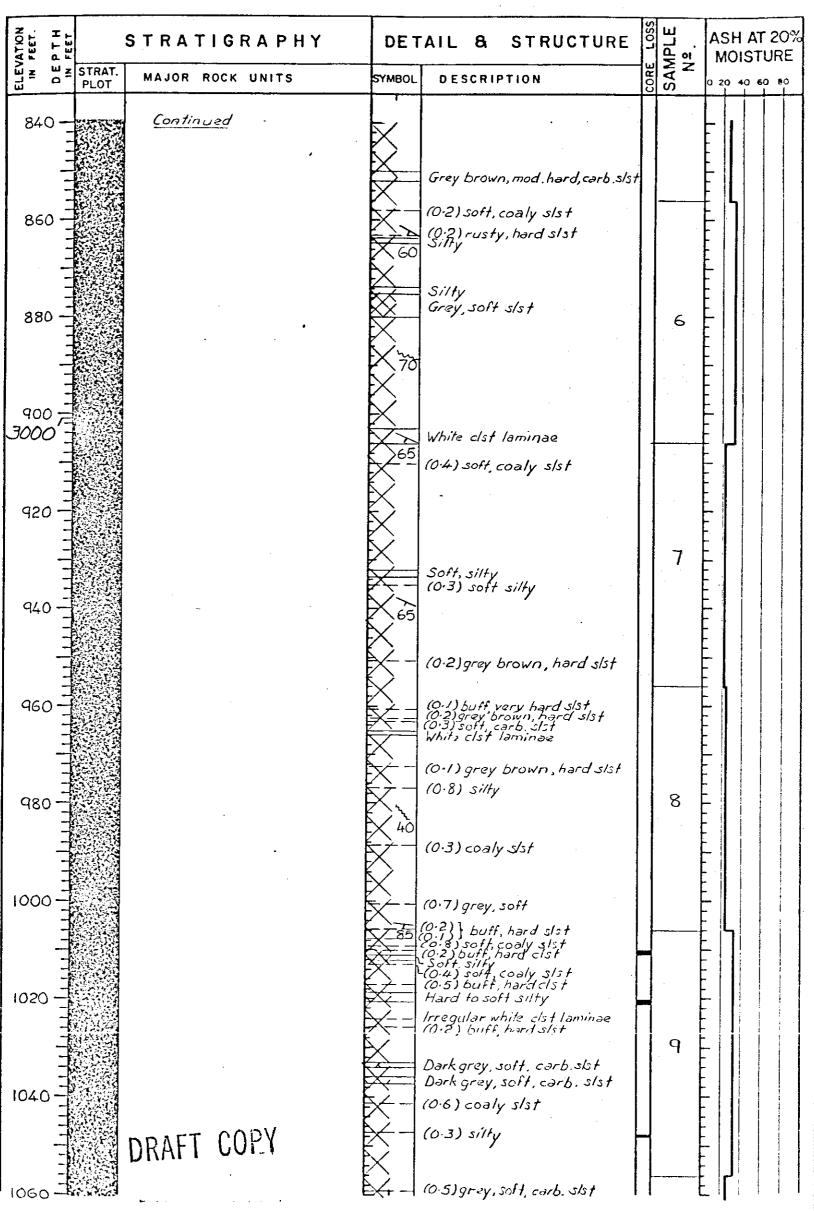
DRILL HOLE : ....75 - .78 ...... SHEET Nº : ... 2 OF .4....

ELEVATION IN FEET. DEPTH IN FEET		STRATIGRAPHY	DET	AIL	8	STR	исти		SAMPLE Nº		I AT 20% ISTURE
E E E E E E E E E E E E E E E E E E E	STRAT.	MAJOR ROCK UNITS	SYMBOL	DES	CRIF	TION			SAM N	0 50	40 60 80
400 -				·							
420	Δ Δ Δ Δ Δ Δ Δ Δ Δ Δ	VOLCANIC BRECCIA (Lahar, Blue green, grey green and yellowish brown, soft and friable, with very hard, volcanic fragments; matrix varies from clay to very fine sst;									
440-		highly chloritized unit; lmst fragments up to 5" but generally 14" - 1" in diameter								.l.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
480					•						
500							·				
520	Δ Δ Δ Δ Δ Δ						·				
540 - - - - - - - - - - - - - - - - - - -		SILTY SANDSTONE  Dark grey, very soft with occassional volcanic pebbles									
580											
600-		INTERBEDDED DETRITAL ROCK  Dark to light grey green, mod. hard to soft	× × × ×	Sst Interb and si (0.2) b Interb	eddel st ouff, v eddel	d brecc ery har d sist a	iated cl. d clst nd sst	s†	*		
620		DRAFT COPY		Interb	zdde.	d clst a	ind slst				

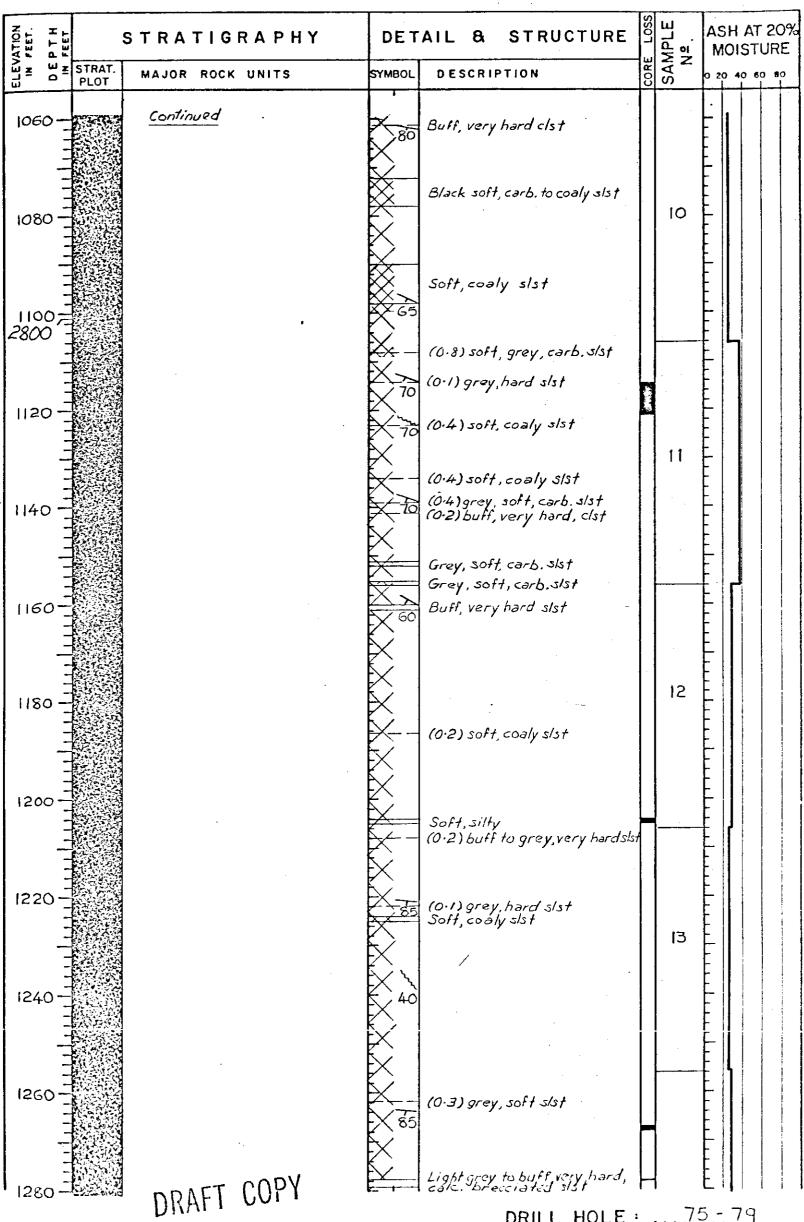
DRILL HOLE: ....75-78...... SHEET Nº.: .3 OF .4...

ELEVATION IN FEET. DEPTH		STRATIGRAPHY	DET	AIL & STRUCTURE	LOSS	1 🗠 이	ASH AT 20% MOISTURE
ELE E	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SAN	0 20 40 60 80
620 -		Continued	XXXX				- - - -
640 -			XXXX	Interbedded sist and sst which has been sheared and healed			
660			XXX	Sst with irregular white clay veinlets  Fine grained congl.			
680			$\times \times \times$	Breciated clst	*		
700		COAL  Black hard to soft interbedded		Silty			
720		clean and silty coal END OF HOLEAT 723 feet	<u>×63</u>	(0·1) buff, hard sist Clean	*	1	
, Tuftititi							
111111111111111111111111111111111111111							
111111111111		RAFT COPY					

DRILL HOLE: ....75-78...... SHEET Nº.: ..4 OF .4....



DRILL HOLE : .... 7.5.-7.9 SHEET Nº. : . 5. OF . !?...



DRILL HOLE: ....75.7.79...
SHEET Nº.: .6. OF .19...

ATION FEET. P T H	S	TRATIGRAPHY	DET	AIL & STRUCTURE	CORE LOSS SAMPLE Nª.	ASH AT 20% MOISTURE
	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SAN N	0 20 40 60 80
1300		Continued	X X X 75		14	
1320			XXXXXX 70	(0.2) black, soft, carb. sist	15	
1340			X X 88	Soft, carb. slst White to grey clst laminae		
1360			75	(0.3) soft, carb. clst (0.2) buff, very hard sist		
1400			X 75	(0.2) soft, coaly sist (0.1) soft, coaly sist (0.5) black, soft, carb. sist		
1420				Soft, carb. sist with clean coal (0 2) grey, hard sist  Mod. hard coaly sist (0.2) soft, coaly sist	17	
1440			× × × × × × × × × × × × × × × × × × ×			
1460			× 500	Black, soft, carb. slst Grey.clst laminue (0.2) grey, soft, carb. slst Soft, coaly slst Buff, very hard clst laminae (0.5) black, soft, carb. slst	18	
1480			× 55	Grey, hard sist laminae  (0.1) black. soft, carb. sist  (0.6) carb. sist		
1500 -		DRAFT COPY		DRILL HOLE	-    :	-E   <b>L</b>       75 - 79

DRILL HOLE: ....75.79.....

SHEET №: .7. OF ......

ATION FEET. P T H	\$	STRATIGRAPHY	DET	AIL & STRUCTURE	LOSS	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEVATION IN FEET.	STRAT.	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SAN	0 20 40 60 80
1500 <del>7</del> 2400 <u>-</u>		INTERBEDDED CLEAN AND SILTY COAL Black, hard to very hard	X 45	Silty (0-2) grey. hard sist (0-7) buff, hard sist (Clean Coaly sist Clean Silty		19	
1520			× 65 × × × × × × × × × × × × × × × × × × ×	Carb, sist Silty Silty coal and carb. sist Silty r(0.2)grey brown, soft, carb. sist Clean	4	20	
1540			70	Carb. sist Sity Co:19buff sist (0.3) grey sist Clean with petrified wood Clean Clean Clean with white cist laminae Grey to brown, soft, carb. sist Clean		21	
1580-			× × × × × × × × × × × × × × × × × × ×	Coaly sist Clean (0.5) coaly sist Silty Clean			
1600-			× 60	Finely interbeddedsilty coal and carb. sist  Clean  Finely interbedded silty coal and carb. sist  Clean and silty  White to grey, very hard, calc. sist		22	
1620		SILTY COAL  Black, hard, with interbedded carb. slst and minor slst and	1/\	(0.5) grey, hard, carb. sist (0.4) black, soft, carb. sist Clean with (0.2) grey sist			
1640		clean coal	55	Grey, hard, carb. slst  Clean Finally interbedded slst and situ		23	
1660				Grey brown, soft.carb.slst		24	
1680-			X X X	With minor clean coal  Finely interbodded clean and silt, coal and carb. sist  (0.1) buff, hard sist	y	25	
1700 - 2200 -			X -	Grey, soft clst (0.4) grey brown, hard, carb. slst	2		
1720-		DRAFT CUPY	× 30	Finely interbedded clean and silly  Soft, coaly sist  Clean		26	

DRILL HOLE: ...75:79......
SHEET Nº.: .8 OF .19...

\$ 3 d 3	STRATIGRAPHY	DETAIL & STRUCTURE	SAMPLE	ASH AT 20% MOISTURE
STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL DESCRIPTION	SA	0 20 40 60 80
1720	Continued ,	Finely interbadded silty coal and carb, sist	· ·	
1740		Grey brown, soft carb. sist  Clean (0.2) grey, very hard, calc. sist  Clean	27	
1760		55 Clean with interbedded carb. slst		
1780-		Grey, hard sst with coal fragments  (0.1) buff, hard sst		
		Finely interbedded clean coal and carb. sist	28	
1800-		Finely interbedded silty coal and carb. slst  Slst with coal fragments	29	
1820		Carb. sist grading down into silly coal finely interbedded clean and silty coal and coaly sist (0.1) rusty, hard sist		
1840		(0.2) grey brown , hard slst  Dark grey , hard slst	30	
1860		Coaly sist  Coaly sist  Interbedded silty coal and carb.	31	
1880		With gray to white clst laminae	32	
1900 - 2000 -		(05) buff, hard clst		
1920		(0.1) soft, coaly sist	33	
1940	DRAFT COPY	Dark grey, soft, carb. slst Finely interbedded silty coal, coaly slst and carb. slst	34	

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DRILL HOLE: ...75.-79......

