

DRILL & CORE LOG

HOLE NO. 78-1

HOLE NO. 30-78-1

LOG BY: M. CARR

ELEV. 2674 (815m)

HOLE SIZE: 4 1/2 - 2.5'

PROJECT: BRI-DOWLING CE.

DATE: July 18, 1978

N: 6,201,200 m

AIR WATER

LEASE:

E: 546,280 m

T.D. 2206.0' P.D.

SEC. T. R.

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO.	GRAY	LITHOLOGY	ANALYSIS
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467

OVERBURDEN

TRICONED

GATES MEMBER (COMMOTION FM.)

MOOSEBAR FORMATION

DARK GRAY - BLACK GRITTY SHALE MASSIVELY BEDDED, WITH 10-20% SILT BANDS. NUMEROUS SLIPPAGES AT 1'-5' INTERVALS THROUGHOUT AT 45° TO C.A. INFILLED WITH CALCITE. OCCASIONAL PYRITE REPLACED DEBRIS BANDS

0.3' COAL - bright

GETHING FORMATION

1950' 3.1' 1 COAL - bright

0.2' COAL - bright

0.35' COAL - sheared

0.2' COAL - bright

0.65' COAL - bright

2050'

17' 2 COAL - boney

0.9' COAL - bright

2100'

1.6' 3 COAL -

2.3' 4 COAL -

COAL - .05' THICK AT 2116.45' AND 2116.95'

2.95' 5 COAL - bright

2150'

1.5' 6 COAL - 1.1' boney

COAL - 0.4' bright 0.1' SPLIT AT 2145.5'

0.1' COAL - bright

2200'

1.6' 7 COAL - bright

CALCITE

END OF HOLE (2206')

DRILL & CORE LOG

HOLE NO. BC-78-2

HOLE NO. B.C. 78-2

LOG BY R. B. Anderson

ELEV. 758 meters

HOLE SIZE: HQ

PROJECT BRI - DOWLING CR.

DATE

N 6,203,426 m

AIR WATER

LEASE

E: 544,580 m

T.D. 1126' P.D.

SEC T R

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO	GRAY	LITHOLOGY	ANALYSIS
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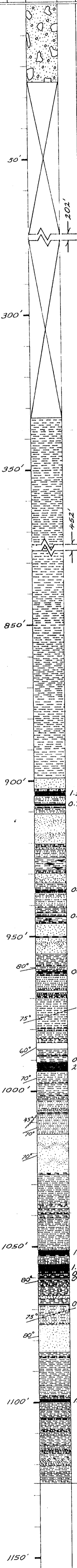
467

Overburden 0-25'

Triconed in Moosebar Fm. 25'-333'

Moosebar Fm. 333-899'

- shale, dark grey to black, massive, unbedded, pyrite nodules common throughout, occasional siderite nodule layers up to 0.5' thick glauconitic toward the base, pyrite nodules up to 0.5" diameter common near the base. Basal contact gradational over 0.5'



Coal - upper 0.05' pyritic; remainder bright, cleated, hard, black
Coal - dirty, pyritic

Coal

Coal - dirty

Coal - dirty

967.4' - 968.4' : 0.2' Mudstone, 0.3' Interlam. Mudstone & Silty Sandstone, 0.3' Siltstone, 0.2' Sandstone

982.7' - 983.5' Fault Gouge

984.1 - 987.7 : largely siltstone, minor mudstone & sandstone

Coal - bright cleated
0.2' Sandstone
Coal - top 0.8' dirty - remainder bright

Coal - upper bench; cannel coal - lower bench; bright & blocky

Coal - bright, black, blocky

Coal - bright, black, blocky

Coal - bright, black, blocky

Coal - bright, black

Coal

End of Hole @ 1126'

DRILL & CORE LOG

HOLE NO. B.C. 78-3

HOLE NO. B.C. 78-3

LOG BY: M. Carr

ELEV: 918 m

HOLE SIZE: HQ 3.752 in

PROJECT: B.C. Coal - Dowling Cr.

