

HC-HAT CREEK ~~PROJECT~~ 75(3) I

DRILL HOLE LOGS
HAT CREEK PROJECT-1975

J. ROTZIEH

DEC 1975

0135

2 OF 3

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT — DRILL RECORD

Coordinates : 45,368' N Length : 1948' Hole No. : 75-79
 : 25,453' E Azimuth : - Date : AUG. 1975
 Reference Elev. : 3901' Dip : -90° Logged by : J. Rotzien
 Ground Elev. : 3899' Core Size : NQ Sheet : 1 of 10

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
0		Datum																
			OVERBURDEN <i>Mud and rhyolite</i>		Note: Original ground elev. 3896'													
			RHYOLITE <i>White to light grey, mod. to very hard, finely crystalline</i>		Triconed													
100 3800																		
120																		
140																		
160																		
180																		

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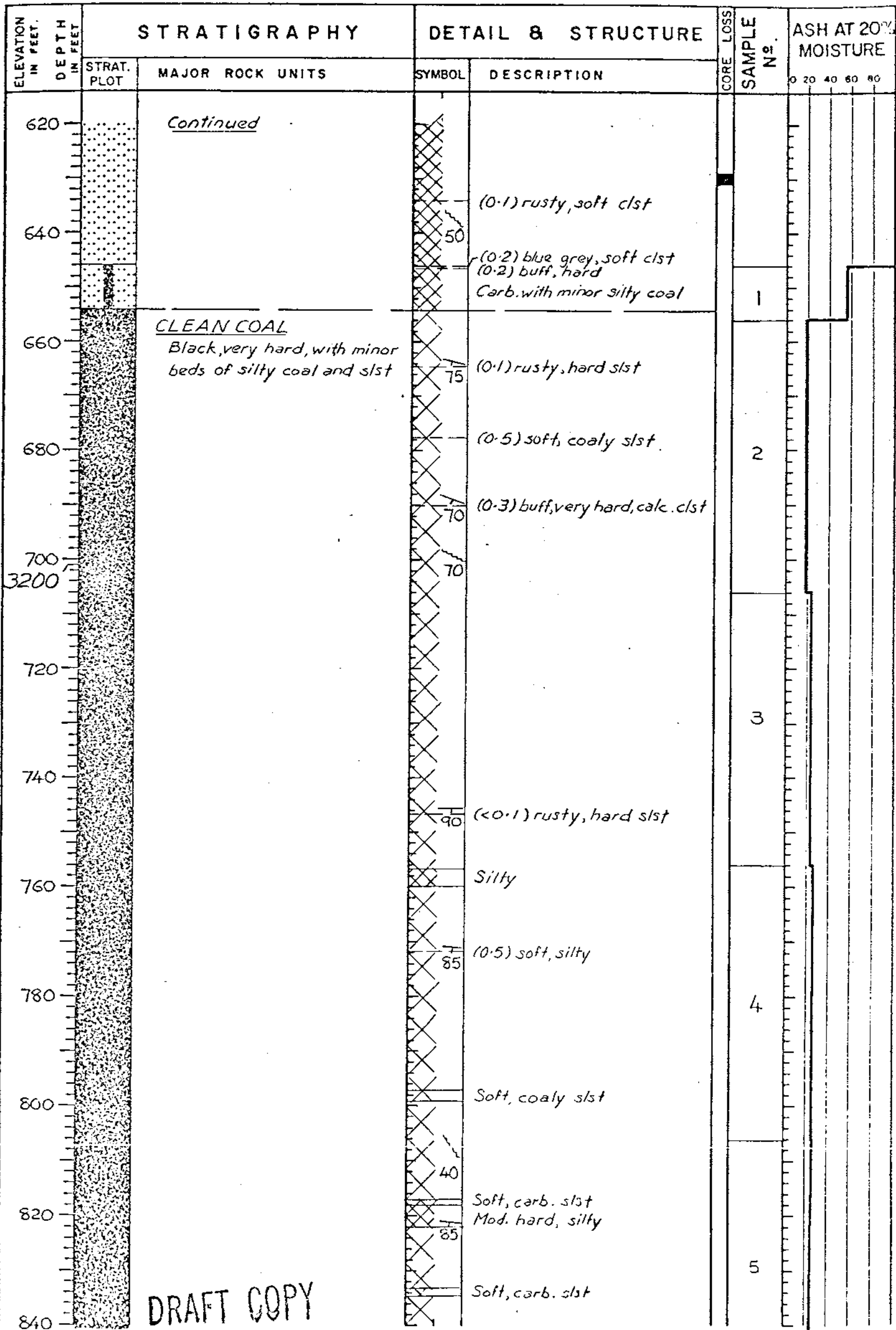
ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
180			<i>Continued</i>																
200																			
220																			
240																			
260																			
280			<u>CLAYSTONE</u> Dark grey, very soft to mod. hard		Light grey to dark blue grey, hard to soft, flow breccia with rhyolite blocks in clst														
300																			
360																			
320					Light grey, very hard rhyolite														
340					(0-1) buff, soft														
360																			
380																			
400																			

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ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE N ^o	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
400			<i>Continued</i>																
				X	(0.1) buff, soft	85													
420				X															
440				X	(0.3) buff, hard slst														
460				X		55													
480				X															
500				X		85													
3400				X	(0.1) buff, soft	85													
520				X		20													
540				X	(0.9) buff, mod. hard slst	85													
560				X															
580				X	(0.2) buff, mod. hard slst Buff, laminae	85													
				X	Arbitrary gradational boundary	85													
600			<u>SILTSTONE</u> Dark brown, mod. hard, with approx. 10-15% carb. content. 590-611; intensely sheared at 10°-20° to C.A.	X		30													
620				X		85													

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DRILL HOLE : ... 75-79 ...
SHEET N^o : . 3 OF . 10 .



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00135
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 ? volcanic ash, speckled
- 1494
- 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

00135
75(3) I

Specimens

- 472 coal, to illustrate banding at angle almost parallel to core axis
- 484 as above
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- 1787 ? volcanic ash band
dip parallel to core axis
- 1797 dark grey clay with irregular junction with coal and seatearth

135

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

Coordinates	: <u>10,400'S</u>	Length	: <u>1846'</u>	Hole No.	: <u>75-77</u>
	: <u>10,650'E</u>	Azimuth	: <u>—</u>	Date	: <u>JULY 1975</u>
Reference Elev.	: <u>3362'</u>	Dip	: <u>-90°</u>	Logged by	: <u>J. Rotzien</u>
Ground Elev.	: <u>3360'</u>	Core Size	: <u>NQ</u>	Sheet	: <u>1 of 9</u>

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
0			Datum															
			<u>OVERBURDEN</u>															
			<i>Cobbles and gravel</i>															
			<i>Boulders and gravel</i>															
20																		
			<i>Gravel</i>															
40																		
			<i>Boulders</i>															
60																		
			<i>Boulders and gravel</i>															
80																		
			<i>Clay and gravel</i>															
100																		
			<u>COAL</u>															
			<i>Black, very hard to soft, clean coal with silty coal and carb. slst</i>															
120																		
140																		
160																		
180																		

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
180			<i>Continued</i>		With buff slst laminae Silty													
				45	Silty with interbedded coaly slst		4											
200					With minor beds of coaly slst													
					Finely interbedded clean and silty		5											
220				60														
				40 60	Irregular buff clst lam. And carb. clst		6											
240				50	Finely interbedded clean and silty (0.2) buff, hard, sandy slst		7											
					Interbedded with silty coal and coaly slst													
260				10	With minor silty coal		8											
280					Silty Coaly slst (0.4) buff, hard slst		9											
300			CLEAN COAL Black, very hard with occasional resin beads	55														
					Silty		10											
320					Buff to grey, hard slst lam.													
				45	Buff to grey, hard slst lam.													
340				70	Grey coaly slst													
				45	Silty													
360				50	Silty coal and coaly slst (0.3) grey brown, soft clst (0.5) buff, hard slst		11											
					Dark brown, soft, carb. slst													
380				30	Dark brown, soft, carb. clst													
				70	Banding													
400																		

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
400			<i>Continued</i>																
420							12												
440																			
460			<u>CLEAN AND SILTY COAL</u> <i>Black, very hard to hard, finely interbedded; with minor interbedded coaly slst</i>																
480																			
500			<u>CLEAN COAL</u> <i>Black, very hard with minor interbedded of carb. slst to silty coal.</i>																
520					(0.7) brown, soft clst		14												
540					(0.4) soft silty														
560					(0.3) } soft silty (0.2) }		15												
580					Dark brown, soft, carb. slst														
600							16												
620					(0.4) hard, silty														

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

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE												
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80								
620		[Dotted pattern]	<u>SILTSTONE</u> Grey brown, soft, with interbedded silty coal	[Cross-hatch]	Hard, black, silty coal with minor coaly slst	[Core loss]	17	[Ash moisture scale]												
	With chunks of silty coal																			
640		[Dotted pattern]		[Cross-hatch]	Hard, silty coal With coal chunks	[Core loss]	18	[Ash moisture scale]												
660		[Vertical line with dots]	<u>MIXED COAL UNIT</u> Black to dark grey, hard to moderately hard, interbedded silty coal, coaly and carb. slst	[Cross-hatch]	Clean coal	[Core loss]	19	[Ash moisture scale]												
	Soft to hard, interbedded																			
	Clean coal																			
	Silty coal																			
	Coaly slst																			
680					[Cross-hatch]								Silty coal (0.2) buff, hard, slst (0.2) grey, hard slst	[Core loss]	20	[Ash moisture scale]				
	Finely interbedded																			
700					[Cross-hatch]								Slightly carb. slst	[Core loss]	21	[Ash moisture scale]				
	Light grey, calcified wood with fragments clean coal Soft carb. slst																			
720					[Vertical line with dots]								<u>COAL</u> Black, very hard to soft, interbedded silty and clean coal, carb. and coaly slst, and slst	[Cross-hatch]	With buff to white slst laminae	[Core loss]	22	[Ash moisture scale]		
	Silty																			
740		[Cross-hatch]	Carb. slst Silty	[Core loss]		23	[Ash moisture scale]													
	Carb. slst (0.1) buff, hard slst Carb. to coaly slst																			
760		[Cross-hatch]	Finely interbedded clean and silty	[Core loss]		24	[Ash moisture scale]													
	Dark grey to black, finely interbedded carb. slst and clean coal																			
780		[Cross-hatch]	Clean coal and carb. slst	[Core loss]		25	[Ash moisture scale]													
	Black to grey brown, finely banded bed of clean coal and carb. slst 70% coal																			
800		[Cross-hatch]	Same as above, only 30% coal.	[Core loss]			[Ash moisture scale]													
820		[Cross-hatch]		[Core loss]			[Ash moisture scale]													
840		[Cross-hatch]		[Core loss]		[Ash moisture scale]														

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DRILL HOLE : ...75-77...
SHEET No. : .4. OF .9...