ELEVATION IN FEET. D E P T H	)- 141 142	STRATIGRAPHY	DI	ETAIL	a	STR	JCTURE	LOSS	- 01	AS N	SH A	T 20% TURE
ELE)	STRAT.	MAJOR ROCK UNITS	SYMB	OL DES	CRII	PTION		SORE	SAN		0 40	
1940		Continued					· · · · · · · · · · · · · · · · · · ·					
		END OF HOLE		1						-		
İ		AT 1948 feet	F						[	┝╏		
1960	3		Ē						ļ	Ė		
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DRILL HOLE: ...75.-79.....

SHEET Nº.: .!... OF .!....



#### DOLMAGE CAMPBELL AND ASSOCIATES LTD.

### BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

: 24,700'S Coordinates

15,300 E

Length : <u>297</u>

Reference Elev. : 3955'

Azimuth : \_\_\_

Dip : <u>-90°</u>

Hole Nº.: 75-79 A

Date : JULY 1975

Logged by: J. Rotien

Sheet : 1 of 2

Ground Elev. : 3953'

Core Size : NQ

ELEVATION IN FEET D E P T H		STRATIGRAPHY	DET	TAIL	& S	STR	UCTU	RE	CORE LOSS	SAMPLE Nº.			r 20 ruri	
ELEN N O E	STRAT. FLOT	MAJOR ROCK UNITS	SYMBOL	DES	CRIPT	10 N			8	SAN	O 20	40 	60 80	,
0-	Datu	n ,			· · · · · · · · · · · · · · · · · · ·		• .				-			
-		OVERBURDEN  Mud and rhyolite	- - - -				,				- - - -			
20-	٠.	RHYOLITE  Light gray, moderately hard to vary hard with a fine grained					•							
-		ground mass with small phenocrysts of quartz and	-	•										
40		bictite. The flow structure, a parallel alignment of biotite crystals is at 70° to C.A.	- - -					·						
-					. •									
60-								Table & Seanth of Local						
80-			- - -											
-			- - - -											
100-							·							
120			-	D	PAFT	C1	DPY.			•	-			
			- -			,	71 Y .							
140											- - - -			
11111							·				-			
160 -											-			
180								-	4					

DRILL HOLE : ...75-79 A ...

SHEET Nº : 1 OF .2....

ELEVATION IN FEET. D E P T H		STRATIGR	APHY	<del>-  </del>	AIL &		URE	SAMPLE	ASH MOI	AT 20% STURE
프	STRAT. PLOT	MAJOR ROCK	UNITS	SYMBOL	DESCRIP.	TION		SAM	0 20 4	0 60 80
180		Continued				·				
220 -										
240					Triconed					
280					Brecciate	ď	·			
300		DRAFT	feef	-						

DRILL HOLE: ....75-7.9 A ....





## BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

55,015'N

Length : 1838

Hole Nº : 75-81

21,067'E

Azimuth : \_\_\_

Date : JULY 1975

Reference Elev. :  $\frac{3403'}{3401'}$ 

Dip : -90°

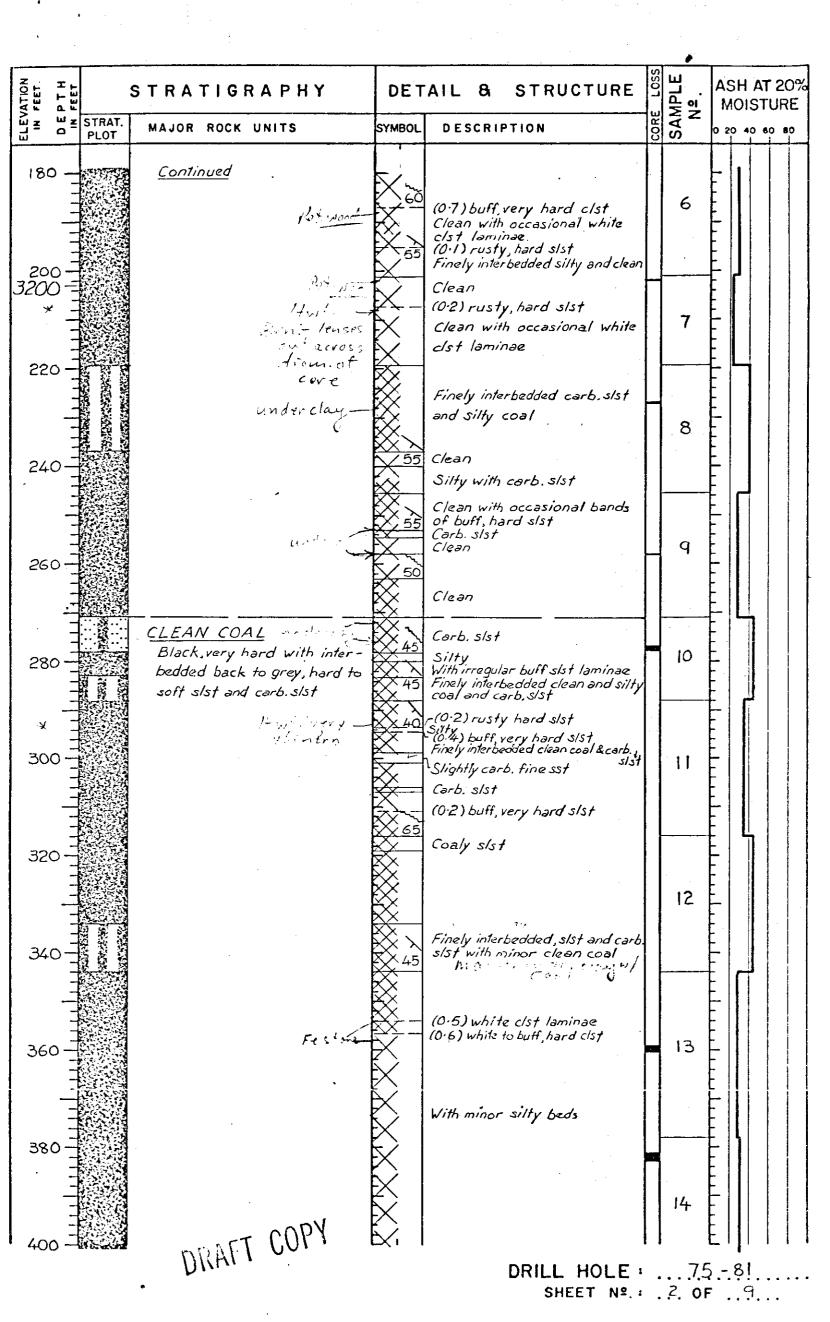
Logged by: J. Rotzien Sheet : 1 of 9

Core Size : NQ

EVATION N FEET E P T H N FEET		STRATIGR	АРНҮ		TAIL &		CTURE	CORE LOSS	SAMPLE Nº.		OIS	TU	- 1
ELE D I	STRAT. PLOT	MAJOR ROCK	UNITS	SYMBOL	DESCRI	PTION	<u> </u>	8	Š	7 20	1	<del>~</del>	1
0- 3400 =	Datu	OVERBURDI Sand	EN	_		Original elev. 340				1111			
20-		Gravel and a Boulders Sand		- - - - - -		•							
40-		Clay and sa Sand, clay a	nd and boulders		•								
60-		Sand and b	oulders						-				
80-		Clay COAL			Triconed						-		
100-		interbedded co	o very hard, lean and silty k brown carb. beads ≤ 1/4"sparse	55	and carb.		silty coal	ð	1	111111			
120-			·	× 60 × 10 × 10 × 10 × 10 × 10 × 10 × 10	Silty Clean Carb. cls1	<del>/</del>			2				
140-				XX	Silty				3 4				
		·		× × 50	Sifty will carb. to	t coaly s. h minor b coaly sls t laminae	eds of		5				
160 —		·	• •	× × × ×	to coaly s Clean Silty	n minor be sist	ds of carb.			11111111			
1 180 -		DRAF	COPY	<b>E</b> ^\	Clean	DRILL	_ HOLE	•	! /	E I 75. :	11 8:	1	! !

DRILL HOLE + ..75.781....

SHEET Nº : 1 OF .9....



1 24 6 11	FEET		STRATIG	RAPHY	DET	AIL & STRUCTURE	SSOT	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEV IN	_ 2 ⊆	STRAT. PLOT	MAJOR ROCK	UNITS	SYMBOL	DESCRIPTION	CORE	SAN	0 20 40 60 80
400 <i>30</i> 20			Continued	1 Comment	XXX				
420					××××	Soft carb. sist with minor buff hard sist Finely interbedded clean coal and carb. sist		. 15	-
440						Slightly carb. 331 - Mon & university	Ų.	16	
460		A Section of the sect		· . **	X X X X X X X X X X X X X X X X X X X	With minor silty  (0.2) buff, very hard sist  (0.2) buff, very hard sist.		17	
480 500					X X X X X X X X X X X X X X X X X X X	(0.2) buff, very hard slst		18	
520				an under	X X X	(0.1) buff, very hard sist Silty Slightly carb. sist-ward		19	
540				Jr. Bonnesdo.	X 65 X X	Carb. to coaly sist (0-2) buff, hard sist  Slightly carb. sist under a sist (0-2) buff, very hard sist	5	20	
560				to the foreign	45	Silty (0.2) buff, very hard sist Finely interbedded clean and silty coal and coaly sist  Coaly sist		21	
580					\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Slightly carb, slst with minor clean coal  Buff slst laminae  Silty  Silty		22	
2800- - 620-			DRAFT	COBA	555	Carb.sist Silty Silty (0:1) buff, hard sist White, hard sist laminae Slightly carb. sist			

DRILL HOLE: ....75 -.8!...... SHEET №: ...3 OF ..9...

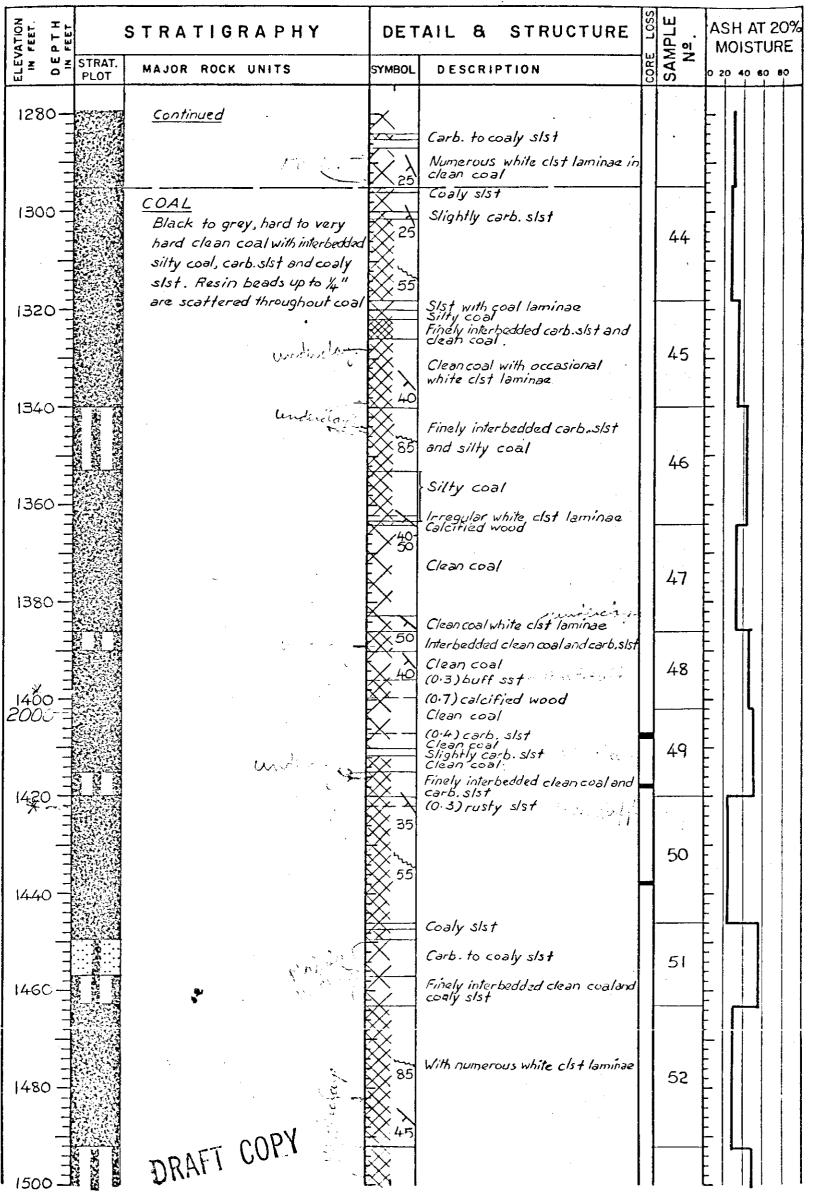
IN FEET. DEPTH IN FEET		STRATIGRAPHY	DET	AIL & STRUCTURE	LOSS	LL of	ASH AT 20°
7 5 0 N	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SAN	0 20 40 60 80
620		Continued		Carb. sist Silty Slightly carb. sist with numerous small beds of clean		23	
יייין דרייו		en en santa en en en en en en en en en en en en en	X X X X X X X X X X X X X X X X X X X			24	
660		unida e la comp	X X X	Finely interbedded clean coal and coaly sist  Coaly sist		25	-
680 — - - -		Vet wood	X X X	(0.2) buff, very hard sist  Carb. sist  (0.1) buff, very hard sist  (0.5) light grey, very hard calc. wood		26	
700 -			× 4° × × × × × × × × × × × × × × × × × ×	Carb. sist With white clst laminae (0.3) grey coaly sist  (0.4) light grey very hard, brecciale calcified sist Interbedded clean coal and coaly sist	d	27	
720		melle :		Finely interbedded clean coal and coaly sist  Slightly carb. sandy sist			
740		MIXED UNIT  Grey to black, hard to soft,  interbedded clean and silty  coal, carb. sist and sst	×40 ×40	Fine groined congl.  Graded bed sist - sst - congl.  Finely inter bedded carb. sist clear and silty coal - coal has white cist lam.  Clean coal			
760 —	0	where the	× 40	Finely interbedded clean coal and carb. slst  Slightly carb. slst		28	
* - 780 -		Clean coal Fest	× \	Clean coal and coaly sist (0:3) buff, very hard, sandy sist Inter bedded clean coal and		29	
		COAL	25	carb, sist		- ·	
800 <del> </del>   50 :   1   1   1   1   1   1   1   1   1		Black, hard, clean coal with interbedded silty coal and detrital rock; coal commonly contains resin beads & 1/4"	× 45 × 45 × 45	Clean with clst laminae.  Coaly sist Silty		30	
820 - - - - - -		in diameter and white dist	× 50	Slightly carb. sist with minor silty coal with small interbeds of			
840 —		BRAFT COPY	<b></b> <a>3</a> <a>45</a> <a>5</a>	coaly sist  DRILL HOLE: SHEET N2:			