DATE: Aug 1978

N: 6, 205, 570 m

AIR WATER

LEASE: _____

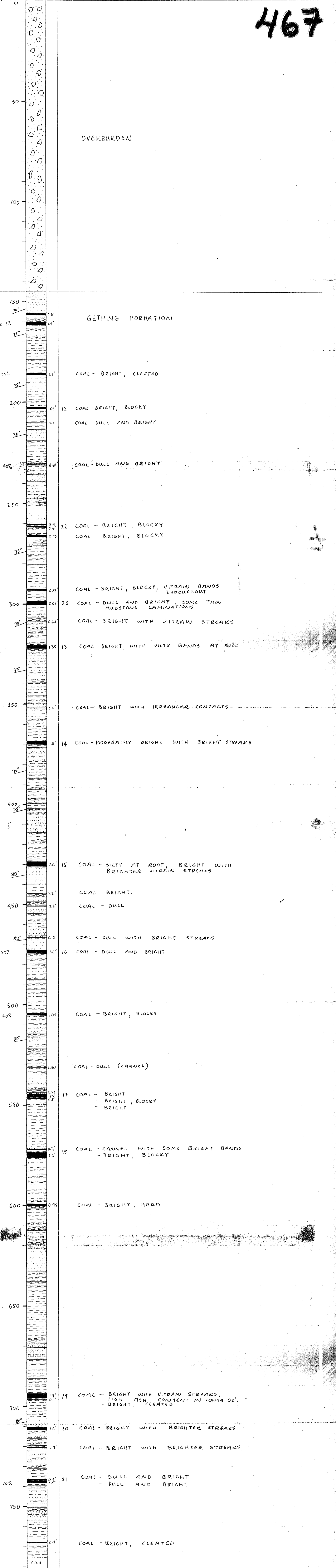
E: 543, 060 m

T.D. 226'

SEC. _____ T. _____ R. _____

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO.	GRAV.	LITHOLOGY	ANALYSIS
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467



DRILL & CORE LOG

HOLE NO. BC-78-5

HOLE NO. BC-78-5

LOG BY: A. T. Armstrong

ELEV: 822 m

HOLE SIZE: 110

PROJECT: _____

DATE: _____

N: 6,127,062 m

AIR WATER

LEASE: Coal Licence 3654

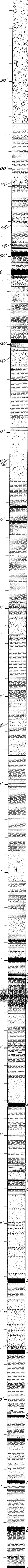
E: 539,800 m

T.D. 906' P.D. _____

SEC. _____ T. _____ R. _____

IN. REC.	DEPTH	STRIP LOG	THICK	SAMPLE NO.	GRAN.	LITHOLOGY	ANALYSIS
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467



Overburden 0-74'

GETTING FM.

43' 0.85' Coal - dull with bright streaks

150' 2.6' 34 Coal - bright, black, cleated (badly broken)

30% 3.0' 35 Coal - bright, black, cleated - 0.2' pyritic zone

200' 2.0' 36 Coal - bright, black (very badly broken)

55' 0.3' Coal - bright, black, cleated

250'

60' 1.0' Coal - bright, black, finely cleated

300' 0.9' Coal - dull with bright streaks

350'

400'

60' 0.4' Coal: bright, black, cleated (badly broken - poor recovery)

450'

500' - calcite veining @ 5° to core axis

20% 1.0' Coal: bright, black, cleated (poor recovery)

550' 2.2' Coal: bright, black, cleated (few fragments recovered)

30% 0.95' Coal: bright, black, cleated
30% 0.6' Coal: bright, black, (finely broken)
30% 0.2' Coal: bright, black, (broken)

600'

2.2' 37 Coal: generally bright, black, cleated - 0.3' mudstone split

650'

Core Lost:

Core Lost:

0.5' Coal: bright, black
0.2' Coal: bright, black (broken)

700'

2.6' 38 Coal: generally bright & black

750'

2.2' Coal: (only a few fragments recovered)

800'

0.4' Coal: bright, black
0.3' Coal: bright, black

15% 1.4' Coal: bright, black, banded

850' 1.3' Coal: banded, black, dull with bright streaks

80% 1.1' 39 Coal: 0.7 ft. cannel coal, 0.4 ft. bright, black, cleated
30% 0.9' 40 Coal: bright, black (badly broken)

900' 1.6' 41 Coal: 1 ft. of bright, black, banded; 0.6 ft. dull, black, granular with bright streaks
0.2' Coal: (few fragments recovered)
End of Hole @ 906'