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
840			<i>Continued</i>											
					Clean coal									
				60	Finely interbedded slst, carb. slst, silty coal and clean coal		26							
860					Clean coal									
					Finely banded clean and silty coal and white clst. Clst increases with depth.									
880					Slst to clean coal	45								
				30 40	Carb. slst grading down to clean coal.		27							
900					Finely interbedded silty coal and carb. to coaly slst									
				35	Clean with white clst laminae									
920					Finely interbedded silty coal and carb. to coaly slst	20								
				50 60	(0.6) white, very hard clst, with irregular coaly laminae Finely interbedded silty and clean coal and coaly and carb. slst (0.3) white clst		29							
940					Coaly slst									
					Silty Carb. slst		30							
960					Silty coal with minor carb. slst and clean coal									
				55	Coaly slst Calc. slst		31							
980					Dark grey to black carb. slst with finely interbedded silty coal.									
					Silty coal with minor clean coal and carb. slst	60								
1000					2(0.2) buff slst Silty (0.3) white clst	60								
					Grey to black, finely interbedded silty coal and carb. slst with minor clean coal.	0 60		35						
1020														
1040														
1060														

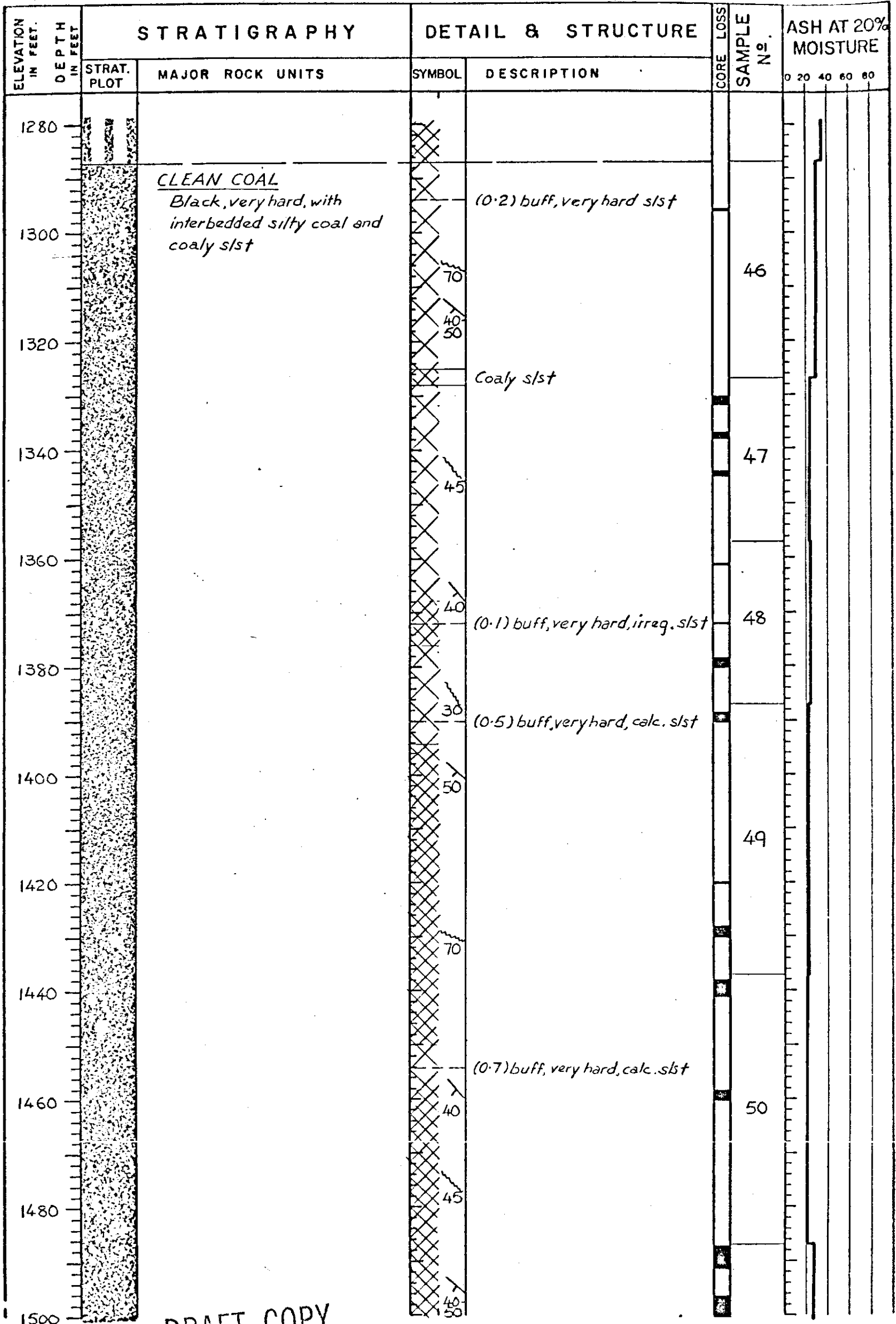
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DRILL HOLE : ...75-77.....
SHEET No. : .5. OF .9...

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
1060			<i>Continued</i>															
1080							37											
					Clean		38											
1100					Silty (0.4) grey calcified wood Coaly slst Clean		39											
					(0.3) white clst Interbedded silty coal and 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													
1180					Clean with interbedded silty coal.		42											
1200			CLEAN COAL Black, very hard with interbedded carb. slst, and minor silty coal		(0.3) buff slst Silty		43											
1220					Buff slst lam. With irregular buff slst lam. Silty coal and coaly slst													
1240			MIXED UNIT Black to grey brown, very hard to soft, interbedded clean and silty coal and carb. and coaly slst		Finely interbedded silty coal and coaly slst (0.7) buff, very hard slst Coal and coaly slst Slightly carb. slst Silty coal		44											
1260					Finely interbedded carb. and coaly slst with minor silty coal		45											
1280																		

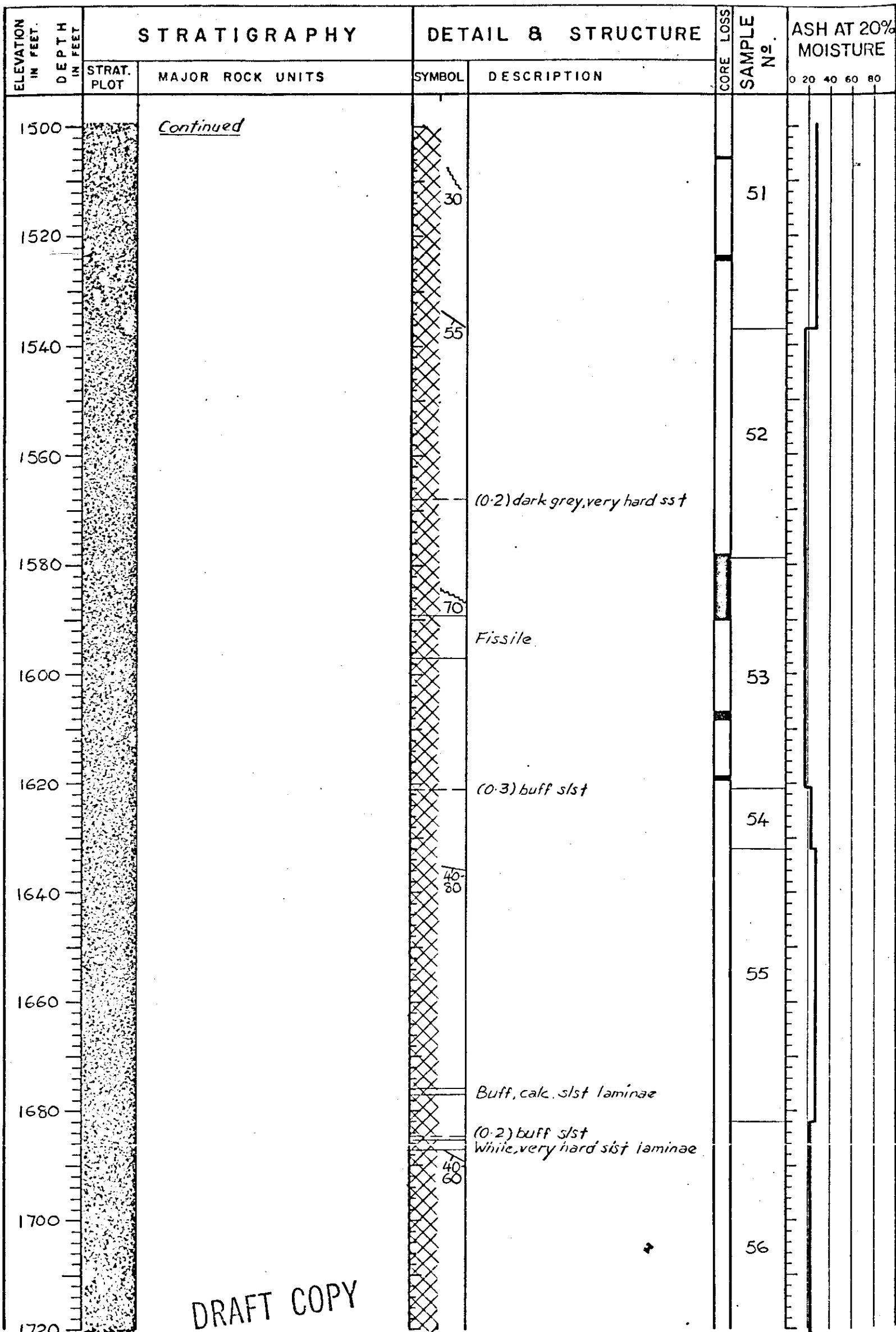
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DRILL HOLE : ...75-77...
SHEET No. : .6 OF .9...







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DRILL HOLE :75-77.....
SHEET No. : ..7 OF ..9...



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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE							
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80			
1720			<i>Continued</i>				57								
1740															
1760															
1780															
1800			<i>END OF HOLE AT 1846 feet</i>				58								
1820															
1840															
1860							59								

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BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT — DRILL RECORD

Coordinates : 6700' S Length : 1752' Hole No. : 75-80
10,050' E Azimuth : - Date : JULY 1975
 Reference Elev. : 3320' Dip : -90° Logged by : J. Rotzien
 Ground Elev. : 3318.5' Core Size : NQ Sheet : 1 of 9

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
0			Datum											
			OVERBURDEN											
			Large boulders											
			Mud											
			SILTSTONE											
			Grey, moderately hard to hard with light grey and buff slst and clst beds and traces of carb. fragments.											
				65	2 laminae of light grey, soft									
				40	(0.2) buff, soft clst Several lam. of buff, soft clst									
					(0.2) buff, mod. hard clst									
				70	(0.2) buff, mod. hard clst (0.1) buff, soft									
				60	(0.1) buff (0.1) light grey, mod. hard clst									
					(0.3) buff, soft clst									
				15	(0.5) buff									
					(0.4) buff, soft clst									
				20										
				150										

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ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
180			<i>Continued</i>											
200														
220														
240														
260														
280														
300														
320														
340														
360														
380														
400														

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ELEVATION IN FEET.	DEPTH IN FEET.	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
400			<i>Continued</i>																
					(0.2) light grey to buff, mod. hard clst (0.2) buff														
420				40	(0.8) light grey brown														
					(0.2) buff (0.2) buff, soft clst														
440					2(0.2) buff, soft clst														
460					(0.2) buff, soft clst														
				60	(0.1) buff, mod. hard clst														
480					2(0.1) buff, mod. hard clst (0.7) buff														
				60	(0.2) buff														
500					(0.3) buff, very hard, very fine sst Buff, mod. hard clst														
520					Soft														
540					Mod. hard to soft														
560					Buff to white, soft, clayey sst (0.1) grey, soft, clayey sst														
				60	(0.1) buff, soft clst														
600																			
				20															
					(0.1) buff, soft clst														
620																			

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
620			<i>Continued</i>											
					60	Soft								
640														
					60	(0.1) buff, mod. hard clst								
660						(0.1) buff, mod. hard clst								
						(0.1) light grey (0.1) rusty								
680						Rusty-buff, mod. hard clst lam. Rusty-buff, mod. hard clst lam.								
					55	(0.1) rusty, soft clst								
700														
					40	(0.1) buff (0.6) buff								
720														
740														
760														
780						(0.2) light grey (0.1) buff, soft clst								
800														
					20									
820														
840														

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
840			<i>Continued</i>																
				55	Soft, with fragments of buff, hard (0.8) light grey, very hard lmsst infilled fractures of grey slst														
860																			
				60															
880																			
					With irregular calcite veins														
900				50	Buff clst and sst lam. in slst (0.6) buff, hard sst														
				50	(0.1) light grey, hard														
920				40	(0.1) buff														
				50	(0.2) buff														
940																			
960																			
				55	(0.2) buff														
980																			
1000				50	(0.1) white														
				20	(0.2) white														
1020																			
1040																			
1060																			

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
1060			<i>Continued</i>															
1080				60	(0.1) white to buff, hard clst													
				50	4 laminae of buff to white, hard clst													
1100				45	(0.7) buff, hard clst													
1120																		
1140				45	(0.2) buff, hard clst													
				45	(0.4) buff													
1160				40	(0.1) black, very hard, clean coal Dark grey brown, slightly carb.		1											
1180			<u>CLEAN COAL</u> Black, very hard, with minor interbeds of slst and resin beads of $\leq \frac{1}{2}$ " in diameter	55	(0.3) buff, hard slst													
1200					(0.7) dark grey, hard, carb. slst		2											
1220				50	Dark grey, hard, carb. slst													
1240					Dark grey, hard, carb. slst		3											
1260				40	(0.4) buff to grey, hard slst													
				65	Dark grey, hard carb. slst													
1280				50	(0.1) buff, hard slst													

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1280			<i>Continued</i>											
1300							4							
1320					(0.1) buff, hard slst Marcasite coating on slip surface at 30°									
				45	(0.1) buff to white, hard clst (0.2) white, hard clst									
1340				40	White clst laminae		5							
1360				45	Several white clst laminae Finely interbedded with carb. slst Coaly slst									
1380					Finely interbedded silty coal and carb. slst		6							
					Coaly slst Silty									
1400				50	(0.2) white clst laminae		7							
1420					Grey, sandy slst									
1440					Carb. slst		8							
1460														
1480														
1500				65	(0.1) rusty, hard slst		9							

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
1500			<i>Continued</i>																
1520				X	Black to rust interbedded silty coal and coaly slst		10												
				X	Finely interbedded with coaly slst														
				X	(0.2) buff, very hard slst														
1540				X	Grey, hard, carb. slst laminae		11												
1560				X	Light grey, hard, carb. slst lam.	40													
1580				X															
1600				X		50	12												
1620				X	White, hard clst laminae	45													
				X	(0.2) very hard, grey, calcified wood	60													
				X	(0.1) rust, hard slst														
1640				X	(0.3) white, hard clst laminae		13												
1660				X															
1680				X		65	14												
1700				X	(0.1) white, hard clst	55													
1720				X	(0.1) white, hard clst with marcasite		15												

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ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1720			<u>Continued</u>		(0.2) dark grey, hard carb. slst white, hard clst laminae									
1740					Finely interbedded clean and silty			16						
1760			END OF HOLE AT 1752 feet											

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

Coordinates : 10,320' S Length : 1727' Hole No. : 75-82
 : 9750' E Azimuth : - Date : AUG. 1975
 Reference Elev. : 3430' Dip : -90° Logged by : J. Rotzien
 Ground Elev. : 3428' Core Size : NQ Sheet : 1 of 9

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
0			Datum											
			<i>OVERBURDEN Gravel and clay</i>											
20			<i>Gravel and boulders</i>											
40			<i>Sand and boulders</i>											
60			<i>Sand with gravel</i>											
80			<i>Sand and gravel with boulders</i>											
100			<i>Gravel and boulders</i>											
120			<i>Clay, gravel and boulders</i>											
140			<i>Clay</i>											
160														
180														

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DRILL HOLE : ...75-82...
 SHEET No : 1 OF 9.....