VATION FEET.		STRATIGRAPHY	DET	AIL & STRUCTURE	E LOSS	SAMPLE Nº.		H AT 20% DISTURE
ELEV IN O E	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SA	0 20	40 60 60
840-		Continued	X X 45	Clean		3]	lanala	
80		Marilian Sept.	X 40	(0.7) grey, very hard, calc. sst Silty Carb. and coaly slst Silty (0.5) calcified wood (0.1) rusty, hard slst		32		
880		andrion	X X X 3	Clean		33		
4000		mune V	XX	Slightly carb. very fine grained sst  Clean with minor beds and laminae of grey sist		-		
920 -		CLEAN COAL  Black, very hard, with minor beds of grey slst				34		
940		want of a		(0.4) soft carb. sist Carb. sist Silty, with minor carb. sist			-	
960		Fest	X 40 X	Grey, coaly sist was held		35	- - - - - - - - - -	
980 -						36		
1000 - 2400 -		MIXED UNIT  Light grey to black, hard to very hard sist with interbedded		Silty Carb.coaly sist Sist with coal fragments			-	
1020 -		coal. Sist is carb. in parts with coaly fragments	45	Sst with coal fragments			-	
1040				Slightly carb.slst with coal fragments and laminae			-	
1060		DRAFT COPY		Sandy sist with occasional coaty laminae Finally interbedded clean and silty coal and carb. sist		37	-	

DRILL HOLE: ... 75 - 8! ..... SHEET Nº.: .. 5 OF .9....

1060	ELEVATION IN FEET.	PTH FEET		STRATIGRAPHY	DET	AIL & STRUCTURE	E LOSS	SAMPLE Ne.		H AT 209 DISTURE	
Sist with coal laminae and resin breads deen and sitty line bedded deen and sitty line bedded deen and sitty coal and coaly sist  Sist with coaly laminae  Interbedded clean coalendsist	ELE N	OZ	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	COR	SA	0 20	40 60 80	
1000  CLEAN COAL Black, very hard with minor hulf to white sist and clst beds  1120  CLEAN COAL Black, very hard with minor hulf to white sist and clst beds  1120  CLEAN COAL Black, very hard with minor hulf to white sist and clst beds  1120  CLEAN COAL Black, very hard with minor hulf to white sist and clst beds  1120  Coal and coally sist  (0.3) builf, hard sist  (0.1) rustin sist (45°)  White calcified wood with some claim coal Corb. sist  Inregular white clst laminae  (0.7) corb. sist  Inregular white clst laminae  (0.7) corb. sist  Inregular white clst laminae  (0.7) corb. sist	1060	0		<u>Continued</u>				20			
IIIOO  CLEAN COAL Black, very hard with miner Auff to while sist and cist beds  (0:3) buff, hard sist  (0:4) buff, hard sist  (0:4) buff,	108		13484/22 1342/2013	philip in my					-    -    -    -		
Black, very hard with miner buff to white sist and clst beds  1120  1140  1160  1180	1100				35	Interbedded clean coalondsist		39			
1140	1120			Black, very hard with minor buff to white sist and cist	50 X X X 30	(0·3) buff, hard sist					
1180 - 200 -				1911 (1914)	XX	Goaly sist		40			
1200 2200  While calcified wood with some clean coal Buff dst lominae  Carb. slst Irregular white clst laminae  (0.7) carb. slst Irregular white clst laminae  (0.2) buff slst Irregular white clst laminae  (30) Irregular white clst laminae	1140							·			
1200—2200—2200—2200—2200—2200—2200—2200	1160			en en en en en en en en en en en en en e	X To	(0·1) rusty sist (45°) (0·2) buff sist					
1220 — Lean coal  Buff dst lominae  (0.7) carb, slst  Irregular white clst laminae  (0.7) carb, slst  Irregular white clst laminae  (0.7) buff slst  Irregular white clst laminae  43	, (1180			Understan				41			
1240    Carb. slst	1200				35						
1240 — (0.7) carb. slst  1260 — 30 (0.2) buff slst   Irregular white clst laminae   43	1220			Fest				42			
1260 — 30 (0.2) buff slst   Irregular white clst laminae 43	1240					Irregular white clst laminae					
Irregular white clst laminae 43	1260							<del></del> .			
1 1280 DRAFT COPY Corb. s/st				DALT CODY				43	111		

DRILL HOLE: ....75-81.....



DRILL HOLE : ... 75 - 8 | ...
SHEET Nº : .. 7 OF .9 ...

ATION FEET. P T H FEET	5	STRATIGRAPHY	DET	ļ	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEVAT IN FEI DEPT	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SAM N	0 20 40 60 60
1520	erkeskirkerekreise Kotorkarkirkerekreise Kotorkariserekreise	Continued		Interbedded cool, carb.sist, sist.; beds vary from 1'to3'	53	
1540	TEMPLE TO THE TOTAL THE TO			Clean coal Grey laminae, carb. slst (0.5) grey carb. slst (0.2) grey, carb. slst	54	
1560 - - - - - - - - - - - - - - - - - - -			55	(0·1) grey slst  Finely interbedded clean and IsiTry coal and coaly to clean slst	55	
1600 - 1800 - 1800 -			X X X X X X X X X X X X X X X X X X X	Interbedded sist and fine grained sst with coal laminae and fragments  Carb sist grading down to clean coal	56	
1620 — - - - - - - - - - - - - - - - - - - -				Finely interbedded sitty coal and coally sist	57	
1660 -			HX X 1	With many small interbeds of sulty coal and coaly sist	58	
1680		MIXED UNIT  Light grey to black, hard to very hard, interbedded mixture of sist, carb, sity coal	X	Carb. to coaly sist  Sist with fragments of clean coal  Silty and clean coal with white cist laminae	59	
1700		and clean coal.		Finely interbedded clean and silly coal and carb. sist under coal silly	60	
1720	<b>∓ 31 i</b> 34	DRAFT COPY	<u>-</u> Xı I	DRILL HOLE: SHEET Nº:	75	5-81 F.9

	ELEVATION IN FEET.	P T H FEET	S	STRATIGRAPHY	DETAIL	& STRUCTURE	Loss	SAMPLE Nº.	AS MC	H AT 20% DISTURE
	ELE)	O F	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL DES	CRIPTION	CORE	SAN	0 20	40 60 80
	172	1111111		Continued (L.	Clean	inely interbedded coal and sist		62		
	174	0 			Very Fi and s	inely interbedded coal Is t		63		
	176	0		1 min	Silty c	interbedded clean and oal with minor sist		64		
\	1786			t	S/s+	interbedded silty coal arb. sist		65		
	1800 <i>1600</i>				Clean (0.7)	to coaly sist  coal with minor carb. sist  white clst		66		
	1820				slstan 50 Calcit	coal with buff to grey d clst laminations fied wood		67		
	1840		New York	PelinationEND OF HOLE AT 1838 feet	Clean Finely	coal Interbeddad clean coal arb.s/st				
				.000	-					
									-	
								, ,	-	
			,	DRAFT COPY						

DRILL HOLE : ... 75 - 81 ....... SHEET Nº .: .. 9 OF .. 9 ...

#### DOLMAGE CAMPBELL AND ASSOCIATES LTD.



### BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

: 19,200'S Length : 808' Hole Nº. : 75-83

11,253 E Azimuth : -3465 Dip : -90°

 Date
 : AUG. 1975

 Logged by:
 J. Rotzien

 Sheet
 : 1 of 4

Reference Elev. : 3465'
Ground Elev. : 3464'

Core Size : NQ

PTH PTH PETH	STRA	TIGRAPHY	DE.	TAIL &	STRUC	TURE	CORE LOSS	SAMPLE Nº.	ASI M	H AT	20% URE
년 전 명 전	STRAT. MAJOR	ROCK UNITS	SYMBOL	DESCRI	PTION	· · · · · · · · · · · · · · · · · · ·	CORE	SAN	0 20 	40 64 	80
0-	Datum OVER	BURDEN			•				1,,,,1,		
20	Bould	ders and sand									
40					·						
60-	Clay .	and boulders		·							
80				,					Letakeri		
00	Bould	<i>lers</i>	و المرامد و المرامد و المرامد								
120	Grey i	STONE to grey brown, mod. to soft with carb.		Triconed	,		2				
140	fragm	en1s	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	(0·2) buff	', 30f†						
180	DRA	AFT COPY				•					

SHEET Nº : 1 OF .4....

FEET. P T H FEET	•	STRATIGRAPHY	DETA	AIL & STRUCTURE	1 01	ASH AT 20 MOISTURE
	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SAM	0 20 40 60 80
180 -		Continued				
=					Н	
		· .	$\bigotimes^{(6)}$	·		
200					П	
=						
=						
550-			<b>∑</b> 60.			
-						
240			$\bigotimes \setminus  $			
1			× 60	(0·2) buff, soft (0·1) buff, soft (0·2) buff, mod. hard		
			× 45	(0·2) buff, mod. hard		
260		٠.				
					H	
280-						
=======================================		•				
300			<b></b> €60			
320 -						
. =				(a. = 1, 11, 11, 11, 11, 11, 11, 11, 11, 11	Н	
			\$ 60	(0.5) light grey, very hard lins with clst infilling of joints	<i>†</i>	
340 <del>-</del>		•				
				•	П	
360-				(0·2) buff, mad. hard		
				( = = y surry moder more)		
380			30	Grey, mod. hard to soft sist	.	
=						
1111		DRAFT COPY				

DRILL HOLE: ...75.7.83......
SHEET Nº.: .2. OF .4....

P EET.	STRATIGRAPHY	DETAIL & STRUCTURE  SYMBOL DESCRIPTION  DESCRIPTION  ASH AT 20%  MOISTURE  20 40 60 80
STRAT.	MAJOR ROCK UNITS	SYMBOL DESCRIPTION . SYMBOL DE
400	C <u>ontinued</u>	GÖ
420		(0·1) buff, soft
440		
460		50
480		Buff to white very hard lmst with clay filled Tension cracks (0.1) white very hard lmst
520		GO (0-1) White, very hard into
540		
560		With numerous very soft beds
580		
600		
620	DRAFT COPY	

DRILL HOLE: ...75.7.83.....

SHEET Nº.: .3. OF .4...

FEET. PTH FEET		STRATIGRAPHY	DET	AIL & STRUCTURE	SAMPLE Nº.	ASH AT 20 MOISTUR
IN FEE DEPT IN FEE	STRAT. PLOT.	MAJOR ROCK UNITS	SYMBOL	D E S C R I P T I O N	SAN	0 20 40 60 8
620-		Continued	-			
				•	<b></b>	
_				·		
640						
			$\otimes$			F
			$\bigotimes$			FII
560 <u> </u>		•	$\stackrel{\sim}{\otimes}$	·		
			$\bigotimes$		ø.	
-						
11			50	(0.2) light grey, hard, calc. sls t		E
580 -						F
=	,			,	H	F
-			X	(0.7) buff, hard sist		F
700 -			E XX60			
			<u>-</u>	(0.2) buff, hard slst		
=						
 			_60	(O) D) (C) b = d clot		
720 -		•	F	(O·1) buff, hard slst		
$\exists$			F	fWith calc. laminae and veinlets (0.2) buff, hard		
· —			-	(0.2) buff, hard		
740 -			Ē			<u> </u>
=			Ē Ì			
			- 60	(0.1) buff, hard sist		
Ξ			E 60	, , , , , , , , , , , , , , , , , , , ,		
760						
			-			
· -		·				
780 -						
=			E _l	(0.2) / (0.4) / (-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		
극			- 6	(0.2) buff, hard slst		F
=			8	(0.8) buff, hard slst		F
500 <del>-</del> ]		,		•		F
1		END OF HOLE	-			
$\exists$		AT 808 feet	E			
320 =			-			
$\frac{1}{2}$			<u> </u>			
7			E			
=======================================		DRAFT COPY	F .			<b> </b>

DRILL HOLE: ..75.-83...... SHEET №.: .4. OF ..4...