Re-Bel - DOWLING CO. - 75 (3)A

467

78

Widco WELL LOG

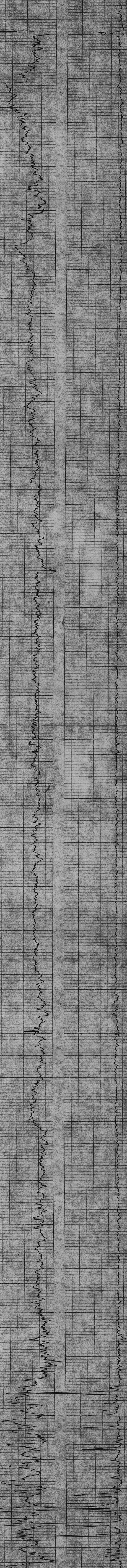
COMPANY UTAH MINES LTD. COORDINATES 546,280mE
 AREA BRI - Dowling Cr., B.C. N. 6,201,200m
 WELL B.C. 78-1 ELEVATION 2674' (815m)
 COUNTY Ward M.D. STATE B.C. D.F. 5
 I.R. 349,280m
 G.I.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 19, 1978		Nature		
First Reading	2206.0		Density		
Last Reading	3.0		Viscosity	@	F
Footage Logged	2203.0		Resistivity	@	F
Bottom (Driller)	2206.0		Res. @ BHT	@	F
Casing (From Log)	190.0		pH	@	F
Casing (Driller)	108.0 - 2' stick-up		Circ. Temp.		
Casing Size	H.W. - 4.5		B.H. Temp.		
Bit Size	H.Q. - 3,702				
Bit Size			Logged by	A.T. Armstrong	
			Witnessed by	K.B. Anderson	

REMARKS

* Reg. U.S. Pat. Off.

GAMMA 500 cps. DENSITY 500 cps.



PR - Bri - Dowling Cr. - 78(3)A.

467 78-2

Widco

WELL LOG

COMPANY UTAH MINES LTD.
WELL B.C. - 78-2
LOCATION 6,203,426mN
544,580mE

COMPANY UTAH MINES LTD.

AREA Bri Coal - Dowling Cr., B.C.

WELL B.C. - 78-2

COUNTY STATE B.C.

COORDINATES:
N 6,203,426mE
E 544,580mE
ELEVATION:
D.F.
K.B.
G.I. 758m (2486.0')

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 29, 1978		Nature		
First Reading	1125		Density		
Footage Logged	0		Viscosity	@ °F	@ °F
Bottom (Driller)	1126		Resistivity	@ °F	@ °F
Casing (From Log)	98.0'		Res. @ BHT	@ °F	@ °F
Casing (Driller)	105.0'		pH		
Casing Size	H.W. - 4.5'		Circ. Temp.		
Bit Size	H.Q. - 3782		B.H. Temp.		
Bit Size			Logged by	R.B. Anderson	
			Witnessed by	M. Carr	

REMARKS

* Reg. U.S. Pat. Off.

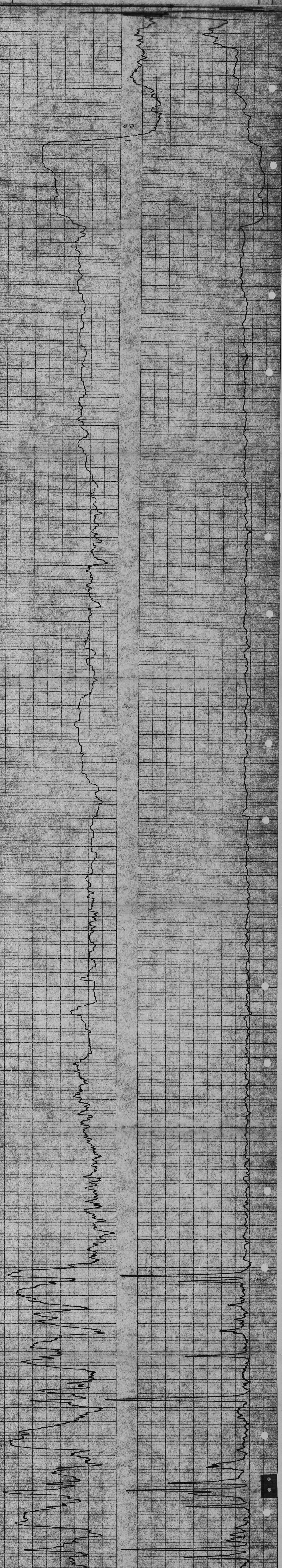
GAMMA

DENSITY

500 cps.

500 cps.

FO-139



20

PR - Bri - DOWLING CR - 78(3)A.