ELEVATION IN FEET.	DEPTH IN FEET.	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
400			<i>Continued</i>		(0.2) (0.3) buff, hard									
420														
440					20 (0.2) buff, soft clst									
460					Buff, hard Buff, soft, clst									
460			<u>CARB. SILTSTONE</u> Black, very hard	15			1							
480			<u>COAL</u> Black, very hard clean coal with small interbeds of silty coal and coaly slst; Resin beads occur throughout	35	(0.2) buff									
480				45			2							
500					Soft, carb. slst									
520				45 50	Dark grey to black carb. and coaly slst		3							
540				60	White clst, joint fillings									
540				45										
560				45	(0.1) buff slst Very hard to soft, finely interbedded clean and silty coal and coaly slst		4							
560				20	White to grey clst laminae in clean coal.									
580			<u>MIXED UNIT</u> Black to dark grey brown, very hard to soft, interbedded clean and silty coal and coaly and carb. slst	45 60	Clean		5							
600				75										
600					Clean (0.7) grey, very hard, calcified wood.									
620				55	Interbedded clean and silty		6							
620					Dark grey, coaly slst									

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
620			<i>Continued</i>		Clean with minor silty coal (0.4) buff to grey, calc. slst Finely interbedded clean and silty coal with occasional white clst laminae									
640			<u>SILTY COAL</u> Black, hard, silty coal with interbedded carb. to coaly slst and minor clean coal		Dark grey brown, soft carb. slst		7							
660					(0.3) buff to grey, hard slst (0.2) buff to grey, hard slst									
680					Clean Finely interbedded silty coal and coaly slst		8							
700					Finely interbedded silty coal and carb. slst (0.1) rusty hard slst									
720			<u>CLEAN COAL</u> Black, very hard, clean coal with interbedded silty coal and coaly slst and carb. slst		Clean (0.1) buff, hard slst Lamination of rusty slst Finely interbedded clean and silty Mixture of clean coal and white clst		9							
740					(0.2) grey brown clst Finely interbedded clean coal and carb. slst. (0.3) buff, hard clst		10							
760			<u>MIXED COAL UNIT</u> Black, hard to soft, finely interbedded clean and silty coal with grey brown, soft carb. slst		With minor carb. slst									
780					(0.3) buff, very hard slst Coaly slst Finely interbedded clean and silty coal.		11							
800					Clean coal with silty interbeds Carb. to coaly slst									
820					Finely interbedded clean and silty coal with minor carb. slst		12							
840					Slightly carb. slst Silty Finely interbedded clean and silty coal with minor beds of carb. and coaly slst		13							

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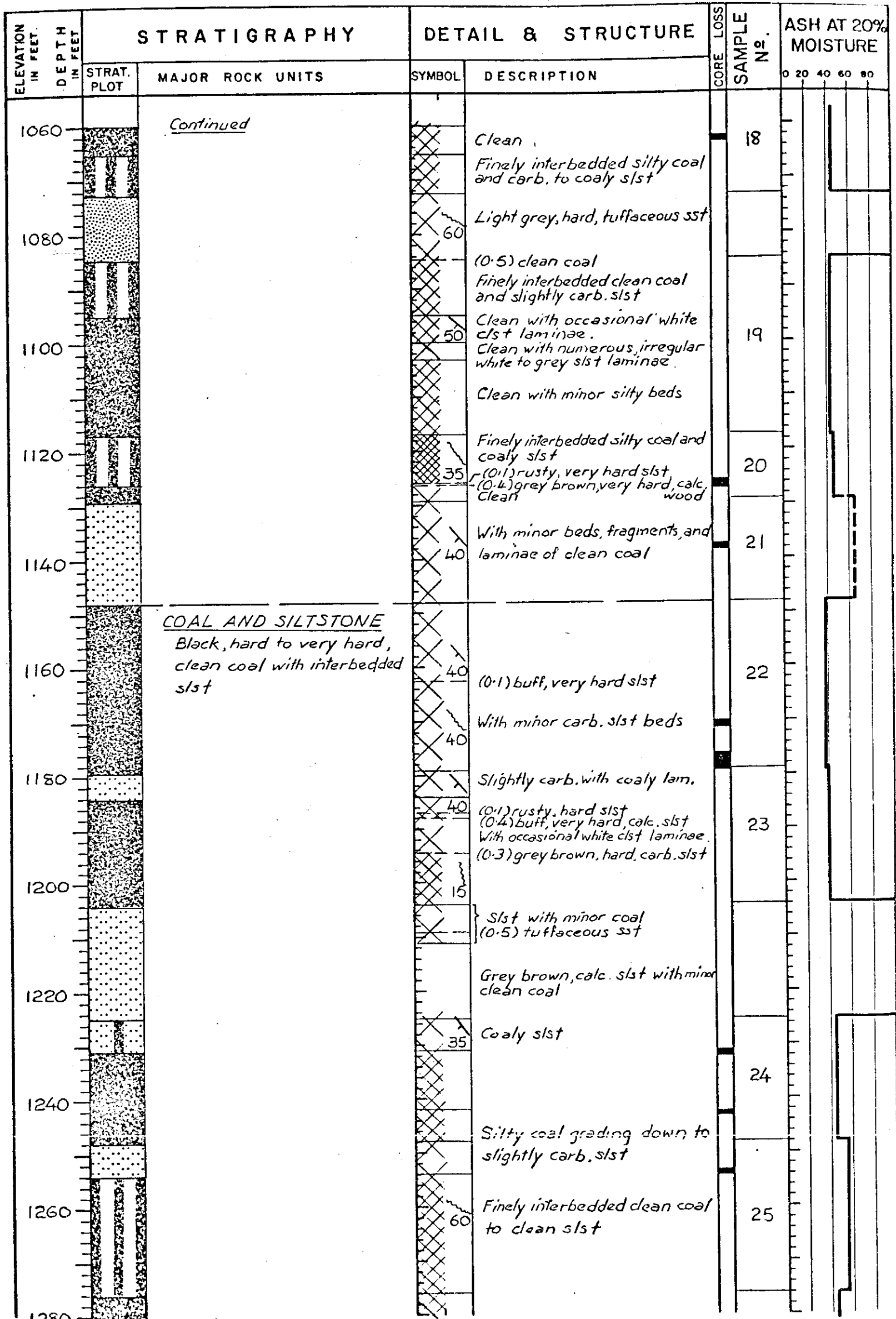
DRILL HOLE : ...75-82.....
SHEET No. : 4 OF 9...

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
840			<i>Continued</i>		<i>Finely interbedded clean and silty</i>													
860					<i>(0.2) grey, very hard slst</i>		14											
					<i>Clean and silty</i>													
					<i>Soft, carb. slst</i>													
880			<u>SILTSTONE</u> <i>Grey brown, soft to mod. hard, calc. with up to 5% carb. content ;</i> <i>Solution cavities exist in the more calc. areas</i>															
					<i>Solution cavities</i>													
900																		
					<i>Carb. content increasing</i>													
920					<i>Very hard clean coal</i>													
			<u>COAL</u> <i>Black, very hard to soft, clean and silty with interbedded slst and carb. slst ; Resin beads scattered throughout</i>		<i>Finely interbedded clean coal and carb. slst</i>													
940					<i>Clean</i>		15											
					<i>Grey brown slst</i>													
					<i>Finely interbedded silty coal and carb. slst</i>													
960					<i>Clean</i>													
					<i>Clean with minor slst interbeds (0.1) buff, hard slst</i>													
980					<i>(0.4) buff to grey, very hard slst</i>		16											
					<i>(0.2) buff to grey, very hard slst</i>													
1000			<u>MIXED UNIT</u> <i>Black to light grey, soft to very hard, interbedded coal and detrital rock</i>		<i>Grey brown, soft, carb. slst</i>													
					<i>Dark grey brown, very hard, coaly</i>													
1020					<i>Calc. slst with small interbeds of carb. slst</i>													
					<i>Silty</i>													
1040					<i>(0.3) grey, hard slst</i>		17											
					<i>Clean</i>													
					<i>(0.6) grey, soft slst</i>													
					<i>Clean</i>													
1060					<i>Finely interbedded, clean and silty coal and carb. to coaly slst</i>													

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DRILL HOLE : ... 75 - 82 ...

SHEET No. : . 5 OF . 9 . . .



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DRILL HOLE : ... 75 - 82 ...
SHEET No. : 6. OF .. 9 ..

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1280			<i>Continued</i>											
1300							26							
1320			<u>MIXED UNIT</u> Black to light grey, hard to very hard, interbedded coal and detrital rock											
1340							27							
1360														
1380														
1400							29							
1420														
1440			<u>SILTSTONE</u> Grey, hard, laminated with interbedded sst. Abundant variable amounts of carb. laminae < 10%											
1460														
1480														
1500														

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
1500			<i>Continued</i>																
1520																			
1540																			
1560																			
1580																			
1600																			
1620			<u>INTERBEDDED COARSE DETRITAL ROCKS</u> <i>Gray to light gray, hard to soft, interbedded congl. and sst with the laminations being carbonaceous</i>																
1640																			
1660																			
1680																			
1700																			
1720																			

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
1720																			
			END OF HOLE AT 1727 feet																
1740																			

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

135

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

Coordinates	: <u>60,139' N</u>	Length	: <u>892'</u>	Hole No.	: <u>75-85</u>
	: <u>21,472 E</u>	Azimuth	: <u>270°</u>	Date	: <u>AUG. 1975</u>
Reference Elev.	: <u>3355'</u>	Dip	: <u>-55°</u>	Logged by	: <u>J. Rotzien</u>
Ground Elev.	: <u>3353'</u>	Core Size	: <u>NQ</u>	Sheet	: <u>1 of 5</u>

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
0			Datum		Note: Original ground elev. 3353'									
			<u>OVERBURDEN</u>											
20			Clay with gravel											
40														
60			Boulder											
3300														
80			Clay with gravel											
100														
120														
140			Clay and sand											
160			Boulder and gravel											
			Sand and clay											
180			Gravel											

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
180																			
3200			Boulders																
200			Boulders and gravel																
			Gravel																
220			<u>SILTSTONE</u> Grey to grey brown, mod. hard to soft, with carb. material		Triconed														
					Buff, hard														
240					.75														
					15														
					70														
260					(0.2) buff, soft														
280																			
300					40														
320																			
					70														
340					(0.1) buff, soft (0.1)														
360																			
380					70														
					(0.1) buff, soft clst														
					Buff, clst along minor slips at 70°														
400																			

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DRILL HOLE : ...75-85...
SHEET No. : ..2 OF ..5...