#### BRITISH COLUMBIA HYDRO AND POWER AUTHORITY DRILL RECORD HAT CREEK PROJECT

Coordinates : 19,200'S

Length

<u> 262'</u>

Hole Nº. : 75-83A

11.250'E

Azimuth

Date AUG. 1975

Reference Elev. :

3465

Dip -90° Logged by: <u>J. Rotzien</u>

Ground Elev.

3464

NQ Core Size :

Sheet : 1 of 2

SAMPLE Nº. STRUCTURE STRATIGRAPHY D E P T H 8 DETAIL MOISTURE 20 40 60 80 STRAT. PLOT SYMBOL DESCRIPTION MAJOR ROCK UNITS Datum OVERBURDEN Boulders and sand 20 Clay and boulders 80 100-Boulders 120 CLAYSTONE Grey, moderately hard to soft, Triconed with traces of carb, material 140 160 DRAFT COPY

DRILL HOLE . .. 7.5 .- 8.3 A...

SHEET Nº : 1 OF

VATION FEET. P T H		STRATIGRAPHY	DET	AIL & STRUCTURE	E LOSS	MPLE No.	ASH AT 20 MOISTURE	% =
	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	S	SA	0 20 40 60 80	_
E P T	1		SYM30L *45		CORE LOS	SAMPLE No.	MOISTURE	=
		DRAFT COPY						

DRILL HOLE: ... 75-83A....

#### DOLMAGE CAMPBELL AND ASSOCIATES LTD.

## BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

: 19,240'S

Length : 414'

Hole Nº. : 75 - 86

Reference Elev. : 3465

11,250' N

Azimuth : 090°

Date : AUG. 1975
Logged by: J. Rotzien
Sheet : 1 of 3

Ground Elev. : 3463'

Dip : -55°

Core Size : NQ

Γ		I	<u> </u>		3128 .		<u> </u>	Sileat	• 1	01 3			-	
ELEVATION IN FEET	EPTH N FEET		STRATIGR	APHY		1		RUCTUR	CORE LOSS	SAMPLE Nº.	N	SH AT	TUF	₹E
<u>E</u>	_ 0	STRAT. PLOT	MAJOR ROCK	UNITS	SYMBOL	DESCR	IPTIO	<b>1</b>	္မ်ဳ	SA	0 2	0 40	60 t	90 
	0-	Datu	<u>m</u>	•	ļ. '									
			OVERBURD	EN						,	-  -  -	-		
	11		- Boulders		<u> </u>						-			
;	20-		Sand	•	Ė							-		
	=		Sand and gr	avel with	F						-			
			boulders		<u>-</u>						-			
4	10-				- - -									
	=		•		-									
			Sand with clay	and boulders	5 [						-			
e	;o- <del>-</del> 1				È.	חח	ΛET	COPY			-			
	]			•	-	יוט	AFI	COFT			-			
	=		Clay and bou	uldans							-			
8	10 <u> </u>		210) 0110 200		E						-			
	<u> </u>				E					ŀ	- -			
	4		Clay								-			
10	·o		Croy	•										
	] ]				E					<u>}</u>				
			•		F						-			
12	0-]				F						-			
	=		Clay with la	yers of	E									
	4		boulders		F	,					-			
14	0-]		•		E					-  -				
	] -				E					ŀ				
	=		·		F					Ē	-			
16	٥٦		•		<u> </u>					Ė	-			
	= 1				E					F				
	4		SILTSTONE	-	<b>₩</b> 60		•	<del>7/ 1/</del>	H	Ē	-			
180	Ε,		Grey to grey	brown,	<b>848</b>				H	F				

DRAFT COPY

DRILL HOLE : ...75.-86 ....

SHEET Nº 1 1 OF .3....

ELEVATION IN FEET. DEPTH IN FEET		STRATIGR	АРНҮ	DET	AIL &	STRUC	TURE	E LOSS	OI	AS MO	H AT DISTU	20% JRE
ELE N N	STRAT. PLOT	MAJOR ROCK U	NITS	SYMBOL.	DESCRI	PTION		CORE	SAI	0 20	40 60	) BO
180-			ard to hard, Iff clst and sist carb. material					4"		1		
200		·		85 85 45	(0.1) buff (0.1) buff (0.1) buff (0.1) buff	, hard						
220 -				/p /s	(O·1) bUH	t,har <b>d</b>	-					
240-			·	×, 4, 1, 8								
260-		•		3 15 45								
280												
300				45	Grev blue	, soft clst						
320					,	,		,				
340								*				
360				45 - 85	Grey to li very hard,	ght brown, calcs/sta	hard to nd clst	換				
380					Grey, very Grey, mod. Grey brow	i hard,calc hard sist w in,soft	ih colcitic veinlets					
400		DRAFT	CObA	60		DRILL I						

DRILL HOLE: ... 75.-86.....

SHEET Nº.: .2. OF .3....

E STRAT.  PLOT			AIL & STRUCTURE  WASH AT 2  MOISTUR  DESCRIPTION  DESCRIPTION
STRAT.	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION UN O 20 40 60
400-	Continued	45	Grey brown, soft to mod hard, intensely sheared.
3	END OF HOLE ——	<del> </del>	
420		<u>-</u> -	
=		<u>-</u>	
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#### BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT DRILL RECORD

Coordinates

55,261 N

918 Length

Hole Nº.

<u>75 - 88</u>

21,715 E.

Azimuth 📜 088°

Date

AUGUST 1975

Reference Elev. :

3470

Dip

-60°

Logged by:

J. Rotzien

Ground Elev.

: 3468<u>'</u>

Core Size :

NQ

Sheet 1 of 5

DEPTH IN FEET ASH AT 20% SAMPLE Nº. STRUCTURE DETAIL STRATIGRAPHY 8 MOISTURE STRAT. PLOT 20 40 60 80 SYMBOL DESCRIPTION MAJOR ROCK UNITS Note : Original ground Datum elev. 3467' OVERBURDEN Sand and boulders Ç. 20 Clay with boulders CLAYSTONE Red, soft 60 80 7 *340*0 Triconed 100 120 140 CLAYSTONE Triconed Blue grey to red, soft 160 CLEAN COAL 70 Black, very hard, with minor With minor carb sist silty coal and carb. sist DRAFT COPY

DRILL HOLE :

...75 - 88

SHEET Nº 1

ATION FEET. P T H		STRATIGRAPHY	DE	TAIL & STRUCTURE WASH AT 20% MOISTURE
ELEV N O N	STRAT. PLOT	MAJOR ROCK UNITS	SYMBO	DESCRIPTION O 20 40 60 80
180 -		Continuad	20	(0.2) grey, soft, carb. skst
200-		•	F.	(0.2) grey, soft clst (0.8) grey to black, soft, coally dst
220-			60	(0·1) buff, very hard sist 2
240-			20	(0.1) buff, very hard elst
260-    280-			40	(0.3) } black soft, coaly slst  trregular veinlels, butt, very hard  (0.7) black, soft, coaly slst
300 = 3200 = 3		-	5X	(0.3) brecciated very hard calc. (0.1) buff, very hard, sist (0.4) grey brown, soft, carb. sist (0.3) grey, soft, coaly sist
320 -			- 20	
340 -				(0.1) grey, soft clst (0.5) grey brown, soft, carb.clst (0.5) grey brown, soft, carb.slst (0.8) grey brown, soft, carb.slst Grey brown to black, hard to soft, clean coal and carb.slst (0.1) grey brown, soft, carb.slst (0.1) grey brown, soft, carb.slst (0.1) grey brown, soft, carb.slst
360			70	Black very hard to soft clean and silly coal with shearing
380 -		DRAFT COPY	7(	Black very hard clean with  firegular veinlets of calc.slst  2(0.2) dark grey, soft, carb. slst  (0.7) black to grey, soft, coaly slst (0.1) rusty, very hard slst

DRILL HOLE : ... 75 - 88 ..... SHEET Nº . . . . 2 OF . 5 ....

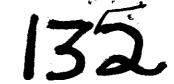
## 5 STAT MAJOR ROCK UNITS  ### 5 STAT MAJOR ROCK UNITS  #### 60 STATE  ### ATION FEET.	<u> </u>	STRATIGRAPHY	DET	TAIL & STRUCTURE	LOSS	APLE 10.	ASH AT 20% MOISTURE	
Black, hard sity  Black, hard to very hard, to 30H thiely intro- budded closen and sity  COAL  Black, hard to very hard, to 30H thiely intro- budded closen and sity  COAL  Black, hard to soft thiely intro- budded closen and sity  COAL  Black, hard to soft thiely  Black, very hard, clean  Black, very hard to soft finely  and carb. stat  Black, very hard to soft finely  interbedded clean and sity coal  with miner sity  Black, very hard, clean  Black, very hard, clean  Black, hard sithy  COS) buff, soft sit  Black, hard sithy  COS) buff, soft sit  Black, hard sithy  COS) buff, soft sit  Black, hard soft, finely  interbedded clean and sity coal  with miner clean coal and carb. stat  Black, hard to soft, finely  interbedded sity roal and coaly  interbedd	2 E E		MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SAI	0 20 40 60 80
Black, hard sith very hard, interbadded clean and sithy coal with earls sith and sith soft and resim beads up to k "diamater.  Black very hard, clean  Black part sithy to satisfy coal with minor sithy  Black hard sithy  Black ha	400-			× \ 20	· · · · · · · · · · · · · · · · · · ·			
Algack to light grey brown hard to soft finely and carb sits of soft sits of soft finely and carb sits of soft finely and carb sits of soft finely and carb sits of soft finely interbedded clean and sity cold and carb sits of soft finely interbedded clean and sity cold with minor sity of soft finely interbedded clean and sity cold with minor grey brown carb sits of soft finely interbedded clean and sity cold with minor clean cold and carb sit of soft finely interbedded sity cold with minor clean cold and carb sity soft sity finely interbedded sity cold with minor sity cold sity finely interbedded sity cold and cold sity sity cold and cold sity cold carb sity cold and cold sity cold and carb sity cold sity cold and carb sity ca	420		Black, hard to very hard, interbedded clean and silty	× 65 × 50	bedded clean and silty and carb.slst (0.6) buff, hard slst			
Black, very hard, clean with minor silty  Black, hard, silty  Black, very hard to soft, finely interhedded clean and silty coal with minor clean coal and carb, sist  Black, very hard, clean  Black, very hard, clean with minor clean coal and carb, sist  Black, very hard to soft, finely interhedded silty coal and coaly interhedded silty coal and coaly interhedded silty coal and coaly interhedded silty coal and coaly interhedded silty coal and coaly interhedded silty coal and coaly interhedded silty coal and coaly interhedded silty coal and coaly interhedded clean and silty coal  Black, very hard, clean with minor silty coal and coaly interhedded clean and silty co	: 7		beads up to ½" diameter.		Black to light grey brown hard he soft silry to carb. skt		6	
Black, very hard to soft, finely interbedded clean and sitty coal with minor grey brown carb. stat  Black, hard, sitty coal with minor clean coal and carb. stat  Black, very hard, clean with minor sitty coal  Black, very hard, clean with minor sitty coal and coaly and carb. stat  Black, very hard, clean with minor sitty coal and coaly and carb. stat  Black, very hard, clean with minor sitty coal and coaly and carb. stat  Black, very hard, clean with minor sitty coal and coaly and carb. stat  Black, very hard, clean with minor sitty coal and coaly and carb. stat  Black, very hard, clean with minor sitty coal and coaly and carb. stat  Black, very hard, clean with minor sitty coal and coaly and carb. stat to c	460				Black, very hard. clean with		7	
Black, very hard, clean of sity coal with minor grey brown carb. sist  Black, hard, sitty coal with minor clean coal and carb. sist  Black, hard sity coal with minor sity coal (0.3) buff, hard sist  Black, hard foseft, finely interbedded sity coal and coaly and carb. sist  Black, very hard, clean with minor sity coal and coaly and carb. sist  Black, very hard, clean with minor sity coal and coaly and carb. sist  Black, very hard, clean with minor sity coal and coaly and carb. sist  Black, very hard, clean with minor sity coal and coaly and carb. sist  Black, very hard, clean with minor sity coal and coaly and carb. sist	480			× 15	Black , very hard to soft, finely		Q	
Black, very hard, clean with minor clean coal and carb. stst  Black, hard, silty coal with minor clean coal and carb. stst  Black, very hard, clean with minor silty coal (0.3) buff, hard stst  Black, hard to soft, finely interbedded silty coal and coaly and carb. stst  Black, very hard, clean with minor silty coal  Black, very hard to soft, finely interbedded clean and silty coal and coaly to corb. slst  Black, very hard to soft, finely interbedded clean and silty coal and coaly to corb. slst	- - - - - - -							
Black, hard, silty coal with minor clean coal and carb. sist  8 lack, very hard, clean with minor silty coal and coaly interbedded silty coal and coaly and carb. sist  8 lack, very hard clean with minor silty coal and coaly interbedded silty coal and coaly and carb. sist  8 lack, very hard, clean with minor silty coal and coaly interbedded clean and silty coal and coaly to carb. sist  8 lack, very hard to soft, finally interbedded clean and silty coal and coaly to carb. sist				$\stackrel{\triangleright}{\otimes}$	Black, very hard, clean		9	
Black, very hard, clean with number sity coaf  (0.3) buff, hard slst  Black, hard to soft, finely interbedded sity coal and coaly and carb. slst  Black, very hard, clean with minor sity coal  A Black, very hard, clean with minor sity coal  A Black, very hard to soft, finely interbedded clean and sity coal and coally to carb. slst  A Black, very hard to soft, finely interbedded clean and sity coal and coally to carb. slst	520 -	aring and care of the second s		× × × 65			10	
Black, hard to soft, finely interbedded silty coal and coaly and carb. slst  Black, very hard, clean with minor silty coal  Black, very hard, clean with minor silty coal  Black, very hard, clean with minor silty coal  Black, very hard to soft, finely interbedded clean and silty coal and coaly to carb, slst  13	- - - - - - - - - - - - - - - - - - -				minor silty coal		11	
600    White the soft of the s					interbedded silty coal and coaly and carb. sist		12	
and coally to corb, slst	1111			× λ			13	
-接裏朝 ビバイト / 「ハロマ   ※×35]	600 <del>                                    </del>		URAFT, COPY	XX I	Black, very hard to soft, finally interbedded clean and silty coal and coally to carb, sist		14	