467 78-3

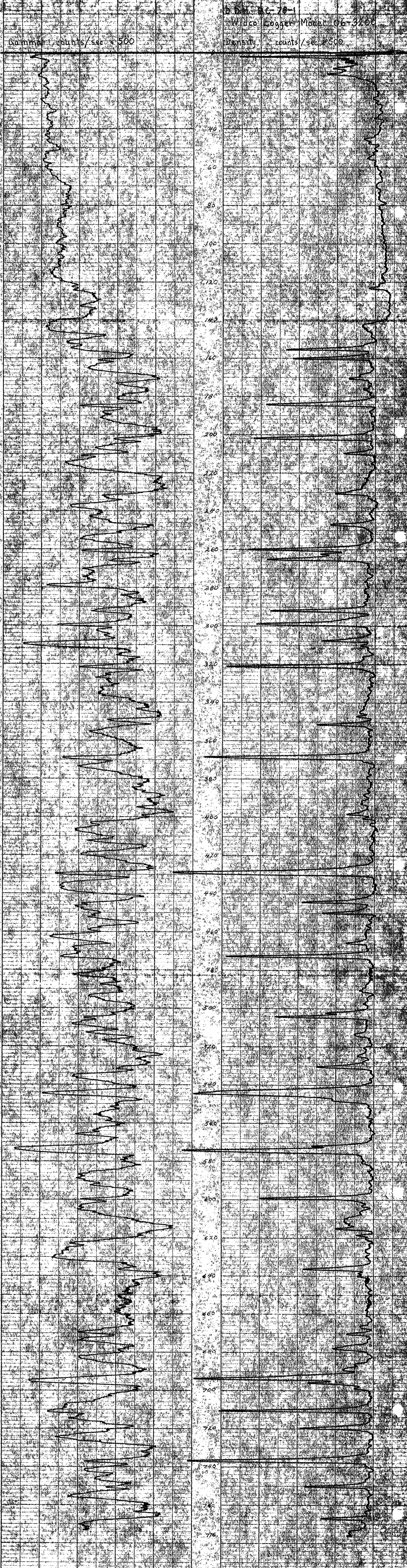
Widco WELL LOG

COMPANY UTAH MINES LTD.	COORDINATES: 543,060E N6,205,570N
AREA BRI - DOWLING CREEK, B.C.	ELEVATION: 818 m
WELL B.C. 78-3	D.F.
COUNTY Liard, M.D.	STATE British Columbia
Run No. 1 Run No. 2 MUD Run No. 1 Run No. 2 Date Aug. 4, 1978 Nature First Reading 776' Density Last Reading 3.0' Viscosity @ °F @ °F Footage Logged 773' Resistivity @ °F @ °F Bottom (Driller) 776' Res. @ BHT @ °F @ °F Casing (From Log) 140' pH Casing (Driller) 141' (stick-up 2't) Circ. Temp. Casing Size HW 4 1/2" B.H. Temp. Bit Size HQ3.782"	
Logged by A.T. Armstrong Witnessed by M. Carr	

REMARKS

* Reg. U.S. Pat. Off.

FO-139



PR. Bri. - DOWLING CR. 78(3)A.

467 78-4

Widco

WELL LOG

COMPANY UTAH MINES LTD.

AREA BRI - Coal -- DOWLING CR.

WELL B.C. 78-4

COUNTY ^{SMITH} STATE B.C.

COORDINATES

N. 6, 201, 650

E. 540, 940

ELEVATION: 752 m

D.F.

K.B.

G.I.

COMPANY UTAH MINES LTD.
WELL B.C. 78-4
LOCATION DOWLING CR.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	Aug. 16, 1978				
First Reading	985		Nature		
Last Reading	9		Density	@	OF
Footage Logged	985		Viscosity	@	OF
Bottom (Driller)	987		Resistivity	@	OF
Casing (From Log)			Res. @ BHT	@	OF
Casing (Driller)	157		pH		
Casing Size	HW		Circ. Temp.		
Bit Size	HQ		B.H. Temp.		
			Logged by	A.T. Armstrong	
			Witnessed by	R.B. Anderson	