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
400			<i>Continued</i>															
				X	(0.1) buff, soft clst (0.2) buff, mod. hard													
420				X														
3000				X	(0.1) buff, soft clst													
440				X	(0.3) buff, soft clst													
460				X														
480				X	Veinlets and (0.3) bed of light grey hard													
				X	(0.1) buff, soft													
500				X	(0.1) buff, very hard													
520				X	(0.3) light grey, very hard													
540				X														
560				X	(0.3) buff, hard (0.3) buff, very hard													
580				X														
600				X	(0.1) buff, very hard													
620				X	(0.1) buff, hard													

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
620			<i>Continued</i>		(0.2) buff									
					(0.1) buff									
					(0.2) buff									
640					(0.5) white, very hard, calc.									
					(0.1) buff									
660					(0.2) buff									
2800					(0.1) buff									
680					2(0.2) buff (0.5) light grey, hard, fine grained sst									
					(0.2) buff (0.1) light grey, hard sst									
700					(0.2) buff (0.1) light grey, hard sst									
					(0.5) clean coal									
740			<u>CARB. CLAYSTONE</u> Grey brown to brown, soft				1							
			<u>CLEAN COAL</u> Black, very hard, with minor interbeds of silty coal and a few resin beds.		Soft, silty (0.1) rusty, hard slst		2							
760					White clst laminations (0.5) soft, silty									
780					White clst laminae									
800					Hard to soft silty coal and carb. slst		3							
820					(0.2) buff to rusty, very hard slst with marcasite.									
					Hard to soft, finely interbedded silty coal and carb. slst		4							
840														

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ELEVATION IN FEET.	DEPTH IN FEET.	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE					
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80	
840		[Stippled pattern]	<i>Continued</i>	[Cross-hatch pattern]			5						
860					<i>Clean and silty</i>								
880				[Cross-hatch pattern]			6						
					<i>Clean and silty with minor carb. slst</i>								
			<i>END OF HOLE AT 892 feet</i>										
900													

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DRILL HOLE :75..85....

SHEET No. : ..5 OF ..2....

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

Coordinates : 9970' S Length : 621' Hole No. : 75-84
 : 11,450' E Azimuth : 090° Date : AUG. 1975
 Reference Elev. : 3375' Dip : -60° Logged by : J. Rotzien
 Ground Elev. : 3373' Core Size : NQ Sheet : 1 of 3

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
0			Datum											
			<u>OVERBURDEN</u> Gravel											
20			Gravel and boulders											
40			Clay and sand											
60			Boulders, clay and gravel											
80			Clay and gravel											
100			Gravel and boulders											
120			Gravel											
140			Gravel and boulders											
160			Boulders											
180														

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60			
400			<i>Continued</i>											
				40	(0.2) buff, soft clst									
					(0.1) buff, mod. hard clst									
420					(0.5) buff									
					(0.5) buff									
					(0.2) buff									
440														
460														
480														
500														
					Calcitic laminae and joint infillings in slst									
				20	(0.1) buff, soft dst									
520														
				20	(0.1) buff, mod. hard									
540														
560														
580														
					With many minor shears at 5° - 20° and soft zones, intensely sheared at 20°									
600														
620														

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END OF HOLE
AT 621 feet

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

Coordinates : 16,560' S Length : 723' Hole No. : 75-78
 : 13,150' E Azimuth : - Date : JULY 1975
 Reference Elev. : 4020' Dip : -90° Logged by : J. Rotzien
 Ground Elev. : 4018' Core Size : NQ Sheet : 1 of 4

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
0		Datum												
			<u>OVERBURDEN</u>											
20			<i>Clay and shale</i>											
40														
60			<i>Red clay</i>											
80														
100			<i>Clay and shale</i>											
120														
140			<u>BEDROCK (FROM GAMMA AND DENSITY LOGS)</u> <i>No return (triconed) Attempt at coring unsuccessful.</i>											
160														
180														

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
180			<i>Continued</i>																
200																			
220																			
240																			
260																			
280																			
300																			
320			<u>SANDSTONE</u> <i>Light grey, hard, fine to medium grained, arkosic ; coal fragments $\leq 3/4$" sparse</i>	X															
340				X															
360				X															
380				X															
400				X															

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ELEVATION IN FEET.	DEPTH IN FEET.	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
400																			
420		▲ ▲	<u>VOLCANIC BRECCIA (Lahar)</u> <i>Blue green, grey green and yellowish brown, soft and friable, with very hard, volcanic fragments; matrix varies from clay to very fine sst; highly chloritized unit; lmsst fragments up to 5" but generally 1/4" - 1" in diameter</i>	X															
440		▲ ▲		X															
460		▲ ▲		X															
480		▲ ▲		X															
500		▲ ▲		X															
520		▲ ▲		X															
540		▲ ▲	<u>SILTY SANDSTONE</u> <i>Dark grey, very soft with occasional volcanic pebbles</i>	X															
560				X															
580				X															
600			<u>INTERBEDDED DETRITAL ROCK</u> <i>Dark to light grey green, mod. hard to soft</i>	X	Sst <i>Interbedded brecciated clst and sst (0.2) buff, very hard clst Interbedded slst and sst</i>														
620				X	<i>Interbedded clst and slst</i>														

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
620			<i>Continued</i>											
640					<i>Interbedded slst and sst which has been sheared and healed</i>									
660					<i>Sst with irregular white clay veinlets</i>									
680					<i>Fine grained congl.</i>									
700					<i>Brecciated clst</i>									
720			COAL <i>Black, hard to soft, interbedded clean and silty coal</i>		<i>Silty (0-1) buff, hard slst Clean</i>		1							
			<i>END OF HOLE AT 723 feet</i>											

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
840			<i>Continued</i>											
					Grey brown, mod. hard, carb. slst									
860					(0.2) soft, coaly slst									
					(0.2) rusty, hard slst									
				60	Silty									
					Silty									
880					Grey, soft slst		6							
				70										
900					White clst laminae									
3000				65	(0.4) soft, coaly slst									
920														
					Soft, silty									
940				65	(0.3) soft silty		7							
					(0.2) grey brown, hard slst									
960					(0.1) buff, very hard slst									
					(0.2) grey brown, hard slst									
					(0.3) soft, carb. clst									
					White clst laminae									
					(0.1) grey brown, hard slst									
980					(0.8) silty									
				40										
					(0.3) coaly slst									
1000					(0.7) grey, soft									
				85	(0.2) buff, hard slst									
					(0.1) soft, coaly slst									
					(0.2) buff, hard clst									
					Soft silty									
					(0.4) soft, coaly slst									
1020					(0.5) buff, hard clst									
					Hard to soft silty									
					Irregular white clst laminae									
					(0.2) buff, hard slst									
					Dark grey, soft, carb. slst									
1040					Dark grey, soft, carb. slst									
					(0.6) coaly slst									
					(0.3) silty									
1060					(0.5) grey, soft, carb. slst									

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
1060			<i>Continued</i>		Buff, very hard slst													
				80														
					Black soft, carb. to coaly slst		10											
1080																		
					Soft, coaly slst													
1100				65														
2800					(0.8) soft, grey, carb. slst													
					(0.1) grey, hard slst													
				70														
1120					(0.4) soft, coaly slst													
				70														
					(0.4) soft, coaly slst		11											
					(0.4) grey, soft, carb. slst													
1140				10														
					(0.2) buff, very hard, slst													
					Grey, soft, carb. slst													
					Grey, soft, carb. slst													
1160					Buff, very hard slst													
				60														
1180																		
					(0.2) soft, coaly slst		12											
1200					Soft, silty													
					(0.2) buff to grey, very hard slst													
1220																		
				85														
					(0.1) grey, hard slst													
					Soft, coaly slst		13											
1240																		
				40														
1260					(0.3) grey, soft slst													
				85														
1280					Light grey to buff very hard, calc. brecciated slst													

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DRILL HOLE : ...75-79...
SHEET No. : 6 OF 12



ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1280			<i>Continued</i>				14							
1300	2600			75	(0.2) black, soft, carb. slst									
1320				70	Soft, carb. slst		15							
1340					White to grey clst laminae									
1360				60 80 75	(0.3) soft, carb. clst (0.2) buff, very hard slst									
1380					(0.2) soft, coaly slst (0.1) soft, coaly slst		16							
1400				75	(0.5) black, soft, carb. slst Soft, carb. slst with clean coal (0.2) grey, hard slst									
1420					Mod. hard coaly slst (0.2) soft, coaly slst		17							
1440				40	Black, soft, carb. slst Grey clst laminae (0.2) grey, soft carb. slst Soft, coaly slst									
1460				80	Buff, very hard clst laminae									
1480				55	(0.5) black, soft, carb. slst Grey, hard slst laminae		18							
1500					(0.1) black, soft, carb. slst (0.6) carb. slst									

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DRILL HOLE :75-79.....
SHEET No. : .7. OF .12..

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1720			<i>Continued</i>		Finely interbedded silty coal and carb. slst									
1740				65	Clean (0.2) grey, very hard, calc. slst Clean		27							
1760				55	Clean with interbedded carb. slst									
1780				60	Grey, hard slst with coal fragments (0.1) buff, hard slst									
1800				30	Finely interbedded clean coal and carb. slst Clean		28							
1820					Finely interbedded silty coal and carb. slst Slst with coal fragments Carb. slst grading down into silty coal		29							
1840				45	Finely interbedded clean and silty coal and coaly slst (0.1) rusty, hard slst		30							
1860					(0.2) grey brown, hard slst Dark grey, hard slst									
1880				55	Coaly slst Coaly slst		31							
1900					Interbedded silty coal and carb. slst									
1920					With grey to white clst laminae		32							
1940					(0.5) buff, hard clst									
				65	(0.1) soft, coaly slst		33							
				30	Dark grey, soft, carb. slst Finely interbedded silty coal, coaly slst and carb. slst		34							

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ELEVATION IN FEET. DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE				
	STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80
1940		<i>Continued</i>									
		<i>END OF HOLE AT 1948 feet</i>									
1960											

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135
132

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

Coordinates : 24,700' S Length : 297' Hole No. : 75-79A
 : 15,300' E Azimuth : - Date : JULY 1975
 Reference Elev. : 3955' Dip : -90° Logged by : J. Rotien
 Ground Elev. : 3953' Core Size : NQ Sheet : 1 of 2

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
	0	Datum												
			<u>OVERBURDEN</u> <i>Mud and rhyolite</i>											
	20	?	<u>RHYOLITE</u> <i>Light grey, moderately hard to very hard with a fine grained ground mass with small phenocrysts of quartz and biotite. The flow structure, a parallel alignment of biotite crystals is at 70° to C.A.</i>											
	40													
	60													
	80													
	100													
	120													
	140													
	160													
	180													

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
180			<i>Continued</i>																
200																			
220																			
240																			
260																			
280																			
297			<i>END OF HOLE AT 297 feet</i>																
300																			

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132

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. : 3403' Dip : -90° Logged by : J. Rotzien
 Ground Elev. : 3401' Core Size : NQ Sheet : 1 of 9

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
3400	0		Datum		Note: Original ground elev. 3401'									
			OVERBURDEN											
			Sand											
			Gravel and boulders											
	20		Boulders											
			Sand											
			Clay and sand											
	40		Sand, clay and boulders											
			Coal											
	60		Sand and boulders											
	80		Clay											
			COAL		Triconed									
	100		Black, soft to very hard, interbedded clean and silty coal with dark brown carb. clst; resin beads $\leq \frac{1}{4}$ " sparse		Finely interbedded silty coal and carb. clst		1							
					Silty		2							
	120				Clean Carb. clst		3							
					Silty		4							
	140				Clean		5							
					(0.4) soft coaly slst									
					Silty with minor beds of carb. to coaly slst									
	160				White clst laminae									
					Silty with minor beds of carb. to coaly slst									
	180				Clean									
					Silty									
					Clean									

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
180			<i>Continued</i>															
200							6											
220							7											
240							8											
260							9											
280			CLEAN COAL Black, very hard with interbedded back to grey, hard to soft slst and carb. slst				10											
300							11											
320							12											
340							13											
360							14											
380																		
400																		

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ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
400	3000		<i>Continued</i>															
420					Soft carb. slst with minor buff hard slst		15											
440					Finely interbedded clean coal and carb. slst		16											
460					Slightly carb. sst - more undulating		17											
480					With minor silty		18											
500					(0.2) buff, very hard slst (0.2) buff, very hard slst		19											
520					(0.1) buff, very hard slst Silty		20											
540					Slightly carb. slst - undulating Silty		21											
560					(0.2) buff, very hard slst Finely interbedded clean and silty coal and coaly slst		22											
580					Coaly slst - hard Slightly carb. slst with minor clean coal													
600	2800				Buff slst laminae													
620					Silty Silty													
					Carb. slst Silty (0.1) buff, hard slst White, hard slst laminae													
					Slightly carb. slst													