DRILL HOLE: ....75.-88.....

wz	STRAT.				بي إ−	Σ̈́	MOISTL
۔ م	PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	COR	SAMPI Ne.	0 20 40 60
20 <del>-</del> = =		•		Black to dark brown, soft, cars	5		
- - +0 -	anderkeenestere Enterkeenestere	·		Black, hard to soft, silty coal and coaly sist		15	
<u> </u>				Black, soft, coaly sist  Gray, soft sist with minor clean coal (0.4) rusty, hard sist-	**		
- - - -		•	×65	Black, very hard to hard, finely interbedded silty and clean coal Black, soft, coaly sist Black, hard to soft, finely interbedded silty coal and coaly sist		16	
				bedded silty coal and coaly sist  Black, very hard to soft, finely			
	ocomonomonomonomonomonomonomonomonomonom		×××/ <sub>70</sub>	interbedded clean and silty coal with numerous 03-1.5' beds of carb. slst		17	
		SILTY COAL  Black, hard to very hard, silty  coal with interbedded clean  coal and minor carb. slst	X 70 X X	(0.2) buff hard sist - relay Black, soft, coaly sist With minor clean		18	
0  -  -			775	(0·2) buff, hard slst Black, very hard, clean coal (0·1) buff, hard slst		19	
	A CONTRACTOR		85	Irregular white clst vernlets, clean Black, soft carb, slst Black, hard to very hard, cleanand (0-3) dark grey, calc. wood. Black, very hard, clean coal Dark grey, very hard, calc. wood Black, very hord, clean coal		20	
				(0·7) buff, very hard, calc. slst veinki Black , hard , silty coal r(0·3) buff, very hard, colc slst , veinleb Black , hard Black . hard to soft , finely interbedde		21	
	S.C. Williams	·	65	silty coal and coaly sist (0.6) buff, hard tuff Black, hard clean coal (0.7) grey, very hard calc. wood			
	VZINAHE TEN			Black, hard with minor clean coal		22	
	STATESTICS OF ST	797,795,798,877	$\Gamma \vee -1$	With grey brown slst laminae (0·7) buff, very hard clst veinlets (0·2) buff, hard slst			
	TELEFERINEURS Secondonia de la	¥e 1 * 1	× 65	(0.3) grey brown, soft slst Black to greybrown soft slst and Black veryhard clean Roaly slst. (0.3) buff, very hard slst veinlets With gray brown slst laminae		23	
		DRAFT COPY	XXX	Black to dark grey brown soft carb. sist Black, very hard, clean coal with			

LEVATION IN FEET. DEPTH IN FEET	STRATIGRAPHY	DETAIL & STRUCTURE	SAMPLE Nº.	ASH AT 20% MOISTURE
ELE D E	TRAT. MAJOR ROCK UNITS	SYMBOL DESCRIPTION	SA	0 20 40 60 80
840-	Continued	healed fractures filled with white clst (0.1) grey brown, hard sist Black, very hard, clean with white clst Black, very hard clean coal (0.2) buff, very hard clean coal (0.1) huff, very hard clean coal Black, very hard clean coal		
880		85 r(01) grey brown, hard clst  (0.1) buff, very hard, calc. dst veinlets  (0.2) buff, hard sist	25	
900		Black, soft coally sist  (0.2) buff, very hard, calc. clst  Black, soft coally sist  (0.3) buff, hard sist	26	
920	END OF HOLE			
94 94	DRAFT COPY			

DRILL HOLE: ...75.-88..... SHEET №: .5. OF .5....



#### DOLMAGE CAMPBELL AND ASSOCIATES LTD.

# BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

: <u>55,733'N</u>

Reference Elev. : 3539

22,081' E

Length : 713 Azimuth : 090 ° Dip : -55°

 Hole №: 75-89

 Date : SEPT. 1975

 Logged by : J. Rotzien

 Sheet : 1 of 4

Ground Elev. : 3536'

Core Size : NQ

ELEVATION IN FEET DEPTH IN FEET	STRATIGRAPHY	DET	TAIL & STRUCTURE	CORE LOSS	SAMPLE Nº.	M	IOIS	T 20% TURE
ELES N N N N N N N N N N N N N N N N N N N	STRAT. MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SOR	SA	0 20	40	60 80
0-	Datum	<u></u>	Note: Original ground elev. 3538'		<u> </u>	-		
20-	***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  **  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  **  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  **  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  **  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  **  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  **  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  **  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  ***  **  ***  ***  **							
40	+ + + + + + + + + + + + + + + + + + +							
60	+ + + + + + + + + + + + + + + + + + +							
80	- + + + + + + + + + + + + + + + + + + +							
100-	+ + + + + + + + + + + + + + + + + + +	ومداء و و دارد				بيابيبايي		
120-	+ + + + + + + + + + + + + + + + + + +							
140	C/ FAM COA/	E E						
160	CLEAN COAL  Black, hard to very hard,  clean coal with resin beads  up to &" in diameter.		Triconed			بليبييا		
3400-		X	Black very hard to very soft, finely interbedded clean coal, coaly sist and carb. cist			بعدليي		
180	DRAFT COPY	FΧ	1			Ł		

DRILL HOLE . .75 - 89 .....

SHEET Nº : 1 OF .4....

ELEVATION IN FEET. DEPTH		STRATIGRAPHY	DETAIL & STRUCTURE	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEV IN	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL DESCRIPTION	CORE SAN N	0 20 40 60 80
180-			Buffivery hardelst - 1 1/4		
220		un derelau-	Resin beads Black, hard, silty coal and coaly slst  40 (1.0) black, hard, silty coal (0.3) black, mod. hard coaly slst		
260			(1:0) black, soft, carb. clst  30  (0:3) buff, very hard, calc. slst		
300		Silty coal, hard, block	Black to dark brown carb clst with Black to dark brown hard to soft, coally slst  Black, hard to soft coally slst		
320		248 wei	(1.0) black, hard, coaly slat  (0.5) black, very hard, coaly slat  Light grey, hard, tuff. sat  Black, hard to soft, silty coal with coaly slat		
360- 			20 Irregular  Clean with sparse resin  beads		
3200- 400-		DRAFT COPY	Buff to grey, mod. hard, slst  Dark brown to black, mod, hard to very hard, carb. slst, grading into clean coal.		

DRILL HOLE : ... 75 - 89 ..... SHEET Nº : . 2 OF . 4 ...

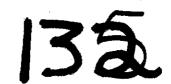
		<b>-</b>	5		ALL C OTOUCTUSE	ross	<u>ш</u>	ASH A	AT 20%
P T H		RATIGRA		DET		CORE LO	느 이 ㅣ	MOIS	STURE
ELEV IN	STRAT. MA	JOR ROCK UN	IITS	SYMBOL	DESCRIPTION	8	v)	0 20 40	60 <b>80</b>
400		•			Black, hard, friable, silty coal				
420			·	× 40	Clean with resin beads upto 3/4" in diameter.  Clean with minor carb.slst	\$			
440									
460				XXXX	(0.6) hard, coaly sist (0.2) hard, coaly sist				
480		x	brn / 4 w/2	X	(0.2) hard, coaly slst  (1.0) hard, silty coal  (0.5) buff, very hard slst  Hard to soft, silty coal and carb.  slst				
500			Very fair	X &	(1:0) soft, coaly sist Soft, coaly sist				
520				××××	(1.5) hard to soft, silty coal				
540		<i>:</i>							
560									
				1,460	(0-5) soft, coaly sist				
580					Hard, coaly sist				
3000-		DEATH	00-	100 X 50	-[(0.1)] 557		1		
620-		DRAFT	COPY		Hard, silty coal		_	E	

DRILL HOLE: ...75-89..... SHEET Nº.: .3. OF ..4...

EVATION REET.	STRAT.	STRATIGRAPHY  MAJOR ROCK UNITS	DE T	AIL & STRUCTURE	ORE LOSS	SAMPLE Nº.	ASH AT 20% MOISTURE
620 - 1	PLOT	MAJOR ROCK ONITS	X	Hard to soft, silty coal and carb. sist  Clean with minor coaly sist	C	S	
640				(0.2) buff, hard sist 3(0.1) laminae of buff, hard sist			
660		CARB. SILTSTONE	30	Hard to soft, finely interbedded sity coal and coaly sist  Mod. hard, finely interbedded carb. and coaly sist			
680 111111	CANCELLOS TRADESTES	Black to dark grey brown, very soft to mod hard pulverized to rubbly carb. sist		Joseph mon coul			
700			λ 20		*		
720		END OF HOLEAT 713 feet					
-							
		DNAFT COPY	المستملسة والمساوة				

DRILL HOLE : ...75. SHEET Nº.: .4. 01

DOLMAGE CAMPBELL AND ASSOCIATES LTD.



# BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

55,752' N 20,161' E Coordinates

Length : 1508' Azimuth : 090°

Hole Nº. : 75-90

3406 Reference Elev. :

Date : <u>SEPT. 1975</u>

Ground Elev. : 3404'

Dip : -55° Core Size : NQ Logged by: J. Rotzien
Sheet: 1 of 8

ELEVATION IN FEET	P T H FEET	i	STRATIGR	APHY	DET	DETAIL & STRUCTURE			МО	AT 20% ISTURE
ELEV	Ö M	STRAT.	MAJOR ROCK	UNITS	SYMBOL	DESCRIPTION	CORE LOSS	SAMPLE Nº.	0 20	40 60 80
	0-	Datu	m_		-	Note: Original ground elav. 3404'				
340	20=		<u>OVER BURD</u>	<u>EN</u>						
	20-				-					
					-					
•	40-				-					
	60-				1					
	80 —									
10	- - - - - - - -									
1	20									
	40					,				
1	60-				<u> </u>					
	80 —		DRAF	T COPY			ļ			

DRILL HOLE : .. 75 - 90 ....

TION EET. T H	S	TRATIGRAPHY	DET	AIL &	STRUCTURE	LOSS	1PLE	ASH AT 20	
LEVA IN F DEP	STRAT.	MAJOR ROCK UNITS	SYMBOL	DESCRIP	TION	SRE	SAMPI Nº.	0 20 40 60	- 1
- us			2						
180-		SILTSTONE	X.					<b>E</b>	
Ξ		Gray, soft to mod. hard,	× 75	(0, 1) 1, (0	mod. hard slst	П		<u> </u>	
1		weakly fissile massive sist; with buff, very hard to mod.		(0-1) 00++,	moa. naru sisi				
200		hard, minor interbeds of slst				П		F	
=		and clst and with sparse coaly fragments:	<b>X</b> -	(0·2) buff,	soft dst	$\  \ $			
		cooly wagment	₹ <b>%</b> 65		÷				
200				(0:3) huff	, very hard sist				
220		•	<b>X</b> _	(0.1) buff				<b>E</b>	
=			<b>É</b> É	(0.5) buff					
\			$\otimes$					<u> </u>	
240			\(\frac{\lambda}{30}\)					<b>E</b>	
111									
3200			$\bigotimes$						
260-			<b>₩</b> 70	2(0:2) bus	f, very hard clst	H		<u> </u>	
-			<b>₩</b> -		, hard to very hardels:				
			XX 65	(0·1) buff,	soft slst				
280-									
						Ш			
					·			<u> </u>	
300-			7/ X40		•	H		E	
-					•				
=								E	
320									
			60	:					
		•							
340 -									
_=			×65	(0·1) hard	/ sst				
] =									
360-				ļ					
-		•							
380			× 15	(0·1) har	d sst			<u> </u>	
	<b>}</b>	S			•	H			
-					•				
/05		DRAFT COPY						E	
400 -	4···, ·· ···l	DIVALL COLL	L > 1	•	2011 1101 5	. •		·	

	r		
VATION FEET.		TRATIGRAPHY	DETAIL & STRUCTURE  SYMBOL DESCRIPTION  ASH AT 20% MOISTURE  20 40 60 80
ELEVAT IN PE DEP	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL DESCRIPTION SYMBOL DESCRIPTION SYMBOL DESCRIPTION
400			
420			(0·1) hard slst
420			(0.2) mod. hard slst
440		•	
160			(0.7) light grey, very hard lmst with clay infilled fractures
460 <del>-</del>			(0·1) soft slst
480			
3000			
500		Colour changing to	
520		predominantly grey and brown	(0 2) hard s/st
540			(0.4) white very hard Imst White very hard Imst laminae in sist
560			(0.2) buff, soft slst
580			
-			(0.1) buff and lyue, sold Ust (0.2) mod. hard slst
600			
620		DivirT COPY	

DRILL HOLE : ...75.-90....... sheet № : .3 of ..3...