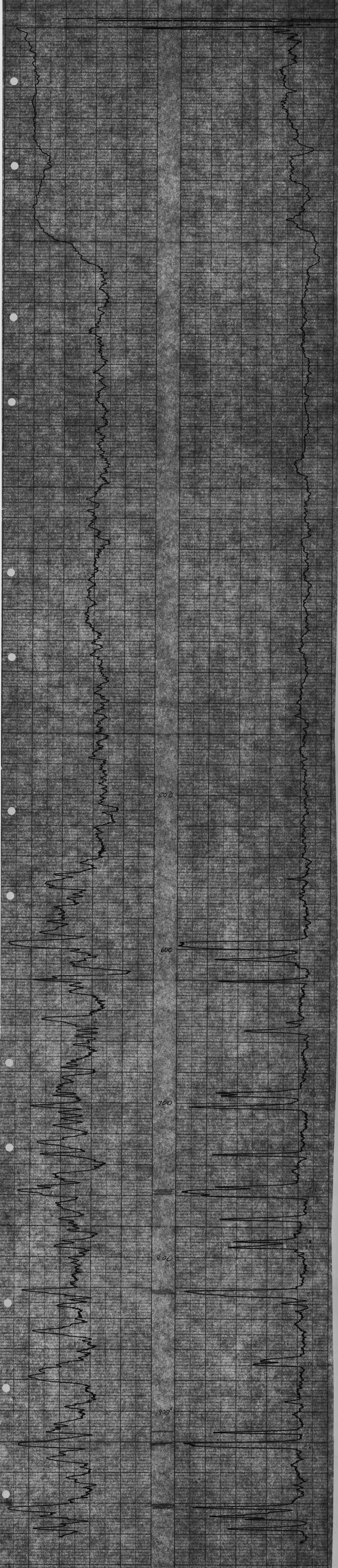
REMARKS Logged through drill steel -

* Reg. U.S. Pat. Off.

FO-139

LAMMA

DENSITY



pep

Pr. Bri-Dawling Cr. 78 (3)A

467 78-5

Widco WELL LOG

COMPANY UTAH MINES LTD.
 AREA DOWLING CREEK
 WELL BC-78-5
 COUNTY LIARD M.D. STATE B.C.

COORDINATES: 539,200 mE
N 6,197,065 m N
 S
 ELEVATION: 828 m
 D.F.
 K.B.
 G.I.

WELL B.C. 78-5
 LOCATION 539,200 mE
 539,200 mE

COMPANY UTAH MINES LTD.

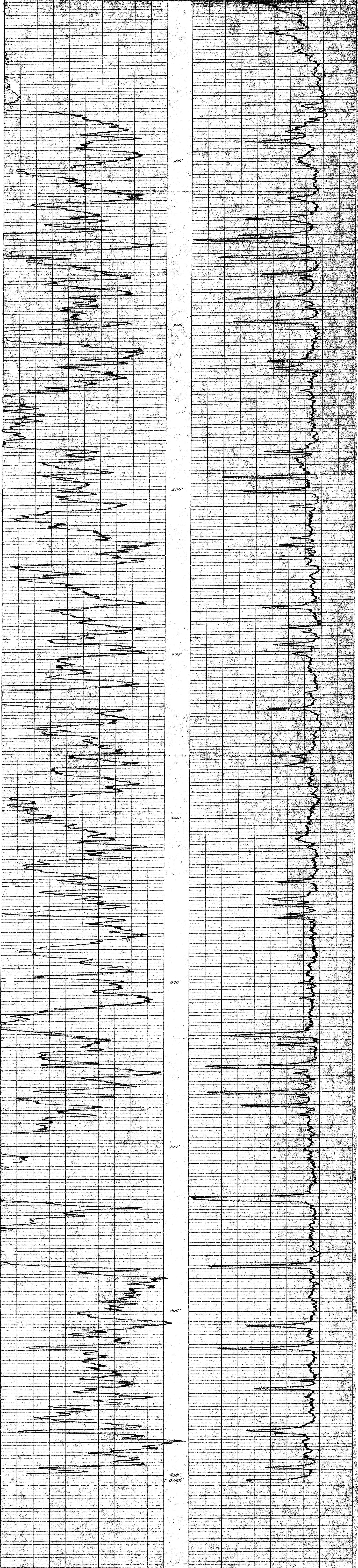
	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	<u>AUG. 29/78</u>				
First Reading	<u>903'</u>				
Last Reading	<u>0</u>				
Footage Logged	<u>903'</u>				
Bottom (Driller)	<u>906'</u>				
Casing (From Log)	<u>72'</u>				
Casing (Driller)	<u>74'</u>				
Casing Size	<u>HW 4.5"</u>				
Bit Size	<u>HQ 3.782"</u>				
Bit Size					
			logged by	<u>A. T. Armstrong</u>	
			Witnessed by		

REMARKS: Probe was run inside the drill rods which were lifted 3 feet off of the bottom of the hole to avoid the possibility of becoming stuck. Water coming into the hole had completely washed away all drill mud and the possibility existed of rock fragments dropping down the hole and jamming drill rods in the hole.

* Reg. U.S. Pat. Off.

Gamma
500 CPS

Density
500 CPS



CO-18