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
620			<i>Continued</i>		Carb. slst Silty Slightly carb. slst with numerous small beds of clean		23							
* 640						40	24							
660					Finely interbedded clean coal and coaly slst		25							
					Coaly slst									
680					(0.2) buff, very hard slst	40	26							
					Carb. slst (0.1) buff, very hard slst									
700					(0.5) light grey, very hard, calc. wood Carb. slst With white clst laminae (0.3) grey coaly slst	40								
					(0.4) light grey, very hard, brecciated calci-fied slst Interbedded clean coal and coaly slst		27							
720					Finely interbedded clean coal and coaly slst									
			<u>MIXED UNIT</u> Grey to black, hard to soft, interbedded clean and silty coal, carb. slst and sst		Slightly carb. sandy slst Fine grained congl. Graded bed slst - sst - congl. Finely interbedded carb. slst, clean and silty coal - coal has white clst lam.	40								
740					Clean coal	40								
					Finely interbedded clean coal and carb. slst	40	28							
760					Slightly carb. slst									
			Clean coal		Clean coal and coaly slst (0.3) buff, very hard, sandy slst									
* 780					Interbedded clean coal and carb. slst	25	29							
800			<u>COAL</u> Black, hard, clean coal with interbedded silty coal and detrital rock; coal commonly contains resin beads $\leq 1/4$ " in diameter and white clst laminae		Clean with clst laminae.	45								
260					Coaly slst Silty Finely interbedded coaly and carb. slst	45	30							
820					Slightly carb. slst with minor silty coal	60								
					Clean with small interbeds of coaly slst	45								
840														

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ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
840			<i>Continued</i>		Clean		31							
85					(0.7) grey, very hard, calc. sst Silty		32							
880					Carb. and coaly slst Silty (0.5) calcified wood (0.1) rusty, hard slst		33							
900					Clean		34							
920			<u>CLEAN COAL</u> Black, very hard, with minor beds of grey slst		Slightly carb. very fine grained sst		35							
940					Clean with minor beds and laminae of grey slst		36							
960					(0.4) soft carb. slst Carb. slst Silty, with minor carb. slst		37							
980					Grey, coaly slst		38							
1000					Silty		39							
2400			<u>MIXED UNIT</u> Light grey to black, hard to very hard slst with interbedded coal. Slst is carb. in parts with coaly fragments		Carb. coaly slst		40							
1020					Slst with coal fragments		41							
1040					Sst with coal fragments		42							
1060					Slightly carb. slst with coal fragments and laminae		43							
					Sandy slst with occasional coaly laminae		44							
					Finely inter-bedded clean and silty coal and carb. slst		45							

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1060			<i>Continued</i>											
1080					<i>Slst with coal laminae and resin beads</i> <i>Interbedded clean and silty coal and coaly slst</i>		38							
1100					<i>Slst with coaly laminae</i> <i>Interbedded clean coal and slst</i>		39							
1120			CLEAN COAL <i>Black, very hard with minor buff to white slst and clst beds</i>											
1140					<i>(0.3) buff, hard slst</i> <i>Coaly slst</i> <i>White clst laminae</i>		40							
1160					<i>(0.1) rusty slst (45°)</i> <i>(0.2) buff slst</i>									
1180							41							
1200														
1220					<i>White calcified wood with some clean coal</i> <i>Buff clst laminae</i> <i>Carb. slst</i> <i>Irregular white clst laminae</i>		42							
1240														
1260					<i>(0.7) carb. slst</i> <i>(0.2) buff slst</i> <i>Irregular white clst laminae</i>		43							
1280					<i>Carb. slst</i>									

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1280			<i>Continued</i>		Carb. to coaly slst									
					Numerous white clst laminae in clean coal									
				25	Coaly slst									
1300			<u>COAL</u> Black to grey, hard to very hard clean coal with interbedded silty coal, carb. slst and coaly slst. Resin beads up to 1/4" are scattered throughout coal	25	Slightly carb. slst		44							
				55	Slst with coal laminae Silty coal Finely interbedded carb. slst and clean coal.									
1320				40	Clean coal with occasional white clst laminae		45							
1340				85	Finely interbedded carb. slst and silty coal		46							
					Silty coal									
1360				40 50	Irregular white clst laminae Calcified wood									
					Clean coal		47							
1380				50	Clean coal white clst laminae Interbedded clean coal and carb. slst									
				40	Clean coal (0.3) buff sst (0.7) calcified wood		48							
1400					Clean coal (0.4) carb. slst Clean coal Slightly carb. slst Clean coal.		49							
1420				35	Finely interbedded clean coal and carb. slst (0.3) rusty slst									
				55			50							
1440					Coaly slst									
					Carb. to coaly slst		51							
1460					Finely interbedded clean coal and coaly slst									
				85	With numerous white clst laminae		52							
1480				45										
1500														

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ELEVATION IN FEET.	DEPTH IN FEET.	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1500			<i>Continued</i>											
1520							53							
1540							54							
1560							55							
1580							55							
1600							56							
1620							57							
1640							58							
1660							59							
1680			<u>MIXED UNIT</u>				60							
1700			Light grey to black, hard to very hard, interbedded mixture of slst, carb. slst, coaly slst, silty coal and clean coal.				61							
1720														

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DRILL HOLE : ... 75 - 81 ...
SHEET No. : 8 OF 9 ...

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1720			<i>Continued</i>		Very finely interbedded coal and slst									
					Clean coal		62							
					Silty coal with 0.5' calcified wood									
1740					Very finely interbedded coal and slst		63							
						55 60								
1760					Finely interbedded clean and silty coal with minor slst		64							
						45 60								
1780					Finely interbedded silty coal and carb. slst		65							
					Slst									
					Carb. to coaly slst									
1800					Clean coal with minor carb. slst		66							
1600					(0.7) white clst									
					Clean coal with buff to grey slst and clst laminations									
1820					Calcified wood		67							
					Clean coal									
					Finely interbedded clean coal and carb. slst									
1840			END OF HOLE AT 1838 feet											

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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 : — Date : AUG. 1975
 Reference Elev. : 3465' Dip : -90° Logged by : J. Rotzien
 Ground Elev. : 3464' Core Size : NQ Sheet : 1 of 4

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
0		Datum																	
			<u>OVERBURDEN</u>																
	20		<i>Boulders and sand</i>																
	40																		
	60		<i>Clay and boulders</i>																
	80																		
	100		<i>Boulders</i>																
	120																		
	140		<u>CLAYSTONE</u> <i>Grey to grey brown, mod. hard to soft with carb. fragments</i>		<i>Triconed</i>														
	160				<i>(0.2) buff, soft</i>														
	180																		

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
180			<i>Continued</i>											
200														
220														
240														
260														
280														
300														
320														
340														
360														
380														
400														

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
400			<i>Continued</i>																
420					(0.1) buff, soft														
440																			
460																			
480																			
500					Buff to white, very hard lmsst with clay filled tension cracks (0.1) white, very hard lmsst														
520																			
540																			
560					With numerous very soft beds														
580																			
600																			
620																			

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
620			<i>Continued</i>											
640														
660														
680				50	(0.2) light grey, hard, calc. slst									
700				60	(0.7) buff, hard slst									
					(0.2) buff, hard slst									
720				60	(0.1) buff, hard slst									
					With calc. laminae and veinlets (0.2) buff, hard									
740														
760				60	(0.1) buff, hard slst									
780														
				60	(0.2) buff, hard slst									
				60	(0.8) buff, hard slst									
800														
			END OF HOLE AT 808 feet											
820														

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BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT — DRILL RECORD

Coordinates : 19,200'S Length : 262' Hole No. : 75-83A
11,250'E Azimuth : - Date : AUG. 1975
 Reference Elev. : 3465' Dip : -90° Logged by : J. Rotzien
 Ground Elev. : 3464' Core Size : NQ Sheet : 1 of 2

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
0			Datum															
			<u>OVERBURDEN</u>															
20			<i>Boulders and sand</i>															
40																		
60			<i>Clay and boulders</i>															
80																		
100			<i>Boulders</i>															
120																		
			<u>CLAYSTONE</u> <i>Grey, moderately hard to soft, with traces of carb. material</i>		<i>Triconed</i>													
140																		
160																		
180																		

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ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE N ^o .	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
180			<i>Continued</i>											
200														
220														
240														
260														
280														

Continued

45

(0.1) buff, soft sst

(0.1) buff, soft slst


60

END OF HOLE
AT 262 feet

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

Coordinates : 19,240' S Length : 414' Hole No. : 75-86
 : 11,250' N Azimuth : 090° Date : AUG. 1975
 Reference Elev. : 3465' Dip : -55° Logged by : J. Rotzien
 Ground Elev. : 3463' Core Size : NQ Sheet : 1 of 3

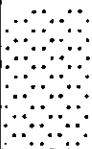
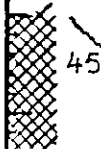
ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
0			Datum											
			<u>OVERBURDEN</u>											
			Boulders											
20			Sand											
			Sand and gravel with boulders											
40														
			Sand with clay and boulders											
60														
			Clay and boulders											
80														
			Clay											
100														
			Clay with layers of boulders											
120														
140														
160														
180			<u>SILTSTONE</u> Grey to grey brown.											

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
180			<i>moderately hard to hard, with minor buff clst and slst and traces of carb. material</i>																
				60	(0.2) buff, hard														
200				85	(0.1) buff, hard														
				45	(0.1) buff, hard														
				70	(0.1) buff, hard														
220				60															
				45															
240				60															
				45															
260				60															
				45															
280				60															
				45															
300				45															
				X	Grey blue, soft clst														
320				60															
				45															
360				85	Grey to light brown, hard to very hard, calc. slst and clst														
				X	Grey, very hard, calc.														
380				X	Grey, mod. hard slst with calcitic veinlets														
				X	Grey brown, soft														
				60															
400																			

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
400			<i>Continued</i>		Grey brown, soft to mod. hard, intensely sheared.									
420			<i>END OF HOLE AT 414 feet</i>											

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DRILL HOLE : ...75-86.....
SHEET No. : ..3 OF 3...

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT — DRILL RECORD

Coordinates	: 55,261' N	Length	: 918'	Hole No.	: 75-88
	: 21,715' E.	Azimuth	: 088°	Date	: AUGUST 1975
Reference Elev.	: 3470'	Dip	: -60°	Logged by	: J. Rotzien
Ground Elev.	: 3468'	Core Size	: NQ	Sheet	: 1 of 5

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
0		Datum																
			<u>OVERBURDEN</u> Sand and boulders		Note: Original ground elev. 3467'													
			Clay with boulders															
			<u>CLAYSTONE</u> Red, soft															
3400					Triconed													
			<u>CLAYSTONE</u> Blue grey to red, soft		Triconed													
			<u>CLEAN COAL</u> Black, very hard, with minor silty coal and carb. slst	XX	70 1.5% Sand, wood. With minor carb. slst													
					20													

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

SHEET No : 1 OF 5

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE					
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80	
180			<i>Continued</i>				1						
				20	(0.2) grey, soft, carb. slst Dark to grey, hard to soft, coaly slst								
200				70	(0.2) grey, soft clst (0.8) grey to black, soft, coaly clst		2						
				20	(0.2) grey brown, soft, carb. slst Grey to black, soft, coaly slst								
220				60	(0.1) buff, very hard slst		3						
				70	Grey brown, soft, carb. slst with 0.3' of coal								
240				20	(0.1) buff, very hard slst		4						
				70	(0.2) } black soft, coaly slst (0.3) } Irregular veinlets, buff, very hard slst.								
260				60	(0.7) black, soft, coaly slst		5						
				20	3(0.2) black, soft silty coal								
280				50	(0.3) brecciated, very hard, calc. slst (0.1) buff, very hard, slst		6						
				70	(0.4) grey brown, soft, carb. slst (0.3) grey, soft, coaly slst								
300				20	(0.5) grey brown, soft, carb. slst (0.1) buff, hard slst		7						
				60	Dark grey, soft, clst with coaly fragments								
320				70	(0.1) grey, soft clst (0.5) grey brown, soft, carb. clst (0.2) buff, very hard calc. slst (0.8) grey brown, soft, carb. slst		8						
				60	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 (0.7) grey brown, soft, carb. slst								
340				20	(0.4) grey brown, soft, carb. slst		9						
				70	Black, very hard to soft, clean and silty coal with shearing								
360				20	Black, very hard, clean with irregular veinlets of calc. slst		10						
				70	2(0.2) dark grey, soft, carb. slst (0.7) black to grey, soft, coaly slst (0.1) rusty, very hard slst								
380													
400													