A B   C B	STRATIGRAPHY	DETAIL & STRUCTURE	ASH AT 20% MOISTURE
STRAT.	MAJOR ROCK UNITS	SYMBOL DESCRIPTION S 5	0 20 40 60 80
620-:::::	-	65	
640	·	(0-1) buff, hord clst	
660	•	75	
680		30	
700		(0.2) light grey very hard cake sist (0.8) buff, soft sst	
720-			
740		75	
760-	<u>.</u>	40	
780		65 5 X X X X X X X X X X X X X X X X X X	
800-	· .	30	
820-	•	(0.4) light grey, very hard, lmst with clay infilled fragments	
840	DRAFT COPY		E

DRILL HOLE : ... 75-90 ..... sheet Nº. : .4. of ..8 ...

					Lal	
FEET.	S	TRATIGRAPHY	DET	AIL & STRUCTURE	CORE LOSS	ASH AT 20% MOISTURE
IN IN IN IN IN IN IN IN IN IN IN IN IN I	STRAT.	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SAN	0 20 40 60 80
840		-				
860 -						
880 -		•	/ <sub>10</sub>	(0:3) buff, mod. hard sist	*	
900		: 	70	r(0·1)buff.hardslst -(0·1)grey,hard lmst	2	
920						
940				(0.2)} buff, very hard sist	v.	
960		. '	70	(0.3)] 5411, 1619 11514		
980 - 2600-		·		- Irregular laminae of Imst		
1000						
			75			
1020			·XXXX	Grey brown, mod hard to soft brecciated sist with minor shear		
1040	ASCENICA EL	MIXED UNIT  Black to grey brown, mod. har to very hard mixed unit of		brecciated sist with minor shear  (0.6) sist Silty coal  Clean coal  Carb. sist  Silty coal with resin beads  (0.2) grey sist with coal lam.  (0.2) grey soft sist  (0.2) very hard sist  Clean coal with resin beads	9	
1060		interbadded coal and coally to clean sist	EX	(0.2) very hard sist Clean coal with rasin beads		E

DRAFT COPY

DRILL HOLE: ...75-90...... SHEET Nº.: .5. OF .8...

EPTH	L CTDAT	STRATIGRAPHY	DET	AIL & STRUCTURE	E LOSS	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEVA IN F	STRAT.	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	8 A	0 20 40 60 80
1080			45	Clean coal with minor carb. sist and resin beads  Soft carb. sist Claan coal  Silty coal with numerous minor beds of carb. sist and clean coal. Rusty, hard sist laminae abundant			
1100		Marine V		Grey to black, mod. hard to soft slst with variable carb.content and minor clean coal			
1120 -		CLEAN COAL  Black, very hard, clean coal  with interbeds of carb. sist	55 -> 55	With irregular grey brown sist			
1140 -			\(\hat{s}\)	Grey, petrified wood  With irregular sist laminae  Hard, silty coal with light grey sist, Grey brown to black, very lam, hard to soft carb. sist Grey brown to black, very hard to soft finely interbedded carb. sist and clean coal.			
1160-			45	(0·1) buff, hard sist (0·1) buff, hard sist laminae (0·1) light grey brown hard sist (0·2) buff, hard sist (0·5) grey brown, very hard calcified	/		
1180 -			× 250	Soft, carb: slst (0.2) grey, brown hard slst Black to grey, soft, carb. slst with 0.1 rusty slst (0.7) grey to black, soft, carb. slst 2(0.1) grey, hard calc. slst Grey, soft, carb. slst			
1200 -			55	Black and grey, hard to very hard finely interbodded clean coal and carb, sist.  (0.7) black, soft, carb, sist			
1220 -				Buff.slst laminae			
2400 <u> </u>			/ \	Light grey, very hard, calc, wood  (0.2) buff, very hard sist (0.4) brown to black, soft carb, sist (0.6) light grey, calc. wood			
1260 -			55	Irregular, grey sist laminae			
1280-		DRAFT COPY	7,50	(0.4) Wack suft, coaly slst		-	

VATION FEET. P T H		STRATIGRAPHY	DET	AIL & STRUCTURE	E LOSS	SAMPLE Ne.	ASH AT 209 MOISTURE
ELEV B B	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SAN	0 20 40 60 80
1280				(0·1) rusty hand sist			
1300 -			× 55	The Arthur Arthur			
1320		•	45	Grey, hard sist laminag (0.2) rusty brown hard sist	,		
1340				(O·I) light grey hard sist  Light grey, hard sist with clean coal  Black, hard to soft, carb. sist  with mmor silty coal			
1360			55	(0.2) grey, hard sist with silty Grey to black, hard sist with silty Numerous minor beds of grey sist in clean coal.			
			)/G	(0-2) grey, hard sist with coaly lam.  2(0-1) grey hard sist (0-3) dark grey, hard coaly sist  (0-3) grey and buff, hard sist			
1380 <del>-</del> - - -			راد داد. گهری	With numerous minor interbeds of grey slst		·	
1400 -				Grey. hard sist with coal fragment, Silfy coal Silfy coal (0.2) grey, hard sist (0.7) grey white and buff, hard sist Black, very hard, blocky (0.1) grey, hard sist			
1420 - - 1420 - - - - -		Madine	- 45	Black, very hard, blocky with numerous minor grey sist beds Grey to dark grey, hard rubbly sist with minor clean coal.  Black, very hard, blocky to			
1440		- -	> >	Gray, very hard, sound petrified			
1460 —		y direct	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Grey, hard rubbly slst			
200- 1480-				Black, very hard, blocky to sound clean coal with sparse minor beds and laminae of grey slst			
1500		DDAET 00	45				
		DEVEL COBA,		DRILL HOLE:		75	- 90

DRILL HOLE: ..75-90 ....

<b>3</b>	•							- ' <u>.</u> . ' .		• • •
					·		Lat			
ELEVATION IN FEET. D E P T H		STRATIGRAPHY	DET	AIL &	STRUCT	TURE	E LOSS	SAMPLE Ne.	ASH MOIS	AT 20% STURE
ELEV P F Z	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRI	PTION		S	N A	0 20 40	60 80
1500-		END OF HOLE	× 45						- -	
=		AT 1508 feet		,				•		
1520										
		DRAFT OGNI	التبيير البيدية البيريانيين والبيدية البيدية البيدة							

DRAFT COPY

DRILL HOLE: ...75.-90......

ELEVATION IN FEET. DEPTHIN FEET		STRATIGRAPHY	DE 1	TAIL & STRUCTURE	E LOSS	SAMPLE Nº.	l	H AT 20% DISTURE
ELE N D E	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SAI	0 20	40 60 80
620	Karinca Krzeczki Kracia kurzecki Karinca Kraczki	•	- 1438 -	Gray brown, very hard, calc. silty sst.  Dark grey to black very hard to soft, finely interbedded gradation from carb. sist to clean coal  Silty coal			1	
660 -				(0.4) light grey, very hard cake, set Grey to black, mod, hard, carb, sist (0.5) light to dark grey calc set Finely interbedded gradation from clean to coaly sist Carb. sist with 03'of clean coal				
680			X X X X X X X X X X X X X X X X X X X	Crey to black, soft carb, sist with minor clean coal  Irregular white cist laminae (02) green to grey, healed fracture with a rey sist tragments encased in calcine				
700				Black to grey brown, soft, carb. sist  Hard to soft sifty coal grading  down to carb. sist				
740		•		With minor carb. sist and silty coal		-	-	
760 -		SILTSTONE	X				-	
780		Grey to grey brown, soft sist with fragments of hard sist encased with in the softer material. Only traces of fine carb. Fragments are evident	20					
800		CLEAN COAL  Black, very hard, clean coal with	70	Black to dark grey, hard carb. sist				
820 — — — — — — — — — — — — — — — — — — —		interbods of silty coal and minor beds of carb. slst. Resin beads up to 34, in diameter are scattered throughout this unit	X	•		, , ,		

DRILL HOLE: ...75-92...... sheet Nº.: .4. of ..9...



#### DOLMAGE CAMPBELL AND ASSOCIATES LTD.

### BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

: 50,868'N

Length : <u>1832'</u>

Hole Nº. : \_75 - 92

22,533 E

Reference Elev. : 3528

Azimuth : 270°

Date : <u>SEPT. 1975</u> Logged by: <u>J. Rotzien</u>

Ground Elev. : 35264

Dip : \_-55° Core Size : NQ

Sheet : 1 of 9

ELEVATION IN FEET DEPTH IN FEET	S	STRATIGRAPHY	DE		SSOT :	SAMPLE Nº.			20% TURE
ELEV IN D E	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SAI	0 20	40	60 80 1 1
0-	Datum	1		Note: Original ground					
":		OVERBURDEN	‡	elev. 3526'			<b> </b>		
] -		Gravel and clay	E				E		
		c/ay	-				ŧ I	Ì	
20-		Gravel		·					
40-		Gravel with boulders		•			المداد		
60-		Clay							
80-		Gravel with boulders							
		C/ay							
100		MIXED UNIT	40	Triconed		:			
-	A Breeze	Black to grey, very soft to very hard, interbedded clst, carb. to coaly clst and		Dark, grey, very soft clst	=	į			
120	PER MARKE	clean and silty coal		Black, very soft coaly dst					
	Harry Company of the			Dark grey, very soft carb, clst					
140-				Black, very soft, coaly clst	-				
160		•	λ 20	Black very hard, clean coal					
- -	M. T. L. C. C. C. C. C. C. C. C. C. C. C. C. C.			Black, very soft, carb. clsf with minor clean coal			1.1111		
180 -	] }	DRAFT COPY	ES I	1		ļ		- - 0	<u>,</u>

DRILL HOLE . ....

SHEET Nº : 1 OF

A G	STRATIGRAPHY	DET	AIL & STRUCTURE	MPLE	ASH AT 20% MOISTURE
STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SAMPI Nº	0 20 40 60 80
200 220 220 220 220 220 220 2300 2300		/3 /8 /55 /4 /55 /55 /55	Brown to black, soft to very hard, finally interbodded clean coal, silty coal and carb. to coally sist  Brown to black, soft, carb. to coally sist with minor clean coal black to grey brown, very hard to very soft, finally interbods of coal and carb. sist Grey brown, soft, slightly carb. sist with minor clean coal black, very hard to soft, clean, and silty coal with minor carb. sist Dark, gray brown, soft carb. sist black, hard to very hard, finely interbedded clean and silty coal	American Ame	
320	COAL Black, very hard to soft,		Black, very hard, clean coal with minor silty coal and resin beads  Light grey to grey brown, soft slst with minor carb content  Clean and silty coal with minor carb. slst		
340	interbedded clean and silty coal with coaly sist		Clean  Hard to soft coaly sist		
380 - 380 - 380 - 380 - 380	·		Clean with marcasile, coating on joint planes Very hard to soft, finely inter- bedowd sirry cool and coby sirr Clean Very hard to soft, finely inter- bedded clean coal and coalysist  Clean		

DRILL HOLE: ... 75-92..... sheet Nº.: .2. of ..9...

ATION FEET. P T H		STRATIGRAPHY	DET	AIL & STRUCTURE	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEVA IN F DEP	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE SAN N	0 20 40 60 80
420	Andreas and the second	MIXED UNIT  Light grey to black, very soft to very hard, interpedded sist, carb. to coaly sist and chan and silty coal		Light grey to grey brown, hard to soft, sist with variable carb. content (max. 10% carb.) Clean Dark grey brown, mod, hard, carb. sist.  Hard to very hard, interbedded clean and sifty coal with minor coaly sist.		
460			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Triconed. No core; driller says coal  Hard silty coal		
480 500		CLEAN COAL	) 10   10   10   10   10   10   10   10 	Grey brown , very soft, carb.sist		
520		Black, very hard, clean coal with interbeds of carb. slst and sst and sst and sst and sst and sst and space to 14 are present but sparse.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Clean with resin beads		
540				Grey brown to black, mod. hard to soft slightly carb. sist  Silty coal with minor clean coal		
580			13 To	Gray brown to Islack, carb. slst Silty coal (0-7) black, hard, coaly slst		
620		DRAFT COPY		Very hard to soft, finely interbedde clean and sitty coal with nonce coaly; Gray brown, hard, carb. s/st sst		

DRILL HOLE: ...75-.92 ... SHEET Nº.: .3. OF ...9...