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
400					Black, hard silty									
					Black, hard silty									
420			<u>COAL</u> Black, hard to very hard, interbedded clean and silty coal with carb. slst and resin beads up to 1/2" diameter.	65	Black, hard to soft, finely inter- bedded clean and silty and carb. slst (0.6) buff, hard slst		6							
				50	Black, very hard, clean									
440					Black, to light grey brown, hard to soft silty to carb. slst									
					Black, very hard to soft, finely interbedded clean and silty coal and carb. slst									
460					Black, very hard, clean with minor silty		7							
					Black, hard, silty (0.5) buff, soft slst									
480					Black, very hard to soft, finely interbedded clean and silty coal with minor grey brown carb. slst		8							
500					Black, very hard, clean		9							
520					Black, hard, silty coal with minor clean coal and carb. slst		10							
540					Black, very hard, clean with minor silty coal		11							
					(0.3) buff, hard slst									
560					Black, hard to soft, finely interbedded silty coal and coaly and carb. slst		12							
580					Black, very hard, clean with minor silty coal		13							
600					Black, very hard to soft, finely interbedded clean and silty coal and coaly to carb. slst		14							
620					under clay									

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
620					Black to dark brown, soft, carb. to coaly slst									
640					Black, hard to soft, silty coal and coaly slst		15							
					Black, soft, coaly slst									
				65	Gray, soft slst with minor clean coal (0.4) rusty, hard slst - 1.4' carb. slst									
660					Black, very hard to hard, finely interbedded silty and clean coal		16							
					Black, soft, coaly slst Black, hard to soft, finely interbedded silty coal and coaly slst									
680				70	Black, very hard to soft, finely interbedded clean and silty coal with numerous 0.3'-1.5' beds of carb. slst		17							
700			<u>SILTY COAL</u>	70	Black, hard to very hard, silty coal with interbedded clean coal and minor carb. slst									
				70	(0.2) buff, hard slst - 1.4' carb. slst Black, soft, coaly slst		18							
					With minor clean									
720				70	(0.2) buff, hard slst									
				90	Black, very hard, clean coal									
				85	(0.1) buff, hard slst Irregular white clst veinlets, clean coal		19							
					Black, soft carb. slst									
					Black, hard to very hard, clean and (0.3) dark grey, calc. wood. silty.									
740					Black, very hard, clean coal		20							
					Dark grey, very hard, calc. wood									
2800					Black, very hard, clean coal									
					(0.7) buff, very hard, calc. slst veinlets									
					Black, hard, silty coal									
					(0.3) buff, very hard, calc. slst, veinlets									
760					Black, hard		21							
					Black, hard to soft, finely interbedded silty coal and coaly slst									
				65	(0.6) buff, hard tuff									
					Black, hard, clean coal									
					(0.7) grey, very hard calc. wood									
					Black, hard with minor clean coal		22							
780					With grey brown slst laminae									
				65	(0.7) buff, very hard clst veinlets									
800				65	(0.2) buff, hard slst									
					(0.3) grey brown, soft slst									
					Black to grey brown soft slst and Black, very hard clean coaly slst.									
				65	(0.3) buff, very hard slst veinlets		23							
820					With grey brown slst laminae									
					Black to dark grey brown soft carb. slst									
840					Black, very hard, clean coal with									

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
180					Buff, very hard clst														
200																			
220																			
240																			
260																			
280																			
300																			
320																			
340																			
360																			
380																			
320																			
400																			

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
400																			
420																			
440																			
460																			
480																			
500																			
520																			
540																			
560																			
580																			
600																			
3000																			
620																			

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE												
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80								
620					Hard to soft, silty coal and carb. slst															
						Clean with minor coaly slst														
640						(0.2) buff, hard slst														
						3(0.1) laminae of buff, hard slst														
660					Hard to soft, finely interbedded silty coal and coaly slst															
			<u>CARB. SILTSTONE</u> Black to dark grey brown, very soft to mod. hard, pulverized to rubble carb. slst		Mod. hard, finely interbedded carb. and coaly slst Soft															
680					↓ 10															
700					↓ 20															
			END OF HOLE AT 713 feet																	
720																				

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

Coordinates : 55,752' N Length : 1508' Hole No. : 75-90
 : 20,161' E Azimuth : 090° Date : SEPT. 1975
 Reference Elev. : 3406' Dip : -55° Logged by : J. Rotzien
 Ground Elev. : 3404' Core Size : NQ Sheet : 1 of 8

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
0			Datum		Note: Original ground elev. 3404'									
3400			<u>OVERBURDEN</u>											
20														
40														
60														
80														
100														
120														
140														
160														
180														

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE												
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80								
180			<u>SILTSTONE</u> Gray, soft to mod. hard, weakly fissile massive slst; with buff, very hard to mod. hard, minor interbeds of slst and clst and with sparse coaly fragments.																	
						(0.1) buff, mod. hard slst														
200						(0.2) buff, soft clst														
						(0.3) buff, very hard slst														
220						(0.1) buff, hard sst														
						(0.5) buff, hard sst														
240																				
320																				
260																				
280																				
300																				
320																				
340																				
360																				
380																				
400																				

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE												
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80								
400		[Dotted pattern]		[Cross-hatch symbol]	(0.1) hard slst															
420					[Cross-hatch symbol]	(0.2) mod. hard slst														
440					[Cross-hatch symbol]	(0.2) mod. hard slst														
460					[Cross-hatch symbol]	(0.7) light grey, very hard lmst with clay infilled fractures														
480					[Cross-hatch symbol]	(0.1) soft slst														
500					[Cross-hatch symbol]															
520					[Cross-hatch symbol]	(0.2) hard slst														
540					[Cross-hatch symbol]	(0.4) white, very hard lmst White, very hard lmst laminae in slst														
560					[Cross-hatch symbol]	(0.2) buff, soft slst														
580					[Cross-hatch symbol]	(0.1) buff and blue, soft slst														
600				[Cross-hatch symbol]	(0.2) mod. hard slst															
620				[Cross-hatch symbol]																

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE							
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80			
620		[Dotted pattern]		[Cross-hatch symbol]											
640					[Cross-hatch symbol]										
660					[Cross-hatch symbol]	(0.1) buff, hard clst									
680					[Cross-hatch symbol]										
700					[Cross-hatch symbol]										
720					[Cross-hatch symbol]	(0.2) light grey, very hard, calc. sst (0.8) buff, soft sst									
740					[Cross-hatch symbol]										
760					[Cross-hatch symbol]										
780					[Cross-hatch symbol]										
800					[Cross-hatch symbol]										
820				[Cross-hatch symbol]	(0.4) light grey, very hard, lmst with clay infilled fragments										
840				[Cross-hatch symbol]											

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
840																			
860																			
880																			
900																			
920																			
940																			
960																			
980																			
2600																			
1000																			
1020																			
1040																			
1060																			

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



ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1060					Clean coal with minor carb. slst and resin beads									
				45	Soft carb. slst Clean coal									
1080					Silty coal with numerous minor beds of carb. slst and clean coal. Fusty, hard slst laminae abundant.									
				50	Grey to black, mod. hard to soft slst with variable carb. content and minor clean coal									
1120			<u>CLEAN COAL</u> Black, very hard, clean coal with interbeds of carb. slst	55	With irregular grey brown slst Grey, petrified wood With irregular slst laminae									
				50	Hard, silty coal with light grey slst, Grey brown to black, very lam, hard to soft carb. slst									
1140					Grey brown to black, very hard to soft finely interbedded carb. slst and clean coal.									
				40	(0.1) buff, hard slst (0.1) buff, hard slst laminae (0.1) light grey brown hard slst (0.2) buff, hard slst (0.5) grey brown, very hard calcified wood									
1160				45	Soft, carb. slst									
				60	(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									
1180				50	2(0.1) grey, hard calc. slst Grey, soft carb. slst									
					Black and grey, hard to very hard finely interbedded clean coal and carb. slst.									
1200				55	(0.7) black, soft, carb. slst									
					Buff. slst laminae (0.3) } black, soft, carb. slst (0.8) }									
1240				55	Light grey, very hard, calc. wood									
				60	(0.2) buff, very hard slst (0.4) brown to black, soft, carb. slst (0.6) light grey, calc. wood									
1260					Irregular, grey slst laminae									
				55										
1280				50	(0.4) black soft, coaly slst									

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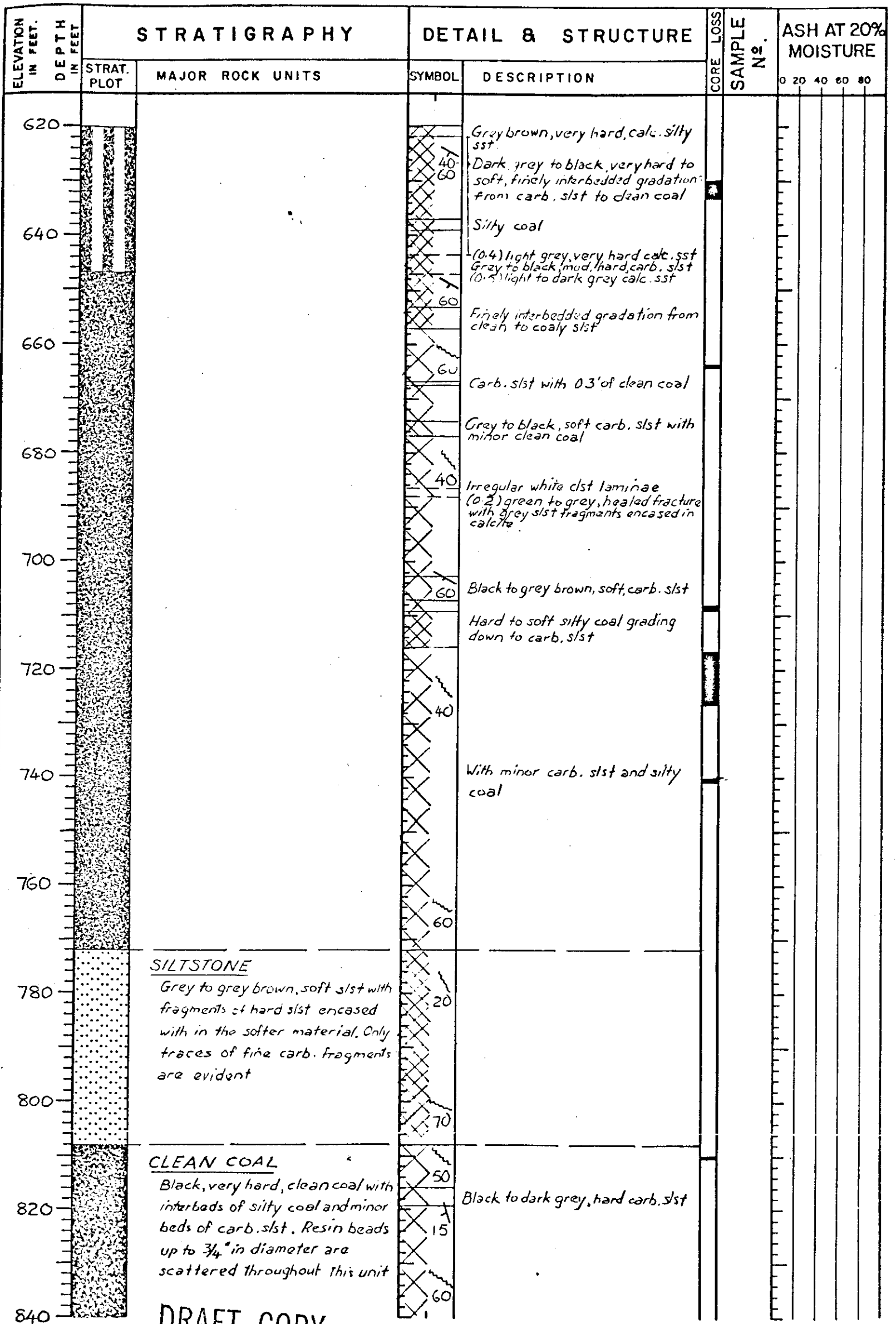
ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1280					(0.1) rusty hard slst									
1300				55										
1320				45	Grey, hard slst laminae (0.2) rusty brown hard slst									
1340				45	(0.1) light grey hard slst Light grey, hard slst with clean coal lam. Black, hard to soft, carb. slst with minor silty coal									
1360				55	(0.2) grey, hard slst Grey to black, hard slst with silty coal. Numerous minor beds of grey slst in clean coal.									
1380				60	(0.2) grey, hard slst with coaly lam. 2(0.1) grey hard slst (0.3) dark grey, hard coaly slst (0.3) grey and buff, hard slst With numerous minor interbeds of grey slst									
1400				55	Grey, hard slst with coal fragments Silty coal (0.2) grey, hard slst (0.7) gray white and buff, hard slst Black, very hard, blocky (0.1) grey, hard slst									
1420				45	Black, very hard, blocky with numerous minor grey slst beds Grey to dark grey, hard rubbly slst with minor clean coal. Black, very hard, blocky to sound, clean coal									
1440					Grey, very hard, sound petrified wood Grey, hard rubbly slst									
1460				45										
2200					Black, very hard, blocky to sound clean coal with sparse minor beds and laminae of grey slst									
1480														
1500				45										

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DRILL HOLE : ... 75-90 ...
SHEET No. : .7. OF .8...

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE N ^o .	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
1500																			
			END OF HOLE AT 1508 Feet																
1520																			

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BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT — DRILL RECORD

Coordinates : 50,868' N Length : 1832' Hole No. : 75-92
22,533' E Azimuth : 270° Date : SEPT. 1975
 Reference Elev. : 3528' Dip : -55° Logged by : J. Rotzien
 Ground Elev. : 3526' Core Size : NQ Sheet : 1 of 9

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
0			Datum											
			<u>OVERBURDEN</u> Gravel and clay											
			Clay											
20			Gravel											
			Gravel with boulders											
40			Clay											
			Gravel with boulders											
60			Clay											
			Gravel with boulders											
80			Clay											
			<u>MIXED UNIT</u> Black to grey, very soft to very hard, interbedded clst, carb. to coaly clst and clean and silty coal											
100				40	Triconed									
					Dark, grey, very soft clst									
120					Black, very soft coaly clst									
					Dark grey, very soft carb. clst									
140					Black, very soft, coaly clst									
					Black, very hard, clean coal									
160				20	Black, very soft, carb. clst with minor clean coal									

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ELEVATION IN FEET.	DEPTH IN FEET.	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
180																			
200																			
220																			
240																			
260																			
280																			
300																			
320																			
340			<u>COAL</u> Black, very hard to soft, interbedded clean and silty coal with coaly slst		Clean Soft coaly slst Clean and silty coal with minor carb. slst														
360					Clean Hard to soft coaly slst Clean with marcasite coating on joint planes Very hard to soft, finely inter- bedded silty coal and coaly slst Clean														
380					Clean Very hard to soft, finely inter- bedded clean coal and coaly slst Clean														
400					Clean Finely interbedded clean coal and carb. slst														

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DRILL HOLE : ... 75-92 ...
SHEET No. : 2. OF 9.

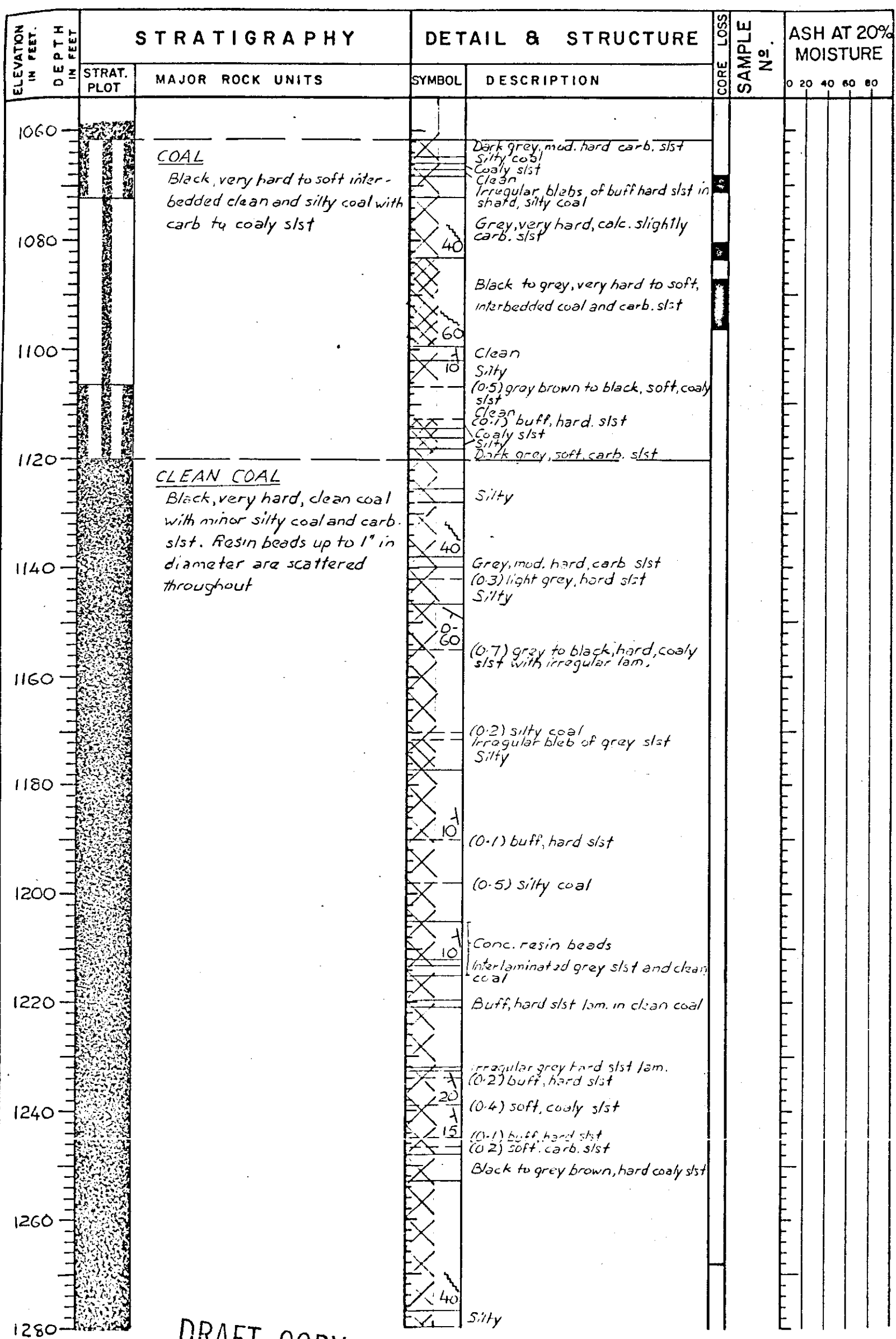
ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
400																			
			<u>MIXED UNIT</u> Light grey to black, very soft to very hard, interbedded slst, carb. to coaly slst and clean and silty coal		Light grey to gray brown, hard to soft, slst with variable carb. content (max. 10% carb.) Clean Dark grey brown, mod, hard, carb. slst														
420				60															
440				30		Hard to very hard, interbedded clean and silty coal with minor coaly slst													
460						Triconed. No core; driller says coal													
480				40-45		Hard silty coal													
				70		Grey brown, very soft, carb. slst													
500			<u>CLEAN COAL</u> Black, very hard, clean coal with interbeds of carb. slst and sst and silty coal; Resin beads up to 1/4" are present but sparse.																
520				60															
				25		Clean with resin beads													
540																			
560				40		Grey brown to black, mod. hard to soft slightly carb. slst													
						Silty coal with minor clean coal													
580						Grey brown to black, carb. slst Silty coal													
				60															
600																			
				10		(0-7) black, hard, coaly slst													
620						Very hard to soft, finely interbedded clean and silty coal with minor coaly, Grey brown, hard, carb. slst													

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

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
840				X	Hard, silty coal														
860				X	(0.2) soft, carb. slst														
880				X	(0.2) buff, vary hard, irregular calc. slst laminae														
900				X	Silty coal														
				X	Black to grey, mod. hard, coaly to carb. slst														
				X	Silty coal														
				X	Light grey to brown, hard, slightly carb. slst														
				X	Black to grey brown, hard, finely interbedded slst, coaly slst and silty coal														
920				X	Dark grey, mod. hard, coaly slst														
				X	With minor buff slst laminae														
940				X	Black to grey, very hard to very soft finely interbedded coal and carb. slst														
				X	(0.1) grey hard slst														
960				X	Irregular laminae of buff slst														
				X	Conc. of resin beads														
				X	Irregular laminae of buff slst														
980				X	Grey brown, soft carb. slst														
				X	Irregular bleb of rusty slst														
				X	(0.3) silty coal														
1000				X	(0.1) irregular, grey, hard, slst lam.														
				X	Silty coal														
1020				X	Silty coal														
				X	(0.1) coaly slst														
1040				X	Light grey, very hard, calc. slst with minor clean														
1060				X															

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ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1280					Black to dark grey, hard coaly slst									
1300				40	Black to dark grey, hard to soft coaly slst with clean coal									
1320				50										
1340				50										
1360				25	(0-2) grey hard slst Irregular lam. of grey hard slst									
1360				20	Black, hard to soft, silty coal (0-3) grey, very hard, calc. wood									
1360					Black to dark grey, very hard, finely interbedded clean coal and coaly slst									
1380			MIXED UNIT	40	Grey to black, hard, carb. slst									
1400			Black to light grey brown, hard to very hard, interbedded gradations from slst to fine grained sst to clean coal. The contacts between the beds are gradational 80% of the fractures are due to drill action	50	Light grey brown, very hard sst with coaly fragments									
1420					Light grey, very hard slst									
1420					Black to grey, very hard, finely interbedded silty coal and coaly slst									
1420					Clean coal									
1420					Grey, very hard, calcified wood									
1420					Clean coal									
1420					Grey brown to black, very hard coaly slst									
1440				70	Silty									
1460					Grey, very hard, very fine to fine grained sst with coal fragments and laminae									
1480				10										
1480					Black, hard to soft interbedded clean coal and carb. slst									
1480					Clean									
1500				15	Black, hard to soft finely interbedded silty coal and carb. slst									

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

ELEVATION IN FEET.	DEPTH IN FEET.	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
1500					(0.3) buff, soft tuff. sst Hard, coaly, slst (0.8) grey brown hard slst Grey, very hard, calc. slst														
				20	Silty														
1520					Hard to very hard interbedded clean and silty coal														
				50															
1540				15- 20	Grey brown to light grey, very hard, very fine to coarse grained sst with varying carbonate content and coal fragments and laminae														
1560				70															
1580					Black, very hard to very soft finely interbedded clean and silty coal Grey, very hard calcified wood														
				50	Hard, silty coal														
1600					Black to grey, hard, coaly slst														
				25	Grey, hard, very fine to fine grained carb. sst, with minor interbedded clean coal														
1620					Grey to black, hard sandy slst with coal fragments														
				70	Gray to black, hard to very hard, finely interbedded slst and clean and silty coal														
1640				15	Grey brown, hard carb. slst with coal fragments Grey brown, to black, finely interbeds of coal and carb. slst Grey brown, hard, carb. slst with coal fragments Clean Grey, very hard, calcified wood Grey to black hard, coaly slst														
1660				50	Black, hard to very hard interbedded clean and silty coal with resin beads and minor coaly slst														
1680				70	Gray to grey brown, hard, very fine to coarse grained sst, with coal fragments and laminae														
1700					Black to grey brown, hard, very fine interbedded clean and silty coal with coaly sst														
				10	Grey to gray brown, hard, very fine to fine grained sst, with up to 1" lam. of coal Grey to grey brown, hard, fine to medium grained sst with fine coal fragments														
1720					SANDSTONE Grey, hard, very fine to coarse grained sst with carb. and coaly laminae														

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DRILL HOLE : ...75-92...
SHEET No. : ..8 OF 9...



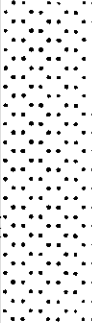
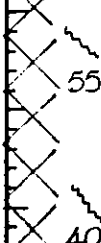
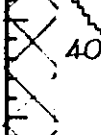
ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE												
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80								
1720					Grey brown to light grey, hard medium grained sst. Dark grey, hard, carb. slst															
1740					10 Grey, hard, fine to coarse sst															
1760						10 Light gray green, hard to med hard, very fine to coarse grained, bedded sst with sparse coal fragments and laminae														
1780						60														
1800						20 Light grey, very hard, slightly calc. grit to pebble congl. with coal fragments														
1820					60 Grey, hard to soft, very fine grained sst with minor silty beds and with coal fragments															
			END OF HOLE AT 1832 feet																	
1840																				

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ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE												
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80								
180																				
200																				
220																				
240																				
260																				
280																				
300																				
320																				
340																				
360																				
380																				
400																				

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DRILL HOLE : ...75-93.....
SHEET No. : .2. OF .3....

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
400					<i>Block, soft, coaly slst</i>									
420				85										
440			<u>SILTSTONE</u> <i>Grey green to grey brown, soft to very soft, brecciated slst</i>											
460				55										
460			<i>END OF HOLE AT 463 feet</i>											
480				40										

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

SHEET No. : .3 OF .3.....