ELEVATION  DE PTH  STREET  PLOT	STRATIGRAPHY	DETAIL & STRUCTURE	ASH AT 20% MOISTURE
되는 의로 STRA PLOT	MAJOR ROCK UNITS	SYMBOL DESCRIPTION	O 20 40 60 60 0
840 - 272		Hard, silty coal	
860 -		(0.2) soft, carb. slst	
900		(0.2) buff, vary hard, irregular calc. sist laminae Sity coal Black to grey, mod. hard, coaly to carb. sist Light grey to brown, hard. slightly carb. sist Black to grey brown, hard, finely interbedded sist, coaly sist and ally coal	
920		Dark grey, mod hard, coaly sist  With minor buff sist laminae	
960-		Black to grey very hard to very soft finzly interbedded coal and carb.  (0.1) grey hard slst  Irregular laminae of buff slst  Conc. of resinbeads	
980 —		Irregular laminae of buff sist  50  Grey brown, soft earb, sist  Irregular bleb of rusty sist  (0.3) silty coal	
1000 -		(0.1) Irregular, grey hard, sist	
1040		Silty coal  (0.1) coaly sist  (4) Light urey yery band calc sist with	
1060	DRAFT COPY	Light gray very hard, calc. slst with	

ATION FEET. P T H FEET	s	TRATIGRAPHY	DET	AIL & STRUCTURE	LOSS	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEVATION IN FEET DE PT 1	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SAI	0 20 40 60 60
1060		COAL		Dark grey, mud. hard carb, sist Silty coal Coaly sist			
1080		Black, very hard to soft inter- bedded clean and silty coal with carb to coaly sist		Clean liregular blabs of buff hard sist in shard, silty coal Grey, very hard, calc. slightly carb. sist	43		
111111111111111111111111111111111111111				Black to grey, very hard to soft, interbedded coal and carb.sl=t			
1100		•	<b>☆☆</b>	Clean Silty (0:5) gray brown to black, soft, coaly			
1120-				sist Clean co:1) buff, hard. sist Coally sist Dark grey, soft, carb. sist			
- - - - - -		CLEAN COAL  Black, very hard, clean coal with minor silty coal and carb.	XXX	5;7+y			
1140		sist. Resin beads up to I' in diameter are scattered throughout	¥ X X	Grey, mod. hard, carb sist (0-3) light grey, hard sist Silty			
1160			XX X	(0.7) gray to black hard coaly sist with irregular lam.			
1180				(0.2) silty coal Irragular bleb of gray slat Silty			
			$\times$	(0.1) buff, hard sist			
1200			X 10	(0.5) silty coal			
1220				Interlaminated grey sist and clean coal coal Buff, hard sist lam. in clean coal			
1240			X X X X 1	Peragular grey Fard sist Jam. (0-2) buft, hard sist (0-4) soft, coaly sist			
			× 15	(0-1) buff, hard sist (0-2) soft.carb.sist Black to grey brown, hard coaly sist			
1260 -							
1280-		DRAFT COPY	<u>/ 4</u>	Silty  DRILL HOLE:		7	<u>-</u> 

ELEVATION IN FEET. DEPTH IN FEET		STRATIGRAPHY	DET	AIL & STRUCTURE	E LOSS	SAMPLE Nº.	1	H AT 20% DISTURE
E E	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SA	0 20	40 60 80
1280			X	Black to dark grey, hard coaly sist  Black to dark grey, hard to soft coaly sist with clean coal				
1320			50 10 10 10 10 10 10 10 10 10 1					
1340			25	(0-2) grey hard sist Irregular lam. of grey hard sist Black, hard to soft, silty coal (0-3) grey, very hard, calc. wood				
(380 -		MIXED UNIT  Black to light grey brown, hard  to very hard, interbedded  gradations from sist to fine		Black to dark grey yzry hard, finely interbadded clean cualand coaly sist Grey to black, hard, carb. sist		,		
1400		grained sst to clean coal. The contacts between the beds are gradational 80% of the fractures are due to drill action	,, 16 ,, 16	Light grey brown, very hard sst with coaly fragments  Light grey, very hard sist			1	
1420	STATE STATE			Black to gray, very hard, finisly interbedded sitty challand coally dist Clean coal Gray, very hard, calcified wood Clean coal Grey brown to black, very hard coally sist				
1440			70	Silfy				
1480				Grey, very hard, very fine to fine grained sst with coal fragments and laminae  Black, hard to soft interbedded				
1500	STATES OF THE ST	DRAFT COPY	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	clean coal and carb. sist Clean Black, hard to soft finely inter- bedded silly coal and carb. sist DRILL HOLE		7.5	- 9	

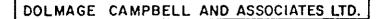
DRILL HOLE + ... 75-92..... SHEET Nº. + . 7. OF ... 9...

ELEVATION IN FEET. DEPTH IN FEET		STRATIGRAPHY	DET	AIL & STRUCTURE	LOSS	받이		I AT 20%, ISTURE
<u> </u>	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SORE	SAI	0 20	40 60 80
1500	SECONDARY OF SECON		20	(03)buff, soft tuff, sst Hard coaly, sist (08) grey brown hard sist Grey, very hard calc sist Silty Hard to very hard interbedded clean and silty coal				
1540				Grey brown to light grey, very hard, very fine to coarse grained sst with varying carbonate content and coal fragments and laminae				
1560			X X 70	Black very hard to very soft finely interbedged cleah and sity coal				
1580			1 × × 50	Silty coal Grey, very hard calcified wood Hard, silty coal				
1600			$\lambda$	Black to grey, hard, coaly sist Grey, hard, very fine to fine grained carb. sst, with minor interbedged clean wal	l l			
1620			X X X / 2	Grey to black hard sandy slat with coal fragments Gray to black, hard to very hard, finally interbadded slat and clean and sitty coal				
1640		•	15	Grey brown hard carb.slst with coal fragments. Grey brown to black finely interbeds at coal and carb.slst Grey brown, hard, carb.slst with coal fragments. Grey, very hard, calcified wood Grey to black hard, coaly slst				
1660			50	Black shard to very hard interbedded clean and silty coal with resin beads and minor coaly sist				
1688	MENTARES		× × × × × × × × × × × × × × × × × × ×	Gray to gray brown, hard, very fine to coarse grained soft, with coal fragments and laminae				
1700	R42733	SANDSTONE		Black to grey brown, hard, very fine interbedded clean and silty coal with coaly sst.  Grey to gray brown, hard, very fine to fine grained sst, with up to I" lam. of coal				
1720		Grey, hard, very fine to coarse grained sst with carb. and coaly laminae		Grey to grey brown, hard, fine to medium grained sst with fine coal tragments				

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ELEVATION IN FEET. DEPTH	FEE	STRATIGRAPHY	DETAIL & STRUC	TURE	CORE LOSS SAMPLE Nº.	ASH AT 20% MOISTURE
ELE:	Z STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL DESCRIPTION		SA SA	0 20 40 60 80
1720 -		·	Grey brown to light grand wedium grained sate Dark grey, hard, carbo			
1740		,	Light gray green, har hard, very fine to co grained, bedded sst w coal fragments and lar	arse ith sparse		
- 1780-	000000000000000000000000000000000000000		60			
1800-		-	Light grey, very hard, calc . grit to pebble conth with coal fragments			
1820-		FND OF HOLE	Grey, hard to soft very grained sst with mino beds and with coal from	fine r silty agments		
1840-		AT 1832 feet		-		
-				~		
			- - - - - - - -			
			- - - - - - -			
-			- - - - - - - - - - - - - -			
- - - -		DONET COOL	E			

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#### BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

: <u>50,498' N</u>

Length : <u>463'</u>

Hole Nº. : 75-93

23,533 E

Azimuth : 090°

Reference Elev. : 3722'

Dip : <u>-55°</u>
Core Size : <u>NQ</u>

Date : SEPT. 1975
Logged by: J. Rotzien
Sheet : 1 of 3

Ground	E 10		3720'
Giouna	EIGY.	•	3120

ELEVATION IN FEET	P T H		STRATIGRAPHY	DET	TAIL & STRUCTURE	CORE LOSS	SAMPLE Nº.			20% URE
ELE	O	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SOR	SA	0 20	40 €	0 <b>8</b> 0
	0-	Datun	1	††	Note: Original ground elev. 3721'			-		
	111		<u>OVERBURDEN</u>	<b> </b>						
	1111		Sand							
	20-		Clay							
	40				•		! ! !	1111		
	60		Sand and gravel							
	80 - 11 - 11 - 11		CLAYSTONE Reddish brown, very soft clst		Buff, soft s/st beds					
1	00	HANGERAANE	COALY CLAYSTONE  Black, soft, coaly clst with  minor dean coal and resin  beads		Black, very hard to soft, finely interbedded coaly cist and clean coal			],,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	20		CLEAN COAL  Black, very hard, clean coal with minor interbeds of coaly sist and silty coal and with sparse resin beads.	ZX	Soft. coaly slst	3				
	40   1111   1			X	(0.2) soft, coaly slst  Joint with marcasite coating (0.2) soft, coaly slst					
1	60			× ×	Conc. of resin beads (0-1)dark brown, soft carb. dst		*			
	80		DRAFT COPY	× 3 E \ 20				-		

DRILL HOLE + ..75:.93....

SHEET Nº : 1 OF .3.....

	·					<u></u>	T/a	<u></u>		
ELEVATION IN FEET. DEPTH	:'	TRATIGR	APHY	DET	AIL &	STRUCTURE	E LOSS	SAMPLE N°.	ASF MO	AT 20%
E E E E E E E E E E E E E E E E E E E	STRAT. PLOT	MAJOR ROCK L	JNITS	SYMBOL	DESCRI	PTION	8	SA	0 20	40 60 80
180-										
200					(0·1) blaci (0·1) s/lty	k,soft,silty coal				
220-					(0.2) 2(0.1) (0.2)			:		
240-				~\ <u>\</u>	Hard to so beds of sh	off, clean coal with i	3		المستاليسي	
260 -					(0.2) silty	t, coaly clst brown, soft, carb. sist coal	<b>T</b>			
280-			· ·	X	(0.2)darkb (0.5) silty (0.2) carb. (0.2) silty	rown soft carb sist				
300-				× 85	_	uff, very hard sist gray green, soft, sist				
320 -				25	Marcasite surface.	coating on joint coating on joint				
340-					Hard to s	oft coaly alst with				
360 -				40 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	(0.6) sof	t, silty coal				
380-				× × - × - × - × - × - × - × - × - ×	2(0·2) so	ff, carb. slst ly coal				
400-										

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N FEET. DEPTH IN FEET		STRATIGRAPHY	DET	AIL & STRUCTURE	SAMPLE	ASH AT 20% MOISTURE
i	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SAM	0 20 40 60 80
420				Black, soft, coaly sist	**************************************	
440		SILTSTONE  Grey green to grey brown, soft to very soft, brecciated slst				
460		END OF HOLE			<i>I</i> s	<b>E</b>
480		AT 463 Feet				
			والمرور والمرور والمرور والمرور والمرور والمرور والمرور والمرور والمرور والمرور والمرور والمرور والمرور والمرور			
		DRAFT COPY	Ē.	DRILL HOLE	·7	£

DRILL HOLE: ...75-93...... sheet №: ...3 of .3....

#### DOLMAGE CAMPBELL AND ASSOCIATES LTD.



### BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

Length : 313

Hole Nº. : 75-94

47,846 N 23,155 E

Azimuth : 090°

Date : OCT. 1975
Logged by: J. Rotzien

3621 Reference Elev. : Ground Elev. : 3619

Dip : <u>-65°</u>

Core Size : NQ

Sheet: 1 of 2

	<u> </u>				<del>-</del>			· · ·	S	111			2001
FEET PTH FEET		STRATIGRAPHY	DET	TAIL	8 5	STRL	JCTU	RE	CORE LOSS	SAMPLE Nº.		H AI DIST	20% URE
D E	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESC	CRIPT	ION			CORI	SAN	0 20 ]	40 60	80
0-	Datu	<u>m</u>	_	Note.	Orig	ginal	groun	ď					
		OVERBURDEN	Ē		2/67	, 067	7 ,						
-		Sand with boulders					<b>S</b>						
20			ţ. L					•					
-		Class	E .										
=		Clay	<u> </u>										
40-		·	E										
- -		Clay with sand	-										
-			<u>-</u>				•						
60-		Sand	E E				٠						
			<u>-</u>				•						
		Clay	Ē							•			
80 -			-				,						
	,	Clay with cobbles											
100		Sand with cobbles	Ē										
			<b>F</b>										
120-		Clay with cobbles	E			•					E		
-		Mixture of sand, clay and											
1		grave/											
140-		Clay						-		•			
17.71		Clay with cobbles	E				,						
		Clay											
160-			<u>L</u>										
-													
111		Gravel											
180 -		DRAFT COPY	t, I		-	<b>54.</b> •			1	,	<u>t</u>		
					D	RILL	_ HC	)LE	:		(2.1	: : : : : : : : : : : : : : : : : : : :	

DRILL HOLE : ...75.-94....

SHEET Nº : 1 OF . A....