132

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT — DRILL RECORD

Coordinates	: <u>47,846' N</u>	Length	: <u>313'</u>	Hole No.	: <u>75-94</u>
	: <u>23,155' E</u>	Azimuth	: <u>090°</u>	Date	: <u>OCT. 1975</u>
Reference Elev.	: <u>3621'</u>	Dip	: <u>-65°</u>	Logged by	: <u>J. Rotzien</u>
Ground Elev.	: <u>3619'</u>	Core Size	: <u>NQ</u>	Sheet	: <u>1 of 2</u>

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
0			Datum											
			<u>OVERBURDEN</u>											
			Sand with boulders											
20			Clay											
40			Clay with sand											
60			Sand											
80			Clay											
			Clay with cobbles											
100			Sand with cobbles											
			Clay with cobbles											
120			Mixture of sand, clay and gravel											
			Clay											
140			Clay with cobbles											
			Clay											
160			Gravel											

Note: Original ground elev. 3619'

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ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE											
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80							
180																			
	200		<i>Clay with cobbles</i>																
	220																		
	240		<i>Clay</i>																
	260		<i>Sand with cobbles</i>																
	280		<i>Sand</i>																
	300		<i>Clay with boulders</i>																
	320		<i>Clay</i>																
			<i>Gravel with boulders</i>																
			<i>END OF HOLE AT 313 feet</i>																

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135

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

Coordinates	: <u>49,881' N</u>	Length	: <u>1507'</u>	Hole No.	: <u>75-95</u>
	: <u>23,925' E</u>	Azimuth	: <u>270°</u>	Date	: <u>OCT. 1975</u>
Reference Elev.	: <u>3719'</u>	Dip	: <u>-75°</u>	Logged by	: <u>J. Rotzien</u>
Ground Elev.	: <u>3717'</u>	Core Size	: <u>NQ</u>	Sheet	: <u>1 of 8</u>

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
0		Datum												
			<u>OVERBURDEN</u>											
	20		Boulders with gravel											
	40		Gravel											
	60		Clay with boulders											
	80		Gravel											
	100		Gravel with clay beds											
	120		Clay											
	140		Clay with gravel											
	160		Clay											
	180		Gravel with boulders											

Note: Original ground
 elev.

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ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
180																		
200																		
220			Clay															
240			<u>CLEAN COAL</u> Black, very hard, with minor beds of silty coal and coaly slst. Resin beads are scattered throughout		Triconed Black, hard to soft, finely interbedded clean coal and coaly slst													
260					(0.2) black, soft, coaly slst Silty (0.3) buff, hard slst Silty	Weak conc. of resin beads	1											
280					(0.2) silty coal (0.2) soft, silty coal (0.6) soft, coaly slst (0.2) soft, silty coal													
300					(0.2) buff, hard, calc. slst (0.1) soft, carb. slst (0.6) soft, coaly slst		2											
320					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. slst Black to brown, very hard to very soft, finely interbedded clean coal and carb. slst Irregular laminae of buff slst (0.4) silty coal													
340					Hard to very hard, clean and silty coal													
360					Hard to soft, silty coal Buff to white, hard slst laminae		3											
380					Silty coal (0.2) brown, very soft, carb. slst Thin lam. of white calc. wood (0.2) rusty buff, very hard slst Hard to very soft, finely interbeds of silty coal and carb. slst													
400			With resin beads		(0.2) very soft, carb. slst (0.2) brown, very soft slst (0.3) very soft, coaly slst		4											
			<u>SILTY COAL</u> Black, very hard to soft, with interbedded clean coal and coaly to carb. slst		Hard to soft, finely interbedded silty coal and carb. slst (0.2) grey to white, very hard calc. slst		5											

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DRILL HOLE : ...75.-95.....
SHEET No. : .2. OF .8.

ELEVATION IN FEET.	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
400					Soft to mod. hard, carb. slst		6							
					(0.1) buff, very hard slst Coaly slst Hard to very hard, finely interbeds of clean and silty coal									
420					(0.7) coaly slst		7							
					With numerous minor interbedded carb. and coaly slst									
440					(0.4) soft, carb. slst		8							
					Very soft carb slst									
460					(0.3) coaly slst (0.2) very soft, carb. slst with minor clean coal Soft to very soft, carb. slst		9							
					Hard to soft, finely interbedded silty coal and coaly slst (0.2) buff, very hard, calc. slst Mod. hard, coaly slst Very hard to soft, clean coal with minor silty coal and coaly slst									
480					(0.4) light grey, very hard slst		10							
					(0.3) soft carb. slst (0.2) } soft, coaly slst (0.3) } (0.7) } soft, carb. slst (0.4) }									
500					(0.2) soft, carb. slst (0.2) } soft, coaly slst (0.9) } (0.2) soft, carb. slst		11							
					(0.3) soft, carb. slst									
520					(0.2) } (0.1) } soft, coaly slst (0.1) }		12							
					(0.4) soft, carb. slst									
540			<u>CLEAN COAL</u>		White to buff, irregular clst lam. 2(0.3) hard, coaly slst 1 1/2" diameter resin bead		13							
			Black, very hard, with minor beds of buff slst and carb. to coaly slst		Irregular buff slst laminae									
560					Silty Carb. slst		14							
					(0.2) soft, carb. slst									
580					Slst laminae and marcasite coating on joint surface Coaly slst		14							
					Gray to gray brown, very soft to soft, slightly carb. slst									
600			<u>SILTY COAL</u>		Hard to very soft, finely inter- bedded silty coal and coaly slst		14							
			Black, hard to very soft with interbedded carb. to coaly slst		(0.4) grey brown, very hard slst (0.4) soft coaly slst (0.3) } soft carb. slst (0.2) soft coaly slst									
620														

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DRILL HOLE : 75 - 95
SHEET No. : 3 OF 10

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE				
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80
620					(0.7) soft carb. slst (0.6) soft coaly slst (0.2) very soft coaly slst Very soft carb. slst (0.2) very soft carb. slst (0.3) dark gray brown carb. slst (0.2) carb. slst Very hard to soft, finely interbedded clean and silty coal with minor coaly slst Clean coal with minor silty coal		15					
640				60	Carb. and coaly slst		16					
				70	Black to grey brown, soft to very soft carb. to coaly slst							
660			<u>CLEAN COAL</u> Black, very hard with silty and rubbly beds	65								
				55	(0.1) } coaly slst (0.1) }							
680					(0.4) carb. slst Coaly slst (0.7) coaly slst		17					
					(0.2) coaly slst (0.6) soft silty coal (0.3) dark brown, very soft, carb. slst (0.1) coaly slst Very soft, carb. slst with 10' clean coal							
700				50								
720					Very soft, carb. slst (0.2) soft silty coal Banding Carb. slst with 0.1' buff, very hard slst		18					
740				60								
				25	Hard to soft silty coal and carb. slst (0.2) coaly slst Dark brown to black carb. slst							
760					Buff, irregular slst laminae Silty coal							
					(0.4) coaly slst (0.6) mod. hard, silty coal							
780				65								
				40	(0.3) coaly slst (0.5) silty coal (0.8) } coaly slst (0.2) } Silty coal and carb. slst		19					
800				50	Conc. resin beads With coaly slst							
					(0.3) silty coal Coal (0.3) carb. slst							
820				25	Irregular blob of very hard slst (0.2) silty coal Carb. slst with 0.1' buff hard slst Hard to mod. hard, interbedded silty coal and coaly slst		20					
840				75	(0.3) very soft, carb. slst		21					

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DRILL HOLE : ...75...95...
SHEET No. : 4. OF ...3...

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE										
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80						
840					(0.7) carb. slst Carb. slst (0.1) carb. slst													
860				75	(0.2) coaly slst (0.1) slst (0.1) coaly slst Coaly slst (0.1) coaly slst		22											
880				65	Silty coal with numerous interbeds of coaly and carb. slst		23											
900				25	Hard to very soft, finely interbedded silty coal and carb. to coaly slst with minor clean coal		24											
920					Marcasite coating on joint surfaces Irregular, buff, hard clst laminae Mixture of clean coal and coaly slst Carb. and coaly slst		25											
940				50	Silty coal Irregular clst lam. in clean coal Mixture of clean and silty coal													
960				75	Soft to very soft, carb. to coaly slst Silty coal Dark brown to black, carb. slst slst with coal fragments (0.4) coaly slst		26											
980				25	(0.3) coaly slst Clean with brown, calc. wood Silty coal Black to grey brown, silty coal with carb. slst Grey brown, carb. slst		27											
1000				65	(0.2) coaly slst (0.2) silty coal (0.2) coaly slst (0.4) coaly to carb. slst Coaly slst		28											
1020				65	(0.4) carb. slst (0.3) irregular slst laminae													
1040				25	(0.4) carb. slst (0.1) grey brown slst (0.5) clean coal and coaly slst mixed (0.5) silty coal Very hard to very soft, interbedded clean coal and carb. slst (0.5) silty coal (0.8) silty coal Grey slst with minor coal (0.2) calc. slst with infilled fractures (0.4) mod. hard silty coal		29											
1060							33											

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

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1060					(0.4) silty coal									
				25	Coaly slst		31							
1080					Silty coal and coaly slst									
				50	Silty coal		32							
1100					Hard to very soft, mixture of coal and coaly to carb. slst									
					Very hard to very soft silty coal with interbeds of carb. slst and clean coal									
1120				65	(0.2) slst bleb		33							
				10-50	(0.1) buff, hard bleb of slst									
1140					Black to grey coaly slst									
				20	Grey slst laminae									
					Carb. slst									
1160					(0.4) coaly slst									
					Silty coal		34							
					Carb. slst with minor hard silty coal									
					(0.1) slst with cavities lined and crystab									
				40	Silty coal									
					Silty coal									
1180					Black to grey, hard to very soft mixed carb. and coaly slst. with minor silty coal									
					(0.3) brown, mod. hard, carb. slst		35							
				45	Clean coal									
1200					Hard to very soft, finely interbeds of silty coal and coaly to carb. slst with minor clean coal		36							
					Clean coal with buff to grey irregular slst laminae									
1220				75	Silty coal		37							
					(0.4) grey, hard slst									
					(0.2) carb. slst									
				40	Silty coal									
					Clean coal									
1240					(0.7) slst		38							
				45	Clean coal									
1260					(0.2) coaly slst									
					Silty coal									
					(0.7) coaly slst									
					Silty coal									
					Clean coal with minor carb. slst		39							
1280				60	Silty coal									

MIXED COAL
Black, very hard to very soft interbedded clean and silty coal and coaly to carb. slst with minor slst

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DRILL HOLE : ...75-95...

SHEET No. : .6. OF .8...

ELEVATION IN FEET	DEPTH IN FEET	STRATIGRAPHY		DETAIL & STRUCTURE		CORE LOSS	SAMPLE No.	ASH AT 20% MOISTURE						
		STRAT. PLOT	MAJOR ROCK UNITS	SYMBOL	DESCRIPTION			0	20	40	60	80		
1280					Carb. slst Silty coal		40							
				40	Black to grey, very hard to very soft finely interbedded coaly and carb. slst and slst Calc. slst									
1300					Hard to very soft, interbedded coaly slst and carb. slst		41							
					(0.8) buff, very hard, tuff with marcasite									
1320					Silty coal with minor clean coal and carb. slst		42							
				45	Conc. resin beads									
1340					Soft to very soft carb. slst with minor silty coal		43							
				45	Interbedded slst and coal									
1360					Finely interbedded carb. and coaly slst									
					Clean coal									
1380					Dark to light grey, slst varying in carb. content up to a coaly slst									
				75										
				30-40	Clean coal with white slst lam									
1400					Black to dark grey, hard to mod. hard, finely interbedded carb. and coaly slst		44							
				45	Clean coal									
1420					Black to grey brown, hard to very hard, finely interbedded mixture from clean coal to slst		45							
				45	Clean coal									
1440					Grey brown to black, hard to soft finely interbedded carb. and coaly slst with minor clean coal		46							
				45	Clean coal									
					(0.4) tuff slst									
1460					Black to dark grey, hard to very soft interbedded carb. and coaly slst with minor clean coal		47							
				75										
1480					Clean coal with minor carb slst		48							
				45	Silty coal		49							

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STRATIGRAPHY

DETAIL & STRUCTURE

CORE LOSS

SAMPLE No.

ASH AT 20% MOISTURE

0 20 40 60 80

STRAT PLOT

MAJOR ROCK UNITS

SYMBOL

DESCRIPTION

END OF HOLE
AT 1507 feet

Black to dark brown, carb. slst

1507

COPY

DRILL HOLE ...
SHEET No. ...