FEET.	W STRATIONALITY DETAILS OF CONTROL		1 14 of LMOISTURE I	
IN FI	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION W W Z 0 20 40 60 80
180				
200		Clay with cobbles		
240		Clay		
		Sand with cobbles	1	
260		Clay with boulders		
280-1		Clay	1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
300-		Gravel with boulders		
		END OF HOLE	E	
320		AT 3/3 feet	- - - - - - - -	
111111111111111111111111111111111111111				
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DRILL HOLE: ....75.7.94.... SHEET Nº.: .2 OF .2....





## BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK PROJECT - DRILL RECORD

Coordinates

49,881 N

Length

: <u>1507</u> '

23,925 E

Azimuth : 270° Hole Nº. : <u>75-95</u>
Date : <u>0CT. 1975</u>

Reference Elev. : 3719'

Dip : -75°

Logged by: J. Rotzien

NQ

Sheet : 1 of 8

: 3717'

Core Size :

R PEET		STRATIGRAPHY		TAIL & STRUCTURE	CORE LOSS	SAMPLE Nº.	MO	AT 20%
3 0	STRAT.	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	ဒြ	75		
0-	Datu	<u> </u>	<u> </u>	Note: Original ground			-	
	= 1	OVERBURDEN	Ė	elve.				
20-		Boulders with gravel	ولومولوهمول					
40-		Gravel	مأميييي					
60-	11111	Clay with boulders						
			- - -					
80 -		Gravel						
100-		Gravel with clay beds	- - - -	·		·		
	1	Clay with boulders	<u>E</u> E					
120		Clay	[_  -  -				- - -	
,		Clay with gravel	-					
140-		Clay	<u> </u>					
160 -	***************************************	Gravel with boulders	سنسسين					
180		DRAFT COPY	السيدل					

DRILL HOLE + ..75 - .95 ... SHEET Nº : 1 OF . 8.

					•
•					
EVATION IN FEET.	STRATIGRAPHY	DE 1	TAIL & STRUCTURE	SAMPLE Nº.	ASH AT 20% MOISTURE
ELEV P P	STRAT. MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	SAM	0 20 40 60 80
180-	-				
200		والمراجعة			
220	CLEAN COAL		Triconed		
240 —	Black, very hard, with minor beds of silty coal and coaly sist. Resin beads are scattered throughout		Black, hard to soft finely inter- bedded clean coal and coaly sist T Weak (0:2) black, soft, coaly sist of resin beads		
260-			(0.3) buff, hard sist Silty  1  (0.2) silty coal  (0.2) soft, silty coal  (0.6) soft, coaly sist	1	
280 -		55	(0.2) soft, silty coal  (0.2) buff, hard, calc. sist  (0.1) soft, carb. sist  (0.6) soft, coaly sist		
300		35 15 55 75	Silty coal and carb. slst (0.5) soft coaly slst Slst laminae upto 0.2 thick (0.3) buff very hard slst lam. (0.2) dark brown, very soft, carb. Slatk to brown, very hard to very soft, finely interbedded clean coal	2	
320 -			Black to brown, very hard to very soft, findly interbedded clean coal and carb. \$1st irregular laminae of buff sist (0-4) silty coal  Hard to very hard, clean and silty coal		
340		65	Hard to soft, silty coal Buff to white, hard sist laminae	3	
360-		35	Silty coal (Q:2) brown, very soft, carb. sist Thin lam, of white calc. wood (Q:2) rusty buff, very hard sist Hard to very soft, finely interbods of silly coal and carb. sist		
-380-	With resin beads	× 65	(0.2) very soft, carb. slst (0.2) brown, very soft slst (0.3) very soft, coaly slst	4	
400	SILTY COAL  Black, very hard to soft, with interbedded clean coal and coaly to carb. sist	56	Hard to soft, finely interbedded sitty coal and carb, sist  (0.2) grey to white very hard cak. sht	5	

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•	•		<u>.</u>		<u></u>
STRAT.	TRATIGRAPHY  MAJOR ROCK UNITS	DETAIL &	STRUCTURE	SAMPLE Nº.	ASH AT 20% MOISTURE
400 420 440 460 480 480		(0·1) buff, Coaly slss Hard tover of clean at	d. hard, carb. slst yery hard slst y hard, finely interbeds nd silly coal i slst ous minor interbedded coaly slst	6	
440   11   11   11   11   11   11   11		Very soft (0.3) coally (0.2) very s		7	
460		Hard to soft coal and co	t, finely interbeddad silty aly sl\$t very hard calc . sl\$t , coaly sl\$t	8	
E/D: 924 629		(0.4) light g	.coaly slst	9	
50 50 50 50 50 50 50 50	•	(0·3) sof4,	t, coaly sist carb, sist carb.sist	11	
540	CLEAN COAL  Black, very hard, with minor	White to bu	ff irregular clst lam		
560	beds of buff sist and carb. to coaly sist		uff sist laminae	12	
580-	SILTY COAL  Black, hard to very soft with	Gray to gr	carb.slst ne and marcasite n joint surface newpown, very soft ightly carb, slst	13	
600	interbedded carb. to coaly sist	Hard to ve bedded sil 55 (0.4) grey b	ry soft, finely inter- ty coal and coaly sist rown, very hard sist coaly sist	14	
620 - 18 8	DRAFT COPY	EX== 162 soft	DRILL HOLE : SHEET Nº. 1	7	EIIII 75 - 95 / F 8

EVATION M FEET.	<u>'</u>	STRATIGRAPHY	DET	TAIL & STRUCTURE	E LOSS	SAMPLE Nº.	ASH AT 20% MOISTURE
[ 문년 등 기계 기계 기계 기계 기계 기계 기계 기계 기계 기계 기계 기계 기계	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SA	0 20 40 60 60
620 -			X =	(0.7) soft carb, sist (0.6) soft coaly sist (0.2) very soft coaly sist Very soft carb. sist (0.2) very soft carb. sist (0.2) dark gray brown carb. sist (0.2) carb sist		15	
640	ostolikasikasikasikasi Ostolikasikasikasikasi		× × × × × × × × × × × × × × × × × × ×	Clean and sity coal with minor coaly sist Clean coal with minor sitty coal Carb. and coaly sist		16	
660		CLEAN COAL  Black, very hard with silty and rubbly beds	× 70 × 65 × 55	(0,1)			
680		•	× × × × × × × × × × × × × × × × × × ×	(0.4) carb. slst Coaly slst (0.7) coaly slst (0.2) coaly slst (0.6) soft sitty coal (0.3) dark brown, very soft carb. slst (0.1) coaly slst		17	
700		•	X X 50	Very soft, carb. sist with 10'ckar			
720			XXXXXX	Very soft, carb. slst (0.2), soft silty coal Banding Carb. slst with 0.1' buff, very hard slst		18	
740			25	Hard to soft silly coal and carb. sist (0.2) coaly sist Dark brown to black carb. sist Buff, irregular sist laminae Silty coal			
780			X X X X X X X X X X X X X X X X X X X	(0.4) coaly sist (0.6) mod. hard, silty coal  (0.3) coaly sist (0.5) silty coal (0.2) coaly sist Silty coal and carb. sist		19	
\$\$\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				Conc. resin beads With coaly sist (0.3) silty coal	<i>"</i>		
820			25	Coal (0.3) carb. sist  Irregular bleb of very hard clst (0.2) silly coal  Carb. sist with 0.1' buff hard sist Hard to med. hard, interbedded silty coal and coaly sist		20	
840		DRAFT COPY	75	(03) very soft, carb. slst		21	

DRILL HOLE: ...75.-.95......
SHEET Nº.: .4. OF ......

N FEET DE PT H	STRATIGRAPHY			DETAIL & STRUCTURE		SAMPLE Nº.	ASH AT 20% MOISTURE	
NE O	STRAT. MAJ	OR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SA	0 20 40 60 80	
840			× 125	(0.7) carb. slst (arb. slst (0.1) carb. slst (0.2) coaly slst (0.1) slst (0.1) coaly slst (0.1) coaly slst (0.1) coaly slst				
860 -		,	× 65	(0.1) coaly sist Silty coal with numerous inter- beds of coaly and carb. sist		22 23		
880			× \ × 25	Hard to very soft, finely inter- bedded silty coal and carb to coal, sist with minor clean coal	<b>**</b>	24		
900				Marcasite coating on joint surland Irragular, buff, hard clat laminae  Mixture of clean coal and coalysist  Carb. and coaly sist		25		
920 —			55	Silty coal Irregular clst lam in clean coal Mixture of clean and silty coal			-	
960		·	× 75	Soft to very soft, carb. to coaly sist Sist Sist Sity coal  Dark brown to black, carb. sist Sist with coal fragments (0.4) coaly sist (0.3) coaly sist Clean with brown, calc. wood Sity coal Black to grey brown, sity coal with carb. sist		26 27		
980-		•	25	Grey brown, carb. stst				
1000				(0.2) coaly slst (0.2) silty coal (0.2) solly slst (0.4) coaly to carb, slst  Coaly slst		28		
1020-		. •	X 65 X 65	(0.4) carb. sist  (0.3) irregular sist laminae  (0.4) carb. sist  (0.1) grey brown sist  (0.5) city coal  very hard to very soft, interpreduce clean coal and carb. sist		29		
1040-				clean coal and carb. sist  (0.5) silty coal  (0.8) silty coal  Grey sist with minor coal  (0.2) calc sist with infilled fracture (0.4) mod. hard silty coal				
1060		DRAFT COPY	25			33		

DRILL HOLE: ....75.-95.....
SHEET Nº.: .5. OF .8...

ATON FEET P T H	STRATIGRAPHY		DET	DETAIL & STRUCTURE		SAMPLE Nº.	ASH AT 20% MOISTURE	
ELE VA	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION	CORE	SAI	0 20 40 60 80	
1060		•	X X 25	10.4) silty coal  Coaly sist			-	
1080 <del>-</del> - - - -			X X X X X 8	Silty coal and coaly sist		31		
1100, -				Silty coal Hard tovery soft, mixture of coal and coaly to carb, sist  Very hard to very soft silty, coal with interbeds of carb, sist and clean coal	, ,	32	- - - - - - - -	
1120 -			XXXXX [85/9]	(0.2) slst bleb		33		
1140			X 20 X 20	(0·1) buff, hard bleb of slst Black to grey coaly slst Grey slst laminae (arb. slst (0.4) coaly slst				
1160 — - - - - - - - - - - - - - -		MIXED COAL  Black, very hard to very soft interbedded clean and silty coal and coaly to carb. slst with minor slst	1 X X X 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Silty coal (arb.slst with minor hard silty coal (0.1) sist with cavities lined and Silty coal Silty coal Black to grey hard to very soft mixed to grey hard to very soft silty coal (0.3) brown, mod. hard, carb. sist		34		
1200 —			XXX 45	Clean coal		35		
1220	Handarakan Geografica Geografica		XXXX	Hard to very soft, finely interbeds of sitty coal and coaly to carb. sist with minor clean coal  Clean coal with buff to grey irregular sist laminae		36		
1240			× 75 × 49	Silty coal  (0.4) grey, hard slst (0.2) carb, slst Silty coal Clean coal (0.7) slst		37 		
1260 -		·	X X 45	(0.2) coaly sist		38		
1280		DRAFT COPY	XXXX S	Sity coal (0.7) coaly sist (0.7) coaly sist Silty coal Clean coal with minor carb sist		39		

STI	STRATIGRAPHY		AIL & STRUCTURE	SAMPLE	ASH AT 20% MOISTURE
STRAT. MA	JOR ROCK UNITS	SYMBOL	DESCRIPTION	SAN N	0 20 40 60 80
1280	-	₩ ₩ ₩	Carb. Ist Silty coal Black to grey, yery hard to very soft finely interbedded coaly and carb sist and sist Calc. sist	40	
300			Hard to very soft, interbedded coaly sist and carb. sist	41	
1320   1340   136		X X 45	(0.8) buff, very hard, tuff with marcasile  Silty coal with minor clean coal and carb. sist  Conc. resin beads	42	
1340		XXXXX	Soft to very soft carb. sist with minor silty coal Interbedded sist and coal	43	
1360		XXX	Finely interbedded carb and coaly clean coal  Clean coal  Dark to light grey, sist varying in carb. content up to a coaly		
1380		75 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	slst Cleancoal with white clst lam		
1400		×× 45	Black to dark grey, hard to mod. hard, finely interbedded carb and coaly sist  Clean coal	44	
1420			Black to grey brown, hard to very hard, finely interbedded mixture from clean coal to sist	45	
1440		45	Grey brown to black, hard to soft finely interbeckled carb and coalysht with minor clean coal  Clean coal  (0.4) tuff sst	46	
144 44 49 49 49 49 49 49 49		XXX /5	Black to dark grey, hard to very soft interbedded carb and coaly slot with minor clean coal	47	
1480			Clean coal with minor carb sist	48	
1500	DRAFT COPY	45	Silty coal	49	

DRILL HOLE ... 75-95 ..... SHEET Nº. . . . 7. OF .. 8. ..

STRATIGRAPHY			AIL &	STRUC	TURE	LOSS	SAMPLE Nº.	ASH MOIS	AT 20% STURE
LAM TARES MAJ	OR ROCK UNITS	SYMBOL	DESCRIP	TION		SORE	SAI		60 80
- 4 5 2	END OF HOLE		Black todar	k brown,car					
A	1 1507 feet	بيبلييي		·					
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